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August 26, 2013

Mr. Richard Meadows
U.S. Army Corps of Engineers
Huntington District (CELRH-PP-P)
502 8th Street Street
Huntington, WV 25701-2070

via FedEx

SUBJECT: SUBMITTAL OF FINAL SITE INSPECTION REPORT FOR FORMERLY USED DEFENSE SITES – MILITARY MUNITIONS RESPONSE PROGRAM
SITE: **WEST VIRGINIA MANEUVER AREA (WVMA)**
MRS01 DAILEY INFILTRATION CAMP
RANDOLPH COUNTY, WEST VIRGINIA
FUDS PROPERTY NO.: G03WV0013
FUDS PROJECT NO.: G03WV001305
CONTRACT NO. W912PP-11-C-0007, TASK ORDER 0001

Dear Mr. Meadows:

Please find enclosed six (6) paperbound copies along with six (6) copies in PDF on CD-ROM of the Final Site Inspection Report for the WVMA MRS01 Dailey Infiltration Camp in Randolph County, WV for your records.

This document is prepared by Eco & Associates, Inc. (Eco) in conjunction with Parsons Infrastructure and Technology Group, Inc. (Parsons) under U.S. Army Corps of Engineers (USACE) Contract W912PP-11-C-0007, Task Order 0001.

Please do not hesitate to contact me at (714) 289-0995 if there are questions regarding the presentation of this document or its contents.

Sincerely,
ECO & ASSOCIATES, INC.

Mohammad Estiri, PhD
Project Director

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Enclosures

SITE INSPECTION REPORT

FORMERLY USED DEFENSE SITE
MILITARY MUNITIONS RESPONSE PROGRAM
SITE INSPECTION PHASE

•FINAL•

August 2013

West Virginia Maneuver Area
MRS01 Dailey Infiltration Camp
Randolph County, West Virginia

Contract No.: W912PP-11-C-0007
Task Order: 0001

FUDS Property No.: G03WV0013
FUDS Project No.: G03WV001305

Prepared for:
United States Army Corp of Engineers
Huntington District
502 8th Street
Huntington, West Virginia 25701

and

United States Engineering and Support Center
Huntsville, Alabama

CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

Eco & Associates, Inc. (Eco) has completed the Final Site Inspection Report for the WVMA Dailey Infiltration Camp MRS01 in Randolph County, WV. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project. The independent technical review verified compliance with established policy principles and procedures, using justified and valid assumptions. This included review of assumptions; methods, procedures, and material used in analyses; alternatives evaluated; appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing Corps policy.

August 26, 2013

Eco Team Member(s)

Significant concerns and the explanation of the resolution are as follows:

None

As noted above, all concerns resulting from independent technical review of the project have been considered.

August 26, 2013

Eco Program Manager(s)

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ABBREVIATIONS AND ACRONYMS

‘	foot
“	inch
°	degree
µg/L	micrograms per liter
APPL, Inc.	Agriculture & Priority Pollutants Laboratories, Inc.
ASR	Archives Search Report
bgs	below ground surface
CELRH	USACE Huntington District
CENWW	USACE Walla Walla District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHE	Chemical Hazard Evaluation
CRREL	Cold Regions Research and Engineering Laboratory
CSEM	conceptual site exposure model
CSM	conceptual site model
CVI	Canaan Valley Institute
CWM	Chemical Warfare Materiel
DERP	Defense Environmental Restoration Program
DoA	Department of the Army
DoD	Department of Defense
DQO	data quality objective
DSN	Dolly Sods North
DSWA	Dolly Sods Wilderness Area
e.g.	*exempli gratia* (Latin, “for the sake of example”)
Eco	Eco & Associates, Inc.
EcoSSL	Ecological Soil Screening Level
EDR	Environmental Data Resources, Inc.
EHE	Explosive Hazard Evaluation
ELAP	Environmental Laboratories Accreditation Program
ER	Engineering Regulation
ESL	Ecological Screening Level
ESV	ecological screening value
F	Fahrenheit
FUDS	Formerly Used Defense Site
GIS	Geographic Information System
GPS	Geographic Positioning System
HFA	Human Factors Applications, Inc.

HHE	Health Hazard Evaluation
HQ	hazard quotient
HRS	Hazard Ranking System
i.e.	*id est* (Latin, “that is”)
INPR	Inventory Project Report
J	Analyte detected, estimated concentration
LANL	Los Alamos National Laboratory
M&E	Metcalf & Eddy, Inc.
MC	munitions constituents
MCL	Maximum Contaminant Levels
MD	munitions debris
MEC	munitions and explosives of concern
mg/kg	milligrams per kilogram
MMRP	Military Munitions Response Program
MNF	Monongahela National Forest
MRS	Munitions Response Site
MRSPP	Munitions Response Site Prioritization Protocol
N	North
NCDC	National Climatic Data Center
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NELAC	National Environmental Laboratory Accreditation Conference
NOAA	National Oceanic and Atmospheric Administration
PA	Preliminary Assessment
Parsons	Parsons Government Services
PQL_sa	sample-specific Practical Quantitation Limit
PSAP	Programmatic Sampling and Analysis Plan
PSD	Public Service District
PWP	Programmatic Work Plan
QA	quality assurance
QC	quality control
QR	qualitative reconnaissance
RBC	Risk-Based Concentration
RI/FS	remedial investigation and feasibility study
ROE	right-of-entry
RSL	Regional Screening Level
SI	site inspection
SLERA	Screening-Level Ecological Risk Assessment
SLRA	screening-level risk assessment
SS-WP	Site-Specific Work Plan
SVT	site visit team
T&E	Threatened and Endangered
TPP	technical project planning
U	Analyte was analyzed for but not detected above the sample-specific Practical Quantitation Limit (PQL_sa)
UJ	Analyte not detected, reported PQL_sa may be inaccurate or imprecise

USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	unexploded ordnance
W	West
WSA	Watershed Atlas
WV	West Virginia
WVDCH	West Virginia Division of Culture and History
WVDEP	West Virginia Department of Environmental Protection
WVDHHR	West Virginia Department of Health and Human Resources
WVDNR	West Virginia Division of Natural Resources
WVGES	West Virginia Geological and Economic Survey
WVMA	West Virginia Maneuver Area
WVWSC	West Virginia Water Science Center

GLOSSARY OF TERMS

inhabited structure	Permanent or temporary structures, other than military munitions related structures that are routinely occupied by one or more persons for any portion of a day.
military munitions	All ammunition products and components produced for or used by the armed forces for national defense and security, including ammunition products or components under the control of the Department of Defense, the Coast Guard, the Department of Energy, and the National Guard. The term includes confined gaseous, liquid, and solid propellants; explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries, including bulk explosives and chemical warfare agents; chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges; and devices and components thereof.
munitions and explosives of concern (MEC)	Military munitions that may pose unique explosives safety risks, including unexploded ordnance, discarded military munitions, or munitions constituents present in high enough concentrations to pose an explosive or other health hazard.
munitions constituents (MC)	Any materials originating from unexploded ordnance, discarded military munitions, or other military munitions, including explosive and non-explosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions.
munitions debris (MD)	Remnants of munitions (e.g., penetrators, projectiles, shell casings, links, fins) remaining after munitions use, demilitarization, or disposal.
munitions response	Response actions, including investigation, removal actions, and remedial actions, to address the explosive safety, human health, or environmental risks presented by unexploded ordnance, discarded military munitions, or munitions constituents, or to support a determination that no removal or remedial action is required.

munitions response area	Any area on a defense site that is known or suspected to contain unexploded ordnance, discarded military munitions, or munitions constituents. Examples include former ranges and munitions burial areas. A munitions response area includes one or more munitions response sites.
munitions response site (MRS)	A discrete location within a munitions response area that is known to require a munitions response.
projectile	Object projected by an applied force and continuing in motion by its own inertia. This includes bullets, bombs, shells, grenades, guided missiles, and rockets.
unexploded ordnance (UXO)	Military munitions that have been primed, fuzed, armed, or otherwise prepared for action; that have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installation, personnel, or material; and that remain unexploded whether by malfunction, design, or any other cause.

EXECUTIVE SUMMARY

OBJECTIVE

The objective of this site inspection (SI) is to determine whether the West Virginia Maneuver Area (WVMA) Dailey Infiltration Camp Munitions Response Site (MRS) located within the WVMA/Dolly Sods, Formerly Used Defense Sites (FUDS) (FUDS Property No. G03WV0013, FUDS Project No. G03WV001305, Dailey Infiltration Camp ["MRS01"]) in Randolph County, West Virginia, warrants further response action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). According to the 2009 Preliminary Assessment, the Dailey Infiltration Camp was under military control from 1943 to 1944 and was used to provide small arms and obstacle course training (and possibly hand grenade training, although never confirmed) (USACE, 2009). The potential munitions used at the site include small arms ammunition (.22, .30, .38, and .45 caliber), ¼ lb, ½ lb, and 1 lb demolition blocks, firing devices, electric and non-electric blasting caps, and blasting fuses. However, there have never been any reported discoveries of these or other munitions at the MRS.

The SI at the Dailey Infiltration Camp MRS was performed to confirm the MRS location and to evaluate evidence for the presence of munitions and explosives of concern (MEC), munitions debris (MD) and the presence of elevated metals concentrations that are consistent with the identified munitions constituents (MC) contaminants of concern at the FUDS. To accomplish this objective, qualitative reconnaissance (QR) and metals sampling were performed at the Dailey Infiltration Camp MRS within the WVMA/Dolly Sods FUDS.

TECHNICAL PROJECT PLANNING MEETING

The technical project planning (TPP) process determined that the collection of three surface soil samples and two sets of surface water/sediment coupled samples would be sufficient to meet the SI project objectives. The TPP team also concluded that biased samples would be collected using Cold Regions Research and Engineering Laboratory (CRREL) "seven-point wheel" composite sampling technique and also established the screening levels to be used for human health and ecological risk assessment.

EVALUATION AND FINDINGS

There have been no historic MEC or MD observations in the area of the Dailey Infiltration Camp MRS.

The SI evaluation included 3.2 miles of QR and soil, surface water, and sediment sampling within the MRS boundary (Figure ES.1). Agriculture & Priority Pollutants Laboratories, Inc. (APPL, Inc.) in Clovis, California analyzed the sediment and soil samples for explosives, selected metals, and pH. Metals selected for analysis were non-essential nutrient metals that are indicative of suspected munitions. Essential nutrients and trace elements were not

selected for analysis. The surface water samples were analyzed for explosives and selected metals only. No explosives were detected in the surface water, sediment, or soil samples collected at the MRS. The maximum detected metals concentrations in the surface water and sediment samples collected at MRS01 did not exceed the selected background concentrations. Therefore, surface water and sediment exposure pathways are incomplete for all receptors. The maximum detected concentrations of aluminum, antimony, barium, chromium, copper, magnesium and zinc in the surface soil samples collected at MRS01 did not exceed the selected background value. However, the maximum detected concentration (99 mg/kg) of lead exceeded the selected background concentration (50 mg/kg). Therefore, surface soil exposure pathways are complete for all receptors. The maximum detected concentration of lead did not exceed the human health screening value (400 mg/kg). Therefore, based on the analytical results presented in this report, no unacceptable human health risk is expected from exposure to lead in surface soil due to former munitions-related activities at this MRS. The maximum detected concentration of lead exceeded the ecological screening value (11 mg/kg); however, no significant impact to ecological receptors is expected. The ecological screening value is based on generic conservative assumptions, the analytical result likely represents an area smaller than the typical range of the ecological receptors of concern, and there is an absence of physical evidence of long-term or intensive DoD use of the MRS. Therefore, further investigation of this MRS for lead is not warranted.

The site visit team (SVT) did not find MEC during the QR at the Dailey Infiltration Camp MRS. However, the SVT encountered 12 circular craters, five large earthen berms, and many U-shaped earthen gun emplacements. Subsurface anomalies were detected in at least 6 of the 12 craters. No MD was observed in or around the craters. Table ES.1 summarizes the results of the SI.

TABLE ES.1
SUMMARY OF RESULTS
DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WEST VIRGINIA

MRS	ACREAGE	MEC ASSESSMENT (1)	METALS ASSESSMENT (2)	RECOMMENDATION
Dailey Infiltration Camp	200	**Yes** MEC is suspected but has not been confirmed.	**No** Exposure pathways for human and ecological receptors are considered incomplete.	Remedial Investigation/ Feasibility Study (RI/FS)

Notes:
(1) "Yes" in this column indicates that observed field conditions (craters) are indicative of potential MEC presence, resulting in an RI/FS recommendation for the MRS.
(2) "No" in this column indicates the absence of metals at levels indicating a potential risk to human health or ecological receptors, resulting in a recommendation for no further metals sampling for the MRS.

The types of ordnance represented by the suspected munitions have the potential to harm human receptors if they are contacted and are still functional. Therefore, the potential for a complete MEC exposure pathway exists at the Dailey Infiltration Camp MRS.

An exposure pathway for a chemical release is not considered complete unless all four of the following elements are present (U.S. Environmental Protection Agency [USEPA] 1989):

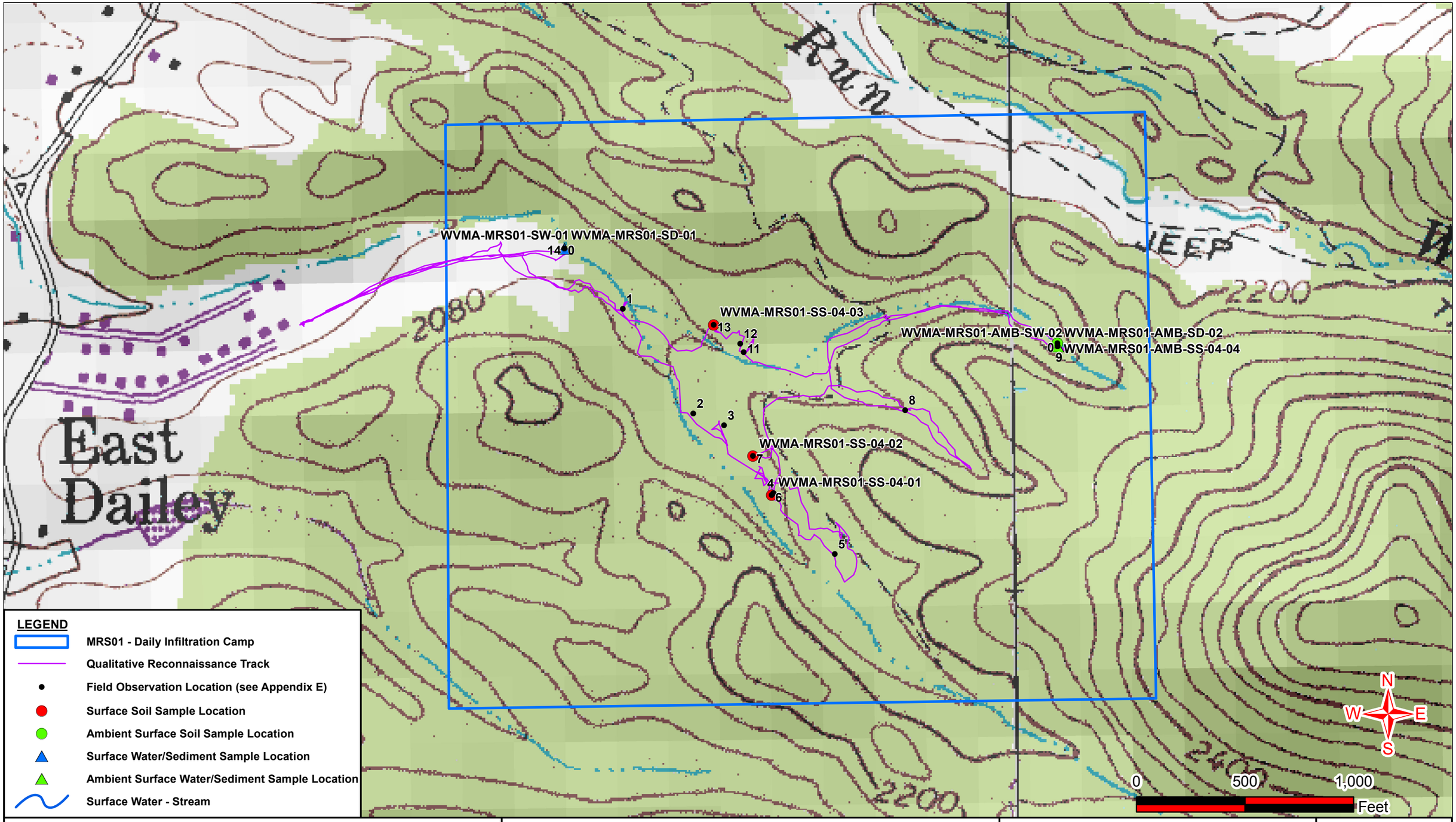
1. A source and mechanism for chemical release
2. An environmental transport and/or exposure medium
3. A receptor exposure point
4. A receptor and a likely route of exposure at the exposure point

No explosive compounds were detected in the samples and only lead was detected at levels exceeding its ambient concentration. Based on the analytical results, exposure pathways are considered complete. None of the detected analyte concentrations exceeded human health screening levels; they did, however, exceed screening levels for ecological receptors; however, there is an absence of physical evidence of long-term or intensive DoD use of the MRS. Therefore, further investigation of this MRS for lead is not warranted.

RECOMMENDATIONS

Based on the site observations and subsurface anomalies encountered in the MRS, MEC is suspected to be present in the MRS. Based on suspected MEC presence, the Dailey Infiltration Camp MRS is recommended to proceed to RI/FS. No removal action is warranted.

Based on the analytical results and exposure pathways evaluated during this SI, further sampling of sediment and surface water is not recommended. No explosives were detected and no metals were detected above the selected background values in these media. Further sampling of surface soil may be warranted based on the analytical results and exposure pathways evaluated during this SI due to the detected concentration of lead in exceedance of the ecological screening value. However, no explosives were detected in the surface soil and no other metals were detected in the surface soil at concentrations exceeding the background values.



Prepared by:
Eco & Associates, Inc.
and
PARSONS

GENERAL SITE OVERVIEW

MRS01 - Daily Infiltration Camp
MMRP West Virginia

PROJECT NO. Eco-11-452

DATED August 2013

FIGURE
ES.1

CHAPTER 1
INTRODUCTION

1.1 BACKGROUND

Eco and Associates, Inc. (Eco) received Contract No. W912PP-11-C-0007, Task Order No. 0001, from the United States Army Corps of Engineers (USACE) Engineering and Support Center, Huntsville to perform a site inspection (SI) of the Dailey Infiltration Camp Munitions Response Site (MRS), one of seven MRSs identified within the West Virginia Maneuver Area (WVMA)/Dolly Sods Formerly Used Defense Site (FUDS) Property No. G03WV0013. The 200-acre Dailey Infiltration Camp (MRS01) (FUDS Project No. G03WV001305) is located outside of the area formerly known as the WVMA but is included within the 2,180,367 acres acquired by the Department of the Army for military training during WWII. The Dailey Infiltration Camp MRS is located in Randolph County, approximately 7 miles south of the southwest corner of the FUDS, near the town of Dailey, West Virginia. The U.S. Geological Survey (USGS) map coordinates for the subject MRS are 38° 46' 58.13" N and 79° 52' 52.58" W. Figure 1.1 shows the location of the MRS in relation to the WVMA FUDS, and Figure 1.2 shows the site location.

The Department of Defense (DoD) established the Military Munitions Response Program (MMRP) to address DoD sites suspected of containing munitions and explosives of concern (MEC) or munitions constituents (MC). Under the MMRP, the USACE is conducting environmental response activities at FUDS for the Army, the DoD's executive agent for the FUDS program.

Pursuant to USACE Engineering Regulation (ER) 200-3-1 (USACE 2004b) and the Management Guidance for the Defense Environmental Restoration Program (DERP) (March 2012), the USACE is conducting FUDS response activities. All work is performed in accordance with the following:

- The DERP statute (10 U.S. Code [USC] 2701, *et sequentes (et seq.)*
- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, 42 USC 9601, *et seq.*)
- Executive Orders 12580 and 13016
- The National Oil and Hazardous Substances Pollution Contingency Plan (NCP, 40 Code of Federal Regulations [CFR] Part 300)

While not all MEC and MC constitute CERCLA hazardous substances, pollutants, or contaminants, the DERP statute authorizes the DoD to respond to releases of MEC and MC. DoD policy states that such responses shall be conducted in accordance with CERCLA and the NCP.

This report summarizes the work performed during the SI and describes any MEC and elevated metals concentrations that are consistent with the identified MC contaminants of concern identified at the FUDS. The SI is limited exclusively to MEC and metals contamination issues and does not consider unrelated hazardous and toxic waste concerns

that the FUDS may pose. Per ER 200-3-1 guidance for conducting an SI, "The SI is not intended as a full-scale study of the nature and extent of contamination or explosive hazards"; it only requires collection of sufficient and appropriate information as defined in the Technical Project Planning (TPP) Memorandum for this site (Appendix B).

1.2 PROJECT OBJECTIVES

The primary objective of the MMRP SI is to determine whether a FUDS project warrants further response action under CERCLA. The SI collects sufficient and appropriate information necessary to make this determination. The SI Report also provides the following:

1. Determination of the potential need for a removal action
2. Collection or development of additional data, as appropriate, for Hazard Ranking System (HRS) scoring by the USEPA
3. Collection of data, as appropriate, to characterize the release for effective and rapid initiation of the RI/FS.

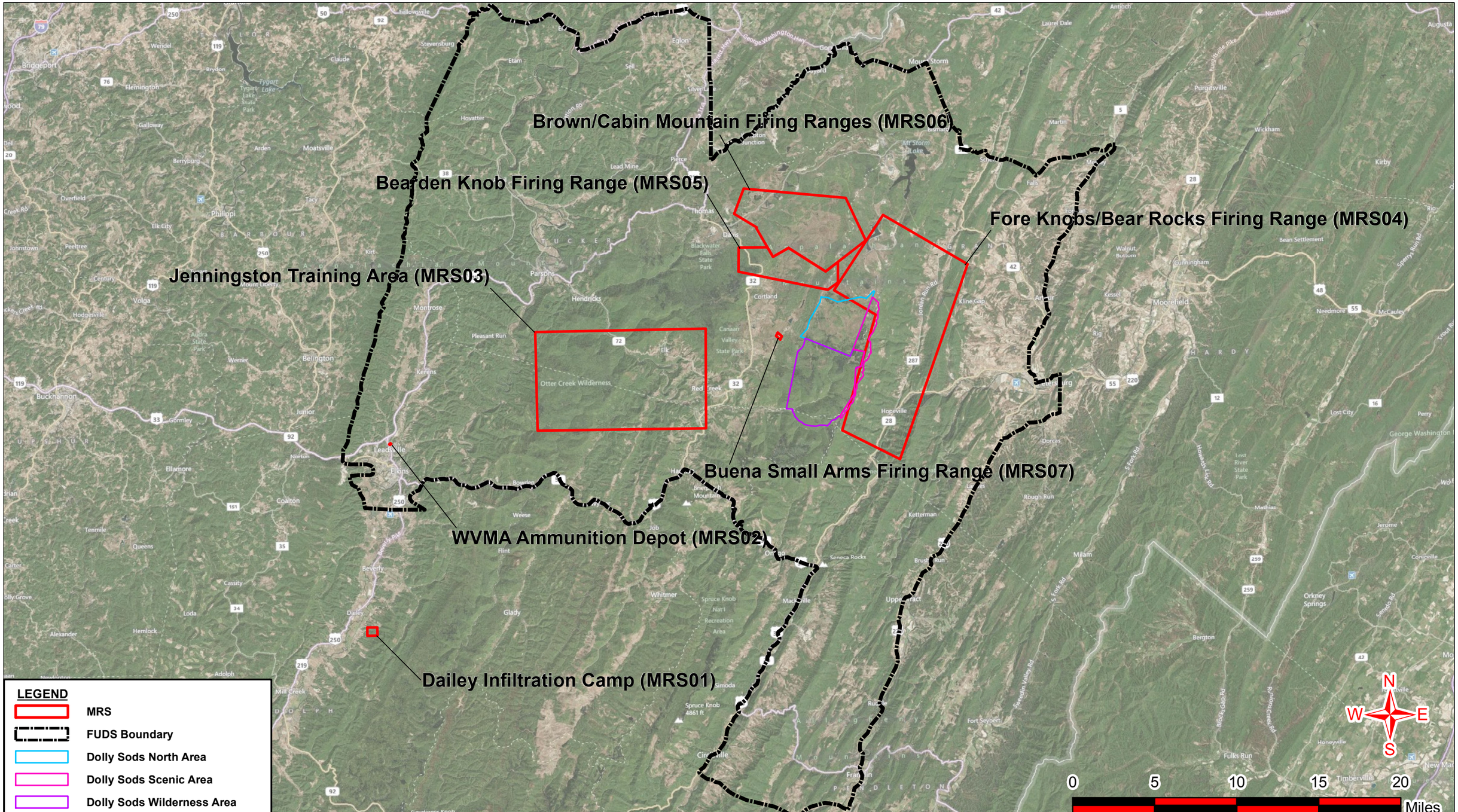
An additional objective of the MMRP SI is to collect the additional data necessary to complete the Munitions Response Site Prioritization Protocol (MRSPP).

1.3 PROJECT SCOPE

The primary project planning documents used to perform the SI include the Site-Specific Work Plan (SS-WP) Addendum for the Dailey Infiltration Camp MRS (Eco 2011b), the South Pacific Division Range Support Center Programmatic Work Plan (Parsons Infrastructure and Technology Group, Inc. [Parsons] 2010), and the Programmatic Sampling and Analysis Plan ([PSAP], USACE 2005). The performance work statement for this project is provided in Appendix A.

The USACE Huntington District (CELRH) held a TPP meeting on April 7, 2011, that included representatives of the USACE Huntington District, the USACE Walla Walla District (CENWW), the West Virginia Department of Environmental Protection (WVDEP), the U.S. Forest Service (USFS), the U.S. Fish and Wildlife Service (USFWS), the Canaan Valley Institute (CVI), Eco, and Parsons. A final TPP Memorandum was issued on September 22, 2011 (Eco 2011a).

The TPP Team determined that the comparison criteria for soil sample results would be the WVDEP Risk-Based Concentrations (RBCs), Table 60-3B in the Voluntary Remediation and Redevelopment Rule (60CSR3) supplemented with USEPA Regional Screening Levels (RSLs) for residential soil. The comparison criteria for surface water samples would be the WVDEP Requirements Governing Water Quality Standards supplemented with USEPA RSLs for tap water. The comparison criteria for groundwater samples would be WVDEP Requirements Governing Water Quality Standards then WVDEP RBCs supplemented with USEPA Maximum Contaminant Levels (MCLs), National Primary Drinking Water Standards and USEPA RSLs for tap water.



Prepared by:
Eco & Associates, Inc.
and
PARSONS

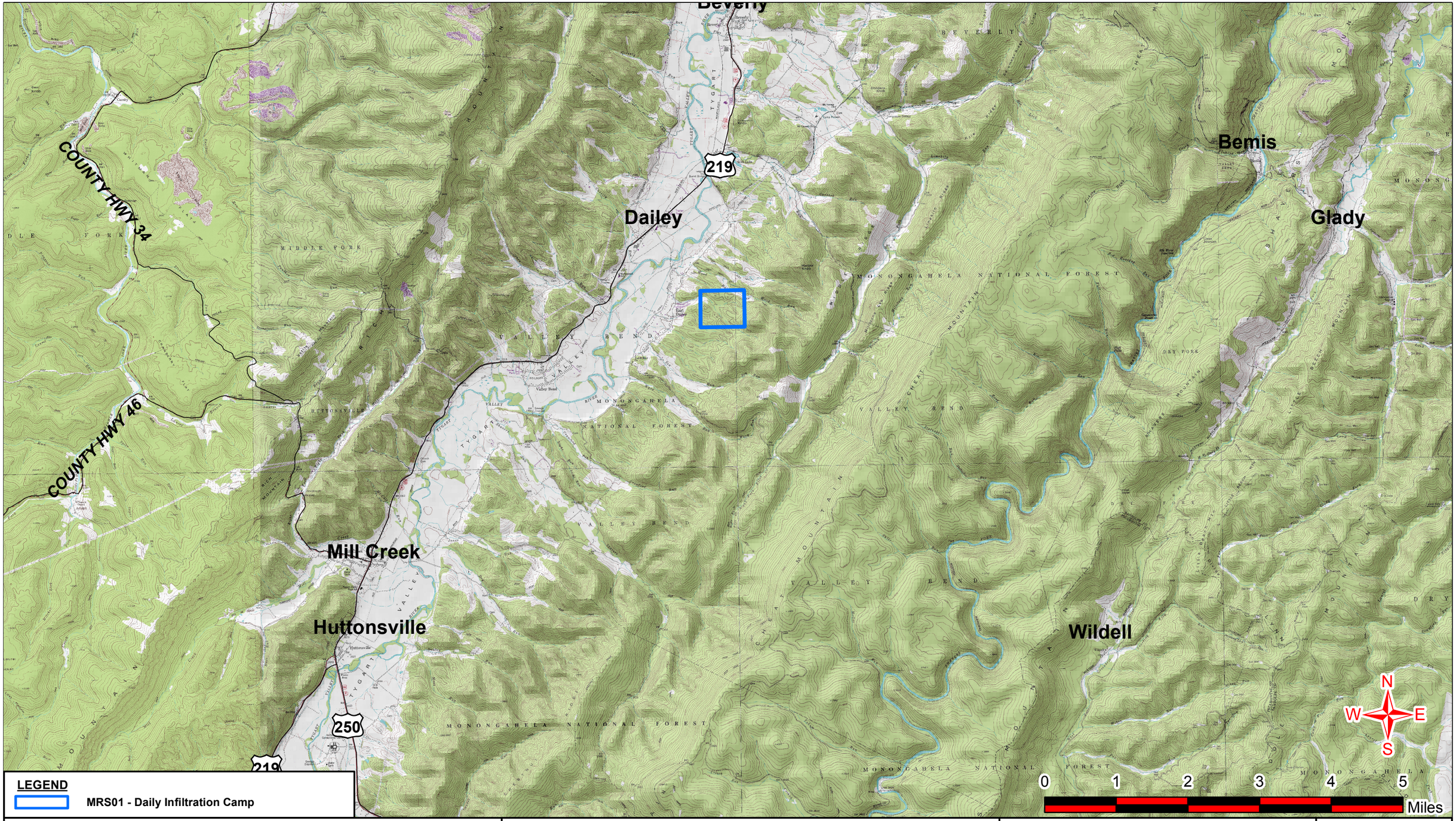
MRS Location Map

West Virginia Maneuver Area
FUDS Property No. G03WV0013

PROJECT NO. Eco-11-452

DATED August 2013

FIGURE
1.1



Prepared by:
Eco & Associates, Inc.
and
PARSONS

SITE LOCATION

MRS01 - Daily Infiltration Camp
MMRP West Virginia

PROJECT NO. Eco-11-452

DATED August 2013

FIGURE
1.2

CHAPTER 2
PROPERTY DESCRIPTION AND HISTORY

2.1 SITE DESCRIPTION

The Dailey Infiltration Camp MRS is located in Randolph County, West Virginia. The site is located approximately 7 miles south of the southwest corner of the WVMA FUDS, near the town of Dailey, West Virginia (Figure 1.1). The total FUDS acreage is 2,180,367 acres including the 200-acre Dailey Infiltration Camp MRS. The FUDS acreage also includes six other MRSs, each covered by a different SI but listed under the same FUDS Property No. G03WV0013. The WVMA FUDS was used from 1943 to 1944 and was returned to the various private landowners and USFS in 1950. The majority of the land comprising the MRS is part of the Monongahela National Forest (MNF).

2.2 SITE LOCATION AND SETTING

2.2.1 TOPOGRAPHY AND VEGETATION

The Dailey Infiltration Camp is located in the foothills of the Appalachian Plateau physiographic province (USGS 2002, West Virginia Geologic and Economic Survey 2004). Figure 2.1 shows the site elevation, which ranges from approximately 2,060 to 2,300 feet above mean sea level. The MRS is located between the Cheat Mountains to the east and the Tygart Valley to the west and is situated along two unnamed streams that drain to the northwest, join together in the northwest corner of the MRS, and then feed into the Tygart Valley River approximately ¾ mile west of the MRS. The topography of the site consists of low ridges between the drainage courses described above. The MRS is contained within the Beverly East and Beverly West 7.5-minute topographic quadrangles (USGS 1995a and USGS 1995b).

The majority of the Dailey Infiltration Camp MRS is undeveloped and wooded. Vegetation observed during the SI was consistent with these descriptions, as shown in site photographs taken during the site visit (see Appendix E).

2.2.2 SOIL

The soil types underlying the MRS include the Berks channery silt loam, the Berks-Weikert complex, the Ernest silt loam, the Pope-Atkins complex, and the Pope variant gravelly sandy loam. Loam is a soil type composed of various mixtures of silt, sand, and clay that generally contains greater than 60 percent silt and less than 40 percent clay. The proposed soil sample locations are underlain by soil of the Pope-Atkins complex. The Pope-Atkins complex is characterized by silty and fine sandy loam within the upper 8 inches of the surface with gravelly loam and stratified gravelly and silty clay loam at depth (U.S. Department of Agriculture [USDA] 2011b). The geology of the study area is further discussed in Section 5.2.1 of this report.

2.2.3 CLIMATE

The Allegheny Mountain Province has distinct seasons of approximate equal length. It has a humid continental climate with the exception of a marine modification in the lower panhandle. Average annual temperatures range from below 50°F (10°C) in the north to about 64°F (18°C) in the south to about 48°F (9°C) in areas of high altitude. Average annual precipitation varies from more than 80 inches in the high mountain areas to 35 inches in the valleys (National Climatic Data Center [NCDC] 2007). Annual precipitation is plentiful and evenly distributed with short, infrequent periods of water deficit. Average high temperatures in the Dailey Infiltration Camp MRS region range from a high of approximately 82°F (28°C) in July to a low of approximately 18°F (8°C) in January (Climate-Charts 2011). The temperature when field work was performed ranged from a high of approximately 60°F (16°C) to a low of approximately 40°F (4°C)

2.2.4 SIGNIFICANT AND INHABITED STRUCTURES

One unpaved road and numerous foot trails are present within the MRS (Figure 2.1). The SVT did not identify any inhabited structures within the MRS. However, the team observed numerous inhabited structures within two miles of the MRS, consisting of commercial buildings along Highway 219/250 and residential and agricultural buildings in and around the towns of Dailey and East Dailey. Inhabited structures are permanent or temporary structures, other than military munitions-related structures, that are routinely occupied by one or more persons for any portion of a day.

2.2.5 DEMOGRAPHICS

The Dailey Infiltration Camp MRS is located in Randolph County, approximately 7.5 miles south of the city of Elkins, West Virginia. According to U.S. Census 2010, the population density of Randolph County is 27 persons per square mile. The SVT observed numerous inhabited structures within 2 miles of the MRS, mainly located within and surrounding the town of Dailey. The census data indicate that 3,524 people live within an approximate 4-mile buffer of the Dailey Infiltration Camp MRS. According to the 2010 U.S. Census, no people live within the census blocks overlapped by the boundaries of the MRS (Table 2.1)The SVT did not identify any residences within the MRS boundaries. Based on the SVT's observations and the fact that the majority of the MRS is preserved within the Monongahela National Forest, it is presumed that no one lives within the area of the former infiltration camp.

TABLE 2.1
POPULATION WITHIN 4-MILE BUFFER OF THE
DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

MRS	ONSITE	0 TO ¼ MILE	¼ TO ½ MILE	½ TO 1 MILE	1 TO 2 MILES	2 TO 3 MILES	3 TO 4 MILES	TOTAL
Dailey Infiltration Camp	0	191	223	227	542	951	1,390	3,524

Source: U.S. Census 2010 data. The population within the FUDS, MRS, or any buffer area is determined using a conservative approach to calculate the population of an area by including the total number of people for any census block that falls within or overlaps the site boundary, MRS boundary, or buffer line.

2.2.6 CURRENT AND FUTURE LAND USE

The majority of the Dailey Infiltration Camp MRS is owned by the USDA and managed by the USFS as part of the MNF. The land is currently used for outdoor recreation. No change in land use is expected at the Dailey Infiltration Camp MRS.

2.3 SITE OWNERSHIP AND HISTORY

The former WVMA consisted of approximately 2,180,367 acres of land covering portions of Grant, Pendleton, Preston, Randolph, and Tucker counties in northeastern West Virginia generally near the town of Davis. Maneuver rights, secured by the Rents and Claims Board, Fifth Service Command, secured 350,416 acres of public lands (all part of the Monongahela National Forest), 48,557 acres of leased property for inclusion in the Impact Area, and 1,781,394 acres of so-called "lesser interests". According to a warning order notice, dated March 26, 1945, these "lesser interests" were covered by "trespass agreements". The land owners had granted use of these lands to the Army verbally; there are no records that describe the "trespass agreements" or the areas that they covered (USACE 1990). A letter, dated July 15, 1943 from the Secretary of War to the Secretary of Agriculture stated that there is a military necessity for the use of portions of the MNF for Army Maneuver purposes. In a response letter dated August 4, 1943 from the Secretary of Agriculture to the Secretary of War, the Department of Agriculture granted permission for the Army to use all MNF land in Preston, Grant, Randolph, Tucker, and Pendleton counties in West Virginia, a total coverage of 341,266 acres (USACE 2009).

Prior to DoD use, the area was mainly used for logging and agriculture purposes. Extensive logging began during the late 1800s and slowed considerably in the late 1910s to early 1920s. Following DoD use, much of the area was the same as it had been prior to the maneuvers, reverting to agriculture uses (farming, grazing), recreational activities (hunting, fishing), mining, and timbering. Local family farms and grazing fields dotted the landscape prior to, during, and following DoD use, occupying most open areas including valley floors and bare mountaintops. Once logging in the area slowed, the land's primary use shifted to agricultural and recreational uses. Farming, grazing, hunting and fishing were all activities that flourished prior to and following World War II. Today the area is used for a wide variety of outdoor activities including hiking, skiing, rock climbing, rafting, hunting, and fishing (USACE 2009).

Based upon lease records and other information contained in the 2009 Preliminary Assessment (PA), areas where live artillery fire was conducted were informally designated the WVMA Impact Area. Property outside of the Impact Area was utilized for other purposes such as tent encampments, vehicle repair, the base hospital, and the ammunition depot. The Dailey Infiltration Camp MRS is not within the known WVMA Impact Area, and live artillery is not suspected to have been used at the MRS. A record of the lease agreements associated with the WVMA is contained in the PA (USACE 2009).

Based on historical documentation, aerial photography interpretation, and a 2007 site visit, the PA determined that the Dailey Infiltration Camp was used as a small arms range (and potential grenade range) and obstacle course training facility during the operational period of the WVMA. The PA states that it is unclear whether grenades were actually used at the site and, to date, grenade use has never been confirmed). The 2007 field team observed earthen berms and foxholes within the MRS. The firing direction of the small arms range was not noted by the field team. The PA included a historical photograph of men crawling through puffs of smoke at the site. This was interpreted to be troops conducting training while simulated or smoke rounds are being detonated around them. Based on this information, the

potential munitions used at the site include small arms ammunition (.22, .30, .38, and .45 caliber), ¼ lb, ½ lb, and 1 lb demolition blocks, electric and non-electric blasting caps, and blasting fuses (Table 2.2). No munitions have been found within the MRS to date.

2.4 SITE OPERATIONS AND WASTE CHARACTERISTICS

2.4.1 MUNITIONS RESPONSE SITE-SPECIFIC DESCRIPTION AND OPERATIONS

The Dailey Infiltration Camp MRS consists of 200 acres within a 2,180,367-acre FUDS (USACE 2009). The land is currently owned by the USDA and managed by the USFS as part of the MNF. The land is used for outdoor recreation. The PA indicates a MRSPP priority score of 5 for the Dailey Infiltration Camp MRS. MRS Priority scoring ranges from 1 (highest priority, reserved for CWM sites) through 8 (lowest priority).

2.4.2 REGULATORY COMPLIANCE

The USACE is conducting the SI at the Dailey Infiltration Camp MRS as part of FUDS response activities pursuant to and in accordance with the guidance, regulations, and legislation listed in Subchapter 1.1.

2.5 PREVIOUS INVESTIGATIONS

There have been no historic MEC or MD observations or clearance operations in the area of the Dailey Infiltration Camp MRS. Clearance operations described herein were conducted for other portions of the WVMA. There have been several clearance operations conducted in the WVMA Impact Area which began almost immediately after military use of the FUDS ended in 1944. Initial clearance operations in 1946 focused on known target areas that were located in the Dolly Sods region, a high plateau located in the eastern central portion of the WVMA. The property was returned to the private landholders and the U.S. Forest Service upon completion of the initial clearing operations. A follow-up operation in 1953 found and destroyed six live rounds in the Dolly Sods region but determined that the previous clearance operations were “good”. However, unconfirmed reports of encounters with ordnance by the public continued in the Dolly Sods area. Subsequent site reconnaissance and clearance operations conducted in 1984, 1991, and 1997 to 1998 continued to encounter ordnance. All of the clearance operations were focused in the Dolly Sods Region in publicly used areas such as trails and campgrounds. Since then, recurring reviews of the clearance operations have been conducted to ensure that the previous operations continue to protect the safety of the public (USACE 2009).

The following activities were conducted as part of the USACE DERP FUDS program and are applicable to the Daily Infiltration Camp MRS:

- 2009 Preliminary Assessment
- 2010 Inventory Project Report (INPR)

Additional activities conducted for the former WVMA, but not applicable to this MRS, are listed in Section 2.5.3.

2.5.1 PRELIMINARY ASSESSMENT – FEBRUARY 2009

As stated above, a PA of the entire WVMA was prepared by the CELRH in 2009. Information used to prepare the PA included military records, interviews with former Army officials stationed at the site, historical documents, historical newspaper reports, interviews with

local residents, and historic aerial photographs. In addition to the information listed above, a site visit to the former Dailey Infiltration Camp was conducted by representatives of CELRH on September 12, 2007. During the site visit, the group identified the remains of berms, trenches, and foxholes. The site visit is described in the property trip report in Appendix L of the PA. Based upon a review of the information above, the CELRH identified a total of 7 MRSs warranting further investigation including the Dailey Infiltration Camp MRS which is the subject of this SI Report.

The PA indicates a MRSPP score of 5 for the Dailey Infiltration Camp MRS. MRS Priority scoring ranges from 1 (highest priority, reserved for CWM sites) through 8 (lowest priority).

2.5.2 INVENTORY PROJECT REPORT – DECEMBER 2010

An INPR for the WVMA was prepared by the CELRL in December 2010. The INPR requested "after the fact" approval for the Dolly Sods MMRP project (FUDS Project No. G03WV001304) and proposed 7 new MRSs including the Dailey Infiltration Camp MRS described in this SI Report. In December 2010, the CELRD granted "after the fact" approval for the Dolly Sods MMRP project and approved the 7 new MRSs including the Dailey Infiltration Camp MRS.

2.5.3 ADDITIONAL WVMA ACTIVITIES

No additional activities have been conducted for the Dailey Infiltration Camp MRS. However, additional activities have been conducted for the portions of the WVMA that do not include the area of the MRS. These activities include:

- Findings and Determination of Eligibility/INPR – May 1990, January 1992 (USACE 1990, 1992)
- Feasibility Study Dolly Sods Wilderness: Final Work Plan for Surface and Subsurface Investigation and On-Site Disposal of Ordnance – (M&E 1991)
- Archives Search Report (ASR) – September 1995 (USACE 1995a, USACE 1995b)
- Environmental Assessment of Ordnance Removal Action in the Dolly Sods Wilderness Area (DSWA) – September 1995 (NBE 1995)
- Environmental Assessment of Ordnance Removal Action in the Dolly Sods North (DSN) Area – September 1997 (NBE 1997)
- Action Memoranda for ordnance and explosives (OE) Removal Actions – 1996 to 1997 (USACE 1996, USACE 1997)
- Ordnance Removal Actions – Dolly Sods West, DSN, and Dolly Sods Scenic Area (DSSA) – 1997 to 1998 (NBE 1995, 1997)
- OE Recurring Review – June to August 2004 (USACE 2004c)

TABLE 2.2
SUSPECTED MUNITIONS
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Daily Infiltration Camp MRS

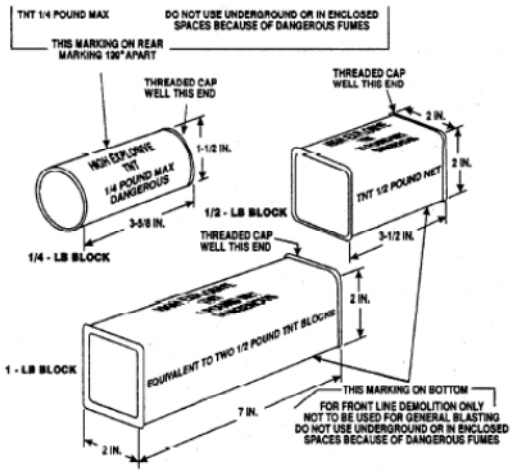
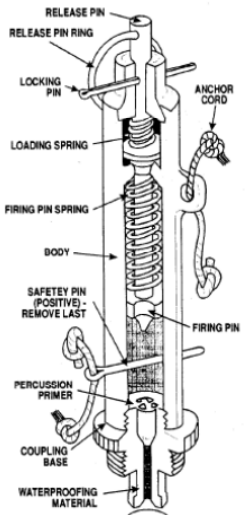
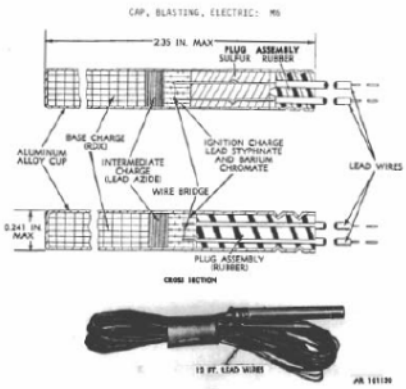
Munitions	Photograph/Diagram
Charge, demolition, block, ¼ lb, ½ lb, 1 lb	
Firing device, demolition, pull, M1	
Cap, blasting, electric, M6	

TABLE 2.2
SUSPECTED MUNITIONS
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Daily Infiltration Camp MRS

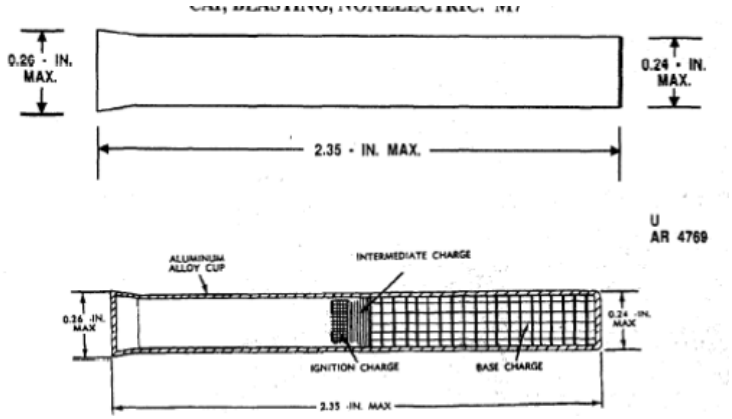
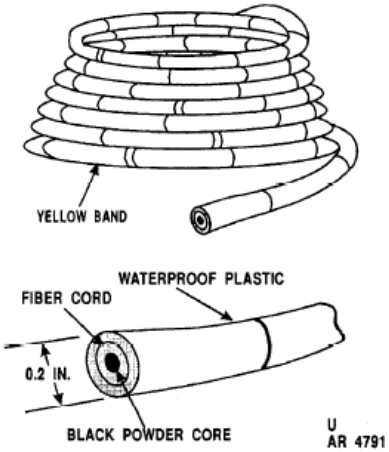
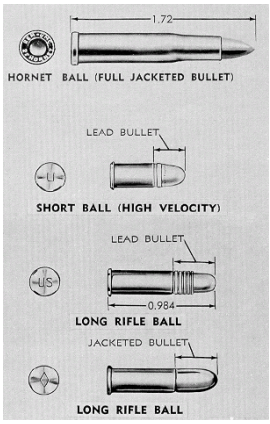
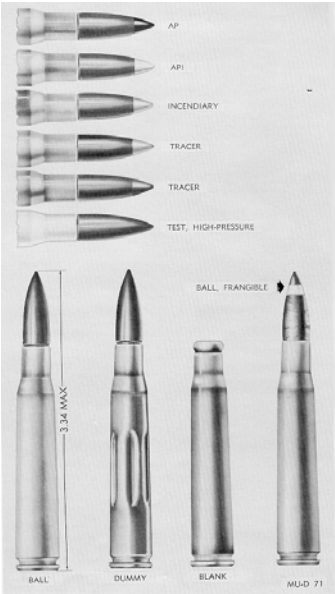
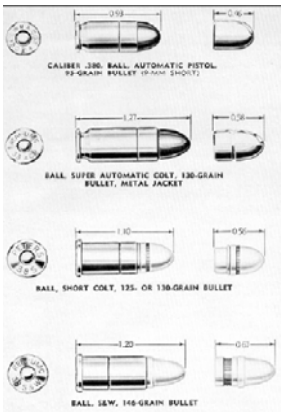
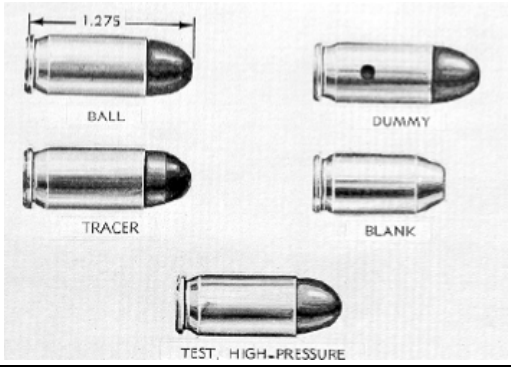
Munitions	Photograph/Diagram
Cap, blasting, non-electric, M7	
Fuse, blasting, time, M700	
Small arms, ammunition, general; Cartridge, .22 caliber	

TABLE 2.2
SUSPECTED MUNITIONS
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Daily Infiltration Camp MRS

Munitions	Photograph/Diagram
Small arms, ammunition, general; Cartridge, .30 caliber (includes carbine)	
Small arms, ammunition, general; Cartridge, .38 caliber	
Small arms, ammunition, general; Cartridge, .45 caliber	

Prepared by:
Eco & Associates, Inc.
and
PARSONS

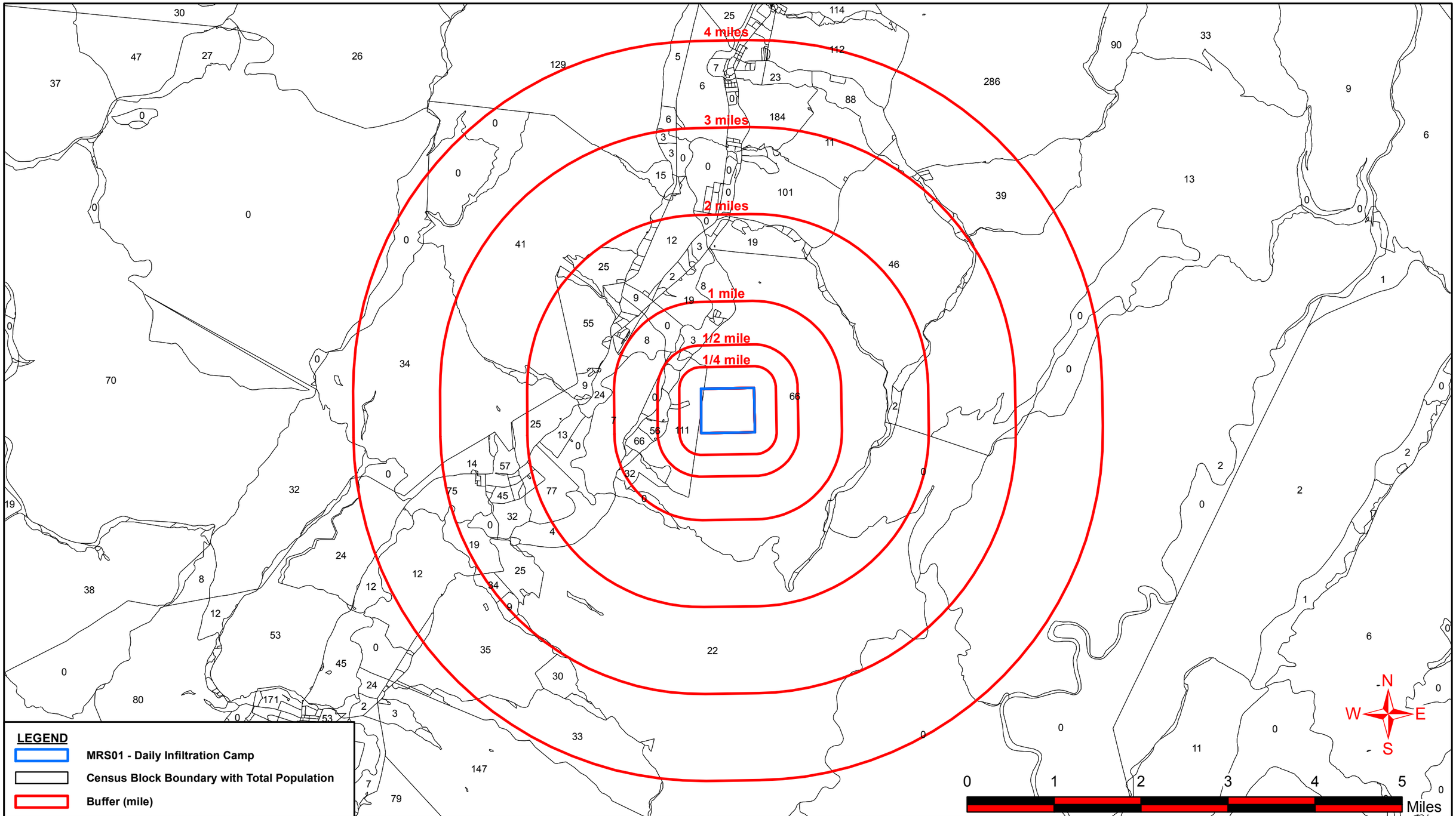
SITE SETTING

MRS01 - Daily Infiltration Camp
MMRP West Virginia

PROJECT NO. Eco-11-452

DATED August 2013

FIGURE
2.1



Prepared by:

Eco & Associates, Inc.
and
PARSONS

CENSUS DATA

MRS01 - Daily Infiltration Camp
MMRP West Virginia

PROJECT NO. Eco-11-452

DATED August 2013

FIGURE
2.2

CHAPTER 3
SITE INSPECTION TASKS

3.1 HISTORICAL RECORD REVIEW

A document review of the Dailey Infiltration Camp MRS was conducted. The historic information relevant to the Dailey Infiltration Camp MRS included the INPR and the PA. The findings of the historical review, including site use and potential munitions used, are described in Chapter 2.

3.2 TECHNICAL PROJECT PLANNING

The Dailey Infiltration Camp MRS falls under the purview of the CELRH, which facilitated a TPP meeting on April 7, 2011. Participants included representatives of the CELRH, the CENWW, the WVDEP, the USFS, the USFWS, the CVI, Parsons, and Eco. The TPP Team unanimously concurred with the technical approach presented in the Final TPP Memorandum (Eco 2011a, see Appendix B of this report). Key TPP findings and decisions are summarized below:

- The TPP Team agreed to move the boundary of the Dailey Infiltration Camp MRS based on reviewed aerial photography and topographic maps. A historical aerial photograph (date unknown) included in the PA shows an old obstacle course, berms, and foxholes along drainages at the former Dailey Infiltration Camp. By comparing the topography to recent aerial topography and topographic maps, the TPP Team agreed that the MRS location indicated on figures in the PA is approximately ½ mile southwest of the correct location. It was also agreed upon that the new site boundary would be resized to match the acreage listed in the PA. Based upon observations made by the SVT, the revised boundaries appear to be correct.
- The TPP Team agreed that any berms that are observed to be eroding at the MRS would take higher priority for sampling than the other berms. Due to safety concerns and unstable footing adjacent to the stream, the berms were not sampled in the area of erosion. A representative of the USFS accompanying the SVT agreed with the team's decision to alter the sample location.
- Soil Archives for each soil sample would be sent to the USFS for their records. The SVT collected an archive of each soil sample collected on USFS property. The archives were presented to the USFS upon completion of fieldwork.
- Soils would be sampled from zones 0 to 6 without separating the zones (not to exceed a depth of 0 to 2 feet below ground surface [bgs]). However, the TPP Team would have the flexibility to separate very different zones and analyze each, if necessary. Based on field observations, the soil zones appeared very similar and did not require separation into different horizons to attain the analytical results. Therefore, the soil samples were collected from 0 to 4 inches bgs.

- The remains of five berms were identified at the Dailey Infiltration Camp MRS during a previous field visit. The TPP Team agreed that the samples would be collected from an area that has been eroded by a stream along the northern portion of the QR line. As stated above, the berms were not sampled in the eroded area due to safety concerns.
- Since no site-specific statistical evaluation of background metals concentrations is available for the Dailey Infiltration Camp MRS, the TPP Team agreed that for sediment and surface water samples, the background value will be three times the ambient sample analytical result. For surface soil samples, the values used for comparison include background concentrations obtained from the West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual Version 2.1, Table 2-3: Natural Background Levels of Inorganics in Soil in West Virginia and Surrounding Areas. The value used for comparison is three times the mean background concentrations obtained from West Virginia guidance, per United States Environmental Protection Agency (USEPA) guidance (USEPA, 1992). The TPP Team agreed to collect the ambient soil and ambient surface water/sediment samples in the northeast portion of the MRS - off the northeastern branch of the proposed QR line. The ambient surface soil samples were planned to be of the same soil type as the biased samples. The ambient soil and surface water/sediment samples were collected as proposed in the SS-WP. The ambient and biased soil samples were similar soil types.
- Based on review of historic information, the munitions potentially used at the MRS, and the resulting list of selected analytes for the SI, were presented and agreed upon at the TPP Meeting. The list of potential munitions is presented in Table 2.2, and the list of analytes is presented in Table 4.1.
- Portions of the MRS are within the Monongahela National Forest; therefore, this MRS is considered to be ecologically sensitive. The TPP Team discussed the ecological screening values to be used for the Screening Level Ecological Risk Assessment (SLERA) for this MRS. The team agreed to tentatively use the USEPA Region 3 values, while the WVDEP mentioned that the most conservative values may have been compiled into a national database. The proposed screening levels to be used for the SLERA are described as follows:

  Soil – USEPA Ecological Soil Screening Levels (EcoSSLs). In absence of EcoSSLs, values obtained from the Los Alamos National Laboratory (LANL) EcoRisk Database and USEPA Region 3 Ecological Screening Levels (ESLs)

  Sediment – USEPA Region 3 Ecological Screening Benchmarks, Freshwater Sediment Screening Benchmark, National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables, LANL EcoRisk Database, and USEPA Region 3 ESLs

  Surface Water – WV Requirements Governing Water Quality Standards (47CSR2) supplemented with USEPA National Recommended Water Quality Criteria, USEPA Region 3 Freshwater Screening Benchmark, LANL EcoRisk Database

- The proposed screening levels to be used for the human health risk assessment are described as follows:

  Soil and Sediment – WVDEP RBCs, Table 60-3B in the Voluntary Remediation and Redevelopment Rule (60CSR3) supplemented with USEPA RSLs

  Surface Water – WV Requirements Governing Water Quality Standards (47CSR2) supplemented with USEPA National Recommended Water Quality Criteria and USEPA RSLs for tap water

  Groundwater – WV Requirements Governing Water Quality Standards (47CSR2) then WV RBCs, Table 60-3B in the Voluntary Remediation and Redevelopment Rule (60CSR3) supplemented with USEPA MCLs, National Primary Drinking Water Standards, and USEPA RSLs for tap water

- The TPP Team concurred that no known cultural resources exist within the MRS. Research conducted during preparation of the SS-WP indicated that the Dailey Infiltration Camp MRS is not in a National Heritage Area, nor does it contain National Historic Landmarks or any recorded cultural/archaeological sites. No cultural or historical resources were encountered by the SVT during the SI.
- The WVDEP noted that the document repository for this site should be located at the new location of the USFS office in Petersburg, WV located at 2499 North Fork Highway.
- The TPP Team agreed that right-of-entry (ROE) would be needed for access to the USFS property. ROE was coordinated through the CELRH.

3.3 NON-MEASUREMENT DATA COLLECTION

The West Virginia Geological and Economic Survey (WVGES) and the USGS provided geological and hydrogeological data including information about wells on and near the MRS. The West Virginia Water Science Center (WVWSC) provided well information for West Virginia (WVWSC 2011). The West Virginia Department of Health and Human Resources (WVDHHR) provided information regarding water well permits, wellhead protection areas, and surface water protection zones. Information regarding surface water intakes for drinking water systems in the area was provided by the USACE during preparation of the 2009 PA (USACE 2009).

According to the National Register Information System, National Historic Landmark Program, and National Heritage Area Program websites, no cultural or archaeological resources are known within the MRS. The West Virginia Division of Culture and History (WVDCH) lists no previously recorded archaeological sites within the MRS boundary (WVDCH 2011a). The SVT encountered no cultural resources during the QR.

The following printed and electronic information sources were consulted for the Dailey Infiltration Camp MRS:

- USGS – topographic maps
- USGS – *Ground Water Atlas of the United States*, http://pubs.usgs.gov/ha/ha730/index.html

- USFWS, National Wetlands Inventory – Wetlands Mapper, http://www.fws.gov/wetlands/Data/mapper.html
- USFWS, Endangered Species Program – Threatened and Endangered (T&E) Species System, http://ecos.fws.gov/tess_public/pub/stateListingIndividual.jsp?state=WV&status=listed
- USFWS, National Wildlife Refuge System – Refuge List by State, http://www.fws.gov/refuges/profiles/bystate.cfm
- USFS, http://www.fs.fed.us
- Natural Resources Conservation Service, http://websoilsurvey.nrcs.usda.gov/app/
- National Historic Landmarks Program – Lists of National Historic Landmarks, http://www.nps.gov/nhl/designations/listsofNHLs.htm
- National Heritage Areas Program – Explore Our National Heritage Areas, http://www.nps.gov/history/heritageareas/
- NOAA, http://coastalmanagement.noaa.gov
- National Park Service, (NPS) http://www.nps.gov/applications/parksearch/geosearch.cfm
- National Register Information System, http://www.nr.nps.gov/

3.4 SITE-SPECIFIC WORK PLAN

The SS-WP augments the Programmatic Work Plan (PWP) and PSAP, as warranted, to present pertinent site-specific information and procedural adjustments that could not be readily captured in the programmatic documents or that resulted from TPP Team agreements that required modifying the preliminary SI technical approach. The PWP and PSAP are umbrella documents that set overall programmatic objectives and approaches, whereas the SS-WP provides site-specific details and action plans. The PWP, PSAP, and SS-WP accompanied the SVT during SI activities.

The SS-WP includes the project description, the field investigation plan, the sampling and analysis plan, the environmental protection plan, and the accident prevention plan specific to the Dailey Infiltration Camp MRS. The field investigation plan developed a technical approach to guide sample collection and analysis for MEC and elevated metals concentrations that are consistent with the identified MC contaminants of concern to ensure that the results were sufficient to determine whether additional investigations or remedies are necessary for the MRS. Key elements of the technical approach include the conceptual site model (CSM) to help determine types of samples and their locations, data quality objectives (DQOs) to ensure that the data acquired are sufficient to characterize MEC and metals contamination at the FUDS, and QR to confirm known target locations and to evaluate the potential presence of MEC or elevated metals in those target locations.

The sampling and analysis plan discusses procedures for soil sample acquisition from locations biased toward the highest potential for MEC contamination; quality control (QC) and quality assurance (QA) for the sampling process; sample shipment to an approved, independent laboratory; and laboratory analysis of the samples. The environmental protection plan presents procedures for avoiding, minimizing, and mitigating potential

impacts on environmental and cultural resources during the site visit. The accident prevention plan supplements the programmatic accident prevention plan with site-specific emergency contact information and directions to the nearest hospital.

3.5 DEPARTURES FROM PLANNING DOCUMENTS

The following departures from the approved SS-WP Addendum were based on field conditions and/or ROE issues. The potential impact to the data quality for each departure from the plan is also discussed below.

- Biased soil samples were not collected from eroding berms due to safety hazards presented by the adjacent creek. Biased soil samples were collected from the face of the berms and gun emplacements. No impact on data quality is anticipated from this departure.

CHAPTER 4
MUNITIONS AND EXPLOSIVES OF CONCERN FINDINGS

4.1 GENERAL INFORMATION

4.1.1 QUALITATIVE RECONNAISSANCE AND SAMPLE LOCATIONS

The primary task of the SI is to assess the presence of MEC, MD, and elevated metals concentrations. To assess the presence of MEC and MD, the SVT conducted QR by walking 3.2 miles on May 10 and 11, 2012. The presence of metals contamination was assessed by collecting and analyzing samples of surface soil, surface water, and sediment as outlined in the SS-WP.

The QR consisted of visual reconnaissance of the site surface to identify indicators of suspect areas, including earthen berms, distressed vegetation, stained soil, ground scars or craters, target remnants, and visible metallic debris. QR activities focused on the historic firing and target points at the MRS, as well as areas where ground scarring, linear features, and other potential DoD-related features were noted in the 2009 PA. These areas were judged the most likely locations for MEC or metal contamination because training activities were concentrated in these areas. Table 4.1 presents the MEC (including potential chemical constituents) potentially present at the site based on the PA and the QR. Appendix J includes the MEC CSM. The potential MEC list presented on Table 4.1 was adjusted to include demolition blocks, firing devices, blasting caps, and blasting fuses based on observations of symmetrically-shaped craters within the MRS, and anomalies detected in and around those craters.

The TPP Team agreed to the location and the number of samples prior to the site visit. Some sample locations were changed, as described in Section 3.5 above. The unexploded ordnance (UXO) technician III used a Schonstedt GA-52Cx magnetic locator to screen each increment location before sampling. Per the PWP, the UXO technician III performed QC and battery checks prior to use to confirm that the instrument was working properly.

The SVT recorded field observations during the QR at significant site features. Figure 4.1 shows the QR route and observation locations. The observation location numbers correspond to the photo station numbers in the photograph documentation log in Appendix E. The QR route generally followed the proposed path.

As shown in Appendix E, the SVT noted 14 observations throughout the SI, such as topography, soil color, drainage, and the presence of any barriers. Table 4.2 summarizes pertinent field observations. Appendix D includes related field forms.

TABLE 4.1

CHEMICAL COMPOSITION OF POTENTIAL MEC AND MUNITIONS CONSTITUENTS
WEST VIRGINIA MANEUVER AREA/DOLLY SODS FUDS PROPERTY NO. G03WV0013
DAILY INFILTRATION CAMP MRS

Munitions Type/ Model	Composition (Case and Filler) [2]	MC Analysis [1]
Charge, demolition, block, ¼ lb, ½ lb, 1 lb	**Case: Cardboard, Steel** - Carbon, Iron, Manganese, Phosphorus, Sulfur **Filler:** Trinitrotoluene (TNT)	**Metals[3]** N/A **Explosives[4]** As a conservative measure, a full explosives panel will be analyzed for from media collected at this MRS.
Firing device, demolition, pull, M1	**Case: Steel -** Carbon, Iron, Manganese, Phosphorus, Sulfur **Primer [7]:** Antimony Sulfide, Barium Nitrate, Carbon, Iron, Lead Styphnate, Manganese, Phosphorus, Sulfur, Tetrazene	**Metals[3]** N/A **Explosives[4]** As a conservative measure, a full explosives panel will be analyzed for from media collected at this MRS.
Cap, blasting, electric, M6	**Case: Aluminum Alloy –** Aluminum, Chromium, Copper, Iron, Magnesium, Silicon, Zinc **Filler:** RDX **Primer[7]:** (Ignition and Intermediate charges): Barium Chromate, Lead Azide, Lead Dinitro-Ortho-Cresol, Lead Styphnate, Nitrocellulose[5], Potassium Chlorate	**Metals[3]** Aluminum, Chromium, Copper, Magnesium, Zinc **Explosives[4]** As a conservative measure, a full explosives panel will be analyzed for from media collected at this MRS.
Cap, blasting, non-electric, M7	**Case: Aluminum Alloy –** Aluminum, Chromium, Copper, Iron, Magnesium, Silicon, Zinc **Filler: RDX** **Primer [7]: (Ignition and Intermediate charges): Lead Azide, Lead Styphnate**	**Metals[3]** Aluminum, Chromium, Copper, Magnesium, Zinc **Explosives[4]** As a conservative measure, a full explosives panel will be analyzed for from media collected at this MRS.

TABLE 4.1

CHEMICAL COMPOSITION OF POTENTIAL MEC AND MUNITIONS CONSTITUENTS
WEST VIRGINIA MANEUVER AREA/DOLLY SODS FUDS PROPERTY NO. G03WV0013
DAILY INFILTRATION CAMP MRS

Munitions Type/ Model	Composition (Case and Filler) (2)	MC Analysis (1)
Fuse, blasting, time, M700	**Case: Polyethylene Plastic** **Filler:** Potassium Nitrate, Sulfur	**Metals(3)** N/A **Explosives(4)** As a conservative measure, a full explosives panel will be analyzed for from media collected at this MRS.
Small arms ammunition, general: Cartridge, .22 caliber	**Cartridge case: Copper Alloy –** Copper, Iron, Lead, Zinc **Propellant:** Dibutylphthalate, Diphenylamine, Nitrocellulose(5), Nitroglycerin **Primer (7):** Antimony Sulfide, Barium Nitrate, Calcium Silicide, Copper, Iron, Lead, Lead Styphnate, Nitrocellulose(5), Pentaerythritol Tetranitrate (PETN), Tetrazene, Zinc **Projectile**: Antimony, Copper, Iron, Lead, Zinc	**Metals (3)** Antimony, Copper, Lead **Explosives (4)** A full explosives panel will be analyzed for from media collected at the firing lines of this MRS.
Small arms ammunition, general: Cartridge, .30 caliber (includes carbine)	**Cartridge case: Copper Alloy –** Copper, Iron, Lead, Zinc **Propellant:** Calcium Carbonate, Copper, Dibutylphthalate, Diphenylamine, Dinitrotoluene(6), Ethyl Centralite, Lead, Iron, Nitrocellulose(5), Nitroglycerin, Potassium Nitrate, Sodium Sulfate, Zinc **Primer (7):** Aluminum Powder, Antimony Sulfide, Barium Nitrate, Copper, Iron, Lead, Lead Styphnate, PETN, Tetrazene, Zinc **Projectile**: Antimony, Carbon, Copper, Iron, Lead, Manganese, Silicon, Sulfur, Zinc **Tracer (8):** Barium Peroxide, Calcium Resinate, Magnesium Powder, Polyvinyl Chloride, Strontium Nitrate, Strontium Oxalate, Strontium Peroxide, Zinc Stearate	**Metals (3)** Antimony, Copper, Lead **Explosives (4)** A full explosives panel will be analyzed for from media collected at the firing lines of this MRS.
Small arms ammunition, general: Cartridge, .38 caliber	**Cartridge case: Copper Alloy –** Copper, Iron, Lead, Zinc **Propellant:** Dinitrotoluene(6), Diphenylamine, Ethyl Centralite, Nitrocellulose(5), Nitroglycerin, Potassium Sulfate **Primer (7):** Aluminum Powder, Antimony Sulfide, Barium Nitrate, Calcium Silicide, Copper, Iron, Lead Oxide, Lead Styphnate, Nitrocellulose(5), PETN, Tetrazene, Zinc **Projectile**: Antimony, Copper, Iron, Lead, Zinc	**Metals (3)** Antimony, Copper, Lead **Explosives (4)** A full explosives panel will be analyzed for from media collected at the firing lines of this MRS.

TABLE 4.1

CHEMICAL COMPOSITION OF POTENTIAL MEC AND MUNITIONS CONSTITUENTS
WEST VIRGINIA MANEUVER AREA/DOLLY SODS FUDS PROPERTY NO. G03WV0013
DAILY INFILTRATION CAMP MRS

Munitions Type/ Model	Composition (Case and Filler) (2)	MC Analysis (1)
Small arms ammunition, general: Cartridge, .45 caliber	**Cartridge case: Copper Alloy –** Copper, Iron, Lead, Zinc **Propellant:** Diphenylamine, Dinitrotoluene(6), Nitrocellulose(5), Nitroglycerin, Potassium Nitrate, Potassium Sulfate **Primer (7):** Antimony Sulfide, Barium Nitrate, Calcium Silicide, Copper, Iron, Lead Styphnate, Lead Thiocyanate, Nitrocellulose(5), PETN, Potassium Chlorate, Tetrazene, Trinitrotoluene (TNT), Zinc **Projectile**: Antimony, Carbon, Copper, Iron, Lead, Manganese, Phosphorus, Silicon, Sulfur, Zinc	**Metals (3)** Antimony, Copper, Lead **Explosives (4)** A full explosives panel will be analyzed for from media collected at the firing lines of this MRS.

(1) MC selected for analysis are typically non-essential nutrient metals and indicative of known or suspected DOD munitions used at this MRS.

(2) MC not selected for analysis are essential nutrient metals, Semi-Volatile Organic Compounds (SVOCs) or materials that represent a very small percentage of the munitions weight.

(3) Lead, antimony, and copper have been selected as programmatic SI "indicator" heavy metals and reflect general former small arms range evaluation strategy and parallel the screening level decision-making objectives of SI. This 3-metals list was developed based on an extensive review of historical SAR studies, fate and transport mechanisms (specifically as they relate to shallow surface soil sampling), compositional prevalence, toxicity, environmental persistence and reactivity, and representativeness. This baseline list may be augmented, as appropriate, following TPP based on justifications of unique site specific considerations such as soils, geology, vegetation, topography, hydrology, land use, or ammunition type.

(4) A full Explosives panel will be analyzed for from media collected at known firing points of small arms ranges and ambient samples. As a conservative measure, all explosives will be included when analyzing for explosive MC.

(5) Nitrocellulose is not considered toxic, has no risk-based screening values and there are no chemical analysis techniques that quantify nitrocellulose separately from the natural common essential nutrient nitrate. Based on this, nitrocellulose analysis will not be conducted during this SI.

(6) Dinitrotoluene products include: 2,4-and 2,6-dinitrotoluene; 2-Amino-4,6-dinitrotoluene; 2-and 3-nitrotoluene; 4-Amino-2,6-dinitrotoluene; 4-nitrotoluene.

(7) Primer materials represent a very small percentage of the munition's weight. Therefore, analysis of primer constituents will not be conducted. However, if a primer constituent is associated with a larger component of the munition, then analysis of that constituent may be conducted.

(8) Tracer element materials represent a very small percentage of the munitions weight and is consumed while the projectile travels to the target, therefore, tracer element constituents will not be analyzed for at this MRS (if a tracer element constituent is associated with a larger component of the munition it may be analyzed for).

(9) Munitions listed are potential. No MEC have been found within the MRS.

Source: Munitions information was supplied by the 2009 INPR, Munitions Items Disposition Action System (MIDAS) database, and USACE Range Operations Reports RO-01.

TABLE 4.2

SUMMARY OF QUALITATIVE RECONNAISSANCE OBSERVATIONS

DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

MRS	MEC	MD	OTHER OBSERVATIONS
Dailey Infiltration Camp	None observed	None observed	Several earthen berms were observed within the MRS. The berms are approximately 8 feet high, 20 feet wide at the top, and 100 feet long. The berms trend northeast to southwest and are arranged in rows. The berms are covered in vegetation. Several rows of mounded "foxholes" or gun emplacements are arranged between the berms. The emplacements are arranged in rows of 3 or 4 between the berms. No MEC was observed. Some of the emplacements had small subsurface anomalies detected; however, no MD was observed. A group of 12 craters was observed near the northern central portion of the MRS. The craters are circular and are approximately 8 to 10 feet in diameter. Most are filled with rainwater. Subsurface anomalies were detected in at least 6 of the 12 craters. No MEC was observed, within or in the vicinity of the craters. No MD was observed.

4.1.2 DATA QUALITY OBJECTIVES

4.1.2.1 Introduction

DQOs are qualitative and quantitative statements that clarify study objectives and specify the type and quality of the data necessary to support decisions. The development of DQOs for a specific site takes into account factors that determine whether the quality and quantity of data are adequate for project needs, such as data collection, uses, types, and needs. While developing these DQOs in accordance with the process presented in Chapter 3, paragraph 3.1.2 of the PWP, Eco followed the Guidance on Systematic Planning Using the DQO Process (USEPA 2006).

The goal of the TPP process is to achieve stakeholder, USACE, and applicable state and federal regulatory concurrence with the DQOs for a given site. The TPP Team approved the Dailey Infiltration Camp MRS DQOs at the TPP meeting on April 7, 2011. Appendix B of this SI Report presents the TPP documentation, including the DQO worksheets agreed to at the meeting. The updated DQO worksheets for the MRS are included in this chapter after the appropriate DQO discussions.

As stated in Subchapter 1.2 of this SI Report, data must be sufficient to do the following: 1) determine whether a removal action is necessary, 2) enable HRS scoring by the USEPA, 3) characterize the release for RI/FS initiation, and 4) complete the MRSPP.

DQOs cover four project objectives that SI data must satisfy: 1) evaluate potential presence of MEC, 2) evaluate potential presence of elevated metals concentrations that are consistent with the identified MC contaminants of concern, 3) collect data needed to complete MRSPP scoring sheets, and 4) collect information for HRS scoring.

4.1.2.2 Munitions and Explosives of Concern Data Quality Objective

The MEC DQO was achieved by evaluating potential presence of MEC within the Dailey Infiltration Camp MRS boundary. The SVT searched for visual evidence of MEC and MD along the QR transects. They identified no MEC and no MD in the Dailey Infiltration Camp MRS. Table 4.3 presents the MEC DQOs.

4.1.2.3 Munitions Constituents Data Quality Objective

The MC DQO was achieved by evaluating the potential presence of elevated metals within the MRS boundary. Table 4.1 summarizes the MC associated with the ordnance potentially used at the Dailey Infiltration Camp MRS. The TPP Team agreed on the list of analytes for sample analysis based on the munitions potentially used at the site. These analytes included explosives and selected metals (aluminum, antimony, barium, chromium, copper, magnesium, lead and zinc). Chapter 5 presents the full list of explosive compound analytes and metals sampling and analysis results. Appendix G presents the QA and QC reports generated during the data validation process. No concerns regarding data quality were noted. Table 4.4 presents the metals DQOs.

4.1.2.4 Munitions Response Site Prioritization Protocol Data Quality Objective

The MRSPP DQO was achieved by obtaining sufficient information to complete the MRSPP scoring sheets. Specific input data were collected, and the three modules for the MRSPP were populated as part of the SI. Appendix K includes the scoring sheets. Table 4.5 presents the MRSPP DQOs.

4.1.2.5 Hazard Ranking System Data Quality Objective

The HRS DQO was achieved by including information in the SI report necessary for the USEPA to populate the HRS score sheets. Source documents for the HRS information include the INPR and the PA; the metals sampling results reported in Chapter 5 of this SI Report; and information from local and state agencies regarding population, groundwater wells, and drinking water wells. Table 4.6 presents the HRS DQOs.

TABLE 4.3

MEC DATA QUALITY OBJECTIVE WORKSHEET

SITE: **West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013**

PROJECT: **MMRP Site Inspection/Dailey Infiltration Camp MRS**

DQO Element Number*	DQO Element Description*	Site-Specific DQO Statement	Objective met? (Y or N)
Intended Data Use(s):			
1	Project Objective(s) Satisfied	Evaluate potential presence of MEC	Y
Intended Need Requirements:			
2	Data User Perspective(s)	Risk, remedy	Y
3	Contaminant or Characteristic of Interest	MEC, MD	Y
4	Media of Interest	N/A	N/A
5	Required Locations or Areas	Dailey Infiltration Camp MRS	Y
6	Number of Samples Required	N/A	N/A
7	Reference Concentration of Interest or Other Performance Criteria	Visual identification of MEC or MD during QR	Y
Appropriate Sampling and Analysis Methods:			
8	Sampling Method	QR with magnetometer (Schonstedt) for avoidance	Y
9	Analytical Method	N/A	N/A

* Refer to EM 200-1-2, Paragraph 4.

TABLE 4.4

MC DATA QUALITY OBJECTIVE WORKSHEET

SITE: **West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013**

PROJECT: **MMRP Site Inspection/Dailey Infiltration Camp MRS**

DQO Element Number*	DQO Element Description*	Site-Specific DQO Statement	Objective Met? (Y or N)
Intended Data Use(s):			
1	Project Objective(s) Satisfied	Evaluate potential release of elevated metals concentrations that are consistent with the identified munitions constituents (MC)	Y
Intended Need Requirements:			
2	Data User Perspective(s)	Risk, remedy	Y
3	Contaminant or Characteristic of Interest	See Table 4.1, third column	Y
4	Media of Interest	Surface soil, and surface water and sediments	Y
5	Required Sampling Locations or Areas and Depths	Samples collected as determined by the TPP Team. Soil sample depth is 0-4 inches bgs.	Y
6	Number of Samples Required	3 discretionary biased surface soil samples and 1 ambient surface soil sample. 1 biased sample set of surface water & sediment, and 1 ambient sample set.	Y

TABLE 4.4

MC DATA QUALITY OBJECTIVE WORKSHEET

SITE: **West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013**

PROJECT: **MMRP Site Inspection/Dailey Infiltration Camp MRS**

DQO Element Number*	DQO Element Description*	Site-Specific DQO Statement	Objective Met? (Y or N)
7	Reference Concentration of Interest or Other Performance Criteria	Human health screening values for soil and sediment are from the WVDEP RBCs, Table 60-3B, supplemented with USEPA RSLs for Superfund Sites for Soil. Human health screening values for surface water are from *Requirements Governing Water Quality Standards Rule*, and USEPA National Recommended Water Quality Criteria supplemented by USEPA Region 3 levels for tap water (or MCLs) Ecological screening values are from USEPA EcoSSLs, supplemented by Los Alamos National Laboratory's EcoRisk Database values and the relevant USEPA Ecological Screening Benchmarks.	Y

TABLE 4.4

MC DATA QUALITY OBJECTIVE WORKSHEET

SITE: **West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013**

PROJECT: **MMRP Site Inspection/Dailey Infiltration Camp MRS**

DQO Element Number*	DQO Element Description*	Site-Specific DQO Statement	Objective Met? (Y or N)
Appropriate Sampling and Analysis Methods:			
8	Sampling Method	CRREL Seven-point wheel sampling method in accordance with the SS-WP, PSAP and PSAP Addendum	Y
9	Analytical Method	Explosives: soil samples were dried, sieved, and ground with pestle and mortar according to SW846 8330A and analyzed by HPLC according to SW846-8330B Selected metals: samples were dried and sieved according to SW846-3050B and analyzed by ICP according to SW846-6010B pH: SW846-9045D	Y

TABLE 4.5
MRSPP Data Quality Objective Worksheet

Site: West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Project: MMRP Site Inspection/Dailey Infiltration Camp MRS
DQO Statement Number: 3 of 4

Module	Table #	Table Description	Known Data	Current Data Gap	Data Source
Explosive Hazard Evaluation (EHE)	1	Munitions Type	X		Historical records or field findings
	2	Source of Hazard	X		Historical maps
	3	Location of Munitions	X		Historical records or field findings
	4	Ease of Access	X		Field findings
	5	Status of Property	X		Historical records
	6	Population Density	X		U.S. Census Bureau
	7	Population Near Hazard	X		Field findings
	8	Types of Activities/Structures	X		Regional zoning
	9	Ecological and/or Cultural Resources	X		State Historic Preservation Office
	10	Determining the EHE	X		Scores from Tables 1 through 9
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration	X		Historical records or field findings
	12	Sources of CWM	X		Historical records or field findings
	13	Location of CWM	X		Historical records or field findings
	14	Ease of Access	X		Historical records or field findings
	15	Status of Property	X		Historical records
	16	Population Density	X		U.S. Census Bureau
	17	Population Near Hazard	X		Field findings
	18	Types of Activities/Structures	X		Regional zoning
	19	Ecological and/or Cultural Resources	X		State Historic Preservation Office
	20	Determining the CHE	X		Scores from Tables 11 through 19
Health Hazard Evaluation (HHE)	21	Groundwater Data	X		N/A
	22	Surface Water - Human Endpoint	X		Surface water sampling results
	23	Sediment - Human Endpoint	X		Sediment sampling results
	24	Surface Water - Ecological Endpoint	X		Surface water sampling results
	25	Sediment - Ecological Endpoint	X		Sediment sampling results
	26	Surface Soil	X		Surface soil sampling results
	27	Supplemental Contaminant Hazard Factor	X		All MC sampling results
	28	Determining the HHE	X		Scores from Tables 21 through 27
	29	MRS Priority	X		Scores from Tables 10, 20, and 28
	A	MRS Background Information	X		DoD databases

TABLE 4.6
HRS Data Quality Objective Worksheet

Site: West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Project: MMRP Site Inspection/Dailey Infiltration Camp MRS

Data Description	Known Data	Current Data Gap	Data Source
Source Type	X		Historical records or field findings
Estimated Volume or Area	X		Field findings
Hazardous Substance	X		Constituents of suspected munitions
Groundwater Sample Concentration		X	N/A
Groundwater Use	X		Well records and municipal data
Surface Water Sample Concentration	X		Sample results
Surface Water Pathways	X		Field findings
Soil Sample Concentration	X		Sample results
Soil Pathways	X		Field findings
Sensitive Environments	X		State Historic Preservation Office, U.S. Fish and Wildlife Service, various government agencies
Attractiveness/Accessibility	X		Field findings and land use records

4.2 DAILEY INFILTRATION CAMP MUNITIONS RESPONSE SITE

4.2.1 HISTORICAL USE OF MILITARY MUNITIONS

The Dailey Infiltration Camp MRS consists of 200 acres within a 2,180,367-acre FUDS. Historical records, summarized in the 2009 PA, indicate that the Dailey Infiltration Camp MRS was used from 1943 to 1944 for obstacle course training, small arms training, and possibly hand grenade training. It should be noted that there is no confirmed presence or use of grenades at this MRS. The PA states that the ordnance most likely used for training was small arms ammunition (.22, .30, .38, and .45 caliber) (USACE 2009).

4.2.2 INSPECTION ACTIVITIES

To assess potential MEC contamination within the Dailey Infiltration Camp MRS, the SVT conducted approximately 3.2 miles of QR within the MRS (Figure 4.1). The team did not observe any MEC or MD but did identify 5 berms approximately 8 feet high, 20 feet wide, and 100 feet long. The berms are arranged in between rows of 3 or 4 mounded "foxholes" that appear to be gun emplacements. No MEC or MD was observed in the gun emplacements but several of the emplacements had small subsurface anomalies in them. The team also observed at least 12 circular craters possibly derived from detonation of charges used for training purposes. The craters are approximately 10 to 12 feet in diameter and appeared to be approximately 1 to 2 feet deep. Most of the craters contained rainwater. No MEC or MD was observed but at least 6 of the craters contained magnetic anomalies.

Surface soil samples were collected as planned and described in the approved SS-WP, except for those deviations from the plan described in Section 3.5 above. Biased surface soil samples were generally collected in proximity to suspected or observed munitions, or suspected targets areas. See Figure 5.2 for sample locations.

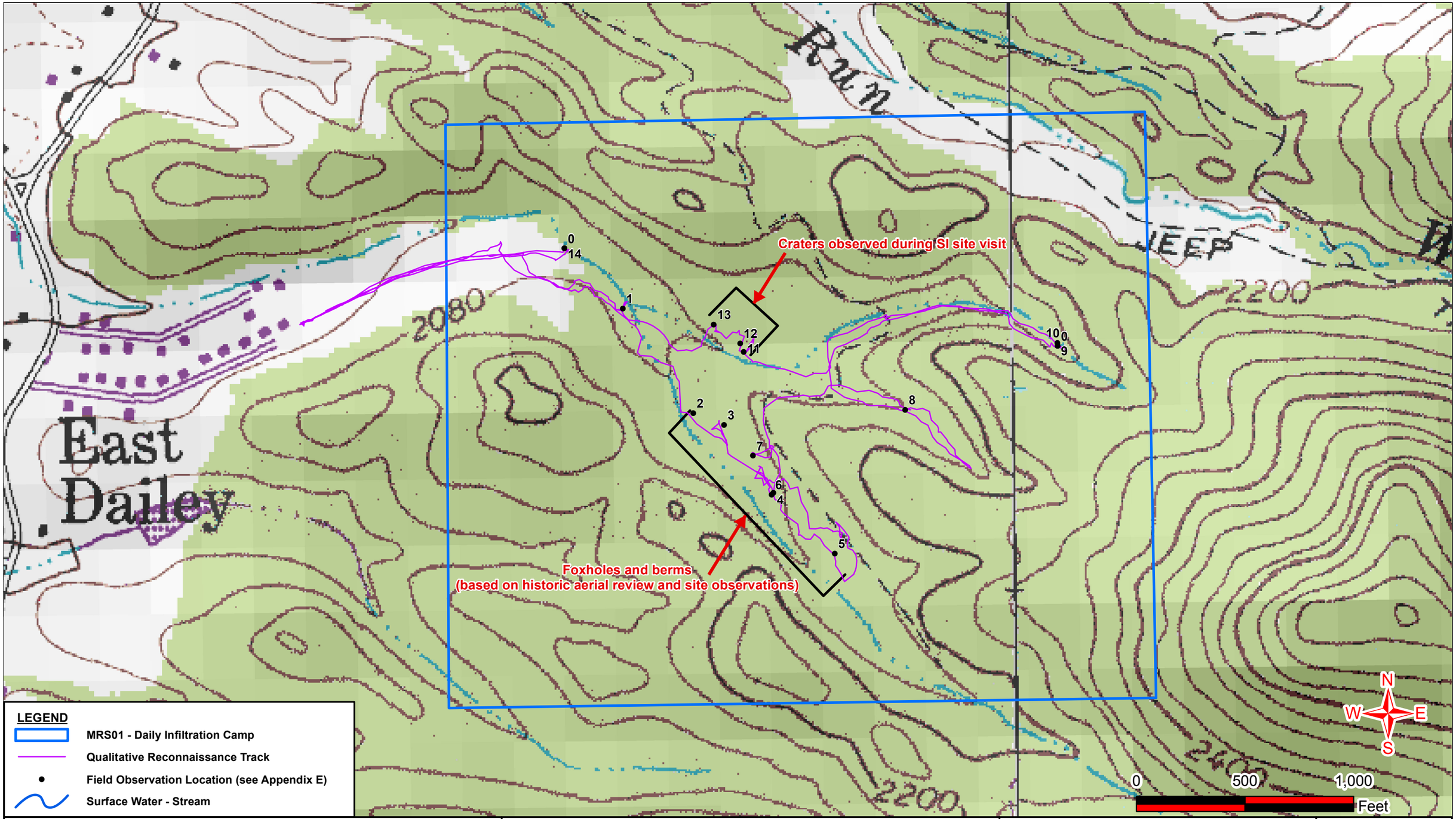
In addition to the surface soil samples, two sets of surface water/sediment samples were collected. The biased sample set was collected from the unnamed watercourse near the western edge of the MRS (WVMA-MRS01-SD/SW-01) in a location downstream from suspected DoD use. The ambient surface water/sediment sample set (WVMA-MRS01-AMB-SD/SW-02) was collected from the northern fork of the watercourse at a location upstream of suspected DoD use. See Figure 5.2 for sample locations.

The SVT collected 14 observations during the site visit. The observation points were numbered chronologically and can be cross-referenced between their location (identified in Figure 4.1) and the observations and photographs collected (available in Appendix E). No MEC or MD was observed during the SI; however, several subsurface anomalies were detected within the MRS. The SVT identified several features within the MRS that included the following:

- An abandoned jeep trail or hiking trail
- Intermittent waterways
- Constant waterways including the unnamed tributary of the Tygart Valley River consisting of 2 branches within the MRS.
- Elongated berm formations approximately 8 feet high, 20 feet wide, and 100 feet long.

- Several rows of mounded "foxholes" or gun emplacements arranged between the berms.
- At least 12 craters (approximately 8 to 10 feet in diameter by 1 to 2 feet in depth)
- Several subsurface anomalies

Other than the berms and gun emplacements described above, no archeological or cultural resources were identified during the site visit.



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and
PARSONS

QUALITATIVE RECONNAISSANCE AND FIELD OBSERVATIONS

MRS01 - Daily Infiltration Camp
MMRP West Virginia

PROJECT NO. Eco-11-452

DATED August 2013

FIGURE 4.1

CHAPTER 5
EXPOSURE PATHWAYS AND RECEPTORS

5.1 INTRODUCTION

This chapter evaluates the potential presence of exposure pathways and receptors, based on site-specific conditions. It is necessary to evaluate site-specific conditions and land use to assess risks posed to potential receptors under current and future land use scenarios. Exposure pathways for groundwater, surface water and sediment, soil, and air are evaluated. The conceptual site exposure model (CSEM) for the Dailey Infiltration Camp MRS (Appendix J) summarizes which potential receptor exposure pathways are (or may be) complete and which are (and are likely to remain) incomplete. An exposure pathway for a chemical release is not considered to be complete unless all four of the following factors are present (USEPA 1989). An example regarding a hypothetical groundwater pathway is included.

Exposure Factor	Example
Source and mechanism for contaminant release	A site has known MEC from which metals have leached and contaminated surface soil.
Environmental transport and/or exposure medium	Elevated metals concentrations that are consistent with the identified MC contaminants of concern in soil at the site are mobile and can contaminate groundwater.
Point of exposure at which the contaminant can interact with a receptor	A well drawing from the contaminated aquifer is located at the site.
Receptor and a likely route of exposure at the exposure point	A residential use of groundwater from the on-site well as a source of drinking water.

In this hypothetical example, all four factors are present and, therefore, the groundwater exposure pathway is complete. If any single factor was not present (e.g., metals were not present in soil, or the resident obtained drinking water from another source), the pathway would be incomplete.

This chapter presents the information required to evaluate whether exposure pathways at the site are complete. It also addresses those metals that require further consideration in a screening-level risk assessment (SLRA). Chapter 6 assesses the potential significance of complete pathways (i.e., whether there is an unacceptable risk).

5.2 GENERAL INFORMATION

General information regarding the geology, hydrogeology, and hydrology of the WVMA/Dolly Sods FUDS is presented below, followed by a discussion of MRS-specific characteristics and sampling results from the Dailey Infiltration Camp MRS.

5.2.1 REGIONAL GEOLOGIC AND HYDROGEOLOGIC SETTING

The WVMA/Dolly Sods FUDS is located to the west of the Allegheny Front with approximate centralized coordinates of latitude 39° 07' 08" N and longitude 79° 27' 09" W. The Allegheny Front is a complex boundary between two geologic provinces in the Appalachian Highlands. The geology changes abruptly from the folded and faulted surficial strata of the Valley and Ridge province to the east and the gentler faulted strata of the Appalachian Plateaus province to the west. East of the Allegheny Front the strata are found to dip steeply on the limbs of many anticlines, many of which are asymmetrical, with more steeply dipping to overturned western limbs. West of the Front the strata dip much less steeply, usually less than 30 degrees and surface faulting is rare. This western side of the Front forms a high plateau of essentially horizontal strata and is capped predominantly with resistant sandstones and conglomerates. Spruce Knob, located approximately 15 miles south of the FUDS, is the tallest mountain in the Alleghenies and West Virginia's highest elevation at 4,861 feet (WVGES 2004).

The Dailey Infiltration Camp MRS is situated in the Tygart Valley, which occupies an eroded anticline in the Allegheny Mountain Section of the Appalachian Plateaus physiographic province (USGS 2002). The anticline has a core of Devonian Brallier shale and siltstone and a rim of Mississippian Pocono Sandstone and Greenbrier Limestone. The MRS and lower slopes of the surrounding mountains are made up of the Brallier Formation, consisting of Devonian beds of olive-gray to dark, thickly laminated marine shale with siltstone and thin sandstone lenses. The ridges of Cheat Mountain and Rich Mountain to the west of the MRS are composed of sandstone, limestone, and shale of the Pocono Group and Greenbrier Group of Mississippian age (USGS 2012).

5.2.2 REGIONAL GROUNDWATER USE

Drinking water in the area of the Dailey Infiltration Camp MRS is supplied by the Huttonsville Public Service District (PSD) and is imported from the City of Elkins and the town of Beverly using surface water as a source. According to the Huttonsville PSD, more than 95 percent of the residents in Dailey and East Dailey are using public water supplies.

In 1980, a hydrologic study was conducted to locate groundwater supplies to supplement surface water supplies during periods of low surface flow and drought conditions. The study concluded that sufficient groundwater supplies existed to develop a water system capable of supplying up to 200 gallons per minute. However, most of the groundwater is contained in the alluvial deposits. Wells developed in the underlying shale units have highly variable yields with the highest yields obtained from wells in extensively fractured units and sand and gravel lenses within the shale. The study noted that the most desirable water is located within 100 feet of the surface with salty water located below 140 feet (Hobba 1980).

The USEPA indicated that four surface water intakes are within 15 miles of the MRS, and that no tribal drinking water sources are within 4 miles of the MRS (USEPA 2012). One wellhead protection area and/or Zone of Critical Concern, as defined by the WVDHHR, is located within 4 miles of the MRS (WVDHHR 2012).

The Dailey Infiltration Camp MRS overlies a Devonian shale unit that is not considered a principle aquifer but may yield sufficient quantities of groundwater if fractured (USGS 2012). There are 29 water wells within a 4-mile buffer of the MRS boundary. No wells are located within the MRS boundaries. Based on the well report, the groundwater depths ranged from 4 feet to 56 feet within the 4-mile buffer (Environmental Data Resources, Inc. [EDR] 2012).

The SVT did not observe any inhabited structures within the MRS. However, there are many inhabited structures within 2 miles of the MRS, primarily consisting of residential and

commercial buildings in the community of East Dailey. Based upon research conducted for the SS-WP and SI reports, the community of Dailey receives water from the Huttonsville PSD using water purchased from the City of Elkins.

5.2.3 REGIONAL HYDROLOGIC SETTING

Because of the size of the WVMA/Dolly Sods FUDS, it spans five watersheds within the larger Monongahela and Potomac groundwater basins: the Tygart Valley watershed, the Cheat watershed, the Youghiogheny watershed, the North Branch Potomac watershed, and the South Branch Potomac watershed (Watershed Atlas [WSA] 2011).

The Dailey Infiltration Camp MRS lies within the Tygart Valley. The valley is drained by the Tygart Valley River and its tributaries, and is part of the Monongahela River drainage system. No wetlands were encountered on the MRS during the SI.

The SVT encountered surface water within the unnamed tributaries traversing the MRS. The tributaries generally flow northwest, join together near the northwest corner of the MRS, and then flow west toward the Tygart Valley River. The Tygart Valley River flows north toward Tygart Lake and then becomes the Monongahela River. The WVDHHR indicated that four surface water intakes are within 15 miles of the MRS (WVDHHR 2012). The USEPA indicated that there are no tribal drinking water sources within 4 miles of the MRS (USEPA 2012). One wellhead protection area and/or Zone of Critical Concern, as defined by the WVDHHR is located within 4 miles of the MRS (WVDHHR 2012).

5.2.4 REGIONAL SENSITIVE ENVIRONMENTAL RESOURCES

According to the USFWS T&E Species System database, the State of West Virginia supports 17 federally listed T&E species consisting of 11 animals and 6 plants (USFWS 2011b). The USFWS Elkins, WV Office indicates there are 17 T&E species occurring in the Allegheny Mountains including: running buffalo clover (*Trifolium stoloniferum*), shale barren rock cress (*Arabis serotina*), small whorled pogonia (*Isotria medeoloides*), northeastern bulrush (*Scirpus ancistrochaetus*), Harperella (*Ptilimnium nodosum*), Virginia Spiraea (*Spiraea virginiana*), Virginia big-eared bat (*Corynorhinus townsendii virginianus*), Indiana bat (*Myotis sodalis*), Gray bat (*Myotis grisescens*), Clubshell (*Pleurobema clava*), Fanshell (*Cyprogenia stegaria*), Pink mucket (*Lampsilis abrupt*), Northern riffleshell (*Epioblasma torulosa rangiana*), Cheat Mountain salamander (*Plethodon nettingi*), flat-spired three-toothed snail (*Triodopsis platysayoides*), James spinymussel (*Pleurobema collina*), and the West Virginia northern flying squirrel (*Glaucomys sabrinus fuscus*). Federally designated endangered (or threatened) species include the bald eagle (*Haliaeetus leucocephalus*) and the Cheat Mountain salamander (*Plethodon nettingi*). Globally rare and imperiled species include an isopod (*Caecidotea sinuncus*), tall larkspur (*Delphinium exaltatum*), eastern small-footed bat (*Myotis lebii*), Allegheny woodrat (*Neotoma magister*), Timber Ridge cave beetle (*Pseudanophthlmus hadenoecus*), and the South Branch Valley cave millipede (*Pseudotremia princeps*). Two other endangered species, the gray wolf (*Canis lupus*) and the eastern cougar (*Puma concolor couguar*), are believed to be extirpated from the region during the late 1800s or early 1900s (USDA, 2006). In addition to the species identified above, the West Virginia Wildlife Diversity Program lists 477 endangered, threatened, or rare plant species and 536 rare, threatened, or endangered animal species occurring in West Virginia (West Virginia Division of Natural Resources [WVDNR] 2012).

The Dailey Infiltration Camp MRS consists of land within the Monongahela National Forest. There are no federally designated critical habitats located within the MRS (USFWS 2011). The MRS is not within a national park, state, or county park but is located within a national forest (USFWS 2011d, NPS 2011a, and USFS 2011). Because there are no known caves or karst areas

within the MRS, the species of bats and cave inhabiting animals listed above are not likely to be encountered on the site. However, portions of the site could be considered suitable habitat for the West Virginia northern flying squirrel and the Cheat Mountain salamander. The Flat-spired three-toothed snail is found only in the Cheat River gorge located approximately 29 miles northwest of the site and is not anticipated to be encountered. The remaining animal species listed are found in larger river systems and are not anticipated to inhabit the area of the Dailey Infiltration Camp MRS.

The USFWS Wetlands Mapper, through the National Wetlands Inventory, was used to identify wetlands that may be located within the Dailey Infiltration Camp MRS (USFWS 2011c). Wetlands are land areas that are transitional between terrestrial and deep-water habitats in which the water table usually is at or near the surface or in which the land is covered by shallow water. Based on the available information, there are no mapped wetlands within the MRS. During the SI field activities, the SVT observed surface water in streams and standing water within craters and trenches, but did not encounter any wetlands within the MRS.

Based on the above information and a review of the Army Checklist for Important Ecological Places (Department of the Army [DoA] 2005b), the Dailey Infiltration Camp MRS is classified as an important ecological place because it is located within the MNF. The determinations regarding important ecological places pertain to whether ecological receptors are present at the site. If a site is determined to be an important ecological place, ecological receptors are present and a SLERA will be conducted if there is an observed release of potential elevated metals. The SVT observed no T&E species during the site visit. Sensitive environments were not impacted by the SI effort and all QR and SI field efforts were performed to minimize any intrusion in sensitive areas.

5.2.5 SAMPLING LOCATIONS AND ANALYTICAL METHODS

Direct release of metals from munitions activities at the Dailey Infiltration Camp MRS would have been to soil, surface water, and sediment, with potential migration to groundwater, or air (through re-suspended soil particulates). The TPP Team agreed that surface soil samples would be collected from the MRS using the CRREL “seven-point wheel” composite sampling technique. The TPP Team also agreed that surface water and sediment samples would be collected from the tributaries that traverse the MRS. Groundwater sampling would be conducted if domestic wells were located within the MRS. Groundwater wells were not identified within the MRS or the nearby subdivision (Figure 5.1); therefore, no groundwater samples were collected. No air samples were collected as part of this SI, in accordance with TPP Team decisions.

On May 10 and 11, 2012, the SVT conducted QR and surface soil, surface water, and sediment sampling at the Dailey Infiltration Camp MRS. The team collected three biased surface soil samples (WVMA-MRS01-SS-04-01 through WVMA-MRS01-SS-04-03), along with one associated field duplicate sample (WVMA-MRS01-SS-04-05) from within the MRS. The team also collected one biased surface water/sediment coupled sample (WVMA-MRS01-SW-01 and WVMA-MRS01-SD-01), along with one associated field duplicate coupled sample (WVMA-MRS01-SW-03 and WVMA-MRS01-SD-03) from a tributary that flows adjacent to the south side of the infiltration course. The surface water/sediment samples were collected downstream from the infiltration course and within the MRS. These sample locations were selected to represent areas with the highest likelihood of the presence of MEC or metals contamination (Eco 2011b). Although no MEC, MD, or evidence of metals contamination was observed during the site visit, the SVT found as many as 12 circular craters, five large earthen berms, and many U-shaped earthen gun emplacements. Subsurface metal anomalies were detected within most of the craters. Also, small subsurface metal anomalies were detected at the base of several of the berms and

gun emplacements. The soil samples were moved from the planned locations in order to sample the observed berms, gun emplacements, and craters.

One ambient surface soil sample (WVMA-MRS01-AMB-SS-04-04) and one set of ambient surface water/sediment coupled samples (WVMA-MRS01-AMB-SW-02 and WVMA-MRS01-AMB-SD-02) were collected from an area in the northeast portion of the MRS not anticipated to be impacted by DoD activities. Figure 5.2 shows the sample locations and identification numbers. Table 5.1 indicates the rationale behind the sample locations. Appendix D includes the field notes and field forms for the site visit. APPL, Inc. in Clovis, CA analyzed all of the surface water samples for explosives (Method SW846-8330B) and selected metals (Method SW846-6010B). The sediment and soil samples were analyzed for explosives (Method SW846-8330B), selected metals (Method SW846-6010B), and pH (Method SW846-9045D). The metals selected for sampling were aluminum, antimony, barium, copper, chromium, lead, magnesium, and zinc.

The UXO Technician III used a Schonstedt GA-52Cx magnetometer to screen and approve each potential soil sample location prior to final location selection and sample collection. Per the Final PWP (Parsons 2010), the UXO Technician III checked the magnetometer against a known piece of metal and performed battery checks each day to confirm that it was working properly. The surface soil sample collection procedures presented in the Final PWP (Parsons 2010), the Final PSAP (USACE 2005), and the Final PSAP Addendum (Parsons 2006) were followed. The CRREL "seven-point wheel" composite sampling technique was employed for collecting the soil samples. A 4-foot diameter template was used during sample collection. This method resulted in equidistant spacing of the six locations in a circular pattern, with all six outer locations placed at a distance of two feet from the center location (for a total 4-foot diameter of the sample "wheel"). Therefore, the configuration called for by the CRREL seven-point wheel composite sampling technique was met. The actual Geographic Positioning System (GPS) coordinates for the center point of each surface soil sample location were recorded and updated in the Geographic Information System (GIS) database (Appendix H).

Surface water samples were collected by submerging the sample containers at each location. The surface water field parameters were gathered prior to sample collection with a Horiba U-22 water quality meter. The following parameters were measured in each water sample:

- Conductivity
- pH
- Temperature
- Turbidity

Sediment grab samples were collected in the same locations as coupled surface water samples using disposable trowels. For each coupled surface water/sediment sample pair, the surface water sample was collected first, followed by the sediment sample, to avoid cross-contamination.

5.2.6 DATA QUALITY ASSESSMENT

The samples were shipped to APPL, Inc. for analysis. APPL, Inc. is certified under the DoD Environmental Laboratories Accreditation Program (ELAP) and the National Environmental Laboratory Accreditation Conference (NELAC). The laboratory submitted the soil, surface water, and sediment chemical data to Eco under Sample Delivery Group 67746. The data are presented in Appendix F. Parsons validated and assessed the data in accordance with the guidelines outlined in the PSAP (consisting of the field sampling plan and the quality assurance project plan) for the MMRP SI Program (USACE 2005a) and the PSAP Addendum

(Parsons 2006). The data validation indicates that the laboratory correctly performed the analyses and that no data were rejected. All laboratory analytical data are considered usable for the purposes of this project. Appendix G presents the data validation summary reports.

As stated in Section 4.7 of the SS-WP (Eco 2011b), any U-flagged value is treated as "not detected", and is assumed to not be present in the sample. In some cases, the PQL is greater than the screening value. This is common in some analyses due to sample preparation and analytical limitations. This could lead to a situation where the analyte is present at a concentration greater than the screening value, but is reported as "not detected or estimated" leading to an underestimate of risk. However, such occasions are expected to be rare and are not likely to drive the recommendation for the SI. For this SI, PQLs for five analytes are greater than the selected screening values:

- 1,3-Dinitrobenzene (surface soil): PQL = 0.40 mg/kg; screening value (ecological) = 0.073 mg/kg;
- 2,4-Dinitrotoluene (surface water): PQL = 0.30 µg/L; screening value (human health) = 0.11 µg/L;
- 2-Nitrotoluene (surface water): PQL = 0.30 µg/L; screening value (human health) = 0.27 µg/L;
- 2,4,6-Trinitrotoluene (TNT) (sediment): PQL = 0.30 mg/kg; screening value (ecological) = 0.092 mg/kg;
- 2,4-Dinitrotoluene (sediment): PQL = 0.070 mg/kg; screening value (ecological) = 0.040 mg/kg; and,
- Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) (sediment): PQL = 0.50 mg/kg; screening value (ecological) = 0.013 mg/kg.

However, no other explosive compounds were detected in the surface soil, surface water, or sediment at MRS01; therefore, it is unlikely these explosive compounds are present at the site.

5.2.7 BACKGROUND/AMBIENT CONCENTRATIONS

Due to the variability of naturally occurring metals in the area and to supplement the single ambient sample (per media) collected during the SI, the TPP Team agreed to the following evaluation criteria:

Soil: To supplement the ambient surface soil data collected during the SI, the background values used to compare biased samples were augmented by background concentrations obtained from the West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual Version 2.1, Table 2-3: Natural Background Levels of Inorganics in Soil in West Virginia and Surrounding Areas:

http://www.dep.wv.gov/dlr/oer/voluntarymain/documents/vrra%20guidanceversion2-1.pdf.
The applicable data are based on larger sample sizes (n • 10) leading to a more robust comparison.

The background value used for comparison to the biased surface soil sample results is three times the mean background concentration obtained from West Virginia guidance, per United States Environmental Protection Agency (USEPA) guidance (USEPA, 1992).

Sediment: For sediment, two sources of information were used to determine sediment background metals values at MRS01:

- Three times the average concentrations of elements in Randolph County, West Virginia, identified by the United States Geological Survey (USGS), described in the paragraph below, (USGS, 2012); and
- Analytical results of one ambient sediment sample collected during the 2012 SI field activities in an area not expected to be affected by munitions activities, used in the absence of a Randolph County average concentration. The background value is three times the ambient sample analytical result.

The nationwide Mineral Resources Data System (MRDS) database of concentrations of elements provides county-specific background values for selected metals. The MRDS includes mineral resource occurrence data covering the world, most thoroughly within the United States. This database contains the records previously provided in the MRDS of USGS and the Mineral Availability System/Mineral Industry Locator System originated by the United States Bureau of Mines, which is now part of the USGS. According to the USGS, the MRDS is a large and complex relational database developed over several decades by hundreds of researchers and reporters (USGS, 2012). This dataset is considered to likely be more representative of conditions within Randolph County; however, the available data are limited to a select group of metals. Concentrations of the antimony, barium, and chromium are not available in this dataset.

Surface Water: For surface water, additional metals background data were not available. Therefore, per USEPA guidance (USEPA, 1992) the surface water background value is established as three times the concentration detected in the ambient surface water sample.

TABLE 5.1
SAMPLING RATIONALE
DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

Sample ID	Sample Coordinates (Decimal Degree)		Medium	Analysis [1]	Potential Munitions	Rationale
	Longitude	Latitude				
WVMA-MRS01-SS-04-01*	-79.878715	38.780997	Soil	Explosives, Selected metals, pH	Small arms, general: Cartridge: .22 cal, .30 cal (includes carbine), .38 cal, .45 cal Demolition Block: charge, 1/4 lb., 1/2 lb., 1 lb. Firing Device: demolition, pull, M1 Cap: blasting, non-electric, M7 Fuse: blasting, time, M700	Sample was moved from the proposed location and was collected at the base of a gun emplacement. Will assist in supporting appropriate MRS recommendatio.
WVMA-MRS01-SS-04-02*	-79.879006	38.781495	Soil	Explosives, Selected metals, pH	Small arms, general: Cartridge: .22 cal, .30 cal (includes carbine), .38 cal, .45 cal Demolition Block: charge, 1/4 lb., 1/2 lb., 1 lb. Firing Device: demolition, pull, M1 Cap: blasting, non-electric, M7 Fuse: blasting, time, M700	Sample was moved from proposed location and was collected on one of the elongated berms. Will assist in supporting appropriate MRS recommendation.
WVMA-MRS01-SS-04-03*	-79.879614	38.783159	Soil	Explosives, Selected metals, pH	Small arms, general: Cartridge: .22 cal, .30 cal (includes carbine), .38 cal, .45 cal Demolition Block: charge, 1/4 lb., 1/2 lb., 1 lb. Firing Device: demolition, pull, M1 Cap: blasting, non-electric, M7 Fuse: blasting, time, M700	Sample was moved from proposed location and was collected adjacent to a crater observed within the MRS. Will assist in supporting appropriate MRS recommendation.

TABLE 5.1
SAMPLING RATIONALE
DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

Sample ID	Sample Coordinates (Decimal Degree)		Medium	Analysis [1]	Potential Munitions	Rationale
	Longitude	Latitude				
WVMA-MRS01-AMB-SS-04-04*	-79.874069	38.782872	Soil	Explosives, Selected metals, pH	None	Sample was collected in the proposed location within the MRS, in an area upgradient from evidence of DoD-use.
WVMA-MRS01-SW-01	-79.882016	38.784147	Surface Water	Explosives, Selected metals	Small arms, general: Cartridge: .22 cal, .30 cal (includes carbine), .38 cal, .45 cal Demolition Block: charge, 1/4 lb., 1/2 lb., 1 lb. Firing Device: demolition, pull, M1 Cap: blasting, non-electric, M7 Fuse: blasting, time, M700	Sample was collected downstream from the convergence of the two tributaries that traverse the site, and thus, downstream from the training course and the craters observed by the site visit team. Will assist in supporting appropriate MRS recommendation.
WVMA-MRS01-AMB-SW-02	-79.874069	38.782836	Surface Water	Explosives, Selected metals	None	Sample was collected from the proposed location within the MRS, in an area upgradient from munitions debris or evidence of DoD-use.

TABLE 5.1
SAMPLING RATIONALE
DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

Sample ID	Sample Coordinates (Decimal Degree)		Medium	Analysis (1)	Potential Munitions	Rationale
	Longitude	Latitude				
WVMA-MRS01-SD-01	-79.882016	38.784147	Sediment	Explosives, Selected metals, pH	Small arms, general: Cartridge: .22 cal, .30 cal (includes carbine), .38 cal, .45 calDemolition Block: charge, 1/4 lb., 1/2 lb., 1 lb.Firing Device: demolition, pull, M1Cap: blasting, non-electric, M7Fuse: blasting, time, M700	Sample was collected downstream from the convergence of the two tributaries that traverse the site, and thus, downstream from the training course and the craters observed by the site visit team. Will assist in supporting appropriate MRS recommendation.
WVMA-MRS01-AMB-SD-02	-79.874069	38.782836	Sediment	Explosives, Selected metals, pH	None	Sample was collected from the proposed location within the MRS, in an area upgradient from munitions debris or evidence of DoD-use.

Notes:

(1) Selected metals include: aluminum, antimony, barium, copper, chromium, lead, magnesium, and zinc

MRS munitions response site

*Sample name changed to reflect sample depth of 4 inches

5.2.7.1 Ambient Surface Soil, Surface Water, and Sediment Samples

One ambient surface soil sample (WVMA-MRS01-AMB-SS-04-04) and one set of ambient surface water/sediment coupled samples (WVMA-MRS01-AMB-SW-02 and WVMA-MRS01-AMB-SD-02) were collected from an area in the northeast portion of the MRS not anticipated to be impacted by DoD activities. The SVT observed no MD or evidence of DoD use near the ambient sample locations. The ambient surface soil, surface water, and sediment samples were analyzed for explosives and selected metals (aluminum, antimony, barium, chromium, copper, lead, magnesium, and zinc). The surface soil and sediment samples were also analyzed for pH.

The ambient sample results were used to represent naturally occurring metals concentrations at the Dailey Infiltration Camp MRS. No explosive compounds were detected in the ambient samples. Tables 5.2, 5.3, and 5.4 summarize, by medium, the metals concentrations detected in the collected ambient samples. These ambient concentrations were then compared to the maximum detected metals concentrations found in the biased-location samples obtained within the Dailey Infiltration Camp MRS.

TABLE 5.2
SUMMARY OF BACKGROUND CONCENTRATIONS IN SURFACE WATER
DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

Analytes	WVMA-MRS01-AMB-SW-02(1)	Selected Background Concentration(2)
Metals	**µg/L**	
Aluminum	**610**	1,800
Antimony	**0.80J**	2.4
Barium	**44**	130
Chromium	5.0U	< 5.0
Copper	**2.6**	7.8
Lead	**0.58J**	1.7
Magnesium	**1,100**	3,300
Zinc	**3.2J**	9.6

Notes:

µg/L micrograms per liter
(1) Ambient sample analytical results. Detections are bolded.
(2) 3x Site-specific ambient sample.
(3) Magnesium is an essential nutrient and not expected to pose an unacceptable risk to human or ecological receptors.
J Analyte detected, estimated concentration.
U Analyte was analyzed for but not detected above the sample specific practical quantitation limit (PQL_sa).

TABLE 5.3

SUMMARY OF BACKGROUND CONCENTRATIONS IN SEDIMENT

DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

Analytes	WVMA-MRS01-AMB-SD-02[1]	USGS Background Level[2]	Selected Background Concentration[3]
Metals	**mg/kg**		
Aluminum	9,200	98,000	98,000
Antimony	0.032J	N/A	0.96
Barium	240	N/A	720
Chromium	11	N/A	33
Copper	9.7	29	29
Lead	13	45	45
Magnesium	1,500	5,900	5900
Zinc	45	150	150

Notes:

mg/kg milligrams per kilogram

(1) Ambient sample analytical results. Detections are bolded.

(2) 3x USGS Background value: USGS derived background concentration for Randolph County (http://mrdata.usgs.gov/geochem/county.php?place=f54083&el=Al&rf=east-central). The background values are selected from those available in the column order shown (i.e., the USGS value is used if there is one; if there is no USGS value, then the site-specific value is used).

(3) 3X USGS values used for selected background concentration. If there was no available USGS values, 3X the ambient sediment sample was used.

(4) Magnesium is an essential nutrient and not expected to pose an unacceptable risk to human or ecological receptors.

J Analyte detected, estimated concentration.

TABLE 5.4
SUMMARY OF BACKGROUND CONCENTRATIONS IN SOIL
DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

Analytes	WVMA-MRS01-AMB-SS-04-04[1]	Selected Background Concentration[2]
Metals	**mg/kg**	
Aluminum	**12,000**	190,000
Antimony	**0.26J**	2.3
Barium	**190**	1,100
Chromium	**13**	140
Copper	**7.9**	66
Lead	**26**	50
Magnesium	**1,500**	9,600
Zinc	**66**	180

Notes:

mg/kg	milligrams per kilogram
(1)	Ambient sample analytical results. Detections are bolded.
(2)	3x WV VRRP Background value: From West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual Version 2.1. Table 2-3: Natural Background Levels of Inorganics in Soil in West Virginia and Surrounding Areas. http://www.dep.wv.gov/dlr/oer/voluntarymain/documents/vrra%20guidanceversion2-1.pdf
(3)	Magnesium is an essential nutrient and not expected to pose an unacceptable risk to human or ecological receptors.
J	Analyte detected, estimated concentration.

5.2.8 ESTABLISHING AN OBSERVED RELEASE

As explained in Subchapter 5.1.1, an exposure pathway for a chemical release is not considered complete unless metals have been released to environmental media. To make this determination, analytical results for metals in the soil, surface water, and sediment samples, presented in Tables 5.2 through 5.4, were compared against several criteria. For an analyte to be considered to have been released due to munitions-related activities at the Dailey Infiltration Camp MRS, it is necessary for the following conditions to be true:

- The analyte is detected in the sample medium.
- The analyte is present above the selected background concentration.
- The analyte is a potential constituent of the munitions formerly used at the site (see Table 4.1).

The metals analyzed were evaluated against these criteria to determine whether metals may have been released. Only analytes that meet the conditions above are evaluated further in the SLRA in Chapter 6. Any detection of explosives at the site is evidence of a potential release of metals and is evaluated in the SLRA.

The above method is consistent with the process described in Chapter 5, Observed Release, of the HRS Guidance Manual (USEPA 1992). The HRS Guidance Manual process for establishing an observed release "requires documenting that the concentration of at least one hazardous substance in a release sample is significantly increased above its background

level and that the substance in the release can be attributed to the site" (USEPA 1992). The method described above both confirms whether an analyte is present above background concentrations and whether that analyte is a potential constituent of the munitions formerly used at the site, meeting both criteria defined in the guidance.

5.3 DAILEY INFILTRATION CAMP MUNITIONS RESPONSE SITE

This subchapter of the SI Report evaluates pathways for the Dailey Infiltration Camp MRS. The analysis of each pathway is described in detail. The related CSEM for the MRS is provided in Appendix J.

5.3.1 HISTORICAL MUNITIONS CONSTITUENTS INFORMATION

The Dailey Infiltration Camp MRS consists of 200 acres. No historical metals-related groundwater, surface water, soil, or air sampling has been documented at this MRS.

5.3.2 GROUNDWATER EXPOSURE PATHWAY

Groundwater can serve as a contaminant transport mechanism that may affect surface water bodies, drinking water supplies, vegetation, and sensitive environments such as wetlands. The likelihood of exposure is influenced by such factors as the mass and concentration of metals in soil at the ground surface that can be transported to the groundwater, site-specific geology, climate, and the expected future land use.

5.3.2.1 Geologic and Hydrogeologic Setting

The geologic and hydrogeologic setting at the Dailey Infiltration Camp MRS is described in Subchapter 5.2.

5.3.2.2 Releases and Potential Releases to Groundwater

There are no known releases or potential releases of metals to groundwater at the Dailey Infiltration Camp MRS. Groundwater would not have been directly affected by activities associated with the MRS. If there were releases of metals to soil as a result of the munitions-related activities, it is possible that the constituents could leach to groundwater, which ranges from 4 feet bgs to 56 feet bgs within the 4-mile buffer for the MRS (EDR 2012).

5.3.2.3 Groundwater Exposure Pathway and Receptors

A water well data report included in Appendix L lists 29 groundwater wells within 4 miles of the Dailey Infiltration Camp MRS (EDR 2012), as shown in Table 5.5. The report lists no wells within the Dailey Infiltration Camp MRS.

TABLE 5.5
GROUNDWATER WELLS WITHIN 4-MILE BUFFER OF THE DAILEY INFILTRATION CAMP MRS
DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

DISTANCE FROM SITE	TOTAL
Onsite	0
0 to ¼ mile	0
¼ to ½ mile	0
½ to 1 mile	0
1 to 2 miles	7
2 to 3 miles	8
3 to 4 miles	14
Site to 4 miles	29

Detailed well information is included in Appendix L.

As shown in Table 2.1, the 2010 census data indicate that 4,930 people live within a 4-mile radius of the Dailey Infiltration Camp MRS. The census data also indicate that 177 people potentially live within the Dailey Infiltration Camp MRS, as shown in Table 2.1 and on Figure 2.2 (U.S. Census Bureau 2010). However, the census data indicate that 177 people live within a census block that is overlapped by the boundary of the MRS. The SVT did not observe any inhabited structures within the MRS. Therefore; it is unlikely that anyone lives within the boundary of the MRS. The majority of the MRS is forested, undeveloped land owned by the USDA and managed by the USFS as a portion of the MNF. The MRS is bordered by privately owned farmland to the west and a residential subdivision approximately ¼ mile to the west. Although the SVT did not observe any inhabited structures within the MRS boundary, abundant (26 or more) inhabited structures are located in the Town of Dailey within 1 mile of the MRS. Known site users are USFS employees, recreational users (e.g., hikers and nearby residents), and site visitors.

Groundwater would not have been directly affected by munitions activities; however, metals in soil could leach to groundwater given the shallow depth to groundwater in of the vicinity of the Dailey Infiltration Camp MRS. Based on the current and future land use of this MRS, potential receptors include commercial/industrial workers (e.g., USFS employees), recreational users (e.g., hikers and nearby residents), and site visitors. Human receptors in the area could be exposed to groundwater via incidental ingestion, dermal contact, and ingestion of groundwater as drinking water. Although ecological receptors are considered to be present at this MRS, they are not typically exposed to groundwater; therefore, this exposure pathway is incomplete for ecological receptors.

5.3.2.4 Groundwater Sampling Locations and Methods

As discussed in Subchapter 5.2.5, groundwater wells were not identified within the MRS or nearby subdivision; therefore, no groundwater samples were collected.

5.3.2.5 Groundwater Sampling Analytical Results

Not applicable; no groundwater samples were collected during the SI at the Dailey Infiltration Camp MRS.

5.3.2.6 Groundwater Exposure Pathway Conclusions

There are 29 groundwater wells within 4 miles of the Dailey Infiltration Camp MRS. No wells are reported within the Dailey Infiltration Camp MRS. The nearest wells to the MRS are within the 1 to 2 mile buffer. Groundwater beneath the site would not have been directly affected by munitions activities at the site. However, as described in Subchapter 5.3.4.5, metals were detected in surface soil at this MRS at concentrations above the selected background, and metals in the surface soil could leach to the suspected shallow groundwater. According to the 2009 PA, drinking water in the area of the Dailey Infiltration Camp MRS is supplied by the Huttonsville PSD and is imported from the City of Elkins and the town of Beverly using surface water as a source. According to the Huttonsville PSD, more than 95 percent of the residents in Dailey and East Dailey are using public water supplies. Based on the absence of groundwater wells within the MRS boundaries, human receptors are not expected to come into contact with the groundwater beneath the MRS. Based on this information, the groundwater exposure pathway is incomplete for human receptors at the MRS.

5.3.3 SURFACE WATER AND SEDIMENT EXPOSURE PATHWAYS

Surface water can serve as a contaminant transport mechanism that may affect surface water bodies, sediment, drinking water supplies, vegetation, and sensitive environmental areas such as wetlands. The likelihood of exposure is influenced by such factors as the mass and concentration of metals in soil at the ground surface that can be transported to the surface water and sediment through runoff and erosion.

5.3.3.1 Hydrologic Setting

The Dailey Infiltration Camp MRS is situated along two unnamed tributaries that drain to the northwest, join together in the northwest corner of the MRS, and then feed into the Tygart Valley River approximately ¾ mile west of the MRS. The tributaries flow through the MRS and adjacent to the obstacle course and small arms range. Wetlands are not present within the Dailey Infiltration Camp MRS. The SVT encountered flowing surface water within the tributaries at the MRS while conducting the SI field activities. The team also observed standing water in craters and trenches within the infiltration camp. As described in Subchapters 5.2.2 and 5.2.3, four surface water intakes are within 15 miles of the MRS (USEPA 2012) and one wellhead protection area and/or Zone of Critical Concern is located within 4 miles of the MRS (WVDHHR 2012). The USEPA indicated that there are no tribal drinking water sources within 4 miles of the MRS (USEPA 2012).

5.3.3.2 Releases and Potential Releases to Surface Water and Sediment

Based on historical documents for the Dailey Infiltration Camp MRS, the purpose of the camp was to provide small arms and obstacle course training (and possibly hand grenade training, although grenade use has never been confirmed) (USACE 1995). The SVT found no MD or MEC items during the site visit. However, based on the orientation of the earthen berms and gun emplacements at the site, and the location of detected subsurface metal anomalies, the SVT determined that the direction of fire was downhill, to the northwest. Small arms ammunition that was fired at the infiltration camp would have penetrated the southeast faces of the large earthen berms and the gun emplacements. Ammunition was not likely fired directly toward the stream along the south side of the infiltration camp; however, it is possible that stray bullets could have landed in the stream. In the north portion of the camp,

the SVT observed a concentration of circular craters to the north of a stream. The military may have set off charges in this area to simulate war conditions, which would have created these very symmetrical craters. Surface water in this area drains toward a stream to the south of the craters. Based on these observations, there are potential direct releases of metals to surface water and sediment at the Dailey Infiltration Camp MRS.

5.3.3.3 Surface Water and Sediment Exposure Pathway and Receptors

There are perennial surface water bodies present at the Dailey Infiltration Camp MRS in areas directly affected by DoD activities, and surface water was observed in these water bodies by the SVT. Additionally, potential metals present in the soil at the MRS could migrate to surface water or sediment via runoff and erosion. There are four surface water intakes within 15 miles of the MRS. Therefore, human receptors may be exposed to metals by ingestion as drinking water. The surface water and sediment exposure pathways also include incidental ingestion and dermal exposure. Ecological receptors may also be exposed to metals by the ingestion of biota that may have been exposed to metals in surface water or sediment. Commercial/industrial workers (e.g., USFS employees), recreational users (e.g., hikers and nearby residents), site visitors, and ecological receptors at this MRS could be exposed to metals via these pathways.

5.3.3.4 Surface Water and Sediment Sampling Locations and Methods

Two surface water/sediment coupled samples, along with one set of associated field duplicate samples were collected from tributaries within the Dailey Infiltration Camp MRS during the May 2012 site inspection. Biased samples WVMA-MRS01-SW-01 and WVMA-MRS01-SD-01 and duplicate samples WVMA-MRS01-SW-03 and WVMA-MRS01-SD-03 were collected from a stream in the northwest corner of the MRS, downstream from the convergence of the tributaries that flow through the infiltration camp. This sample location was selected in the area with the highest likelihood of the presence of metals contamination in surface water and sediment. Ambient samples WVMA-MRS01-AMB-SW-02 and WVMA-MRS01-AMB-SD-02 were collected from an up-stream location in the northeast corner of the MRS, and were planned to represent ambient conditions within the MRS. No MEC, MD, or evidence of metals contamination was observed in this portion of the MRS. APPL, Inc. in Clovis, CA analyzed all of the samples for explosives, using method SW846-8330B, and for selected metals (aluminum, antimony, barium, chromium, copper, lead, magnesium, and zinc), using method SW846-6010B. The sediment samples were also analyzed for pH using method SW846-9045D. Figure 5.2 shows the sample locations and identification numbers. Table 5.1 indicates the rationale behind the sample locations. Appendix D includes the field notes and field forms for the site visit.

5.3.3.5 Surface Water and Sediment Sampling Analytical Results

The analytical results for the surface water and sediment samples collected from the Dailey Infiltration Camp MRS are presented in Tables 5.6 (surface water) and 5.7 (sediment) and are included in Appendix F. These results were evaluated using the criteria described in Subchapter 5.2.8 to determine whether metals contamination is present.

The source evaluations are summarized in Table 5.8 for surface water and Table 5.9 for sediment. Explosive compounds are not naturally occurring; therefore, any detection of explosive compounds is assumed to result from munitions-related activities and is retained for further consideration in the SLRA in Chapter 6. However, no explosive compounds were detected in any of the surface water or sediment samples collected from this MRS. The source evaluations for surface water and sediment were performed for metals only.

TABLE 5.6: SUMMARY OF VALIDATED ANALYTICAL RESULTS FOR WATER SAMPLES COLLECTED IN MAY 2012
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Dailey Infiltration Camp MRS

Sample ID: / Date Sampled: / Analytes	Human Health Screening Values [1]	Ecological Screening Values [4]	WVMA-MRS01-AMB-SW-02*	WVMA-MRS01-SW-01	WVMA-MRS01-SW-03**
Date Sampled:			05/10/12	05/11/12	05/11/11
Analytes	µg/L	µg/L	µg/L		
Explosives - SW8330B					
1,3,5-Trinitrobenzene	460 [2]	60000 [5]	0.30 U	0.30 U	0.30 U
1,3-Dinitrobenzene	1.5 [2]	26 [5]	0.30 U	0.30 U	0.30 U
2,4,6-Trinitrotoluene (TNT)	2.2 [2]	100 [6]	0.30 U	0.30 U	0.30 U
2,4-Dinitrotoluene	0.11 [3]	44 [6]	0.30 U	0.30 U	0.30 U
2,6-Dinitrotoluene	15 [2]	81 [6]	0.30 U	0.30 U	0.30 U
2-Amino-4,6-dinitrotoluene	30 [2]	1500 [6]	0.30 U	0.30 U	0.30 U
2-Nitrotoluene	0.27 [2]	39000 [5]	0.30 U	0.30 U	0.30 U
3-Nitrotoluene	1.3 [2]	750 [6]	0.30 U	0.30 U	0.30 U
4-Amino-2,6-dinitrotoluene	30 [2]	43000 [5]	0.30 U	0.30 U	0.30 U
4-Nitrotoluene	3.7 [2]	1900 [6]	0.30 U	0.30 U	0.30 U
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.61 [2]	360 [6]	0.30 U	0.30 U	0.30 U
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	63 [2]	5800 [5]	0.30 U	0.30 U	0.30 U
Nitrobenzene	0.12 [2]	2700 [7]	0.30 U	0.30 U	0.30 U
Nitroglycerin	1.5 [2]	140 [6]	0.30 U	0.30 U	0.30 U
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	780 [2]	150 [6]	0.30 U	0.30 U	0.30 U
Pentaerythritol Tetranitrate (PETN)	16 [2]	85000 [6]	1.5 U	1.5 U	1.5 U
Total Metals - SW6010B					
Aluminum	16000 [2]	87 [6]	**610**	**130**	**140**

TABLE 5.6: SUMMARY OF VALIDATED ANALYTICAL RESULTS FOR WATER SAMPLES COLLECTED IN MAY 2012
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Dailey Infiltration Camp MRS

Sample ID: / Date Sampled: / Analytes	Human Health Screening Values (1)	Ecological Screening Values (4)	WVMA-MRS01-AMB-SW-02*	WVMA-MRS01-SW-01	WVMA-MRS01-SW-03**
Date Sampled:			05/10/12	05/11/12	05/11/11
Analytes	µg/L	µg/L	µg/L		
Antimony	14 (3)	30 (6)	**0.8 J**	**1.1 J**	**1**
Barium	16000 (2)	74 (6)	**44**	**23**	**23**
Chromium	1000 (3)	9 (6)	5 U	5 U	5 U
Copper	50 (3)	2.5 (6)	**2.6**	2.0 U	2.0 U
Lead	1000 (3)	120 (6)	**0.58 J**	**0.53 J**	**0.52 J**
Magnesium	0.14 (3)	2.4 (8)	**1,100**	**1,200**	**1,200**
Zinc	4700 (2)	120 (6)	**3.2 J**	50 UJ	50 U
pH			***s.u.***		
pH	-	-	**7.98**	**4.13**	**4.13**
Turbidity			***NTU***		
Turbidity	-	-	**15.5**	**1.3**	**1.3**

QA Notes and Data Qualifiers:

(NO CODE) Confirmed identification

U Analyte was analyzed for but not detected above the sample specific practical quantitation limit (PQL_sa)

UJ - Analyte not detected, reported PQL_sa may be inaccurate or imprecise

J - Analyte detected, estimated concentration

* Ambient sample

** Field duplicate of sample on left

Detections are bolded

s.u. - Standard Unit

NTU - Nephelometric Turbidity Units

(1) Human health screening levels for surface water used from WV Requirements Governing Water Quality Standards (47CSR2) June 27, 2011 (http://www.dep.wv.gov/WWE/Programs/wqs/Documents/Rules/WVDEP_47CSR2_WQS_FinalRule%206_27_2011.pdf), supplemented with USEPA National Recommended Water Quality Criteria August 2010 (http://water.epa.gov/scitech/swguidance/standards/current/index.cfm), and USEPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites for Tap Water, May 2012 (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_MAY2012.pdf).

TABLE 5.6: SUMMARY OF VALIDATED ANALYTICAL RESULTS FOR WATER SAMPLES COLLECTED IN MAY 2012
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Dailey Infiltration Camp MRS

Sample ID:	Human Health Screening Values (1)	Ecological Screening Values (4)	WVMA-MRS01-AMB-SW-02*	WVMA-MRS01-SW-01	WVMA-MRS01-SW-03**
Date Sampled:			05/10/12	05/11/12	05/11/11
Analytes	µg/L	µg/L	µg/L		

(2) WV Requirements Governing Water Quality Standard not available. Used USEPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites for Tap Water, May 2012 (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_MAY2012.pdf).

(3) Human health screening levels for surface water from WV Requirements Governing Water Quality Standards (47CSR2) June 27, 2011 (http://www.dep.wv.gov/WWE/Programs/wqs/Documents/Rules/WVDEP_47CSR2_WQS_FinalRule%206_27_2011.pdf).

(4) Ecological screening values for surface water used from WV Requirements Governing Water Quality Standards (47CSR2) June 27, 2011 (http://www.dep.wv.gov/WWE/Programs/wqs/Documents/Rules/WVDEP_47CSR2_WQS_FinalRule%206_27_2011.pdf) supplemented with USEPA National Recommended Water Quality Criteria August 2010 (http://water.epa.gov/scitech/swguidance/standards/current/index.cfm), and USEPA Region 3 Freshwater Screening Benchmark June 13, 2011 (http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fw/screenbench.htm), and Los Alamos National Laboratory's EcoRisk Database v3.0 October 2011 (http://www.lanl.gov/environment/cleanup/ecorisk.shtml), and USEPA Region 4 Ecological Screening Values for Fresh Surface Water November 30, 2001 (http://www.epa.gov/region04/waste/ots/ecolbul.html#tbl1), and USEPA Region 5 Ecological Screening Levels August 22, 2003 (http://www.epa.gov/Region5/waste/cars/pdfs/ecological-screening-levels-200308.pdf).

(5) Ecological screening values for surface water used from WV Requirements Governing Water Quality Standards (47CSR2) June 27, 2011 (http://www.dep.wv.gov/WWE/Programs/wqs/Documents/Rules/WVDEP_47CSR2_WQS_FinalRule%206_27_2011.pdf) supplemented with USEPA National Recommended Water Quality Criteria August 2010 (http://water.epa.gov/scitech/swguidance/standards/current/index.cfm), and USEPA Region 3 Freshwater Screening Benchmark June 13, 2011 (http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fw/screenbench.htm), and Los Alamos National Laboratory's EcoRisk Database v3.0 October 2011 (http://www.lanl.gov/environment/cleanup/ecorisk.shtml), and USEPA Region 4 Ecological Screening Values for Fresh Surface Water November 30, 2001 (http://www.epa.gov/region04/waste/ots/ecolbul.html#tbl1), and USEPA Region 5 Ecological Screening Levels August 22, 2003 (http://www.epa.gov/Region5/waste/cars/pdfs/ecological-screening-levels-200308.pdf).

(6) WV Water Quality Standard not available. Used USEPA Region 3 Freshwater Screening Benchmark June 13, 2011 (http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fw/screenbench.htm).

(7) WV Requirements Governing Water Quality Standards (47CSR2) no t available. Used USEPA Region 4 Ecological Screening Values for Fresh Surface Water November 30, 2001 (http://www.epa.gov/region04/waste/ots/ecolbul.html#tbl1),

(8) Human health screening levels for surface water from WV Requirements Governing Water Quality Standards (47CSR2) June 27, 2011 (http://www.dep.wv.gov/WWE/Programs/wqs/Documents/Rules/WVDEP_47CSR2_WQS_FinalRule%206_27_2011.pdf).

TABLE 5.7: SUMMARY OF VALIDATED ANALYTICAL RESULTS FOR SEDIMENT SAMPLES COLLECTED IN MAY 2012
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Dailey Infiltration Camp MRS

Sample ID: / Analytes / Date Sampled:	Human Health Screening Values (1)	Ecological Screening Values (4)	WVMA-MRS01-AMB-SD-02*	WVMA-MRS06-SD-01	WVMA-MRS06-SD-03**
			05/10/12	05/11/12	05/11/12
Explosives - SW8330B				**mg/kg**	
1,3,5-Trinitrobenzene	2200 (2)	1300 (5)	0.090 U	0.090 U	0.090 U
1,3-Dinitrobenzene	6.1 (2)	1.2 (5)	0.40 U	0.40 U	0.40 U
2,4,6-Trinitrotoluene (TNT)	19 (2)	0.092 (6)	0.30 U	0.30 U	0.30 U
2,4-Dinitrotoluene	1.6 (2)	0.040 (6)	0.070 U	0.070 U	0.070 U
2,6-Dinitrotoluene	61 (2)	9.7 (5)	0.040 U	0.040 U	0.040 U
2-Amino-4,6-dinitrotoluene	150 (3)	34 (5)	0.50 U	0.50 U	0.50 U
2-Nitrotoluene	2.9 (2)	28 (5)	0.50 U	0.50 U	0.50 U
3-Nitrotoluene	6.1 (2)	24 (5)	0.50 U	0.50 U	0.50 U
4-Amino-2,6-dinitrotoluene	150 (2)	9.5 (5)	0.50 U	0.50 U	0.50 U
4-Nitrotoluene	30 (2)	4.1 (6)	0.50 U	0.50 U	0.50 U
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.5 (2)	0.013 (6)	0.50 U	0.50 U	0.50 U
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	240 (2)	100 (5)	0.50 U	0.50 U	0.50 U
Nitrobenzene	4.9 (2)	27 (5)	0.50 U	0.50 U	0.50 U
Nitroglycerin	6.1 (2)	1700 (5)	0.50 U	0.50 U	0.50 U
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	3800 (2)	27000 (5)	0.50 U	0.50 U	0.50 U
Pentaerythritol Tetranitrate (PETN)	120 (3)	1400 (5)	2.5 U	2.5 U	2.5 U
Metals - SW6010B				**mg/kg**	
Aluminum	77000 (2)	280 (5)	**9,200**	**8100 J**	**12,000**
Antimony	31 (2)	2 (6)	**0.32 J**	**0.39 J**	**0.68**

TABLE 5.7: SUMMARY OF VALIDATED ANALYTICAL RESULTS FOR SEDIMENT SAMPLES COLLECTED IN MAY 2012
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Dailey Infiltration Camp MRS

Sample ID: / Analytes / Date Sampled:	Human Health Screening Values (1)	Ecological Screening Values (4)	WVMA-MRS01-AMB-SD-02*	WVMA-MRS06-SD-01	WVMA-MRS06-SD-03**
			05/10/12	05/11/12	05/11/12
Barium	120000 (2)	43 (6)	**240**	**120 J**	**140**
Chromium	3100 (2)	32 (6)	**11**	**12 J**	**21**
Copper	400 (2)	36 (6)	**9.7**	**18 J**	**19**
Lead	3330 (2)	460 (5)	**13.0**	**13 J**	**17**
Magnesium	23 (2)	0.18 (5)	**1,500**	**1,500**	**2,100**
Zinc	23000 (2)	120 (5)	**45.0**	**53 J**	**74**
pH - SW9045D					
			5.5	**5.1**	**5.2**
Percent Moisture				**%**	
Moisture, percent			60	33	30

QA Notes and Data Qualifiers:
(NO CODE) - Confirmed identification
U - Analyte was analyzed for but not detected above the sample specific practical quantitation limit (PQL_sa)
J - Analyte detected, estimated concentration
* - Ambient sample
** Field duplicate of sample on left
Detections are bolded

(1) Human health screening levels for soil and sediment used from WVDEP Risk-Based Concentrations (RBCs), Table 60-3B in the Voluntary Remediation and Redevelopment Rule (60CSR3) May 1, 2012 (http://www.dep.wv.gov/dlr/oer/voluntarymain/Documents/60CSR3%20VRRA%20filed%204-11-12.pdf) supplemented with USEPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites for Soil, May 2012 (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_MAY2012.pdf).
(2) WVDEP Risk-Based Concentrations (RBCs), Table 60-3B in the Voluntary Remediation and Redevelopment Rule (60CSR3) May 1, 2012 (http://www.dep.wv.gov/dlr/oer/voluntarymain/Documents/60CSR3%20VRRA%20filed%204-11-12.pdf)
(3) WVDEP RBC not available. Used USEPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites for Soil ,May 2012 (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_MAY2012.pdf).

TABLE 5.7: SUMMARY OF VALIDATED ANALYTICAL RESULTS FOR SEDIMENT SAMPLES COLLECTED IN MAY 2012
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Dailey Infiltration Camp MRS

Sample ID: / Analytes / Date Sampled:	Human Health Screening Values (1)	Ecological Screening Values (4)	WVMA-MRS01-AMB-SD-02*	WVMA-MRS06-SD-01	WVMA-MRS06-SD-03**
			05/10/12	05/11/12	05/11/12

(4) Ecological screening values for sediment used from USEPA Region 3 Ecological Screening Benchmark June 13, 2011 (http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fwsed/screenbench.htm), and National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQuiRTs) (http://archive.orr.noaa.gov/book_shelf/122_NEW-SQuiRTs.pdf), and Los Alamos National Laboratory's EcoRisk Database v3.0 October 2011 (http://www.lanl.gov/environment/cleanup/ecorisk.shtml), and USEPA Region 4 Ecological Screening Values for Sediment November 30, 2001 (http://www.epa.gov/region04/superfund/programs/riskasses/ecolbul.html#tbl3), and USEPA Region 5 Ecological Screening Levels August 22, 2003 (http://www.epa.gov/Region5/waste/cars/pdfs/ecological-screening-levels-200308.pdf).
(5) USEPA Region 3 Ecological Screening Benchmark screening value not available. Used Los Alamos National Laboratory's EcoRisk Database v3.0 October 2011 (http://www.lanl.gov/environment/cleanup/ecorisk.shtml).
(6) USEPA Region 3 Ecological Screening Benchmark June 13, 2011 (http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fwsed/screenbench.htm).

Table 5.8

Surface Water Source Evaluation

Dailey Infiltration Camp MRS, Randolph County, WV

Analyte	Maximum Detected Site Concentration	3x Site-specific Ambient Sample	Exceeds Background Concentration?	Potential MC?[1]	SLRA Required?	Primary Reason for Exclusion from SLRA
Metals	***µg/L***					
Aluminum	140	1,800	No	**Yes**	No	Not detected above background
Antimony	1.1J	2.4	No	**Yes**	No	Not detected above background
Barium	23	130	No	**Yes**	No	Not detected above background
Chromium	5.0U	< 5.0	No	**Yes**	No	Not detected at MRS
Copper	2.0U	7.8	No	**Yes**	No	Not detected at MRS
Lead	0.53J	1.7	No	**Yes**	No	Not detected above background
Magnesium	1,200	3,300	No	**Yes**	No	Essential nutrient[2]
Zinc	50UJ	9.6	No	**Yes**	No	Not detected at MRS

Notes:

µg/L - micrograms per liter

(1) Potential MC as listed in Table 4.1 of the SI Report.

(2) Magnesium is an essential nutrient and not expected to pose an unacceptable risk to human or ecological receptors.

J- Analyte detected, estimated concentration.

U - Analyte was analyzed for but not detected above the sample specific practical quantitation limit (PQL_sa).

ND - Not detected

UJ - Analyte not detected, reported PQL_sa may be inaccurate or imprecise.

Table 5.9

Sediment Source Evaluation

Dailey Infiltration Camp MRS, Randolph County, WV

Sediment Source Evaluation	Maximum Detected Site Concentration	3x USGS Background Value[1]	3x Site-specific Ambient Sample	Exceeds Background Concentration ?	Potential MC?[2]	SLRA Required?	Primary Reason for Exclusion from SLRA
Metals	**mg/kg**						
Aluminum	12,000	**98,000**	28,000	No	**Yes**	No	Not detected above background
Antimony	0.68	NA	**0.96**	No	**Yes**	No	Not detected above background
Barium	140	NA	**720**	No	**Yes**	No	Not detected above background
Chromium	21	NA	**33**	No	**Yes**	No	Not detected above background
Copper	19	**29**	29	No	**Yes**	No	Not detected above background
Lead	17	**45**	39	No	**Yes**	No	Not detected above background
Magnesium	2,100	**5,900**	4,500	No	**Yes**	No	Essential nutrient[3]
Zinc	74	**150**	135	No	**Yes**	No	Not detected above background

Notes:

(1) USGS derived background concentration for Randolph County (http://mrdata.usgs.gov/geochem/county.php?place=f54083&el=Al&rf=east-central). The background values are selected from those available in the column order shown (i.e., the USGS value is used if there is one; if there is no USGS value, then the site-specific value is used). The selected value is shown in **Bold**.

(2) Potential MC as listed in Table 4.1 of the SI Report.

(3) Magnesium is an essential nutrient and not expected to pose an unacceptable risk to human or ecological receptors.

NA - Not available

Explosives were not detected in the biased surface water samples. As shown in Table 5.6, aluminum, antimony, barium, copper, lead, and magnesium were detected in the samples collected; however, the maximum detected concentrations of the metals did not exceed the selected background concentrations (Table 5.8). Therefore, surface water exposure pathways are incomplete for all receptors.

Explosives were not detected in the biased sediment samples. As shown in Table 5.7, all eight metals (aluminum, antimony, barium, chromium, copper, lead, magnesium, and zinc) were detected in the sediment samples collected from the MRS. However, the maximum detected concentrations of the metals did not exceed the selected background concentrations. Therefore, sediment exposure pathways are incomplete for all receptors.

5.3.3.6 Surface Water and Sediment Exposure Pathway Conclusions

Based on the current and future land use of the Dailey Infiltration Camp MRS, potential receptors include commercial/industrial workers (e.g., USFS employees), recreational users (e.g., hikers and nearby residents), site visitors, and ecological receptors. Human receptors may be exposed to metals in surface water or sediment via ingestion as drinking water, incidental ingestion or dermal exposure. Ecological receptors could be exposed to metals in surface water through incidental ingestion, dermal exposure, and ingestion as a drinking water source. Ecological receptors may also ingest biota that have been exposed to metals contaminants in the surface water. Surface water and sediment samples were collected from the Dailey Infiltration Camp MRS. As discussed in Subchapter 5.3.3.5, the maximum concentrations of the metals detected in the surface water and sediment samples collected at MRS01 did not exceed background concentrations; therefore, the surface water and sediment exposure pathways are incomplete for human and ecological receptors.

5.3.4 SOIL EXPOSURE PATHWAY

Potential soil exposure pathways may include incidental ingestion, dermal contact, and inhalation of re-suspended soil particulates by human and ecological receptors. Contamination in soil can also leach to groundwater and migrate to surface water and sediment via runoff and erosion. Subchapters 5.3.2 and 5.3.3 discuss the groundwater and surface water/sediment exposure pathways, respectively. Ecological receptors may also come into contact with metals in soil by ingesting biota that have been exposed to metals in soil. The likelihood of exposure is influenced by such factors as the mass and concentration of metals in soil exposed at the ground surface; site-specific geology, hydrogeology, climate; and the expected future land use.

5.3.4.1 Physical Source Access Conditions

Access to the Dailey Infiltration Camp MRS is obtained by crossing through private property to the west of the MRS. The SVT encountered one locked gate used to control access to the 4-wheel-drive road that leads to the Dailey Infiltration Camp MRS and the MNF. Although the gate prevents vehicle traffic from reaching the MRS, the gate is not monitored and does not prevent pedestrians (e.g., hikers, tourists) from accessing the MRS or the forest. There are barbed wire fences around the private property to the west of the MRS; however, the fences are damaged and were easily crossed by the SVT. During the site visit, the team also observed tracks from off-road vehicles on a 4-wheel-drive road within the MRS. The Dailey Infiltration Camp MRS can be easily accessed by nearby residents and site visitors; therefore, the MRS is considered “accessible”.

5.3.4.2 Actual or Potential Contamination Areas

Prior to the SI, there were no known metals contamination areas within the Dailey Infiltration Camp MRS. However, military training and munitions-related activities could have directly affected soil, surface water, and sediment at the site. The areas within the infiltration camp with the highest probabilities for contamination are the areas with craters, and the uphill face of the berms and gun emplacements (Figure 2.1). The location of the MRS is based on reviews of historical documents identified in the INPR and the PA.

5.3.4.3 Soil Exposure Pathways and Receptors

The soil exposure pathway accounts for the potential risk to human and ecological receptors at or near the Dailey Infiltration Camp MRS that may come into contact with potentially contaminated soil. Human and ecological receptors may come into contact with metals in soil via dermal contact, incidental ingestion, or inhalation of re-suspended soil particulates. Ecological receptors are considered to be present at this MRS (Subchapter 5.2.4) and may also come into contact with metals in soil by ingesting biota that have been exposed to metals in soil. Based on the site use, census data, and the SVT observations listed in Subchapter 5.3.2.3, the potential receptors likely present at the Dailey Infiltration Camp MRS are commercial/industrial workers (e.g., USFS employees), recreational users (e.g., hikers and nearby residents), site visitors, and ecological receptors.

5.3.4.4 Soil Sampling Locations and Methods

The TPP Team agreed to collect three biased surface soil samples, one ambient surface soil sample, and associated QC samples within the Dailey Infiltration Camp MRS during the SI. All three of the biased samples (WVMA-MRS01-SS-04-01, WVMA-MRS01-SS-04-02, and WVMA-MRS01-SS-04-03), along with one duplicate (WVMA-MRS01-SS-04-05) and the ambient sample (WVMA-MRS01-AMB-SS-04-04), were collected during the May 2012 site visit using the proposed CRREL "seven-point wheel" composite sampling technique. The sample IDs for all of the soil samples were changed from those in the SS-WP to represent the actual sample depth of 4 inches bgs.

No MD or MEC items were found during the site visit. Sample WVMA-MRS01-SS-04-01 was moved from the proposed location and collected at the base of the southeast face of a gun emplacement in the south portion of the MRS. Sample WVMA-MRS01-SS-04-02 was moved from the proposed location and collected on the east face of one of the earthen berms in the south portion of the MRS. Sample WVMA-MRS01-SS-04-03 and duplicate sample WVMA-MRS01-SS-04-05 were moved from the proposed location and collected on the edge of a crater in the north portion of the MRS. The ambient surface soil sample was moved slightly from the proposed location to be further away from a 4-wheel-drive road. As described in Subchapter 5.2.5 of this report, the UXO technician III used a Schonstedt GA-52Cx magnetometer to screen all soil sample locations before sample collection. Soil sampling was employed, as specified in the final SS-WP. The coordinates for each sample location were recorded and uploaded to the GIS database. Figure 5.2 shows the sample locations and identification numbers. Table 5.1 indicates the rationale behind the sample locations. Appendix D includes the field notes and field forms for the site visit.

All of the surface soil samples were analyzed for explosives, metals (aluminum, antimony, barium, chromium, copper, lead, magnesium, and zinc), and pH. The ambient surface soil sample was analyzed for explosives to verify that the sample location represents background soil conditions at the MRS. The analytical results from the ambient sample are used to estimate background concentrations of naturally occurring metals in the surface soil at the site (Subchapter 5.2.7).

5.3.4.5 Soil Sampling Analytical Results

Results for the soil sample analysis are listed in Table 5.10 and are included in Appendix F. These results were evaluated using the criteria described in Subchapter 5.2.8. The source evaluation for the MRS is presented in Table 5.11. There were no detections of explosives in the surface soil samples collected from the MRS. The source evaluation for surface soil was performed for metals only. As shown in Table 5.10, the maximum detected concentrations of aluminum, antimony, barium, chromium, copper, magnesium and zinc did not exceed the selected background value. However, the maximum detected concentration (99mg/kg) of lead exceeded the selected background concentration (50 mg/kg).

TABLE 5.10: SUMMARY OF VALIDATED ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN MAY 2012
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Dailey Infiltration Camp MRS

Analytes / Sample ID: / Date Sampled:	Human Health Screening Values (1)	Ecological Screening Values (4)	WVMA-MRS01-AMB-SS-04-04*	WVMA-MRS01-SS-04-01	WVMA-MRS01-SS-04-02	WVMA-MRS01-SS-04-03	WVMA-MRS01-SS-04-05**
			05/10/12	05/10/12	05/10/12	05/10/12	05/10/12
Explosives – SW8330B	mg/kg						
1,3,5-Trinitrobenzene	2200 (2)	6.6 (5)	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U
1,3-Dinitrobenzene	6.1 (2)	0.073 (5)	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
2,4,6-Trinitrotoluene (TNT)	19 (2)	6.4 (5)	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
2,4-Dinitrotoluene	1.6 (2)	2.5 (5)	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
2,6-Dinitrotoluene	61 (2)	1.8 (5)	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
2-Amino-4,6-dinitrotoluene	150 (3)	10 (5)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
2-Nitrotoluene	2.9 (2)	9.9 (5)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
3-Nitrotoluene	6.1 (2)	12 (5)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
4-Amino-2,6-dinitrotoluene	150 (2)	3.6 (5)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
4-Nitrotoluene	30 (2)	22 (5)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.5 (2)	7.5 (5)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	240 (2)	0.99 (5)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Nitrobenzene	4.9 (2)	40 (6)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Nitroglycerin	6.1 (2)	71 (5)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	3800 (2)	27 (5)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Pentaerythritol Tetranitrate (PETN)	120 (3)	100 (5)	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Metals – SW6010B	mg/kg						

TABLE 5.10: SUMMARY OF VALIDATED ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN MAY 2012
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Dailey Infiltration Camp MRS

Analytes / Sample ID: / Date Sampled:	Human Health Screening Values (1)	Ecological Screening Values (4)	WVMA-MRS01-AMB-SS-04-04*	WVMA-MRS01-SS-04-01	WVMA-MRS01-SS-04-02	WVMA-MRS01-SS-04-03	WVMA-MRS01-SS-04-05**
Date Sampled:			05/10/12	05/10/12	05/10/12	05/10/12	05/10/12
Aluminum	77000 (2)	50	**12,000.00**	**9,700**	**14,000 J**	**13,000**	**12,000**
Antimony	31 (2)	0.270	**0.26 J**	**1.0**	**0.41 J**	**0.42**	**0.36**
Barium	120000 (2)	26	**190.00**	**130**	**96 J**	**120**	**110**
Chromium	3100 (2)	28	**13**	**11**	**19 J**	**15**	**16**
Copper	400 (2)	11	**7.9**	**18**	**17 J**	**28**	**17**
Lead	3330 (2)	220	**26**	**99**	**20 J**	**17**	**17**
Magnesium	23 (2)	0.013	**1,500**	**1,500**	**2,000 J**	**1,700**	**1,600**
Zinc	23000 (2)	46	**66**	**53**	**71 J**	**54**	**54**
pH – SW9045D	**s.u.**						
pH	5.1				5.1	4.4	4.6	4.6
Percent Moisture	**%**						
Moisture, percent	32				34	31	28	30

QA Notes and Data Qualifiers:
(NO CODE) - Confirmed identification
U - Analyte was analyzed for but not detected above the sample specific practical quantitation limit (PQL_sa)
J - Analyte detected, estimated concentration
* - Ambient sample
** Field duplicate of sample on left
Detections are bolded
s.u. - Standard Unit

TABLE 5.10: SUMMARY OF VALIDATED ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN MAY 2012
West Virginia Maneuver Area/Dolly Sods FUDS Property No. G03WV0013
Dailey Infiltration Camp MRS

Analytes / Sample ID: / Date Sampled:	Human Health Screening Values (1)	Ecological Screening Values (4)	WVMA-MRS01-AMB-SS-04-04*	WVMA-MRS01-SS-04-01	WVMA-MRS01-SS-04-02	WVMA-MRS01-SS-04-03	WVMA-MRS01-SS-04-05**
Date Sampled:			05/10/12	05/10/12	05/10/12	05/10/12	05/10/12

(1) Human health screening levels for soil and sediment used from WVDEP Risk-Based Concentrations (RBCs), Table 60-3B in the Voluntary Remediation and Redevelopment Rule (60CSR3) May 1, 2012 (http://www.dep.wv.gov/dlr/oer/voluntarymain/Documents/60CSR3%20VRRA%20filed%204-11-12.pdf) supplemented with USEPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites for Soil, May 2012 (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_MAY2012.pdf).
(2) WVDEP Risk-Based Concentrations (RBCs), Table 60-3B in the Voluntary Remediation and Redevelopment Rule (60CSR3) May 1, 2012 (http://www.dep.wv.gov/dlr/oer/voluntarymain/Documents/60CSR3%20VRRA%20filed%204-11-12.pdf)

(3) WVDEP RBC not available. Used USEPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites for Soil ,May 2012 (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_MAY2012.pdf).
(4) Ecological screening values for soil used from USEPA EcoSSLs May 2008 (http://www.epa.gov/ecotox/ecossl/), and Los Alamos National Laboratory's EcoRisk Database v3.0 October 2011 (http://www.lanl.gov/environment/cleanup/ecorisk.shtml), and USEPA Region 4 Ecological Screening Values for Soil November 30, 2001 (http://www.epa.gov/region4/superfund/images/allprogrammedia/pdfs/tsstablesoilvalues.pdf), and USEPA Region 5 Ecological Screening Levels August 22, 2003 (http://www.epa.gov/Region5/waste/cars/pdfs/ecological-screening-levels-200308.pdf).
(5) USEPA EcoSSLs not available. Used Los Alamos National Laboratory's EcoRisk Database v3.0 October 2011 (http://www.lanl.gov/environment/cleanup/ecorisk.shtml).
(6) USEPA EcoSSLs not available. Used USEPA Region 4 Ecological Screening Values for Soil November 30, 2001 (http://www.epa.gov/region4/superfund/images/allprogrammedia/pdfs/tsstablesoilvalues.pdf). If pH is less than 5.5, the USEPA Region 4 screening value of 50 mg/kg will be used.

Table 5.11

Soil Source Evaluation

Dailey Infiltration Camp MRS, Randolph County, WV

Analyte	Maximum Detected Site Concentration	3x WV VRRP Background Value[1]	Exceeds Background Concentration?	Potential MC?[2]	SLRA Required?	Primary Reason for Exclusion from SLRA
Metals	**mg/kg**					
Aluminum	14,000J	190,000	No	**Yes**	No	Not detected above background
Antimony	1.0	2.3	No	**Yes**	No	Not detected above background
Barium	130	1,100	No	**Yes**	No	Not detected above background
Chromium	19J	140	No	**Yes**	No	Not detected above background
Copper	28	66	No	**Yes**	No	Not detected above background
Lead	99	50	**Yes**	**Yes**	**Yes**	–
Magnesium	2,000J	9,600	No	**Yes**	No	Essential nutrient[3]
Zinc	71J	180	No	**Yes**	No	Not detected above background

Notes:

mg/kg - milligrams per kilogram

(1) From West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual Version 2.1. Table 2-3: Natural Background Levels of Inorganics in Soil in West Virginia and Surrounding Areas. http://www.dep.wv.gov/dlr/oer/voluntarymain/documents/vrra%20guidanceversion2-1.pdf

(2) Potential MC as listed in Table 4.1 of the SI Report.

(3) Magnesium is an essential nutrient and not expected to pose an unacceptable risk to human or ecological receptors.

J Analyte detected, estimated concentration.

MC – munitions constituent

SLRA – screening-level risk assessment

WV VRRP – West Virginia Voluntary Remediation and Redevelopment Program

Explosives were not detected in the biased surface soil samples. As shown in Table 5.10, the maximum detected concentrations of aluminum, antimony, barium, chromium, copper, magnesium and zinc did not exceed the selected background value. However, the maximum detected concentration (99 mg/kg) of lead exceeded the selected background concentration (50 mg/kg). Therefore, surface soil exposure pathways are complete for all receptors.

5.3.5 SOIL EXPOSURE PATHWAY CONCLUSIONS

Potential receptors for soil at the Dailey Infiltration Camp MRS include commercial/industrial workers (e.g., USFS employees), recreational users (e.g., hikers and nearby residents), site visitors, and ecological receptors. These receptors may be exposed to surface soil through dermal contact, incidental ingestion, and inhalation of re-suspended particulate matter. Ecological receptors also may be exposed to metals in the soil by ingestion of biota that may have been exposed to metals in the soil. The maximum detected concentration of lead exceeded its background concentration, and therefore, the surface soil exposure pathways are complete for all potential receptors at the MRS. Subsequently, lead was retained for further evaluation in the SLRA (Chapter 6).

5.3.6 AIR EXPOSURE PATHWAY

The air exposure pathway accounts for hazardous substance exposure in gaseous or particulate form through the air. Airborne transport of contaminants can be an exposure pathway for human and ecological receptors. No air sampling has been performed at this site, and none was performed for this SI.

5.3.6.1 Climate

Subchapter 2.2.3 discusses climate.

5.3.6.2 Releases and Potential Releases to Air

There are no known direct releases of metals to air at the Dailey Infiltration Camp MRS. The occurrence of windblown soil particulates may be expected at the site. Releases of metals contamination via this pathway are possible through re-suspension of surface soil particulates.

5.3.6.3 Air Exposure Pathways and Receptors

Because there are no known volatile contaminants associated with the munitions used at the WVMA/Dolly Sods FUDS, the only remaining air exposure pathway would be via the inhalation of re-suspended soil particulates. Based on the known current and future land use, census data, and the SVT observations listed in Subchapter 5.3.2.3, the potential receptors that are likely present at the Dailey Infiltration Camp MRS are commercial/industrial workers (e.g., USFS employees), recreational users (e.g., hikers and nearby residents), site visitors, and ecological receptors.

5.3.6.4 Air Sampling and Monitoring Locations and Methods

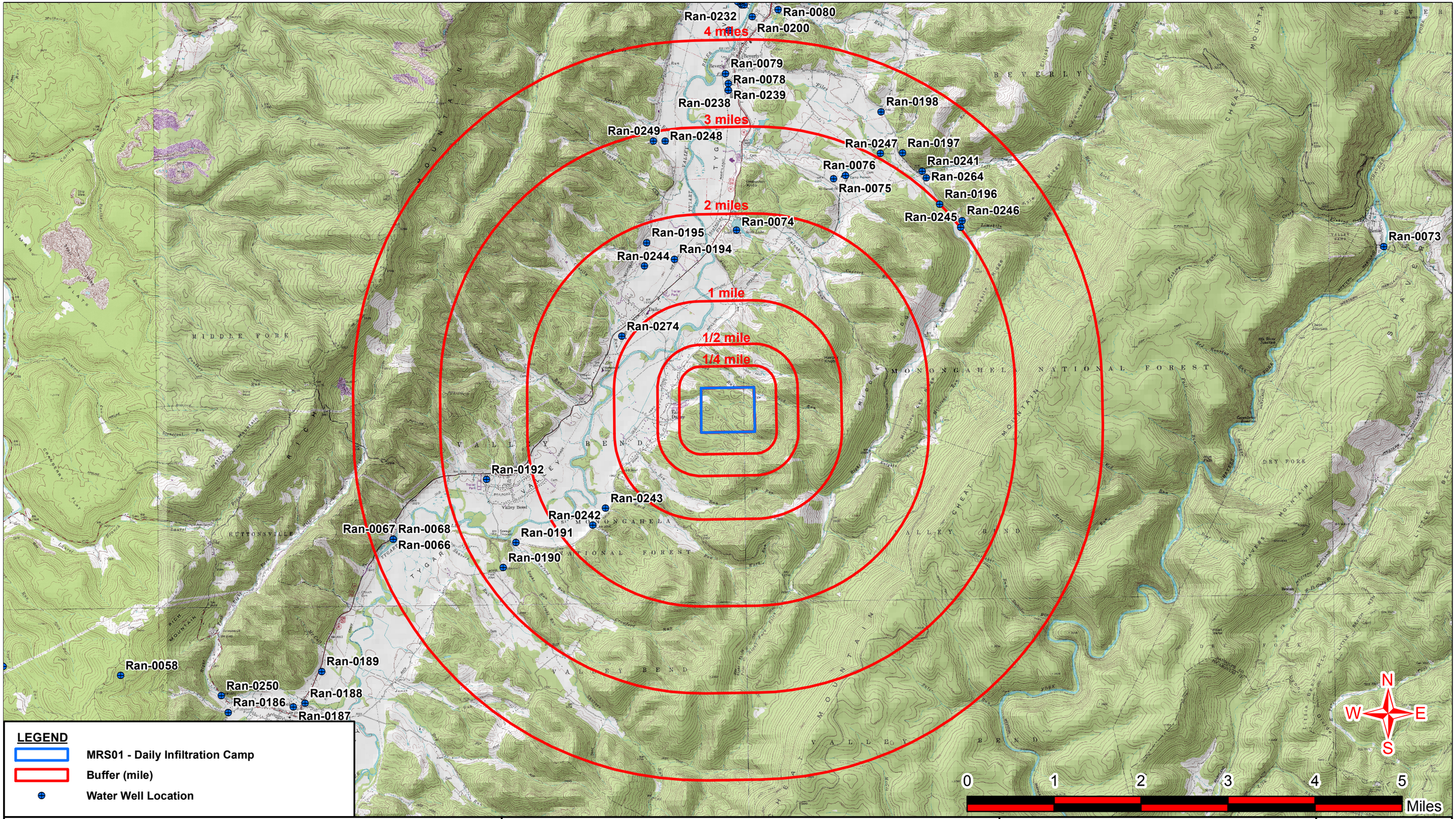
There is no historical record of air sampling at the WVMA/Dolly Sods FUDS. Air sampling was not conducted as part of the SI within the Dailey Infiltration Camp MRS.

5.3.6.5 Air Sampling Analytical Results

Not applicable; no air sampling was conducted as part of the SI at the Dailey Infiltration Camp MRS.

5.3.6.6 Air Exposure Pathway Conclusions

As discussed in Subchapter 5.3.4.5, lead was detected in surface soil at concentrations above the selected background criteria and was retained for evaluation in the SLRA. Based on these results, the air exposure pathway is complete for all receptors present at the Dailey Infiltration Camp MRS. The air exposure pathway for human receptors is assessed through the soil exposure pathway, as the screening values for human receptors include inhalation. While the inhalation exposure pathway is indirectly evaluated through the human health screening values for soil, the ecological screening values for soil do not evaluate this pathway, and the air exposure pathway is considered potentially complete but was not quantitatively assessed for ecological receptors at this MRS.



Prepared by:

Eco & Associates, Inc.
and
PARSONS

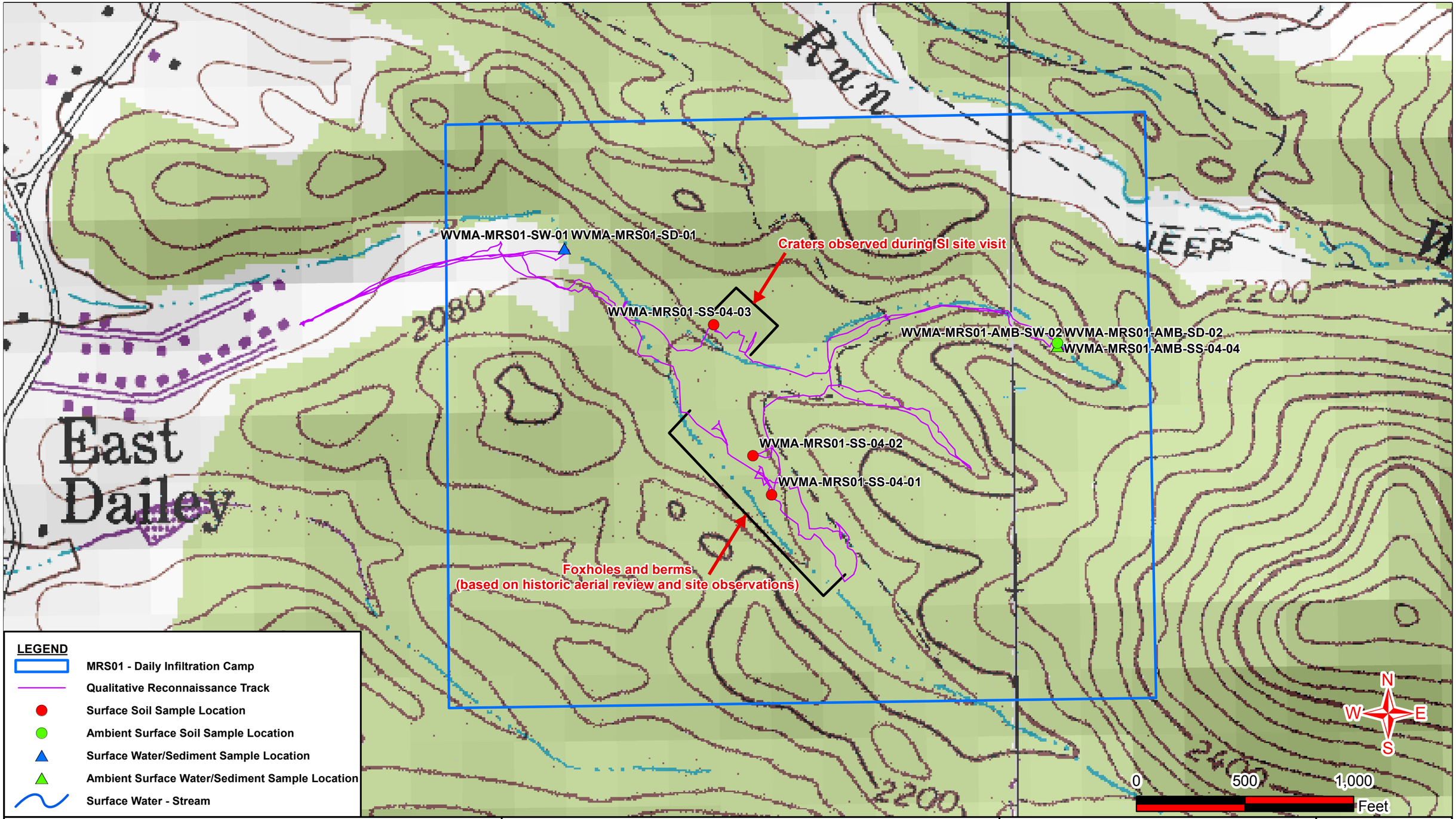
WATER WELLS WITHIN 4-MILE BUFFER

MRS01 - Daily Infiltration Camp
MMRP West Virginia

PROJECT NO. Eco-11-452

DATED August 2013

FIGURE
5.1



Prepared by:
Eco & Associates, Inc.
and
PARSONS

QUALITATIVE RECONNAISSANCE AND SAMPLE LOCATIONS

MRS01 - Daily Infiltration Camp
MMRP West Virginia

PROJECT NO. Eco-11-452

DATED August 2013

FIGURE
5.2

CHAPTER 6
SCREENING-LEVEL RISK ASSESSMENT

6.1 MUNITIONS AND EXPLOSIVES OF CONCERN SCREENING-LEVEL RISK ASSESSMENT

6.1.1 INTRODUCTION

A qualitative risk assessment evaluates the potential explosive safety risk to the public at the Dailey Infiltration Camp MRS. This risk assessment qualitatively communicates whether a potential risk exists at the MRS and the primary causes of that potential risk. The risk assessment is based on historical information presented in prior studies (e.g., the INPR and the PA) and on observations made during the SI QR.

An explosive safety risk exists if a person can come near or into contact with MEC and interact with the MEC in a manner that results in a detonation. The potential for an explosive safety risk depends on the presence of three critical elements as follows:

1. A source (i.e., presence of MEC)
2. A human receptor (i.e., a person)
3. The potential for interaction between the source and receptor (i.e., the possibility that the person might pick up or disturb the MEC)

All three of these elements must be present for an explosive safety risk to exist. There is no risk if any one element is missing. Each of these three elements provides a basis for implementing effective risk management response actions.

6.1.2 CONCEPTUAL SITE MODEL

The CSM for the Dailey Infiltration Camp MRS, included in Appendix J, summarizes conditions at the FUDS that could result in human exposure to MEC. They describe the types of MEC potentially present in the Dailey Infiltration Camp, past MEC and MD findings, and current and projected future land use and receptors.

6.1.3 QUALITATIVE RISK EVALUATION

For the Dailey Infiltration Camp MRS, the potential risk posed by MEC was characterized qualitatively by evaluating the following three primary risk factors, which are related to the three critical elements listed above:

1. <u>MEC presence</u>: whether there is potential for MEC at each MRS
2. <u>MEC type</u>: the types of MEC that might be at each MRS and the related potential explosive hazards
3. <u>Site accessibility</u>: how potential receptors at each MRS might interact with the MEC

The known or suspected presence of an explosive hazard at a given MRS and any potential human receptors at that MRS will typically be considered sufficient justification for RI/FS

implementation at that MRS. The following paragraphs describe each of the primary risk factors.

MEC presence describes whether MEC have been confirmed or are suspected at the MRS, either at the surface or in the subsurface, based on historical information in prior studies (e.g., the INPR and the PA) and observations made during the QR. If there is historical evidence of potential MEC presence at a site, lack of confirmation of MEC presence during the QR will not be considered as evidence of MEC absence for this qualitative risk evaluation. Table 6.1 describes the three possible categories of MEC presence for this evaluation.

TABLE 6.1

CATEGORIES OF MEC PRESENCE

DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

MEC Presence	Description
Confirmed or suspected	There is physical or confirmed historical evidence of MEC presence at the MRS, or there is physical or historical evidence indicating that MEC may be present at the MRS.
Small arms only(1)	The presence of small arms ammunition is confirmed or suspected, and there is evidence that no other types of munitions were used or are present at the MRS.
Evidence of no munitions	Following investigation of the MRS, there is no physical or historical evidence that there are UXO or discarded military munitions present.

Note:

(1) Small arms ammunition is "ammunition, without projectiles that contain explosives (other than tracers), that is .50-caliber or smaller or for shotguns" (Department of the Army, 2005a).

MEC type describes whether the MEC potentially present at the MRS might be detonated, resulting in a minor injury or worse to one or more human receptors. If multiple MEC types are potentially present at the MRS, the type that poses the greatest risk to public health is selected for this qualitative risk evaluation. This determination is based on historical information in prior studies (e.g., the INPR and the PA) and observations made during the QR. Table 6.2 describes the three possible categories of MEC type for this evaluation.

TABLE 6.2
CATEGORIES OF MEC TYPE
DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

MEC Type	Description
Potentially hazardous	Fuzed or unfuzed MEC that may result in physical injury to an individual if detonated by an individual's activities.
Small arms only(1)	Small arms ammunition is confirmed or suspected, and there is evidence that no other types of munitions were used or are present at the MRS.
Inert	MD or other items that will cause no injury (e.g., training ordnance containing no explosives, fuzes, spotting charges, etc.).

Note:
(1) Small arms ammunition is defined as "ammunition, without projectiles that contain explosives (other than tracers), that is .50-caliber or smaller or for shotguns" (Department of the Army, 2005a).

Site accessibility describes whether human receptors have access to the MRS and, therefore, may interact with any MEC at the surface or in the subsurface. For this qualitative risk evaluation, if MEC are confirmed or suspected at the MRS, it is assumed that human receptors might come into contact with the MEC unless there is complete restriction to access. This assessment will also describe the potential receptors. Table 6.3 describes the two possible categories of site accessibility for this evaluation.

TABLE 6.3
CATEGORIES OF SITE ACCESSIBILITY
DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

Site Accessibility	Description
Accessible	Access control is not complete: residents, site workers, or visitors can gain access to all or part of the MRS.
Complete restriction to access	Human receptors are completely prevented from gaining access to the MRS.

For this qualitative risk assessment, further evaluation (i.e., RI/FS) for the MRS will typically be justified if the following conditions are all met:

- MEC are confirmed or suspected to be present.
- The MEC confirmed or suspected to be present are potentially hazardous.
- The MRS is accessible.

The primary risk factors identified above were evaluated for the Dailey Infiltration Camp MRS at the former WVMA/Dolly Sods using the data collected during the 2012 site visit and the historical data available from other studies. The following subchapters discuss the

qualitative risk evaluation by each primary risk factor to determine whether further evaluation is justified at this MRS.

6.1.4 MUNITIONS AND EXPLOSIVES OF CONCERN RISK ASSESSMENT: DAILEY INFILTRATION CAMP MUNITIONS RESPONSE SITE

The former Dailey Infiltration Camp was used for small arms and obstacle course training. The historical photograph in the 2009 PA that shows troops crawling between puffs of smoke could indicate the use of simulated or smoke rounds at the MRS. However, the craters observed by the 2012 SVT indicate that demolition charges, firing devices, blasting caps, or blasting fuses may also have been used at the MRS. According to the 2009 PA, there are no documented historical findings of MEC or MD at the Dailey Infiltration Camp. No MD or MEC items have been found during previous field visits to the MRS, and no MD or MEC items were observed during the 2012 site visit. However, the 2012 SVT detected subsurface metal anomalies in craters and several other munitions-related features (earthen berms and gun emplacements) observed at the MRS. These features indicate the potential presence of MEC at the MRS. Based on these findings and the known historic use of the site, the MEC presence at the Dailey Infiltration Camp MRS is considered "Confirmed or Suspected."

The PA lists the known or suspected munitions at the Dailey Infiltration Camp MRS as general small arms ammunition, and smoke rounds. The berms and gun emplacements observed by the SVT during the 2012 site visit support the potential use of small arms ammunition at the MRS. The historical photograph in the 2009 PA that shows troops crawling between puffs of smoke could indicate the use of simulated or smoke rounds at the MRS. However, the craters observed by the 2012 SVT suggest the possible use of demolition charges, firing devices, blasting caps, or blasting fuses. Based on this information, demolition charges, firing devices, blasting caps, and blasting fuses have been added to the list of potential munitions for this site. Expended small arms ammunition is MD and poses no explosive hazard. Unexpended small arms ammunition does not present a significant explosive hazard, and is therefore not considered MEC. However, some of the types of munitions which could have created the craters (demolition charges, blasting caps, and blasting fuses) contain explosives and would present significant explosive hazards if they remain at the site intact. Based on the potential presence of explosive hazards, the MEC type at the Dailey Infiltration Camp MRS is assessed as "Potentially Hazardous."

The Dailey Infiltration Camp MRS consists of 200 acres of undeveloped land approximately 1.3 miles southeast of the town of Dailey. The majority of the site is within the MNF. A portion of the west side of the MRS is privately owned. The SVT encountered some barriers (fences and a locked gate) to control access to the Dailey Infiltration Camp MRS. However, these barriers are not monitored, and are not used to prevent pedestrians (e.g., hikers and nearby residents) from accessing the MRS and the National Forest. Therefore, the site accessibility at the Dailey Infiltration Camp MRS is considered "Accessible."

6.1.5 RISK SUMMARY

Table 6.4 summarizes the qualitative MEC risk evaluation for the Dailey Infiltration Camp MRS. Based on this qualitative evaluation, explosive hazards may remain at the Dailey Infiltration Camp MRS; therefore, there is a potential explosive safety risk at this MRS.

TABLE 6.4
MEC RISK EVALUATION
DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

MRS	MEC Presence	MEC Type		Site Accessibility	Further Evaluation?
Dailey Infiltration Camp	Confirmed or Suspected(1)	Charge, demolition, block, ¼ lb, ½ lb, 1 lb Firing device, demolition, pull, M1 Cap, blasting, non-electric, M7 Fuse, blasting, time, M700 General small arms ammunition: Cartridge, .22 caliber Cartridge, .30 caliber (includes carbine) Cartridge, .38 caliber Cartridge, .45 caliber	Potentially Hazardous	Accessible	Yes

Note:
(1) No MEC has ever been encountered at the MRS.

6.2 MUNITIONS CONSTITUENTS HUMAN HEALTH SCREENING-LEVEL RISK ASSESSMENT

6.2.1 CONCEPTUAL SITE MODEL

Based on the current and future land use of the Dailey Infiltration Camp MRS, potential human receptors at the MRS are commercial/industrial workers (e.g., USFS employees), recreational users (e.g., hikers and nearby residents), and site visitors. Based on the evaluation of exposure pathways in Chapter 5, these receptors may be exposed to metals through direct contact with soil, surface water, or sediment. Human receptors may be exposed to metals in the surface soil through incidental ingestion, dermal contact, and inhalation of re-suspended soil particulates. They may also be exposed to metals in surface water or sediment via ingestion as drinking water, incidental ingestion or dermal exposure. The CSEM identifies source media, transport mechanisms, exposure routes, and potential receptors (Appendix J) for this MRS.

6.2.2 AFFECTED MEDIA

Direct release of metals from munitions activities within the MRS would have been to soil, surface water, and sediment. Metals in the surface soil can become airborne as re-suspended particulate matter, can migrate to shallow groundwater through leaching, and can migrate to surface water and sediment through runoff and erosion. Based on decisions made at the TPP Meeting, biased soil, surface water, and sediment samples and field duplicate samples were collected from this MRS. No other media (groundwater or air) were sampled at this site.

6.2.3 HUMAN HEALTH SCREENING VALUES

Soil and Sediment: The WVDEP RBCs, and Table 60-3B in the Voluntary Remediation and Redevelopment Rule (60CSR3).

Surface Water: WV Requirements Governing Water Quality Standards (47CSR2).

6.2.4 RISK CHARACTERIZATION

As discussed in Subchapter 5.2.8, the metals source evaluation is used to determine which analytes are retained for consideration in a SLRA. Only those analytes retained for consideration in the SLRA following the source evaluation are evaluated in this chapter. Groundwater and air samples were not collected during this SI; therefore, these pathways were not directly evaluated in the SLRA.

To complete the human health risk characterization for the Dailey Infiltration Camp MRS, the maximum detected concentrations of each selected metal that exceeded the selected background concentration for surface soil, surface water, and sediment were retained for consideration in the SLRA. These maximum detected concentrations were compared to the screening levels agreed to by the TPP Team and described in Subchapter 6.2.3. For an analyte to be considered a potential human health risk related to a release from munitions activities at the Dailey Infiltration Camp MRS, it is necessary for the metals concentrations to exceed their screening values. The following subchapters evaluate the Dailey Infiltration Camp MRS at the WVMA/Dolly Sods FUDS and any potential effects on human health.

6.2.4.1 Dailey Infiltration Camp Munitions Response Site

Surface Water: One biased surface water sample and one field duplicate sample were collected from the Dailey Infiltration Camp MRS. As shown in Table 5.8, none of the metals detected exceeded their respective background concentrations. Therefore, based on the analytical results presented in this report, no unacceptable human health risk is expected from exposure to metals in surface water due to former munitions-related activities at this MRS.

Sediment: One biased sediment sample and one field duplicate sample were collected from the Dailey Infiltration Camp MRS. As shown in Table 5.9, none of the metals detected exceeded their respective background concentrations. Therefore, based on the analytical results presented in this report, no unacceptable human health risk is expected from exposure to metals in sediment due to former munitions-related activities at this MRS.

Soil: Three biased surface soil samples and one field duplicate sample were collected from the Dailey Infiltration Camp MRS. As shown in Table 5.11, lead was detected at concentrations above its respective background concentration and was retained for evaluation in the SLRA. As shown in Table 6.5, the maximum detected concentration of lead did not exceed the screening values for soil at this MRS. Therefore, based on the analytical results presented in this report, no unacceptable human health risk is expected from exposure to lead in the surface soil due to former munitions-related activities at this MRS.

TABLE 6.5

HUMAN HEALTH SCREENING-LEVEL RISK ASSESSMENT FOR SOIL WITHIN THE MRS

DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

Analyte	Maximum Detected Site Concentration	Human Health Screening Value	Exceeds Screening Value?
Metals	**mg/kg**		
Lead	99	400[(1)]	No

Notes:

mg/kg milligrams per kilogram

(1) WVDEP Risk-Based Concentrations (RBCs), Table 60-3B in the Voluntary Remediation and Redevelopment Rule (60CSR3), May 1, 2012, (http://www.dep.wv.gov/dlr/oer/voluntarymain/Documents/60CSR3%20VRRA%20filed%204-11-12.pdf).

J Analyte detected, estimated concentration.

6.2.5 DISCUSSION

In surface water, sediment, and surface soil, the maximum detected concentrations of the evaluated metals did not exceed the screening values at this MRS. Therefore, based on the analytical results and the SLRA presented in this report, no unacceptable human health risk is expected from exposure to metals in surface water, sediment, or surface soil due to former munitions-related activities at the Dailey Infiltration Camp MRS.

6.3 MUNITIONS CONSTITUENTS SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT

6.3.1 CONCEPTUAL SITE MODEL

As discussed in Subchapter 5.2.4, the Dailey Infiltration Camp MRS is considered an important ecological place because it is within the MNF. Therefore, ecological receptors are considered to be present at the Dailey Infiltration Camp MRS. Based on the evaluation of exposure pathways conducted in Chapter 5, ecological receptors may be exposed to metals through incidental ingestion, dermal contact, inhalation of re-suspended soil particulates, and ingestion as a drinking water source. They may also be exposed to metals indirectly through ingesting biota that may have been exposed to metals in soil, surface water, or sediment. Because groundwater is not typically accessible to ecological receptors, the groundwater exposure pathways are incomplete for ecological receptors. Appendix J presents the CSEM developed for this MRS.

6.3.2 AFFECTED MEDIA

Direct release of metals from munitions activities within the MRS would have been to soil, surface water, and sediment. Metals in the surface soil can become airborne as re-suspended particulate matter, can migrate to shallow groundwater through leaching, and can migrate to surface water and sediment through runoff and erosion. Based on decisions made at the TPP Meeting, biased soil, surface water, and sediment samples (and field duplicate samples) were collected from this MRS. No other media (groundwater or air) were sampled at this site.

6.3.3 ECOLOGICAL SCREENING VALUES

The ecological screening values (ESVs) listed below were used for the screening-level comparison to evaluate metals detected above the selected background criteria in the soil,

surface water, and sediment. These ESVs are based on conservative assumptions, including the types of receptors present at a site (e.g., insectivores, terrestrial mammals, etc.) and exposure parameters (such as soil ingestion rate and receptor range). Site-specific information was not used to develop these ESVs. The use of site-specific information typically results in less conservative, and higher, ESVs.

Soil: USEPA EcoSSLs. Because the soil pH was less than 5.5, the USEPA Region 4 screening value for aluminum was used.

Sediment: USEPA Region 3 Ecological Benchmarks, Freshwater Sediment Screening Benchmark and LANL EcoRisk Database.

Surface Water: In the absence of a published ESV from the WV Requirements Governing Water Quality Standards (47CSR2), the USEPA Region 3 Freshwater Screening Benchmark was used for antimony.

6.3.4 ECOLOGICAL RISK CHARACTERIZATION

As discussed in Subchapter 5.2.8, the source evaluation is used to determine which analytes are retained for consideration in the SLERA. Only those analytes retained for consideration in the SLERA following the source evaluation are evaluated in this chapter.

To complete the ecological risk assessment at the Dailey Infiltration Camp MRS, the maximum detected concentration of each selected analyte was evaluated using the selected screening values (Subchapter 6.3.3). This comparison resulted in the calculation of hazard quotients (HQs) for each analyte, which were calculated by determining the ratio of the maximum detected site concentration to the screening value (in this case, ecological medium-specific screening value). If the HQ was equal to or less than 1, the potential for ecological risk for that medium was considered to be negligible. If the HQ was greater than 1, then unacceptable ecological risks cannot be ruled out based on the screening comparison alone. HQs greater than 1 should be reviewed to evaluate the significance of the exceedance.

Based on current EcoSSL guidance (USEPA 2003), aluminum must be present in a soluble form to be toxic to ecological receptors. Hence, soil aluminum is likely to only present a risk to ecological receptors in acidic soils (pH 5.5 or less). The pH reported for all of the soil samples ranged from 4.4 to 5.1 (Table 5.10), indicating that the soils at the Dailey Infiltration Camp MRS are generally acidic.

6.3.5 DAILEY INFILTRATION CAMP MUNITIONS RESPONSE SITE

Surface Water: One biased surface water sample and one field duplicate sample were collected from the Dailey Infiltration Camp MRS. As shown in Table 5.8, none of the metals detected exceeded their respective background concentrations; therefore, none of the metals were carried forward into the SLERA. As a result, an unacceptable ecological risk due to exposure to metals in surface water is not expected.

Sediment: One biased sediment sample and one field duplicate sample were collected from the Dailey Infiltration Camp MRS. As shown in Table 5.9, none of the metals detected exceeded their respective background concentrations; therefore, none of the metals were carried forward into the SLERA. As a result, an unacceptable ecological risk due to exposure to metals in sediment is not expected.

Soil: Three biased surface soil samples and one field duplicate sample were collected from the Dailey Infiltration Camp MRS. As shown in Table 5.11, lead was detected at concentrations above its respective background concentration and was retained for evaluation in the SLERA. As shown in Table 6.6, the maximum detected concentrations of lead exceeded the screening values for surface soil, resulting in a HQ of 9. Therefore, based on the analytical results presented in this report, unacceptable ecological health risk from exposure to lead in surface soil at MRS01 cannot be ruled out based solely on the analytical results presented in this SI. However, it should be noted:

- Per West Virginia Voluntary Remediation and Redevelopment Program (WV VRRP) guidance, if the benchmark values for media other than surface water are less than natural or anthropogenic background, the background concentrations may be used as the comparison criteria. The maximum detected concentration of lead is less than two times greater than the background.

- The ecological screening values used for the screening-level comparison to evaluate metals detected above the selected background criteria are based on conservative assumptions, including the types of receptors present at a site (e.g., insectivores, terrestrial mammals, etc.) and exposure parameters (such as soil ingestion rate and receptor range). Site-specific information was not used to develop these ESVs. The use of site-specific information typically results in less conservative, and higher, ESVs.

- The most conservative Ecological Soil Screening Level (EcoSSL) was selected for comparison and is for avian species. The potentially affected area is likely smaller than the foraging range of most of the avian species that may be present in the area. The maximum detected concentration of lead only slightly exceeds the EcoSSL for mammalian species (56 mg/kg), resulting in a hazard quotient less than 2. The maximum detected concentration of lead did not exceed the EcoSSLs for plants (120 mg/kg) or soil invertebrates (1,700 mg/kg), resulting in hazard quotients less than 1.

TABLE 6.6

SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT FOR SURFACE SOIL WITHIN THE MRS

DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WV

Analyte	Maximum Detected Site Concentration	Ecological Screening Value	Exceeds Screening Value?	Hazard Quotient
Metals	**mg/kg**			
Lead	99	11[(1)]	Yes	9

Notes:
mg/kg milligrams per kilogram
(1) USEPA EcoSSLs, May 2008, (http://www.epa.gov/ecotox/ecossl/).

6.3.6 DISCUSSION

Unacceptable ecological risk due to exposure to metals in surface water and sediment is not expected as the maximum detected concentration of all metals did not exceed background concentrations. In soil, the maximum detected concentration of lead exceeded the ESV, resulting in an HQ greater than 1. However, no significant impact to ecological receptors is expected. The ecological screening value is based on generic conservative assumptions, the analytical result likely represents an area smaller than the typical range of the ecological receptors of concern, and there is an absence of physical evidence of long-term or intensive DoD use of the MRS. Therefore, further investigation of this MRS for lead is not warranted.

CHAPTER 7
SUMMARY AND CONCLUSIONS

7.1 SUMMARY

The SI performed at the Dailey Infiltration Camp MRS in Randolph County, West Virginia, evaluated site-specific conditions that could affect the potential for complete exposure pathways to human and ecological receptors at the MRS. The project was planned and performed to satisfy the DQOs set for the project: 1) evaluate potential presence of MEC; 2) evaluate potential presence of elevated metals concentrations that are consistent with the identified MC contaminants of concern; 3) collect data needed to complete MRSPP scoring sheets; and 4) collect information for HRS scoring. Successful completion of the DQOs allowed determination of whether this FUDS project warrants further response action under CERCLA.

The SI included 3.2 miles of QR and the collection of surface soil samples at three locations and surface water and sediment samples at two locations (with associated QC samples) at the Dailey Infiltration Camp MRS. The soil samples were collected at the firing points, target locations, and areas where simulated or smoke rounds were used on the obstacle course, the areas with the highest likelihood for the presence of MEC or metals contamination within the Dailey Infiltration Camp MRS.

APPL, Inc. in Clovis, California, analyzed the soil, sediment, and surface water samples for explosives and selected metals. No explosives were detected in the surface soil, sediment, or surface water samples at the MRS. None of the metals analyzed for in the surface water and sediment exceeded background concentrations. Although one surface soil sample did contain lead moderately above the ecological screening value, no significant impact to ecological receptors is expected. .

The SVT observed no MEC or MD during the QR.

7.2 CONCLUSIONS REGARDING POTENTIAL MUNITIONS AND EXPLOSIVES OF CONCERN EXPOSURE PATHWAYS

The evaluation of potential MEC exposure (Subchapter 6.1) concluded that the MEC exposure pathway is potentially complete for the Dailey Infiltration Camp MRS, based on the suspected presence of hazardous munitions and accessibility of the MRS. Because human receptors might contact explosively hazardous MEC, there is a potential explosive safety risk at the Dailey Infiltration Camp MRS.

7.3 CONCLUSIONS REGARDING POTENTIAL MUNITIONS CONSTITUENTS EXPOSURE PATHWAYS

7.3.1 ELEMENTS CONSTITUTING COMPLETE EXPOSURE PATHWAY

An exposure pathway for a chemical release is not considered complete unless all four of the following elements are present (USEPA 1989):

1. A source and mechanism for chemical release
2. An environmental transport and/or exposure medium
3. A receptor exposure point
4. A receptor and a likely route of exposure at the exposure point

7.3.2 CONCLUSIONS REGARDING EXPOSURE PATHWAYS

Based on the analytical results and exposure pathways evaluated during this SI, further sampling of sediment and surface water is not recommended. No explosives were detected and no metals were detected above the selected background values in these media. Further sampling of surface soil may be warranted based on the analytical results and exposure pathways evaluated during this SI due to the detected concentration of lead in exceedance of the ecological screening value. However, no explosives were detected in the surface soil and no other metals were detected in the surface soil at concentrations exceeding the background values.

CHAPTER 8
RECOMMENDATIONS

8.1 RECOMMENDATIONS TO PROCEED TO RI/FS

The Dailey Infiltration Camp MRS is recommended to proceed to RI/FS for MEC evaluation (Table 8.1), based on the following:

During the SI, the SVT found no MD or MEC. However, hazardous MEC is suspected to be present at the MRS. The PA lists potential munitions at the MRS as general small arms ammunitions, smoke rounds, and hand grenades (use of grenades has never been confirmed). The berms and gun emplacements observed by the SVT during the 2012 site visit support the potential use of small arms ammunition at the MRS, and the craters observed by the 2012 SVT support the possible use of demolition charges, firing devices, blasting caps, or blasting fuses. A group of 12 craters was observed in the northern central portion of the MRS. The craters were circular and approximately 8 to 10 feet in diameter. Subsurface anomalies were detected in at least 6 of the 12 craters. No MEC or MD were observed in or around the craters. The craters observed at the MRS by the 2012 SVT suggest the possible use of demolition charges, firing devices, blasting caps, or blasting fuses. These devices contain explosives and would present significant explosive hazards if they remain at the site intact. Therefore, the presence of hazardous MEC at the MRS cannot be ruled out. Because the MRS is accessible to the public and hazardous MEC is suspected at the MRS, there is a suspected explosive safety risk at the Dailey Infiltration Camp MRS; however, no removal action is warranted.

Based on the analytical results and exposure pathways evaluated during this SI, further sampling of sediment and surface water is not recommended. No explosives were detected and no metals were detected above the selected background values in these media. Further sampling of surface soil may be warranted based on the analytical results and exposure pathways evaluated during this SI due to the detected concentration of lead in exceedance of the ecological screening value. However, no explosives were detected in the surface soil and no other metals were detected in the surface soil at concentrations exceeding the background values.

8.1.1 FURTHER EVALUATION OF BOUNDARY

Because the MRS boundary is not historically well defined, further evaluation of the MRS boundary is recommended during the USACE MRS re-alignment process.

TABLE 8.1

RECOMMENDATIONS

DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WEST VIRGINIA

MRS	ACREAGE	MEC ASSESSMENT(1)	METALS ASSESSMENT(2)	RECOMMENDATION
Dailey Infiltration Camp	200	**Yes** MEC is suspected but has not been confirmed.	**No** Exposure pathways for human and ecological receptors are considered incomplete.	RI/FS

Notes:

(1) "Yes" in this column indicates that observed field conditions (craters) are indicative of potential MEC presence, resulting in an RI/FS recommendation for the MRS.

(2) "No" in this column indicates the absence of metals at levels indicating a potential risk to human health or ecological receptors, resulting in a recommendation for no further metals sampling for the MRS.

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CHAPTER 9
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APPENDIX A

PERFORMANCE WORK STATEMENT

STATEMENT OF WORK

1. PROJECT AND LOCATION. The project sites will be throughout the Range Support Center boundaries and can be found as part of the Former West Virginia Maneuver Area, Grant, Preston, Pendleton, Tucker, and Randolph Counties, West Virginia. Each site identified will require the completion of the Military Munitions Response Program (MMRP) Project Site Inspection phase of work.

2. PURPOSE. The purpose of the project is to complete all planning, field work and reporting for the Site Inspection (SI) phase at each of the projects listed below. The Contractor shall use the existing programmatic documents as developed by Parsons Infrastructure and Technology Group for the 2004 SI initiative. The final SI shall reflect that attempts were made to seek concurrence from state regulators and other potential stake holders related to the decisions made based on the findings of the SI.

3. AUTHORIZATION. This projected is in support of the U.S. Army Corps of Engineers (USACE), Los Angeles District (SPL) Formerly Used Defense Site Program (FUDS). This project will comply with Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Occupational Safety & Health Administration (OSHA), and all other applicable local, city, county, state, or federal requirements.

4. DESCRIPTION OF WORK AND SERVICES REQUIRED. The Contractor shall perform the work and services as follows.

Task 1. **Coordinate Technical Project Planning (TPP) Meetings**: The Contractor shall coordinate, attend, and take meeting minutes for the TPP meeting with the USACE Project Manager, members of the Project Delivery Team (PDT), State Regulators and other stakeholders involved with the execution of the SI phase of work. In preparation for this meeting the Contractor shall research the current property owners associated with the FUDS Project locations and provide this information to USACE to assist in inviting relevant stakeholders to the TPP meetings. The Contractor shall capture decisions made in the TPP meeting in a TPP Memorandum submittal.

Task 2. **Prepare Site Specific Work Plan:** The Contractor shall prepare a Draft Site Specific Work Plan that incorporates all decisions and inputs from the TPP. All work shall be performed in accordance with the programmatic planning documents referenced above.

Task 3. **Field Work and Sampling:** Field work will be scheduled based on the approval of a final Site Specific Work Plan (SSWP) and the execution of an Rights of Entry (ROE) by the Government for all properties to be visited during field activities. Field Work will be conducted in compliance with the SSWP and existing programmatic planning documents.

Task 4. **Reporting:** Reports shall be developed using the established format for the MMRP SI Program. A draft, draft-final and final version shall be prepared. All appendices shall be included with the final deliverable in the electronic version.

Task 5. **Digital Data:** Analytical and Digital Data will be maintained and delivered to the Government at the finalization of each report. Analytical data shall be validated according to the accepted protocols established by the MMRP SI Program. Geographic

Information Systems (GIS) deliverable shall contain a Spatial Data Standard for Facilities, Infrastructure and Environment (SDSFIE) data structure and Federal Geographic Data Committee (FGDC) metadata.

Sites

Project #	Project Name	FUDS #
05	DAILEY INFILTRATION CAMP	G03WV0013
06	WVMA AMMUNITION DEPOT	G03WV0013
07	MANEUVER AREA	G03WV0013
08	FORE KNOBS-BEAR ROCKS FIRING RANGES	G03WV0013
09	BEARDEN KNOB FIRING RANGE	G03WV0013
10	BROWN/CABIN MOUNTAIN FIRING RANGES	G03WV0013
11	BUENA SMALL ARMS FIRING RANGE	G03WV0013

5. DELIVERABLE REQUIREMENTS. The front cover of all deliverables will state the report version, project name and number, title and date. The deliverables will include a section for responses to USACE and Regulatory comments.

A Compact Disc-Recordable (CD-R) will be included in a three-ring binder (in a plastic insert) along with each three-ring paper version of final reports issued. The CD-R will include the original documents in AutoCAD, MS Office 2007, JPG, PDF formats. The Contractor shall arrange all documents into separate file folders for each chapter. One file titled “Entries” adobe (PDF) file format will be included on the CD-R or FTP site download that contains the entire document, identical to the three-ring paper version.

Distribution List for Submittals:

Submittal	Quantity
Draft TPP Memo	6
Final TPP Memo	6
Draft Site Specific Work Plan	6
Final Site Specific Work Plan	6
Draft Completion Report	6
Draft-Final Completion Report	6
Final Completion Report	6

6. GENERAL REQUIREMENTS.

a. Regulatory Requirements. All activities shall be conducted in compliance with all Federal, State, and Local regulations for the protection of human health and the environment. The Contractor shall comply with all Federal State, and Local environmental laws, statutes, and regulations.

b. Privacy Act and Confidential Information. The Contractor shall comply with the Privacy Act and keep all information private. The Contractor shall keep all data and information obtained confidential prior to the release of data by the USACE.

7. CRITERIA AND STANDARDS. The Contractor shall prepare the final materials in accordance with criteria and applicable publications and manuals listed herein. Materials shall also be prepared in accordance with guidance previously furnished to the Contractor or with supplemental detailed instructions which may be issued by the Contracting Officer or Contracting Officer Representative (COR) before and during the progress of the work. The Contractor is not to undertake action for relocation, enlargement or deletion of any features of this proposed project. The Contractor shall be responsible for notifying the Contracting Officer of any missing criteria needed for their work.

8. PERIOD OF PERFORMANCE. The period of performance shall commence on the date of receipt of the Notice to Proceed (NTP), and shall end 24 months after the NTP. The Contractor shall schedule performance of this statement of work with the COR for this contract to ensure efficiency and cost effectiveness, and shall also schedule the completion and review of interim deliverables as appropriate.

9. QUALITY CONTROL PLAN. The Contractor is responsible for ensuring that product development and independent technical review for this Statement of Work are carried out in accordance with the approved MMRP SI Programmatic Plans.

10. ITEMS AND DATA TO BE FURNISHED BY THE GOVERNMENT. The Government shall make available to the Contractor relevant information from related studies, reports, manuals, and other pertinent available data in its files, which may contribute to this work.

The Contractor shall ensure that all material has been received. This material is, by this reference, hereby incorporated into and made part of this contract, as fully and completely as thought the same were set forth in full.

11. PROJECT MANAGEMENT. The Contractor shall name and assign a responsible Project Manager who shall maintain a project file to contain correspondence and criteria pertinent to this project. The Project Manager shall be knowledgeable about all pertinent work ongoing and shall be available as the Contractor's point of contact to the Government.

During the progress of the work, the Contractor shall confer with the Project's COR, as required, to assure approval of the completed work.

The COR may visit the Contractor's office at any time during the progress of the work for the specific purpose of examining the progress of work and to resolve any questions the Contractor may have concerning the development of the work. The COR shall be supported by a technical specialist as necessary to provide guidance to assure an adequate submittal.

12. VISITS TO SITES, PRIVATE SOURCES, AND GOVERNMENTAL AGENCIES. The Contractor shall advise the COR of each proposed visit to the site, private sources and Governmental agencies prior to each visit. Contacts with Governmental representatives shall be limited to research and coordination of data pertinent to the project.

13. DEVIATION OF THIS STATEMENT OF WORK. The Contractor is advised not perform any extra services under this contract requested by any other person within or external to SPL, orally or in writing, which the Contractor considers to be a change in work or services required which necessitates an

adjustment in the contract fee, until the Contractor has been requested by the Contracting Officer to: (1) review a supplemental Statement of Work; (2) make a written proposal covering such extra services; and/or (3) has negotiated a mutually satisfactory fee and received a notice to proceed in writing from the Contracting Officer.

14. OTHER REQUIREMENTS:

a. Subcontractors: The Contractor shall not enter into any subcontracts without prior written approval of the Contracting Officer.

b. Responsibility for Field Work: The Contractor shall be responsible for all damages to persons and property that all occur as a result of the Contractor fault or negligence in connection with field work, and shall save and hold the Government free from all claims and suits arising from such damages.

15. PAYMENT FOR WORK AND SERVICES. The Government anticipates award of a Firm Fixed Price contract. The agreed upon awarded price shall constitute full compensation by the Government to the Contractor for the work and services performed under this contract. Payments shall be made in accordance with the payment clause included in this contract and period of performance of this contract. The Contractor shall invoice only after the completion of finalized milestones. The milestone structure for this requirement shall be as follows:

Final TPP Memo: 25%
Final SSWP: 25%
Field Work Complete: 25%
Final SI Report: 25%

APPENDIX B

TPP SESSION DOCUMENTATION/ MEETING MINUTES

(ELECTRONIC ONLY)

TECHNICAL PROJECT PLANNING MEMORANDUM

Subject: **Formerly Used Defense Site Military Munitions Response Program Documentation of Technical Project Planning Team Concurrence for Site Inspection Phase**

Site: **West Virginia Maneuver Area/Dolly Sods**
Grant, Preston, Pendleton, Tucker, and Randolph Counties, West Virginia
FUDS Project No. G03WV0013

Contract: **Contract No. W912PP-11-C-0007**
Task Order 0001

INTRODUCTION

This document provides a record of the Technical Project Planning (TPP) Meeting for the West Virginia Maneuver Area/Dolly Sods Formerly Used Defense Site (FUDS) located in portions of Grant, Preston, Pendleton, Tucker, and Randolph Counties in northeastern West Virginia. The TPP Team members present indicated concurrence with the Site Inspection (SI) Technical Approach as developed during the TPP Meeting held at the Canaan Valley Resort State Park, Davis, West Virginia on April 7, 2011. An initial Technical Approach was developed using the collaborative experience of Eco & Associates, Inc. (Eco), Parsons Infrastructure and Technology Group (Parsons), the U.S. Army Corps of Engineers (USACE) technical experts, and available site information including the Inventory Project Report (INPR), revised INPR, Archives Search Report (ASR), Preliminary Assessment (PA), Historical Records Review (HRR), and other pertinent documents. The TPP Team discussed and refined the initial Technical Approach during the course of the TPP Meeting yielding a final Technical Approach for implementation at the seven munitions response sites (MRS) associated with this FUDS.

The Final Technical Approach agreed upon by the TPP Team is documented herein and will be further detailed in the forthcoming Draft Site-Specific Work Plan (SS-WP) Addendum (an addendum to the Programmatic Work Plan [PWP]). The Draft SSWP Addendum will be submitted to the TPP Team members for review to ensure that the key aspects of the TPP Meeting resolutions are fully captured.

The former West Virginia Maneuver Area/Dolly Sods site (FUDS Project No. G03WV0013) is located in portions of Grant, Preston, Pendleton, Tucker, and Randolph Counties in northeastern West Virginia. This property covers an area of approximately 2,180,367 acres: generally bounded by the city of Elkins to the west, U.S. Route 50 in Preston County to the north, Petersburg to the east, and U.S. Route 33 to the south, with a sliver of land extending farther south to Franklin. The FUDS incorporates the Dolly Sods Wilderness Area, which is located within the Monongahela National Forest. The property is centered at approximately N 39° 07' 08", W 79° 27' 09" (latitude, longitude).

According to the 2009 Preliminary Assessment (PA), maneuver rights obtained by the Rents and Claims Board, Fifth Service Command, secured 350,416 acres of public lands (part of the Monongahela National Forest), 48,557 acres of leased property (for inclusion in the impact area), and 1,781,394 acres of so-called "lesser interests" covered by "trespass agreements." Apparently, the landowners had given use of these lands to the Army on verbal commitment. "Trespass agreement" descriptions are not available in written documents for the properties.

The former West Virginia Maneuver Area/Dolly Sods property was used for special low altitude, mountain training activities during World War II. Regiments and battalions of larger infantry divisions went to the area from installations in other parts of the country to introduce the troops to various aspects of mountain warfare. Preliminary reconnaissance of the area by the Army found it to be similar to that of the Apennines and lower ranges of the Italian Alps, allowing troops to simulate conditions that could be encountered during the invasion of Italy and other mountainous regions during the war in Europe. Regiment exercises emphasized physical conditioning, navigation through mountainous terrain, map interpretation, bivouac establishment, stream crossing, and military problems unique to mountainous areas.

Based on information found on historical maps and historical site documents, munitions used during the 1943 to 1944 military training included the following:

- 40-millimeter (mm) and 57mm armor-piercing projectiles
- 105mm and 155mm high explosive (HE) howitzer rounds
- 105mm smoke rounds (SRs)
- 60mm HE mortars, 81mm HE and SR mortars, and 4.2-inch inert (sand-loaded) HE and SR mortars
- .30 caliber and .50 caliber machine gun rounds
- 75mm artillery (documented as being fired, but no physical evidence has been found)
- 3.25-inch rockets
- Practice antitank mines and fuses (no evidence of use or physical evidence has been found)

Before returning the land to the public and United States Forest Service (USFS) in 1950, Engineer Bomb and Shell Disposal Team Number 6 conducted an ordnance clearance of the West Virginia Maneuver Area during May 1946. Records indicate that the team found and destroyed 189 4.2-inch SR mortars, one 155mm HE projectile, three 105mm HE projectiles, two 40mm projectiles, and 12 or 14 inert (sand-loaded) rounds in the Dolly Sods region. The search did not include certain areas to the north and northeast of the Dolly Sods North (DSN) and Dolly Sods Scenic Area (DSSA) that were too rough and overgrown to be searched. During May 1953, the 549th Explosive Ordnance Disposal (EOD) from Baltimore, Maryland, conducted a follow-up reconnaissance and disposal mission of suspected impact areas, locating and destroying six live rounds. During a site visit in May 1991, in preparation of the work plan for the 1991 Feasibility Study, personnel from Metcalf & Eddy, Inc. (M&E) and UXB International, Inc. (UXB) found gun emplacements near Bell Knob Tower. Between June and October 1997 Human Factors Applications, Inc. (HFA) conducted a clearance in the Dolly Sods Wilderness (DSW). Fourteen (14) live mortars were found and destroyed by detonation, including 60mm HE and 81mm HE rounds. Ordnance and explosives (OE)-related scrap was recovered, inspected, and certified, then turned over to ENVIRCO, Inc. of Baker, WV. Between October 1997 and August 1998 HFA conducted a clearance in the DSN and DSSA. Eight (8) live mortars were found and destroyed by detonation, including 60mm HE and 4.2-inch SR and HE rounds. Unexploded ordnance (UXO) found from July 2004 through June 2007 includes one 105mm howitzer round, one 60mm mortar round, one 81mm mortar round, and five 3.25-inch rockets.

Currently, the Monongahela National Forest, the Nature Conservancy, Canaan Valley Institute, the U.S. Fish and Wildlife Service, hunting clubs, private individuals, large private entities, and other businesses own most of the former West Virginia Maneuver Area/Dolly Sods. There are two popular state parks in Tucker County: Canaan Valley State Park and Blackwater Falls State Park. Hiking, skiing, rock climbing, rafting, hunting, and fishing are extremely popular activities, and attract thousands of visitors annually to the area.

The 1990 INPR concluded that the West Virginia Maneuver Area had been formerly owned or used by the Army and was an eligible FUDS property. The USACE Huntington District conducted a field visit in the DSW and the DSSA on December 3, 1984. The report does not indicate whether munitions debris was observed onsite during the field visit. The report recommended a Remedial Investigation and Feasibility Study (RI/FS) to determine the types and extent of ordnance contamination at the site.

As part of the USACE DERP FUDS program, a Preliminary Assessment (PA) of the entire WVMA was prepared by the CELRH in 2009. The purpose of the PA was to collect sufficient information concerning conditions at the site to assess the immediate or potential threats posed to human health and the environment. The information was also used to support a decision regarding the need for further action. The PA included a review of available file information, collection and interpretation of historic aerial photographs, interviews, and site reconnaissance. This PA included only an assessment of possible environmental concerns associated with former DoD activities at the former WVMA. Information used to prepare the PA included military records, historical documents, historical newspaper reports, interviews with local residents, and historic aerial photographs. Based upon a review of the information above, the CELRH identified a total of 7 Munitions Response Sites (MRSs) warranting further investigation. For each of the MRSs, the PA recommended a SI to be conducted to determine the presence of munitions and explosives of concern (MEC). In the revised INPR, dated 1 December 2010, each of the MRS was assigned a priority, with 1 being the highest relative priority and 8 being the lowest. The seven MRSs associated with the West Virginia Maneuver

Area/Dolly Sods FUDS, and their corresponding Munitions Response Site Prioritization Protocol (MRSPP) are described in the table below.

MUNITIONS RESPONSE SITE DETAILS
WEST VIRGINIA MANEUVER AREA / DOLLY SODS
(GRANT, PRESTON, PENDLETON, TUCKER, AND RANDOLPH COUNTIES)

MRS NAME	SIZE (ACRES)	MRSPP	MUNITIONS USED *
MRS01 Dailey Infiltration Camp	200	5	Small arms, general: Cartridge, .22 caliber Cartridge, .30 caliber (includes carbine) Cartridge, .38 caliber Cartridge, .45 caliber Grenade, hand, fragmentation, MkII (1917 – present) Grenade, hand, practice, MkII
MRS02 Ammunition Depot**	4	7	Small arms, general: Cartridge, .30 caliber (includes carbine) Cartridge, .50 caliber, machine gun Cartridge, 40mm, armor piercing – tracer (AP-T), M81 Cartridge, 57mm, AP-T, M70 Shell, 60mm, high explosive (HE), M49A2 Shell, 60mm, smoke, white phosphorus (WP), M302 Shell, 75mm, HE, MkI Shell, 75mm, smoke, WP, MkII Cartridge, 81mm, HE, M43 Cartridge, 81mm, smoke, WP, M57 Cartridge, 105mm, HE, M1 Cartridge, 105mm, smoke, HC, M84 Shell, 4.2-inch, HE, Mm3, M3A1 Shell, 4.2-inch, smoke, M2 (1918 – 1944) Projectile, 155mm, HE, M102 Mine, antitank, practice, M1 Rocket, 3.25-inch, target, Mk1 through Mk4

MRS NAME	SIZE (ACRES)	MRSPP	MUNITIONS USED *
MRS03 Jenningston Training Area**	40,000	7	Small arms, general: Cartridge, .30 caliber (includes carbine) Cartridge, .50 caliber, machine gun Cartridge, 40mm, armor piercing – tracer (AP-T), M81 Cartridge, 57mm, AP-T, M70 Shell, 60mm, high explosive (HE), M49A2 Shell, 60mm, smoke, white phosphorus (WP), M302 Shell, 75mm, HE, MkI Shell, 75mm, smoke, WP, MkII Cartridge, 81mm, HE, M43 Cartridge, 81mm, smoke, WP, M57 Cartridge, 105mm, HE, M1 Cartridge, 105mm, smoke, HC, M84 Shell, 4.2-inch, HE, Mm3, M3A1 Shell, 4.2-inch, smoke, M2 (1918 – 1944) Projectile, 155mm, HE, M102 Mine, antitank, practice, M1 Rocket, 3.25-inch, target, Mk1 through Mk4
MRS04 Fore Knobs / Bear Rocks Firing Ranges	42,000	3	Shell, 60mm, HE, M49A2 Shell, 60mm, smoke, WP, M302 Cartridge, 81mm, HE, M43 Cartridge, 81mm, smoke, WP, M57 Cartridge, 105mm, HE, M1 Cartridge, 105mm, smoke, HC, M84 Projectile, 155mm, HE, M102
MRS05 Bearden Knob Firing Range	8,000	3	Cartridge, .30 caliber (includes carbine) Cartridge, .50 caliber, machine gun Cartridge, 3-inch, armor piercing capped (APC), M62, M62A1 Cartridge, 3-inch, AP, M79 Cartridge, 105mm, HE, M1 Cartridge, 105mm, high explosive antitank (HEAT), M67 Projectile, 155mm, HE, M102 Projectile, 155mm, AP, M112
MRS06 Brown / Cabin Mountain Firing Ranges	16,000	3	Cartridge, 105mm, HE, M1 Cartridge, 105mm, smoke, HC, M84 Projectile, 155mm, HE, M102 Projectile, 155mm, WP, M110 Rocket, 3.25-inch, target, Mk1 through Mk4
MRS07 Buena Small Arms Firing Range	50	4	Small arms, general: Cartridge, .22 caliber Cartridge, .30 caliber (includes carbine) Cartridge, .38 caliber Cartridge, .45 caliber Grenade, hand, fragmentation, MkII (1917 – present) Grenade, hand, practice, MkII

* Munitions list from the Preliminary Assessment (USACE 2009).
** Includes all potential munitions listed for the FUDS

MRS01 – DAILEY INFILTRATION CAMP

According to PA, the infiltration camp was built by the 150th Engineering Combat Battalion and consisted of an obstacle course, a small arms range, and a potential grenade range. A field visit by the USACE Huntington District on September 12, 2007 found berms, trenches, and foxholes still in place, overgrown by vegetation. The area is currently located on undeveloped public land near the town of Dailey. The land is owned by the U.S. Department of Agriculture and managed by the USFS. Portions of MRS01 are within the Monongahela National Forest. The revised INPR reports a MRSPP score of 5 for this MRS.

The existing body of information for MRS01 is insufficient to make a preliminary recommendation of No Department of Defense (DoD) Action Indicated (NDAI) or of further response (an RI/FS study). Munition debris has not been confirmed within the MRS. There is potential for MEC within the MRS. Exposure pathways may be complete based on the possibility of MEC and munitions constituents (MC). In accordance with ER 200-3-1, sufficient data need to be collected during the SI to evaluate the potential presence of MEC and MC contamination for effective RI/FS initiation or to support an NDAI recommendation for the MRS. In addition, the data necessary for the U.S. Environmental Protection Agency (USEPA) to complete the Hazard Ranking System (HRS) scoring and for completion of the MRSPP will be collected and developed. The TPP Team has agreed on the following activities in support of the SI for the Dailey Infiltration Camp MRS:

- **Site Visit –** A site visit will be conducted in accordance with the PWP and the forthcoming SSWP Addendum. The site visit will cover the entire MRS with emphasis on the areas where range features have been previously reported. Data will be gathered to evaluate vegetation and topography as they pertain to site characterization and to identify potential limitations to subsequent recommended actions.
- **Qualitative Reconnaissance –** Qualitative reconnaissance (QR) will be conducted in accordance with the PWP. The QR will focus on the areas where range features have previously been found to help support an anticipated NDAI or RI/FS recommendation.
- **Munitions Constituent Sampling –** MC sampling will be conducted in accordance with the PWP and the Programmatic Sampling and Analysis Plan (PSAP). The MRS will be screened for the presence of MC contamination in the surface soil, surface water, sediment, and groundwater, if available and warranted. Surface soil sampling will be conducted using the CRREL 7-point wheel sampling approach. Background samples will also be collected from areas suspected to be unaffected by military activity to serve as ambient data for comparison. Sampling locations and specific analytes were discussed as part of the TPP process. Surface water, sediment, and groundwater samples are planned as follows:
  - Surface soil samples will be collected and analyzed for explosives, selected metals (aluminum, antimony, barium, copper, chromium, lead, magnesium, and zinc), and pH;

- Surface water and sediment grab samples will be collected and analyzed for explosive and the selected metals as listed above;
- Groundwater samples will be collected if sources are identified, samples will be analyzed for explosive and the selected metals listed above.

In addition to the determinations stated above, the following issues and resolutions were noted from TPP Meeting minutes:

- The TPP Team agreed to move the boundary of MRS01 based on reviewed aerial photography. It was noted that the location shown in the PA was based on topographic features, and that the revised location (shown on Figure 1) is correct. It was also agreed upon that the new site boundary will be resized to match the acreage listed in the PA.
- The TPP Team agreed to prioritize the sampling of impact berms that are observed to be eroding.
- Soil archives for each soil sample will be sent to the USFS for their records.
- Soils will be sampled within zones 0 to 6 without separating the zones; although, the TPP team agreed to allow flexibility to separate very different zones and analyze each.
- Five berms have been identified in the MRS. An area has been eroded by a stream along the northern portion of the QR line which must be sampled.
- The TPP team agreed to collect ambient soil samples in the QR area that branches off the northeastern portion of the main QR line. The ambient samples are planned to be of the same soil type as the MC samples.
- Portions of the MRS are within the Monongahela National Forest, therefore, this MRS is considered to be ecologically sensitive. The TPP team discussed the ecological risk screening values to be used for the evaluation of the soil analytical results for this MRS and agreed to tentatively use the USEPA Region 3 values, while Mr. Tom Bass mentioned that the most conservative values may have been compiled into a national database. The proposed screening levels to be used for the ecological risk assessment are described as follows, and are listed in Table 1-1.
  - **Soil**: USEPA Ecological Soil Screening Levels (EcoSSLs). In absence of EcoSSLs, values obtained from the Los Alamos National Laboratory (LANL), EcoRisk Database, and USEPA Region 3 Ecological Screening Levels
  - **Sediment**: USEPA Region 3 Ecological Screening Benchmarks, Freshwater Sediment Screening Benchmark, National Oceanic and Atmospheric Administration Screening Quick Reference Tables, LANL Ecorisk Database, and USEPA Region 3 ESLs
  - **Surface water**: Requirements governing Water Quality Standards supplemented with USEPA National Recommended Water Quality Criteria, USEPA Region 3 Freshwater Screening Benchmark, LANL Ecorisk Database

- The proposed screening levels to be used for the human health risk assessment are described as follows, and are listed in Table 1-1.
  - **Soil and Sediment**: Risk-Based Concentrations supplemented with USEPA Regional Screening Levels
  - **Surface water**: Requirements governing Water Quality Standards supplemented with USEPA National Recommended Water Quality Criteria and USEPA Regional Screening Levels for tap water
  - **Groundwater**: Requirements governing Water Quality Standards then Risk-Based Concentrations supplemented with USEPA Maximum Contaminant Levels, National Primary Drinking Water Standards and USEPA Regional Screening Levels for tap water
- No known cultural resources exist within the MRS.
- Mr. Bass noted that the document repository for this site should be located in the city of Elkins.
- The TPP team agreed that right-of-entry (ROE) would be needed for access to the USFS property. ROE will be coordinated through USACE, Huntington District (CELRH)
- The SI Report distribution will be as follows:
  - CELRH – 4 copies to Mr. Richard Meadows
  - West Virgina Department of Environmental Protection (WVDEP) – 2 copies to Mr. Tom Bass
  - Canaan Institute – 1 copy
  - USFS – 2 copies
  - United States Fish and Wildlife Service (USFWS) – 2 copies to Mr. Ken Sturm

WV
MMRP File

TECHNICAL PROJECT PLANNING
ATTENDANCE SIGN-IN SHEET

Date: April 7, 2011
Place: Canaan Valley Resort State Park, Davis, West Virginia
Projects:

West Virginia Maneuver Area

PRINTED NAME	ORGANIZATION / ADDRESS	PHONE NUMBER	EMAIL ADDRESS
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TECHNICAL PROJECT PLANNING
ATTENDANCE SIGN-IN SHEET

Date: April 7, 2011
Place: Canaan Valley Resort State Park, Davis, West Virginia
Projects:

West Virginia Maneuver Area

PRINTED NAME	ORGANIZATION / ADDRESS	PHONE NUMBER	EMAIL ADDRESS
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US Army Corps of Engineers®
Huntington District

SIGN-IN SHEET

West Virginia Maneuver Area
Technical Project Planning Meeting

PLEASE PRINT

LOCATION: Canaan Valley Resort State Park **DATE:** 7 April 2011 **TIME:** 9:00 a.m. – 5:30 p.m.

Name	Address/City/State/Zip	Phone	Email
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Erre Sandeno	" "	" " x280	esandeno@fs.fed.us

Former West Virginia Maneuver Area

TPP Team	EM 200-1-2, Paragraph 1.1.1	
Decision Makers		
Customer	USACE Huntington District (CELRH)	
Project Manager	Richard Meadows, CELRH	
Regulators	West Virginia Department of Environmental Protection; EPA Region 3	
Primary Stakeholders	U.S. Department of Agriculture	
Data Types	**Data User(s)**	**Data Gatherer**
Demographics/Land Use	Risk, Responsibility, and Compliance Perspectives	Parsons (Senior Scientist, Risk Specialist)
Site Conditions	Remedy Perspective	Parsons (Geologist, Senior Scientist)
Munitions and Explosives of Concern (MEC)	Risk and Remedy Perspectives	Parsons (UXO Technician III or higher, Risk Specialist, Senior Scientist)
Munitions Constituents (MC)	Risk and Remedy Perspectives	Parsons (Chemist, Risk Specialist, Senior Scientist)
Archaeology	Compliance and Remedy Perspectives	Parsons (Staff Scientist, Senior Scientist)
Endangered Species	Risk and Compliance Perspectives	Parsons (Staff Scientist, Senior Scientist)

CUSTOMER'S GOALS		EM 200-1-2, Paragraph 1.1.2	
Potential Area of Interest (PAOI)	**Contaminant Issues**	**Future Land Use**	**Site-specific Closeout Goal (if applicable)**
Dailey Infiltration Camp	TBD	National Forest	See below
Site Closeout Statement			
To manage the munitions and explosives of concern (MEC) and munitions constituents (MC) risk through a combination of removal, administrative controls, and public education; thereby rendering the site as safe as reasonably possible to humans and the environment and conducive to the anticipated future land use.			
Customer's Schedule Requirements			
Site Inspection and Reporting Complete by January 14, 2013			
Customer's Site Budget			
Site Inspection and Reporting: Fully Funded through SI Phase			

IDENTIFY SITE APPROACH		
EXISTING SITE INFORMATION & DATA EM 200-1-2, Paragraph 1.1.3 and 1.2.1		
Attachment(s) to Phase I TPP Memorandum	**Located at Repository**	**Preliminary Conceptual Site Model**
Preliminary Assessment (Archives Search Report)	N/A for SI Phase; Implemented in post-SI Phase as warranted	No
Site-Specific SI Work Plan	N/A for SI Phase; Implemented in post-SI Phase as warranted	Yes
POTENTIAL POINTS OF COMPLIANCE EM 200-1-2, Paragraph 1.2.1.3		
Determination of absence or presence of MEC/MC and applicability of RI/FS		
If MC are detected, comparison against Screening Levels (SSLs) as identified in "Site Constraints and Dependencies" below to determine if further MC evaluation during RI/FS is warranted.		
Avoidance of sensitive conditions: endangered species, archaeological sites		
MEDIA OF POTENTIAL CONCERN EM 200-1-2, Paragraph 1.2.1.4		
Qualitative review of MEC presence		
Quantitative screening of MC in soil		
Comparison criteria		
SITE OBJECTIVES EM 200-1-2, Paragraph 1.2.2		
Eliminate from further consideration those releases that pose no significant threat to public health or the environment.		
Collection of sufficient data to perform MRSPP scoring and USEPA to conduct MC-related HRS		
See Programmatic and Site-Specific Work Plan		
See Attached Worksheets Developed by the Project Team		
REGULATOR AND STAKEHOLDER PERSPECTIVES EM 200-1-2, Paragraph 1.2.3		
Regulators	**Community Interests**	**Others**
TBD	TBD	TBD
PROBABLE REMEDIES EM 200-1-2, Paragraph 1.2.4		
RI/FS		
Institutional Controls / Public Education		
EXECUTABLE STAGES TO SITE CLOSEOUT EM 200-1-2, Paragraph 1.2.5		
Site Inspection (SI)		
Remedial Investigation/Feasibility Study (RI/FS)		
Proposed Plan		
Decision Document		
Remedial Design (RD)		
Remedial Action (as necessary)		
Recurring Review		
Time Critical Removal Action (as required)		

IDENTIFY CURRENT PROJECT	
SITE CONSTRAINTS AND DEPENDENCIES	**EM 200-1-2, Paragraph 1.3.1**
Administrative Constraints and Dependencies	
Right of Entry (ROE)	
Cultural Resources	
Funding beyond the SI	
Schedule	
Concurrent Planning Programs	
Technical Constraints and Dependencies	
Property owner/leaseholder site activities (Site access)	
Cultural Resources	
Topography/vegetation	
MEC avoidance screening of MC sample locations for safety	
Environmentally sensitive areas	
Legal and Regulatory Milestones and Requirements	
Consistent with CERCLA and NCP, and in compliance with all legally applicable federal and state requirements.	
Public, stakeholder and regulatory involvement and review of key documents	
Funding beyond the SI	
Comparison criteria as agreed upon by the TPP Team. Human Health: RBCs supplemented with USEPA RSLs (soil and sediment); Requirements governing Water Quality Standards supplemented with USEPA National Recommended Water Quality Criteria and USEPA RSLs for tap water (surface water); Requirements governing Water Quality Standards then RBCs supplemented with USEPA MCLs, National Primary Drinking Water Standards and USEPA RSLs for tap water (groundwater). Ecological: USEPA EcoSSLs, or in absence of EcoSSLs - values obtained from LANL, EcoRisk Database, and USEPA Region 4 and Region 5 ESLs (soil); USEPA Region 3 Ecological Screening Benchmarks, Freshwater Sediment Screening Benchmark and NOAA Screening Quick Reference Tables, LANL Ecorisk Database and USEPA Region 4 and Region 5 ESLs (sediment); Requirements governing Water Quality Standards supplemented with USEPA National Recommended Water Quality Criteria, USEPA Region 3 Freshwater Screening Benchmark, LANL Ecorisk Database, USEPA Region 4 ESVs for Fresh Surface Water, and UsEPA Region 5 ESVs (surface water). Background: Natural Background Levels of Inorganics in Soils in West Virginia and Surrounding Areas, three times USGS ambient concentrations, or mean concentration if multiple ambient samples (soil and sediment); three times ambient concentration, or mean concentration if multiple ambient samples (surface water); three times ambient concentration, or mean concentration if multiple ambient samples (groundwater).	
CURRENT EXECUTABLE STAGE	**EM 200-1-2, Paragraph 1.3.3**
Site Inspection	

Basic (For Current Projects)	**Optimum** (For Future Projects)	**Excessive** (Objectives that do not lead to site closeout)
Site Reconnaissance	RI/FS	

Acronyms

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CELRH - U.S. Corps of Engineers, Huntington District
DoD - Department of Defense
ESL - Ecological Screening Level
ESV - Ecological Screening Value

USEPA - U.S. Environmental Protection Agency
FUDS - Formerly Used Defense Sites
HRS - Hazard Ranking System
LANL - Los Alamos National Laboratory
MC - munitions constituents
MCL - Maximum Contaminant Level
MEC - munitions and explosives of concern
MRSPP - Munitions Response Site Prioritization Protocol
NCP - National Contingency Plan
NDAI - No Department of Defense Action Indicated
PSAP - Programmatic Sampling and Analysis Plan
RBC - Risk-Based Concentration
RI/FS - Remedial Investigation and Feasibility Study
RSL - Regional Screening Level
SI - Site Inspection
SSL - Soil Screening Level
TBD - To be determined

PROJECT OBJECTIVES WORKSHEET

SITE: **Dailey Infiltration Camp**
PROJECT: **MMRP Site Inspection / FUDS Project No. G03WV0013**

Site Objective[a]					Data Needs	Data Collection Methods	Project Objective Classification[d]
No.	Executable Stage[b]		Description	Source[c]			
	Current	Future					
1	Yes		Determine presence/lack thereof of MEC	PA, Recon	Are there any MEC? If so what type, where and hazard posed? Future LU.	Qualitative Reconnaissance	Basic
2	Yes		Determine presence/lack thereof of MC, both explosive and non-explosive concentrations.	Soil, surface water, sediment, groundwater sampling	Are there any explosives present in samples? If present, what is it, to what degree is it present, is it above the the designated screening level? And if so, is action required?	Sample collection IAW SAP	Basic

a Refer to EM 200-1-2, Paragraph 1.2.2
b Refer to EM 200-1-2, Paragraph 1.2.5
c For example, Meeting with Customer/stakeholder/Regulator, State Regulation____,
d Classification of project objectives can only occur after the current project has been identified. Refer to EM 200-1-2, Paragraph 1.3.3.

PA - Preliminary Assessment
IAW - In accordance with
MEC - Munitions and Explosives of Concern
LU - Land Use
MC - Munitions Constituents
SAP - Sampling and Analysis Plan

MEC DATA QUALITY OBJECTIVE WORKSHEET

SITE: **West Virginia Maneuver Area; FUDS Project No. G03WV0013**
PROJECT: **MMRP Site Inspection / MRS01 Dailey Infiltration Camp**

DQO STATEMENT NUMBER: **1 of 4**

DQO Element Number*	**DQO Element Description***	**Site-Specific DQO Statement**
Intended Data Use(s):		
1	Project Objective(s) Satisfied	Evaluate potential presence of munitions or explosives of concern (MEC)
Intended Need Requirements:		
2	Data User Perspective(s)	Risk, remedy
3	Contaminant or Characteristic of Interest	MEC, munitions debris
4	Media of Interest	N/A
5	Required Locations or Areas	Dailey Infiltration Camp MRS
6	Number of Samples Required	N/A
7	Reference Concentration of Interest or Other Performance Criteria	Visual identification of MEC or munitions debris during qualitative reconnaissance (QR)
Appropriate Sampling and Analysis Methods:		
8	Sampling Method	QR with magnetometer (Schonstedt) for avoidance
9	Analytical Method	N/A

* Refer to EM 200-1-2, Paragraph 4.2.1

MC DATA QUALITY OBJECTIVE WORKSHEET

SITE: **West Virginia Maneuver Area; FUDS Project No. G03WV0013**
PROJECT: **MMRP Site Inspection / MRS01 Dailey Infiltration Camp**

DQO STATEMENT NUMBER: **2 of 4**

DQO Element Number*	**DQO Element Description***	**Site-Specific DQO Statement**
Intended Data Use(s):		
1	Project Objective(s) Satisfied	Evaluate potential release of munitions constituents (MC)
Intended Need Requirements:		
2	Data User Perspective(s)	Risk, remedy
3	Contaminant or Characteristic of Interest	See CSM
4	Media of Interest	Surface soil, and surface water and sediments
5	Required Sampling Locations or Areas and Depths	Samples will be collected as determined by the TPP Team, see Figures 3 and 4. Sample depth is 0-3 inches for surface soil.
6	Number of Samples Required	3 discretionary biased surface soil samples and 1 ambient surface soil sample. 1 biased sample set of surface water & sediment, and 1 ambient sample set. Plus associated QA/QC samples.
7	Reference Concentration of Interest or Other Performance Criteria	Human health selected values for soil and sediment are from the USEPA 'protection for groundwater' risk-based screening levels, supplemented with USEPA Region 3 Screening Levels. Human health selected values for surface and ground water are from *Requirements Governing Water Quality Standards Rule*., supplemented by USEPA Region 3 levels for tap water (or MCLs if no value for tap water was found). Ecological selected values are from USEPA EcoSSLs, supplemented by Los Alamos National Laboratory's EcoRisk Database values and the relevant USEPA Ecological Screening Benchmarks.

Appropriate Sampling and Analysis Methods:		
8	Sampling Method	Seven-point wheel sampling method in accordance with the SS-WP, PSAP and PSAP Addendum
9	Analytical Method	Explosives: SW846-8321A Selected metals: SW846-6010B pH: EPA Method 150.1

Refer to EM 200-1-2, Paragraph 4.2.1

MRSPP Data Quality Objective Worksheet

Site: West Virginia Maneuver Area; FUDS No. G03WV0013
Project: MMRP Site Inspection / MRS01 Dailey Infiltration Camp
DQO Statement Number: 3 of 4

Module	Table #	Table Description	Known Data	Current Data Gap	Data Source
Explosive Hazard Evaluation (EHE)	1	Munitions Type	X		Historical records or field findings
	2	Source of Hazard	X		Historical maps
	3	Location of Munitions		X	Historical records or field findings
	4	Ease of Access		X	Field findings
	5	Status of Property	X		Historical records
	6	Population Density		X	U.S. Census Bureau
	7	Population Near Hazard		X	Field findings
	8	Types of Activities/Structures		X	Regional zoning
	9	Ecological and/or Cultural Resources	X		State Historic Preservation Office
	10	Determining the EHE		X	Scores from Tables 1 through 9
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration	X		Historical records or field findings
	12	Sources of CWM	X		Historical records or field findings
	13	Location of CWM	X		Historical records or field findings
	14	Ease of Access		X	Historical records or field findings
	15	Status of Property	X		Historical records
	16	Population Density		X	U.S. Census Bureau
	17	Population Near Hazard		X	Field findings
	18	Types of Activities/Structures		X	Regional zoning
	19	Ecological and/or Cultural Resources	X		State Historic Preservation Office
	20	Determining the CHE		X	Scores from Tables 11 through 19
Health Hazard Evaluation (HHE)	21	Groundwater Data		X	N/A
	22	Surface Water - Human Endpoint		X	Field findings
	23	Sediment - Human Endpoint		X	Field findings
	24	Surface Water - Ecological Endpoint		X	Field findings
	25	Sediment - Ecological Endpoint		X	Field findings
	26	Surface Soil		X	Surface soil sampling results
	27	Supplemental Contaminant Hazard Factor		X	All MC sampling results
	28	Determining the HHE		X	Scores from Tables 21 through 27
	29	MRS Priority		X	Scores from Tables 10, 20, and 28
	A	MRS Background Information	X		DoD databases

HRS Data Quality Objective Worksheet

Site: West Virginia Maneuver Area; FUDS No. G03WV0013
Project: MMRP Site Inspection / MRS01 Dailey Infiltration Camp
DQO Statement Number: 4 of 4

Data Description	Known Data	Current Data Gap	Data Source
Source Type	X		Historical records or field findings
Estimated Volume or Area	X		Field findings
Hazardous Substance	X		Constituents of suspected munitions
Groundwater Sample Concentration		X	N/A
Groundwater Use		X	Well records and municipal data
Surface Water Sample Concentration		X	N/A
Surface Water Pathways		X	Field findings
Soil Sample Concentration		X	Sample results
Soil Pathways		X	Field findings
Sensitive Environments	X		State Historic Preservation Office, U.S. Fish and Wildlife Service, various government agencies
Attractiveness/Accessibility		X	Field findings and land use records

2nd TPP MEETING DOCUMENTATION

Technical Project Planning Memorandum

Subject: Formerly Used Defense Site Military Munitions Response Program
Documentation of Technical Project Planning Meeting for Draft Final Site Inspection Report Recommendation concurrence

Site: ***West Virginia Maneuver Area/Dolly Sods FUDS***
FUDS Property No. G03WV0013

MRS01 - Dailey Infiltration Camp
Randolph County, West Virginia
FUDS Project No. G03WV001305

Contract: Contract Number W912PP-11-C-0007
Task Order 0001

This document serves as a record of the events and discussion during the final Technical Project Planning (TPP) meeting for the Dailey Infiltration Camp Munitions Response Site (MRS01) at the West Virginia Maneuver Area/Dolly Sods Formerly Used Defense Site (FUDS). The Dailey Infiltration Camp MRS, is one of 7 MRSs within the FUDS, and is located in Randolph County in northeastern West Virginia. The TPP Meeting was held on 30 July 2013 at the West Virginia Forest Service Headquarters (200 Sycamore St., Elkins, WV).

The TPP Team members listed below met for a presentation and discussion on the Draft Final Site Inspection (SI) Report for the Dailey Infiltration Camp MRS.

Parsons provided a presentation that summarized the technical approach, field effort, the SI Report recommendations and the Munitions Response Site Prioritization Protocol (MRSPP) evaluation for the MRS.

The following issues and resolutions were noted during the TPP Meeting:

- Stakeholders concur with a Remedial Investigation / Feasibility Study (RI/FS) recommendation based on suspected presence of munitions and explosives of concern (MEC) at the MRS.
- Brian Jordan (USACE, Albuquerque District) requested the following changes for the Final SI Report:
    - MRSPP – revise Table 4 to state “no barrier” with a score of 10
    - MRSPP – revise HHE module rating to “No Longer Required”

- Dave Dierken (USACE, Louisville District) asked if MRS01 was eligible for the FUDS Program since it was outside the boundary for the WV Maneuver Area FUDS. Rick Meadows (USACE Huntington District) responded that MRS01 has been confirmed as eligible. The lease documents indicate the entire Monongahela Forest was included in the agreement. MRS01 is within the Monongahela Forest, therefore, it is eligible.

- Eric Sandeno (U.S. Forest Service) asked about the timeline for the RI/FS at MRS01 with regard to the MRSPP score of 5. Brian Jordan responded that all MRSs with a score of 2 are being completed first, then MRSs with a score of 3, etc. Mr. Jordan anticipates it will be several decades before the MRSs with a score of 5 will be completed based on the number of MRSs with a score of 2 through 4.

TPP Meeting Attendance

Name	Organization / Address	Phone Number	E-mail Address
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TECHNICAL PROJECT PLANNING MEETINIG 2
ATTENDANCE SIGN-IN SHEET

Date: July 30, 2013
Place: U.S. Forest Service Headquarters, Elkins, WV
Project: West Virginia Maneuver Area

PRINTED NAME SIGNATURE	ORGANIZATION/ ADDRESS	PHONE NUMBER	E-MAIL ADDRESS
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Mohammad Estiri via phone	Eco & Assoc.		

Huntington District

West Virginia Maneuver Area / Dolly Sods FUDS

FUDS Project No. G03WV0013

Dailey Infiltration Camp (MRS01)

Randolph County, West Virginia

Technical Project Planning Meeting
For
Site Inspection

July 30, 2013

Huntington District

Why Are We Here?

- To discuss and agree to the recommendations presented in the Draft Final Site Inspection (SI) Report and subsequent Revision Summary.
- To complete the SI phase for the Dailey Infiltration Camp Munitions Response Site (MRS) at the West Virginia Maneuver Area Formerly Used Defense Site (FUDS).

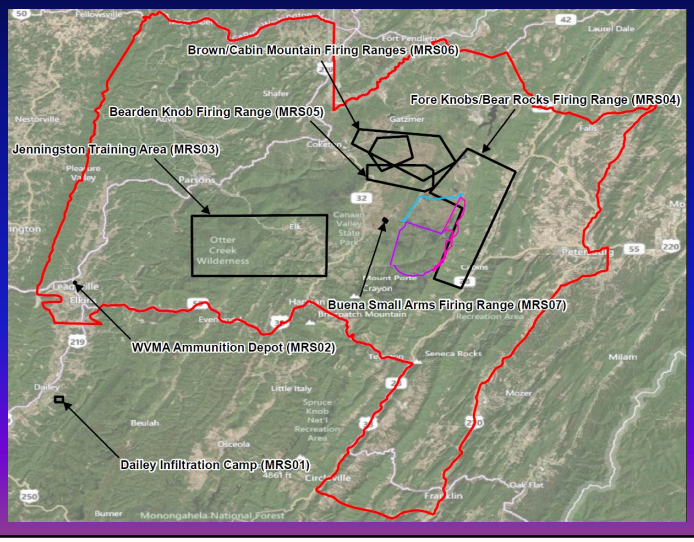
Huntington District

How Did We Get Here?

- TPP Meeting No. 1 – April 2011
  - Established TPP Team consensus on appropriate SI technical approach
- TPP Memorandum submitted and approved – September 2011
- Site-Specific Work Plan approved – February 2012
- Field Work (QR and metals sampling) – May 10 and 11, 2012
  - Field Team Leader = Lauren Ranker (Parsons); UXO Tech = Rick White (Parsons); Sampling Tech = Steve Saunders (Eco & Associates)
- TPP Meeting No. 2 (this meeting) – July 30, 2013
- Final SI Report – Anticipated to be sent out August 2013

Huntington District

WVMA / Dolly Sods FUDS Location



Legend & Notes

- Munitions Response Site
- FUDS Boundary

Dolly Sods Region

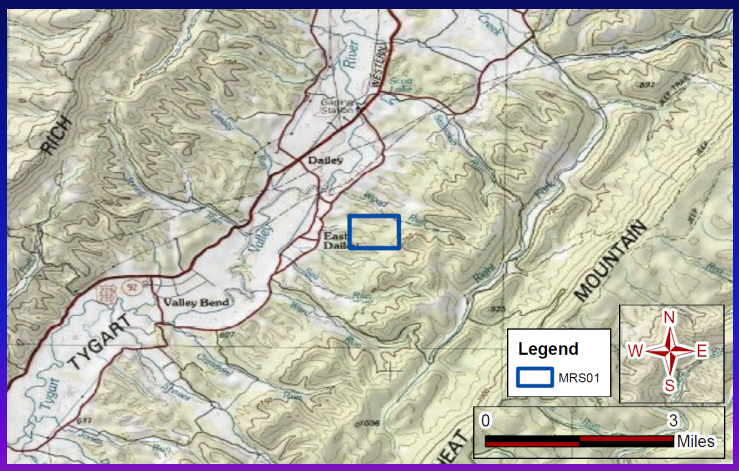
- Dolly Sods North Area
- Dolly Sods Scenic Area
- Dolly Sods Wilderness Area

N W E S

0 5 10 15 20 Miles

Huntington District

Dailey Infiltration Camp MRS Location



Huntington District

Site History - Revisited

- West Virginia Maneuver Area (WVMA) / Dolly Sods FUDS has a total property area of 2,180,367 acres (FUDS Property ID No. G03WV0013).
- The FUDS was acquired by the Army in the early 1940s and was returned to the Department of Agriculture and private landowners in 1950.
- Dailey Infiltration Camp MRS (MRS01) consists of 200 acres (FUDS Project No. G03WV001305).
- One of 7 MRSs associated with the FUDS, which was used by the U.S. Army between 1943 and 1944 for training activities during WWII.
- The MRS was built by the 150th Engineering Combat Battalion (date unknown) and consisted of an obstacle course and small arms range (The Preliminary Assessment also indicated a possible grenade range; however no documentation supporting this has been identified).
- The MRS is not within the general FUDS boundary. However, it was built on Monongahela National Forest property.

Huntington District

Site History - Revisited

- 1950 – FUDS Property was returned to the Dept. of Agriculture and private landowners. Information regarding the transfer of ownership of the MRS is not available.
- There is no historical documentation of a clearance being conducted at this MRS.
- Currently
  - The MRS is owned by the U.S. Department of Agriculture and managed by the U.S. Forest Service as a portion of the Monongahela National Forest. The land is used for outdoor recreation.
  - The MRS consists of heavily vegetated, undeveloped forest near the town of Dailey. Two unnamed tributaries flow west-northwest through the MRS and join together in the northwest corner before feeding into the Tygart Valley River. The MRS is bordered by privately owned vacant land and a subdivision to the west.

Huntington District

Site History - Revisited

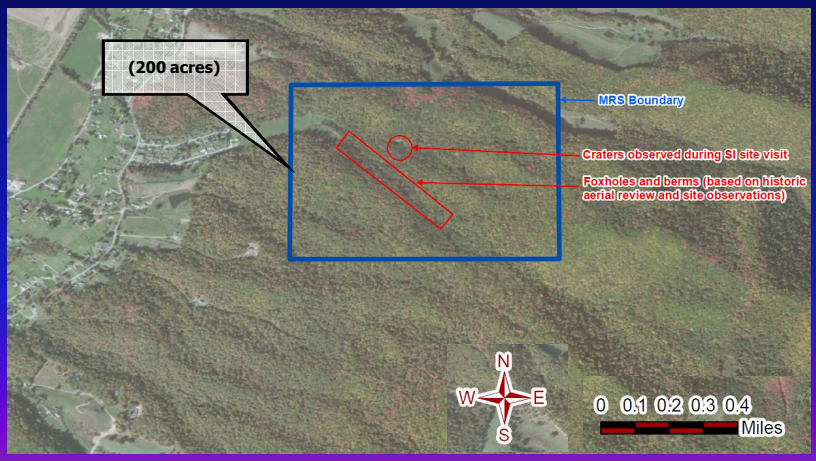
- The majority of the historical information for the Dailey Infiltration Camp comes from the 2009 PA.
- PA included a September 2007 field visit. The field team identified the remains of berms, trenches, and foxholes overgrown with trees and brush.
- PA assigned MRSPP score of 5 to the MRS.
- Potential munitions (from 2009 PA and 2012 SI field observations):
  - Charge, demolition, block, ¼ lb, ½ lb, 1 lb*
  - Firing device, demolition, pull, M1*
  - Cap, blasting, electric, M6*
  - Cap, blasting, non-electric, M7*
  - Fuse, blasting, time, M700*
  - General small arms ammunition [.22 caliber, .30 caliber (including carbine), .38 caliber, and .45 caliber]

* = Munitions added based on the site visit team's observations of circular craters with subsurface metal anomalies.

Note: Smoke grenades were removed from the potential munitions list based on the observation of the craters, which would not be produced by smoke rounds. Also, the "puffs of smoke" visible in the historical photograph of the infiltration camp were determined to be dust rather than smoke.

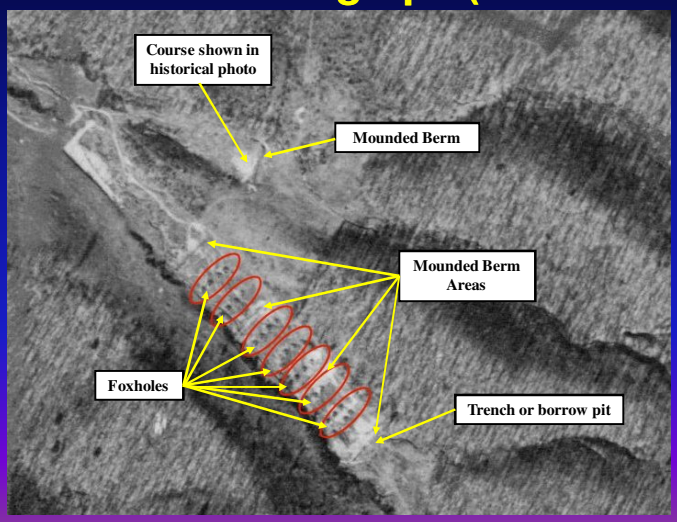
Huntington District

Site Setting: Dailey Infiltration Camp MRS



Huntington District

Historical Aerial Photograph (date unknown)



Historical Photograph (date unknown)

Huntington District

Technical Approach

On April 7, 2011, the TPP Team discussed the technical approach:

- QR to evaluate potential presence of MEC / munitions debris
- Sampling methods and media to evaluate for the potential presence of metals contamination:
  - CRREL 7-point wheel composite soil sampling (<24 in. bgs)
  - Grab surface water samples
  - Grab sediment samples
  - Groundwater would be sampled if wells were identified within the MRS or the nearby residential subdivision.

Technical Approach (Continued)

- Agreed on sample locations:
  - Biased samples at locations where munitions debris or range features (i.e., berms) are observed
  - Limited ambient samples in areas up-gradient or upstream from areas of DoD use
  - Archaeological/cultural resources are possible within the MRS, but not recorded. Sampling was not anticipated to affect resources.
- Laboratory analyses for metals:

  Surface soil, surface water, and sediment:
  - Explosives
  - Selected metals (aluminum, antimony, barium, chromium, copper, lead, magnesium, and zinc)

  Surface soil and sediment:
  - pH (MRS is ecologically important, and aluminum was analyzed)

Huntington District

Technical Approach (Continued)

- Background Evaluation:
  - Due to the variations in naturally occurring metals across the region, it was determined that the ambient sample comparisons planned during TPP should be modified for a more representative evaluation.

  Soil:
  - Ambient surface soil data collected during the SI were supplemented by background concentrations obtained from the West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual Version 2.1, Table 2-3: Natural Background Levels of Inorganics in Soil in West Virginia and Surrounding Areas.
  - The background value used for comparison to the biased surface soil sample results is three times the mean background concentration.

Technical Approach (Continued)

Sediment:

- The background value used for comparison to the biased sediment sample results is three times the mean background concentration of elements in Randolph County, West Virginia, identified by the United States Geological Survey (USGS); or
- In the absence of a Randolph County average concentration, the background value is three times the ambient analytical result of one ambient sediment sample collected during the SI. (Concentrations of antimony, barium, and chromium are not available in this dataset.)

Surface Water:

- Additional metals background data were not available. Therefore, per USEPA guidance the surface water background value is established as three times the concentration detected in the ambient surface water sample collected during the SI.

Huntington District

Technical Approach (Continued)

- Risk Assessment
  - The Dailey Infiltration Camp MRS is ecologically important because it is within the Monongahela National Forest. Therefore, a screening level ecological risk assessment (SLERA) would be conducted, in addition to a human health screening level risk assessment (SLRA).

Human Health SLRA:

Soil and Sediment:

The WVDEP RBCs, and Table 60-3B in the Voluntary Remediation and Redevelopment Rule (60CSR3).

Surface Water:

WV Requirements Governing Water Quality Standards (47CSR2).

Technical Approach (Continued)

Ecological SLRA:

Soil:

USEPA EcoSSLs were used. Because the soil pH was less than 5.5, the USEPA Region 4 screening value for aluminum was used.

Sediment:

The USEPA Region 3 Ecological Benchmarks, Freshwater Sediment Screening Benchmark, and LANL EcoRisk Database were used.

Surface Water:

In the absence of a published ESV from the WV Requirements Governing Water Quality Standards (47CSR2), the USEPA Region 3 Freshwater Screening Benchmark was used for antimony.

SI Field Elements

- 3.2 miles of QR walked.
- 14 observations recorded.
- No MEC or MD was observed.
- Observed elongated earthen berms, and several rows of mounded “foxholes” or gun emplacements arranged between the berms.
- At least 12 craters (8-10 ft. in diameter, 1-2 ft. deep).
- Small subsurface magnetic anomalies were detected at the bases of the berms and gun emplacements. Larger anomalies detected at the centers of the craters.
- Site was heavily overgrown with vegetation (trees, brush, and poison ivy).
- Water observed flowing through the MRS in the two unnamed tributaries of the Tygart Valley River.

Huntington District

SI Field Elements (Continued)

- Samples collected:
  - 4 CRREL 7-point wheel "composite" soil samples (including one ambient)
  - 2 surface water / sediment coupled sample sets (including one ambient sample set)
  - 3 Field Duplicate samples (1/medium)
  - 3 Matrix Spike (MS) /MS Duplicate sample sets (1/medium)
- Biased soil samples were collected at the base of a berm or gun emplacement, or next to a crater.
- Biased SW/SD samples were collected downstream from the convergence of the two tributaries that traverse the site (downstream from areas of DoD use).
- Ambient SW/SD and soil samples were collected up-gradient or upstream from the areas of DoD use.

Huntington District

SI Field Elements (Continued)

- Soil samples were collected from 0 to 4 inches bgs. The soil sample IDs were revised to reflect the actual sample depths.
- Groundwater was not sampled because wells were not identified within the MRS or the nearby subdivision.
- Departures:
  - Biased soil samples were not collected from eroding berms due to safety hazards presented by the adjacent creek. The samples were collected from the faces of the berms and gun emplacements. A representative of the Forest Service accompanying the site visit team agreed with the team's decision to alter the sample location.
  - The USFS archaeologist directed the team to collect samples from the faces of the berms and gun emplacements, rather than from the bottom, to avoid any buried artifacts left behind by the gun crews.
  - No impacts to the data quality are anticipated from these departures.

Huntington District

SI Field Elements (Continued)

Elongated Berms

Gun Emplacement

Crater

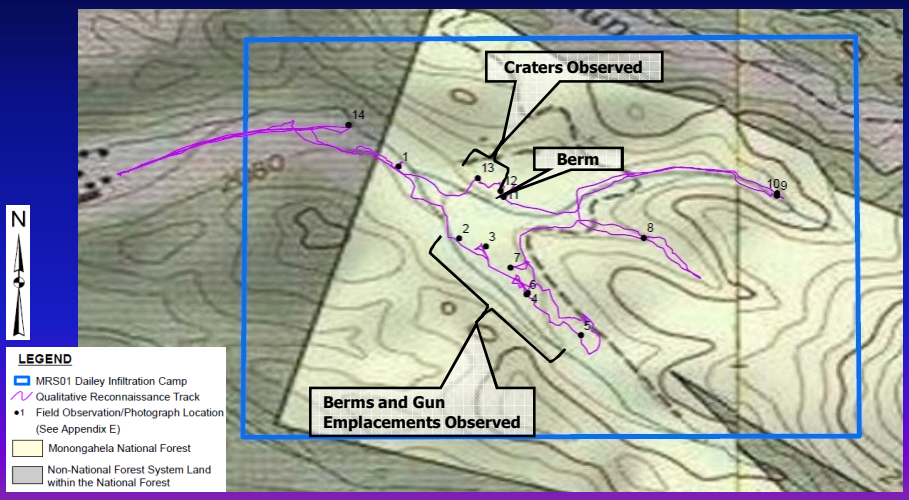
Berm and Trench

Rows of Gun Emplacements

SW/SD Sampling

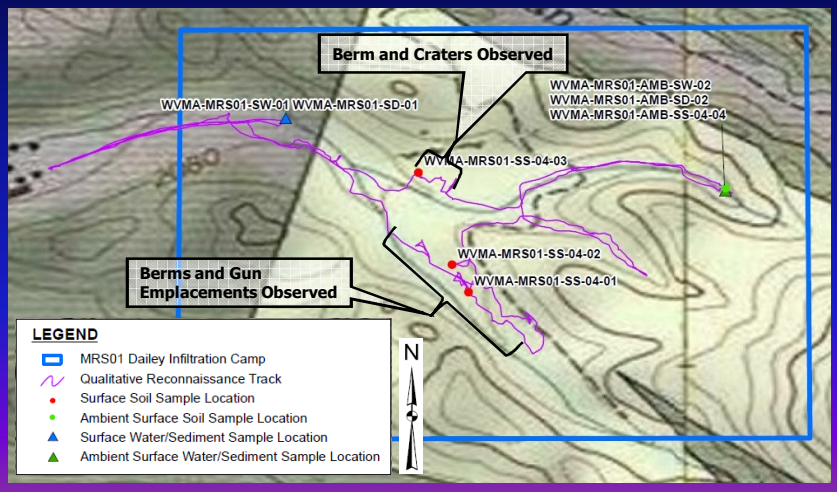
Huntington District

SI Field Elements (Continued)



Huntington District

SI Field Elements (Continued)



Huntington District

Metals Results (Soil)

- Explosives were not detected. The maximum detected concentrations of aluminum, antimony, barium, chromium, copper, magnesium, and zinc did not exceed the calculated background concentrations.
- The maximum detected lead concentration (99 mg/kg) exceeded the calculated background concentration (50 mg/kg).
- Therefore, surface soil exposure pathways are complete for all receptors.
- The maximum detected concentration of lead did not exceed the human health screening value (400 mg/kg). Therefore, no unacceptable human health risk is expected from exposure to lead in surface soil due to former munitions-related activities at this MRS.

Huntington District

Metals Results (Soil)

- Lead exceeded the ecological screening value (11 mg/kg) in one sample, resulting in a hazard quotient (HQ) of 9.
  - Per WV VRRP guidance, if the benchmark values for media other than surface water are less than natural or anthropogenic background, the background concentrations may be used as the comparison criteria. The maximum detected concentration of lead is less than two times greater than the background (100 mg/kg).
  - The ESVs used for the screening-level comparison to evaluate metals are based on conservative assumptions, including the types of receptors present at a site (e.g., insectivores, terrestrial mammals, etc.) and exposure parameters (such as soil ingestion rate and receptor range). The use of site-specific information typically results in less conservative, and higher, ESVs.
  - The most conservative Ecological Soil Screening Level (EcoSSL) was selected for comparison and is for avian species. The maximum detected concentration of lead only slightly exceeds the EcoSSL for mammalian species (56 mg/kg), resulting in a HQ less than 2.
- Unacceptable ecological health risk from exposure to lead in surface soil at MRS01 cannot be ruled out based solely on the analytical results presented in this SI; however based on above, no significant impact to ecological receptors is expected.

Huntington District

Metals Results (Sediment)

- Explosives were not detected.
- The maximum detected concentrations of the metals at MRS01 did not exceed the selected background concentrations. Therefore, sediment exposure pathways are incomplete for all receptors.

Metals Results (Surface Water)

- Explosives were not detected.
- The maximum detected concentrations of the metals at MRS01 did not exceed the selected background concentrations. Therefore, surface water exposure pathways are incomplete for all receptors.

Huntington District

Metals Conclusions

- Unacceptable human health risk is not expected from exposure to metals in the surface soil, surface water, or sediment.
- Unacceptable risk to ecological receptors is not expected from exposure to metals in the surface water or sediment.
- Unacceptable risk to ecological receptors from exposure to lead in surface soil cannot be ruled out based solely on the analytical results presented in this SI; however is not expected based on other factors.

Huntington District

Metals Recommendations

- Based on the analytical results and exposure pathways evaluated during this SI, further sampling of sediment and surface water is not recommended.
- Although one surface soil sample exceeded the ecological screening value that was based on generic, conservative assumptions, a significant impact to ecological receptors is not expected. Further sampling of surface soil based on the exceedance is not recommended.

Huntington District

MEC Results

- MEC and MD have not been found during previous investigations, nor were any found during the 2012 site visit.
- The observed craters and detected subsurface magnetic anomalies indicate the potential presence of MEC at the MRS.
- The types of munitions which could have created the craters contain explosives and would present significant explosive hazards if they remain at the site intact.

Huntington District

MEC Conclusions / Recommendations

- Conclusions:
  - The MEC exposure pathway is potentially complete for the Dailey Infiltration Camp MRS, based on the suspected presence of hazardous munitions and accessibility of the MRS. Because human receptors might contact explosively hazardous MEC, there is a potential explosive safety risk at the MRS.
  - No immediate removal action is necessary.
- Recommendation: The Dailey Infiltration Camp MRS is recommended for RI/FS.

Huntington District

Recommendations for Dailey Infiltration Camp MRS

MRS	MRS Acreage	MEC Assessment(1)	Metals Assessment(2)	Recommendation
Dailey Infiltration Camp	200	Yes MEC is suspected but has not been confirmed.	No Exposure pathways for human receptors are considered incomplete. Exposure pathways for ecological receptors are considered complete.	Remedial Investigation/Feasibility Study (RI/FS)

(1) "Yes" in this column indicates that observed field conditions (craters) are indicative of potential MEC presence, resulting in an RI/FS recommendation for the MRS.
(2) "No" in this column indicates the absence of metals at levels indicating a potential risk to human health or ecological receptors, resulting in a recommendation for no further metals sampling for the MRS.

Huntington District

MRSPP Scoring Protocol Background

- Potential MEC and MC remaining at a site may present explosive, chemical agent, human health, and environmental hazards.
- DoD's comprehensive plan to address these hazards includes:
  - Preparing an inventory of sites across the country
    - Over 2,800 sites are listed in the inventory
    - The inventory, updated annually, is available in the DERP Annual Report to Congress
  - Developing a tool for assigning relative priority to each site
- The DoD developed the MRSPP Scoring Protocol, which is designed to ensure that the priority assigned to a site sufficiently reflects actual site conditions and potential hazards

Huntington District

MRSPP Scoring Protocol Background

- The MRSPP score uses three modules to evaluate the hazards at each MRS:
  - The Explosive Hazard Evaluation (EHE) Module addresses explosive hazards posed by MEC;
  - The Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE) Module addresses chemical hazards associated with the effects of CWM ; and
  - The Health Hazard Evaluation (HHE) Module addresses health and environmental hazards posed by MC and incidental non munitions-related contaminants.
- Each module is made up of individual data elements (i.e. type of munitions present, site use, access conditions)

Huntington District

MRSPP Scoring Protocol Background (Continued)

- Scores for the individual data elements are added up to give a total score for each module.
- Total score corresponds to a rating of A through G for each module
- Alternative module ratings:
  - Evaluation Pending
  - No longer required
  - No known or suspected hazard
- EHE + CHE + HHE = MRS Priority (1 through 8)
- Priority 1 = the highest priority (reserved for CWM sites).
- Priority 8 = the lowest priority

Huntington District

MRSPP Scoring Summary Dailey Infiltration Camp MRS

EHE Module

Table 1: Munitions Type	20 (pyrotechnic)
Table 2: Source of Hazard	10 (former range)
Table 3: Location of Munitions	5 (suspected - historical evidence of MEC)
Table 4: Ease of Access	8 (incomplete barrier)
Table 5: Status of Property	5 (non-DoD control)
Table 6: Population Density:	1 (<100 persons / sq mile)
Table 7: Population Near Hazard	5 (26+ inhabited structures)
Table 8: Types of Activities/Structures	5 (residential within 2 mi)
Table 9: Ecological and/or Cultural Resources	3 (cultural resources)

Huntington District

MRSPP Scoring Summary
Dailey Infiltration Camp MRS

- EHE Module Total / Rating:
  62 / D
- CHE Module Rating:
  No Known or Suspected CWM Hazard
- HHE Module Rating:
  MML (surface soil) / D

Huntington District

MRSPP Scoring Summary
Dailey Infiltration Camp MRS

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		*No Known or Suspected CWM Hazard*		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				*5*	

Questions?

PUBLIC NOTICE DOCUMENTATION

D&E students inducted into Leadership Honorary

Twelve Davis & Elkins College students were inducted recently into the National Society of Leadership and Success (NSLS), a leadership honor society with more than 200 college chapters. Its mission is to build leaders who make a better world.

Among those inducted during the spring semester ceremony were: Corey Kaechele, sophomore, Bethel, Conn.; Joshua Vile, freshman, Richmond, Va.; Justin Redmon, Moorefield; Katelynn Hanek, freshman, McHenry, Md.; Kaylee Harris, freshman, Drewryville, Va.; Kelcie Mullins, freshman, St. Albans; Lucy Parson, freshman, Parsons; Mia Gresak, freshman, Mount Clare; Rebecca Canterbury, freshman, Logan; Rosie Perkins, freshman, Marlington; Ryan Finnegan, senior, Elkins; and Trisha Higgins, sophomore, Mannington.

Local chapters of the NSLS, such as the one at D&E, offer in-person leadership development and peer-to-peer networking for students around the world.

"The intangibles that students gain from membership helps establish them as leaders among their peers," said Lisa Reed, NSLS advisor and director of career services and studentemployment at D&E. "NSLS members focus on improved self-esteem, peer leadership skills, sustainable motivation and drive."

In addition to the student induction ceremony, several members of D&E faculty and staff were recognized during the evening's presentations. Dr. Bill King, professor of English, and Steve Mattingly, assistant professor of computer science, were both cited for "Excellence in Teaching."

Staff recognized for "Outstanding Service to Students" were: D&E President Buck Smith and wife, Joni; Alyssa Hannah, AmeriCorps VISTA; Kathleen Doig, assistant director of the Booth Library; and the Information Services Department led by Information Services Director Amy Mattingly, Coordinator of Administrative Computing Craig Merriam and Assistant Director of Information Services Tim Gibson.

National Engaged Leaders awards were presented to Lauren Elmer, senior, Elkins; Jason Mallow, senior, Durbin; John Trevey, sophomore, Richmond, Va.; and Sydney Mucha, junior, Mt. Clare.

D&E executive board NSLS members were also recognized, including: president – Kristin Turschmann, senior, Beaver; vice president – Brandon Arbogast, junior, Mill Creek; secretary – Trisha Higgins; treasurer – Kevin Gratias, junior, Mill Creek; and treasurer-elect – Mia Gresak.

For more information about Davis & Elkins College, visit www.dewv.edu or call 304-637-1243.

Submitted photo

Newly inducted members and current officers of the Davis & Elkins College Chapter of the NSLS include, from left: Brandon Arbogast, Ryan Finnegan, Kristin Turschmann, Katelynn Hanek, Trisha Higgins, Rosie Perkins, Mia Gresak, Kevin Gratias, Rebecca Canterbury, Lucy Parsons, Kelcie Mullins, Kaylee Harris, Josh Viles and Career Services and Student Employment Director Lisa Reed.

US Army Corps of Engineers

PUBLIC NOTICE

Request for information about the former Jenningston Training Area

Recently, the U.S. Army Corps of Engineers completed a Site Inspection at the former ***Jenningston Training Area. This site was used to provide division training consisting of rock climbing exercises, troop maneuver problems, pack mule training, and potential mortar firing from 1943 to 1944.***

The former ***Jenningston Training Area*** is one of many former military installations throughout the United States that will be reviewed under the Department of Defense' s Munitions Response Site Prioritization Protocol. This protocol is used to assess sites that may have unexploded ordnance, discarded military munitions or munitions constituents, and to assign priorities for any additional investigation or munitions removal that may be required.

The evaluation criteria, including types of munitions that may be present, ease of access to the site and number of people living near the site, are available for public review in the Site Inspection Report. A copy of the document is in the Public Information Repository located at the **U.S. Forest Service, Potomac Ranger District Office, 2499 N. Fork Highway, Petersburg, WV 26847.**

For more information or if you have additional information about past activities related to the former ***Jenningston Training Area***, please contact us at PA2@usace.army.mil or write to:

USACE, Huntington District
ATTN: WVMA Project Manager
(CELRH-PM-PP-P)
502 8th Street
Huntington, WV 25701

USACE, Huntington District
ATTN: Public Affairs Officer
(CELRH-PA)
502 8th Street
Huntington, WV 25701

US Army Corps of Engineers

PUBLIC NOTICE

Request for information about the former Ammunition Depot

Recently, the U.S. Army Corps of Engineers completed a Site Inspection at the former ***Ammunition Depot. This site was used as an ammunition storage area from 1943 to 1944.***

The former ***Ammunition Depot*** is one of many former military installations throughout the United States that will be reviewed under the Department of Defense' s Munitions Response Site Prioritization Protocol. This protocol is used to assess sites that may have unexploded ordnance, discarded military munitions or munitions constituents, and to assign priorities for any additional investigation or munitions removal that may be required.

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For more information or if you have additional information about past activities related to the former ***Ammunition Depot***, please contact us at PA2@usace.army.mil or write to:

USACE, Huntington District
ATTN: WVMA Project Manager
(CELRH-PM-PP-P)
502 8th Street
Huntington, WV 25701

USACE, Huntington District
ATTN: Public Affairs Officer
(CELRH-PA)
502 8th Street
Huntington, WV 25701

US Army Corps of Engineers

PUBLIC NOTICE

Request for information about the former Dailey Infiltration Camp

Recently, the U.S. Army Corps of Engineers completed a Site Inspection at the former ***Dailey Infiltration Camp. This site was used to provide small arms and obstacle course training from 1943 to 1944.***

The former ***Dailey Infiltration Camp*** is one of many former military installations throughout the United States that will be reviewed under the Department of Defense' s Munitions Response Site Prioritization Protocol. This protocol is used to assess sites that may have unexploded ordnance, discarded military munitions or munitions constituents, and to assign priorities for any additional investigation or munitions removal that may be required.

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For more information or if you have additional information about past activities related to the former ***Dailey Infiltration Camp***, please contact us at PA2@usace.army.mil or write to:

USACE, Huntington District
ATTN: WVMA Project Manager
(CELRH-PM-PP-P)
502 8th Street
Huntington, WV 25701

USACE, Huntington District
ATTN: Public Affairs Officer
(CELRH-PA)
502 8th Street
Huntington, WV 25701

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- No additional charge to call 9-1-1
- No additional charge to dial "0" for operator assistance to complete a call

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D&E hosts first Leadership Day

A group of 60 incoming Davis & Elkins College freshmen who achieved a 3.0 or higher GPA recently spent a day on campus getting acquainted and learning more about leadership.

The college's first Senator Leadership Day brought together students and their guests from West Virginia, Pennsylvania, Maryland, Virginia, Missouri, California, Iowa, Florida, Georgia and Ohio.

"We wanted to recognize the many outstanding students who will be joining us on campus next fall," says Davis & Elkins College Manager of Enrollment Programs and Events Kara Fisher, who organized the event. "Highlighting their leadership potential and the many ways they are involved in their home communities seemed like a natural fit."

The day included small group team-building and leadership exercises for students, sessions for parents, an academic fair, Senator Leadership Luncheon, fine arts auditions, campus tours and opportunities to meet with admission counselors.

In his welcoming remarks, D&E Executive Vice President and Chief Operating Officer Kevin Wilson said the theme of leadership was selected because "it is in everything we do."

Chancellor Michael Mihalyo also addressed the group asking them to think about how they have inspired others and how they have overcome adversity. Quoting Chinese Taoist philosopher Lao Tzu, he said, "A leader is best when people barely know he exists. When his work is done, his aim fulfilled, they will say, we did it ourselves."

The keynote address presented during the luncheon also focused on the theme of leadership. Speaker Karen M. Quasny recently retired from the federal government after spending 30 years teaching leadership to civilians with the Departments of the U.S. Army and U.S. Navy.

Quasny outlined five key points identified for inspiring and motivating people. Those are: interpersonal skills, treating others with respect; oral communication, being clear, asking questions and listening; written communication, being clear and concise with a presentation for the intended audience; honesty and integrity, showing a high standard of ethics; and continual learning, pursuing self-discovery.

Quasny also encouraged students to understand their own strengths and weaknesses and take action on them. "Learn what did and didn't work, and why," she said.

The day concluded with scholarship interviews. Among the scholarships offered is the top award, the William S. Robbins Leadership Award, named in honor of the late supporter, alumnus and trustee.

"In naming the top award, we unanimously agreed that it should be named for Bill Robbins," Fisher says. "The legacy of his commitment to students and the D&E community is unparalleled."

Submitted photo

Dr. Carol Carter, chair of the Davis & Elkins College Department of Business and Entrepreneurship talks with incoming freshmen during the college's first Leadership Day. The event welcomed 60 top scholars to campus.

Robbins graduated from Davis & Elkins in 1956 and continued a lifelong enthusiasm for all aspects of the college. He was named to the Board of Trustees in 1976, and provided financial resources to create many facilities, including the Madden Student Center and the Robbins-Madden Fitness Center, and restoration of Robbins Chapel in memory of his parents.

Fisher says the scholarship interviews gave faculty members a chance to "preview the many exceptional students they will meet in the classroom."

Orientation for new students is scheduled for Aug. 24-25, and fall semester classes begin Aug. 26.

For more information, please visit the College website at www.dewv.edu or call 304-637-1243.

Teachers learn technology

The Inter-Mountain photo by Beth Christian Broschart

Jennings Randolph Elementary School instructors receive iPad training from Apple representative Jason Manley recently at the school. iPads were purchased for instructors through Title I funds and professional development monies. The group learned basic iPad techniques, video making, creativity training and other applications.

Submitted photo

Lauren Spears speaks at the Highland Adventist School graduation.

Students graduate from Highland Adventist School

The eighth-grade class of Highland Adventist School in Elkins recently participated in a graduation ceremony.

The class enjoyed a graduation address given by H.A.S. staff member, Joel Stecker. The student response was given by Lauren Spears, the class valedictorian.

The graduates received their eighth-grade certificates of graduation from H.A.S. board chairman, Tom Blanzy. The program was followed by a reception provided by the parents of the graduates.

The staff of Highland Adventist School congratulates these students on their accomplishments and their high school education plans.

Dermotology Outreach, LLC

Kristi Lafferty, M.S.N., CRNP

Treatment of acne, moles, skin cancer, warts and other disorders of the skin, hair and nails

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Three convenient locations

Associates for Women's Health, P.L.L.C.
Chenoweth Creek Road ~ Dr. Kimberly Farry's Office

21 Auction Lane, Brushy Fork Road
Dr. Amy Pearson's new office ~ Buckhannon, WV 26201

25 Garton Plaza ~ Dr. Bennett Orvik's office
Weston, WV 26452

Stephenson welcomed to national society

Mary H. Stephenson of Elkins has accepted membership in the National Society of Collegiate Scholars.

"NSCS is more than just a symbol of academic achievement. Membership gives students access to a number of amazing benefits including career and networking resources, scholarships, travel and service projects both on campus and in the community," Stephen E. Loflin, NSCS founder and chief executive officer, said.

NSCS is a member of the Association of College Honor Societies and is the nation's only interdisciplinary honors organization for first-year and second-year college students. Membership is by invitation only, based on grade point average and class standing. NSCS has nearly one million lifetime members and 300 chapters in all 50 states, the District of Columbia and Puerto Rico.

For more information about the National Society of Collegiate Scholars, call 202-265-9000 or visit nscs.org.

STEPHENSON

News of Record

The following marriage licenses were issued at the Randolph County Courthouse:

Aaron Bernard Johnson, 35, 101 Wayne Ave., Elkins, to Amanda June Haller, 32, 400 Lincoln Ave., Apt. 3, Elkins.

Kevin Michael Helmick, 28, 9 River St., Elkins, to Tiffany Aaron Dawn Gibson, 25, Route 2, Box 114D, Philippi.

Brandon Lee Everson, 23, P.O. Box 64, Bowden, to McKenzie Louise Summerfield, 18, P.O. Box 64, Bowden.

www.TheInterMountain.com

INTERESTED IN A NURSING CAREER?

The Randolph Technical Center School of Practical Nursing is currently accepting applications through August 16, 2013.
To obtain an application packet, send a .65 cent self-addressed, stamped envelope to:
LPN Program Coordinator
200 Kennedy Drive
Elkins, WV 26241
Download packet at
http://boe.rand.k12.wv.us
(click on schools, RTC, Classroom, LPN link), or pick up packet at RTC

Support Services for Pre-LPN Testing & Classes are available. Please call 304-636-9195 and ask for the LPN program.

Scottie's
304-636-7500
800 7th Street
Next to Veterans Memorial

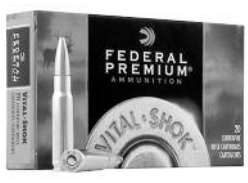
Fathers Day Special
Lean & Meatie Boneless BBQ Pork Ribs
Mashed Potatoes & Gravy, Sauerkraut, Corn, Rolls and Fathers Day Cake.
$8.99

GUNS & AMMO FOR SALE

Mountain Traders Gun & Pawn
405 East 3rd Street, Weston, WV
304-269-2444

June Hours:
Monday - Friday: 12PM to 7PM

Hundreds of Guns
Lots of Hard to Find Ammo



We have been closed due to illness, but will be open through June

YES! WE TRADE GUNS BUY & SELL

US Army Corps of Engineers

PUBLIC NOTICE

Request for information about the former Dailey Infiltration Camp

Recently, the U.S. Army Corps of Engineers completed a Site Inspection at the former ***Dailey Infiltration Camp. This site was used to provide small arms and obstacle course training from 1943 to 1944.***

The former ***Dailey Infiltration Camp*** is one of many former military installations throughout the United States that will be reviewed under the Department of Defense' s Munitions Response Site Prioritization Protocol. This protocol is used to assess sites that may have unexploded ordnance, discarded military munitions or munitions constituents, and to assign priorities for any additional investigation or munitions removal that may be required.

The evaluation criteria, including types of munitions that may be present, ease of access to the site and number of people living near the site, are available for public review in the Site Inspection Report. A copy of the document is in the Public Information Repository located at the **U.S. Forest Service, Potomac Ranger District Office, 2499 N. Fork Highway, Petersburg, WV 26847.**

For more information or if you have additional information about past activities related to the former ***Dailey Infiltration Camp***, please contact us at PA2@usace.army.mil or write to:

USACE, Huntington District
ATTN: WVMA Project Manager
(CELRH-PM-PP-P)
502 8th Street
Huntington, WV 25701

USACE, Huntington District
ATTN: Public Affairs Officer
(CELRH-PA)
502 8th Street
Huntington, WV 25701

APPENDIX C

INTERVIEW DOCUMENTATION

NO INTERVIEWS WERE CONDUCTED AT THIS SITE; THEREFORE, NO INTERVIEW DOCUMENTATION IS INCLUDED WITH THIS REPORT

Appendix D

Field Notes and Field Forms

DAILY FIELD REPORT
MMRP SITE INSPECTION

CONTRACT NO.	**W912PP-11-C-0007**	**DELIVERY ORDER NO.**	**0001**
JOB NO:	**748073-30001**	**DATE/DAY:**	8-May-12
SITE NAME:	WVMA (Dailey Infiltration Camp MRS)	**REPORT NO:**	1
USACE DISTRICT:	**CELRH**	**SHEET:**	1
WEATHER:	High of 71°, Low of 58°, rain and fog		

WORK IN PROGRESS OR COMPLETED:

1. Mobilization/Demobilization

		CUMULATIVE
206	***Miles Driven***	**206**
1/1,300	***Number of Flights/Miles Flown***	**1/1,300**
1	***Number of Personnel***	**1**

2. Reconnaissance Details

0	***Linear Feet:***	**0**

3. MC Sampling Details

0	***Soil Samples***	**0**
0	***Sediment Samples***	**0**
0	***Water Samples***	**0**

4. QC Activities

0	***Soil Samples***	**0**
0	***Sediment Samples***	**0**
0	***Water Samples***	**0**

5. QA Activities

0	***Soil Samples***	**0**
0	***Sediment Samples***	**0**
0	***Water Samples***	**0**

Sampling Notes: No QA Samples at this site.

6. Safety Activities

No safety briefing was conducted on the mobilization day.

SITE VISIT TEAM (SVT)			On-site Yes/No	Tailgate Brief Yes/No
Parsons Field Team Leader	Lauren Johnson	Cell Phone: (720) 988-4413	No	No
Parsons UXO Technician/SSHO	Rick White	Cell Phone: (425) 577-8152	No	No
Eco Sampling Technician	Steven Saunders	Cell Phone: (818) 397-2248	No	No
VISITORS				
None				

EQUIPMENT LIST:

Standard Field Kit Items:	Schonstedt GA-52Cx, Trimble GeoXT, Garmin Rhino 530HCx handheld GPS/radio, Iridium 9555 Satellite Phone, field computer, digital camera, first aid kit
Water Sampling Equipment	Horiba U-22 Water Meter

QC CHECKS (Place ' **X** ' in appropriate box)

QUALITY CONTROL CHECKS	**Analog Instrument**	**YES**		**NO**	X
	Handheld GPS	**YES**		**NO**	X
	GIS Data Logger	**YES**		**NO**	X

ADDITIONAL INFORMATION:

The field team leader mobilized to the site today.

ACTIVITIES SCHEDULED FOR NEXT WORK DAY:

The other members of the site visit team (UXO Technician and Sampling Technician) will mobilize to the site.

REQUEST FOR PROJECT ACTION:

None

ACCIDENTS REPORTED TODAY: 0

ACCIDENTS TO DATE: 0 **PREPARED BY FTL:** Lauren Ranker

Check all attachments:

_____ Field sampling forms (in separate submittal)

_____ Field-generated analytical results

_____ Chain-of-custody forms (in separate submittal)

Signed by: Lauren N. Ranker

Name	Lauren Ranker, Field Team Leader	
Date:	8-May-12	
Phone	Cell: (720) 988-4413	Office: (303) 764-8830
Copies sent to:		
	Richard Meadows (CELRH PM)	Brian Jordan (CESPA)
	Laura Kelley (Parsons PM)	Mohammad Estiri (Eco - PM)
	Brenda Galloway (Parsons)	Opjit Ghuman (Eco)
	Sandra de las Fuentes (Parsons)	Carlos Hernandez (Eco)

DAILY FIELD REPORT
MMRP SITE INSPECTION

CONTRACT NO.	**W912PP-11-C-0007**	**DELIVERY ORDER NO.**	**0001**
JOB NO:	**748073-30001**	**DATE/DAY:**	9-May-12
SITE NAME:	WVMA (Dailey Infiltration Camp MRS)	**REPORT NO:**	2
USACE DISTRICT:	**CELRH**	**SHEET:**	1
WEATHER:	High of 68°F, cloudy changing to rain		

WORK IN PROGRESS OR COMPLETED:

1. Mobilization/Demobilization

		CUMULATIVE
756	***Miles Driven***	**962**
1/2,130	***Number of Flights/Miles Flown***	**2/3,430**
2	***Number of Personnel***	**3**

2. Reconnaissance Details

0	***Linear Feet:***	**0**

3. MC Sampling Details

0	***Soil Samples***	**0**
0	***Sediment Samples***	**0**
0	***Water Samples***	**0**

4. QC Activities

0	***Soil Samples***	**0**
0	***Sediment Samples***	**0**
0	***Water Samples***	**0**

5. QA Activities

0	***Soil Samples***	**0**
0	***Sediment Samples***	**0**
0	***Water Samples***	**0**

Sampling Notes: No QA Samples at this site.

6. Safety Activities

No safety briefing was conducted on the mobilization day.

SITE VISIT TEAM (SVT)			On-site Yes/No	Tailgate Brief Yes/No
Parsons Field Team Leader	Lauren Johnson	Cell Phone: (720) 988-4413	No	No
Parsons UXO Technician/SSHO	Rick White	Cell Phone: (425) 577-8152	No	No
Eco Sampling Technician	Steven Saunders	Cell Phone: (818) 397-2248	No	No
VISITORS				
None				

EQUIPMENT LIST:

Standard Field Kit Items:	Schonstedt GA-52Cx, Trimble GeoXT, Garmin Rhino 530HCx handheld GPS/radio, Iridium 9555 Satellite Phone, field computer, digital camera, first aid kit
Water Sampling Equipment	Horiba U-22 Water Meter

QC CHECKS (Place ' **X** ' in appropriate box)

QUALITY CONTROL CHECKS	**Analog Instrument**	**YES**		**NO**	X
	Handheld GPS	**YES**		**NO**	X
	GIS Data Logger	**YES**		**NO**	X

ADDITIONAL INFORMATION:

The UXO technician and the sampling technician mobilized to the site today.

ACTIVITIES SCHEDULED FOR NEXT WORK DAY:

The site visit team will meet with members of the U.S. Army Corps of Engineers, the West Virginia Department of Environmental Protection, and the U.S. Fish and Wildlife Service for a brief meeting at the forest service supervisor's office in Elkins prior to beginning field work at the Dailey Infiltration Camp MRS. During the meeting, the team will go over the schedule for the field work and conduct a safety briefing. Then the team will proceed to the Dailey Infiltration Camp MRS to complete the QR and sampling.

REQUEST FOR PROJECT ACTION:

None

ACCIDENTS REPORTED TODAY: 0

ACCIDENTS TO DATE: 0

PREPARED BY FTL: Lauren Ranker

Check all attachments:

_____ Field sampling forms (in separate submittal)

_____ Field-generated analytical results

_____ Chain-of-custody forms (in separate submittal)

Signed by: Lauren N. Ranker

Name	Lauren Ranker, Field Team Leader	
Date:	9-May-12	
Phone	Cell: (720) 988-4413	Office: (303) 764-8830
Copies sent to:		
	Richard Meadows (CELRH PM)	Brian Jordan (CESPA)
	Laura Kelley (Parsons PM)	Mohammad Estiri (Eco - PM)
	Brenda Galloway (Parsons)	Opjit Ghuman (Eco)
	Sandra de las Fuentes (Parsons)	Carlos Hernandez (Eco)

DAILY FIELD REPORT
MMRP SITE INSPECTION

CONTRACT NO.	**W912PP-11-C-0007**	**DELIVERY ORDER NO.**	**0001**
JOB NO:	**748073-30001**	**DATE/DAY:**	10-May-12
SITE NAME:	WVMA (Dailey Infiltration Camp MRS)	**REPORT NO:**	3
USACE DISTRICT:	**CELRH**	**SHEET:**	1
WEATHER:	High of 60°F, partly cloudy		

WORK IN PROGRESS OR COMPLETED:

1. Mobilization/Demobilization

		CUMULATIVE
33	***Miles Driven***	**995**
0/0	***Number of Flights/Miles Flown***	**2/3,430**
3	***Number of Personnel***	**3**

2. Reconnaissance Details

18,172	***Linear Feet:(3.44 miles)***	**18,172**

3. MC Sampling Details

4	***Soil Samples***	**4**
1	***Sediment Samples***	**1**
1	***Water Samples***	**1**

Sampling Notes: See Attached DQCR

4. QC Activities

3	***Soil Samples***	**3**
0	***Sediment Samples***	**0**
0	***Water Samples***	**0**

Sampling Notes: See Attached DQCR

5. QA Activities

0	***Soil Samples***	**0**
0	***Sediment Samples***	**0**
0	***Water Samples***	**0**

Sampling Notes: See Attached DQCR

6. Safety Activities

A safety briefing was conducted at the U.S. Forest Service (USFS) supervisor's office, prior to the start of field activities. A tailgate safety briefing was also conducted on site, prior to the start of field activities. Topics included communication, hospital directions, uneven terrain, severe weather, flash flooding, cold stress, hydration, types of dangerous vegetation, dangerous animals, insects, types of munitions, and slips, trips, and falls.

SITE VISIT TEAM (SVT)				On-site Yes/No	Tailgate Brief Yes/No
Parsons Field Team Leader	Lauren Ranker	Cell Phone:	(720) 988-4413	Yes	Yes
Parsons UXO Technician/SSHO	Rick White	Cell Phone:	(425) 577-8152	Yes	Yes
Eco Sampling Technician	Steven Saunders	Cell Phone:	(818) 397-2248	Yes	Yes
VISITORS					
Rick Meadows	CELRH	Cell Phone:	(304) 543-2755	Yes	Yes
Don Martin	WVDEP	Cell Phone:	(304) 545-2132	Yes	Yes
Eric Sandeno	USFS	Cell Phone:	(304) 636-1800	Yes	Yes
Stephanie Connolly	USFS	Cell Phone:	(304) 636-1800	Yes	Yes
John Calabrese	USFS	Cell Phone:	(304) 636-1800	Yes	Yes

EQUIPMENT LIST:

Standard Field Kit Items:	Schonstedt GA-52Cx, Trimble GeoXT, Garmin Rhino 530HCx handheld GPS/radio, Iridium 9555 Satellite Phone, field computer, digital camera, first aid kit
Water Sampling Equipment	Horiba U-22 Water Meter

QC CHECKS (Place ' **X** ' in appropriate box)

QUALITY CONTROL CHECKS	**Analog Instrument**	**YES**	X	**NO**	
	Handheld GPS	**YES**	X	**NO**	
	GIS Data Logger	**YES**	X	**NO**	

ADDITIONAL INFORMATION:

All other site details recorded in PDA/logbook.

ACTIVITIES SCHEDULED FOR NEXT WORK DAY:

The SVT will complete the sampling at the Dailey Infiltration Camp MRS (MRS01) at the West Virginia Maneuver Area / Dolly Sods FUDS. Then the SVT will conduct qualitative reconnaissance (QR) and soil sampling at the WV Ammunition Depot (MRS02). The SVT will also ship the samples to the laboratory for Saturday delivery.

REQUEST FOR PROJECT ACTION:

None

ACCIDENTS REPORTED TODAY: 0
ACCIDENTS TO DATE: 0 **PREPARED BY FTL:** Lauren Ranker

DAILY CONTRACTOR QUALITY CONTROL REPORT

Contract Number: **W912PP-11-C-0007**
Delivery Order Number: **0001**
Project Name: **MMRP FUDS SI**
Project Number: **748073-30001**
Site Location: **WVMA (Dailey Infiltration Camp MRS)**
Date: **10-May-12**

DAILY FIELD SI ACTIVITIES CONDUCTED

Prior to the start of field work, the SVT met with U.S. Army Corps of Engineers (USACE) Huntington District project manager, and members of the USFS and the West Virginia Department of Environmental Protection (WVDEP) at the USFS supervisor's office. During the meeting, the SVT and the stakeholders discussed the schedule for the fieldwork at the West Virginia Maneuver Area, as well as conducted a safety briefing and discussion. After the meeting, some of the stakeholders accompanied the SVT to the Dailey Infiltration Camp MRS to conduct the field work. The SVT conducted approximately 3.5 miles of QR and completed CRREL 7-point wheel surface soil sampling at MRS01 at the Former West Virginia Maneuver Area / Dolly Sods FUDS.

During the QR at MRS01, the SVT observed 4 large elongated soil berms oriented north to south on the north side of the creek in the southern portion of the MRS. The berms were approximately 100 feet long and 20 to 30 feet wide. Between the berms were groups of 4 to 8 U-shaped gun emplacements made of soil. Based on the orientation of the gun emplacements, the SVT deduced that the direction of fire was to the west and downslope. No ordnance was observed on or around the berms or emplacements; however, a thick vegetative layer obstructed the view of the ground surface. Small subsurface metal anomalies were detected in front of the berms and emplacements. Soil sample WVMA-MRS01-SS-04-01 was moved from the proposed location and collected at the base of the east face of one of the gun emplacements. Soil sample WVMA-MRS01-SS-04-02 and matrix spike (MS) and matrix spike duplicate (MSD) samples were collected on the east face of one of the elongated berms instead of from the proposed location. Subsurface metal anomalies were detected at the base of both the gun emplacement and the berm. The SVT found no ordnance or WWII-era features along the drainages in the east and northeast portions of the MRS. Ambient surface soil sample WVMA-MRS01-AMB-SS-04-04 and ambient surface water/sediment coupled samples WVMA-MRS01-AMB-SW-02 and WVMA-MRS01-AMB-SD-02 were collected from the planned sampling locations in the northeast corner of the MRS. Approximately 12 circular craters with subsurface anomalies were found at the middle of the MRS, just north of the northern fork where the waterway dips south. The craters were approximately 8 to 10 feet in diameter, were fairly close together, and were full of water from recent rains. Soil sample WVMA-MRS01-SS-04-03 and duplicate soil sample WVMA-MRS01-SS-04-05 were collected on the edge of one of the craters instead of from the proposed sample location. The sample IDs for the soil samples collected at MRS01 were changed to represent the actual sample depth of 4 inches below ground surface.

TOMORROW'S OPERATION PLAN

The SVT will complete the sampling at the MRS01 at the West Virginia Maneuver Area / Dolly Sods FUDS. Then the site visit team will conduct QR and soil sampling at the Ammunition Depot MRS (MRS02). The SVT will also ship the samples to the laboratory for Saturday delivery.

Water Sample Equipment Calibrations (list or provide attachment)

	pH (s.u.)	Conductivity (µS/cm)	Turbidity (NTU)	Temp. (ºC)	Time
Equip. Reading:	4.01	4.5	0	--	1009

Field Instrument Measurements (list or provide attachment):

Water Sample ID:	Temp. (ºC)	Cond. (µS/cm)	Turbidity (NTU)	pH (s.u.)
WVMA-MRS01-AMB-SW-02	11.3	0.076	15.5	7.98

Comments: N/A

List all field and quality control samples collected (list or provide attachment):

Sample ID	Media	Time	Analysis	Shipment Date	Lab	Comments
WVMA-MRS01-SS-04-01	Soil	1224	Metals*, Explosives, pH	5/11/2012	APPL, Inc.	
WVMA-MRS01-SS-04-02	Soil	1305	Metals*, Explosives, pH	5/11/2012	APPL, Inc.	MS/MSD
WVMA-MRS01-AMB-SW-02	SW	1410	Metals*, Explosives	5/11/2012	APPL, Inc.	Ambient
WVMA-MRS01-AMB-SD-02	SD	1410	Metals*, Explosives, pH	5/11/2012	APPL, Inc.	Ambient
WVMA-MRS01-AMB-SS-04-04	Soil	1429	Metals*, Explosives, pH	5/11/2012	APPL, Inc.	Ambient
WVMA-MRS01-SS-04-03	Soil	1512	Metals*, Explosives, pH	5/11/2012	APPL, Inc.	
WVMA-MRS01-SS-04-05	Soil	1522	Metals*, Explosives, pH	5/11/2012	APPL, Inc.	FD of MRS01-SS-04-03

*Metals: Al, Sb, Ba, Cu, Cr, Pb, Mg, and Zn

Departures from approved SAP:

None

Instructions given by government personnel:

None

Check all attachments:

	Field sampling forms (in separate submittal)
	Field-generated analytical results
X	Chain-of-custody forms (in separate submittal)

Signed by: Lauren N. Ranker

Name	Lauren Ranker, Field Team Leader	
Date:	10-May-12	
Phone	Cell: (720) 988-4413	Office: (303) 764-8830
Copies sent to:		
	Richard Meadows (CELRH PM)	Brian Jordan (CESPA)
	Laura Kelley (Parsons PM)	Mohammad Estiri (Eco - PM)
	Brenda Galloway (Parsons)	Opjit Ghuman (Eco)
	Sandra de las Fuentes (Parsons)	Carlos Hernandez (Eco)

DAILY FIELD REPORT
MMRP SITE INSPECTION

CONTRACT NO.	**W912PP-11-C-0007**	**DELIVERY ORDER NO.**	**0001**
JOB NO:	**748073-30001**	**DATE/DAY:**	11-May-12
SITE NAME:	WVMA (Dailey Infiltration Camp MRS)	**REPORT NO:**	4
USACE DISTRICT:	**CELRH**	**SHEET:**	1
WEATHER:	High of 62°F, low of 40°F, sunny		

WORK IN PROGRESS OR COMPLETED:

1. Mobilization/Demobilization

		CUMULATIVE
37	***Miles Driven***	**1,032**
0/0	***Number of Flights/Miles Flown***	**2/3,430**
3	***Number of Personnel***	**3**

2. Reconnaissance Details

2,550	***Linear Feet:(0.48 miles)***	**20,722**

3. MC Sampling Details

0	***Soil Samples***	**4**
1	***Sediment Samples***	**2**
1	***Water Samples***	**2**

Sampling Notes: See Attached DQCR

4. QC Activities

0	***Soil Samples***	**3**
3	***Sediment Samples***	**3**
3	***Water Samples***	**3**

Sampling Notes: See Attached DQCR

5. QA Activities

0	***Soil Samples***	**0**
0	***Sediment Samples***	**0**
0	***Water Samples***	**0**

Sampling Notes: No QA split samples for this program

6. Safety Activities

A tailgate safety briefing was conducted on site prior to the start of field activities. Topics included communication, hospital directions, uneven terrain, hydration, types of dangerous vegetation, dangerous animals, insects, types of munitions, and slips, trips, and falls.

SITE VISIT TEAM (SVT)				On-site Yes/No	Tailgate Brief Yes/No
Parsons Field Team Leader	Lauren Ranker	Cell Phone:	(720) 988-4413	Yes	Yes
Parsons UXO Technician/SSHO	Rick White	Cell Phone:	(425) 577-8152	Yes	Yes
Eco Sampling Technician	Steven Saunders	Cell Phone:	(818) 397-2248	Yes	Yes
VISITORS					
None					

EQUIPMENT LIST:

Standard Field Kit Items:	Schonstedt GA-52Cx, Trimble GeoXT, Garmin Rhino 530HCx handheld GPS/radio, Iridium 9555 Satellite Phone, field computer, digital camera, first aid kit
Water Sampling Equipment	Horiba U-22 Water Meter

QC CHECKS (Place ' **X** ' in appropriate box)

QUALITY CONTROL CHECKS	**Analog Instrument**	**YES**	X	**NO**	
	Handheld GPS	**YES**	X	**NO**	
	GIS Data Logger	**YES**	X	**NO**	

ADDITIONAL INFORMATION:

All other site details recorded in PDA/logbook.

ACTIVITIES SCHEDULED FOR NEXT WORK DAY:

The SVT will conduct qualitative reconnaissance (QR) and soil sampling at the Jenningston Training Area MRS (MRS03) at the West Virginia Maneuver Area / Dolly Sods FUDS.

REQUEST FOR PROJECT ACTION:

None

ACCIDENTS REPORTED TODAY: 0
ACCIDENTS TO DATE: 0 **PREPARED BY FTL:** Lauren Ranker

DAILY CONTRACTOR QUALITY CONTROL REPORT

Contract Number: **W912PP-11-C-0007**
Delivery Order Number: **0001**
Project Name: **MMRP FUDS SI**
Project Number: **748073-30001**
Site Location: **WVMA (Dailey Infiltration Camp MRS)**
Date: **11-May-12**

DAILY FIELD SI ACTIVITIES CONDUCTED

The SVT conducted approximately 0.5 miles of QR and completed surface water and sediment sampling at MRS01 at the West Virginia Maneuver Area / Dolly Sods FUDS.

The SVT collected the remaining SW/SD coupled samples, WVMA-MRS01-SW-01 and WVMA-MRS01-SD-01, and duplicate samples WVMA-MRS01-SW-03 and WVMA-MRS01-SD-03. The samples were collected downstream from the convergence of the two tributaries that traverse the site, and thus, downstream from the training course and the craters observed by the SVT. The samples were shipped to the laboratory for Saturday delivery.

TOMORROW'S OPERATION PLAN

The SVT will conduct QR and soil sampling at the Jenningston Training Area MRS (MRS03) at the West Virginia Maneuver Area / Dolly Sods FUDS.

Water Sample Equipment Calibrations (list or provide attachment)

	pH (s.u.)	Conductivity (µS/cm)	Turbidity (NTU)	Temp. (ºC)	Time
Equip. Reading:	4	4.54	0	9.27	0850

Field Instrument Measurements (list or provide attachment):

Water Sample ID:	Temp. (ºC)	Cond. (µS/cm)	Turbidity (NTU)	pH (s.u.)
WVMA-MRS01-AMB-SW-01	10.77	0.036	1.3	4.13

Comments: N/A

List all field and quality control samples collected (list or provide attachment):

Sample ID	Media	Time	Analysis	Shipment Date	Lab	Comments
WVMA-MRS01-SW-01	SW	0941	Metals*, Explosives	5/11/2012	APPL, Inc.	MS/MSD
WVMA-MRS01-SD-01	SD	0941	Metals*, Explosives, pH	5/11/2012	APPL, Inc.	MS/MSD
WVMA-MRS01-SW-03	SW	0955	Metals*, Explosives	5/11/2012	APPL, Inc.	Field Dup of SW-01
WVMA-MRS01-SD-03	SD	0955	Metals*, Explosives, pH	5/11/2012	APPL, Inc.	Field Dup of SD-01

*Metals: Al, Sb, Ba, Cu, Cr, Pb, Mg, and Zn

Departures from approved SAP:

In addition to analyzing the sediment samples for metals and explosives as indicated in the work plan, the sediment samples (WVMA-MRS01-SD-01, WVMA-MRS01-SD-02, and WVMA-MRS01-SD-03) will also be analyzed for pH. A matrix spike (MS) and matrix spike duplicate (MSD) were collected for surface water and sediment sample couple WVMA-MRS01-SD-01/SW-01, in addition to the field duplicate (WVMA-MRS01-SD-03/SW-03).

Instructions given by government personnel:

None

Check all attachments:

	Field sampling forms (in separate submittal)
	Field-generated analytical results
X	Chain-of-custody forms (in separate submittal)

Signed by: Lauren N. Ranker

Name	Lauren Ranker, Field Team Leader	
Date:	11-May-12	
Phone	Cell: (720) 988-4413	Office: (303) 764-8830
Copies sent to:		
	Richard Meadows (CELRH PM)	Brian Jordan (CESPA)
	Laura Kelley (Parsons PM)	Mohammad Estiri (Eco - PM)
	Brenda Galloway (Parsons)	Opjit Ghuman (Eco)
	Sandra de las Fuentes (Parsons)	Carlos Hernandez (Eco)

627446

4.0°C

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

Phone: (559) 275-2175
Fax: (559) 275-4422

CHAIN OF CUSTODY RECORD

C.O.C. 37917

Report to: PLEASE PRINT

Company Name: Eco & Associates
Phone: 714 289-0995
Address: 1855 W. Katella Av. #340
Orange, CA 92867
Fax: 714 289-0965
Attn: Carlos Hernandez

Invoice to: PLEASE PRINT

Company Name: Eco & Assoc. Inc.
Phone: (714) 289-0995
Address: 1855 W. Katella Av. # 340
Orange, CA 92867
Fax: (714) 289-0965
Attn: Carlos Hernandez

Project Name/Number: ECO-11-452
Sampler (Print): Steven Saunders
Purchase Order Number:
Sampler (Signature):

Date Shipped: 5/11/12
Carrier: Fed Ex
Waybill No.: 8726226626 58
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Explosives	Metals	pH	Comments
WVMA-MRS01-SS-04-01	WVMA	5/10/12	1224		2	SOS		X	X	X	X	
WVMA-MRS01-SS-04-02	"		1305		~~2~~ 6			X	X	X	X	MS/MSD
WVMA-MRS01-AMB-SW-02	"		1410		3	X			X	X		
WVMA-MRS01-AMB-SD-02	"		1410		2		X		X	X	X	
WVMA-MRS01-AMB-SS-04-04	"		1429		2			X	X	X	X	
WVMA-MRS01-SS-04-03	"		1512		2			X	X	X	X	
WVMA-MRS01-SS-04-05	"		1522		2			X	X	X	X	
WVMA-MRS01-~~SS~~ SCS-SW-01	"	5/11/12	0941		~~12~~ 9	SCS X			X	X		MS/MSD
WVMA-MRS01-SD-01	"		0941		~~12~~ 6	SCS	X		X	X	X	MS/MSD *
WVMA-MRS01-SW-03	"		0955		3	X			X	X		
WVMA-MRS01-SD-03	"		0955		2		X		X	X	X	

Shuttle Temperature:

Turnaround Requested: Check one
☒ Standard 2-3wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☐ Disposal by Lab (30-day retention) Refer to contract

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	5/11/12	1530					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					5/12/12	10:55	Alvin Alfter

White: Return to client with report Yellow: Laboratory Copy Pink: Sampler

See reverse side for Container Preservative and Sampling Information

SD 5/14/12

677446

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APPL LABS

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Clovis, CA 93611

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CHAIN OF CUSTODY RECORD

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Company Name: Eco & Assoc. Inc.
Phone: (714) 289-0995
Address: 1855 W. Katella AV. # 340
Orange, CA 92867
Fax: (714) 289-0965
Attn: Carlos Hernandez

Project Name/Number: ECO-11-452
Sampler (Print): Steven Saunders
Purchase Order Number:
Sampler (Signature):

Date Shipped: 5/11/12
Carrier: Fed Ex
Waybill No.: 872622662658
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Explosives	Metals	pH										Comments
WVMA-MRS01-SS-04-01	WVMA	5/10/12	1224		2	SCS		X	X	X	X										
WVMA-MRS01-SS-04-02	"		1305		~~2~~ 6			X	X	X	X										MS/MSD
WVMA-MRS01-AMB-SW-02	"		1410		3	X			X	X											
WVMA-MRS01-AMB-SD-02	"		1410		2		X		X	X	X										
WVMA-MRS01-AMB-SS-04-04	"		1429		2			X	X	X	X										
WVMA-MRS01-SS-04-03	"		1512		2			X	X	X	X										
WVMA-MRS01-SS-04-05	"		1522		2	SCS		X	X	X	X										
WVMA-MRS01-~~SS~~ SCS-SW-01	"	5/11/12	0941		~~12~~ 9	X			X	X											MS/MSD
WVMA-MRS01-SD-01	"		0941		~~12~~ 6 SCS		X		X	X	X										add MS/MSD per email 5-14-12
WVMA-MRS01-SW-03	"		0955		3	X			X	X											
WVMA-MRS01-SD-03	"		0955		2		X		X	X	X										

Shuttle Temperature:

Turnaround Requested: Check one
☒ Standard 2-3wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☐ Disposal by Lab (30-day retention) Refer to contract

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	5/11/12	1:30					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					5/12/12	10:55	Alicia Alfaro

White: Return to client with report Yellow: Laboratory Copy Pink: Sampler

See reverse side for Container Preservative and Sampling Information

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

Phone: (559) 275-2175
Fax: (559) 275-4422

CHAIN OF CUSTODY RECORD

4.0°C

C.O.C. 37930

Report to: PLEASE PRINT

Company Name: Eco & Associates
Phone: (714) 289-0995
Address: 1855 W. Katella Ave. #340
Orange, CA 92867
Fax: (714) 289-0965
Attn:

Invoice to: PLEASE PRINT

Company Name: Eco & Associates
Phone: (714) 289-0995
Address: 1855 W. Katella Ave. #340
Orange, CA 92867
Fax: (714) 289-0965
Attn: Carlos Hernandez

Project Name/Number: Eco-11-452
Purchase Order Number:
Sampler (Print): Steven Saunders
Sampler (Signature):

Date Shipped: 5/11/12
Carrier:
Waybill No.: 872622662658
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		Analysis Requested/Method Number: Explosives	METALS	Comments
WVMA-MRS02-SS-24-01	WVMA	5/11/12	1152		2			X		X	X	
WVMA-MRS02-SS-24-02			1227		6			X				MS/MSD
~~WVMA-MRS02-SS-24-03~~								X				
WVMA-MRS02-AMB-SS-24-03			1212		2			X				
WVMA-MRS02-SS-24-04			1208		2			X				
WVMA-MRS02-EB1			1240		3	X						

Shuttle Temperature:

Turnaround Requested: Check one
☑ Standard 2-3wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☐ Disposal by Lab (30-day retention) Refer to contract

Relinquished by sampler:	Date 5/11/12	Time 1530	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 5/12/12	Time 10:55	Received at lab by:

White: Return to client with report Yellow: Laboratory Copy Pink: Sampler

See reverse side for Container Preservative and Sampling Information

APPENDIX E

PHOTOGRAPH DOCUMENTATION LOG

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area ***Area:*** MRS01 ***Time*** 10:53:51 AM ***Point_ID:*** 1

Team Leader: Lauren Ranker
Sampler: None
Sample ID: None
Vegetation: Mixed Trees + Brush
Drainage: Creek
SoilType: Clayey Silt
SoilColor: Brown

MRSPP Menu: None
MRSPP Note: None
Barrier: None
Topography: Broken Terrain
Surface Feature: Berm
Surface Debris: None

Subsurface Met: No Detect
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

Easting 597185.861
Northing 4293333.046

Soil berm that is about 20 ft wide and 100 ft long and oriented northeast to southwest.

05102012_1057.JPG
FTL collecting observation point on berm, surrounded by stakeholders.

05102012_1058a.JPG
View along berm, facing northwest.

05102012_1058b.JPG
UXO Tech and stakeholders standing on top of berm.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area ***Area:*** MRS01 ***Time*** 11:15:12 AM ***Point_ID:*** 2

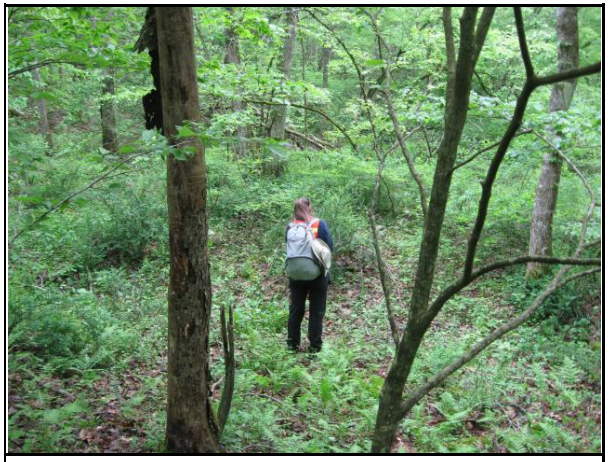
Team Leader: Lauren Ranker
Sampler: None
Sample ID: None
Vegetation: Mixed Trees + Brush
Drainage: None
SoilType: Clayey Silt
SoilColor: Brown

MRSPP Menu: None
MRSPP Note: None
Barrier: None
Topography: Broken Terrain
Surface Feature: Berm
Surface Debris: None

Subsurface Met: No Detect
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

Easting 597284.84
Northing 4293186.275

A second soil berm of similar size and shape. No munitions debris or MEC found in area.



05102012_1116a.JPG
Facing northeast from on top of berm. FTL collecting observation point next to berm.

05102012_1116b.JPG
Facing north. Heavy trees and brush.

05102012_1116c.JPG
USACE project manager and UXO Tech scanning for surface and subsurface debris.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area ***Area:*** MRS01 ***Time*** 11:24:17 AM ***Point_ID:*** 3

Team Leader: Lauren Ranker
Sampler: None
Sample ID: None

MRSPP Menu: None
MRSPP Note: None

Easting 597328.098
Northing 4293170.028

Subsurface Met: No Detect
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

3 gun emplacements in a row. The firing direction is to the northwest.

There is another row of 3 gun emplacements to the southeast.

Vegetation: Mixed Trees + Brush
Drainage: None
SoilType: Clayey Silt
SoilColor: Brown

Barrier: None
Topography: Broken Terrain
Surface Feature: Other
Surface Debris: None

05102012_1124a.JPG
Facing northwest. FTL collecting observation point in front of gun emplacement. Firing direction was to northwest.

05102012_1124b.JPG
Facing northeast toward back side of a second gun emplacement.

05102012_1124c.JPG
Facing west. Visitor from the WV Department of Environmental Protection.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area ***Area:*** MRS01 ***Time*** 11:40:52 AM ***Point_ID:*** 4

Team Leader: Lauren Ranker
Sampler: None
Sample ID: None

MRSPP Menu: None
MRSPP Note: None

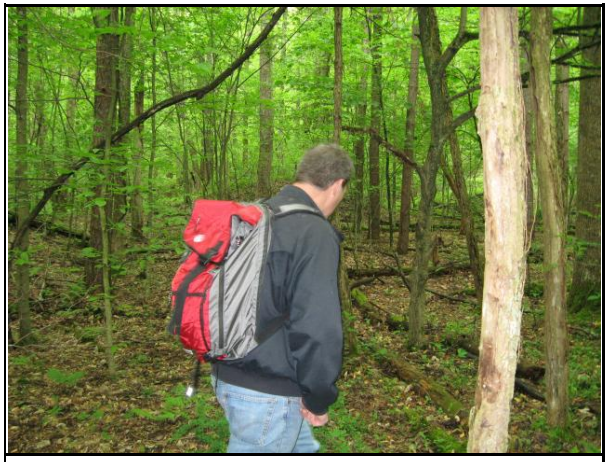
Easting 597397.129
Northing 4293074.565

Subsurface Met: No Detect
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

8 more gun emplacements (two rows of four).

Vegetation: Mixed Trees + Brush
Drainage: None
SoilType: Clayey Silt
SoilColor: Brown

Barrier: None
Topography: Broken Terrain
Surface Feature: Other
Surface Debris: None



05102012_1138a.JPG
Facing south. Visitor from the USFS looking for surface debris. Gun emplacements in background.

05102012_1138b.JPG
Three gun emplacements in background.

05102012_1139.JPG
Stakeholders exploring gun emplacements and searching for surface debris.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area ***Area:*** MRS01 ***Time*** 11:52:35 AM ***Point_ID:*** 5

Team Leader: Lauren Ranker
Sampler: None
Sample ID: None

MRSPP Menu: None
MRSPP Note: None

Easting 597483.479
Northing 4292988.9

Vegetation: Mixed Trees + Brush
Drainage: None
SoilType: Sandy W/Pebbles
SoilColor: Brown

Barrier: None
Topography: Broken Terrain
Surface Feature: Other
Surface Debris: None

Subsurface Met: No Detect
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

Area appears dug out. The soil was possibly used for building the berms and gun emplacements.

This appears to be the end of the infiltration course.

05102012_1152a.JPG
Facing northeast. Visitor from USFS standing in trench.

05102012_1152b.JPG
Facing southwest. Trench is full of water on this end.

05102012_1153.JPG
Medium density trees and brush in area.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area **Area:** MRS01 **Time** 12:24:00 PM **Point_ID:** 6

Team Leader: Lauren Ranker
Sampler: Steve Saunders
Sample ID: WVMA-MRS01-SS-04-01

MRSPP Menu: None
MRSPP Note: None

Easting 597394.953
Northing 4293071.689

Subsurface Met: Low Density
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

Collected soil sample in lower part of southeast face of gun emplacement.

Small subsurface metal anomalies detected at base of emplacement.

Vegetation: Mixed Trees + Brush
Drainage: None
SoilType: Clayey Silt
SoilColor: Brown

Barrier: None
Topography: Broken Terrain
Surface Feature: Other
Surface Debris: None

05102012_1214.JPG
Sample Tech clearing vegetation from the sample location on the face of the gun emplacement.

05102012_1220b.JPG
Sample Tech collecting soil sample.

05102012_1224.JPG
Homogenizing soil in bag before placing in sample jars.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area ***Area:*** MRS01 ***Time*** 1:05:00 PM ***Point_ID:*** 7

Team Leader: Lauren Ranker
Sampler: Steve Saunders
Sample ID: WVMA-MRS01-SS-04-02

MRSPP Menu: None
MRSPP Note: None

Easting 597368.43
Northing 4293126.325

Vegetation: Mixed Trees + Brush
Drainage: None
SoilType: Clayey Silt
SoilColor: Brown

Barrier: None
Topography: Broken Terrain
Surface Feature: Berm
Surface Debris: None

Subsurface Met: Low Density
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

Collected the soil sample midway up the southeast face of the berm. Also collected MS and MSD samples.

Detected a few small subsurface metal anomalies at the base of the berm.

05102012_1259.JPG
Sample Tech placing the CRREL 7-point wheel sample template on the berm.

05102012_1302.JPG
Collecting soil sample in plastic bag.

05102012_1305.JPG
Sample Tech placing soil in sample jars.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area ***Area:*** MRS01 ***Time*** 1:24:41 PM ***Point_ID:*** 8

Team Leader: Lauren Ranker
Sampler: None
Sample ID: None

MRSPP Menu: None
MRSPP Note: None

Subsurface Met: No Detect
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

Easting 597582.418
Northing 4293190.529

Nothing of interest.

Vegetation: Mixed Trees + Brush
Drainage: Intermittent
SoilType: Clayey Silt
SoilColor: Brown

Barrier: None
Topography: Gentle Slope
Surface Feature: None
Surface Debris: None

05102012_1324a.JPG
Facing east. FTL collecting observation point.

05102012_1324b.JPG
Facing west. Medium density trees in area and ground is covered in ferns.

05102012_1324c.JPG
Facing north. Gently sloping terrain. Stakeholders taking a break under the trees.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area ***Area:*** MRS01 ***Time*** 2:10:00 PM ***Point_ID:*** 9

Team Leader: Lauren Ranker
Sampler: Steve Saunders
Sample ID: WVMA-MRS01-AMB-SW-02

MRSPP Menu: None
MRSPP Note: None

Easting 597795.994
Northing 4293280.586

Subsurface Met: No Detect
MEC: None
MEC/MOD: N/A
MD: None

Collected ambient samples WVMA-MRS01-AMB-SW-02 and WVMA-MRS01-AMB-SD-02 in a small stream that flows westward toward the infiltration course.

Vegetation: Mixed Trees + Brush
Drainage: Creek

Barrier: None
Topography: Gentle Slope

SoilType: Silty Sand
SoilColor: Tan

Surface Feature: 4WD road
Surface Debris: None

MD/MOD: N/A

05102012_1403.JPG
Sample Tech collecting surface water sample in stream.

05102012_1404.JPG
View of field team and stakeholders next to stream.

05102012_1409a.JPG
Sample Tech collecting sediment sample.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area ***Area:*** MRS01 ***Time*** 2:29:00 PM ***Point_ID:*** 10

Team Leader: Lauren Ranker
Sampler: Steve Saunders
Sample ID: WVMA-MRS01-AMB-SS-04-04

MRSPP Menu: None
MRSPP Note: None

Easting 597795.918
Northing 4293284.885

Subsurface Met: No Detect
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

Collected the ambient soil sample on the opposite side of the stream as the 4WD road.

Vegetation: Mixed Trees + Brush
Drainage: Creek
SoilType: Clayey Silt
SoilColor: Brown

Barrier: None
Topography: Gentle Slope
Surface Feature: None
Surface Debris: None

05102012_1423.JPG
Sample Tech clearing vegetation from the sample location.

05102012_1426b.JPG
Collecting soil sample.

05102012_1427.JPG
Placing soil sample in jars.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area ***Area:*** MRS01 ***Time*** 2:49:53 PM ***Point_ID:*** 11

Team Leader: Lauren Ranker
Sampler: None
Sample ID: None
Vegetation: Mixed Trees + Brush
Drainage: None
SoilType: Clayey Silt
SoilColor: Brown

MRSPP Menu: None
MRSPP Note: None
Barrier: None
Topography: Broken Terrain
Surface Feature: Berm
Surface Debris: None

Subsurface Met: No Detect
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

Easting 597355.563
Northing 4293272.047

A long soil berm trends north to south. The berm is similar in size and shape to the berms found in the other drainage to the south.

05102012_1449a.JPG
Facing northeast. FTL collecting observation point. UXO Tech scanning for surface and subsurface metal debris.

05102012_1449b.JPG
Facing southwest across the soil berm.

05102012_1449c.JPG
Medium to dense trees and brush in area.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area **Area:** MRS01 **Time** 2:54:48 PM **Point_ID:** 12

Team Leader: Lauren Ranker
Sampler: None
Sample ID: None
Vegetation: Mixed Trees + Brush
Drainage: None
SoilType: Clayey Silt
SoilColor: Brown

MRSPP Menu: None
MRSPP Note: None
Barrier: None
Topography: Gentle Slope
Surface Feature: Crater
Surface Debris: None

Subsurface Met: Medium Density
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

Easting 597350.55
Northing 4293284.223

Found 12 craters grouped fairly close together. Detected subsurface metal anomalies in at least 6 of them.

The craters are 8-10 ft in diameter and circular. Most are full of water from recent storms.

05102012_1454a.JPG
Crater full of water.

05102012_1454b.JPG
View of a second crater full of water in background.

05102012_1454c.JPG
UXO Tech scanning a third crater for subsurface metal anomalies.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Thursday, May 10, 2012

Property: West Virginia Maneuver Area **Area:** MRS01 **Time** 3:12:00 PM **Point_ID:** 13

Team Leader: Lauren Ranker
Sampler: Steve Saunders
Sample ID: WVMA-MRS01-SS-04-03
Vegetation: Mixed Trees + Brush
Drainage: None
SoilType: Clayey Silt
SoilColor: Brown

MRSPP Menu: None
MRSPP Note: None
Barrier: None
Topography: Gentle Slope
Surface Feature: Crater
Surface Debris: None

Subsurface Met: No Detect
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

Easting 597313.529
Northing 4293310.308

Collected soil sample on the edge of one of the craters.

No subsurface metal anomaly found in this crater.

05102012_1508a.JPG
Sample Tech collecting soil sample.

05102012_1508b.JPG
Leaves and ferns cover ground. Crater in background.

05102012_1511.JPG
Placing soil in sample bag prior to homogenization.

Field Team Leader's Site Observations
Dailey Infiltration Camp MRS, Randolph County, West Virginia

Friday, May 11, 2012

Property: West Virginia Maneuver Area **Area:** MRS01 **Time** 9:41:00 AM **Point_ID:** 14

Team Leader: Lauren Ranker
Sampler: Steve Saunders
Sample ID: WVMA-MRS01-SW-01
Vegetation: Mixed Brush + Grass
Drainage: Creek
SoilType: Silty Sand
SoilColor: Tan

MRSPP Menu: None
MRSPP Note: None
Barrier: None
Topography: Gentle Slope
Surface Feature: None
Surface Debris: None

Subsurface Met: No Detect
MEC: None
MEC/MOD: N/A
MD: None
MD/MOD: N/A

Easting 597103.938
Northing 4293417.53

Collected samples WVMA-MRS01-SW-01 and WVMA-MRS01-SD-01 in the creek, downslope from the Daily Infiltration Camp.

Also collected duplicate sample WVMA-MRS01-SW-03 and WVMA-MRS01-SD-03, and MS and MSD samples.

05112012_0907a.JPG
Sample Tech collecting surface water sample in creek.

05112012_0907b.JPG
Facing east, upstream and toward the infiltration course.

05112012_0931.JPG
Sample Tech collecting sediment sample on edge of creek.

APPENDIX F

ANALYTICAL DATA

THE ATTACHED CD-ROM INCLUDES THE ENTIRE ANALYTICAL DATA VALIDATION PACKAGE CASE NO.67746 IN PDF FORMAT

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: 05233CA
DoD-ELAP Certificate number: ADE-1410

Data Validation Report

June 7, 2012

Eco & Associates, Inc.
1855 West Katella Avenue, Suite 340
Orange, California 92867

Attn: Mohammad Estiri

Title: Report of Data: Case 67746

Project: 748073 West Virginia Maneuver Area - MRS01 & MRS02

Contract #: Prime contract # for DoD: W912DY-04-D-0005
Subcontract: ECO-MMRP-11-001, Addendum TO 16

Dear Mr. Estiri:

Four water and twelve soil samples were received May 12, 2012, in good condition. Written results for the requested analyses are provided on this June 7, 2012.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager Diane Anderson at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Sharon Dehmlow, Laboratory Director
APPL, Inc.

SD/sdm
Enclosure
cc: File

Number of pages in this report: 555

Data Validation Package
for
748073 WVMA-MRS01 & MRS02, WV

ARF 67746

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SAMPLE RECEIPT INFORMATION

Sample Receipt Information

ARF: 67746

Project: 748073 West Virginia Maneuver Area - MRS01 & MRS02

Sample Receipt Information:

The samples were received on May 12, 2012, at 4.0°C, 4.0°C, 4.0°C, and 4.0°C. The samples were assigned Analytical Request Form (ARF) number 67746. The sample numbers and requested analyses were compared to the chains of custody and email communications. The client requested the addition of MS/MSD to sample MRS01-SD-01. No other exception was encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
WVMA-MRS01-SS-04-01	AY61125	SOIL	05/10/12	05/12/12
WVMA-MRS01-SS-04-02	AY61126	SOIL	05/10/12	05/12/12
WVMA-MRS01-AMB-SW-02	AY61127	WATER	05/10/12	05/12/12
WVMA-MRS01-AMB-SD-02	AY61128	Sediment	05/10/12	05/12/12
WVMA-MRS01-AMB-SS-04-04	AY61129	SOIL	05/10/12	05/12/12
WVMA-MRS01-SS-04-03	AY61130	SOIL	05/10/12	05/12/12
WVMA-MRS01-SS-04-05	AY61131	SOIL	05/10/12	05/12/12
WVMA-MRS01-SW-01	AY61132	WATER	05/11/12	05/12/12
WVMA-MRS01-SD-01	AY61133	Sediment	05/11/12	05/12/12
WVMA-MRS01-SW-03	AY61134	WATER	05/11/12	05/12/12
WVMA-MRS01-SD-03	AY61135	Sediment	05/11/12	05/12/12
WVMA-MRS02-SS-24-01	AY61136	SOIL	05/11/12	05/12/12
WVMA-MRS02-SS-24-02	AY61137	SOIL	05/11/12	05/12/12
WVMA-MRS02-AMB-SS-24-03	AY61138	SOIL	05/11/12	05/12/12
WVMA-MRS02-SS-24-04	AY61139	SOIL	05/11/12	05/12/12
WVMA-MRS02-EB1	AY61140	WATER	05/11/12	05/12/12

Percent moisture was determined using CLP 4.0

Samples and blanks were screened for J-value responses between the method detection limit (MDL) and reporting limit (RL).

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request.

Measurement uncertainty can be reported upon request.

CASE NARRATIVE

EPA Method 8330B
Energetics

Sample Preparation:

The soil samples were dried, then extracted according to EPA method 8330B without using incremental sampling procedures. The water samples were extracted according to EPA method 3535. All hold times were met.

Analysis:

The samples were analyzed according to EPA Method 8330B using an Agilent 1290 HPLC with DA detector. Manual integrations were performed in accordance to APPL's SOP. The following analytes were manually integrated: For Waldorf: PETN in data file 0516_0000024, 0516_0000026, 0529_0000095, 0529_0000097, 0521_0000063, 0521_0000089, 0529_0000088, 0529_0000115, 0529_0000127, 0529_0000138, 0604_0000006, 0604_0000010, 0604_0000011, 0604_0000013, 0604_0000014, 0604_0000029, 0604_000040 . For Statler: 1,2-Dinitrobenzene in data file 0514_0000004, RDX in data file 0514_0000004, Tetryl in data file 0514_0000004, 2,6-Dinitrotoluene in data file 0514_0000006, 2-Nitrotoluene in data file 0514_0000004, 0514_0000006, 4-Nitrotoluene in data file 0514_0000004, 0514_0000006, 3-Nitrotoluene in data file 0514_0000004, 0514_0000006, 4-Amino-2,6-Dinitrotoluene in data file 0514_0000004, 2-Amino-4,6-Dinitrotoluene in data file 0514_0000004. Chromatograms of before and after manual integration are enclosed.

Quality Control/Assurance:

Spike Recovery

Laboratory Control Spikes (LCS) were used for quality assurance. All acceptance criteria were met.

Samples WVMA-MRS01-SS-04-02, WVMA-MRS01-SW-01, WVMA-MRS01-SD-01, and WVMA-MRS02-SS-24-02 were designated by the client for MS/MSD analysis. In the WVMA-MRS01-SS-04-02 MS/MSD, 4-Amino-2,6-Dinitrotoluene recovered below the lower control limit of 80% at 78.4% and 77.5%. The parent sample was J flagged in accordance with the MMRP SI SAP guidelines. All other MS/MSD criteria were met.

Method blanks:

No target metal was detected at or above one-half the reporting limit (RL) in the method blanks.

Surrogates:

Surrogate recoveries are summarized on the Form 2 & 8. All surrogates had acceptable recoveries.

Calibration:

The initial and continuing calibrations and second source were analyzed according to the method. All calibration criteria were met.

Summary:

No other analytical problem was encountered.

EPA methods 6010B, 7470A, and 7471B
Metals

Digestion Information:

The soil samples were digested according to EPA methods 3050B and 7471B. The water samples were digested according to EPA methods 3010A and 7470A. No exception was encountered. All holding times were met.

Analysis Information:

Samples:

The samples were analyzed according to EPA method 6010B using a Perkin Elmer 5300DV ICP and according to EPA methods 7470A and 7471B using a Perkin Elmer AAnalyst.

Calibrations:

Calibrations were performed according to the method for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard.

Blanks:

No target metal was detected at or above one-half the reporting limit (RL) in the method blanks.

Spikes:

Laboratory Control Spikes (LCS), matrix spikes (MS/MSD), post-digestion spikes (PDS) and dilution tests (DT) were used for quality assurance. All acceptance criteria were met in the LCS.

Samples WVMA-MRS01-SS-04-02, WVMA-MRS01-SW-01, WVMA-MRS01-SD-01, and WVMA-MRS02-SS-24-02 were designated by the client for MS/MSD analysis.

For the MS/MSD on sample WVMA-MRS01-SS-04-02, eight metals recovered below the 80% lower control limits: aluminum at 0% and 0%, antimony at 47.7% and 45.7%, barium at 0% and 35.6%, chromium at 50.5% and 51.5%, copper at 46.5% and 46.5%, lead at 45.5% in the MS, magnesium at 60.4% and 50.5%, and zinc at 35.3% and 28.7%. The concentration of aluminum in the parent sample exceeded the spike amount by ten-fold or more. All target metals are flagged with a "J" in the parent sample, in accordance with the MMRP SI SAP.

For sample WVMA-MRS01-SW-01, zinc recovered below the 80% lower control limit at 74.8%, in the MS. Zinc is flagged with a "J" in the parent sample, in accordance with the MMRP SI SAP. The dilution test was applicable to magnesium. The dilution test and PDS met all acceptance criteria.

For the MS/MSD on sample WVMA-MRS01-SD-01, six metals recovered outside of the 80% to 120% control limits: aluminum at 2692% and 3151%, antimony at 32.0% and 60.8% with a RPD at 58.6%, barium at 277% and 277%, chromium at 123% in the MSD, copper at 124% in the MSD, lead at 123% in the MS, and zinc at 133% and 133%. The concentration of aluminum in the parent sample exceeded the

spike amount by ten-fold or more. Aluminum, antimony, barium, chromium, copper, lead, and zinc are flagged with a "J" in the parent sample, in accordance with the MMRP SI SAP. The dilution test was applicable to seven metals; copper exceeded the 10% deviation limit at 33.4%. The PDS met all acceptance criteria.

For sample WVMA-MRS02-SS-24-02, in the MS/MSD, five metals recovered below the 80% lower control limit; antimony at 44.8% and 41.8%, copper at 48.2% and 38.2%, lead at 69.3% and 61.3%, manganese at 0% and 0%, and zinc at 65.8% and 52.8%. The concentration of manganese in the parent sample exceeded the spike amount by ten-fold or more. Antimony, copper, lead, manganese, and zinc are flagged with a "J" in the parent sample, in accordance with the MMRP SI SAP.

Summary:

No other analytical exception is noted. The data generated are acceptable.

EPA Method 9045D

pH

Sample Preparation Information:

The soil samples was prepared according to the method.

Analysis Information:

Samples:

The samples were analyzed according to the method. Samples were received more than 24 hours after collection time; they were analyzed as soon as possible on the day they were received.

Calibration:

Calibrations were performed according to the method.

Duplicates:

A sample duplicate was performed on sample WVMA-MRS01-SD-01.

Summary:

No other analytical exception is noted.

Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other - explain
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel.
Y	Percent difference between primary and confirmation column > 40%

CHAIN OF CUSTODY,
ARF, CRF, AND
CLIENT COMMUNICATION

APPL - Analysis Request Form 67746

Client: Eco & Associates, Inc.
Address: 1855 W. Katella Ave., Suite 340
Orange, CA 92867
Attn: Mohammad Estiri
Phone: 714-289-0995 Fax: 714-289-0965
Job: 748073 WVMA-MRS01 & MRS02
PO #: ECO-MMRP-11-001
Chain of Custody (Y/N): Y # 37917,37930
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: STD

Received by: TBV
Date Received: 05/12/12 Time: 10:55
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -4
Chest Temp(s): 4.0,4.0,4.0,4.0°C
Color: E-BRN,R-ORYELL
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Diane Anderson
QC Report Type: DVP4/SEDD/WV
Due Date: 06/04/12

Comments:
pdf ARF to Mohammad mestiri@ecoinc.info & Sandra; send 1 DVP4 & 1 DVP3.
Wait to prepare CD of DVP4 report until notified. MMRP dividers.
DOD QSM v3.0 & MMRP SI SAP; see attached site specific analyte list. If pH is requested, analyze ASAP.
Report J values to MDL; U flag non-detects at the MDL; 2 sigfigs for metals
Run triplicate as specified, MS/MSD only as requested. J flag parent sample only for failed MS/MSD
EDD: SEDD 5.0 2A (ADR 8.3 checker, Parsons options) to Pam.Ford@parsons.com
add MS/MSD & metals list per emails. 5-14-12
added moisture 5-16-12 MAR 6-4-12

Sample Distribution:
Extractions: 12-_MSE018, 4-_MWE3535
LCMS: 12-$833BLLS, 4-$833BLLW
Metals: 8-$61SMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), 4-$61SMMRP(Sb,Cu,Pb,Mn,Zn), 3-$61WMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), 1-$61WMMRP(Sb,Cu,Pb,Mn,Zn), 4-$HGDODS, 1-$HGDODW
Wetlab: 8-$9045D, 12-MOIST
Other: 12-_M3050LL, 4-_M3010LL, 4-_M7471, 1-_M7470

Charges:

Invoice To:

	Client ID		APPL ID	Sampled		Analyses Requested
1.	WVMA-MRS01-SS-04-01		AY61125S	05/10/12	12:24	$61SMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), $833BLLS, $9045D, MOIST
2.	WVMA-MRS01-SS-04-02	MS/MSD	AY61126S	05/10/12	13:05	$61SMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), $833BLLS, $9045D, MOIST
3.	WVMA-MRS01-AMB-SW-02		AY61127W	05/10/12	14:10	$61WMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), $833BLLW
4.	WVMA-MRS01-AMB-SD-02		AY61128S	05/10/12	14:10	$61SMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), $833BLLS, $9045D, MOIST

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -4 UTC

5.	WVMA-MRS01-AMB-SS-04-04		AY61129S	05/10/12	14:29	$61SMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), $833BLLS, $9045D, MOIST
6.	WVMA-MRS01-SS-04-03		AY61130S	05/10/12	15:12	$61SMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), $833BLLS, $9045D, MOIST
7.	WVMA-MRS01-SS-04-05		AY61131S	05/10/12	15:22	$61SMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), $833BLLS, $9045D, MOIST
8.	WVMA-MRS01-SW-01	MS/MSD	AY61132W	05/11/12	09:41	$61WMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), $833BLLW
9.	WVMA-MRS01-SD-01	MS/MSD	AY61133S	05/11/12	09:41	$61SMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), $833BLLS, $9045D, MOIST
10.	WVMA-MRS01-SW-03		AY61134W	05/11/12	09:55	$61WMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), $833BLLW
11.	WVMA-MRS01-SD-03		AY61135S	05/11/12	09:55	$61SMMRP(Al,Sb,Ba,Cu,Cr,Pb,Mg,Zn), $833BLLS, $9045D, MOIST
12.	WVMA-MRS02-SS-24-01		AY61136S	05/11/12	11:52	$61SMMRP(Sb,Cu,Pb,Mn,Zn), $833BLLS, $HGDODS, MOIST
13.	WVMA-MRS02-SS-24-02	MS/MSD	AY61137S	05/11/12	12:27	$61SMMRP(Sb,Cu,Pb,Mn,Zn), $833BLLS, $HGDODS, MOIST
14.	WVMA-MRS02-AMB-SS-24-03		AY61138S	05/11/12	12:12	$61SMMRP(Sb,Cu,Pb,Mn,Zn), $833BLLS, $HGDODS, MOIST
15.	WVMA-MRS02-SS-24-04		AY61139S	05/11/12	12:08	$61SMMRP(Sb,Cu,Pb,Mn,Zn), $833BLLS, $HGDODS, MOIST
16.	WVMA-MRS02-EB1		AY61140W	05/11/12	12:40	$61WMMRP(Sb,Cu,Pb,Mn,Zn), $833BLLW, $HGDODW

APPL Sample Receipt Form

ARF# **67746**

Sample	Container Type	Count	pH
AY61125	[20] 4oz Jar	2	NA
AY61126	[20] 4oz Jar	6	NA
AY61127	[6] PL 500mL - HNO3	1	1.7
	[17] Amber Liter	2	NA
AY61128	[20] 4oz Jar	1	NA
	[21] 8oz Jar	1	NA
AY61129	[20] 4oz Jar	1	NA
	[21] 8oz Jar	1	NA
AY61130	[20] 4oz Jar	1	NA
	[21] 8oz Jar	1	NA
AY61131	[20] 4oz Jar	2	NA
AY61132	[6] PL 500mL - HNO3	3	1.7
	[17] Amber Liter	6	NA
AY61133	[20] 4oz Jar	3	NA
	[21] 8oz Jar	3	NA
AY61134	[6] PL 500mL - HNO3	1	1.7
	[17] Amber Liter	2	NA
AY61135	[20] 4oz Jar	1	NA
	[21] 8oz Jar	1	NA
AY61136	[20] 4oz Jar	2	NA
AY61137	[20] 4oz Jar	6	NA
AY61138	[20] 4oz Jar	2	NA
AY61139	[20] 4oz Jar	2	NA
AY61140	[6] PL 500mL - HNO3	1	1.7
	[17] Amber Liter	2	NA

Sample	Container Type	Count	pH

Renee Patterson

From: de las Fuentes, Sandra [Sandra.delasFuentes@parsons.com]
Sent: Monday, May 14, 2012 1:00 PM
To: Renee Patterson
Cc: Diane Anderson
Subject: Revised COC for Samples received 5/12/12
Attachments: SKMBT_C452E12051414440.pdf

Renee,

Revised COC adding an MS/MSD to MRS01-SD-01.

Thanks,

Sandra

Renee Patterson

From: de las Fuentes, Sandra [Sandra.delasFuentes@parsons.com]
Sent: Monday, May 14, 2012 1:01 PM
To: Renee Patterson
Cc: Diane Anderson
Subject: WVMA-Metals Lists by MRS

Renee,

Since the field crew isn't identifying the metals list on the COCs, please see the specifics per MRS listed below. I'm not sure you'll be getting samples for MRS05, but you either already have or will be getting samples for the other MRSs this week and next.

MRS01: Al, Sb, Ba, Cu, Cr, Pb, Mg, Zn
MRS02: Sb, Cu, Pb, Mn, Hg, Zn
MRS03: Al, Sb, Cu, Cr, Pb, Mn, Hg, Zn
MRS04: Al, Cu, Pb, Zn
MRS05: Al, Sb, Cu, Pb, Zn
MRS07: Al, Sb, Ba, Cu, Pb, Zn

Sandra

627446

4.0°C

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

Phone: (559) 275-2175
Fax: (559) 275-4422

CHAIN OF CUSTODY RECORD

C.O.C. 37917

Report to: PLEASE PRINT

Company Name: Eco & Associates
Phone: 714 289-0995
Address: 1855 W. Katella Av. #340
Orange, CA 92867
Fax: 714 289-0965
Attn: Carlos Hernandez

Invoice to: PLEASE PRINT

Company Name: Eco & Assoc. Inc.
Phone: (714) 289-0995
Address: 1855 W. Katella Av. # 340
Orange, CA 92867
Fax: (714) 289-0965
Attn: Carlos Hernandez

Project Name/Number: ECO-11-452
Sampler (Print): Steven Saunders
Purchase Order Number:
Sampler (Signature):

Date Shipped: 5/11/12
Carrier: Fed Ex
Waybill No.: 8726226626 58
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Explosives	Metals	pH	Comments
WVMA-MRS01-SS-04-01	WVMA	5/10/12	1224		2	SOS		X	X	X	X	
WVMA-MRS01-SS-04-02	"		1305		~~2~~ 6			X	X	X	X	MS/MSD
WVMA-MRS01-AMB-SW-02	"		1410		3	X			X	X		
WVMA-MRS01-AMB-SD-02	"		1410		2		X		X	X	X	
WVMA-MRS01-AMB-SS-04-04	"		1429		2			X	X	X	X	
WVMA-MRS01-SS-04-03	"		1512		2			X	X	X	X	
WVMA-MRS01-SS-04-05	"		1522		2			X	X	X	X	
WVMA-MRS01-~~SS~~ SCS-SW-01	"	5/11/12	0941		~~12~~ 9	SCS X			X	X		MS/MSD
WVMA-MRS01-SD-01	"		0941		~~12~~ 6	SCS	X		X	X	X	MS/MSD *
WVMA-MRS01-SW-03	"		0955		3	X			X	X		
WVMA-MRS01-SD-03	"		0955		2		X		X	X	X	

Shuttle Temperature:

Turnaround Requested: Check one
☒ Standard 2-3wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☐ Disposal by Lab (30-day retention) Refer to contract

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	5/11/12	1530					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					5/12/12	10:55	Alvin Alfter

White: Return to client with report Yellow: Laboratory Copy Pink: Sampler

See reverse side for Container Preservative and Sampling Information

SD 5/14/12

677446

4.0°C

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

Phone: (559) 275-2175
Fax: (559) 275-4422

CHAIN OF CUSTODY RECORD

C.O.C. 37917

Report to: PLEASE PRINT

Company Name: Eco & Associates
Phone: 714 289-0995
Address: 1855 W. Katella AV. #340
Orange, CA 92867
Fax: 714 289-0965
Attn: Carlos Hernandez

Invoice to: PLEASE PRINT

Company Name: Eco & Assoc. Inc.
Phone: (714) 289-0995
Address: 1855 W. Katella AV. # 340
Orange, CA 92867
Fax: (714) 289-0965
Attn: Carlos Hernandez

Project Name/Number: ECO-11-452
Sampler (Print): Steven Saunders
Purchase Order Number:
Sampler (Signature):

Date Shipped: 5/11/12
Carrier: Fed Ex
Waybill No.: 872622662658
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Explosives	Metals	pH										Comments
WVMA-MRS01-SS-04-01	WVMA	5/10/12	1224		2	SCS		X	X	X	X										
WVMA-MRS01-SS-04-02	"		1305		~~2~~ 6			X	X	X	X										MS/MSD
WVMA-MRS01-AMB-SW-02	"		1410		3	X			X	X											
WVMA-MRS01-AMB-SD-02	"		1410		2		X		X	X	X										
WVMA-MRS01-AMB-SS-04-04	"		1429		2			X	X	X	X										
WVMA-MRS01-SS-04-03	"		1512		2			X	X	X	X										
WVMA-MRS01-SS-04-05	"		1522		2	SCS		X	X	X	X										
WVMA-MRS01-~~SS~~ SCS-SW-01	"	5/11/12	0941		~~12~~ 9	X			X	X											MS/MSD
WVMA-MRS01-SD-01	"		0941		~~12~~ 6 SCS		X		X	X	X										add MS/MSD per email 5-14-12
WVMA-MRS01-SW-03	"		0955		3	X			X	X											
WVMA-MRS01-SD-03	"		0955		2		X		X	X	X										

Shuttle Temperature:

Turnaround Requested: Check one
☒ Standard 2-3wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☐ Disposal by Lab (30-day retention) Refer to contract

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	5/11/12	1:30					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					5/12/12	10:55	Alicia Alfaro

White: Return to client with report Yellow: Laboratory Copy Pink: Sampler

See reverse side for Container Preservative and Sampling Information

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

Phone: (559) 275-2175
Fax: (559) 275-4422

CHAIN OF CUSTODY RECORD

4.0°C

C.O.C. 37930

Report to: PLEASE PRINT

Company Name: Eco & Associates
Phone: (714) 289-0995
Address: 1855 W. Katella Ave. #340
Orange, CA 92867
Fax: (714) 289-0965
Attn:

Invoice to: PLEASE PRINT

Company Name: Eco & Associates
Phone: (714) 289-0995
Address: 1855 W. Katella Ave. #340
Orange, CA 92867
Fax: (714) 289-0965
Attn: Carlos Hernandez

Project Name/Number: Eco-11-452
Purchase Order Number:
Sampler (Print): Steven Saunders
Sampler (Signature):

Date Shipped: 5/11/12
Carrier:
Waybill No.: 872622662658
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		Analysis Requested/Method Number: Explosives	METALS	Comments
WVMA-MRS02-SS-24-01	WVMA	5/11/12	1152		2			X		X	X	
WVMA-MRS02-SS-24-02			1227		6			X				MS/MSD
~~WVMA-MRS02-SS-24-03~~								X				
WVMA-MRS02-AMB-SS-24-03			1212		2			X				
WVMA-MRS02-SS-24-04			1208		2			X				
WVMA-MRS02-EB1			1240		3	X						

Shuttle Temperature:

Turnaround Requested: Check one
☑ Standard 2-3wk ☐ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☐ Disposal by Lab (30-day retention) Refer to contract

Relinquished by sampler:	Date 5/11/12	Time 1530	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 5/12/12	Time 10:55	Received at lab by:

White: Return to client with report Yellow: Laboratory Copy Pink: Sampler

See reverse side for Container Preservative and Sampling Information

COOLER RECEIPT FORM

1) Project: ECO-11-452 Date Received: 5/12/12
2) Coolers: Number of Coolers: 4
3) YES NO Were coolers and samples screened for radioactivity?
4) YES NO Were custody seals on outside of cooler? How many? 4 Date on seal? 5/11/12
5) Name on seal? See Label
6) YES NO NA Were custody seals unbroken and intact at the time of arrival?
7) YES NO Did the cooler come with a shipping slip (air bill, etc.)? Carrier name: Fed Ex
8) Shipping slip numbers: 1) MASTER 2) 8726 2266 2658 3)
9) YES NO NA Was the shipping slip scanned into the database?
10) YES NO NA If cooler belongs to APPL, has it been logged into the ice chest database?
11) Describe type of packing in cooler (bubble wrap, popcorn, type of ice, etc.): Bubble bag, Ziploc, in wet ice
12) YES NO NA For hand delivered samples was sufficient ice present to start the cooling process?
13) YES NO Was a temperature blank included in the cooler?
14) Serial number of certified NIST thermometer used: A35267 Correction factor: 0
15) Cooler temp(s): 1) 4.0°C 2) 4.0°C 3) 4.0°C 4) 4.0°C 5) 6) 7) 8)

Chain of custody:
16) YES NO Was a chain of custody received?
17) YES NO Were the custody papers signed in the appropriate places?
18) YES NO Was the project identifiable from custody papers?
19) YES NO Did the chain of custody include date and time of sampling?
20) YES NO Is location where sample was taken listed on the chain of custody?

Sample Labels:
21) YES NO Were container labels in good condition?
22) YES NO Was the client ID on the label?
23) YES NO Was the date of sampling on the label?
24) YES NO Was the time of sampling on the label?
25) YES NO Did all container labels agree with custody papers?

Sample Containers:
26) YES NO Were all containers sealed in separate bags?
27) YES NO Did all containers arrive unbroken?
28) YES NO Was there any leakage from samples?
29) YES NO Were any of the lids cracked or broken?
30) YES NO Were correct containers used for the tests indicated?
31) YES NO Was a sufficient amount of sample sent for tests indicated?
32) YES NO NA Were bubbles present in volatile samples? If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea:

Preservation & Hold time:
33) YES NO NA Was a sufficient amount of holding time remaining to analyze the samples?
34) YES NO NA Do the sample containers contain the same preservative as what is stated on the COC?
35) YES NO NA Was the pH taken of all non-VOA preserved samples and written on the sample container?
36) YES NO NA Was the pH of acid preserved non-VOA samples < 2 & sodium hydroxide preserved samples > 12?
37) YES NO NA Unpreserved VOA Vials received?
38) YES NO NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?

Lab notified if pH was not adequate: for soil
Deficiencies: Received pH greater than 24 hours from collection time. Received 6 containers for Sample WVMA-MRS01-SD-01 - Do not know if it is ms/msd or not. It isn't indicated on COC. yes per email 5-14-12 MP

Signature of personnel receiving samples: Young Jh Second reviewer:
Signature of project manager notified: René Date and Time of notification: 5-14-12
Name of client notified: Date and Time of notification:
Information given to client:
by whom (Initials):

CUSTODY SEAL
APPL, Inc.
(559) 275-2175
Initials: KCS
Date: 5/11/12

EXPLOSIVES
EPA METHOD 8330B

APPL, INC.

EPA 8330B
EXPLOSIVES

Water
Sample & QC Data

APPL, INC.

EPA 8330B EXPLOSIVES-WATER

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-AMB-SW-02

APPL ID: AY61127

Sample Collection Date: 05/10/12

QCG: #833BL-120516A-167642

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.013 U	0.30	0.013	ug/L	05/16/12	05/23/12
EPA 8330L	1,3-DINITROBENZENE	0.011 U	0.30	0.011	ug/L	05/16/12	05/23/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2,4-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2,6-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2-NITROTOLUENE	0.099 U	0.30	0.099	ug/L	05/16/12	05/23/12
EPA 8330L	3-NITROTOLUENE	0.010 U	0.30	0.010	ug/L	05/16/12	05/23/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.012 U	0.30	0.012	ug/L	05/16/12	05/23/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.30	0.010	ug/L	05/16/12	05/23/12
EPA 8330L	HMX	0.023 U	0.30	0.023	ug/L	05/16/12	05/23/12
EPA 8330L	NITROBENZENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	NITROGLYCERIN	0.029 U	0.30	0.029	ug/L	05/16/12	05/23/12
EPA 8330L	PETN	0.01 U	1.5	0.01	ug/L	05/16/12	05/23/12
EPA 8330L	RDX	0.021 U	0.30	0.021	ug/L	05/16/12	05/23/12
EPA 8330L	TETRYL	0.014 U	0.30	0.014	ug/L	05/16/12	05/23/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	83.0	70-130		%	05/16/12	05/23/12

Quant Method: W110907.M
Run #: 0521_0000076
Instrument: Waldorf
Sequence: 120521
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:17 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000076.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 07:34:51
Operator : hm
Sample : AY61127W02 0.016 DF 05/16/12
Misc : water
ALS Vial : 8200 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 29 12:39:53 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.830	0	717648	N.D.	0.830 #
Spiked Amount 1.000			Recovery	=	0.00%	83.00%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D.
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. <5.31W
9) TM TETRYL	6.862	0.000	14210	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.386	0.000	14660	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.709	0.000	18815	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.027	0.000	22192	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.174	0.000	24107	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.530	0.000	17727	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D. RT

hm 5/29/12

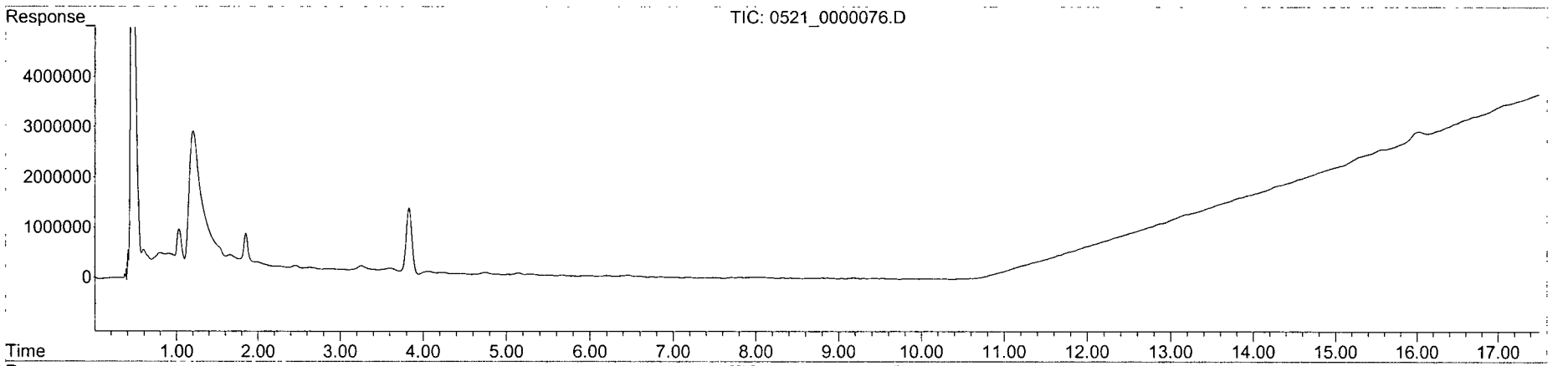
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

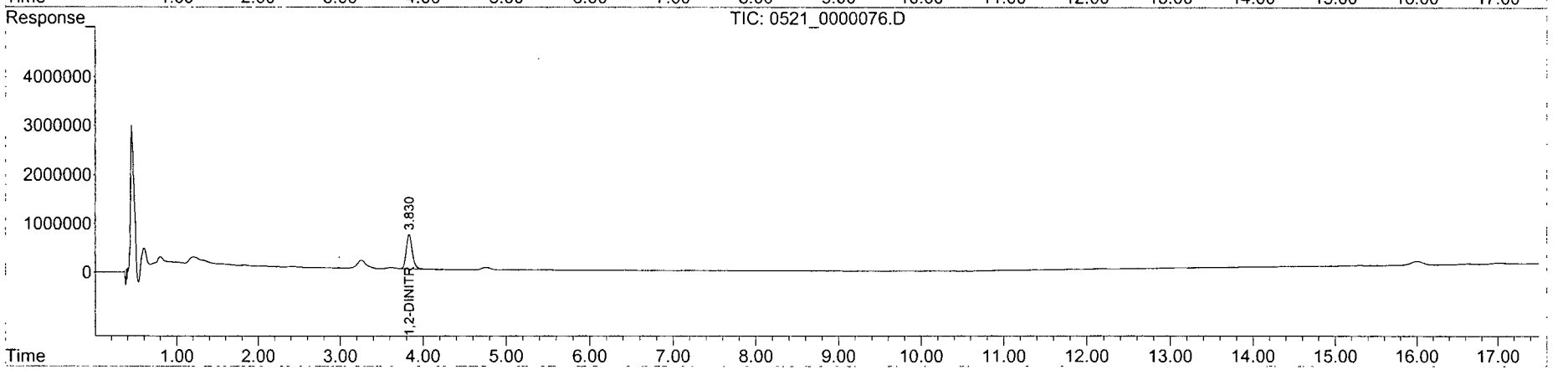
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000076.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 07:34:51
Operator : hm
Sample : AY61127W02 0.016 DF 05/16/12
Misc : water
ALS Vial : 8200 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 29 12:39:53 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





EPA 8330B EXPLOSIVES-WATER

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SW-01

APPL ID: AY61132

Sample Collection Date: 05/11/12

QCG: #833BL-120516A-167642

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.013 U	0.30	0.013	ug/L	05/16/12	05/23/12
EPA 8330L	1,3-DINITROBENZENE	0.011 U	0.30	0.011	ug/L	05/16/12	05/23/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2,4-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2,6-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2-NITROTOLUENE	0.099 U	0.30	0.099	ug/L	05/16/12	05/23/12
EPA 8330L	3-NITROTOLUENE	0.010 U	0.30	0.010	ug/L	05/16/12	05/23/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.012 U	0.30	0.012	ug/L	05/16/12	05/23/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.30	0.010	ug/L	05/16/12	05/23/12
EPA 8330L	HMX	0.023 U	0.30	0.023	ug/L	05/16/12	05/23/12
EPA 8330L	NITROBENZENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	NITROGLYCERIN	0.029 U	0.30	0.029	ug/L	05/16/12	05/23/12
EPA 8330L	PETN	0.01 U	1.5	0.01	ug/L	05/16/12	05/23/12
EPA 8330L	RDX	0.021 U	0.30	0.021	ug/L	05/16/12	05/23/12
EPA 8330L	TETRYL	0.014 U	0.30	0.014	ug/L	05/16/12	05/23/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	82.4	70-130		%	05/16/12	05/23/12

Quant Method: W110907.M
Run #: 0521_0000077
Instrument: Waldorf
Sequence: 120521
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:17 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000077.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 08:12:20
Operator : hm
Sample : AY61132W04 0.016 DF 05/16/12
Misc : water
ALS Vial : 8256 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 29 12:40:21 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.835	0	713076	N.D.	0.824 #
Spiked Amount 1.000			Recovery	=	0.00%	82.40%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D.
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. <3 S/N
9) TM TETRYL	6.839	0.000	9532	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.346	0.000	7148	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.756	0.000	19233	0	NoCal	N.D.
12) TM 4-AMINO-2...	7.972	0.000	29340	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.307	0.000	36397	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.542	0.000	36568	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D. ~~RT~~ <3 S/N

HM 5/29/12

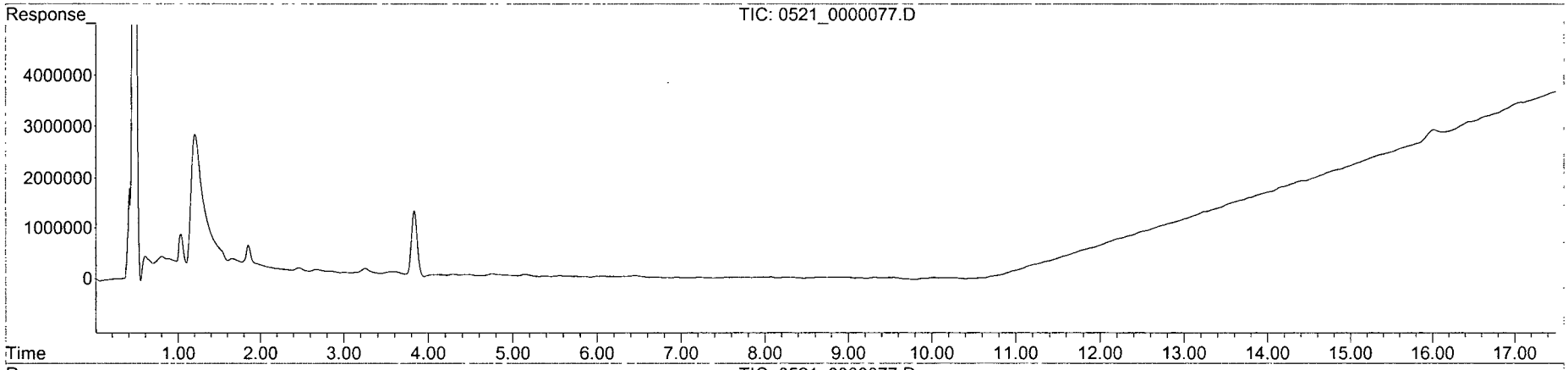
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

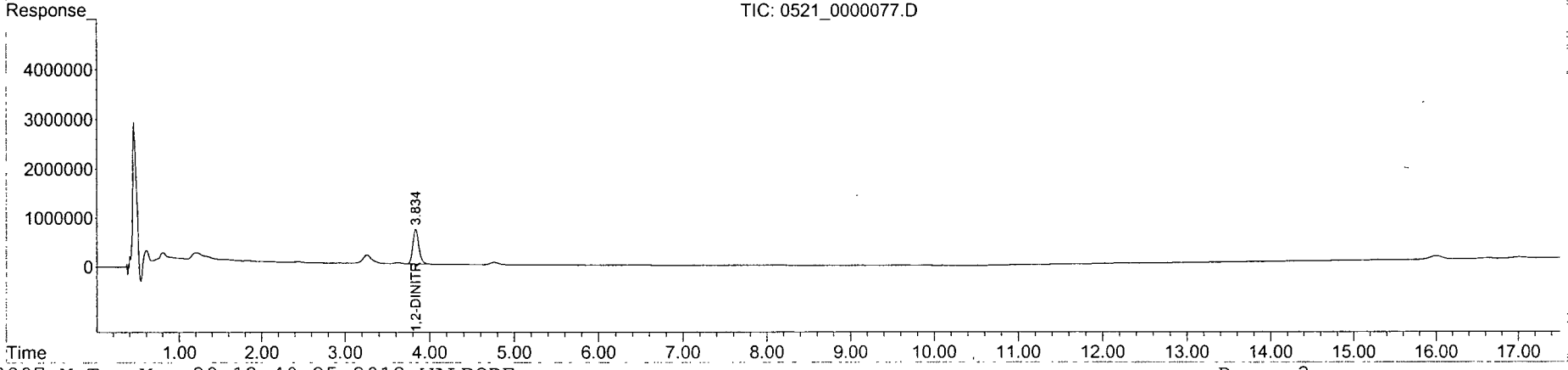
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000077.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 08:12:20
Operator : hm
Sample : AY61132W04 0.016 DF 05/16/12
Misc : water
ALS Vial : 8256 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 29 12:40:21 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





EPA 8330B EXPLOSIVES-WATER

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SW-03

APPL ID: AY61134

Sample Collection Date: 05/11/12

QCG: #833BL-120516A-167642

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.013 U	0.30	0.013	ug/L	05/16/12	05/23/12
EPA 8330L	1,3-DINITROBENZENE	0.011 U	0.30	0.011	ug/L	05/16/12	05/23/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2,4-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2,6-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2-NITROTOLUENE	0.099 U	0.30	0.099	ug/L	05/16/12	05/23/12
EPA 8330L	3-NITROTOLUENE	0.010 U	0.30	0.010	ug/L	05/16/12	05/23/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.012 U	0.30	0.012	ug/L	05/16/12	05/23/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.30	0.010	ug/L	05/16/12	05/23/12
EPA 8330L	HMX	0.023 U	0.30	0.023	ug/L	05/16/12	05/23/12
EPA 8330L	NITROBENZENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	NITROGLYCERIN	0.029 U	0.30	0.029	ug/L	05/16/12	05/23/12
EPA 8330L	PETN	0.01 U	1.5	0.01	ug/L	05/16/12	05/23/12
EPA 8330L	RDX	0.021 U	0.30	0.021	ug/L	05/16/12	05/23/12
EPA 8330L	TETRYL	0.014 U	0.30	0.014	ug/L	05/16/12	05/23/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	80.1	70-130		%	05/16/12	05/23/12

Quant Method: W110907.M
Run #: 0521_0000079
Instrument: Waldorf
Sequence: 120521
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:17 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000079.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 09:17:25
Operator : hm
Sample : AY61134W01 0.016 DF 05/16/12
Misc : water
ALS Vial : 8257 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 29 12:41:10 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.827	0	692953	N.D.	0.801 #
Spiked Amount 1.000			Recovery	=	0.00%	80.10%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D.
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. <3.5/N
9) TM TETRYL	6.783	0.000	13559	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.318	0.000	11433	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.756	0.000	27321	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.024	0.000	35002	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.244	0.000	36554	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.498	0.000	20288	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D. RT

hm 5/22/12

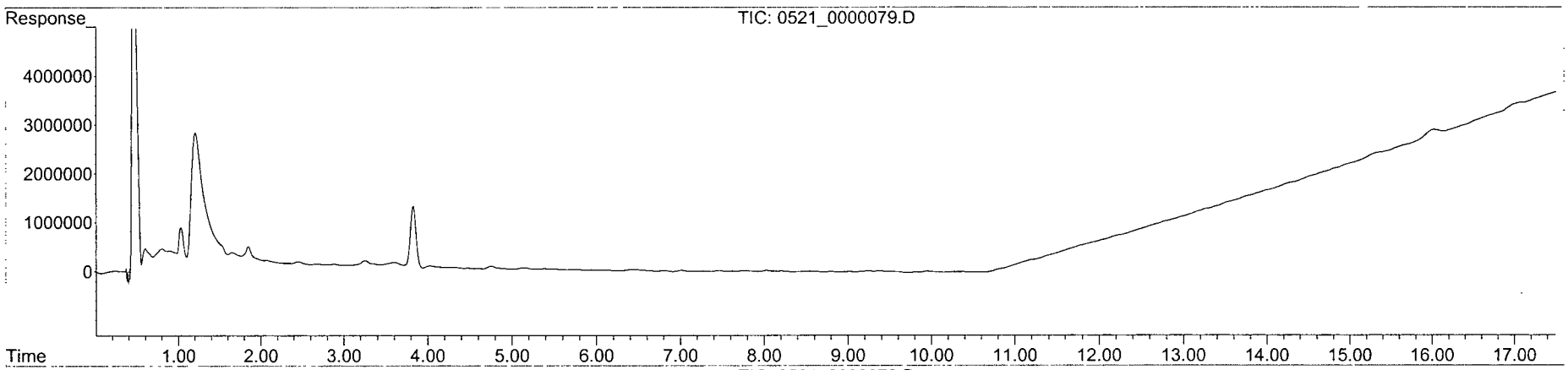
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

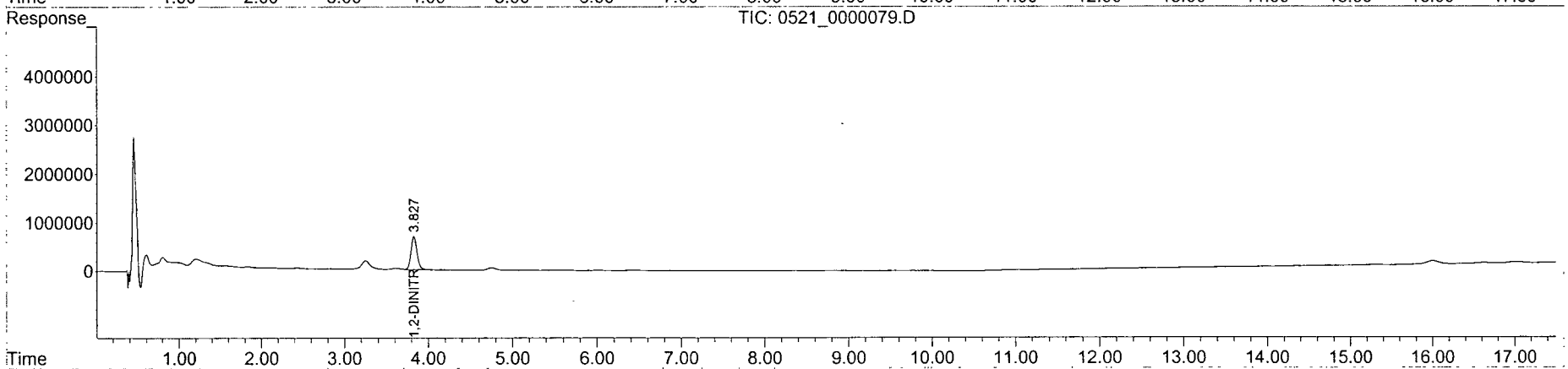
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000079.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 09:17:25
Operator : hm
Sample : AY61134W01 0.016 DF 05/16/12
Misc : water
ALS Vial : 8257 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 29 12:41:10 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





EPA 8330B EXPLOSIVES-WATER

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS02-EB1

APPL ID: AY61140

Sample Collection Date: 05/11/12

QCG: #833BL-120516A-167642

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.013 U	0.30	0.013	ug/L	05/16/12	05/23/12
EPA 8330L	1,3-DINITROBENZENE	0.011 U	0.30	0.011	ug/L	05/16/12	05/23/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2,4-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2,6-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	2-NITROTOLUENE	0.099 U	0.30	0.099	ug/L	05/16/12	05/23/12
EPA 8330L	3-NITROTOLUENE	0.010 U	0.30	0.010	ug/L	05/16/12	05/23/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.012 U	0.30	0.012	ug/L	05/16/12	05/23/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.30	0.010	ug/L	05/16/12	05/23/12
EPA 8330L	HMX	0.023 U	0.30	0.023	ug/L	05/16/12	05/23/12
EPA 8330L	NITROBENZENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
EPA 8330L	NITROGLYCERIN	0.029 U	0.30	0.029	ug/L	05/16/12	05/23/12
EPA 8330L	PETN	0.01 U	1.5	0.01	ug/L	05/16/12	05/23/12
EPA 8330L	RDX	0.021 U	0.30	0.021	ug/L	05/16/12	05/23/12
EPA 8330L	TETRYL	0.014 U	0.30	0.014	ug/L	05/16/12	05/23/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	74.8	70-130		%	05/16/12	05/23/12

Quant Method: W110907.M
Run #: 0521_0000080
Instrument: Waldorf
Sequence: 120521
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:18 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000080.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 09:54:55
Operator : hm
Sample : AY61140W01 0.016 DF 05/16/12
Misc : water
ALS Vial : 8258 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 29 12:41:49 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.829	0	646812	N.D.	0.748 #
Spiked Amount 1.000			Recovery	=	0.00%	74.80%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D.
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. <3.5/ml
9) TM TETRYL	6.850	0.000	20673	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.305	0.000	17382	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.715	0.000	12583	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.001	0.000	14366	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.258	0.000	8719	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.525	0.000	11648	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D. d <3.5/ml
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D. d
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D. RT

HM 5/29/12

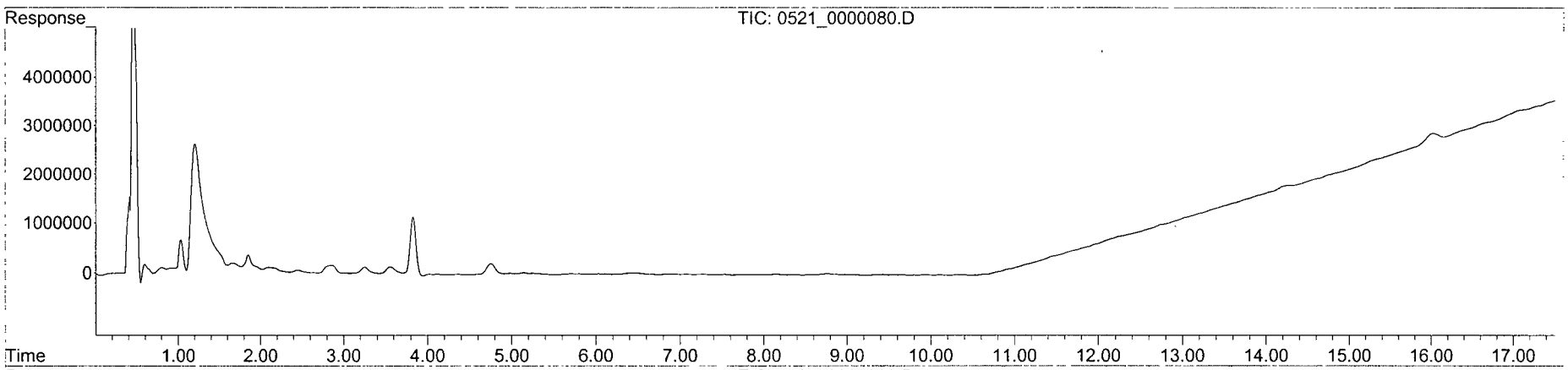
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

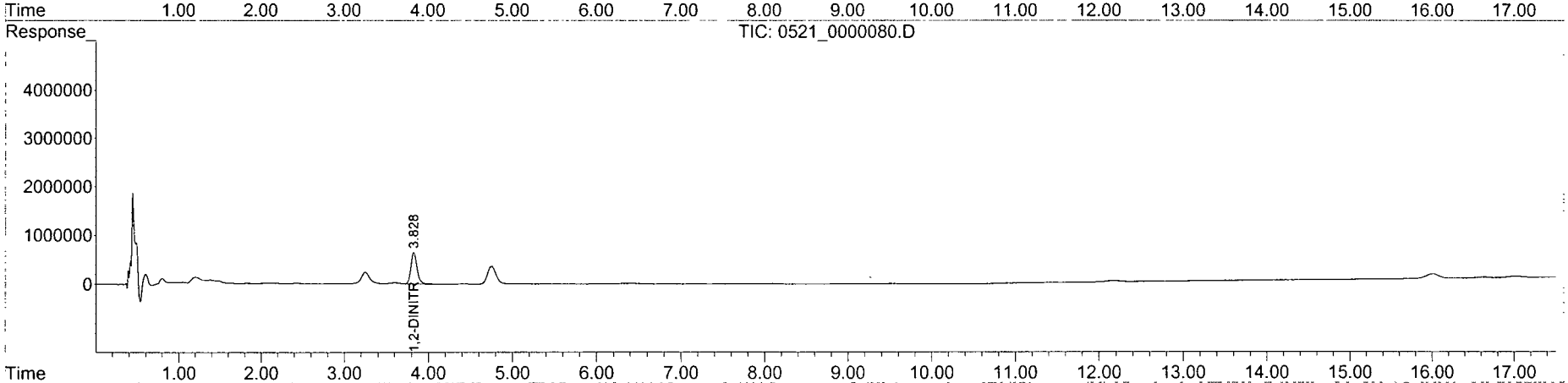
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000080.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 09:54:55
Operator : hm
Sample : AY61140W01 0.016 DF 05/16/12
Misc : water
ALS Vial : 8258 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 29 12:41:49 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 67746
Matrix: WATER

SDG No: 67746
Date Analyzed: 05/23/12
Instrument: Waldorf

APPL ID.	Client Sample No.	SURROGATE: 1,2-DINITROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
120516A-LCS	Lab Control Spike	70-130	94.1				
AY61132-MS	Matrix Spike	70-130	98.1				
AY61132-MSD	Matrix SpikeD	70-130	95.5				
120516A-BLK	Blank	70-130	80.2				
AY61127	WVMA-MRS01-AMB-SW-02	70-130	83.0				
AY61132	WVMA-MRS01-SW-01	70-130	82.4				
AY61134	WVMA-MRS01-SW-03	70-130	80.1				
AY61140	WVMA-MRS02-EB1	70-130	74.8				

Comments: Batch: #833BL-120516A

EPA 8330LL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 67746
Matrix: WATER
Blank ID: 120516A-BLK

SDG No: 67746
Date Analyzed: 05/23/12
Instrument: Waldorf
Time Analyzed: 0657

APPL ID.	Client Sample No.	File ID.	Date Analyzed
120516A-LCS	Lab Control Spike	0521_0000068	05/23/12 0244
120516A-MS	Matrix Spike	0521_0000069	05/23/12 0312
120516A-MSD	Matrix SpikeD	0521_0000070	05/23/12 0350
120516A-BLK	Blank	0521_0000075	05/23/12 0657
AY61127	WVMA-MRS01-AMB-SW-02	0521_0000076	05/23/12 0734
AY61132	WVMA-MRS01-SW-01	0521_0000077	05/23/12 0812
AY61134	WVMA-MRS01-SW-03	0521_0000079	05/23/12 0917
AY61140	WVMA-MRS02-EB1	0521_0000080	05/23/12 0954

Comments: Batch: #833BL-120516A

Method Blank

EPA 8330B EXPLOSIVES-WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **120516W-61132 - 167642**
Batch ID: #833BL-120516A

Sample Type	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
BLANK	1,3,5-TRINITROBENZENE	0.013 U	0.30	0.013	ug/L	05/16/12	05/23/12
BLANK	1,3-DINITROBENZENE	0.011 U	0.30	0.011	ug/L	05/16/12	05/23/12
BLANK	2,4,6-TRINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
BLANK	2,4-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
BLANK	2,6-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
BLANK	2-AMINO-4,6-DINITROTOLUENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
BLANK	2-NITROTOLUENE	0.099 U	0.30	0.099	ug/L	05/16/12	05/23/12
BLANK	3-NITROTOLUENE	0.010 U	0.30	0.010	ug/L	05/16/12	05/23/12
BLANK	4-AMINO-2,6-DINITROTOLUENE	0.012 U	0.30	0.012	ug/L	05/16/12	05/23/12
BLANK	4-NITROTOLUENE	0.010 U	0.30	0.010	ug/L	05/16/12	05/23/12
BLANK	HMX	0.023 U	0.30	0.023	ug/L	05/16/12	05/23/12
BLANK	NITROBENZENE	0.009 U	0.30	0.009	ug/L	05/16/12	05/23/12
BLANK	NITROGLYCERIN	0.029 U	0.30	0.029	ug/L	05/16/12	05/23/12
BLANK	PETN	0.01 U	1.5	0.01	ug/L	05/16/12	05/23/12
BLANK	RDX	0.021 U	0.30	0.021	ug/L	05/16/12	05/23/12
BLANK	TETRYL	0.014 U	0.30	0.014	ug/L	05/16/12	05/23/12
BLANK	SURROGATE: 1,2-DINITROBENZENE	80.2	70-130		%	05/16/12	05/23/12

Quant Method:W110907.M
Run #:0521_000007
Instrument:Waldorf
Sequence:120521
Initials:RSM

GC SC-Blank-REG MDLs
Printed: 06/05/12 9:39:24 AM

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000075.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 06:57:22
Operator : hm
Sample : 120516WBLK1A 0.016 DF 05/16/12
Misc : water
ALS Vial : 8199 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 29 12:39:28 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.831	0	693384	N.D.	0.802 #
Spiked Amount 1.000			Recovery	=	0.00%	80.20%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D. d<3.5 IN
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. <3.5 IN
9) TM TETRYL	6.842	0.000	24832	0	NoCal	N.D.
0) TM 2,4,6-TRI...	7.347	0.000	12764	0	NoCal	N.D.
1) TM 2-AMINO-4...	7.642	0.000	32195	0	NoCal	N.D.
2) TM 4-AMINO-2...	8.011	0.000	8642	0	NoCal	N.D.
3) TM 2,4-DINIT...	9.254	0.000	11733	0	NoCal	N.D.
4) TM 2,6-DINIT...	9.578	0.000	21179	0	NoCal	N.D.
5) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
6) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
7) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
8) TM PETN	0.000	0.000	0	0	N.D. d	N.D. RT

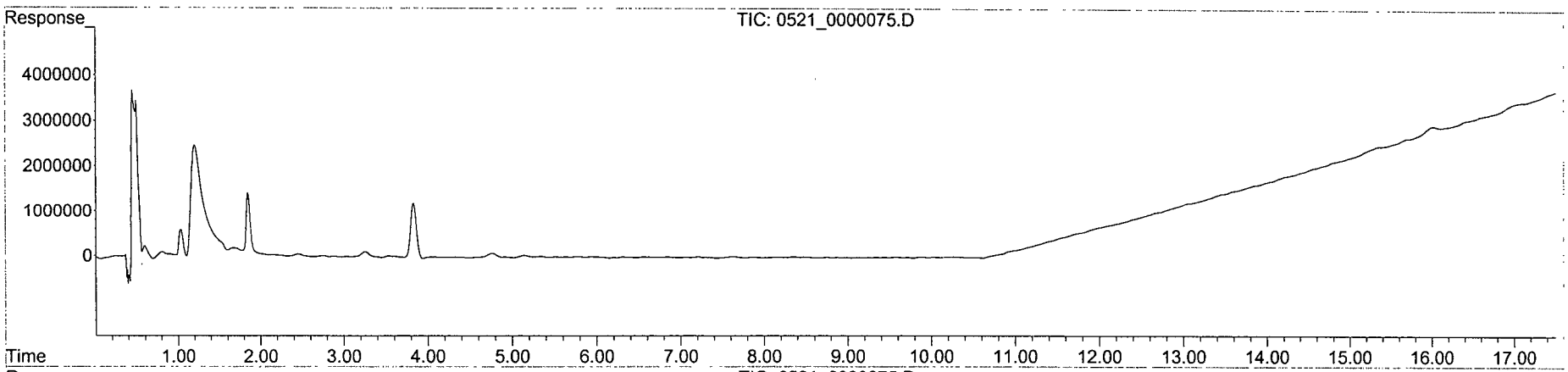
HM 5/29/12

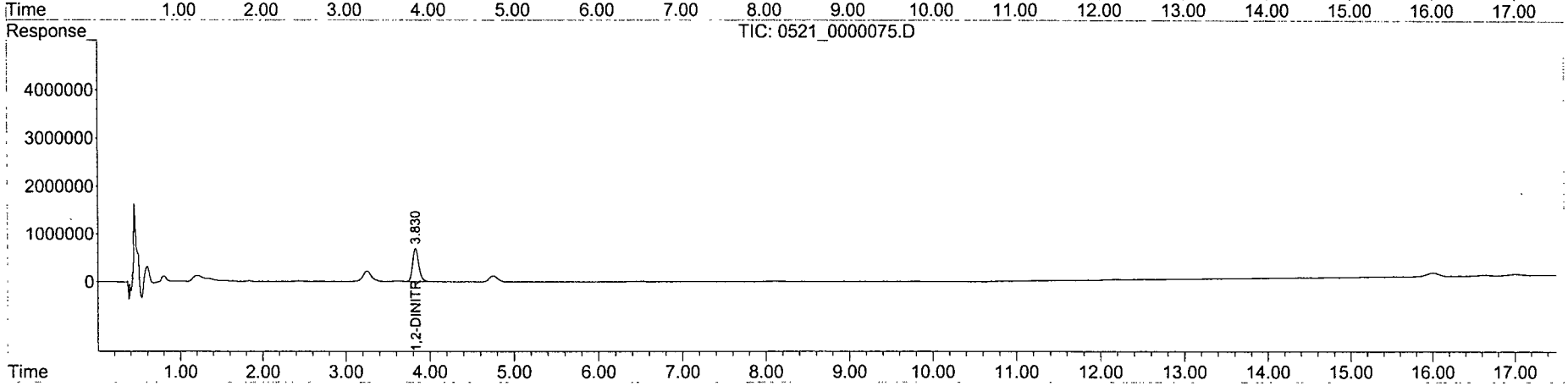
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000075.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 06:57:22
Operator : hm
Sample : 120516WBLK1A 0.016 DF 05/16/12
Misc : water
ALS Vial : 8199 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 29 12:39:28 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Laboratory Control Spike Recovery
EPA 8330B EXPLOSIVES-WATER

APPL ID: **120516W-61132 LCS - 167642**
Batch ID: #833BL-120516A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,3,5-TRINITROBENZENE	8.00	6.90	86.3	65-140
1,3-DINITROBENZENE	8.00	7.27	90.9	45-160
2,4,6-TRINITROTOLUENE	8.00	6.87	85.9	50-145
2,4-DINITROTOLUENE	8.00	7.49	93.6	60-135
2,6-DINITROTOLUENE	8.00	7.41	92.6	60-135
2-AMINO-4,6-DINITROTOLUENE	8.00	6.73	84.1	50-155
2-NITROTOLUENE	8.00	7.11	88.9	45-135
3-NITROTOLUENE	8.00	7.15	89.4	50-130
4-AMINO-2,6-DINITROTOLUENE	8.00	6.55	81.9	55-155
4-NITROTOLUENE	8.00	7.21	90.1	50-130
HMX	8.00	7.16	89.5	80-115
NITROBENZENE	8.00	7.06	88.3	50-140
NITROGLYCERIN	8.00	7.82	97.8	71-126
PETN	8.00	8.23	103	65-115
RDX	8.00	6.75	84.4	50-160
TETRYL	8.00	3.35	41.9	20-175
SURROGATE: 1,2-DINITROBENZENE (S	8.00	7.53	94.1	70-130

Comments: _____

Primary	SPK
Quant Method :	W110907.M
Extraction Date :	05/16/12
Analysis Date :	05/23/12
Instrument :	Waldorf
Run :	0521_0000068
Initials :	RSM

Printed: 06/05/12 9:35:51 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000068.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 02:44:57
Operator : hm
Sample : 120516WLCS1A 0.016 DF 05/16/12
Misc : water
ALS Vial : 8192 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 09:38:52 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4) S	1,2-DINIT...	0.000	3.831	0	6517949	N.D.	7.535	#
Spiked Amount	1.000			Recovery	=	0.00%	753.50%	
	Target Compounds							
1) TM	HMX	0.000	0.969	0	13426895	N.D.	7.165	#
2) TM	RDX	0.000	1.838	0	8069114	N.D.	6.753	#
3) TM	1,3,5-TRI...	0.000	2.974	0	13592593	N.D.	6.903	#
5) TM	1,3-DINIT...	0.000	3.967	0	13568456	N.D.	7.272	#
6) TM	3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7) TM	NITROBENZENE	0.000	5.371	0	6082954	N.D.	7.058	#
8) TM	NITROGLYC...	6.273	6.260	2559625	68840	7.823	NoCal	#
9) TM	TETRYL	6.840	6.841	3606059	2303906	NoCal	3.350	#
0) TM	2,4,6-TRI...	7.293	7.292	7053440	5587124	NoCal	6.871	#
1) TM	2-AMINO-4...	7.705	7.706	7450746	5049656	NoCal	6.734	#
2) TM	4-AMINO-2...	8.002	8.002	7022052	3860198	NoCal	6.550	#
3) TM	2,4-DINIT...	9.212	9.212	4104026	5722487	NoCal	7.490	#
4) TM	2,6-DINIT...	9.556	9.556	4356765	3188007	NoCal	7.414	#
5) TM	2-NITROTO...	0.000	12.929	0	2254001	N.D.	7.109	#
6) TM	4-NITROTO...	0.000	13.530	0	2241505	N.D.	7.211	#
7) TM	3-NITROTO...	0.000	14.384	0	2674696	N.D.	7.150	#
8) TM	PETN	16.230	0.000	2169042	0	8.227	N.D.	#

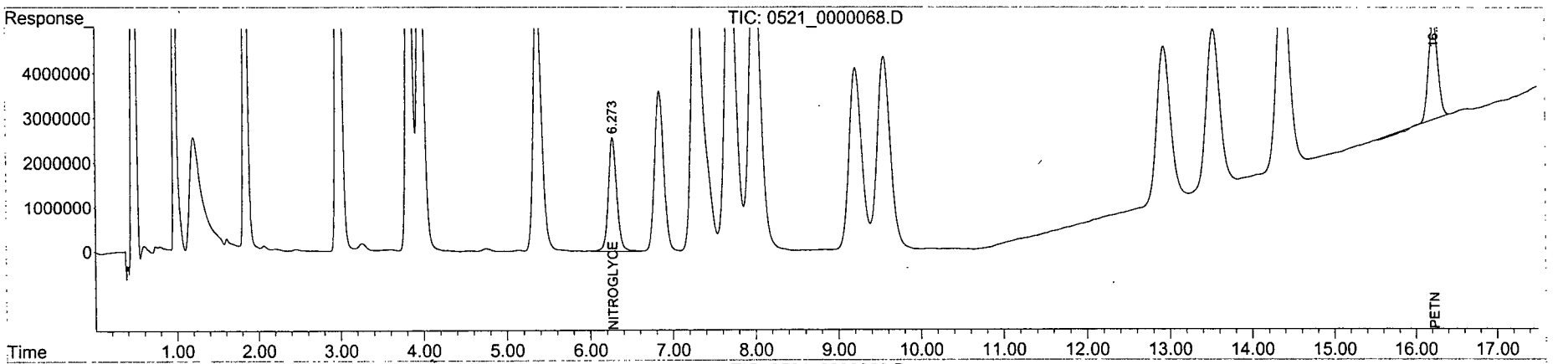
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

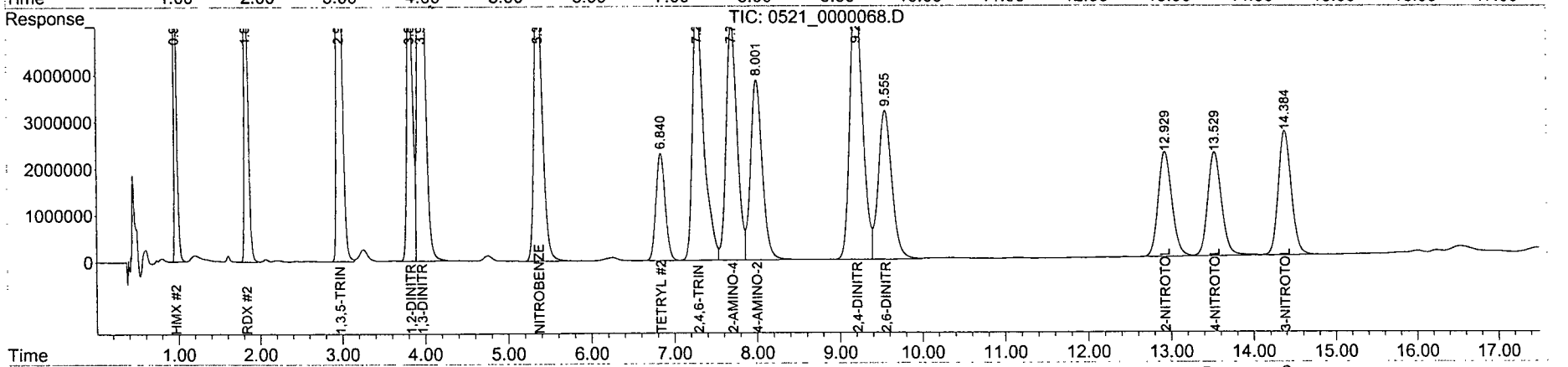
$$A_{190} = \frac{(13592593)(2.0)(4)}{(500)(40)(788)} = \cancel{6.8}\ 6.900$$ HM 6/13/12

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000068.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 02:44:57
Operator : hm
Sample : 120516WLCS1A 0.016 DF 05/16/12
Misc : water
ALS Vial : 8192 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 09:38:52 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Matrix Spike Recoveries

EPA 8330B EXPLOSIVES-WATER

APPL ID: **120516W-61132 MS - 167642**
Batch ID: #833BL-120516A
Sample ID: AY61132
Client ID: WVMA-MRS01-SW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,3,5-TRINITROBENZENE	8.00	ND	7.38	7.23	92.3	90.4	65-140	2.1	30
1,3-DINITROBENZENE	8.00	ND	7.59	7.41	94.9	92.6	45-160	2.4	30
2,4,6-TRINITROTOLUENE	8.00	ND	7.00	6.92	87.5	86.5	50-145	1.1	30
2,4-DINITROTOLUENE	8.00	ND	7.90	7.69	98.8	96.1	60-135	2.7	30
2,6-DINITROTOLUENE	8.00	ND	7.80	7.58	97.5	94.8	60-135	2.9	30
2-AMINO-4,6-DINITROTOLUENE	8.00	ND	7.33	7.04	91.6	88.0	50-155	4.0	30
2-NITROTOLUENE	8.00	ND	7.65	7.46	95.6	93.3	45-135	2.5	30
3-NITROTOLUENE	8.00	ND	7.69	7.50	96.1	93.8	50-130	2.5	30
4-AMINO-2,6-DINITROTOLUENE	8.00	ND	7.16	6.90	89.5	86.3	55-155	3.7	30
4-NITROTOLUENE	8.00	ND	7.71	7.51	96.4	93.9	50-130	2.6	30
HMX	8.00	ND	7.45	7.37	93.1	92.1	80-115	1.1	30
NITROBENZENE	8.00	ND	7.48	7.30	93.5	91.3	50-140	2.4	30
NITROGLYCERIN	8.00	ND	8.11	7.98	101	99.8	71-126	1.6	30
PETN	8.00	ND	8.55	8.45	107	106	65-115	1.2	30
RDX	8.00	ND	6.92	6.84	86.5	85.5	50-160	1.2	30
TETRYL	8.00	ND	4.31	4.12	53.9	51.5	20-175	4.5	30
SURROGATE: 1,2-DINITROBENZENE (S)	8.00	NA	7.85	7.64	98.1	95.5	70-130		

Comments: _____

Primary	SPK	DUP
Quant Method :	W110907.M	W110907.M
Extraction Date :	05/16/12	05/16/12
Analysis Date :	05/23/12	05/23/12
Instrument :	Waldorf	Waldorf
Run :	0521_0000069	0521_0000070
Initials :	RSM	

Printed: 06/05/12 9:35:33 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000069.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 03:12:31
Operator : hm
Sample : AY61132W05_MS-1 0.016 DF 05/16/12
Misc : water
ALS Vial : 8193 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 09:38:54 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4) S	1,2-DINIT...	0.000	3.822	0	6789232	N.D.	7.848	#
Spiked Amount	1.000			Recovery	=	0.00%	784.80%	
	Target Compounds							
1) TM	HMX	0.000	0.965	0	13952341	N.D.	7.445	#
2) TM	RDX	0.000	1.833	0	8263303	N.D.	6.915	#
3) TM	1,3,5-TRI...	0.000	2.968	0	14536338	N.D.	7.382	#
5) TM	1,3-DINIT...	0.000	3.959	0	14160055	N.D.	7.589	#
6) TM	3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7) TM	NITROBENZENE	0.000	5.360	0	6448766	N.D.	7.482	#
8) TM	NITROGLYC...	6.259	6.227	2654160	88534	8.112	NoCal	#
9) TM	TETRYL	6.818	6.818	4771267	2961084	NoCal	4.305	#
10) TM	2,4,6-TRI...	7.274	7.274	7189704	5691908	NoCal	7.000	#
11) TM	2-AMINO-4...	7.685	7.686	8118573	5496921	NoCal	7.331	#
12) TM	4-AMINO-2...	7.981	7.981	7695100	4220225	NoCal	7.161	#
13) TM	2,4-DINIT...	9.192	9.192	4359120	6032636	NoCal	7.896	#
14) TM	2,6-DINIT...	9.536	9.536	4600930	3352832	NoCal	7.798	#
15) TM	2-NITROTO...	0.000	12.914	0	2425577	N.D.	7.650	#
16) TM	4-NITROTO...	0.000	13.514	0	2396120	N.D.	7.709	#
17) TM	3-NITROTO...	0.000	14.372	0	2875148	N.D.	7.686	#
18) TM	PETN	16.222	0.000	2255584	0	8.555	N.D.	#

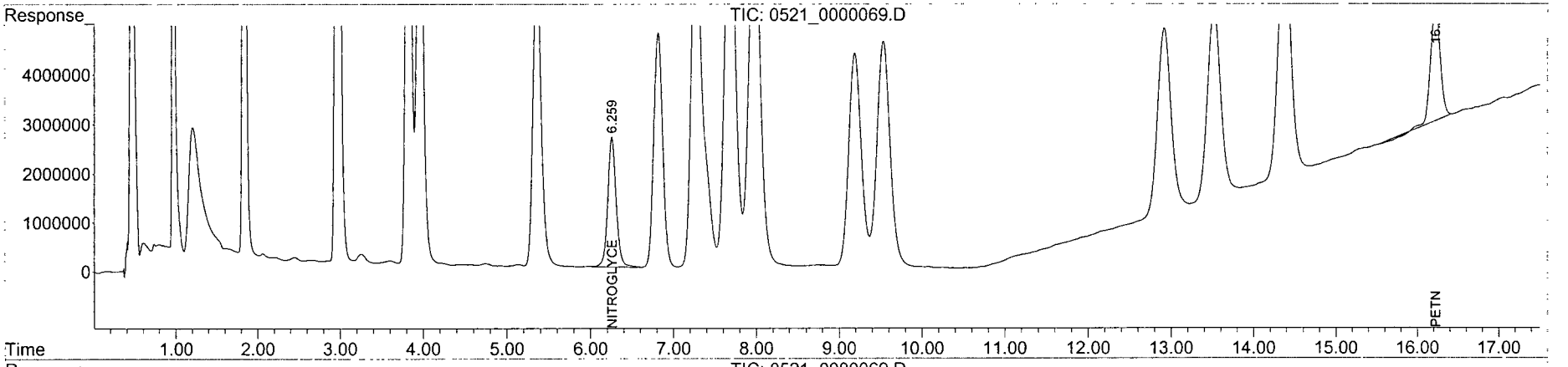
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

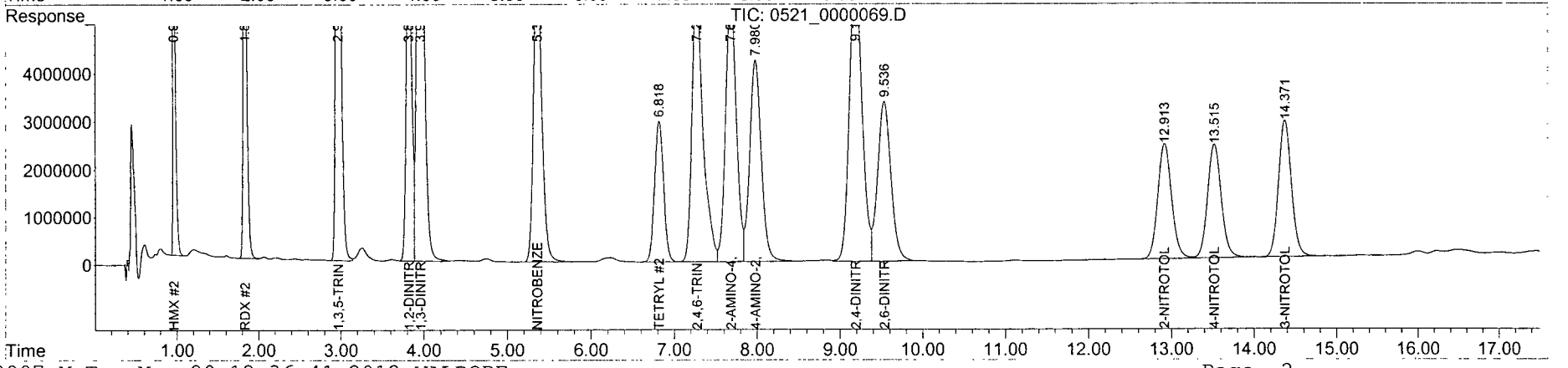
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000069.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 03:12:31
Operator : hm
Sample : AY61132W05_MS-1 0.016 DF 05/16/12
Misc : water
ALS Vial : 8193 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 09:38:54 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000070.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 03:50:00
Operator : hm
Sample : AY61132W05_MSD-1 0.016 DF 05/16/12
Misc : water
ALS Vial : 8194 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 09:38:56 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4) S	1,2-DINIT...	0.000	3.828	0	6611220	N.D.	7.643	#
Spiked Amount	1.000			Recovery	=	0.00%	764.30%	
	Target Compounds							
1) TM	HMX	0.000	0.968	0	13809862	N.D.	7.369	#
2) TM	RDX	0.000	1.836	0	8174937	N.D.	6.841	#
3) TM	1,3,5-TRI...	0.000	2.972	0	14237191	N.D.	7.230	#
5) TM	1,3-DINIT...	0.000	3.965	0	13833388	N.D.	7.414	#
6) TM	3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7) TM	NITROBENZENE	0.000	5.367	0	6291017	N.D.	7.299	#
8) TM	NITROGLYC...	6.268	6.241	2611698	88915	7.982	NoCal	#
9) TM	TETRYL	6.831	6.831	4564598	2836025	NoCal	4.123	#
10) TM	2,4,6-TRI...	7.287	7.286	7109616	5625087	NoCal	6.918	#
11) TM	2-AMINO-4...	7.701	7.701	7804518	5280901	NoCal	7.043	#
12) TM	4-AMINO-2...	7.997	7.997	7422394	4068677	NoCal	6.904	#
13) TM	2,4-DINIT...	9.208	9.208	4248567	5872649	NoCal	7.687	#
14) TM	2,6-DINIT...	9.553	9.553	4464816	3259040	NoCal	7.580	#
15) TM	2-NITROTO...	0.000	12.927	0	2364635	N.D.	7.458	#
16) TM	4-NITROTO...	0.000	13.527	0	2334674	N.D.	7.511	#
17) TM	3-NITROTO...	0.000	14.381	0	2804249	N.D.	7.496	#
18) TM	PETN	16.225	0.000	2226954	0	8.446	N.D.	#

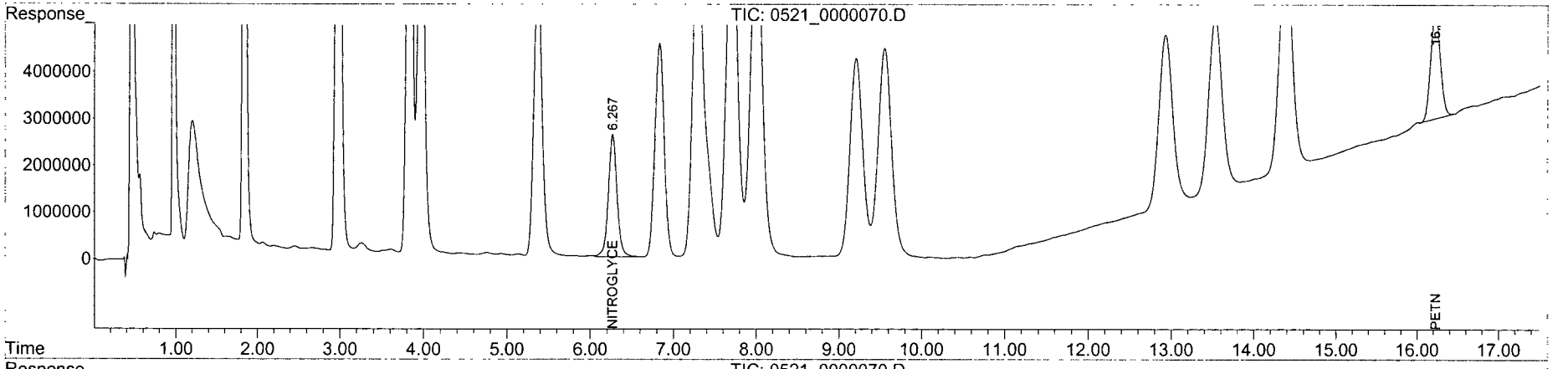
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

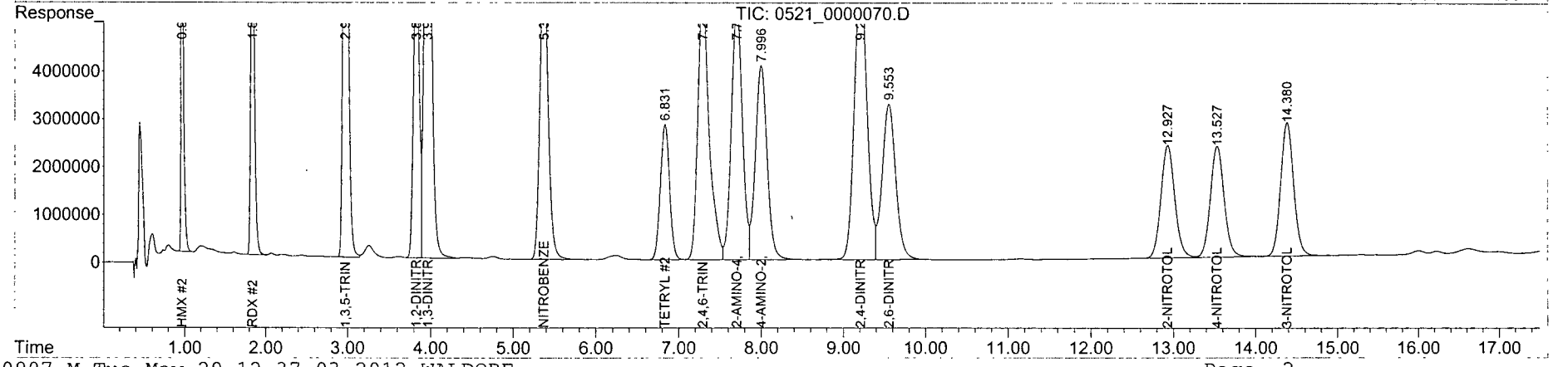
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000070.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 03:50:00
Operator : hm
Sample : AY61132W05_MSD-1 0.016 DF 05/16/12
Misc : water
ALS Vial : 8194 Sample Multiplier: 0.016

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 09:38:56 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





EPA 8330B
EXPLOSIVES

Soil
Sample & QC Data

APPL, INC.

EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SS-04-01

APPL ID: AY61125

Sample Collection Date: 05/10/12

QCG: #833BL-120524A-167643

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/24/12	05/31/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/24/12	05/31/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/24/12	05/31/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/24/12	05/31/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/24/12	05/31/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	104	70-130		%	05/24/12	05/31/12

Quant Method: STE2_X03.M
Run #: 0531_0000008
Instrument: Statler
Sequence: 120531
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:17 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000008.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 13:37:38
Operator : HM
Sample : AY61125S01 7.913 DF 05/24/12
Misc : soil
ALS Vial : 4288 Sample Multiplier: 7.91296

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 09:13:56 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.604	189034	615.769	ppb	
Spiked Amount 593.472		Recovery =	103.76%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	d RT HM 6/21/12
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

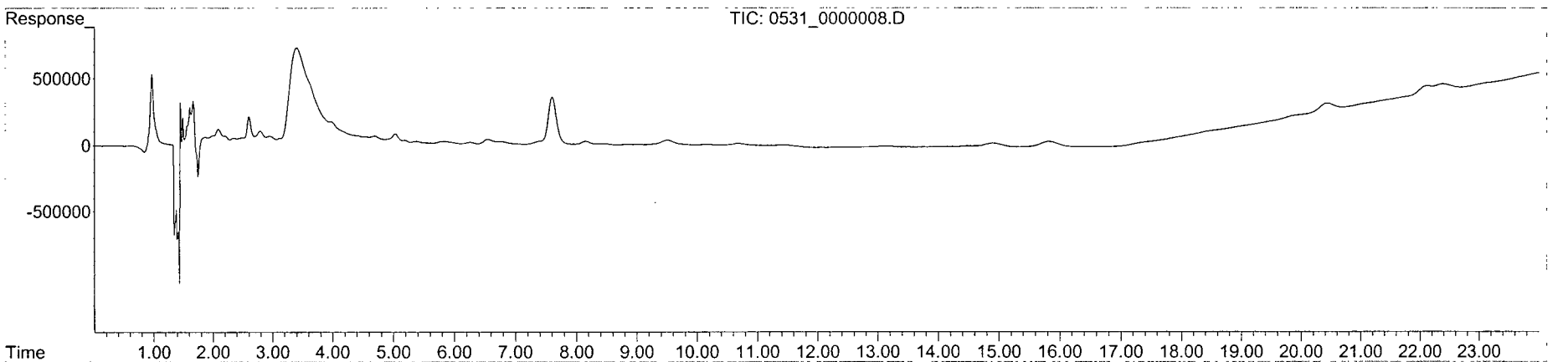
(f)=RT Delta > 1/2 Window (m)=manual int.

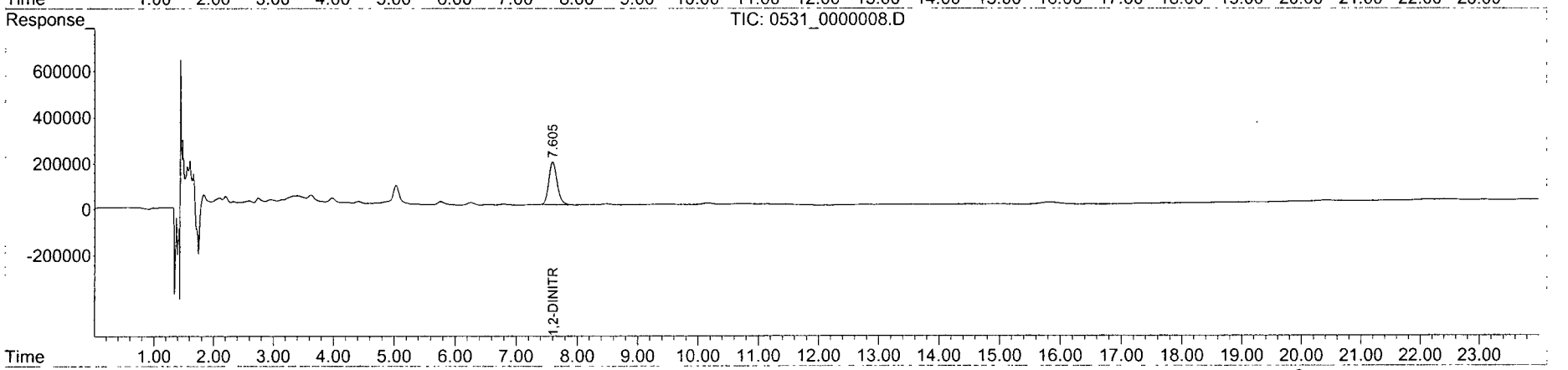
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000008.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 13:37:38
Operator : HM
Sample : AY61125S01 7.913 DF 05/24/12
Misc : soil
ALS Vial : 4288 Sample Multiplier: 7.91296

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 09:13:56 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SS-04-02

APPL ID: AY61126

Sample Collection Date: 05/10/12

QCG: #833BL-120524A-167643

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/24/12	05/31/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/24/12	05/31/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U J	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/24/12	05/31/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/24/12	05/31/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/24/12	05/31/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	105	70-130		%	05/24/12	05/31/12

J = Estimated value.

Quant Method: STE2_X03.M
Run #: 0531_0000009
Instrument: Statler
Sequence: 120531
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:17 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 14:19:07
Operator : HM
Sample : AY61126S01 7.835 DF 05/24/12
Misc : soil
ALS Vial : 4289 Sample Multiplier: 7.83546

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 09:16:01 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.612	191029	616.174	ppb	
Spiked Amount 587.659		Recovery =	104.85%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d RT
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	
3) TM PETN	0.000	0	N.D.	ppb	d mm 6/2/12
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

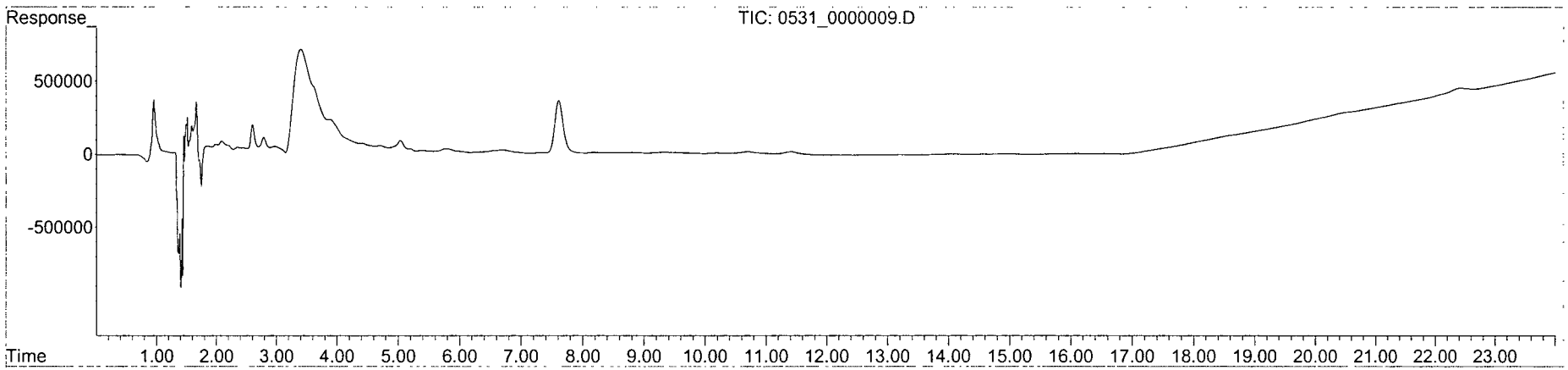
(f)=RT Delta > 1/2 Window (m)=manual int.

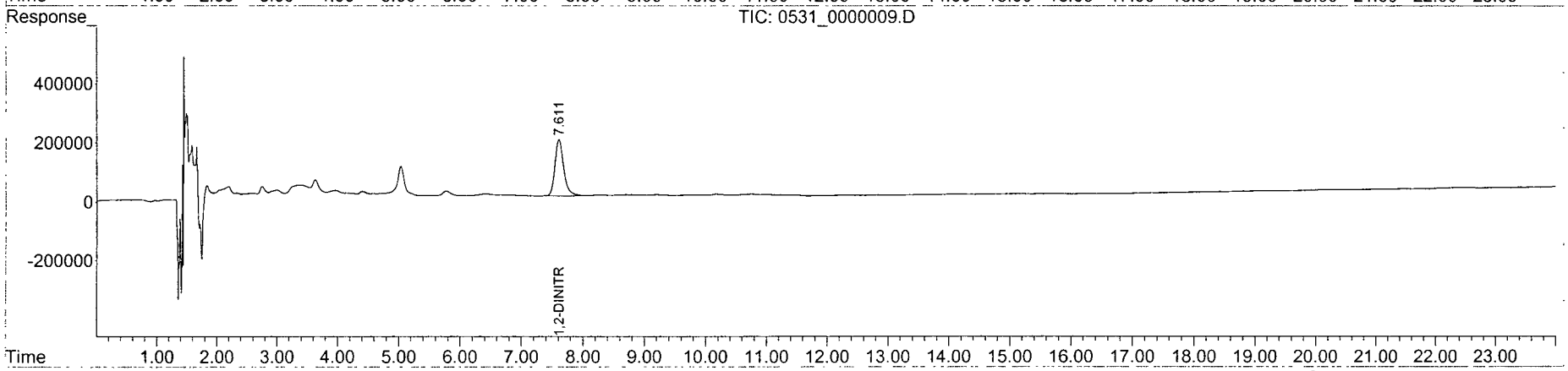
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 14:19:07
Operator : HM
Sample : AY61126S01 7.835 DF 05/24/12
Misc : soil
ALS Vial : 4289 Sample Multiplier: 7.83546

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 09:16:01 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-AMB-SD-02

APPL ID: AY61128

Sample Collection Date: 05/10/12

QCG: #833BL-120524A-167643

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/24/12	05/31/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/24/12	05/31/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/24/12	05/31/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/24/12	05/31/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/24/12	05/31/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	106	70-130		%	05/24/12	05/31/12

Quant Method: STE2_X03.M
Run #: 0531_0000010
Instrument: Statler
Sequence: 120531
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:17 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 15:00:37
Operator : HM
Sample : AY61128S01 7.921 DF 05/24/12
Misc : soil
ALS Vial : 4290 Sample Multiplier: 7.92079

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:52:16 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
8) S 1,2-DINITROBENZENE #2	7.611	192496	627.667	ppb
Spiked Amount 594.059		Recovery =	105.66%	
Target Compounds				
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb
3) TM PETN	22.404	64673	700.391	ppb
5) TM HMX #2	0.000	0	N.D.	ppb
6) TM RDX #2	0.000	0	N.D.	ppb
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb
12) TM TETRYL #2	0.000	0	N.D.	ppb
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb

NC WALDORF HM 6/5/12

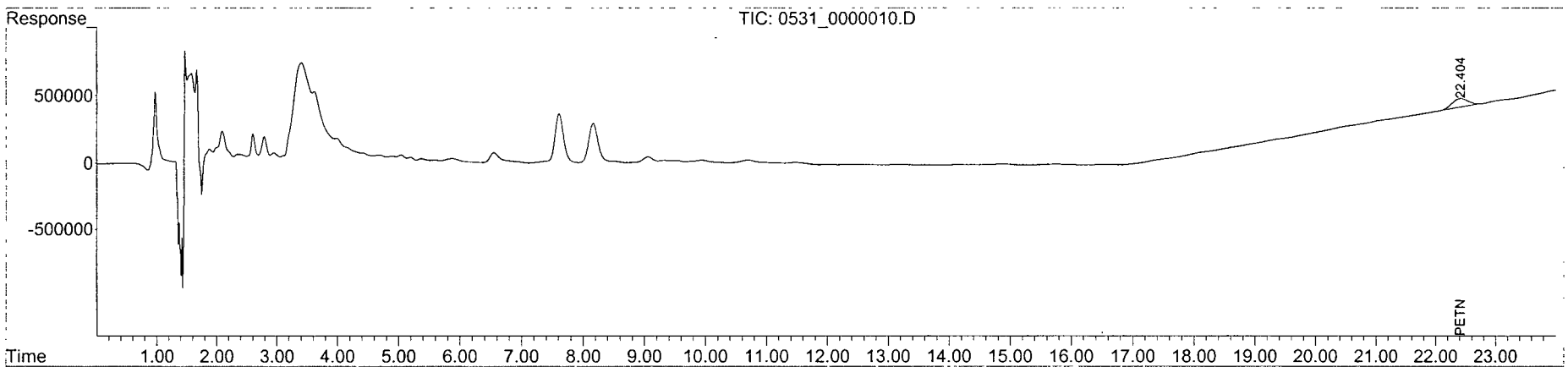
(f)=RT Delta > 1/2 Window (m)=manual int.

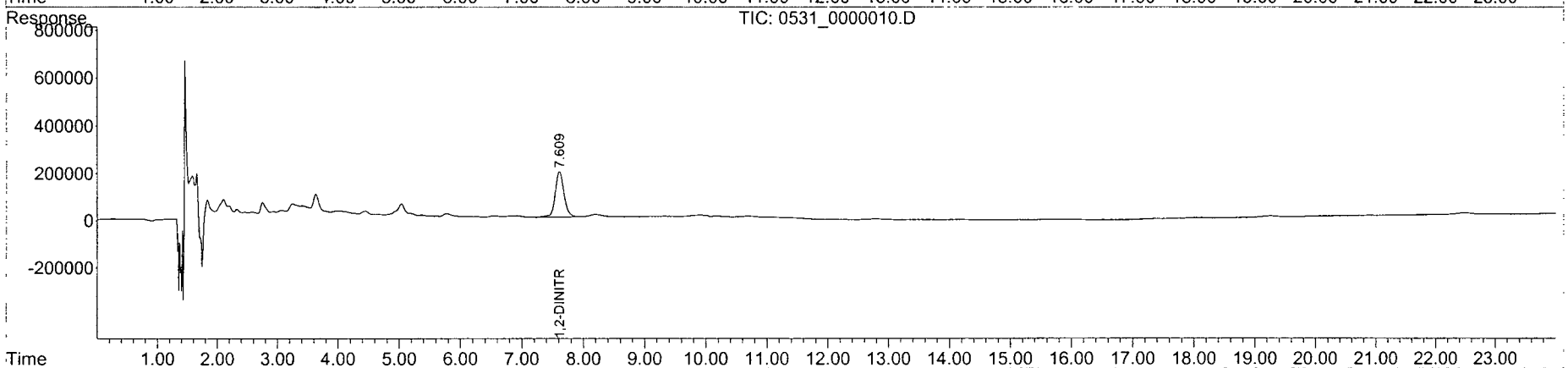
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 15:00:37
Operator : HM
Sample : AY61128S01 7.921 DF 05/24/12
Misc : soil
ALS Vial : 4290 Sample Multiplier: 7.92079

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:52:16 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000027.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 03:19:29
Operator : hm
Sample : AY61128S01 7.921 DF 05/24/12
Misc : soil
ALS Vial : 4416 Sample Multiplier: 7.92079

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 08:04:22 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.833	0	933948	N.D.	642.169 #
Spiked Amount 594.059			Recovery	=	0.00%	108.10%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D. d	N.D. d
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D. d	N.D. d
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. d
9) TM TETRYL	6.903	0.000	4161	0	NoCal	N.D.
10) TM 2,4,6-TRI...	0.000	0.000	0	0	N.D. d	N.D. d
11) TM 2-AMINO-4...	7.645	0.000	7836	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.003	0.000	8465	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.350	0.000	19113	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.424	0.000	21812	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18) TM PETN	0.000	0.000	0	0	N.D.	N.D.

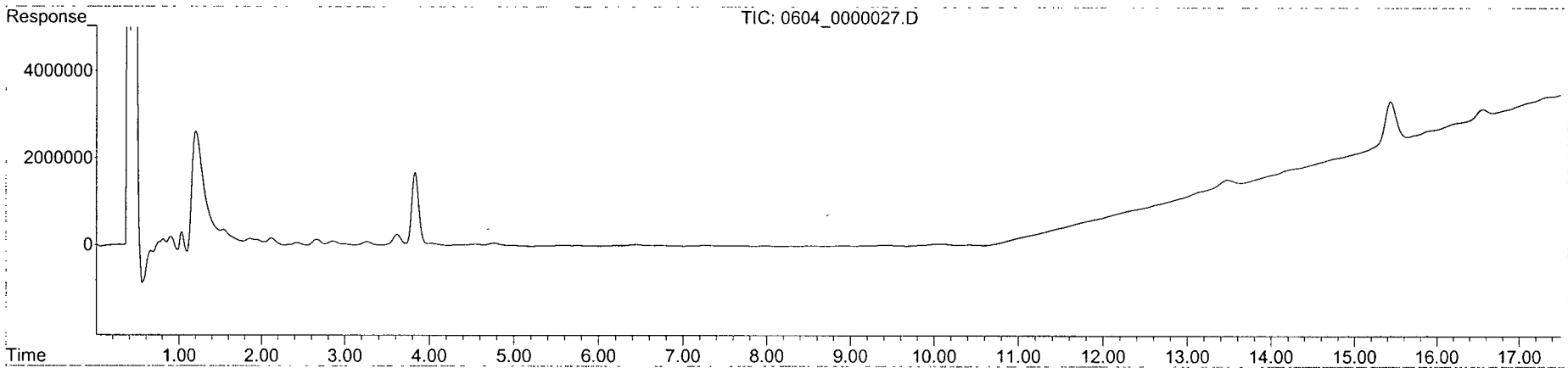
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

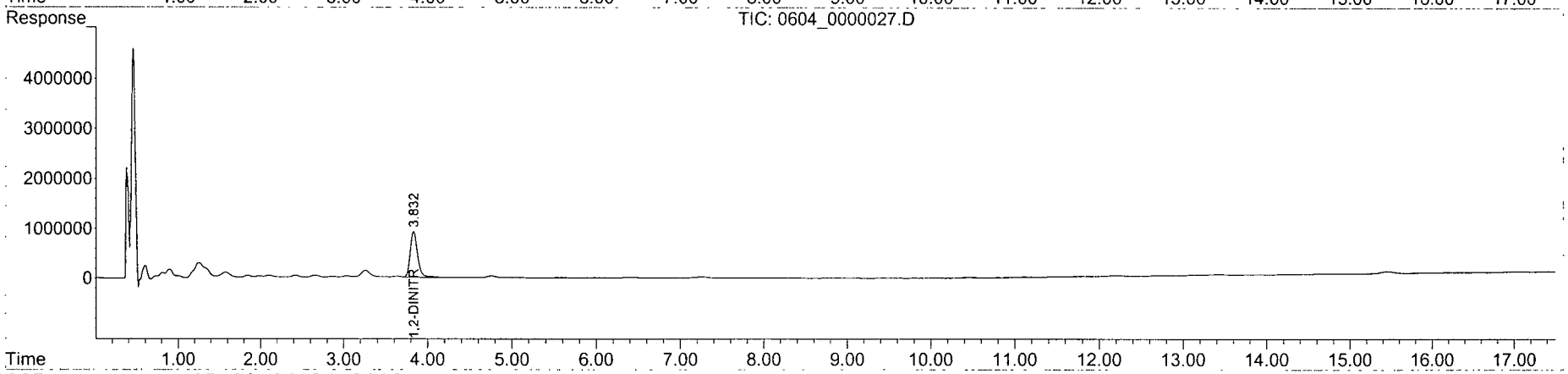
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000027.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 03:19:29
Operator : hm
Sample : AY61128S01 7.921 DF 05/24/12
Misc : soil
ALS Vial : 4416 Sample Multiplier: 7.92079

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 08:04:22 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-AMB-SS-04-04

APPL ID: AY61129

Sample Collection Date: 05/10/12

QCG: #833BL-120524A-167643

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/24/12	05/31/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/24/12	05/31/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/24/12	05/31/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/24/12	05/31/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/24/12	05/31/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	105	70-130		%	05/24/12	05/31/12

Quant Method: STE2_X03.M
Run #: 0531_0000011
Instrument: Statler
Sequence: 120531
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:17 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000011.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 15:42:07
Operator : HM
Sample : AY61129S01 7.882 DF 05/24/12
Misc : soil
ALS Vial : 4291 Sample Multiplier: 7.88177

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:52:18 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
8) S 1,2-DINITROBENZENE #2	7.604	191280	620.629	ppb
Spiked Amount 591.133		Recovery	= 104.99%	
Target Compounds				
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb
3) TM PETN	22.391	53861	580.433	ppb NC WALDORF HM 6/8/12
5) TM HMX #2	0.000	0	N.D.	ppb
6) TM RDX #2	0.000	0	N.D.	ppb
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb
12) TM TETRYL #2	0.000	0	N.D.	ppb
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb

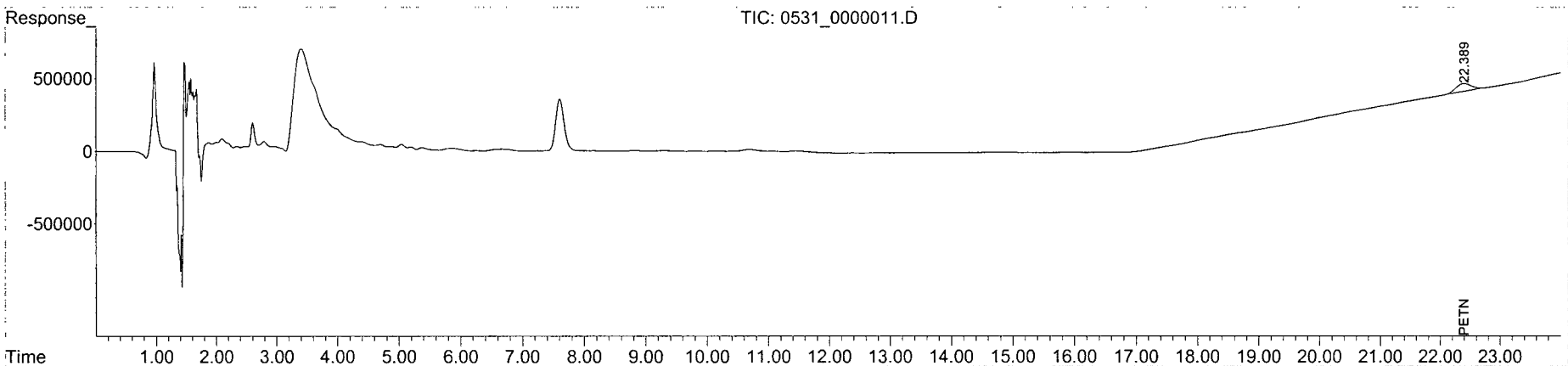
(f)=RT Delta > 1/2 Window (m)=manual int.

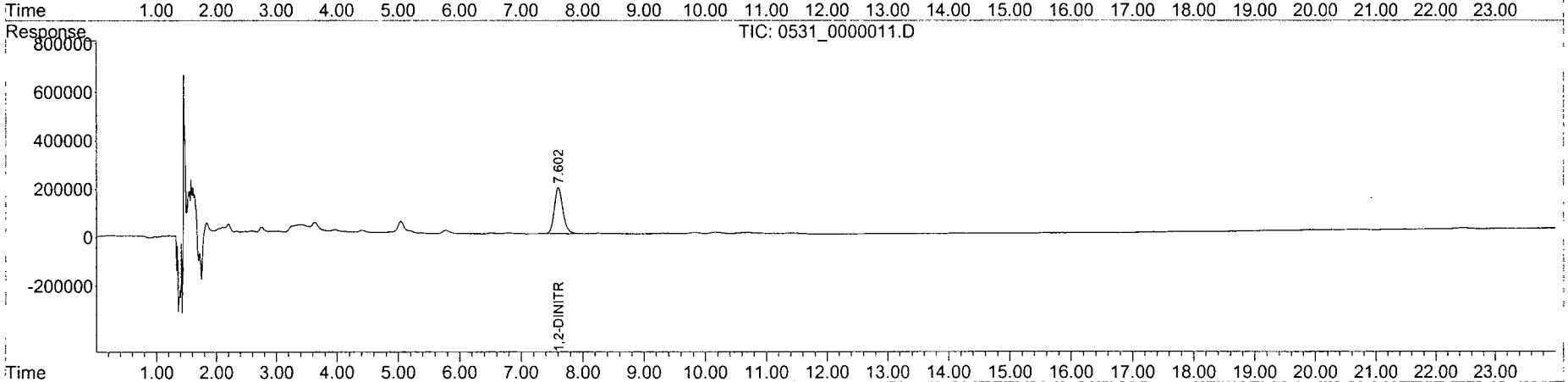
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000011.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 15:42:07
Operator : HM
Sample : AY61129S01 7.882 DF 05/24/12
Misc : soil
ALS Vial : 4291 Sample Multiplier: 7.88177

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:52:18 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000028.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 03:56:58
Operator : hm
Sample : AY61129S01 7.882 DF 05/24/12
Misc : soil
ALS Vial : 4417 Sample Multiplier: 7.88177

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 08:05:07 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.839	0	919839	N.D.	629.352 #
Spiked Amount 591.133			Recovery	=	0.00%	106.47%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D.
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D.
9) TM TETRYL	6.829	0.000	8221	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.274	0.000	18721	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.742	0.000	11053	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.051	0.000	22031	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.163	0.000	7408	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.492	0.000	7187	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D. d
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D. <3.5/w ~~[illegible]~~ [illegible]

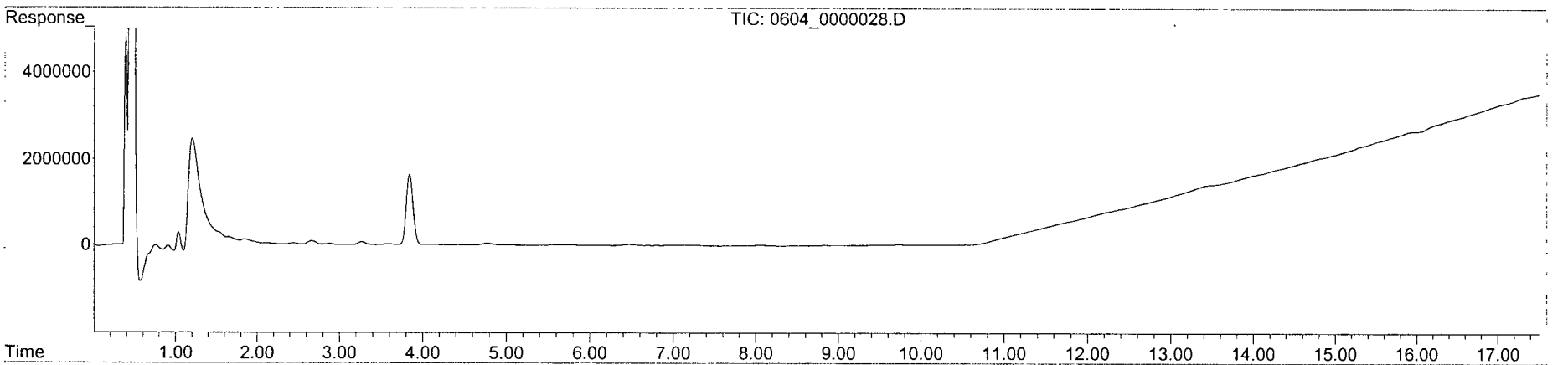
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

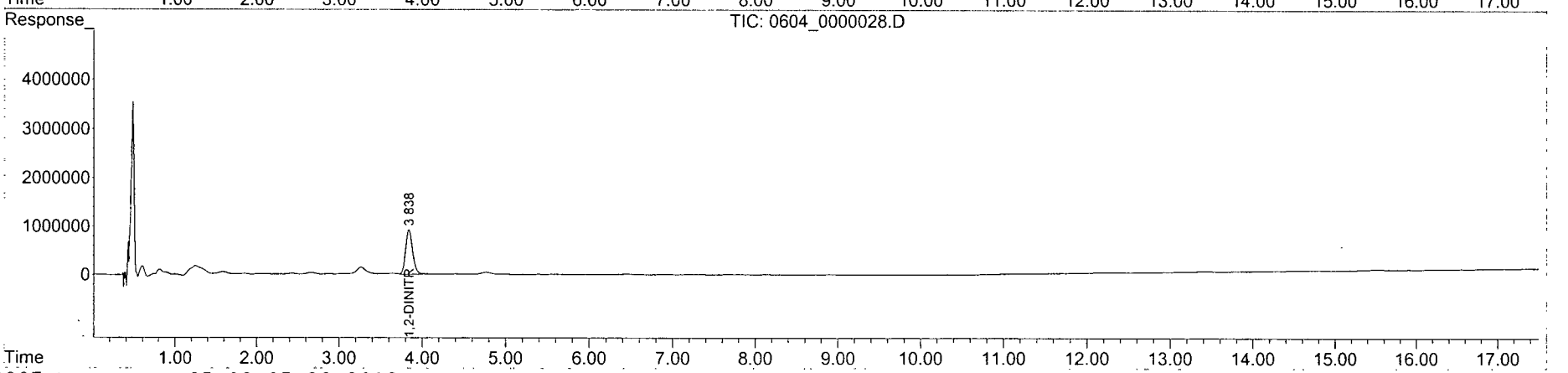
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000028.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 03:56:58
Operator : hm
Sample : AY61129S01 7.882 DF 05/24/12
Misc : soil
ALS Vial : 4417 Sample Multiplier: 7.88177

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 08:05:07 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SS-04-03

APPL ID: AY61130

Sample Collection Date: 05/10/12

QCG: #833BL-120524A-167643

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/24/12	05/31/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/24/12	05/31/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/24/12	05/31/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/24/12	05/31/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/24/12	05/31/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	106	70-130		%	05/24/12	05/31/12

Quant Method: STE2_X03.M
Run #: 0531_0000012
Instrument: Statler
Sequence: 120531
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:17 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000012.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 16:23:36
Operator : HM
Sample : AY61130S01 7.992 DF 05/24/12
Misc : soil
ALS Vial : 4292 Sample Multiplier: 7.99201

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:52:20 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
8) S 1,2-DINITROBENZENE #2	7.607	192343	632.809	ppb
Spiked Amount 599.401		Recovery =	105.57%	
Target Compounds				
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb
3) TM PETN	22.354	48706	532.221	ppb
5) TM HMX #2	0.000	0	N.D.	ppb
6) TM RDX #2	0.000	0	N.D.	ppb
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb
12) TM TETRYL #2	0.000	0	N.D.	ppb
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb

NC WALDORF HM 6/5/12

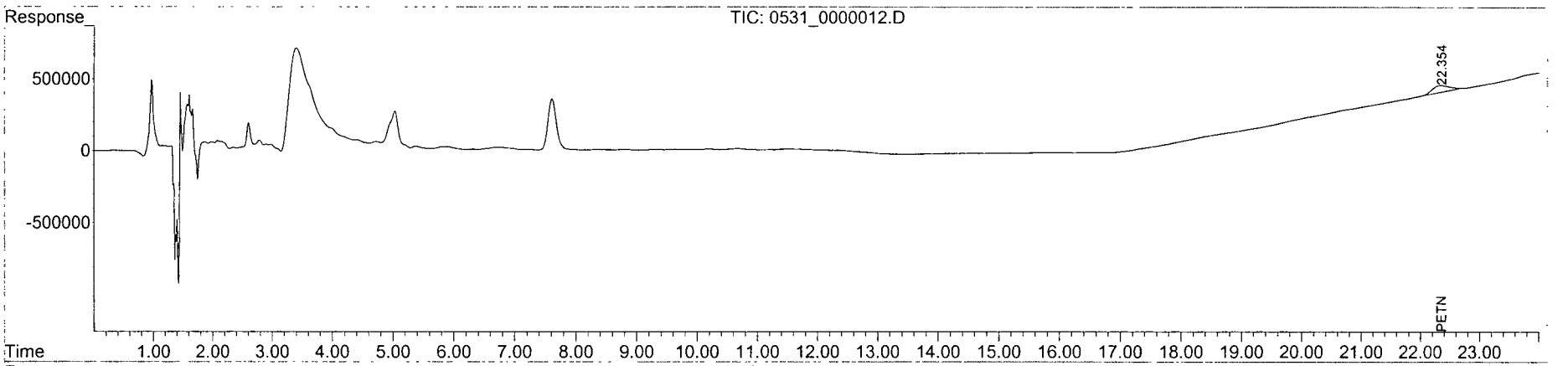
(f)=RT Delta > 1/2 Window (m)=manual int.

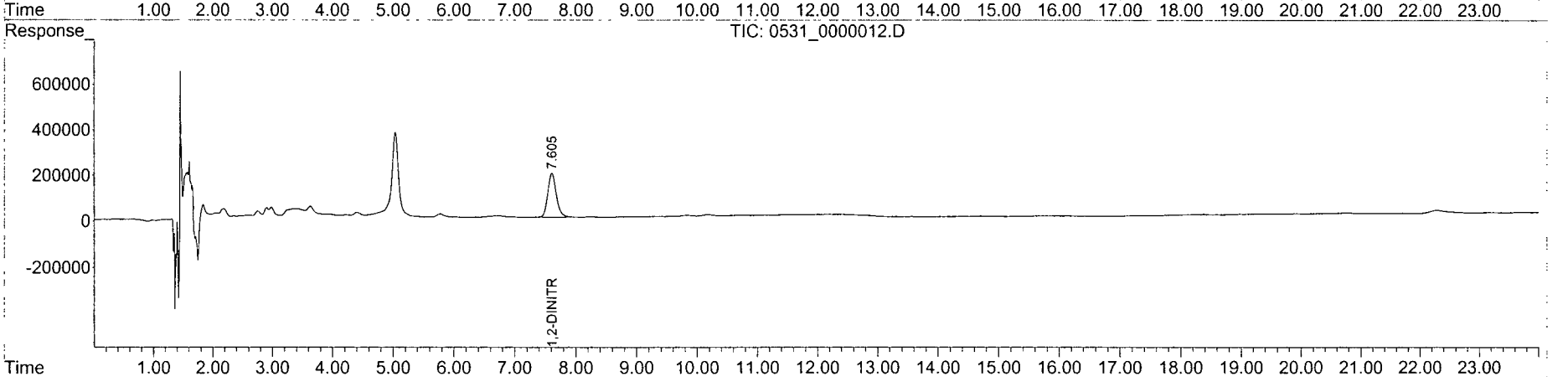
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000012.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 16:23:36
Operator : HM
Sample : AY61130S01 7.992 DF 05/24/12
Misc : soil
ALS Vial : 4292 Sample Multiplier: 7.99201

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:52:20 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000030.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 05:02:04
Operator : hm
Sample : AY61130S01 7.992 DF 05/24/12
Misc : soil
ALS Vial : 4418 Sample Multiplier: 7.99201

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 08:06:03 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
4)	S 1,2-DINIT...	0.000	3.845	0	956903	N.D.	663.868 #
	Spiked Amount 599.401			Recovery	=	0.00%	110.76%
	Target Compounds						
1)	TM HMX	0.000	0.000	0	0	N.D.	N.D.
2)	TM RDX	0.000	0.000	0	0	N.D. d	N.D. d
3)	TM 1,3,5-TRI...	0.000	0.000	0	0	N.D. d	N.D. d
5)	TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7)	TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8)	TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. d
9)	TM TETRYL	6.861	0.000	21976	0	NoCal	N.D.
10)	TM 2,4,6-TRI...	7.276	0.000	13031	0	NoCal	N.D.
11)	TM 2-AMINO-4...	7.653	0.000	10863	0	NoCal	N.D.
12)	TM 4-AMINO-2...	7.908	0.000	11404	0	NoCal	N.D.
13)	TM 2,4-DINIT...	9.223	0.000	14261	0	NoCal	N.D.
14)	TM 2,6-DINIT...	9.526	0.000	20206	0	NoCal	N.D.
15)	TM 2-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
16)	TM 4-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
17)	TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.

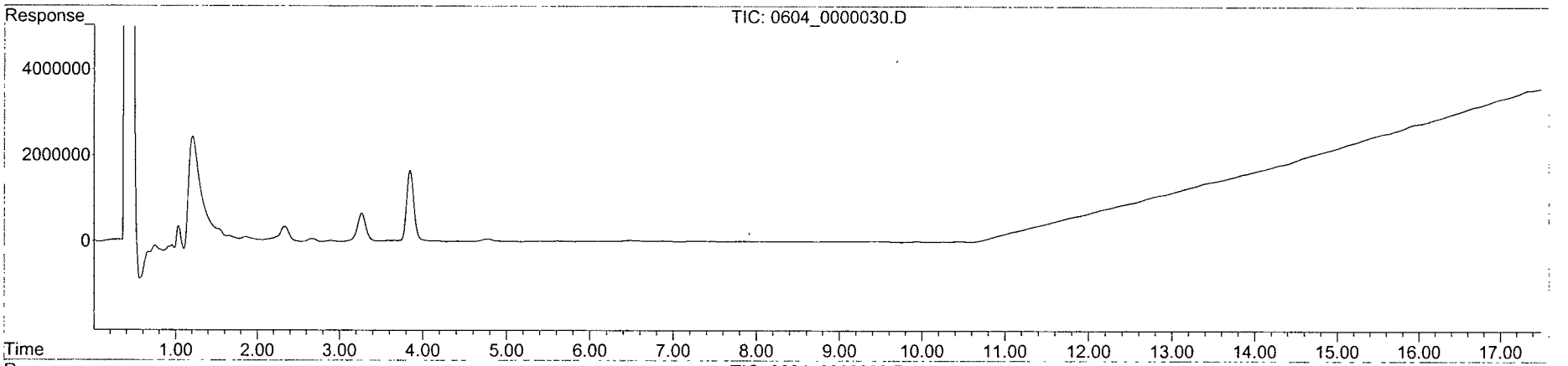
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

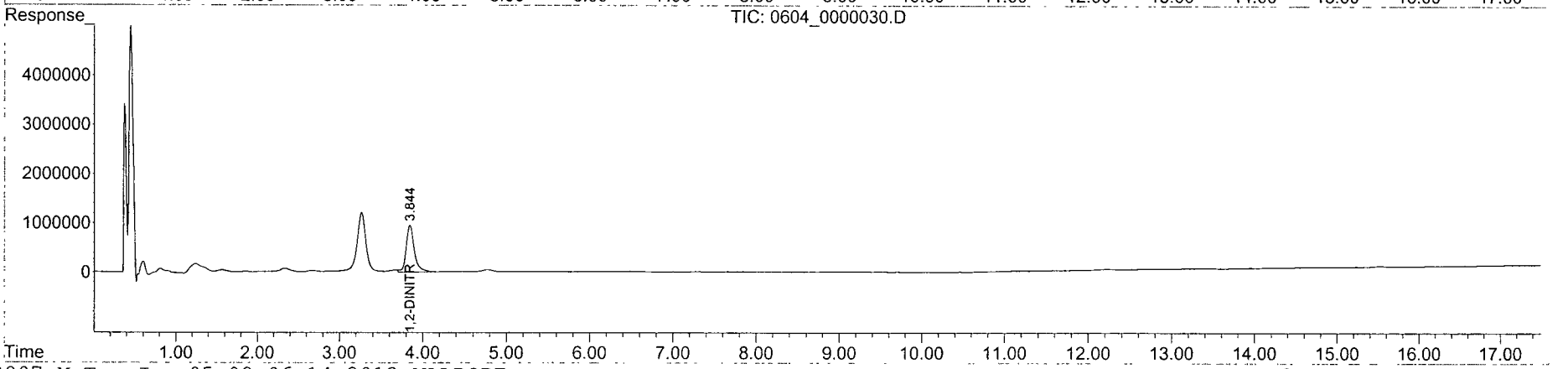
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000030.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 05:02:04
Operator : hm
Sample : AY61130S01 7.992 DF 05/24/12
Misc : soil
ALS Vial : 4418 Sample Multiplier: 7.99201

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 08:06:03 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SS-04-05

APPL ID: AY61131

Sample Collection Date: 05/10/12

QCG: #833BL-120524A-167643

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/24/12	05/31/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/24/12	05/31/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/24/12	05/31/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/24/12	05/31/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/24/12	05/31/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/24/12	05/31/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	105	70-130		%	05/24/12	05/31/12

Quant Method: STE2_X03.M
Run #: 0531_0000013
Instrument: Statler
Sequence: 120531
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:17 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000013.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 17:05:06
Operator : HM
Sample : AY61131S01 7.843 DF 05/24/12
Misc : soil
ALS Vial : 4293 Sample Multiplier: 7.84314

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:52:22 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
8) S 1,2-DINITROBENZENE #2	7.610	192095	620.219	ppb
Spiked Amount 588.235		Recovery =	105.44%	
Target Compounds				
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb
3) TM PETN	0.000	0	N.D.	ppb
5) TM HMX #2	0.000	0	N.D.	ppb
6) TM RDX #2	0.000	0	N.D.	ppb
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb
12) TM TETRYL #2	0.000	0	N.D.	ppb
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb

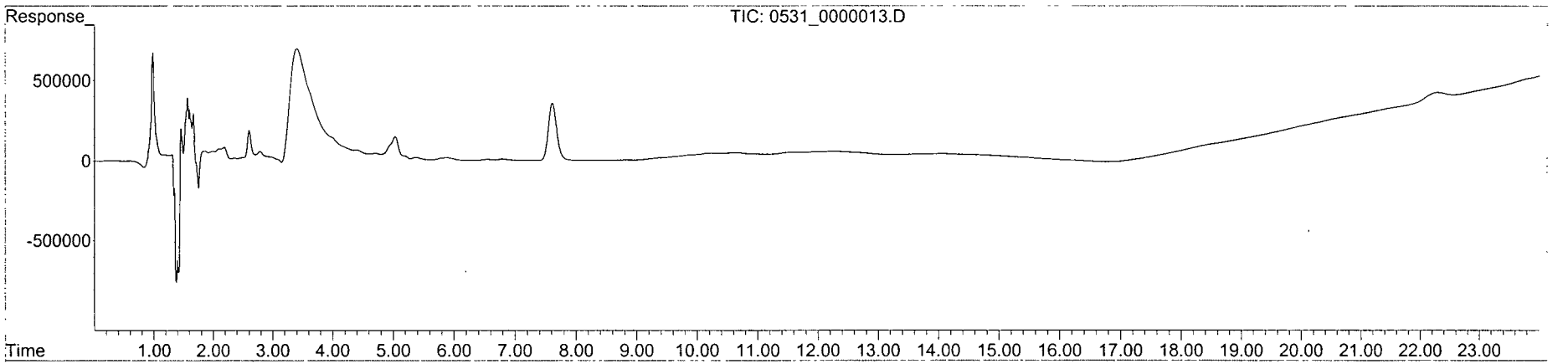
(f)=RT Delta > 1/2 Window (m)=manual int.

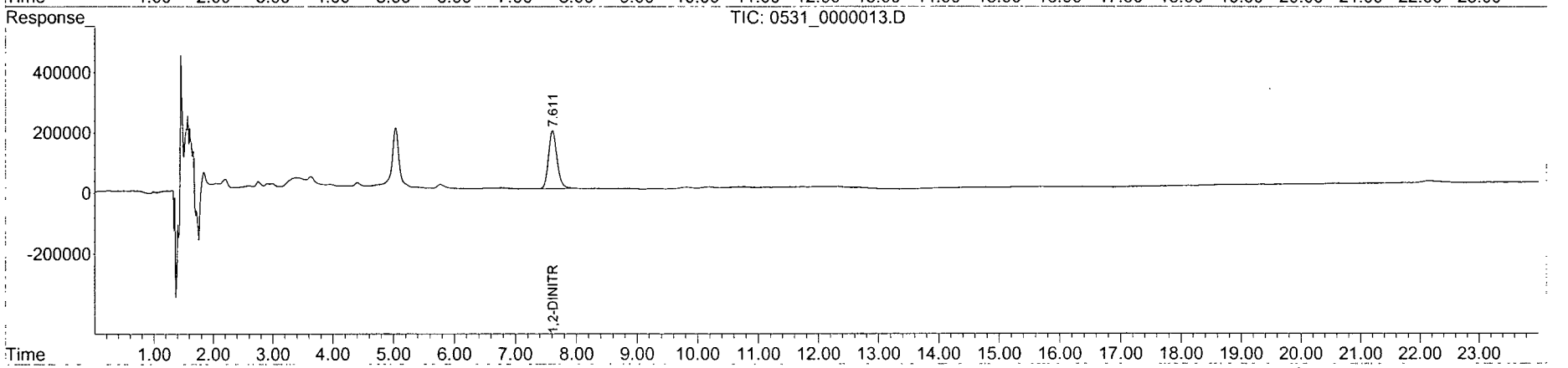
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000013.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 17:05:06
Operator : HM
Sample : AY61131S01 7.843 DF 05/24/12
Misc : soil
ALS Vial : 4293 Sample Multiplier: 7.84314

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:52:22 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SD-01

APPL ID: AY61133

Sample Collection Date: 05/11/12

QCG: #833BL-120525A-167644

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/25/12	06/01/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/25/12	06/01/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/25/12	06/01/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/25/12	06/01/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/25/12	06/01/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	86.1	70-130		%	05/25/12	06/01/12

Quant Method: W110907.M
Run #: 0529_0000121
Instrument: Waldorf
Sequence: 120529
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:17 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000121.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 08:32:42
Operator : hm
Sample : AY61133S01 7.866 DF 05/25/12
Misc : soil
ALS Vial : 8320 Sample Multiplier: 7.86627

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:06:32 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.839	0	744717	N.D.	423.250 #
Spiked Amount ~~589.971~~ 491.6			Recovery hm 6/5/12	=	0.00%	~~71.74%~~ 86.1%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	1.857	0	20173	N.D.	8.300 # NC STATLIER
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. <3.5/N
9) TM TETRYL	6.835	0.000	9878	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.277	0.000	24565	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.692	0.000	18140	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.015	0.000	20453	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.203	0.000	23459	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.567	0.000	14456	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d RT
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d <3.3/N
18) TM PETN	0.000	0.000	0	0	N.D.	N.D.

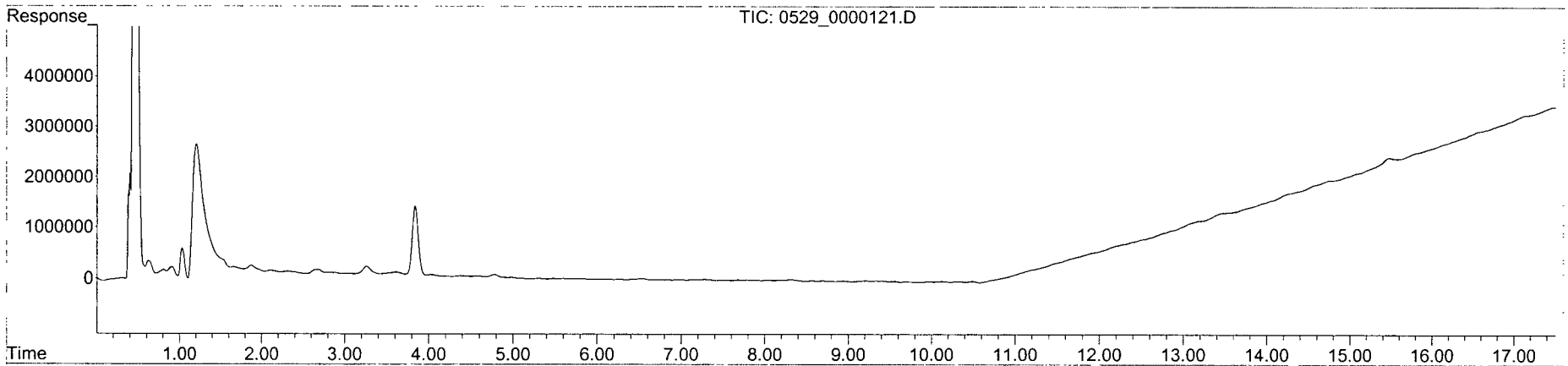
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

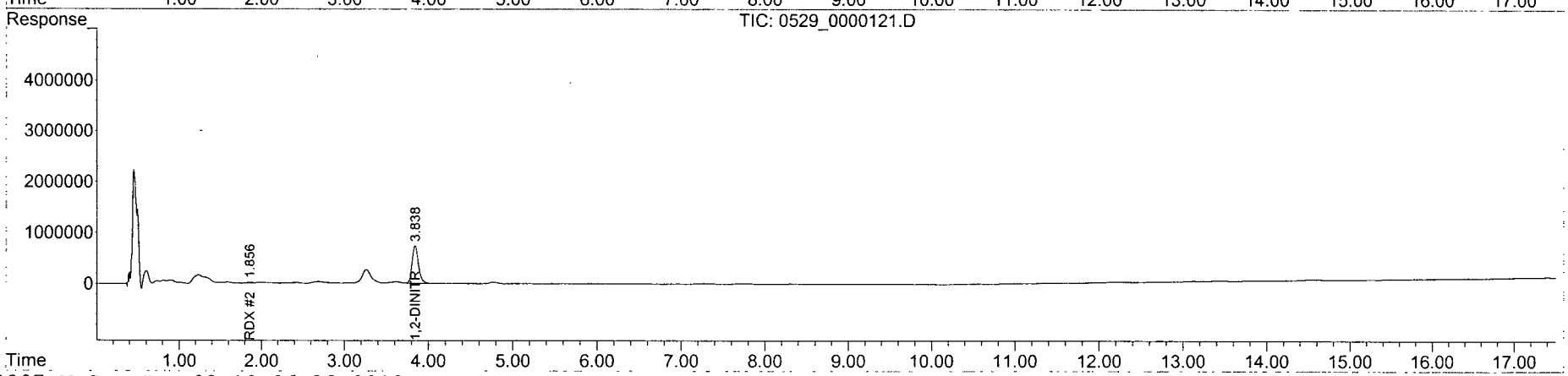
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000121.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 08:32:42
Operator : hm
Sample : AY61133S01 7.866 DF 05/25/12
Misc : soil
ALS Vial : 8320 Sample Multiplier: 7.86627

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:06:32 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120602\
Data File : 0602_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 02-Jun-2012, 12:20:36
Operator : HM
Sample : AY61133S01 7.866 DF 05/25/12
Misc : soil
ALS Vial : 8385 Sample Multiplier: 7.86627

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 04 13:14:24 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120602\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.603	143166	463.606	ppb	
Spiked Amount 589.971		Recovery = 78.58%			
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	
3) TM PETN	0.000	0	N.D.	ppb	d
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

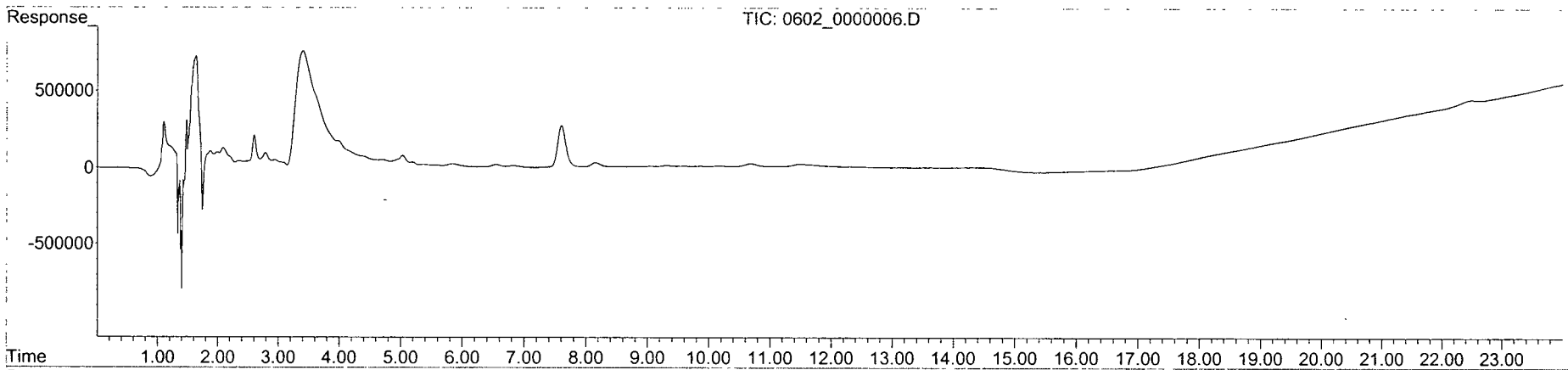
(f)=RT Delta > 1/2 Window (m)=manual int.

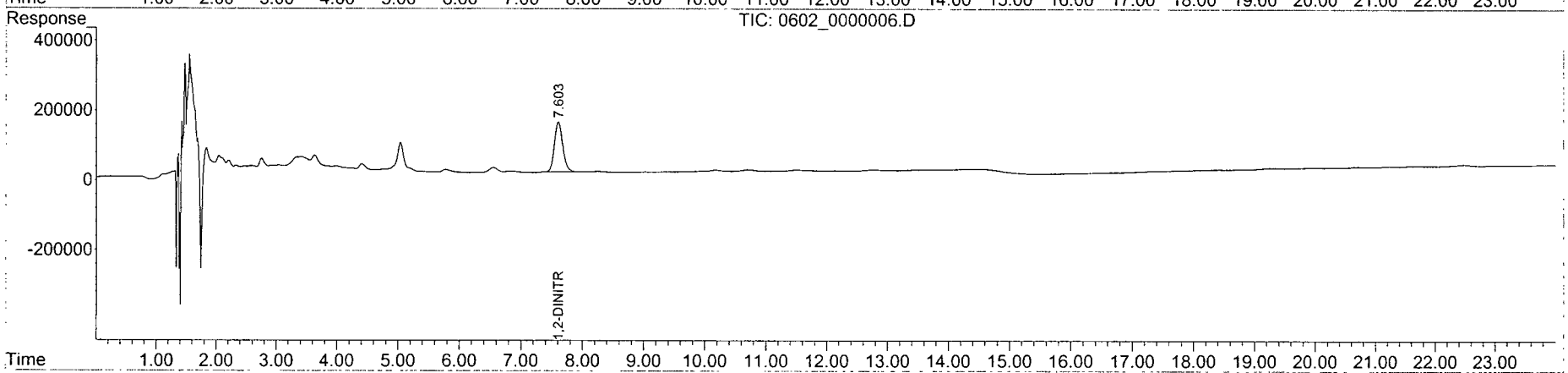
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120602\
Data File : 0602_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 02-Jun-2012, 12:20:36
Operator : HM
Sample : AY61133S01 7.866 DF 05/25/12
Misc : soil
ALS Vial : 8385 Sample Multiplier: 7.86627

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 04 13:14:24 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120602\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SD-03

APPL ID: AY61135

Sample Collection Date: 05/11/12

QCG: #833BL-120525A-167644

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/25/12	06/01/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/25/12	06/01/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/25/12	06/01/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/25/12	06/01/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/25/12	06/01/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	84.8	70-130		%	05/25/12	06/01/12

Quant Method: W110907.M
Run #: 0529_0000122
Instrument: Waldorf
Sequence: 120529
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:18 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000122.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 09:10:11
Operator : hm
Sample : AY61135S02 7.929 DF 05/25/12
Misc : soil
ALS Vial : 8321 Sample Multiplier: 7.92864

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:08:12 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.846	0	733706	N.D.	420.299 #
Spiked Amount ~~594.648~~ 495.5			Recovery	=	0.00%	~~70.68%~~ 84.8%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	1.858	0	16090	N.D.	6.672 # KC STATLER
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. <3.5/w
9) TM TETRYL	6.785	0.000	10007	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.300	0.000	19708	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.783	0.000	16691	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.049	0.000	22145	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.213	0.000	17309	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.569	0.000	32222	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d RT
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d <3.5/w
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D. d

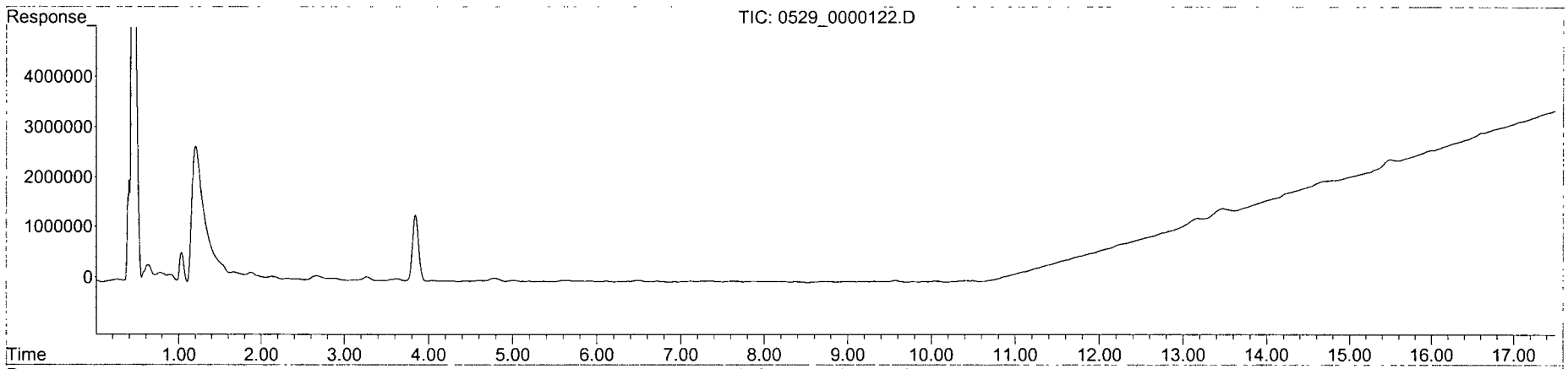
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

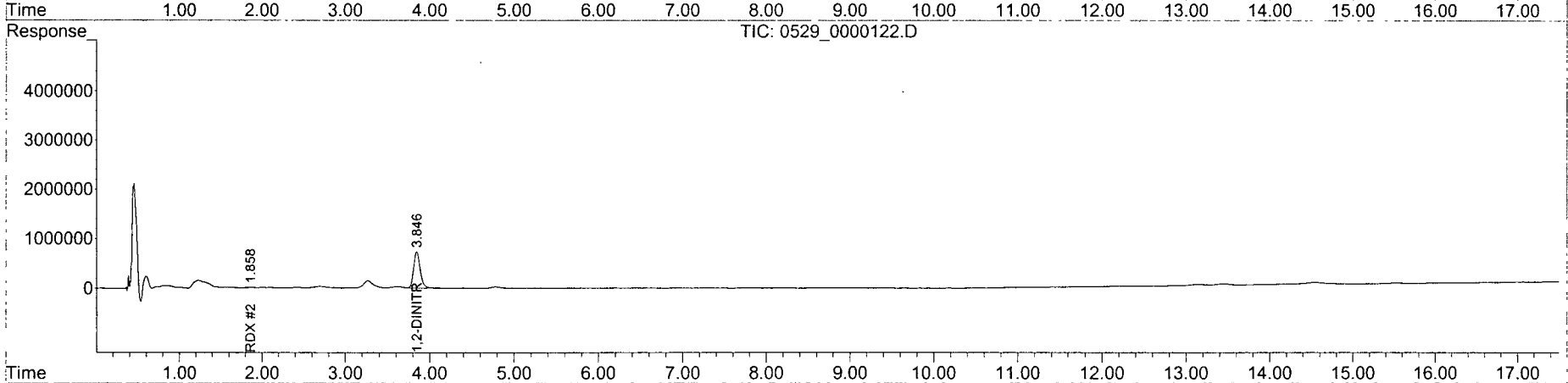
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000122.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 09:10:11
Operator : hm
Sample : AY61135S02 7.929 DF 05/25/12
Misc : soil
ALS Vial : 8321 Sample Multiplier: 7.92864

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:08:12 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120602\
Data File : 0602_0000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 02-Jun-2012, 13:02:06
Operator : HM
Sample : AY61135S02 7.929 DF 05/25/12
Misc : soil
ALS Vial : 8386 Sample Multiplier: 7.92864

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 04 13:15:39 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120602\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.598	143092	467.038	ppb	
Spiked Amount 594.648		Recovery =	78.54%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	
3) TM PETN	0.000	0	N.D.	ppb	d
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

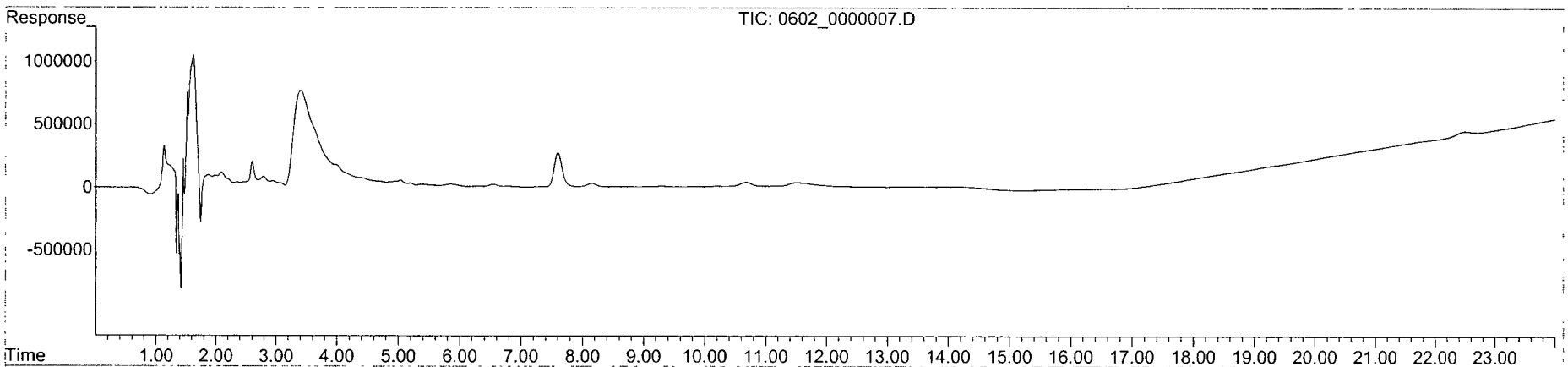
(f)=RT Delta > 1/2 Window (m)=manual int.

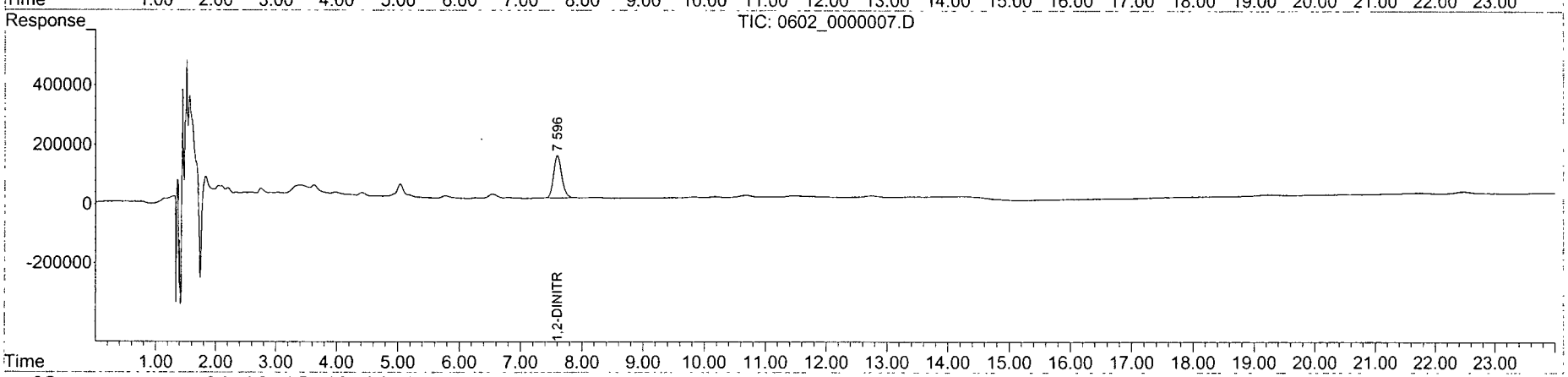
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120602\
Data File : 0602_0000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 02-Jun-2012, 13:02:06
Operator : HM
Sample : AY61135S02 7.929 DF 05/25/12
Misc : soil
ALS Vial : 8386 Sample Multiplier: 7.92864

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 04 13:15:39 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120602\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS02-SS-24-01

APPL ID: AY61136

Sample Collection Date: 05/11/12

QCG: #833BL-120525A-167644

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/25/12	06/01/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/25/12	06/01/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/25/12	06/01/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/25/12	06/01/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/25/12	06/01/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	84.5	70-130		%	05/25/12	06/01/12

Quant Method: W110907.M
Run #: 0529_0000123
Instrument: Waldorf
Sequence: 120529
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:18 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000123.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 09:47:39
Operator : hm
Sample : AY61136S01 8.000 DF 05/25/12
Misc : soil
ALS Vial : 8322 Sample Multiplier: 8

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:09:07 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.842	0	731249	N.D.	422.661 #
Spiked Amount ~~600.000~~ 500.0			Recovery	=	0.00%	~~70.44%~~ 84.5%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D.
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. <3.5/N
9) TM TETRYL	6.884	0.000	16457	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.275	0.000	10430	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.753	0.000	10806	0	NoCal	N.D.
12) TM 4-AMINO-2...	7.952	0.000	14848	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.186	0.000	105319	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.587	0.000	112614	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D. <3.5/N

LIM 6/21/12

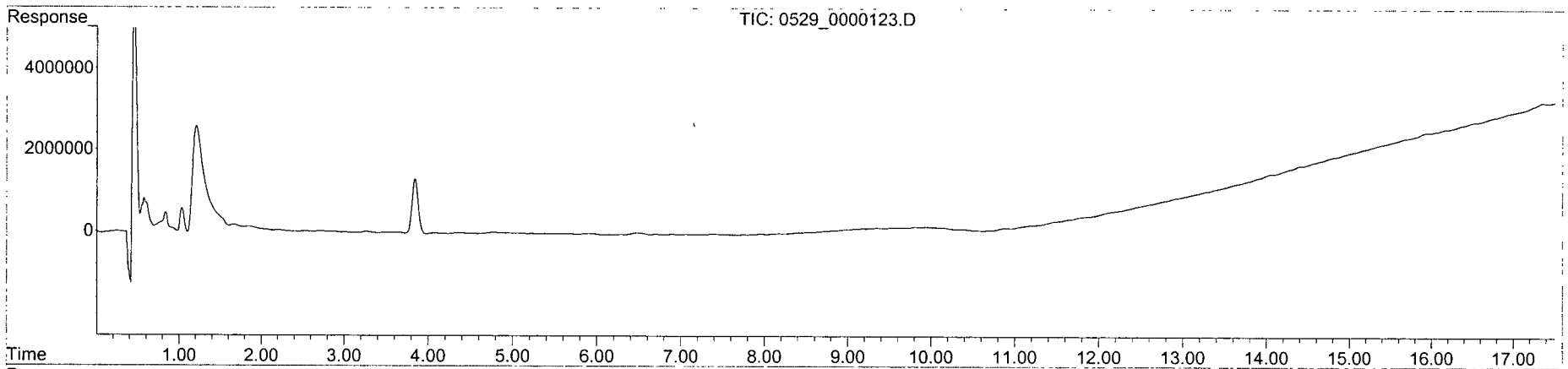
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

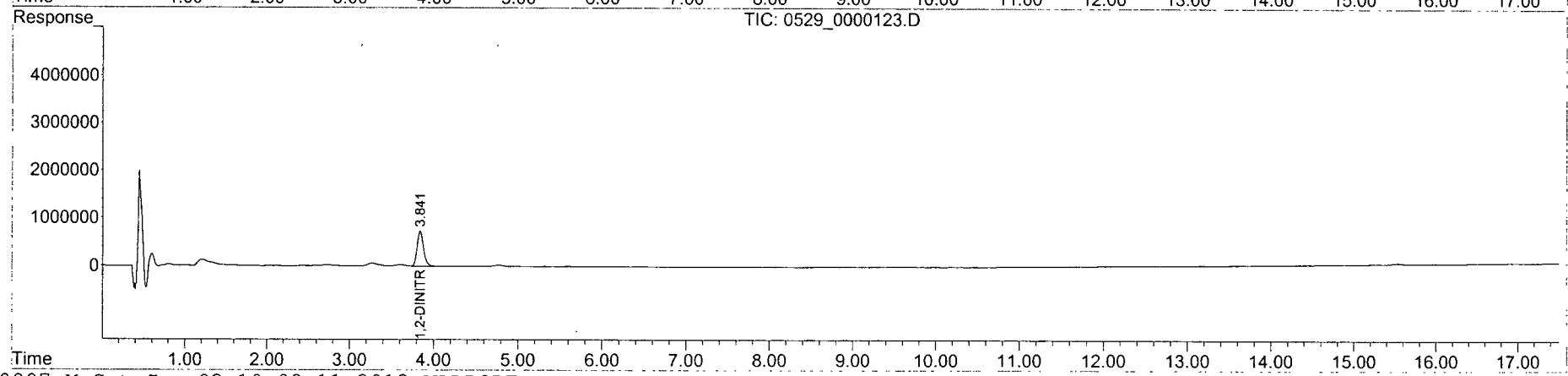
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000123.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 09:47:39
Operator : hm
Sample : AY61136S01 8.000 DF 05/25/12
Misc : soil
ALS Vial : 8322 Sample Multiplier: 8

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:09:07 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS02-SS-24-02

APPL ID: AY61137

Sample Collection Date: 05/11/12

QCG: #833BL-120525A-167644

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/25/12	06/01/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/25/12	06/01/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/25/12	06/01/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/25/12	06/01/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/25/12	06/01/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	85.5	70-130		%	05/25/12	06/01/12

Quant Method: W110907.M
Run #: 0529_0000124
Instrument: Waldorf
Sequence: 120529
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:18 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000124.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 10:25:08
Operator : hm
Sample : AY61137S01 7.984 DF 05/25/12
Misc : soil
ALS Vial : 8323 Sample Multiplier: 7.98403

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:10:06 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.844	0	739251	N.D.	426.434 #
Spiked Amount ~~598.802~~ 499.0			Recovery	=	0.00%	~~71.21%~~ 85.5%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D.
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. C3 S/N
9) TM TETRYL	6.849	0.000	4643	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.269	0.000	25183	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.636	0.000	12448	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.006	0.000	11449	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.294	0.000	19033	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.521	0.000	8489	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D. C3 S/N

from 6/21/12

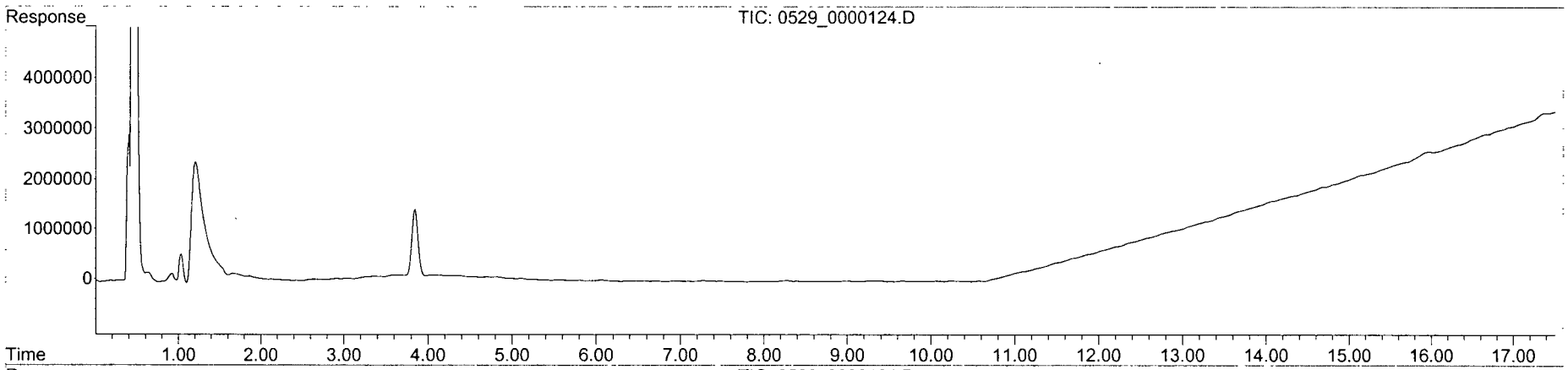
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

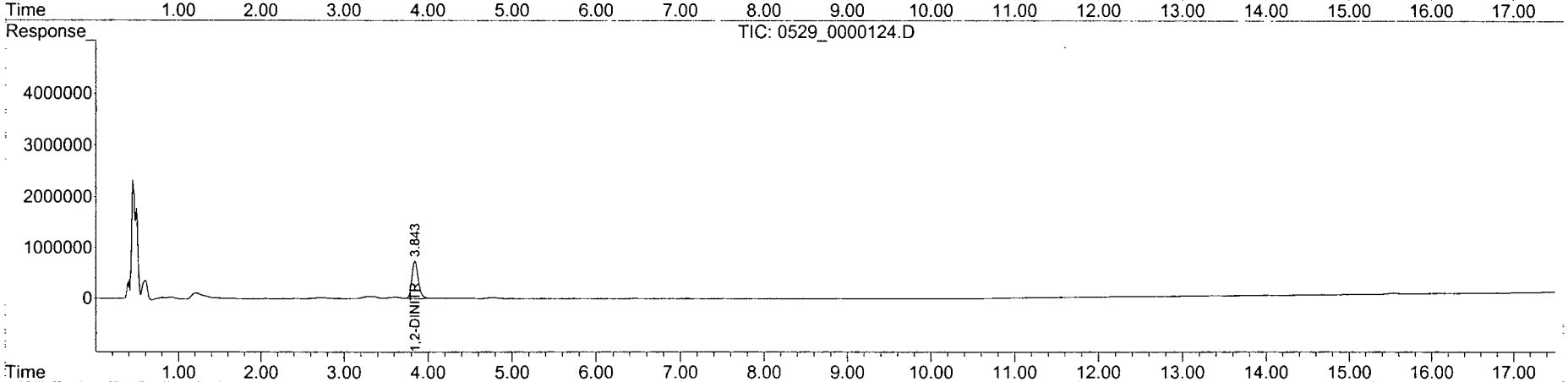
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000124.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 10:25:08
Operator : hm
Sample : AY61137S01 7.984 DF 05/25/12
Misc : soil
ALS Vial : 8323 Sample Multiplier: 7.98403

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:10:06 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS02-AMB-SS-24-03

APPL ID: AY61138

Sample Collection Date: 05/11/12

QCG: #833BL-120525A-167644

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/25/12	06/01/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/25/12	06/01/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/25/12	06/01/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/25/12	06/01/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/25/12	06/01/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	85.7	70-130		%	05/25/12	06/01/12

Quant Method: W110907.M
Run #: 0529_0000125
Instrument: Waldorf
Sequence: 120529
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:18 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000125.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 11:02:36
Operator : hm
Sample : AY61138S01 7.992 DF 05/25/12
Misc : soil
ALS Vial : 8324 Sample Multiplier: 7.99201

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:10:36 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.851	0	741600	N.D.	428.216 #
Spiked Amount ~~599.401~~ 499.5			Recovery	=	0.00%	~~71.44%~~ 85.7%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D.
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D.
9) TM TETRYL	6.778	0.000	87072	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.355	0.000	70812	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.817	0.000	35756	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.082	0.000	12507	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.236	0.000	28018	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.608	0.000	13723	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18) TM PETN	0.000	0.000	0	0	N.D.	N.D.

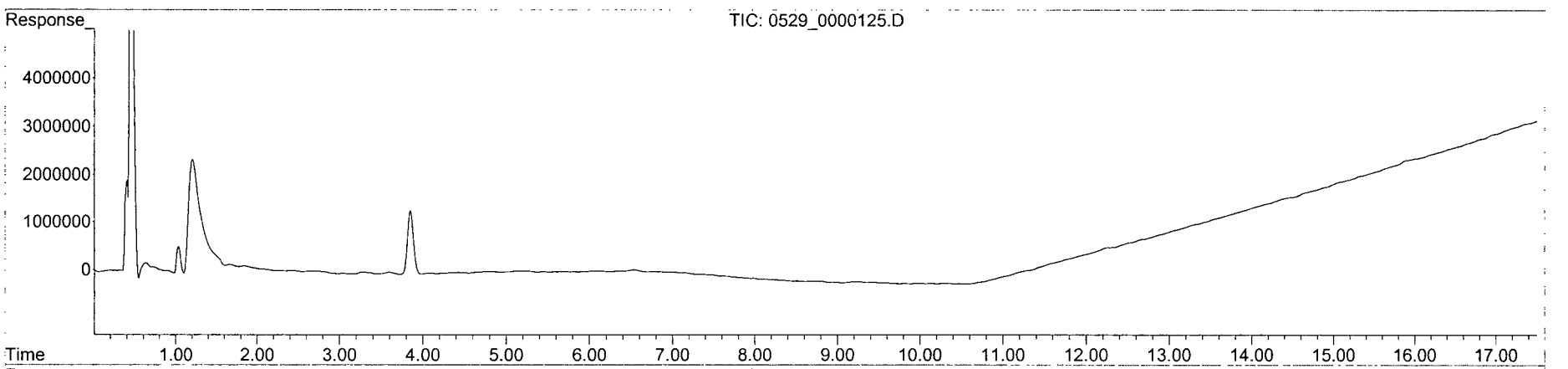
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

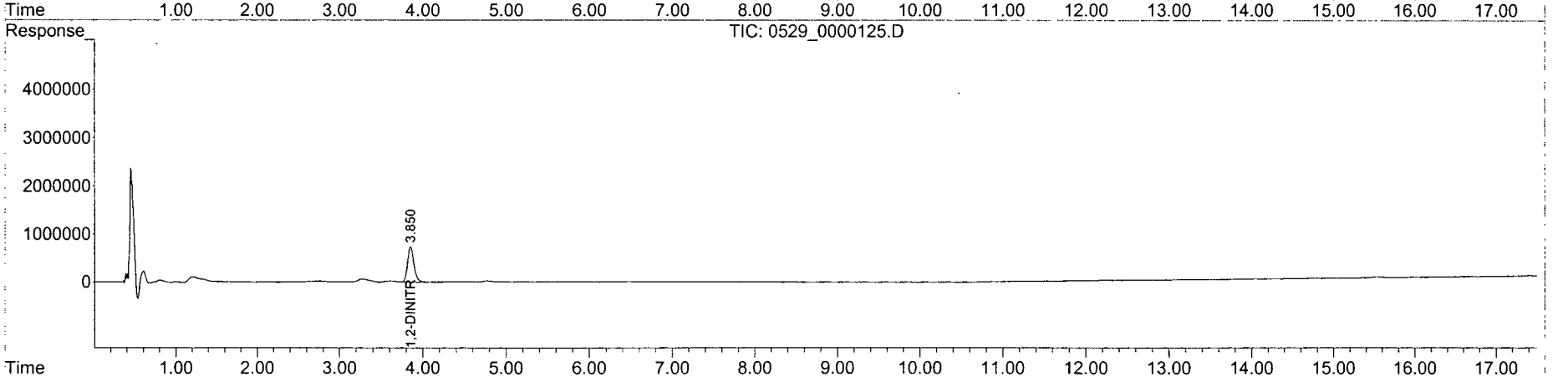
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000125.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 11:02:36
Operator : hm
Sample : AY61138S01 7.992 DF 05/25/12
Misc : soil
ALS Vial : 8324 Sample Multiplier: 7.99201

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:10:36 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





EPA 8330B EXPLOSIVES-SOIL

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS02-SS-24-04

APPL ID: AY61139

Sample Collection Date: 05/11/12

QCG: #833BL-120525A-167644

Method	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
EPA 8330L	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/25/12	06/01/12
EPA 8330L	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/25/12	06/01/12
EPA 8330L	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/25/12	06/01/12
EPA 8330L	HMX	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/25/12	06/01/12
EPA 8330L	PETN	0.047 U	2.50	0.047	mg/kg	05/25/12	06/01/12
EPA 8330L	RDX	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
EPA 8330L	TETRYL	0.088 U	0.50	0.088	mg/kg	05/25/12	06/01/12
EPA 8330L	SURROGATE: 1,2-DINITROBENZENE	85.9	70-130		%	05/25/12	06/01/12

Quant Method: W110907.M
Run #: 0529_0000128
Instrument: Waldorf
Sequence: 120529
Dilution Factor: 1
Initials: RSM

Printed: 06/05/12 9:53:18 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000128.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 12:45:11
Operator : hm
Sample : AY61139S01 7.813 DF 05/25/12
Misc : soil
ALS Vial : 8325 Sample Multiplier: 7.8125

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:11:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.850	0	742838	N.D.	419.297 #
Spiked Amount ~~585.938~~ 488.3			Recovery HM 6/5/12	=	0.00%	~~71.56%~~ 85.9%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D.
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. C3.S/N
9) TM TETRYL	6.907	0.000	21650	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.295	0.000	15964	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.737	0.000	19687	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.037	0.000	18680	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.258	0.000	23466	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.582	0.000	38756	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D. C3.S/N

HM 6/2/12

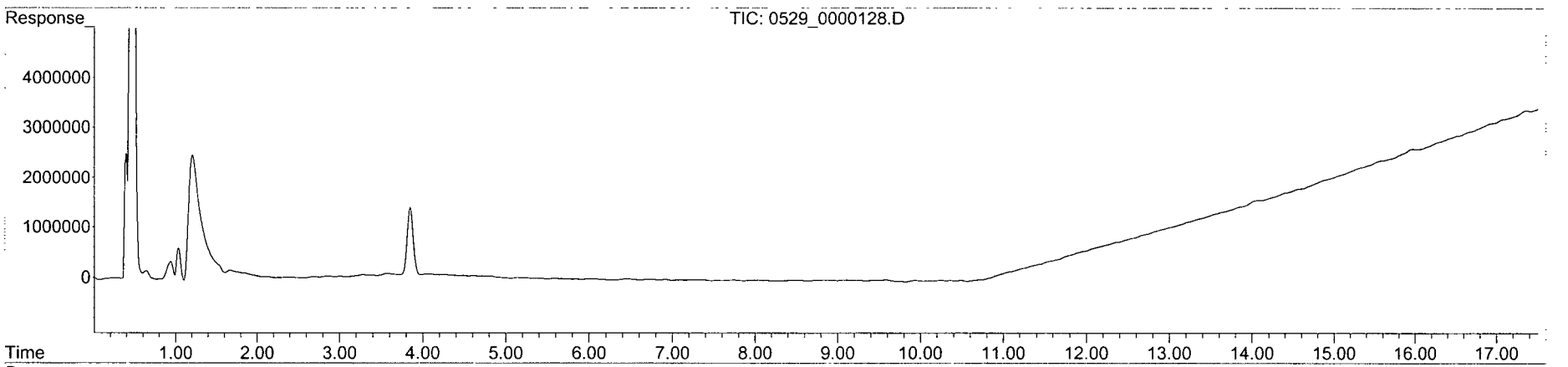
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

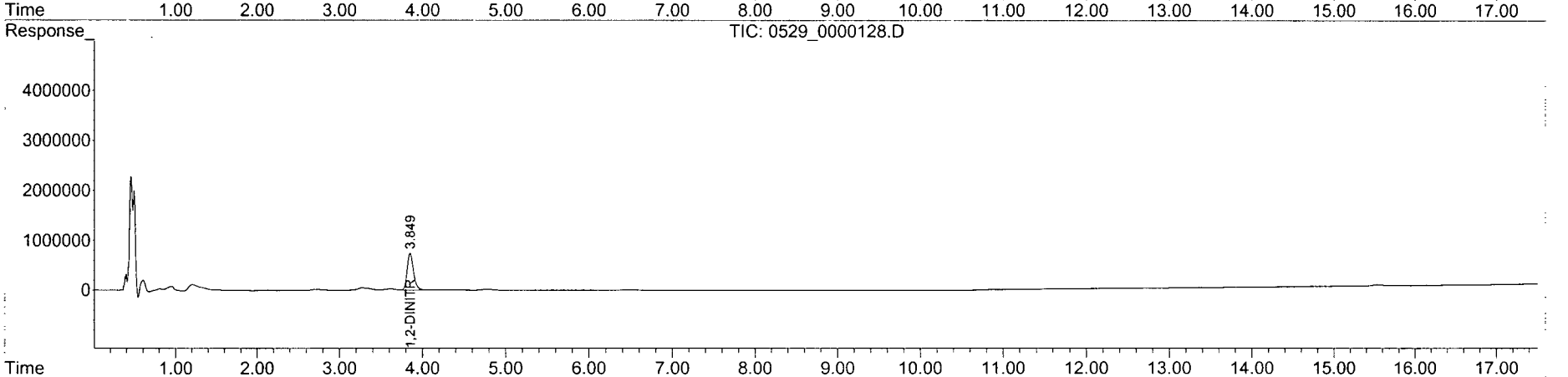
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000128.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 12:45:11
Operator : hm
Sample : AY61139S01 7.813 DF 05/25/12
Misc : soil
ALS Vial : 8325 Sample Multiplier: 7.8125

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:11:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 67746
Matrix: SOIL

SDG No: 67746
Date Analyzed: 05/31/12
Instrument: Waldorf

APPL ID.	Client Sample No.	SURROGATE: 1,2-DINITROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
120524A-LCS	Lab Control Spike	70-130	91.9				
AY61126-MS	Matrix Spike	70-130	94.0				
AY61126-MSD	Matrix SpikeD	70-130	93.5				
120524A-BLK	Blank	70-130	98.0				
AY61125	WVMA-MRS01-SS-04-01	70-130	104				
AY61126	WVMA-MRS01-SS-04-02	70-130	105				
AY61128	WVMA-MRS01-AMB-SD-02	70-130	106				
AY61129	WVMA-MRS01-AMB-SS-04-04	70-130	105				
AY61130	WVMA-MRS01-SS-04-03	70-130	106				
AY61131	WVMA-MRS01-SS-04-05	70-130	105				

Comments: Batch: #833BL-120524A

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 67746
Matrix: SOIL

SDG No: 67746
Date Analyzed: 06/01/12
Instrument: Waldorf

APPL ID.	Client Sample No.	SURROGATE: 1,2-DINITROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
120525A-LCS	Lab Control Spike	70-130	102				
AY61133-MS	Matrix Spike	70-130	110				
AY61133-MSD	Matrix SpikeD	70-130	112				
AY61137-MS	Matrix Spike	70-130	109				
AY61137-MSD	Matrix SpikeD	70-130	108				
120525A-BLK	Blank	70-130	85.6				
AY61133	WVMA-MRS01-SD-01	70-130	86.1				
AY61135	WVMA-MRS01-SD-03	70-130	84.8				
AY61136	WVMA-MRS02-SS-24-01	70-130	84.5				
AY61137	WVMA-MRS02-SS-24-02	70-130	85.5				
AY61138	WVMA-MRS02-AMB-SS-24-03	70-130	85.7				
AY61139	WVMA-MRS02-SS-24-04	70-130	85.9				

Comments: Batch: #833BL-120525A

EPA 8330LL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 67746
Matrix: SOIL
Blank ID: 120524A-BLK

SDG No: 67746
Date Analyzed: 05/31/12
Instrument: Waldorf
Time Analyzed: 1943

APPL ID.	Client Sample No.	File ID.	Date Analyzed
120524A-LCS	Lab Control Spike	0529_0000095	05/31/12 1646
120524A-MS	Matrix Spike	0529_0000096	05/31/12 1713
120524A-MSD	Matrix SpikeD	0529_0000097	05/31/12 1751
120524A-BLK	Blank	0529_0000100	05/31/12 1943
AY61125	WVMA-MRS01-SS-04-01	0531_0000008	05/31/12 1337
AY61126	WVMA-MRS01-SS-04-02	0531_0000009	05/31/12 1419
AY61128	WVMA-MRS01-AMB-SD-02	0531_0000010	05/31/12 1500
AY61129	WVMA-MRS01-AMB-SS-04-04	0531_0000011	05/31/12 1542
AY61130	WVMA-MRS01-SS-04-03	0531_0000012	05/31/12 1623
AY61131	WVMA-MRS01-SS-04-05	0531_0000013	05/31/12 1705

Comments: Batch: #833BL-120524A

EPA 8330LL

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 67746
Case No: 67746
Date Analyzed: 06/01/12
Matrix: SOIL
Instrument: Waldorf
Blank ID: 120525A-BLK
Time Analyzed: 0805

APPL ID.	Client Sample No.	File ID.	Date Analyzed
120525A-LCS	Lab Control Spike	0529_0000108	06/01/12 0003
120525A-MS	Matrix Spike	0529_0000109	06/01/12 0122
120525A-MSD	Matrix SpikeD	0529_0000110	06/01/12 0200
120525A-MS	Matrix Spike	0529_0000111	06/01/12 0237
120525A-MSD	Matrix SpikeD	0529_0000112	06/01/12 0315
120525A-BLK	Blank	0529_0000120	06/01/12 0805
AY61133	WVMA-MRS01-SD-01	0529_0000121	06/01/12 0832
AY61135	WVMA-MRS01-SD-03	0529_0000122	06/01/12 0910
AY61136	WVMA-MRS02-SS-24-01	0529_0000123	06/01/12 0947
AY61137	WVMA-MRS02-SS-24-02	0529_0000124	06/01/12 1025
AY61138	WVMA-MRS02-AMB-SS-24-03	0529_0000125	06/01/12 1102
AY61139	WVMA-MRS02-SS-24-04	0529_0000128	06/01/12 1245

Comments: Batch: #833BL-120525A

Method Blank

EPA 8330B EXPLOSIVES-SOIL

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **120524S-61126 - 167643**
Batch ID: #833BL-120524A

Sample Type	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
BLANK	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/24/12	05/31/12
BLANK	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/24/12	05/31/12
BLANK	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/24/12	05/31/12
BLANK	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/24/12	05/31/12
BLANK	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/24/12	05/31/12
BLANK	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
BLANK	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/24/12	05/31/12
BLANK	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
BLANK	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
BLANK	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/24/12	05/31/12
BLANK	HMX	0.005 U	0.50	0.005	mg/kg	05/24/12	05/31/12
BLANK	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
BLANK	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/24/12	05/31/12
BLANK	PETN	0.047 U	2.50	0.047	mg/kg	05/24/12	05/31/12
BLANK	RDX	0.006 U	0.50	0.006	mg/kg	05/24/12	05/31/12
BLANK	TETRYL	0.088 U	0.50	0.088	mg/kg	05/24/12	05/31/12
BLANK	SURROGATE: 1,2-DINITROBENZENE	98.0	70-130		%	05/24/12	05/31/12

Quant Method: W110907.M
Run #: 0529_000010
Instrument: Waldorf
Sequence: 120529
Initials: RSM

GC SC-Blank-REG MDLs
Printed: 06/05/12 9:39:24 AM

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000100.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 19:43:48
Operator : hm
Sample : 120524SBLK1A 7.874 DF 05/24/12
Misc : soil
ALS Vial : 8517 Sample Multiplier: 7.87402

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:10:52 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.846	0	1016974	N.D.	578.553 #
Spiked Amount 590.551			Recovery	=	0.00%	97.97%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D.
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D.
9) TM TETRYL	6.911	0.000	16684	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.217	0.000	21006	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.822	0.000	10268	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.065	0.000	8234	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.172	0.000	20582	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.603	0.000	13636	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18) TM PETN	0.000	0.000	0	0	N.D.	N.D.

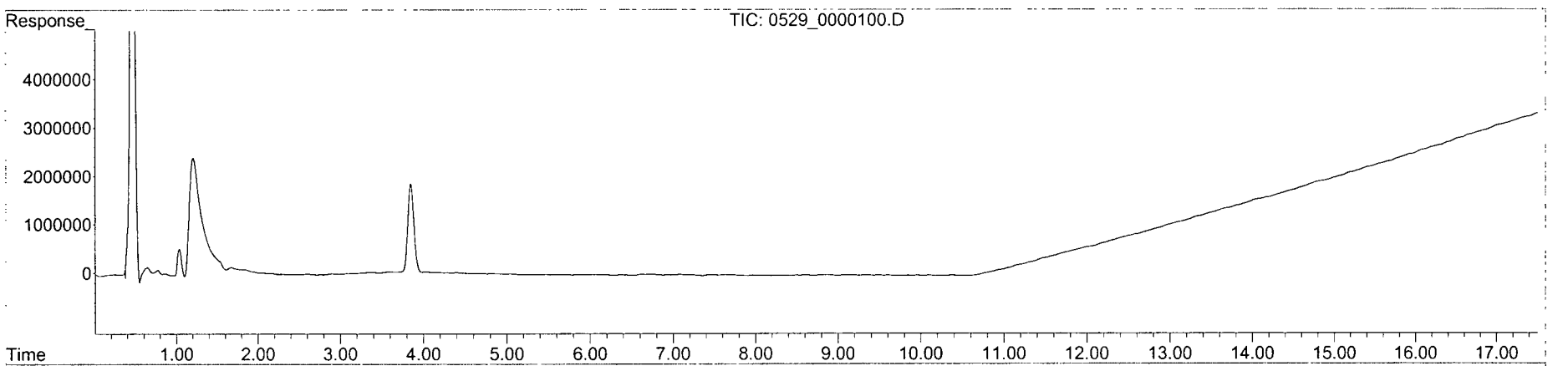
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

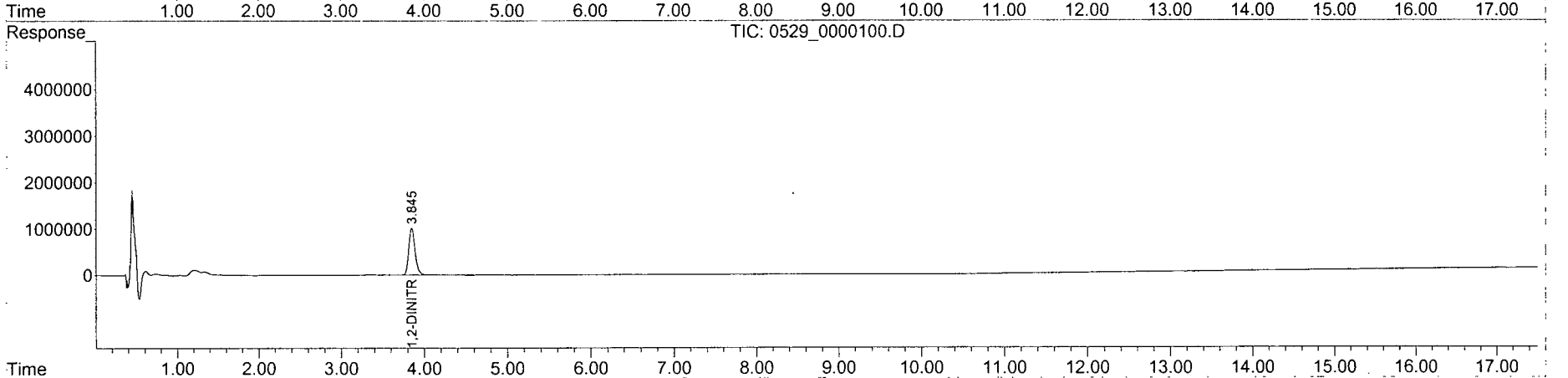
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000100.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 19:43:48
Operator : hm
Sample : 120524SBLK1A 7.874 DF 05/24/12
Misc : soil
ALS Vial : 8517 Sample Multiplier: 7.87402

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:10:52 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Method Blank

EPA 8330B EXPLOSIVES-SOIL

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **120525S-61133 - 167644**
Batch ID: #833BL-120525A

Sample Type	Analyte	Result	RL	MDL	Units	Extraction Date	Analysis Date
BLANK	1,3,5-TRINITROBENZENE	0.010 U	0.09	0.010	mg/kg	05/25/12	06/01/12
BLANK	1,3-DINITROBENZENE	0.003 U	0.40	0.003	mg/kg	05/25/12	06/01/12
BLANK	2,4,6-TRINITROTOLUENE	0.010 U	0.30	0.010	mg/kg	05/25/12	06/01/12
BLANK	2,4-DINITROTOLUENE	0.005 U	0.07	0.005	mg/kg	05/25/12	06/01/12
BLANK	2,6-DINITROTOLUENE	0.004 U	0.04	0.004	mg/kg	05/25/12	06/01/12
BLANK	2-AMINO-4,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
BLANK	2-NITROTOLUENE	0.008 U	0.50	0.008	mg/kg	05/25/12	06/01/12
BLANK	3-NITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
BLANK	4-AMINO-2,6-DINITROTOLUENE	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
BLANK	4-NITROTOLUENE	0.010 U	0.50	0.010	mg/kg	05/25/12	06/01/12
BLANK	HMX	0.005 U	0.50	0.005	mg/kg	05/25/12	06/01/12
BLANK	NITROBENZENE	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
BLANK	NITROGLYCERIN	0.017 U	0.50	0.017	mg/kg	05/25/12	06/01/12
BLANK	PETN	0.047 U	2.50	0.047	mg/kg	05/25/12	06/01/12
BLANK	RDX	0.006 U	0.50	0.006	mg/kg	05/25/12	06/01/12
BLANK	TETRYL	0.088 U	0.50	0.088	mg/kg	05/25/12	06/01/12
BLANK	SURROGATE: 1,2-DINITROBENZENE	85.6	70-130		%	05/25/12	06/01/12

Quant Method: W110907.M
Run #: 0529_000012
Instrument: Waldorf
Sequence: 120529
Initials: RSM

GC SC-Blank-REG MDLs
Printed: 06/05/12 9:39:24 AM

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000120.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 08:05:09
Operator : hm
Sample : 120525SBLK1A 7.952 DF 05/25/12
Misc : soil
ALS Vial : 8264 Sample Multiplier: 7.95229

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:04:11 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.840	0	740603	N.D.	425.515 #
Spiked Amount ~~596.421~~ 497.018			Recovery	=	0.00%	~~71.34%~~ 85.6%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D.	N.D.
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D.	N.D.
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D.	N.D.
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	0.000	0	0	N.D.	N.D.
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D. <3.3/a
9) TM TETRYL	6.899	0.000	63502	0	NoCal	N.D.
10) TM 2,4,6-TRI...	7.293	0.000	31336	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.730	0.000	18444	0	NoCal	N.D.
12) TM 4-AMINO-2...	8.051	0.000	13917	0	NoCal	N.D.
13) TM 2,4-DINIT...	9.238	0.000	16067	0	NoCal	N.D.
14) TM 2,6-DINIT...	9.582	0.000	19082	0	NoCal	N.D.
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D.	N.D.
18) TM PETN	0.000	0.000	0	0	N.D.	N.D.

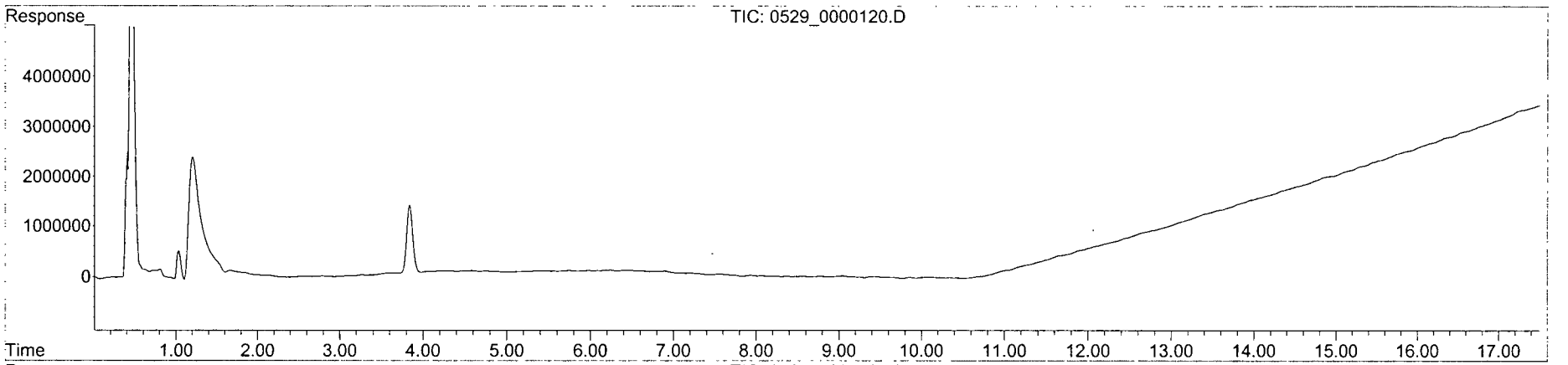
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

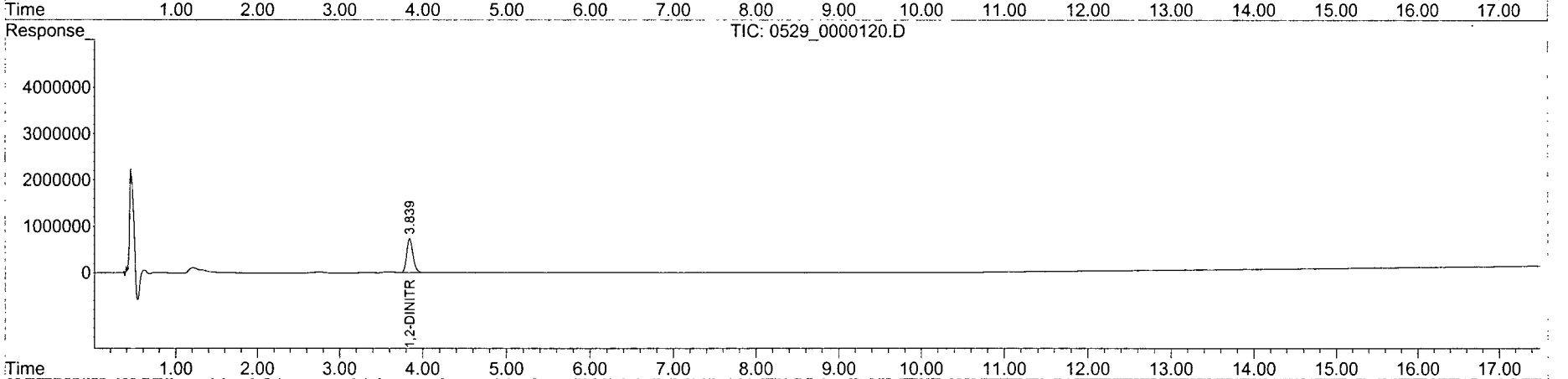
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000120.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 08:05:09
Operator : hm
Sample : 120525SBLK1A 7.952 DF 05/25/12
Misc : soil
ALS Vial : 8264 Sample Multiplier: 7.95229

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 10:04:11 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Laboratory Control Spike Recovery
EPA 8330B EXPLOSIVES-SOIL

APPL ID: **120524S-61126 LCS - 167643**
Batch ID: #833BL-120524A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
1,3,5-TRINITROBENZENE	1.97	1.79	90.9	75-125
1,3-DINITROBENZENE	1.97	1.78	90.4	80-125
2,4,6-TRINITROTOLUENE	1.97	1.82	92.4	55-140
2,4-DINITROTOLUENE	1.97	1.82	92.4	80-125
2,6-DINITROTOLUENE	1.97	1.81	91.9	80-120
2-AMINO-4,6-DINITROTOLUENE	1.97	1.77	89.8	80-125
2-NITROTOLUENE	1.97	1.84	93.4	80-125
3-NITROTOLUENE	1.97	1.86	94.4	75-120
4-AMINO-2,6-DINITROTOLUENE	1.97	1.77	89.8	80-125
4-NITROTOLUENE	1.97	1.86	94.4	75-125
HMX	1.97	1.82	92.4	75-125
NITROBENZENE	1.97	1.79	90.9	75-125
NITROGLYCERIN	1.97	1.94	98.5	68-131
PETN	1.97	2.08	106	69-132
RDX	1.97	1.69	85.8	70-135
TETRYL	1.97	1.71	86.8	10-150
SURROGATE: 1,2-DINITROBENZENE (S	1.97	1.81	91.9	70-130

Comments:

Primary	SPK
Quant Method :	W110907.M
Extraction Date :	05/24/12
Analysis Date :	05/31/12
Instrument :	Waldorf
Run :	0529_0000095
Initials :	RSM

Printed: 06/05/12 9:35:51 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000095.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 16:46:19
Operator : hm
Sample : 120524SLCS1A 7.890 DF 05/24/12
Misc : soil
ALS Vial : 8512 Sample Multiplier: 7.88955

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:06:09 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.846	0	3174999	N.D.	1809.810 #
Spiked Amount 591.716			Recovery	=	0.00%	305.86%
Target Compounds						
1) TM HMX	0.000	0.972	0	6915482	N.D.	1819.591 #
2) TM RDX	0.000	1.844	0	4095817	N.D.	1690.121 #
3) TM 1,3,5-TRI...	0.000	2.986	0	→7146831	N.D.	1789.664 #
5) TM 1,3-DINIT...	0.000	3.983	0	6720615	N.D.	1776.070 #
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	5.389	0	3129042	N.D.	1790.177 #
8) TM NITROGLYC...	6.303	6.267	1288380	58749	1941.690	NoCal #
9) TM TETRYL	6.870	6.870	3863399	2383294	NoCal	1708.657 #
10) TM 2,4,6-TRI...	7.324	7.324	3775751	2994473	NoCal	1815.840 #
11) TM 2-AMINO-4...	7.740	7.740	3946635	2685795	NoCal	1766.218 #
12) TM 4-AMINO-2...	8.038	8.038	3848125	2116439	NoCal	1770.792 #
13) TM 2,4-DINIT...	9.257	9.257	2034296	2818631	NoCal	1819.243 #
14) TM 2,6-DINIT...	9.602	9.602	2168794	1577650	NoCal	1809.277 #
15) TM 2-NITROTO...	0.000	12.971	0	1185569	N.D.	1843.714 #
16) TM 4-NITROTO...	0.000	13.570	0	1171014	N.D.	1857.678 #
17) TM 3-NITROTO...	0.000	14.423	0	1410038	N.D.	1858.656 #
18) TM PETN	16.281	0.000	1110032	0	2075.944m	N.D. #

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

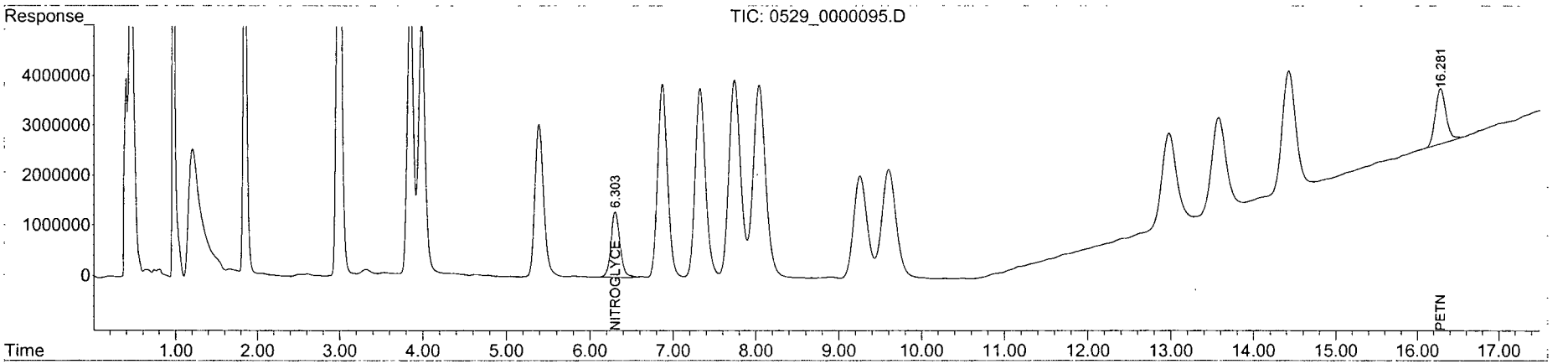
$$\text{Algo}\sqrt{} = \frac{(7146831)(20)(4)}{(10.14)(40)(788)} = 1788.760 \text{ ug/SIL}$$ hm

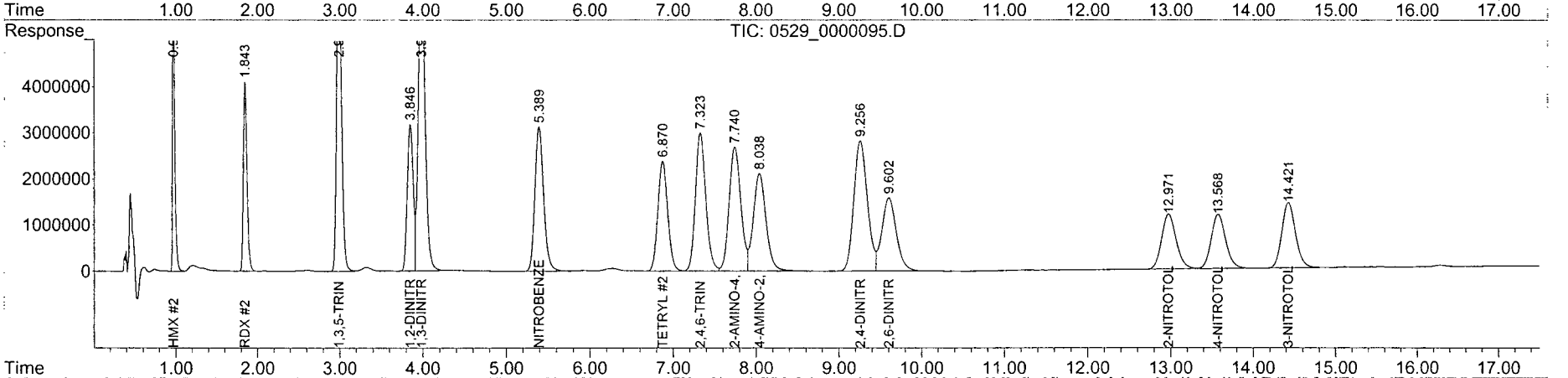
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000095.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 16:46:19
Operator : hm
Sample : 120524SLCS1A 7.890 DF 05/24/12
Misc : soil
ALS Vial : 8512 Sample Multiplier: 7.88955

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:06:09 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



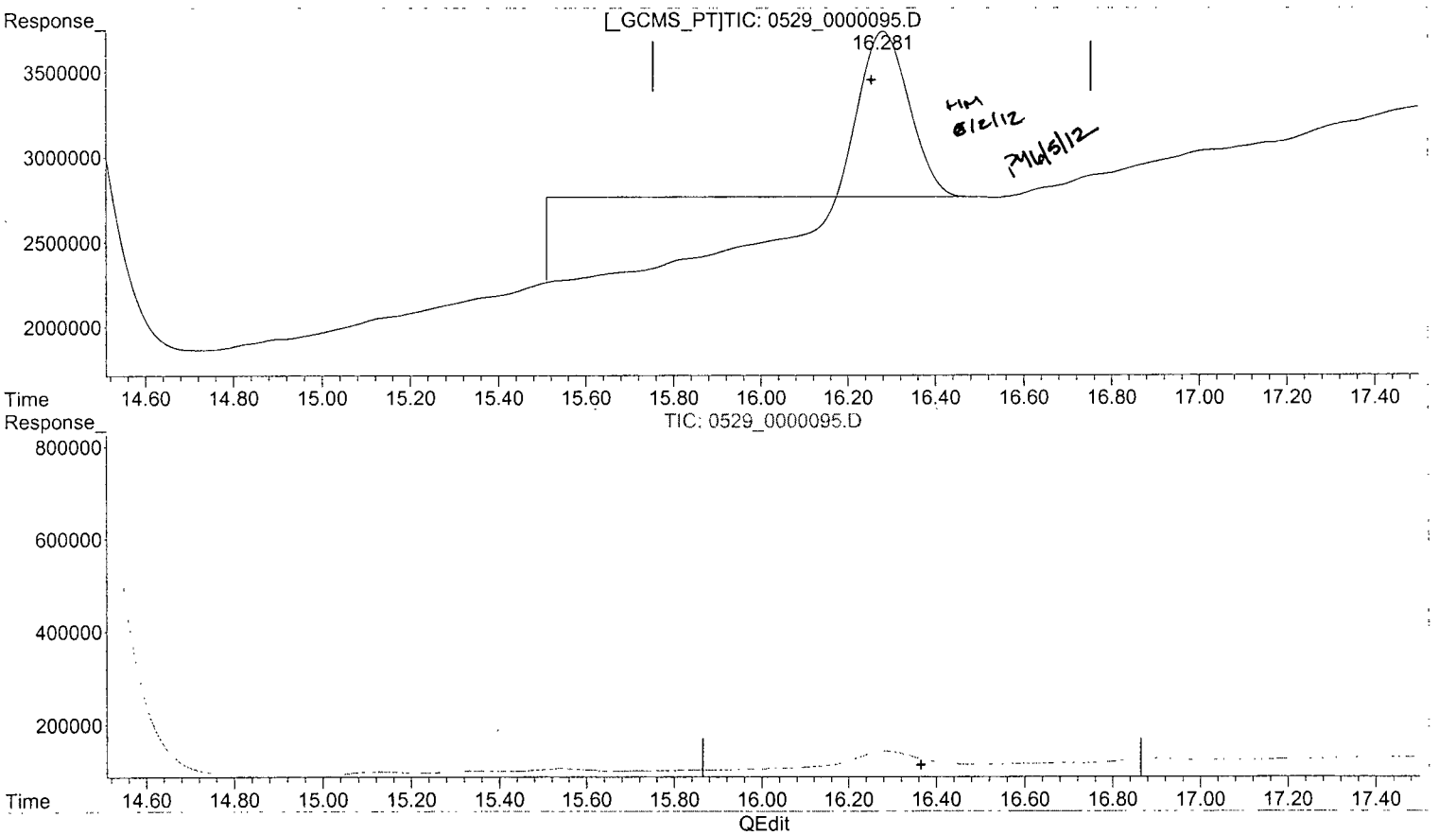


Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000095.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 16:46:19
Operator : hm
Sample : 120524SLCS1A 7.890 DF 05/24/12
Misc : soil
ALS Vial : 8512 Sample Multiplier: 7.88955

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 08:59:51 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.280min 1822.524 ppb

response 974525

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

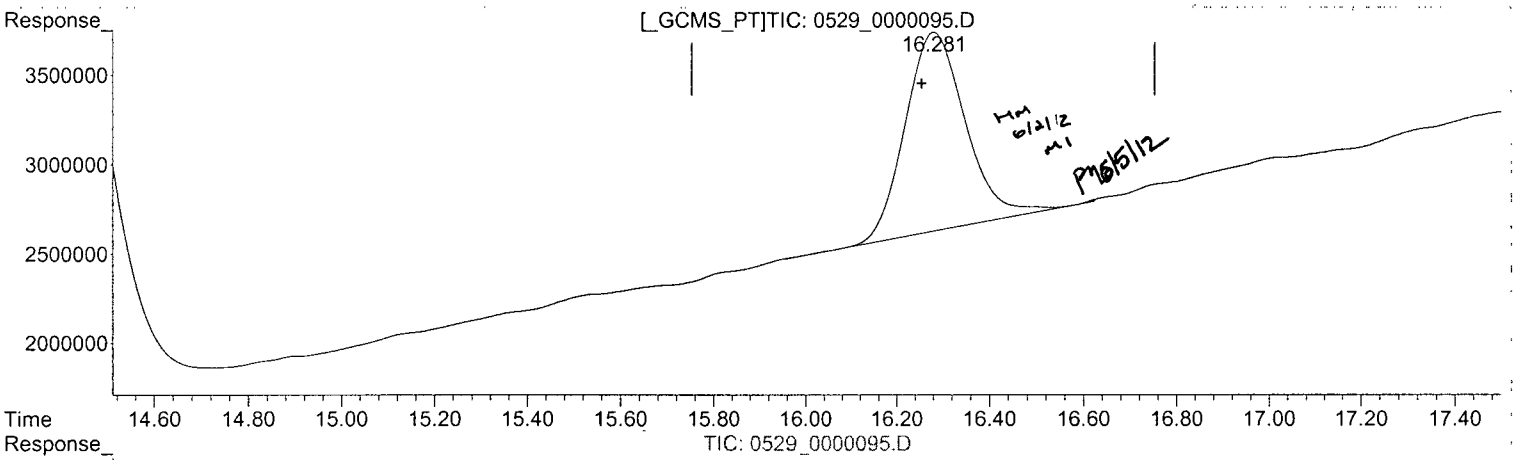
(+) = Expected Retention Time

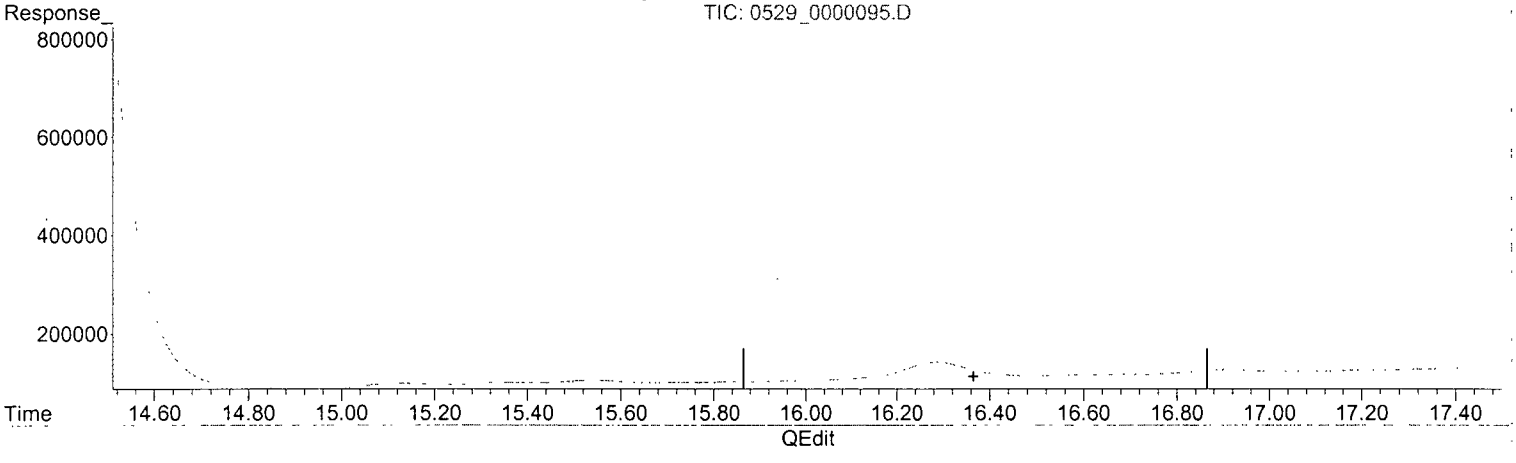
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000095.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 16:46:19
Operator : hm
Sample : 120524SLCS1A 7.890 DF 05/24/12
Misc : soil
ALS Vial : 8512 Sample Multiplier: 7.88955

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 08:59:51 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.281min 2075.944 ppb m

response 1110032

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Laboratory Control Spike Recovery
EPA 8330B EXPLOSIVES-SOIL

APPL ID: **120525S-61133 LCS - 167644**
Batch ID: #833BL-120525A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
1,3,5-TRINITROBENZENE	2.00	2.00	100	75-125
1,3-DINITROBENZENE	2.00	1.99	99.5	80-125
2,4,6-TRINITROTOLUENE	2.00	2.04	102	55-140
2,4-DINITROTOLUENE	2.00	2.05	102	80-125
2,6-DINITROTOLUENE	2.00	2.04	102	80-120
2-AMINO-4,6-DINITROTOLUENE	2.00	2.00	100	80-125
2-NITROTOLUENE	2.00	2.05	102	80-125
3-NITROTOLUENE	2.00	2.06	103	75-120
4-AMINO-2,6-DINITROTOLUENE	2.00	2.01	100	80-125
4-NITROTOLUENE	2.00	2.06	103	75-125
HMX	2.00	2.02	101	75-125
NITROBENZENE	2.00	1.97	98.5	75-125
NITROGLYCERIN	2.00	2.06	103	68-131
PETN	2.00	2.20	110	69-132
RDX	2.00	1.88	94.0	70-135
TETRYL	2.00	1.93	96.5	10-150
SURROGATE: 1,2-DINITROBENZENE (S	2.00	2.05	102	70-130

Comments:

Primary	SPK
Quant Method :	W110907.M
Extraction Date :	05/25/12
Analysis Date :	06/01/12
Instrument :	Waldorf
Run :	0529_0000108
Initials :	RSM

Printed: 06/05/12 9:35:51 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000108.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 00:03:47
Operator : hm
Sample : 120525SLCS1A 7.992 DF 05/25/12
Misc : soil
ALS Vial : 8198 Sample Multiplier: 7.99201

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:42:38 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.843	0	3552374	N.D.	2051.218	#
	Spiked Amount 599.401			Recovery	=	0.00%	342.21%	
	Target Compounds							
1)	TM HMX	0.000	0.971	0	7570677	N.D.	2017.854	#
2)	TM RDX	0.000	1.843	0	4505281	N.D.	1883.228	#
3)	TM 1,3,5-TRI...	0.000	2.982	0	→7873824	N.D.	1997.319	#
5)	TM 1,3-DINIT...	0.000	3.979	0	7437776	N.D.	1991.122	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.385	0	3406169	N.D.	1974.034	#
8)	TM NITROGLYC...	6.294	6.260	1349502	53484	2060.218	NoCal	#
9)	TM TETRYL	6.866	6.865	4334713	2662956	NoCal	1933.949	#
10)	TM 2,4,6-TRI...	7.317	7.317	4189007	3319765	NoCal	2039.240	#
11)	TM 2-AMINO-4...	7.740	7.740	4444873	3009743	NoCal	2004.954	#
12)	TM 4-AMINO-2...	8.037	8.037	4305794	2372194	NoCal	2010.554	#
13)	TM 2,4-DINIT...	9.251	9.251	2279118	3141867	NoCal	2054.207	#
14)	TM 2,6-DINIT...	9.598	9.597	2431396	1754989	NoCal	2038.790	#
15)	TM 2-NITROTO...	0.000	12.969	0	1300333	N.D.	2048.449	#
16)	TM 4-NITROTO...	0.000	13.569	0	1283799	N.D.	2063.049	#
17)	TM 3-NITROTO...	0.000	14.423	0	1545626	N.D.	2063.841	#
18)	TM PETN	16.277	0.000	1159856	0	2197.293	N.D.	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

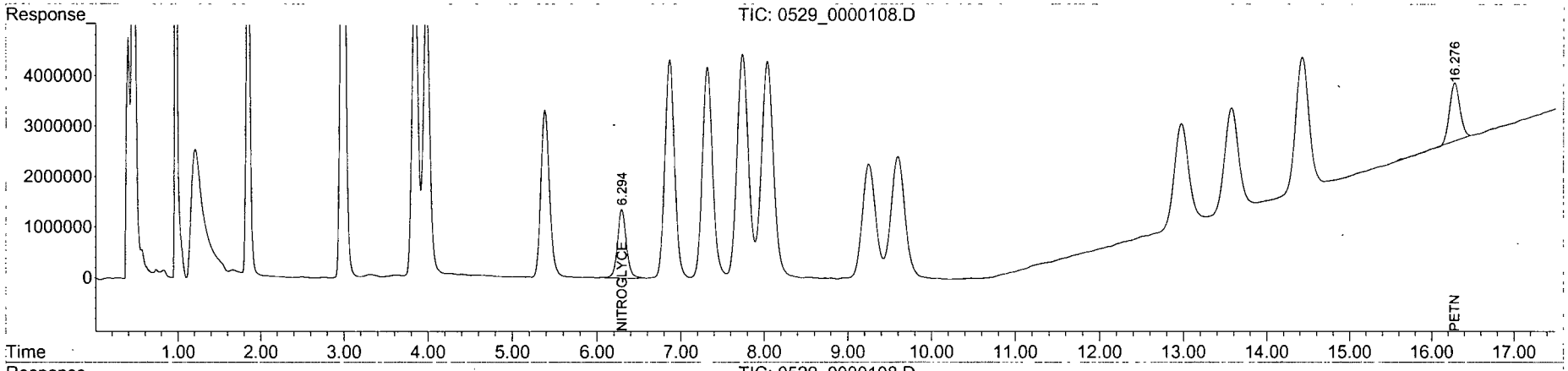
$$\text{Algo}\sqrt{} = \frac{(7873824)(20)(4)}{(10.01)(40)(788)} = 1996.436$$ HM 6/5/12

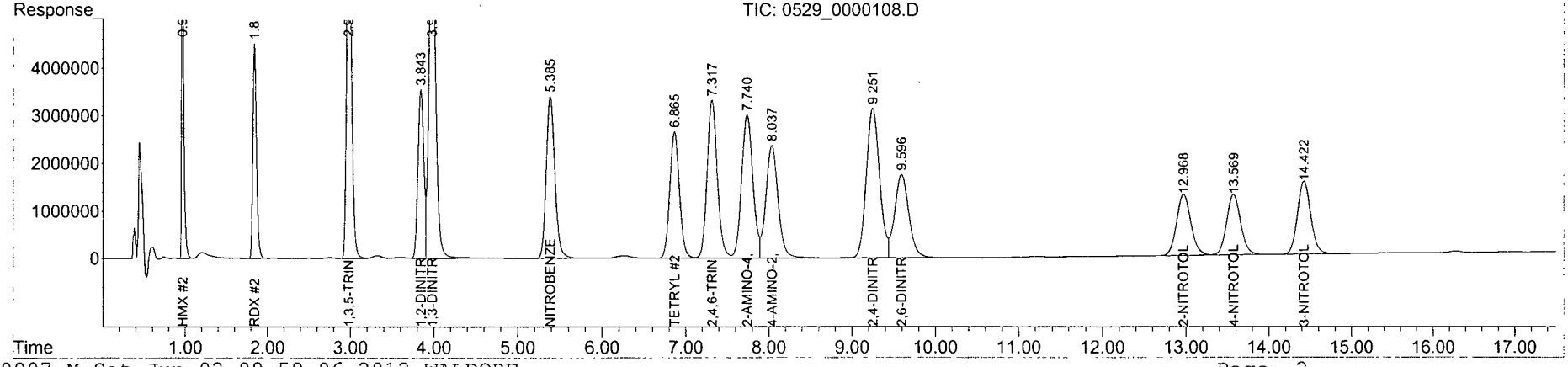
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000108.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 00:03:47
Operator : hm
Sample : 120525SLCS1A 7.992 DF 05/25/12
Misc : soil
ALS Vial : 8198 Sample Multiplier: 7.99201

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:42:38 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Matrix Spike Recoveries

EPA 8330B EXPLOSIVES-SOIL

APPL ID: **120524S-61126 MS - 167643**
Batch ID: #833BL-120524A
Sample ID: AY61126
Client ID: WVMA-MRS01-SS-04-02

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	SPK Lvl mg/kg	DUP Lvl mg/kg	Matrix Result mg/kg	SPK Result mg/kg	DUP Result mg/kg	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,3,5-TRINITROBENZENE	1.99	2.00	ND	1.81	1.78	91.0	89.0	75-125	2.2	20
1,3-DINITROBENZENE	1.99	2.00	ND	1.83	1.81	92.0	90.5	80-125	1.6	20
2,4,6-TRINITROTOLUENE	1.99	2.00	ND	1.86	1.84	93.5	92.0	55-140	1.6	20
2,4-DINITROTOLUENE	1.99	2.00	ND	1.87	1.86	94.0	93.0	80-125	1.1	20
2,6-DINITROTOLUENE	1.99	2.00	ND	1.87	1.85	94.0	92.5	80-120	1.6	20
2-AMINO-4,6-DINITROTOLUENE	1.99	2.00	ND	1.74	1.73	87.4	86.5	80-125	1	20
2-NITROTOLUENE	1.99	2.00	ND	1.90	1.89	95.5	94.5	80-125	1.1	20
3-NITROTOLUENE	1.99	2.00	ND	1.92	1.91	96.5	95.5	75-120	1	20
4-AMINO-2,6-DINITROTOLUENE	1.99	2.00	ND	1.56	1.55	78.4 #	77.5 #	80-125	1.2	20
4-NITROTOLUENE	1.99	2.00	ND	1.91	1.90	96.0	95.0	75-125	1	20
HMX	1.99	2.00	ND	1.78	1.75	89.4	87.5	75-125	2.1	20
NITROBENZENE	1.99	2.00	ND	1.83	1.82	92.0	91.0	75-125	1.1	20
NITROGLYCERIN	1.99	2.00	ND	2.10	2.09	106	105	68-131	0.95	20
PETN	1.99	2.00	ND	2.08	2.14	105	107	69-132	1.9	20
RDX	1.99	2.00	ND	1.59	1.58	79.9	79.0	70-135	1.1	20
TETRYL	1.99	2.00	ND	1.50	1.36	75.4	68.0	10-150	10.3	20
SURROGATE: 1,2-DINITROBENZEN	1.99	2.00	NA	1.87	1.86	94.0	93.0	70-130		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	W110907.M	W110907.M
Extraction Date :	05/24/12	05/24/12
Analysis Date :	05/31/12	05/31/12
Instrument :	Waldorf	Waldorf
Run :	0529_0000096	0529_0000097
Initials :	RSM	

Printed: 06/05/12 9:47:49 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000096.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 17:13:51
Operator : hm
Sample : AY61126S01_MS-1 7.976 DF 05/24/12
Misc : soil
ALS Vial : 8513 Sample Multiplier: 7.97607

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 08:59:53 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.851	0	3250426	N.D.	1873.123	#
	Spiked Amount 598.205			Recovery	=	0.00%	313.12%	
	Target Compounds							
1)	TM HMX	0.000	0.973	0	6695462	N.D.	1781.019	#
2)	TM RDX	0.000	1.846	0	3816443	N.D.	1592.109	#
3)	TM 1,3,5-TRI...	0.000	2.989	0	7150758	N.D.	1810.284	#
5)	TM 1,3-DINIT...	0.000	3.986	0	6846688	N.D.	1829.230	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.393	0	3167477	N.D.	1832.039	#
8)	TM NITROGLYC...	6.304	6.280	1379980	53548	2102.545	NoCal	#
9)	TM TETRYL	6.872	6.872	3348060	2066328	NoCal	1497.661	#
10)	TM 2,4,6-TRI...	7.326	7.325	3813371	3035305	NoCal	1860.785	#
11)	TM 2-AMINO-4...	7.741	7.741	3843737	2622802	NoCal	1743.707	#
12)	TM 4-AMINO-2...	8.039	8.039	3343452	1844565	NoCal	1560.244	#
13)	TM 2,4-DINIT...	9.256	9.256	2075101	2870451	NoCal	1873.007	#
14)	TM 2,6-DINIT...	9.601	9.601	2214438	1613602	NoCal	1870.801	#
15)	TM 2-NITROTO...	0.000	12.970	0	1209767	N.D.	1901.976	#
16)	TM 4-NITROTO...	0.000	13.569	0	1189371	N.D.	1907.492	#
17)	TM 3-NITROTO...	0.000	14.423	0	1438967	N.D.	1917.590	#
18)	TM PETN	16.282	0.000	1100997	0	2081.627	N.D.	#

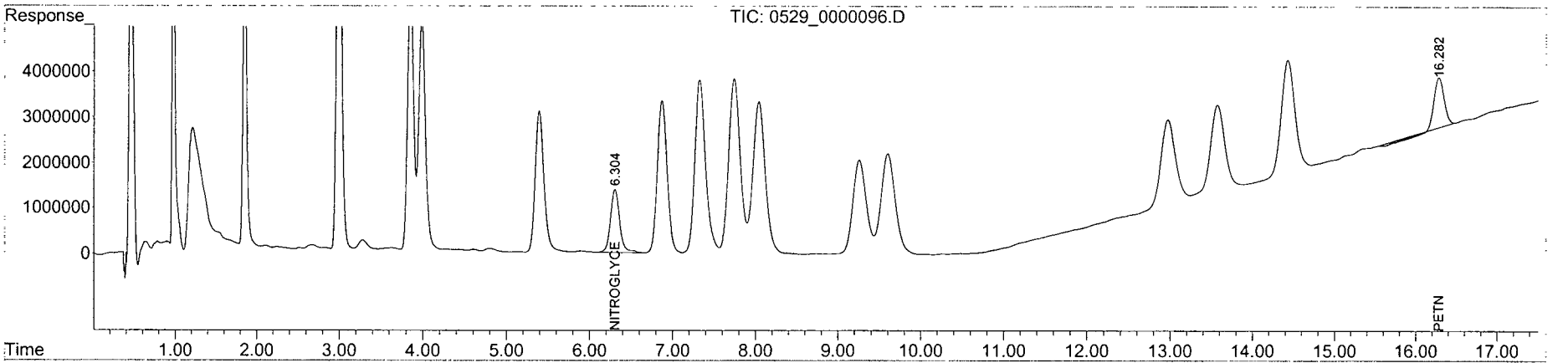
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

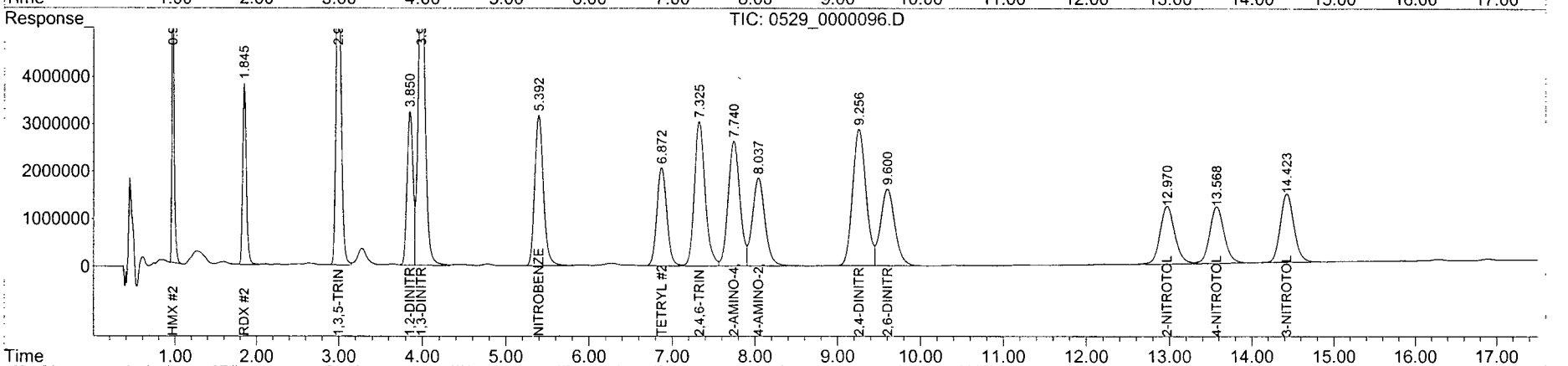
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000096.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 17:13:51
Operator : hm
Sample : AY61126S01_MS-1 7.976 DF 05/24/12
Misc : soil
ALS Vial : 8513 Sample Multiplier: 7.97607

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 08:59:53 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000097.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 17:51:19
Operator : hm
Sample : AY61126S01_MSD-1 8.000 DF 05/24/12
Misc : soil
ALS Vial : 8514 Sample Multiplier: 8

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:07:41 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.845	0	3211143	N.D.	1856.038	#
Spiked Amount 600.000			Recovery	=	0.00%	309.34%	
Target Compounds							
1) TM HMX	0.000	0.971	0	6555691	N.D.	1749.071	#
2) TM RDX	0.000	1.843	0	3775565	N.D.	1579.781	#
3) TM 1,3,5-TRI...	0.000	2.985	0	6992392	N.D.	1775.503	#
5) TM 1,3-DINIT...	0.000	3.981	0	6760391	N.D.	1811.593	#
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7) TM NITROBENZENE	0.000	5.388	0	3135824	N.D.	1819.173	#
8) TM NITROGLYC...	6.301	6.278	1369675	43186	2093.106	NoCal	#
9) TM TETRYL	6.867	6.868	3032299	1867916	NoCal	1357.915	#
10) TM 2,4,6-TRI...	7.322	7.321	3781885	2987036	NoCal	1836.688	#
11) TM 2-AMINO-4...	7.737	7.737	3805813	2592083	NoCal	1728.454	#
12) TM 4-AMINO-2...	8.035	8.035	3322070	1827627	NoCal	1550.554	#
13) TM 2,4-DINIT...	9.253	9.254	2051908	2835332	NoCal	1855.642	#
14) TM 2,6-DINIT...	9.600	9.600	2206149	1591694	NoCal	1850.938	#
15) TM 2-NITROTO...	0.000	12.974	0	1200676	N.D.	1893.348	#
16) TM 4-NITROTO...	0.000	13.573	0	1182901	N.D.	1902.807	#
17) TM 3-NITROTO...	0.000	14.425	0	1432173	N.D.	1914.261	#
18) TM PETN	16.282	0.000	1128667	0	2140.345m	N.D.	#

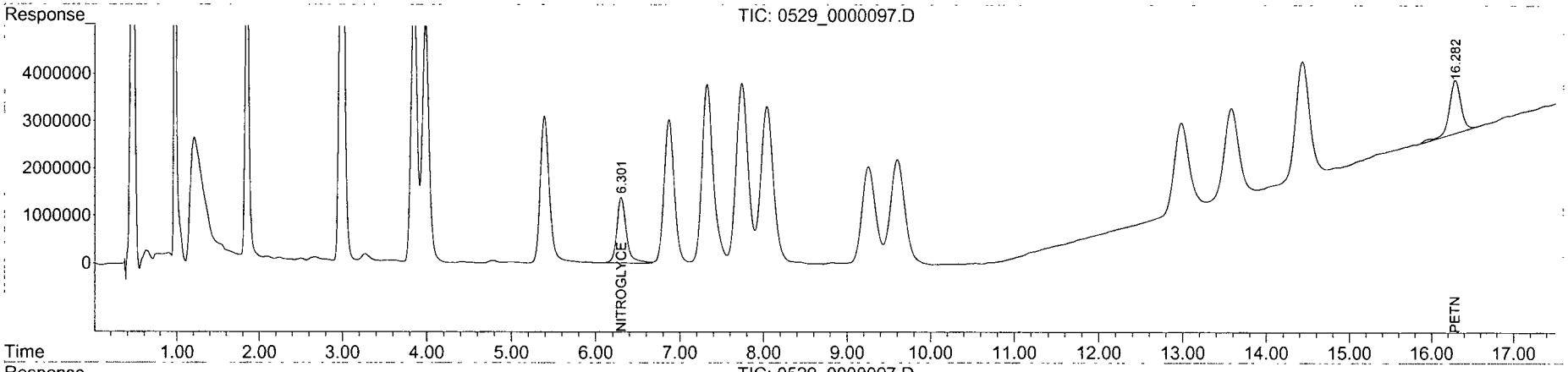
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

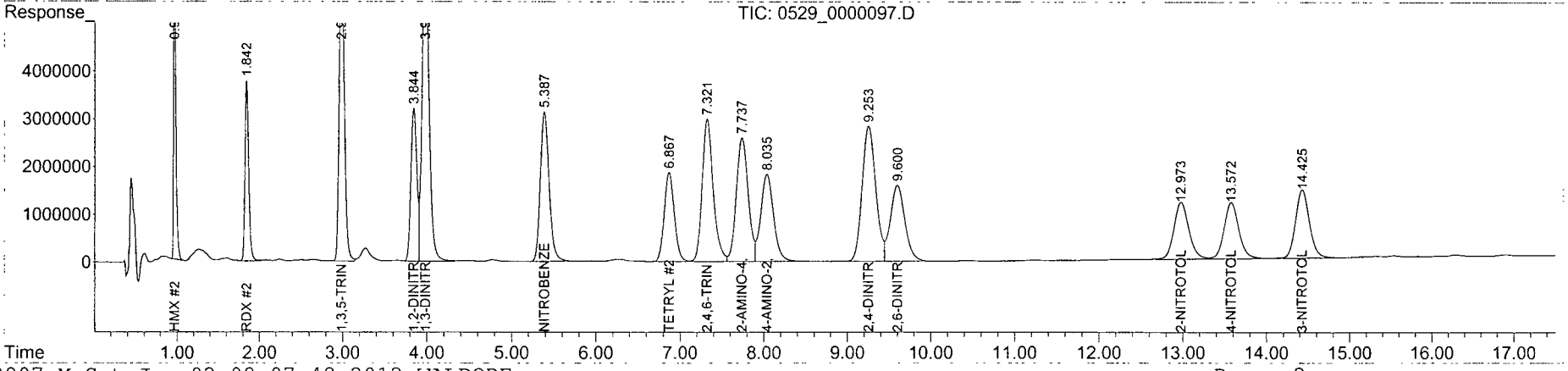
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000097.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 17:51:19
Operator : hm
Sample : AY61126S01_MSD-1 8.000 DF 05/24/12
Misc : soil
ALS Vial : 8514 Sample Multiplier: 8

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:07:41 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



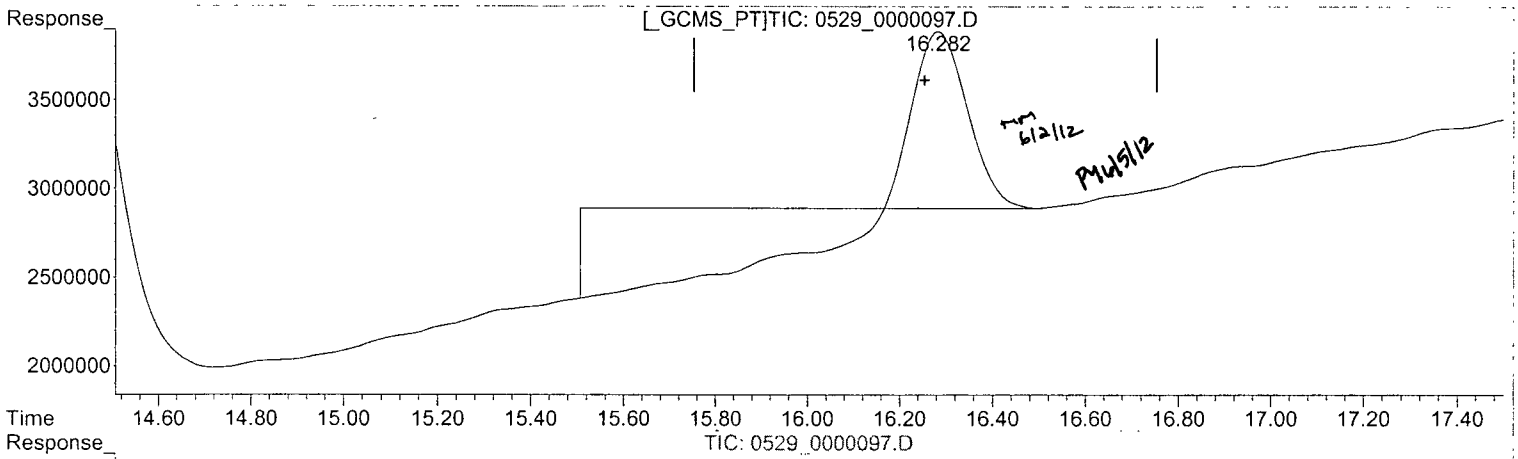


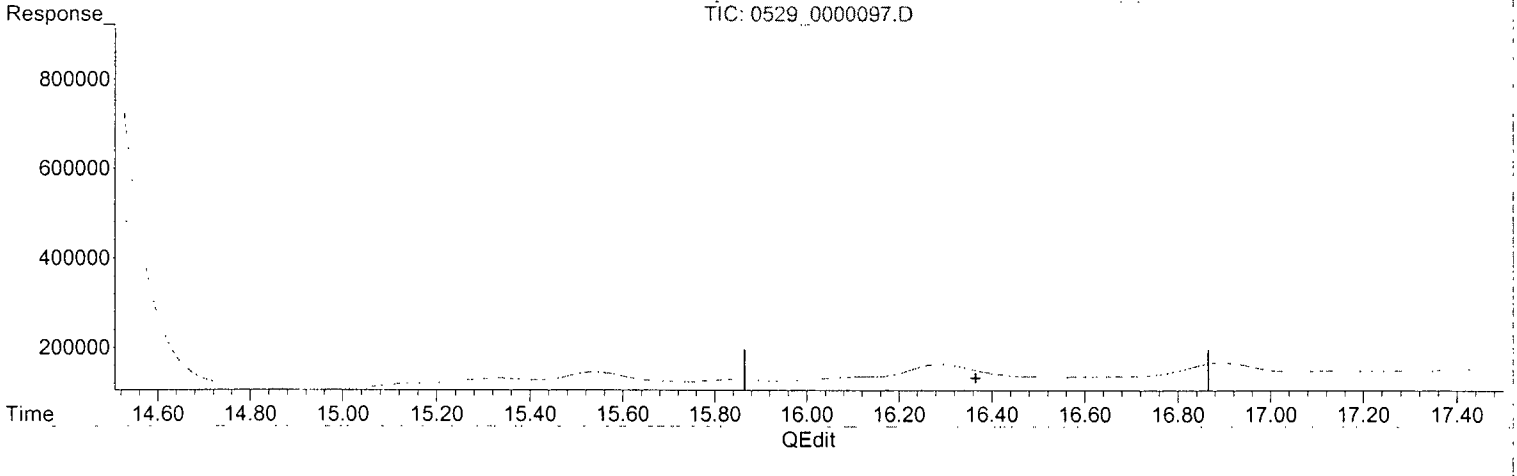
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000097.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 17:51:19
Operator : hm
Sample : AY61126S01_MSD-1 8.000 DF 05/24/12
Misc : soil
ALS Vial : 8514 Sample Multiplier: 8

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 08:59:55 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.282min 1891.979 ppb

response 997696

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

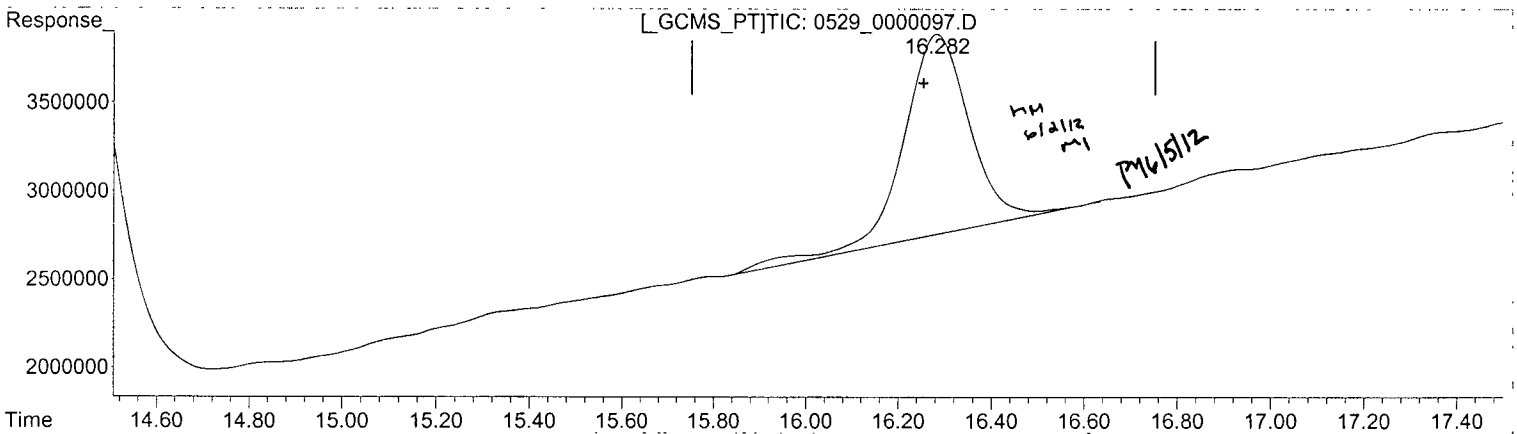
(+) = Expected Retention Time

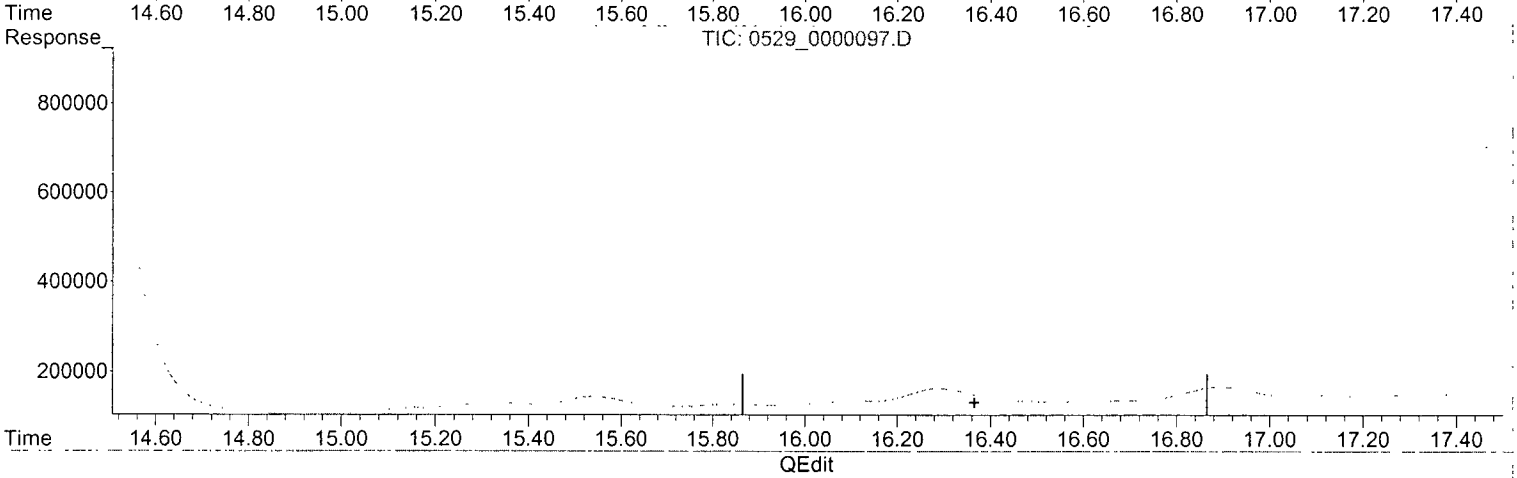
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000097.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 17:51:19
Operator : hm
Sample : AY61126S01_MSD-1 8.000 DF 05/24/12
Misc : soil
ALS Vial : 8514 Sample Multiplier: 8

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 08:59:55 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.282min 2140.345 ppb m

response 1128667

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Matrix Spike Recoveries

EPA 8330B EXPLOSIVES-SOIL

APPL ID: **120525S-61133 MS - 167644**
Batch ID: #833BL-120525A
Sample ID: AY61133
Client ID: WVMA-MRS01-SD-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	SPK Lvl mg/kg	DUP Lvl mg/kg	Matrix Result mg/kg	SPK Result mg/kg	DUP Result mg/kg	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,3,5-TRINITROBENZENE	1.96	2.00	ND	1.81	1.82	92.3	91.0	75-125	1.4	20
1,3-DINITROBENZENE	1.96	2.00	ND	1.78	1.80	90.8	90.0	80-125	0.88	20
2,4,6-TRINITROTOLUENE	1.96	2.00	ND	1.87	1.90	95.4	95.0	55-140	0.42	20
2,4-DINITROTOLUENE	1.96	2.00	ND	1.85	1.87	94.4	93.5	80-125	0.96	20
2,6-DINITROTOLUENE	1.96	2.00	ND	1.84	1.86	93.9	93.0	80-120	0.96	20
2-AMINO-4,6-DINITROTOLUENE	1.96	2.00	ND	1.75	1.79	89.3	89.5	80-125	0.22	20
2-NITROTOLUENE	1.96	2.00	ND	1.88	1.89	95.9	94.5	80-125	1.5	20
3-NITROTOLUENE	1.96	2.00	ND	1.90	1.90	96.9	95.0	75-120	2	20
4-AMINO-2,6-DINITROTOLUENE	1.96	2.00	ND	1.61	1.68	82.1	84.0	80-125	2.3	20
4-NITROTOLUENE	1.96	2.00	ND	1.89	1.90	96.4	95.0	75-125	1.5	20
HMX	1.96	2.00	ND	1.69	1.75	86.2	87.5	75-125	1.5	20
NITROBENZENE	1.96	2.00	ND	1.80	1.81	91.8	90.5	75-125	1.4	20
NITROGLYCERIN	1.96	2.00	ND	1.99	2.13	102	107	68-131	4.8	20
PETN	1.96	2.00	ND	2.13	2.14	109	107	69-132	1.9	20
RDX	1.96	2.00	ND	1.50	1.55	76.5	77.5	70-135	1.3	20
TETRYL	1.96	2.00	ND	1.49	1.52	76.0	76.0	10-150	0	20
SURROGATE: 1,2-DINITROBENZEN	0.294	0.299	NA	0.324	0.329	110	110	70-130		

Comments:

Primary	SPK	DUP
Quant Method :	W110907.M	W110907.M
Extraction Date :	05/25/12	05/25/12
Analysis Date :	06/01/12	06/01/12
Instrument :	Waldorf	Waldorf
Run :	0529_0000109	0529_0000110
Initials :	RSM	

Printed: 06/05/12 9:35:39 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000109.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 01:22:39
Operator : hm
Sample : AY61133S01_MS-1 7.828 DF 05/25/12
Misc : soil
ALS Vial : 8199 Sample Multiplier: 7.82779

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:42:41 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.844	0	573748	N.D.	324.487	#
	Spiked Amount 587.084			Recovery	=	0.00%	55.27%	
	Target Compounds							
1)	TM HMX	0.000	0.971	0	6467917	N.D.	1688.506	#
2)	TM RDX	0.000	1.843	0	3668655	N.D.	1502.003	#
3)	TM 1,3,5-TRI...	0.000	2.983	0	7268564	N.D.	1805.899	#
5)	TM 1,3-DINIT...	0.000	3.979	0	6789713	N.D.	1780.284	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.383	0	3167527	N.D.	1798.009	#
8)	TM NITROGLYC...	6.292	6.270	1328318	48483	1986.209	NoCal	#
9)	TM TETRYL	6.861	6.860	3417950	2093362	NoCal	1489.048	#
10)	TM 2,4,6-TRI...	7.313	7.313	3913730	3113952	NoCal	1873.510	#
11)	TM 2-AMINO-4...	7.734	7.734	3941159	2682949	NoCal	1750.534	#
12)	TM 4-AMINO-2...	8.031	8.031	3531912	1941470	NoCal	1611.682	#
13)	TM 2,4-DINIT...	9.244	9.244	2079016	2885884	NoCal	1848.070	#
14)	TM 2,6-DINIT...	9.590	9.589	2209587	1615467	NoCal	1838.143	#
15)	TM 2-NITROTO...	0.000	12.965	0	1217210	N.D.	1878.103	#
16)	TM 4-NITROTO...	0.000	13.565	0	1201318	N.D.	1890.834	#
17)	TM 3-NITROTO...	0.000	14.420	0	1449249	N.D.	1895.387	#
18)	TM PETN	16.272	0.000	1148201	0	2130.517	N.D.	#

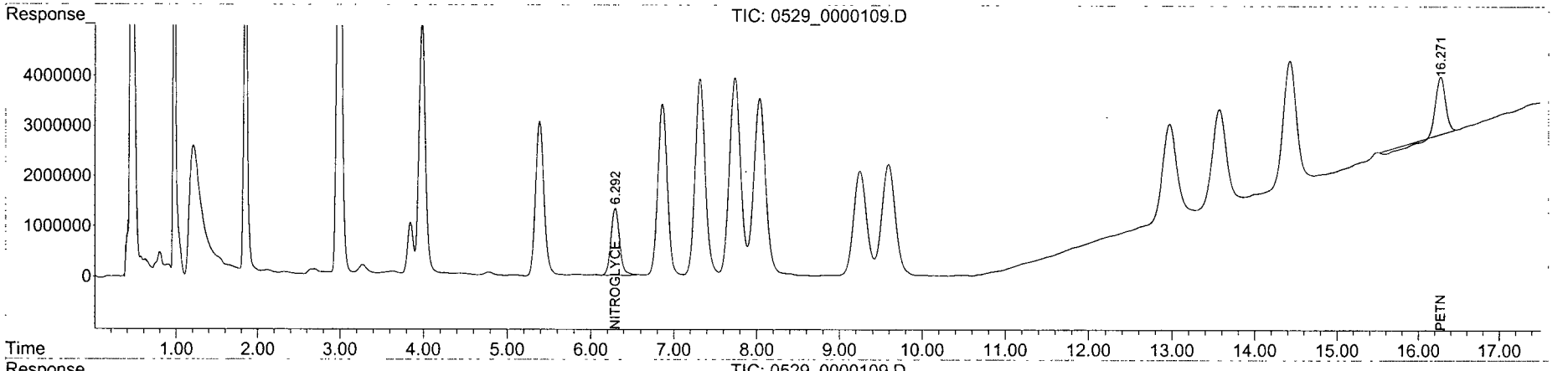
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

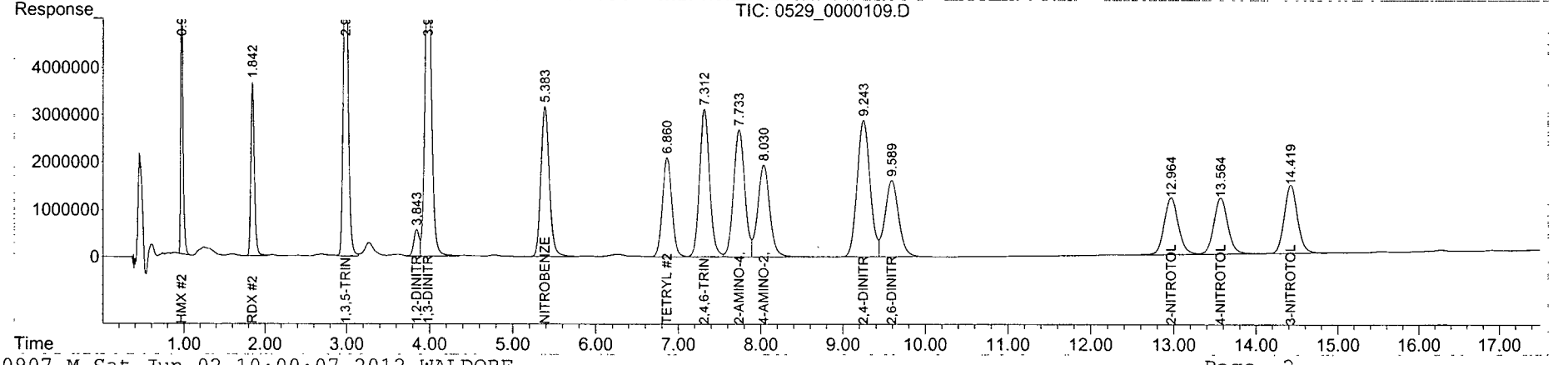
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000109.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 01:22:39
Operator : hm
Sample : AY61133S01_MS-1 7.828 DF 05/25/12
Misc : soil
ALS Vial : 8199 Sample Multiplier: 7.82779

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:42:41 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000110.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 02:00:06
Operator : hm
Sample : AY61133S01_MSD-1 7.984 DF 05/25/12
Misc : soil
ALS Vial : 8200 Sample Multiplier: 7.98403

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:42:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.844	0	569488	N.D.	328.506	#
	Spiked Amount 598.802			Recovery	=	0.00%	54.86%	
	Target Compounds							
1)	TM HMX	0.000	0.971	0	6554408	N.D.	1745.238	#
2)	TM RDX	0.000	1.843	0	3719649	N.D.	1553.277	#
3)	TM 1,3,5-TRI...	0.000	2.983	0	7198189	N.D.	1824.110	#
5)	TM 1,3-DINIT...	0.000	3.979	0	6747172	N.D.	1804.441	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.383	0	3134288	N.D.	1814.652	#
8)	TM NITROGLYC...	6.292	6.266	1394781	63424	2127.218	NoCal	#
9)	TM TETRYL	6.861	6.861	3484345	2093469	NoCal	1518.846	#
10)	TM 2,4,6-TRI...	7.312	7.312	3960051	3091629	NoCal	1897.206	#
11)	TM 2-AMINO-4...	7.734	7.735	3985310	2683823	NoCal	1786.056	#
12)	TM 4-AMINO-2...	8.031	8.031	3628191	1989966	NoCal	1684.913	#
13)	TM 2,4-DINIT...	9.242	9.243	2054328	2864639	NoCal	1871.080	#
14)	TM 2,6-DINIT...	9.587	9.587	2185273	1605186	NoCal	1862.901	#
15)	TM 2-NITROTO...	0.000	12.955	0	1199568	N.D.	1887.825	#
16)	TM 4-NITROTO...	0.000	13.555	0	1183271	N.D.	1899.602	#
17)	TM 3-NITROTO...	0.000	14.408	0	1427964	N.D.	1904.825	#
18)	TM PETN	16.262	0.000	1129833	0	2138.280	N.D.	#

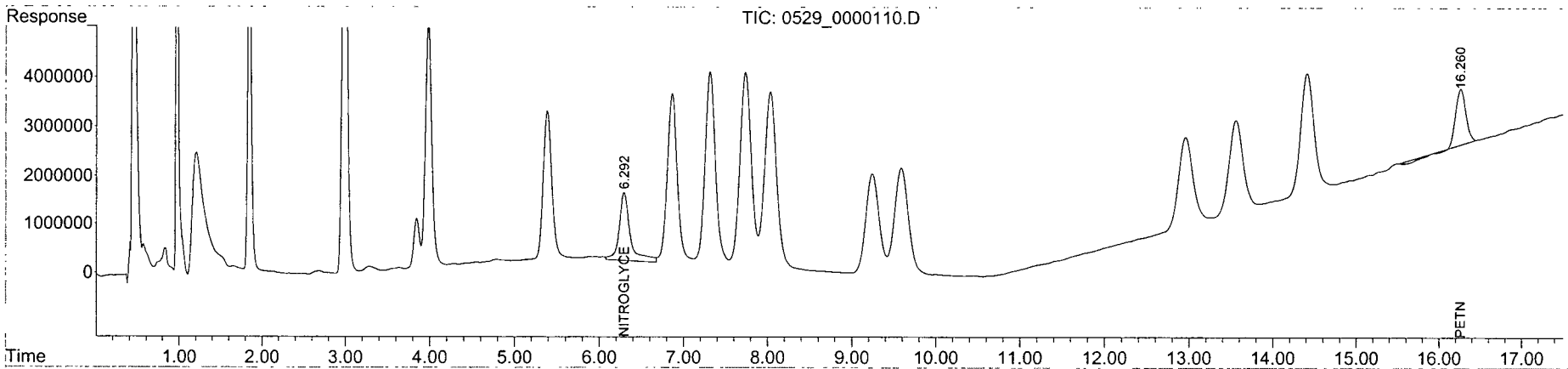
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

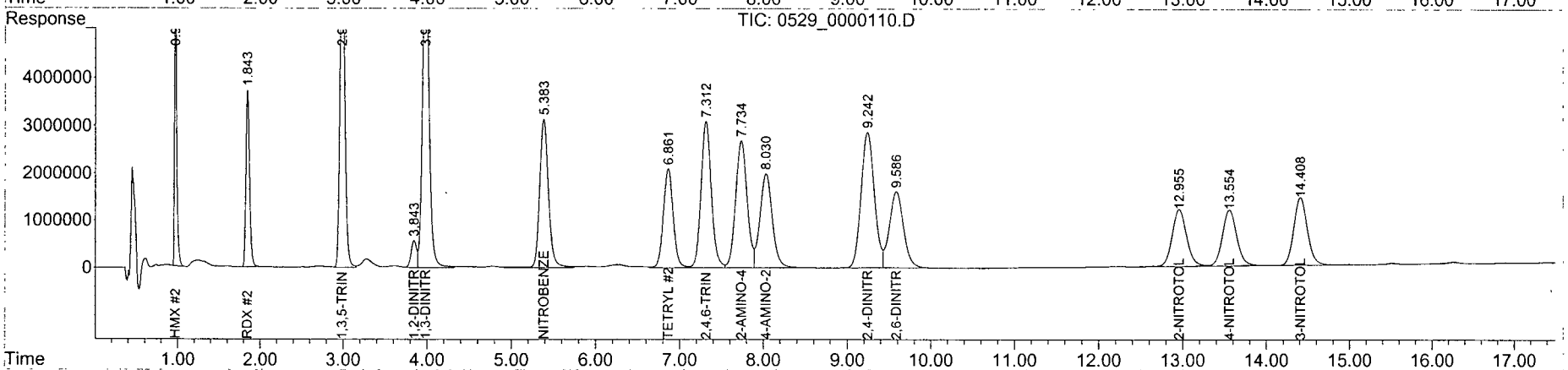
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000110.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 02:00:06
Operator : hm
Sample : AY61133S01_MSD-1 7.984 DF 05/25/12
Misc : soil
ALS Vial : 8200 Sample Multiplier: 7.98403

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:42:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Matrix Spike Recoveries

EPA 8330B EXPLOSIVES-SOIL

APPL ID: **120525S-61137 MS - 167644**
Batch ID: #833BL-120525A
Sample ID: AY61137
Client ID: WVMA-MRS02-SS-24-02

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	SPK Lvl mg/kg	DUP Lvl mg/kg	Matrix Result mg/kg	SPK Result mg/kg	DUP Result mg/kg	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,3,5-TRINITROBENZENE	2.00	1.99	ND	1.75	1.75	87.5	87.9	75-125	0.46	20
1,3-DINITROBENZENE	2.00	1.99	ND	1.81	1.79	90.5	89.9	80-125	0.67	20
2,4,6-TRINITROTOLUENE	2.00	1.99	ND	1.87	1.85	93.5	93.0	55-140	0.54	20
2,4-DINITROTOLUENE	2.00	1.99	ND	1.88	1.86	94.0	93.5	80-125	0.53	20
2,6-DINITROTOLUENE	2.00	1.99	ND	1.88	1.85	94.0	93.0	80-120	1.1	20
2-AMINO-4,6-DINITROTOLUENE	2.00	1.99	ND	1.82	1.79	91.0	89.9	80-125	1.2	20
2-NITROTOLUENE	2.00	1.99	ND	1.90	1.88	95.0	94.5	80-125	0.53	20
3-NITROTOLUENE	2.00	1.99	ND	1.91	1.90	95.5	95.5	75-120	0	20
4-AMINO-2,6-DINITROTOLUENE	2.00	1.99	ND	1.82	1.79	91.0	89.9	80-125	1.2	20
4-NITROTOLUENE	2.00	1.99	ND	1.91	1.90	95.5	95.5	75-125	0	20
HMX	2.00	1.99	ND	1.71	1.64	85.5	82.4	75-125	3.7	20
NITROBENZENE	2.00	1.99	ND	1.82	1.81	91.0	91.0	75-125	0	20
NITROGLYCERIN	2.00	1.99	ND	2.06	2.07	103	104	68-131	0.97	20
PETN	2.00	1.99	ND	2.11	2.11	106	106	69-132	0	20
RDX	2.00	1.99	ND	1.46	1.44	73.0	72.4	70-135	0.83	20
TETRYL	2.00	1.99	ND	1.32	1.35	66.0	67.8	10-150	2.7	20
SURROGATE: 1,2-DINITROBENZEN	0.300	0.299	NA	0.326	0.323	109	108	70-130		

Comments:

Primary	SPK	DUP
Quant Method :	W110907.M	W110907.M
Extraction Date :	05/25/12	05/25/12
Analysis Date :	06/01/12	06/01/12
Instrument :	Waldorf	Waldorf
Run :	0529_0000111	0529_0000112
Initials :	RSM	

Printed: 06/05/12 9:35:39 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000111.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 02:37:35
Operator : hm
Sample : AY61137S01_MS-1 8.000 DF 05/25/12
Misc : soil
ALS Vial : 8256 Sample Multiplier: 8

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:42:45 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.843	0	564229	N.D.	326.124	#
	Spiked Amount 600.000			Recovery	=	0.00%	54.35%	
	Target Compounds							
1)	TM HMX	0.000	0.971	0	6397071	N.D.	1706.751	#
2)	TM RDX	0.000	1.842	0	3495760	N.D.	1462.704	#
3)	TM 1,3,5-TRI...	0.000	2.982	0	6882086	N.D.	1747.494	#
5)	TM 1,3-DINIT...	0.000	3.978	0	6748210	N.D.	1808.329	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.381	0	3134107	N.D.	1818.177	#
8)	TM NITROGLYC...	6.290	6.276	1350638	44772	2064.015	NoCal	#
9)	TM TETRYL	6.858	6.859	2907524	1816932	NoCal	1320.851	#
10)	TM 2,4,6-TRI...	7.309	7.309	3833912	3046036	NoCal	1872.967	#
11)	TM 2-AMINO-4...	7.729	7.729	4011718	2725692	NoCal	1817.548	#
12)	TM 4-AMINO-2...	8.025	8.025	3908555	2150147	NoCal	1824.180	#
13)	TM 2,4-DINIT...	9.236	9.236	2086126	2876146	NoCal	1882.354	#
14)	TM 2,6-DINIT...	9.579	9.579	2215054	1612932	NoCal	1875.635	#
15)	TM 2-NITROTO...	0.000	12.947	0	1202245	N.D.	1895.822	#
16)	TM 4-NITROTO...	0.000	13.547	0	1185722	N.D.	1907.345	#
17)	TM 3-NITROTO...	0.000	14.402	0	1427879	N.D.	1908.522	#
18)	TM PETN	16.258	0.000	1110340	0	2105.591	N.D.	#

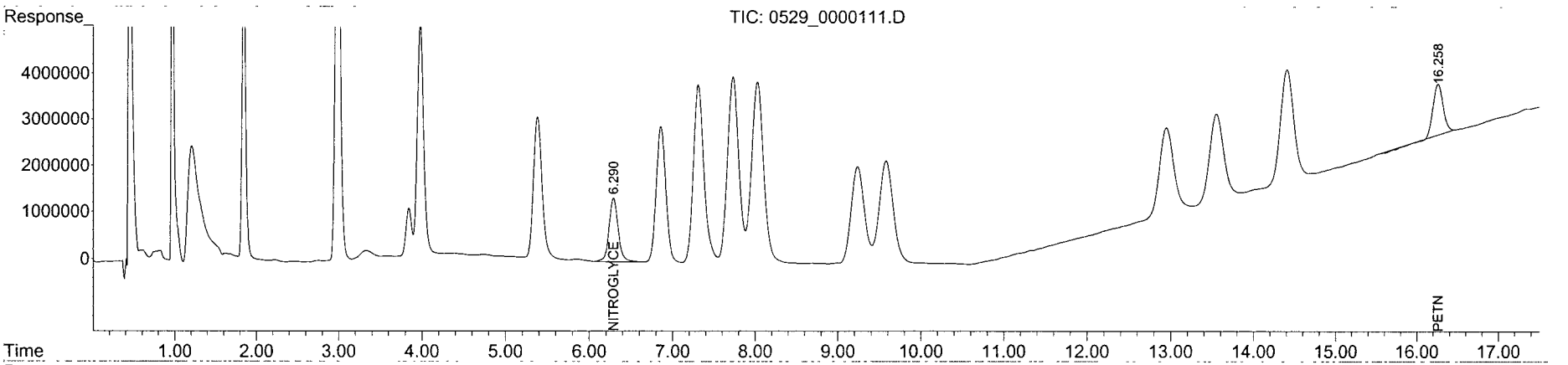
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

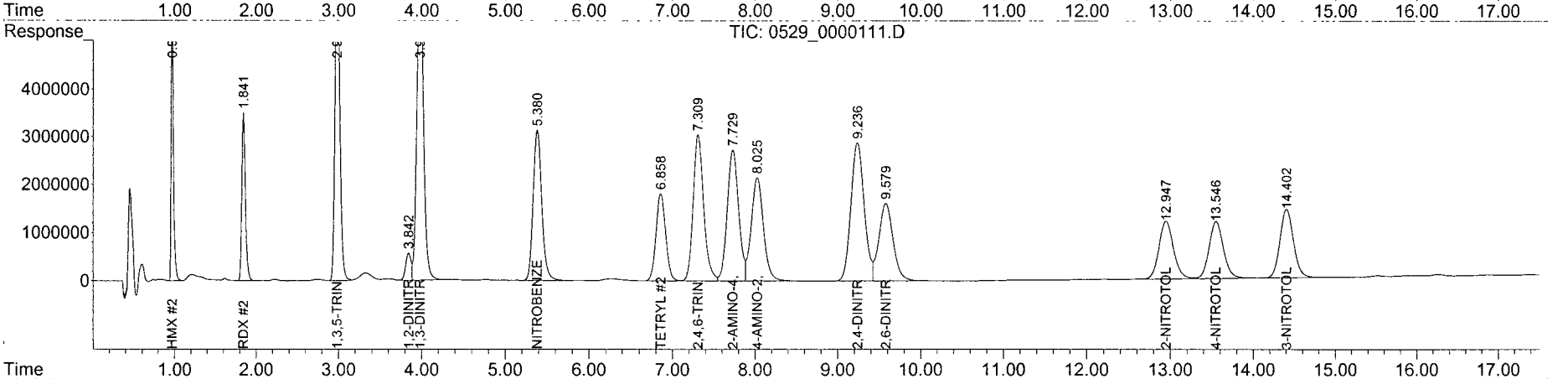
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000111.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 02:37:35
Operator : hm
Sample : AY61137S01_MS-1 8.000 DF 05/25/12
Misc : soil
ALS Vial : 8256 Sample Multiplier: 8

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:42:45 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000112.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 03:15:05
Operator : hm
Sample : AY61137S01_MSD-1 7.968 DF 05/25/12
Misc : soil
ALS Vial : 8257 Sample Multiplier: 7.96813

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:42:47 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.843	0	561282	N.D.	323.128	#
	Spiked Amount 597.610			Recovery	=	0.00%	54.07%	
	Target Compounds							
1)	TM HMX	0.000	0.970	0	6180660	N.D.	1642.443	#
2)	TM RDX	0.000	1.842	0	3452836	N.D.	1438.988	#
3)	TM 1,3,5-TRI...	0.000	2.981	0	6911469	N.D.	1747.964	#
5)	TM 1,3-DINIT...	0.000	3.978	0	6694870	N.D.	1786.888	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.383	0	3124926	N.D.	1805.629	#
8)	TM NITROGLYC...	6.293	6.279	1359569	48121	2069.386	NoCal	#
9)	TM TETRYL	6.862	6.862	3084487	1857741	NoCal	1345.137	#
10)	TM 2,4,6-TRI...	7.313	7.313	3912780	3022460	NoCal	1851.066	#
11)	TM 2-AMINO-4...	7.734	7.734	4116839	2690945	NoCal	1787.229	#
12)	TM 4-AMINO-2...	8.030	8.030	4026839	2119977	NoCal	1791.418	#
13)	TM 2,4-DINIT...	9.240	9.241	2139608	2846232	NoCal	1855.355	#
14)	TM 2,6-DINIT...	9.585	9.585	2217905	1595471	NoCal	1847.938	#
15)	TM 2-NITROTO...	0.000	12.952	0	1196827	N.D.	1879.760	#
16)	TM 4-NITROTO...	0.000	13.551	0	1182952	N.D.	1895.309	#
17)	TM 3-NITROTO...	0.000	14.403	0	1423968	N.D.	1895.712	#
18)	TM PETN	16.257	0.000	1116885	0	2109.565	N.D.	#

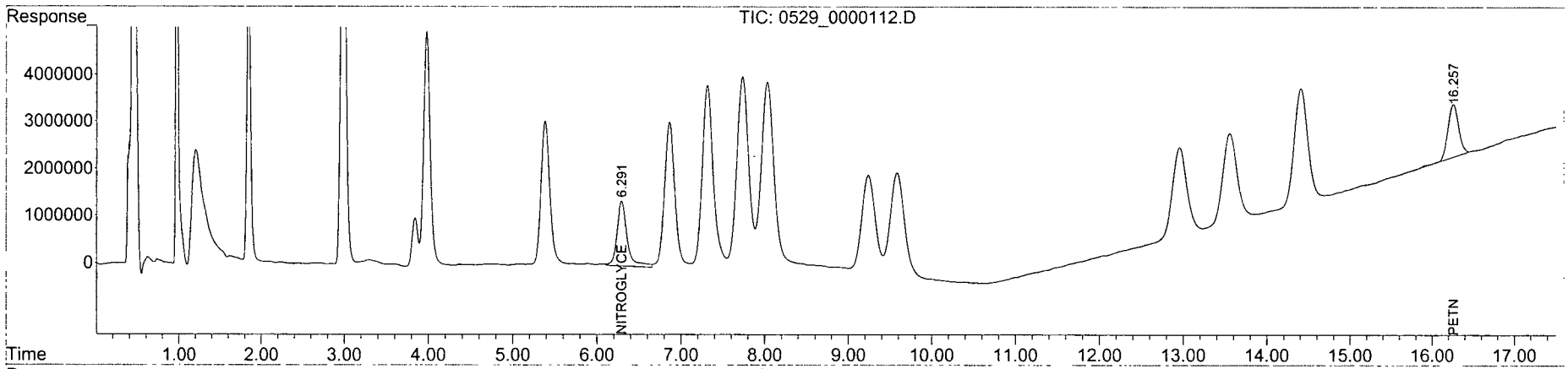
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

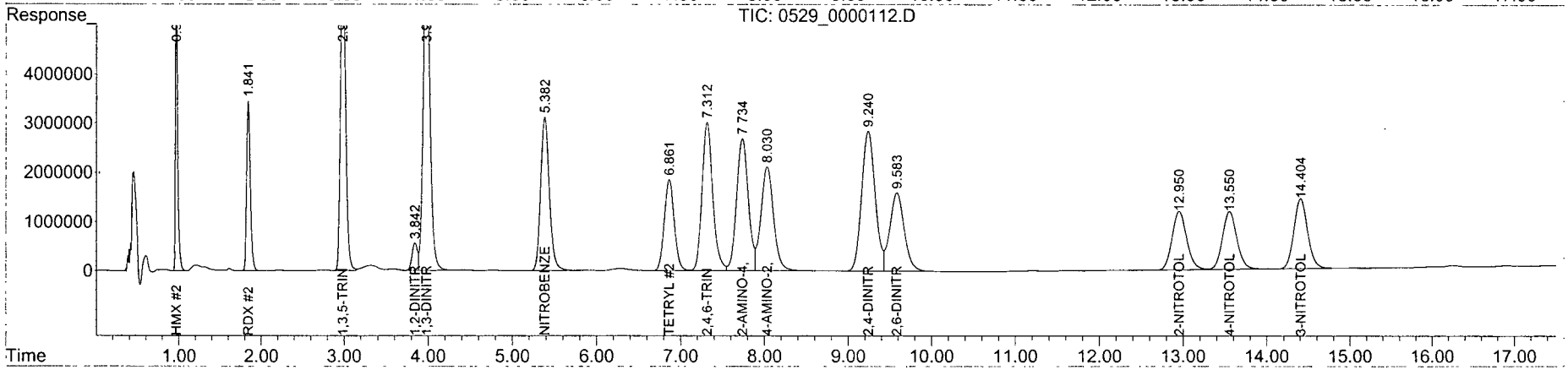
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000112.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 03:15:05
Operator : hm
Sample : AY61137S01_MSD-1 7.968 DF 05/25/12
Misc : soil
ALS Vial : 8257 Sample Multiplier: 7.96813

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:42:47 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





EXPLOSIVES

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Initial Cal. Date: 05/16/12
Instrument: Waldorf

Initials: hm

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0516_0000017.D	0516_0000018.D	0516_0000019.D	0516_0000020.D	0516_0000021.D	0516_0000022.D	0516_0000023.D	0516_0000024.D	0516_0000026.D					
1	TM	NITROGLYCERIN		144	135	131	129	126	129	127	126		131	4.5	TM	
2	TM	PETN			92.9	96.3	109	105	112	110	113		105	7.5	TM	
		Signal #2											0	0		
1	TM	HMX #2	827	776	748	751	763	754	720	715	692		750	5.2	TM	
2	TM	RDX #2	515	496	478	483	490	482	457	456	445		478	4.6	TM	
3	TM	1,3,5-TRINITROBENZENE #2	797	790	777	798	809	791	780	783	763		788	1.7	TM	
4	S	1,2-DINITROBENZENE #2	344	346	336	347	351	339	350	351	350		346	1.6	S	
5	TM	1,3-DINITROBENZENE #2	749	740	730	753	764	743	748	750	740		746	1.3	TM	
6	TM	3,5-DINITROANILINE #2	607	578	605	608	603	607	606	595	605		602	1.6	TM	
7	TM	NITROBENZENE #2	346	340	336	345	353	343	344	349	345		345	1.4	TM	
8	TM	TETRYL #2	273	270	266	275	280	263	283	286	280		275	2.8	TM	
9	TM	2,4,6-TRINITROTOLUENE #2	329	325	313	324	329	312	332	334	329		325	2.4	TM	
10	TM	2-AMINO-4,6-DINITROTOLUENE	301	294	289	301	306	287	309	310	303		300	2.8	TM	
11	TM	4-AMINO-2,6-DINITROTOLUENE	235	234	229	237	241	226	242	242	236		236	2.4	TM	
12	TM	2,4-DINITROTOLUENE #2	305	300	295	306	308	295	314	315	311		306	2.5	TM	
13	TM	2,6-DINITROTOLUENE #2	173	168	168	173	174	166	176	177	173		172	2.2	TM	
14	TM	2-NITROTOLUENE #2	123	123	122	128	129	124	131	133	130		127	3.2	TM	
15	TM	4-NITROTOLUENE #2	123	120	119	124	126	121	128	130	128		124	3.2	TM	
16	TM	3-NITROTOLUENE #2	146	144	144	150	152	145	155	157	154		150	3.3	TM	

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000017.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 19:22:40
Operator : hm
Sample : 8830B_CB 0.005 PPM 05/16/12
Misc :
ALS Vial : 8192 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:46:11 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.849	0	68752	N.D.	4.748 #
Spiked Amount 62.500			Recovery	=	0.00%	7.60%
Target Compounds						
1) TM HMX	0.000	0.968	0	165484	N.D.	5.464 #
2) TM RDX	0.000	1.844	0	102945	N.D.	5.328 #
3) TM 1,3,5-TRI...	0.000	2.985	0	159422	N.D.	4.891 #
5) TM 1,3-DINIT...	0.000	3.987	0	149734	N.D.	4.822 #
6) TM 3,5-DINIT...	0.000	4.264	0	121334	N.D.	4.849 #
7) TM NITROBENZENE	0.000	5.402	0	69156	N.D.	4.803 #
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D.
9) TM TETRYL	6.861	6.865	107440	54587	NoCal	4.724 #
10) TM 2,4,6-TRI...	7.313	7.320	88623	65897	NoCal	4.834 #
11) TM 2-AMINO-4...	7.743	7.747	99414	60238	NoCal	4.779 #
12) TM 4-AMINO-2...	8.038	8.046	97959	47059	NoCal	4.752 #
13) TM 2,4-DINIT...	9.281	9.262	52126	61064	NoCal	4.775 #
14) TM 2,6-DINIT...	9.621	9.606	54297	34602	NoCal	4.788 #
15) TM 2-NITROTO...	0.000	12.988	0	24558	N.D.	4.624 #
16) TM 4-NITROTO...	0.000	13.598	0	24649	N.D.	4.728 #
17) TM 3-NITROTO...	0.000	14.445	0	29137	N.D.	4.702 #
18) TM PETN	0.000	0.000	0	0	N.D.	N.D.

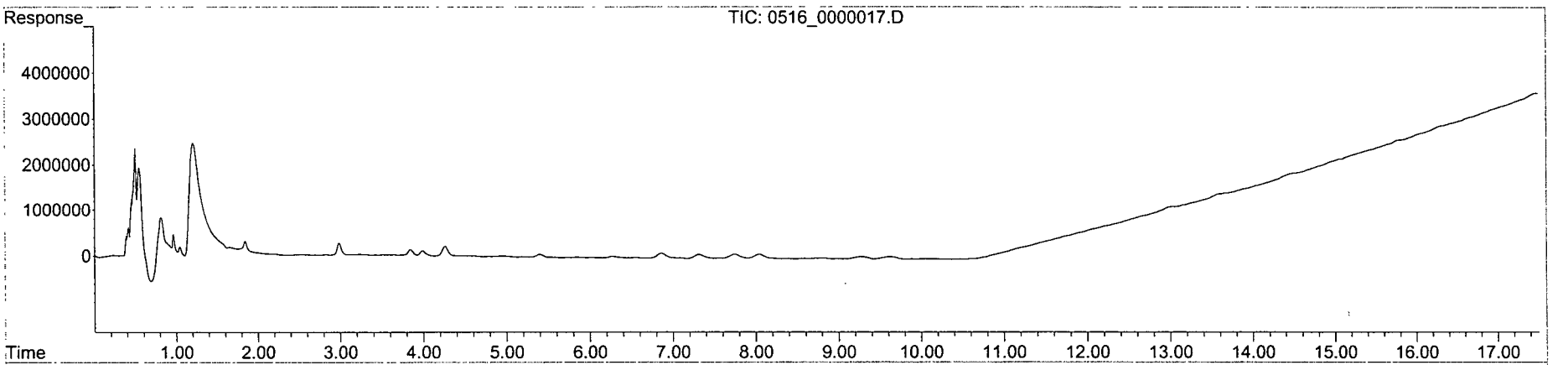
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

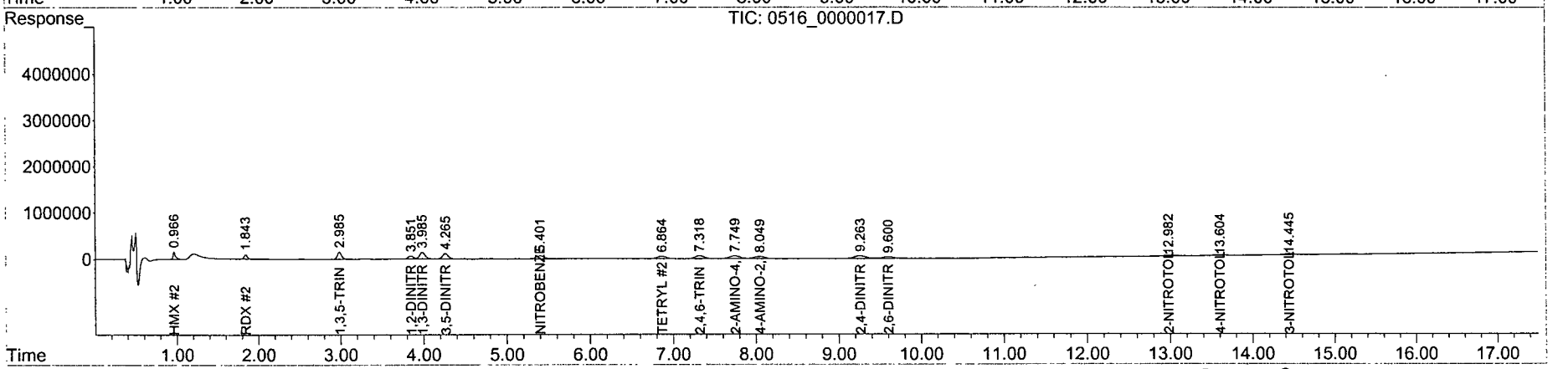
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000017.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 19:22:40
Operator : hm
Sample : 8830B_CB 0.005 PPM 05/16/12
Misc :
ALS Vial : 8192 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:46:11 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 20:00:08
Operator : hm
Sample : 8830B_CB 0.01 PPM 05/16/12
Misc :
ALS Vial : 8193 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:33 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.851	0	138527	N.D.	9.567 #
Spiked Amount 62.500			Recovery	=	0.00%	15.31%
Target Compounds						
1) TM HMX	0.000	0.967	0	310358	N.D.	10.247 #
2) TM RDX	0.000	1.844	0	198450	N.D.	10.271 #
3) TM 1,3,5-TRI...	0.000	2.987	0	315876	N.D.	9.692 #
5) TM 1,3-DINIT...	0.000	3.989	0	295895	N.D.	9.529 #
6) TM 3,5-DINIT...	0.000	4.266	0	231040	N.D.	9.234 #
7) TM NITROBENZENE	0.000	5.405	0	136149	N.D.	9.457 #
8) TM NITROGLYC...	6.296	0.000	57448	0	10.755	N.D. #
9) TM TETRYL	6.869	6.869	194320	108083	NoCal	9.354 #
10) TM 2,4,6-TRI...	7.324	7.323	160849	129821	NoCal	9.523 #
11) TM 2-AMINO-4...	7.747	7.751	178913	117400	NoCal	9.314 #
12) TM 4-AMINO-2...	8.051	8.050	176577	93417	NoCal	9.433 #
13) TM 2,4-DINIT...	9.269	9.263	91755	120141	NoCal	9.394 #
14) TM 2,6-DINIT...	9.609	9.612	109704	67372	NoCal	9.323 #
15) TM 2-NITROTO...	0.000	12.989	0	49246	N.D.	9.273 #
16) TM 4-NITROTO...	0.000	13.590	0	47898	N.D.	9.187 #
17) TM 3-NITROTO...	0.000	14.439	0	57788	N.D.	9.325 #
18) TM PETN	0.000	0.000	0	0	N.D.	N.D.

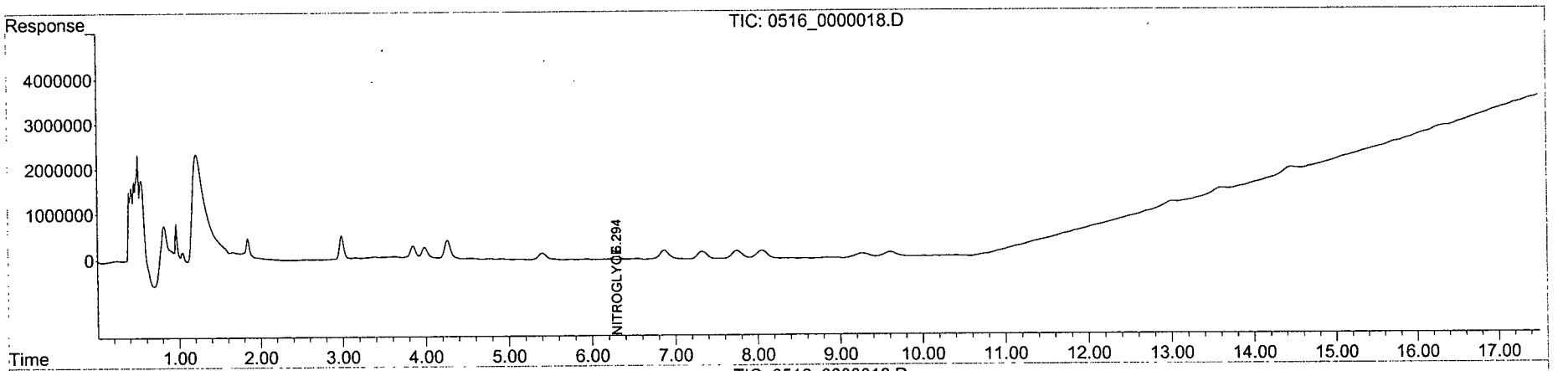
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

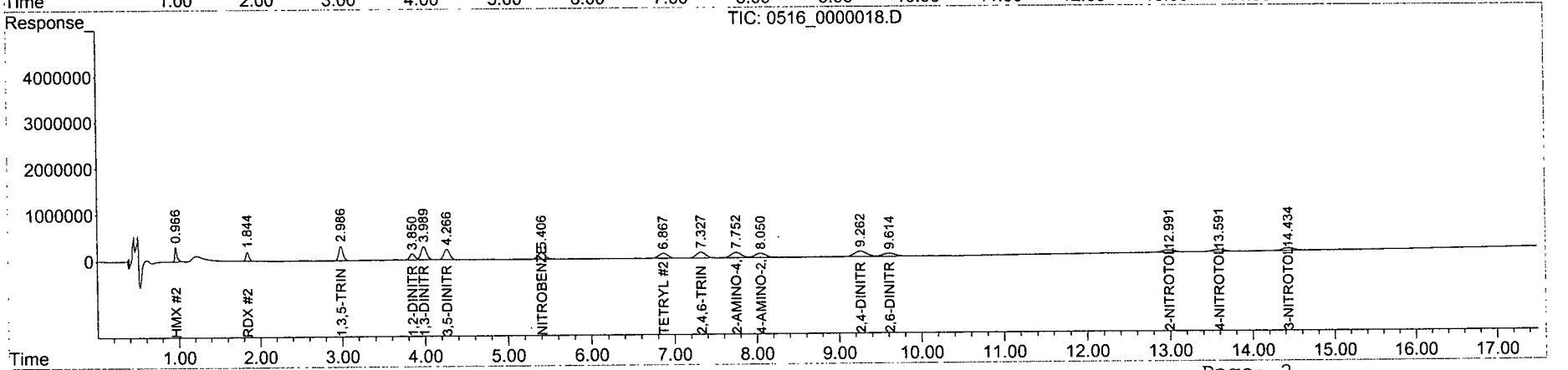
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 20:00:08
Operator : hm
Sample : 8830B_CB 0.01 PPM 05/16/12
Misc :
ALS Vial : 8193 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:33 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000019.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 20:37:38
Operator : hm
Sample : 8830B_CB 0.02 PPM 05/16/12
Misc :
ALS Vial : 8194 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:35 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.849	0	269027	N.D.	18.580 #
Spiked Amount 62.500			Recovery	=	0.00%	29.73%
Target Compounds						
1) TM HMX	0.000	0.967	0	598659	N.D.	19.766 #
2) TM RDX	0.000	1.844	0	382087	N.D.	19.775 #
3) TM 1,3,5-TRI...	0.000	2.986	0	621882	N.D.	19.080 #
5) TM 1,3-DINIT...	0.000	3.987	0	584235	N.D.	18.815 #
6) TM 3,5-DINIT...	0.000	4.264	0	483906	N.D.	19.340 #
7) TM NITROBENZENE	0.000	5.401	0	268916	N.D.	18.678 #
8) TM NITROGLYC...	6.291	0.000	108223	0	20.260	N.D. #
9) TM TETRYL	6.861	6.862	362918	212463	NoCal	18.388 #
10) TM 2,4,6-TRI...	7.316	7.317	330379	250782	NoCal	18.397 #
11) TM 2-AMINO-4...	7.743	7.744	346572	231047	NoCal	18.331 #
12) TM 4-AMINO-2...	8.042	8.042	339305	183106	NoCal	18.490 #
13) TM 2,4-DINIT...	9.256	9.255	204347	235863	NoCal	18.442 #
14) TM 2,6-DINIT...	9.605	9.601	222040	134495	NoCal	18.611 #
15) TM 2-NITROTO...	0.000	12.984	0	97422	N.D.	18.344 #
16) TM 4-NITROTO...	0.000	13.584	0	95408	N.D.	18.300 #
17) TM 3-NITROTO...	0.000	14.436	0	115339	N.D.	18.612 #
18) TM PETN	0.000	0.000	0	0	N.D.	N.D.

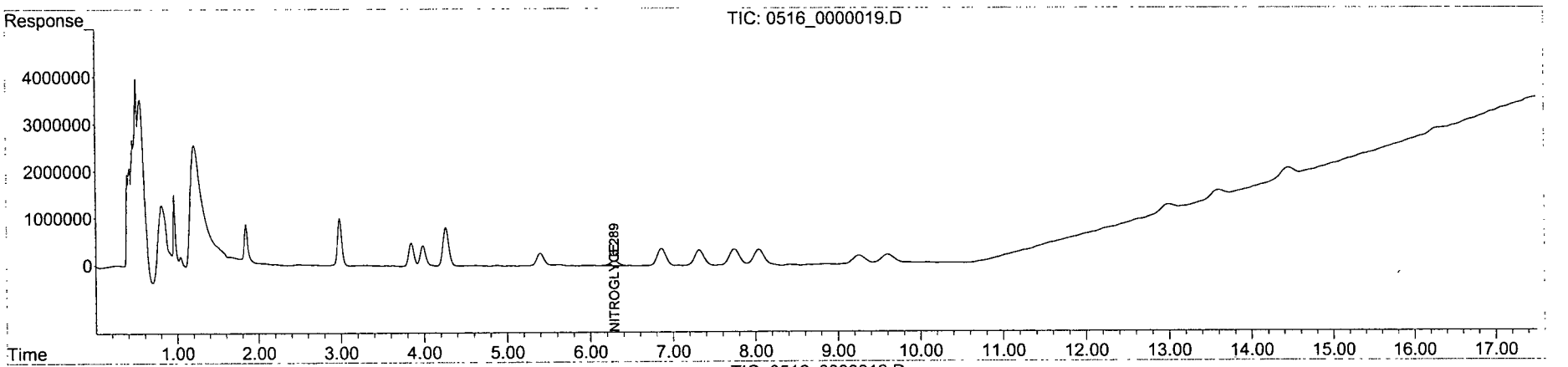
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

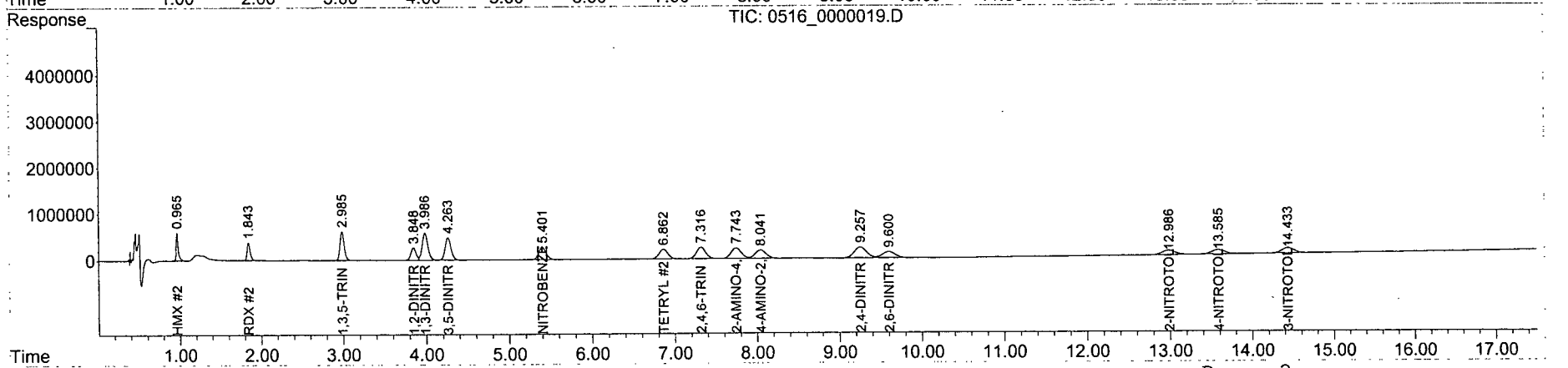
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000019.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 20:37:38
Operator : hm
Sample : 8830B_CB 0.02 PPM 05/16/12
Misc :
ALS Vial : 8194 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:35 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000020.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 21:15:06
Operator : hm
Sample : 8830B_CB 0.05 PPM 05/16/12
Misc :
ALS Vial : 8195 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:36 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.855	0	693053	N.D.	47.865 #
Spiked Amount 62.500			Recovery	=	0.00%	76.58%
Target Compounds						
1) TM HMX	0.000	0.968	0	1502870	N.D.	49.620 #
2) TM RDX	0.000	1.847	0	966904	N.D.	50.042 #
3) TM 1,3,5-TRI...	0.000	2.990	0	1596674	N.D.	48.988 #
5) TM 1,3-DINIT...	0.000	3.992	0	1505583	N.D.	48.486 #
6) TM 3,5-DINIT...	0.000	4.270	0	1215933	N.D.	48.597 #
7) TM NITROBENZENE	0.000	5.407	0	690741	N.D.	47.978 #
8) TM NITROGLYC...	6.298	6.216	261187	13212	48.897	NoCal #
9) TM TETRYL	6.874	6.874	917930	550847	NoCal	47.674 #
10) TM 2,4,6-TRI...	7.327	7.327	825344	648460	NoCal	47.569 #
11) TM 2-AMINO-4...	7.754	7.755	887542	601460	NoCal	47.719 #
12) TM 4-AMINO-2...	8.053	8.053	864475	473609	NoCal	47.824 #
13) TM 2,4-DINIT...	9.266	9.265	446234	611748	NoCal	47.833 #
14) TM 2,6-DINIT...	9.611	9.611	483114	345043	NoCal	47.746 #
15) TM 2-NITROTO...	0.000	12.986	0	255349	N.D.	48.081 #
16) TM 4-NITROTO...	0.000	13.586	0	247513	N.D.	47.475 #
17) TM 3-NITROTO...	0.000	14.438	0	299202	N.D.	48.282 #
18) TM PETN	16.274	0.000	192511	0	44.691	N.D. #

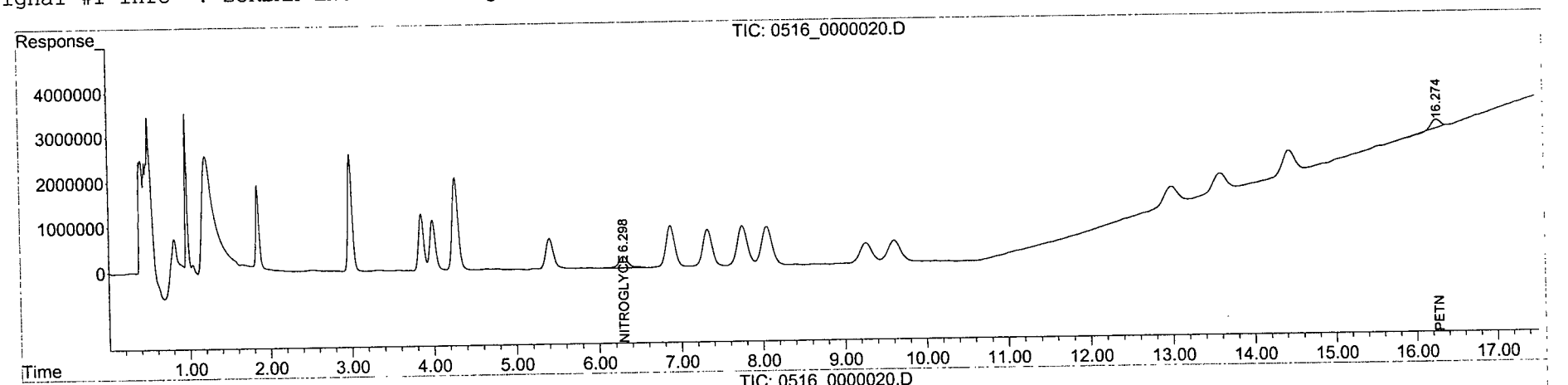
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

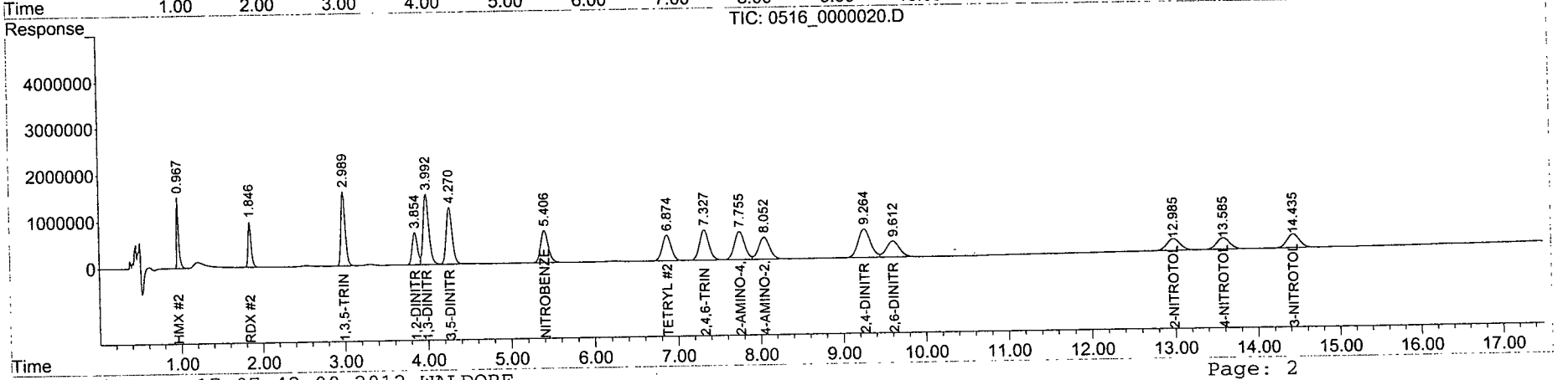
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000020.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 21:15:06
Operator : hm
Sample : 8830B_CB 0.05 PPM 05/16/12
Misc :
ALS Vial : 8195 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:36 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000021.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 21:52:35
Operator : hm
Sample : 8830B_CB 0.1 PPM 05/16/12
Misc :
ALS Vial : 8196 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:38 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.854	0	1404937	N.D.	97.031	#
Spiked Amount 62.500			Recovery	=	0.00%	155.25%	
Target Compounds							
1) TM HMX	0.000	0.968	0	3051158	N.D.	100.739	#
2) TM RDX	0.000	1.846	0	1961326	N.D.	101.507	#
3) TM 1,3,5-TRI...	0.000	2.989	0	3237206	N.D.	99.323	#
5) TM 1,3-DINIT...	0.000	3.992	0	3054914	N.D.	98.380	#
6) TM 3,5-DINIT...	0.000	4.269	0	2413085	N.D.	96.444	#
7) TM NITROBENZENE	0.000	5.408	0	1413563	N.D.	98.183	#
8) TM NITROGLYC...	6.301	6.212	515998	22530	96.600	NoCal	#
9) TM TETRYL	6.876	6.877	1828573	1120893	NoCal	97.009	#
0) TM 2,4,6-TRI...	7.330	7.330	1648916	1314884	NoCal	96.456	#
1) TM 2-AMINO-4...	7.757	7.757	1797929	1222022	NoCal	96.954	#
2) TM 4-AMINO-2...	8.056	8.056	1749014	962882	NoCal	97.230	#
3) TM 2,4-DINIT...	9.271	9.269	910828	1232577	NoCal	96.377	#
4) TM 2,6-DINIT...	9.616	9.617	991386	694321	NoCal	96.077	#
5) TM 2-NITROTO...	0.000	12.991	0	516251	N.D.	97.207	#
6) TM 4-NITROTO...	0.000	13.590	0	504902	N.D.	96.844	#
7) TM 3-NITROTO...	0.000	14.441	0	609568	N.D.	98.367	#
8) TM PETN	16.276	0.000	436059	0	101.231	N.D.	#

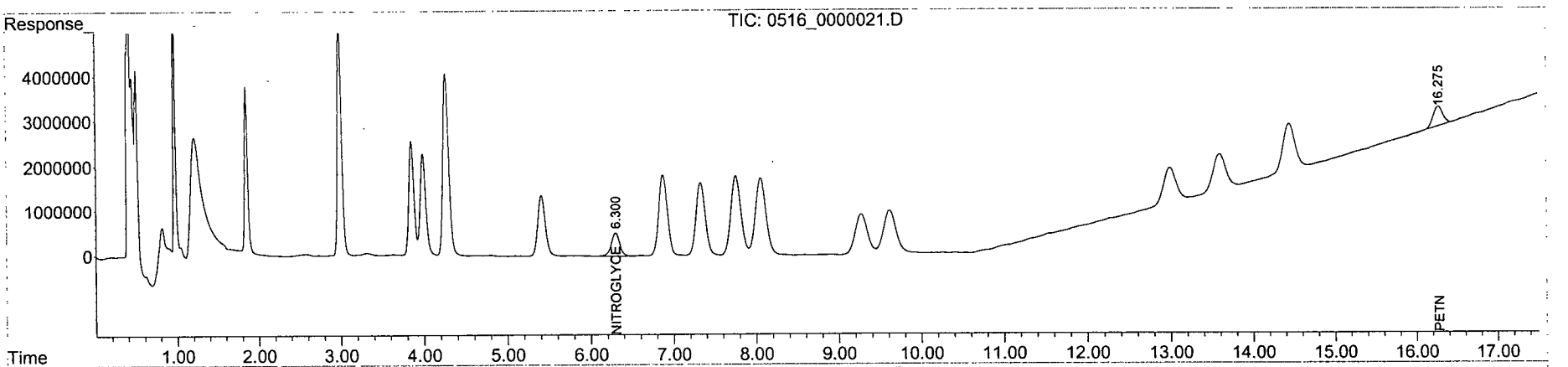
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

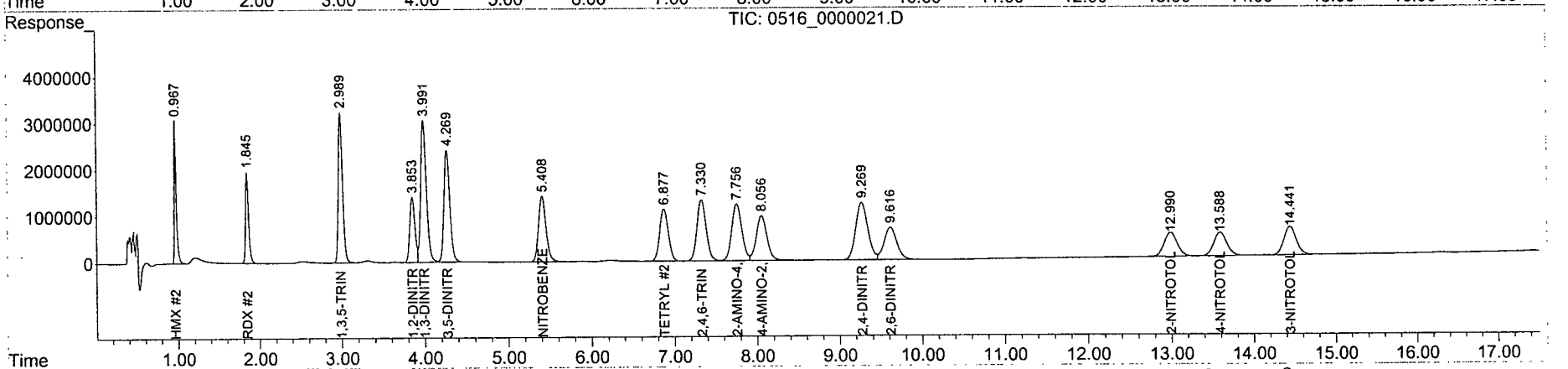
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000021.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 21:52:35
Operator : hm
Sample : 8830B_CB 0.1 PPM 05/16/12
Misc :
ALS Vial : 8196 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:38 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000022.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 22:30:04
Operator : hm
Sample : 8830B_CB 0.2 PPM 05/16/12
Misc :
ALS Vial : 8197 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:40 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.849	0	2712426	N.D.	187.332	#
Spiked Amount 62.500			Recovery	=	0.00%	299.73%	
Target Compounds							
1) TM HMX	0.000	0.966	0	6028719	N.D.	199.047	#
2) TM RDX	0.000	1.844	0	3856820	N.D.	199.608	#
3) TM 1,3,5-TRI...	0.000	2.985	0	6326478	N.D.	194.106	#
5) TM 1,3-DINIT...	0.000	3.986	0	5947756	N.D.	191.541	#
6) TM 3,5-DINIT...	0.000	4.262	0	4854726	N.D.	194.029	#
7) TM NITROBENZENE	0.000	5.404	0	2746614	N.D.	190.775	#
8) TM NITROGLYC...	6.278	6.214	1008904	59777	188.877	NoCal	#
9) TM TETRYL	6.857	6.857	3442021	2104552	NoCal	182.140	#
10) TM 2,4,6-TRI...	7.311	7.311	3148722	2496425	NoCal	183.131	#
11) TM 2-AMINO-4...	7.739	7.739	3409811	2297066	NoCal	182.247	#
12) TM 4-AMINO-2...	8.036	8.036	3285668	1808152	NoCal	182.584	#
13) TM 2,4-DINIT...	9.248	9.248	1726540	2359224	NoCal	184.471	#
14) TM 2,6-DINIT...	9.594	9.594	1868974	1326704	NoCal	183.583	#
15) TM 2-NITROTO...	0.000	12.977	0	990586	N.D.	186.522	#
16) TM 4-NITROTO...	0.000	13.576	0	966116	N.D.	185.308	#
17) TM 3-NITROTO...	0.000	14.430	0	1159037	N.D.	187.035	#
18) TM PETN	16.259	0.000	838732	0	194.712	N.D.	#

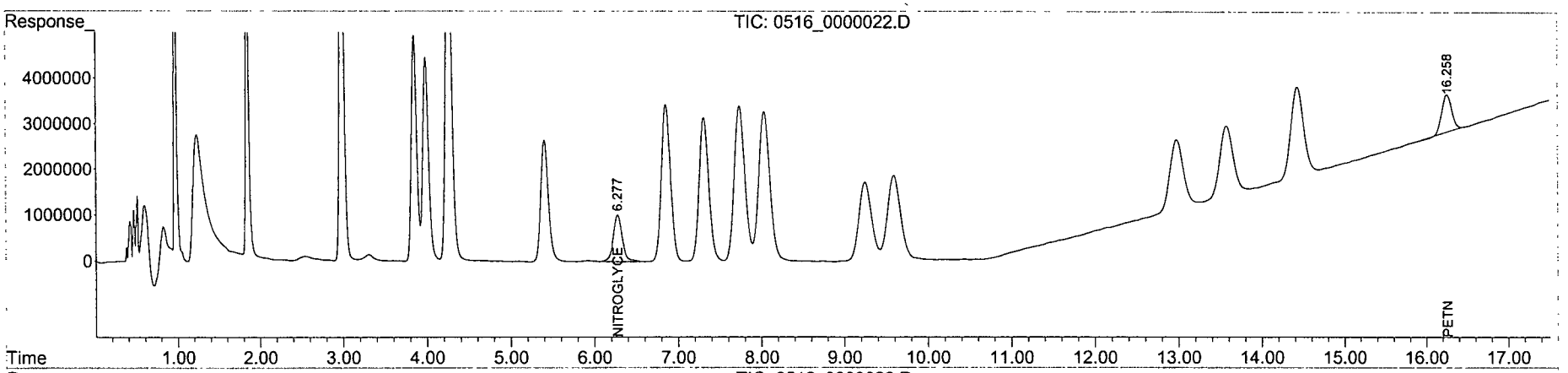
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

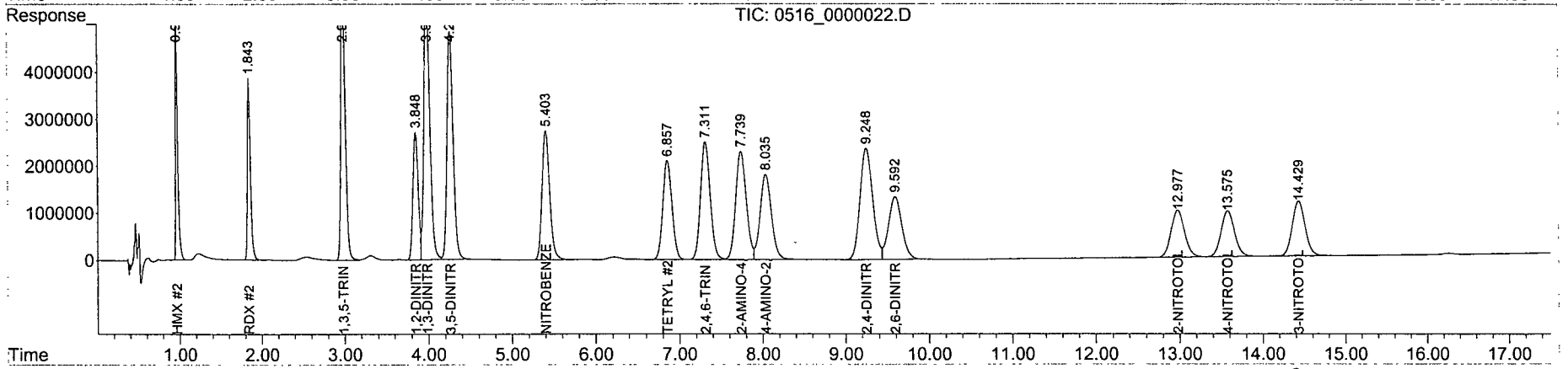
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000022.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 22:30:04
Operator : hm
Sample : 8830B_CB 0.2 PPM 05/16/12
Misc :
ALS Vial : 8197 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:40 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000023.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 23:07:32
Operator : hm
Sample : 8830B_CB 0.5 PPM 05/16/12
Misc :
ALS Vial : 8198 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.848	0	6996713	N.D.	483.223	#
Spiked Amount 62.500			Recovery	=	0.00%	773.16%	
Target Compounds							
1) TM HMX	0.000	0.968	0	14391562	N.D.	475.159	#
2) TM RDX	0.000	1.843	0	9130321	N.D.	472.535	#
3) TM 1,3,5-TRI...	0.000	2.984	0	15602283	N.D.	478.702	#
5) TM 1,3-DINIT...	0.000	3.985	0	14959913	N.D.	481.767	#
6) TM 3,5-DINIT...	0.000	4.263	0	12125178	N.D.	484.608	#
7) TM NITROBENZENE	0.000	5.398	0	6888675	N.D.	478.474	#
8) TM NITROGLYC...	6.296	6.216	2579749	156480	482.955	NoCal	#
9) TM TETRYL	6.870	6.870	9243923	5667406	NoCal	490.491	#
10) TM 2,4,6-TRI...	7.324	7.324	8353078	6638413	NoCal	486.977	#
11) TM 2-AMINO-4...	7.748	7.748	9099305	6180439	NoCal	490.350	#
12) TM 4-AMINO-2...	8.047	8.047	8808579	4848960	NoCal	489.638	#
13) TM 2,4-DINIT...	9.258	9.259	4541383	6286778	NoCal	491.572	#
14) TM 2,6-DINIT...	9.606	9.606	4880952	3527692	NoCal	488.147	#
15) TM 2-NITROTO...	0.000	12.981	0	2612473	N.D.	491.915	#
16) TM 4-NITROTO...	0.000	13.579	0	2558949	N.D.	490.825	#
17) TM 3-NITROTO...	0.000	14.432	0	3091677	N.D.	498.907	#
18) TM PETN	16.266	0.000	2241653	0	520.399	N.D.	#

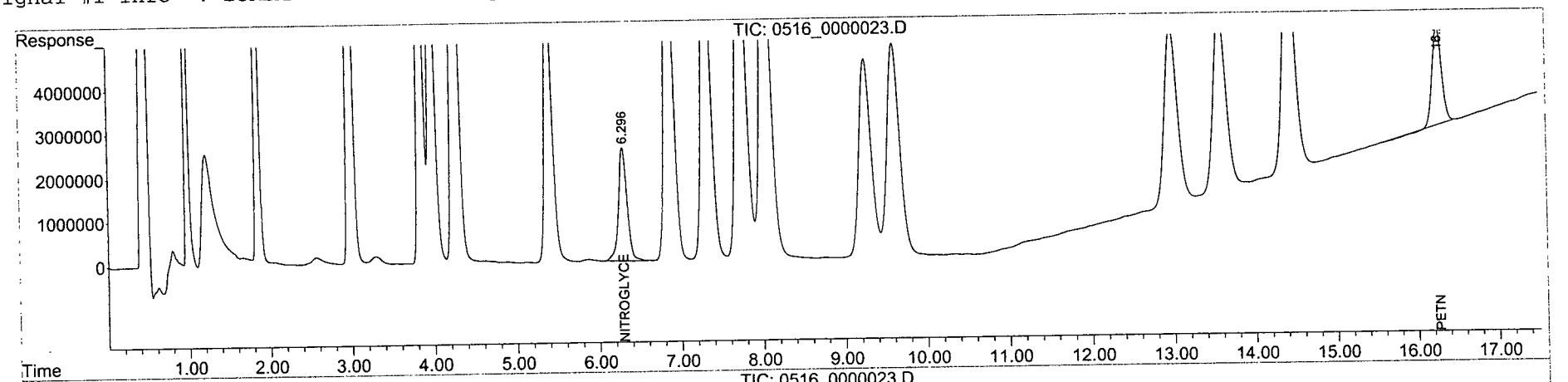
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

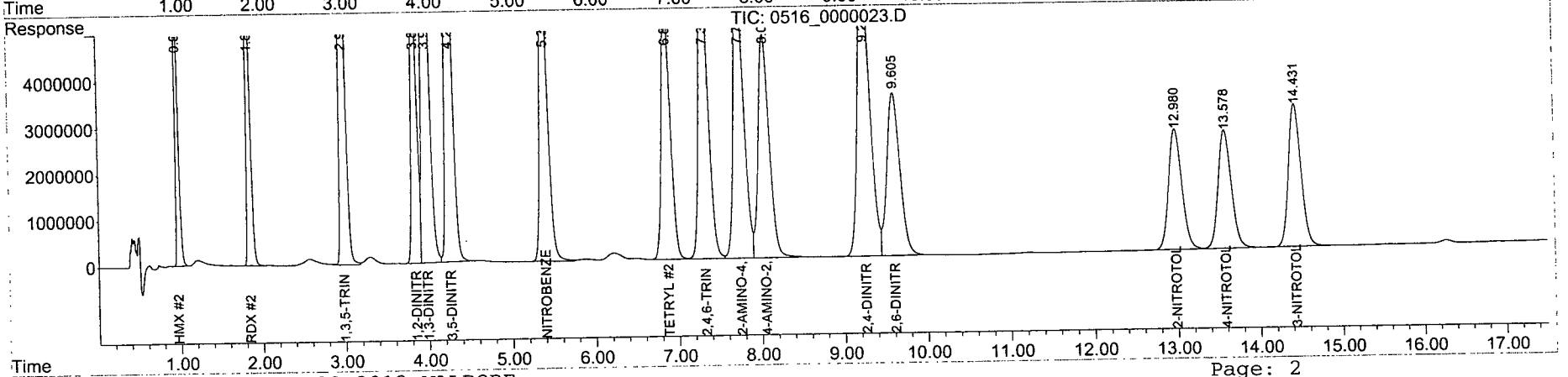
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000023.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 23:07:32
Operator : hm
Sample : 8830B_CB 0.5 PPM 05/16/12
Misc :
ALS Vial : 8198 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000024.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 23:45:00
Operator : hm
Sample : 8830B_CB 1.0 PPM 05/16/12
Misc :
ALS Vial : 8199 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:40:32 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.845	0	14055493	N.D.	970.732	#
Spiked Amount 62.500			Recovery	=	0.00%	1553.17%	
Target Compounds							
1) TM HMX	0.000	0.966	0	28610443	N.D.	944.617	#
2) TM RDX	0.000	1.840	0	18249619	N.D.	944.500	#
3) TM 1,3,5-TRI...	0.000	2.982	0	31325060	N.D.	961.102	#
5) TM 1,3-DINIT...	0.000	3.982	0	30018924	N.D.	966.726	#
6) TM 3,5-DINIT...	0.000	4.261	0	23817349	N.D.	951.909	#
7) TM NITROBENZENE	0.000	5.395	0	13967084	N.D.	970.127	#
8) TM NITROGLYC...	6.293	6.217	5087740	318377	952.477	NoCal	#
9) TM TETRYL	6.867	6.867	18612430	11420667	NoCal	988.412	#
0) TM 2,4,6-TRI...	7.322	7.322	16816531	13361910	NoCal	980.195	#
1) TM 2-AMINO-4...	7.745	7.745	18260408	12410759	NoCal	984.657	#
2) TM 4-AMINO-2...	8.045	8.045	17637275	9693899	NoCal	978.871	#
3) TM 2,4-DINIT...	9.258	9.258	9081343	12618635	NoCal	986.669	#
4) TM 2,6-DINIT...	9.606	9.606	9751597	7078998	NoCal	979.561	#
5) TM 2-NITROTO...	0.000	12.979	0	5300290	N.D.	998.017	#
6) TM 4-NITROTO...	0.000	13.575	0	5201393	N.D.	997.664	#
7) TM 3-NITROTO...	0.000	14.428	0	6268113	N.D.	1011.491	#
8) TM PETN	16.262	0.000	4409809	0	1023.736m	N.D.	#

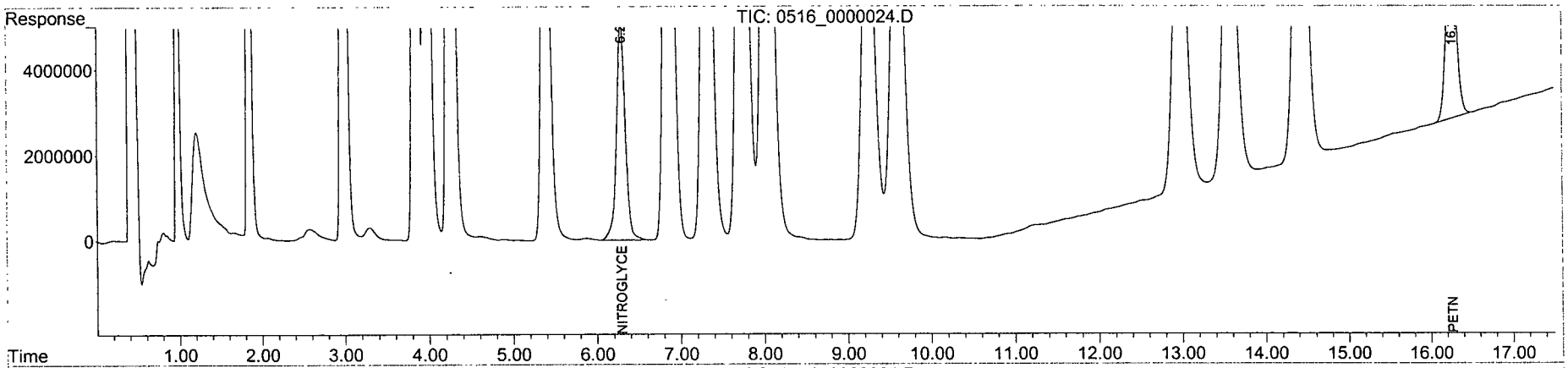
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

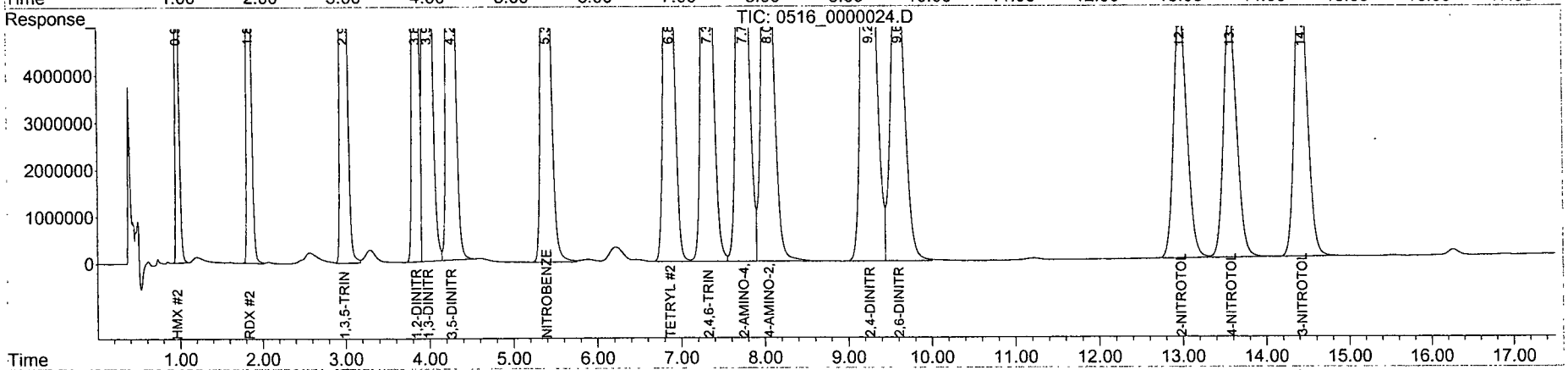
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000024.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 23:45:00
Operator : hm
Sample : 8830B_CB 1.0 PPM 05/16/12
Misc :
ALS Vial : 8199 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:40:32 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



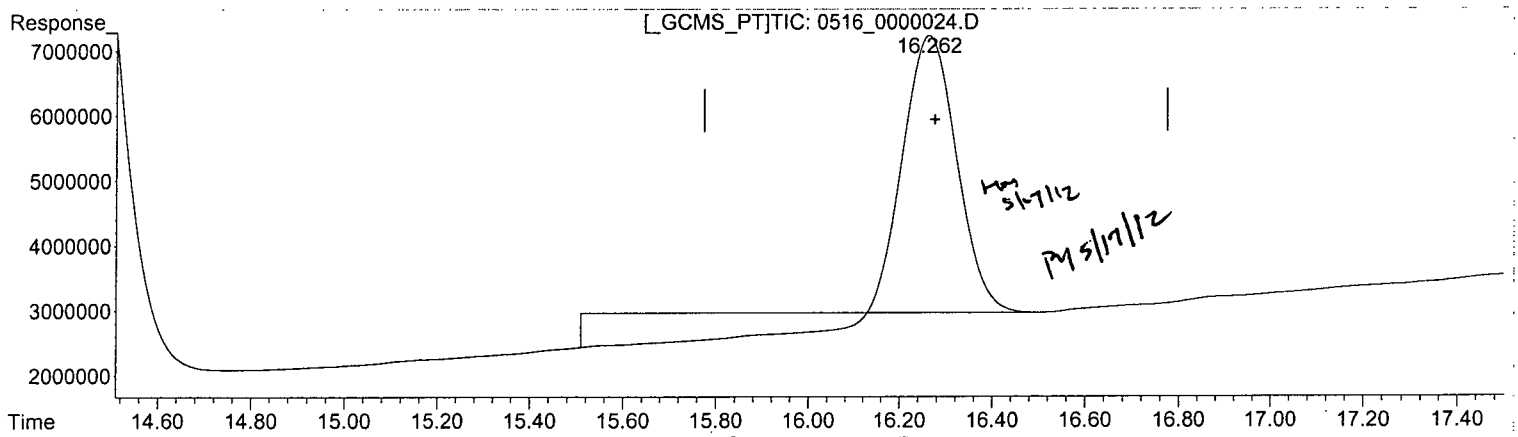


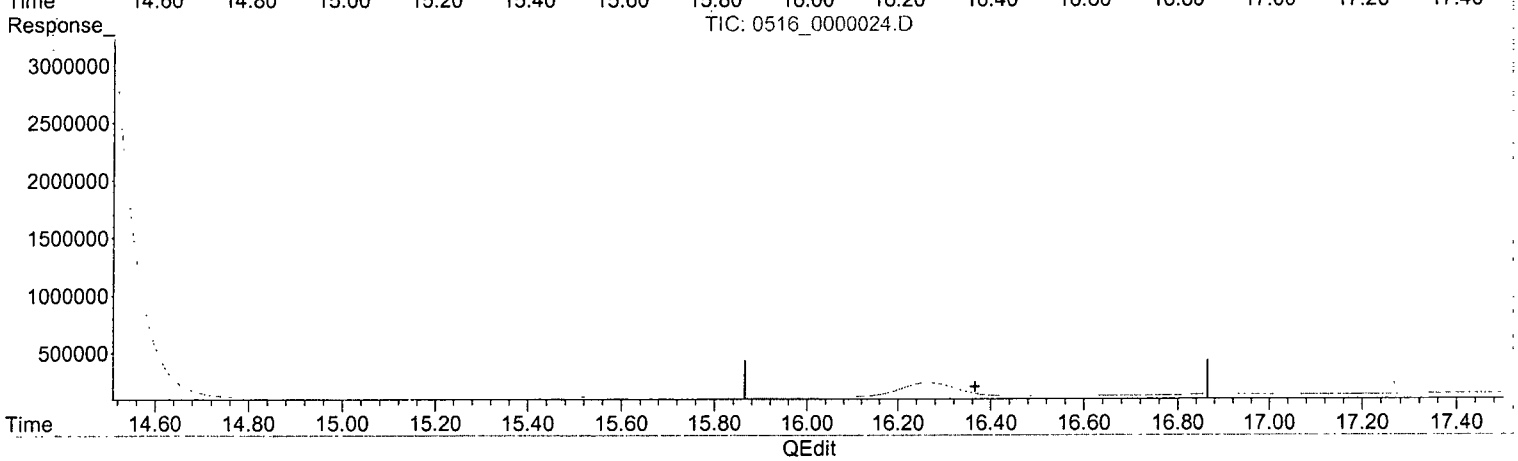
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000024.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 23:45:00
Operator : hm
Sample : 8830B_CB 1.0 PPM 05/16/12
Misc :
ALS Vial : 8199 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:44 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.263min 991.174 ppb

response 4269544

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

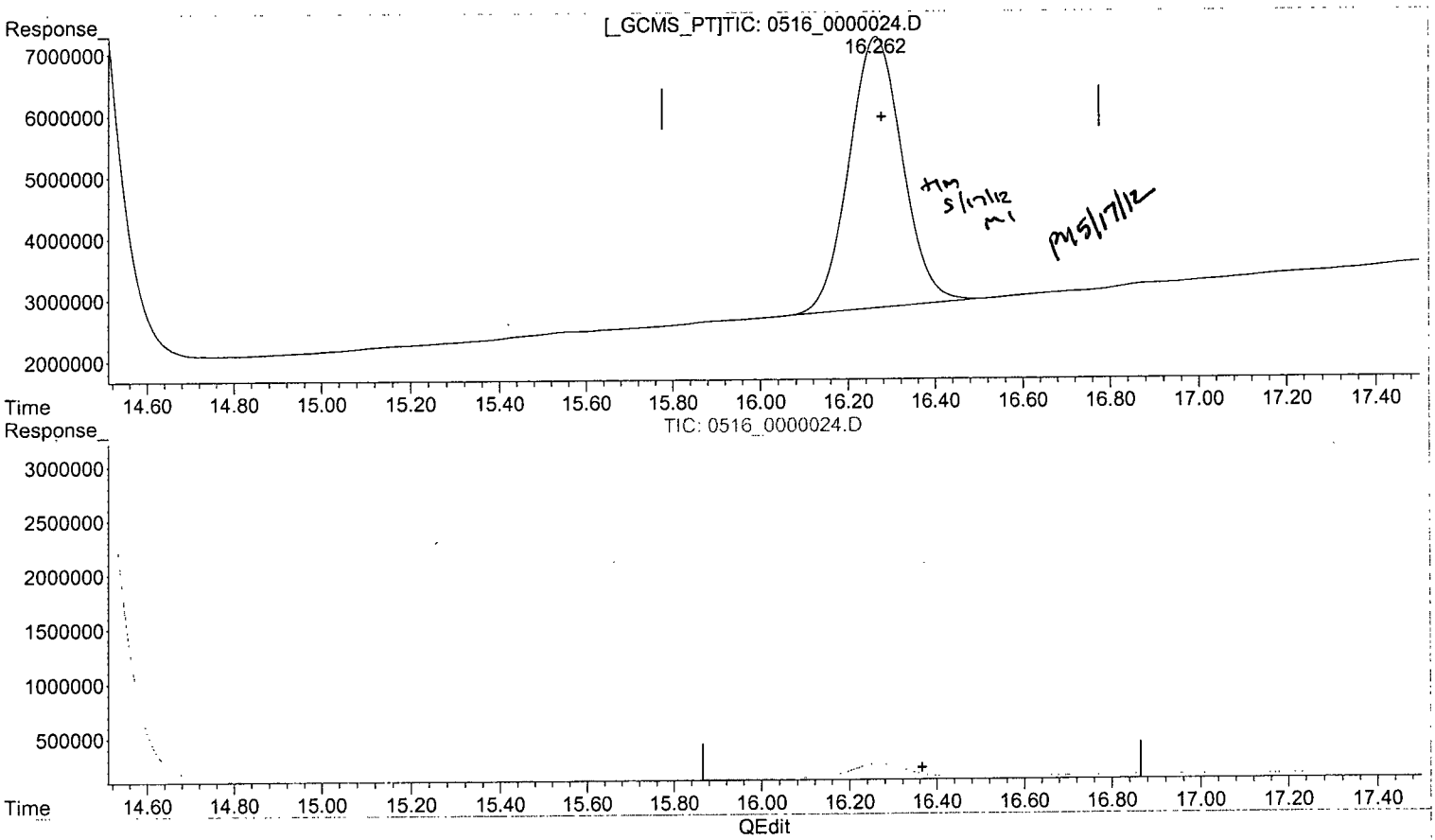
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000024.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 23:45:00
Operator : hm
Sample : 8830B_CB 1.0 PPM 05/16/12
Misc :
ALS Vial : 8199 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:44 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.262min 1023.736 ppb m

response 4409809

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000025.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 17-May-2012, 00:22:28
Operator : hm
Sample : 8830B_MX-A 2.0 PPM 05/16/12
Misc :
ALS Vial : 8200 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:39:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.843	0	27983412	N.D.	1932.653	#
	Spiked Amount 62.500			Recovery	=	0.00%	3092.24%	
	Target Compounds							
1)	TM HMX	0.000	0.966	0	55382744	N.D.	1828.544	#
2)	TM RDX	0.000	1.840	0	35581793	N.D.	1841.518	#
3)	TM 1,3,5-TRI...	0.000	2.982	0	61042131	N.D.	1872.868	#
5)	TM 1,3-DINIT...	0.000	3.979	0	59197766	N.D.	1906.399	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.389	0	27582256	N.D.	1915.811	#
8)	TM NITROGLYC...	0.000	6.205	0	638054	N.D. d	NoCal	
9)	TM TETRYL	6.863	6.863	36482170	22377197	NoCal	1936.655	#
10)	TM 2,4,6-TRI...	7.317	7.317	33116723	26310645	NoCal	1930.081	#
11)	TM 2-AMINO-4...	7.738	7.738	35645004	24257479	NoCal	1924.564	#
12)	TM 4-AMINO-2...	8.039	8.039	34357717	18846955	NoCal	1903.128	#
13)	TM 2,4-DINIT...	9.249	9.249	17897249	24886930	NoCal	1945.945	#
14)	TM 2,6-DINIT...	9.599	9.598	18973921	13842623	NoCal	1915.482	#
15)	TM 2-NITROTO...	0.000	12.973	0	10408458	N.D.	1959.859	#
16)	TM 4-NITROTO...	0.000	13.570	0	10241044	N.D.	1964.305	#
17)	TM 3-NITROTO...	0.000	14.425	0	12336052	N.D.	1990.680	#
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.	

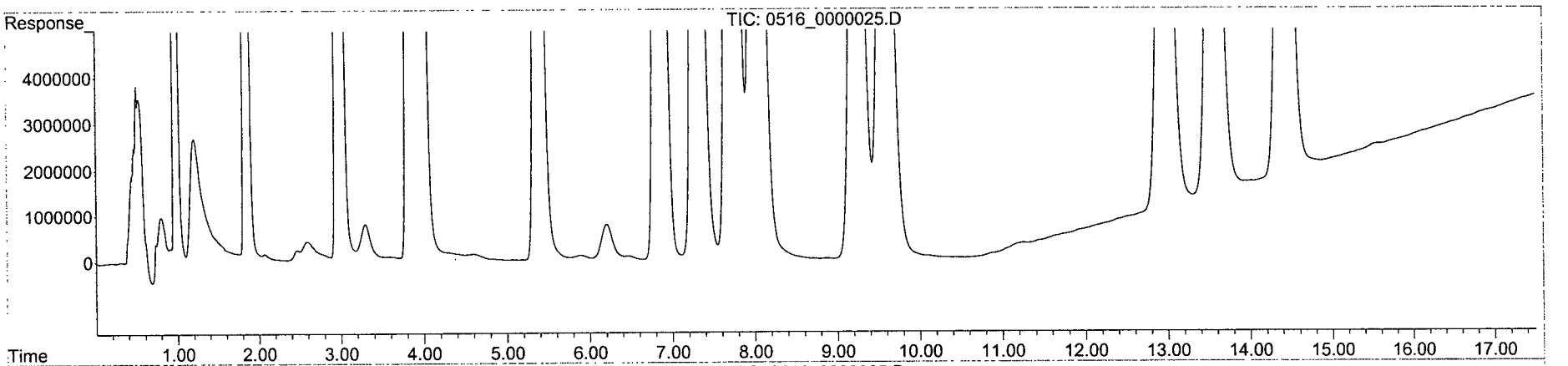
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

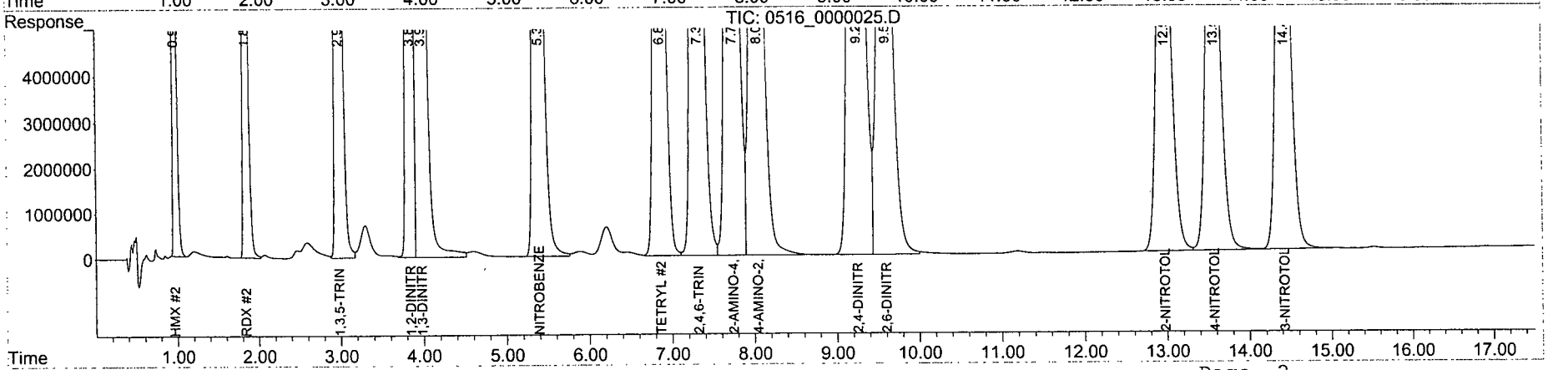
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000025.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 17-May-2012, 00:22:28
Operator : hm
Sample : 8830B_MX-A 2.0 PPM 05/16/12
Misc :
ALS Vial : 8200 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:39:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000026.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 17-May-2012, 00:59:56
Operator : hm
Sample : 8830B_MX-B 2.0 PPM 05/16/12
Misc :
ALS Vial : 8256 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:39:29 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	0.000	0	0	N.D. d	N.D. d
Spiked Amount 62.500			Recovery	=	0.00%	0.00%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D. d	N.D. d
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D. d	N.D. d
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D. d	N.D. d
6) TM 3,5-DINIT...	0.000	4.257	0	48400274	N.D.	1934.416 #
7) TM NITROBENZENE	0.000	0.000	0	0	N.D. d	N.D. d
8) TM NITROGLYC...	6.285	6.285	10097167	198203	1890.293	NoCal #
9) TM TETRYL	0.000	0.000	0	0	N.D. d	N.D. d
10) TM 2,4,6-TRI...	0.000	0.000	0	0	N.D. d	N.D. d
11) TM 2-AMINO-4...	0.000	0.000	0	0	N.D. d	N.D. d
12) TM 4-AMINO-2...	0.000	0.000	0	0	N.D. d	N.D. d
13) TM 2,4-DINIT...	0.000	0.000	0	0	N.D. d	N.D. d
14) TM 2,6-DINIT...	0.000	0.000	0	0	N.D. d	N.D. d
15) TM 2-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
16) TM 4-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
17) TM 3-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
18) TM PETN	16.252	0.000	9034125	0	2097.270m	N.D. #

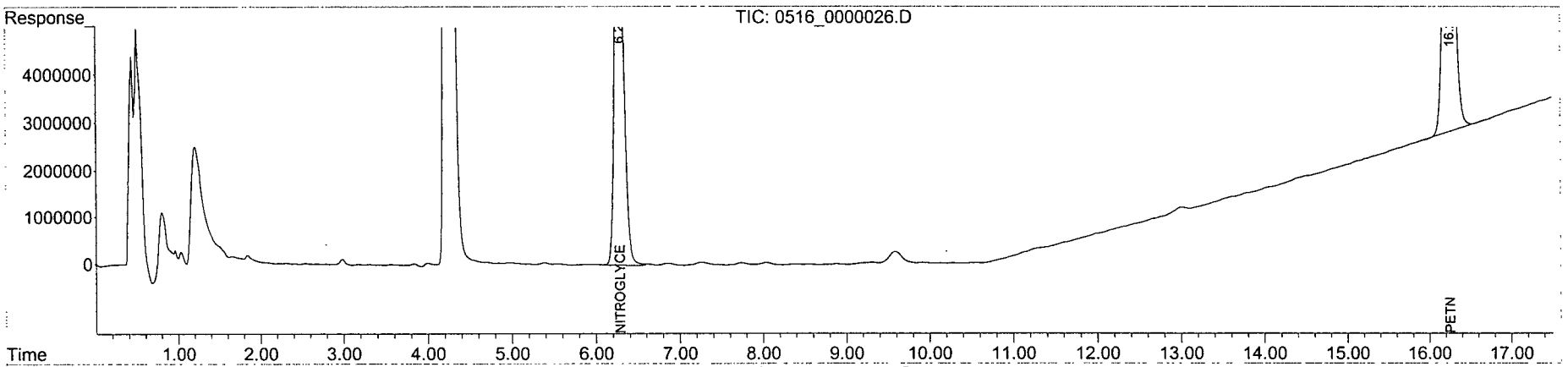
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

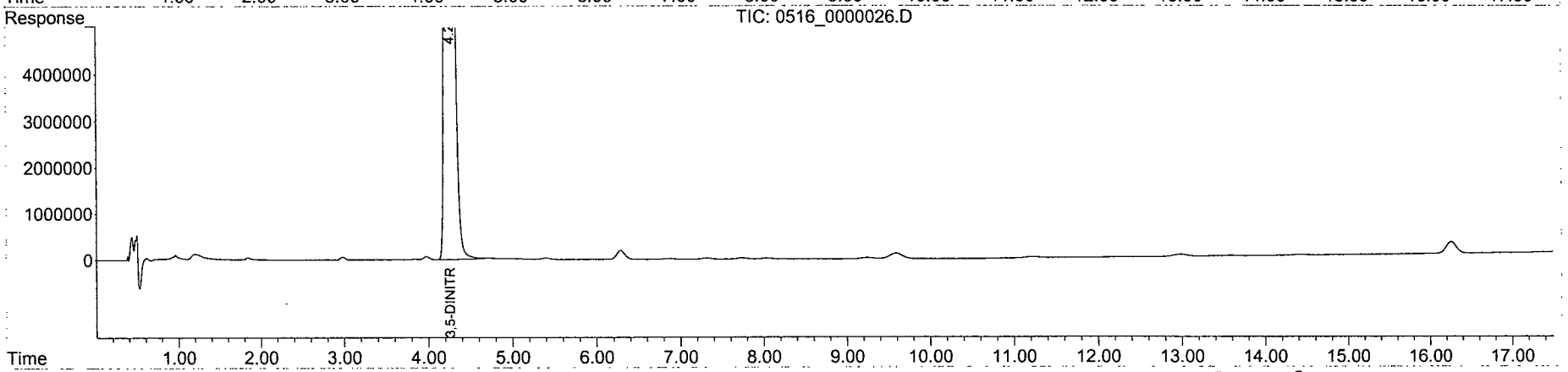
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000026.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 17-May-2012, 00:59:56
Operator : hm
Sample : 8830B_MX-B 2.0 PPM 05/16/12
Misc :
ALS Vial : 8256 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:39:29 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



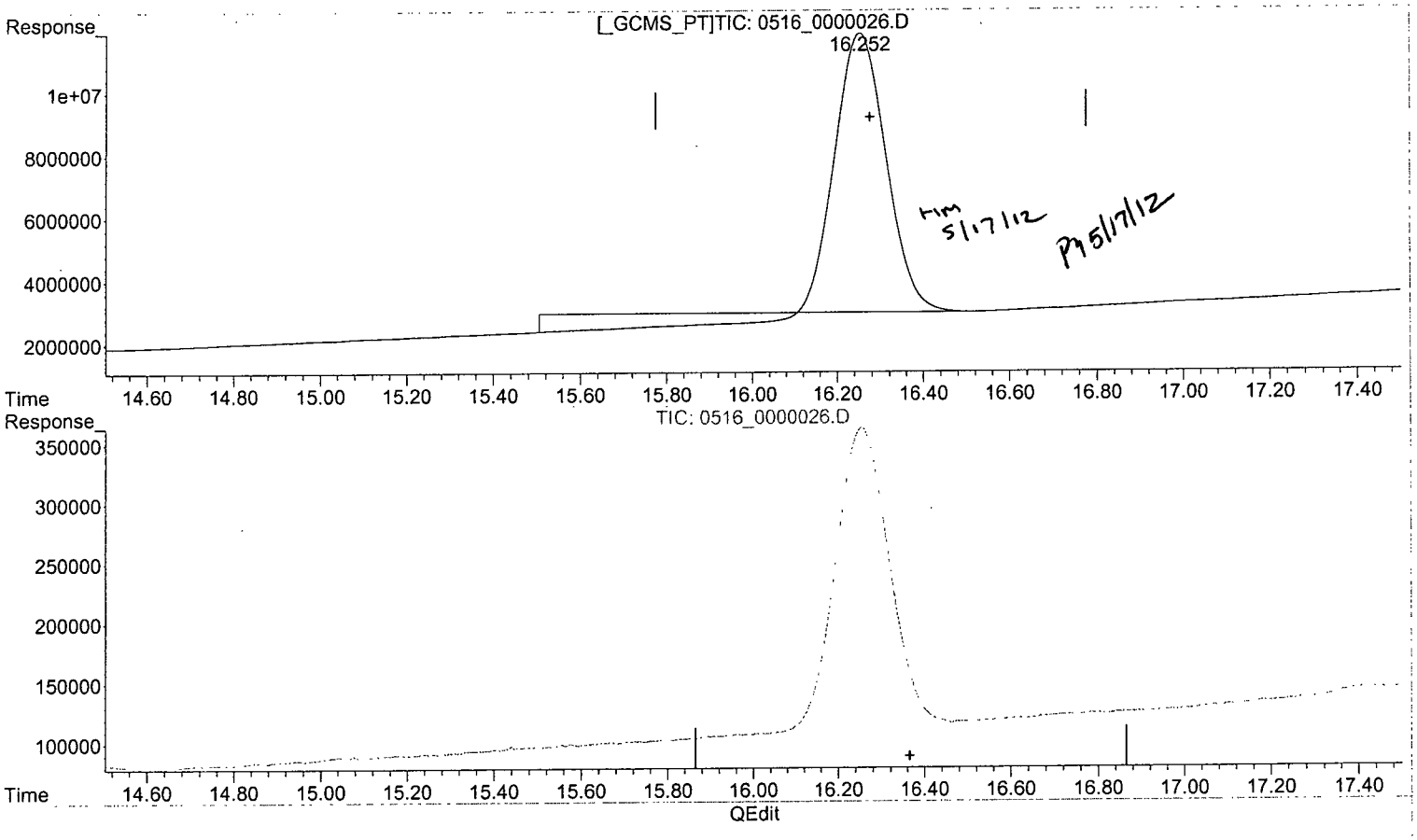


Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000026.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 17-May-2012, 00:59:56
Operator : hm
Sample : 8830B_MX-B 2.0 PPM 05/16/12
Misc :
ALS Vial : 8256 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:48 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.253min 2059.886 ppb

response 8873089

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

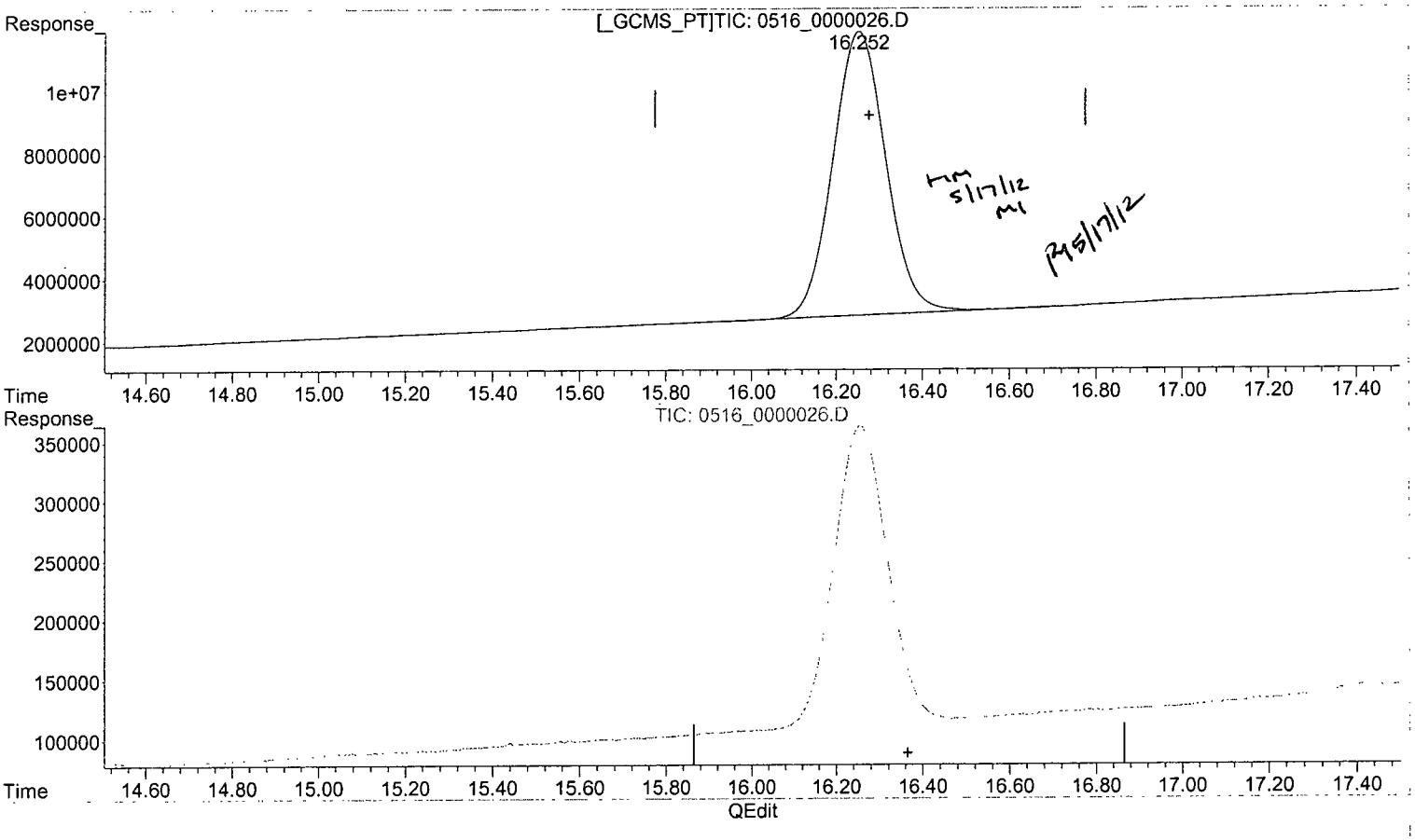
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000026.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 17-May-2012, 00:59:56
Operator : hm
Sample : 8830B_MX-B 2.0 PPM 05/16/12
Misc :
ALS Vial : 8256 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:38:48 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 14 08:20:12 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.252min 2097.270 ppb m

response 9034125

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 17-May-2012, 01:37:24
Instrument: Waldorf
Initial Cal. Date: 05/16/12
Data File: 0516_0000027.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	131	148	13	TM	
2	TM	PETN	105	101	4.6	TM	
	Signal #2						
1	TM	HMX	750	745	0.67	TM	
2	TM	RDX	478	473	0.96	TM	
3	TM	1,3,5-TRINITROBENZENE	788	738	6.3	TM	
4	S	1,2-DINITROBENZENE	346	333	3.8	S	
5	TM	1,3-DINITROBENZENE	746	795	6.5	TM	
6	TM	3,5-DINITROANILINE	602	667	11	TM	
7	TM	NITROBENZENE	345	364	5.7	TM	
8	TM	TETRYL	275	235	15	TM	
9	TM	2,4,6-TRINITROTOLUENE	325	323	0.65	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	300	315	4.9	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	236	262	11	TM	
12	TM	2,4-DINITROTOLUENE	306	341	12	TM	
13	TM	2,6-DINITROTOLUENE	172	170	1.1	TM	
14	TM	2-NITROTOLUENE	127	129	1.9	TM	
15	TM	4-NITROTOLUENE	124	123	0.73	TM	
16	TM	3-NITROTOLUENE	150	165	11	TM	
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000027.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 17-May-2012, 01:37:24
Operator : hm
Sample : 8830B_SS 1.0 PPM 05/16/12
Misc :
ALS Vial : 8257 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:46:41 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

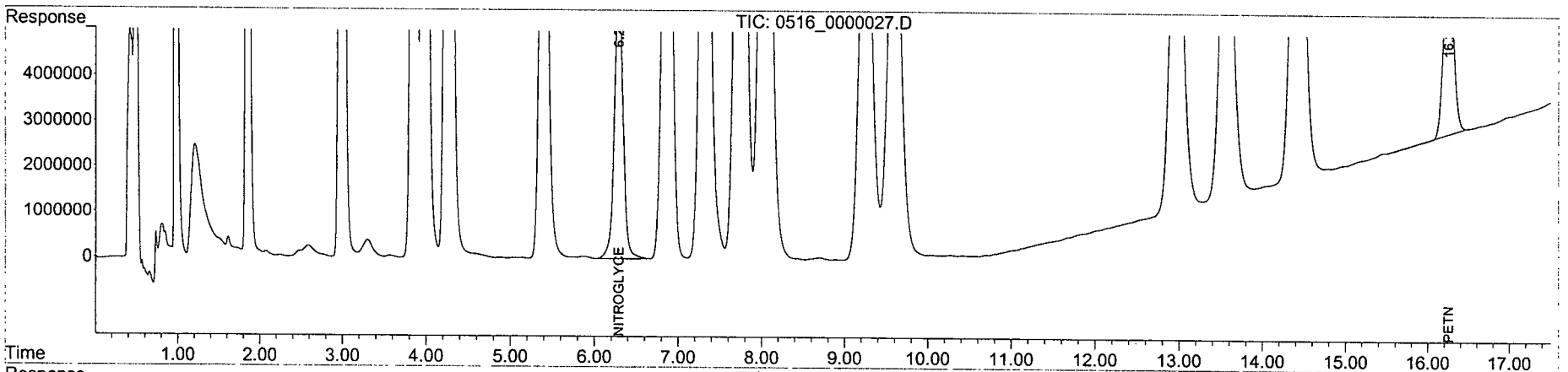
	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.844	0	13319633	N.D.	962.342	#
	Spiked Amount 62.500			Recovery	=	0.00%	1539.75%	
	Target Compounds							
1)	TM HMX	0.000	0.967	0	29784858	N.D.	993.333	#
2)	TM RDX	0.000	1.842	0	18935285	N.D.	990.368	#
3)	TM 1,3,5-TRI...	0.000	2.982	0	29536699	N.D.	937.492	#
5)	TM 1,3-DINIT...	0.000	3.980	0	31783628	N.D.	1064.639	#
6)	TM 3,5-DINIT...	0.000	4.259	0	26678749	N.D.	1108.755	#
7)	TM NITROBENZENE	0.000	5.390	0	14572566	N.D.	1056.740	#
8)	TM NITROGLYC...	6.288	6.223	5900612	282066	1127.148	NoCal	#
9)	TM TETRYL	6.863	6.863	15251923	9385427	NoCal	852.863	#
10)	TM 2,4,6-TRI...	7.315	7.315	16254463	12926214	NoCal	993.519	#
11)	TM 2-AMINO-4...	7.740	7.740	18533108	12589503	NoCal	1049.368	#
12)	TM 4-AMINO-2...	8.039	8.039	19054857	10462540	NoCal	1109.549	#
13)	TM 2,4-DINIT...	9.247	9.247	9794960	13650142	NoCal	1116.703	#
14)	TM 2,6-DINIT...	9.594	9.594	9289260	6803402	NoCal	988.936	#
15)	TM 2-NITROTO...	0.000	12.966	0	5167792	N.D.	1018.637	#
16)	TM 4-NITROTO...	0.000	13.564	0	4937175	N.D.	992.738	#
17)	TM 3-NITROTO...	0.000	14.417	0	6618256	N.D.	1105.756	#
18)	TM PETN	16.251	0.000	4022708	0	953.557	N.D.	#

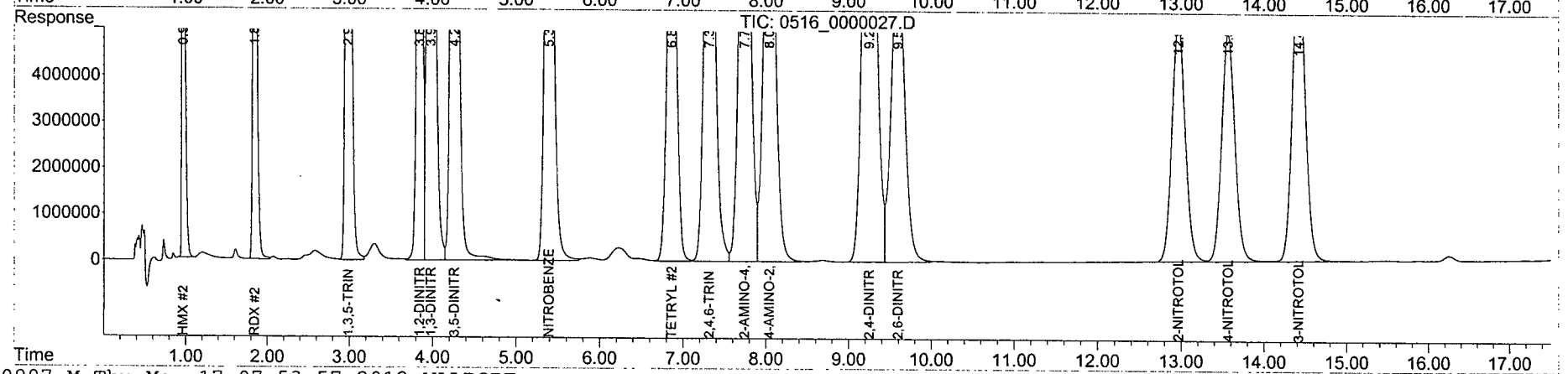
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : Y:\CHEM32\WALDORF\DATA\120511\120516\
Data File : 0516_0000027.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 17-May-2012, 01:37:24
Operator : hm
Sample : 8830B_SS 1.0 PPM 05/16/12
Misc :
ALS Vial : 8257 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 17 07:46:41 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120511\120516\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 23-May-2012, 00:07:23
Instrument: Waldorf
Initial Cal. Date: 05/16/12
Data File: 0521_0000063.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	131	124	5.5	TM	
2	TM	PETN	105	106	0.31	TM	
	Signal #2						
1	TM	HMX	750	689	8.1	TM	
2	TM	RDX	478	441	7.8	TM	
3	TM	1,3,5-TRINITROBENZENE	788	763	3.2	TM	
4	S	1,2-DINITROBENZENE	346	347	0.16	S	
5	TM	1,3-DINITROBENZENE	746	728	2.5	TM	
6	TM	3,5-DINITROANILINE	602	565	6.1	TM	
7	TM	NITROBENZENE	345	315	8.6	TM	
8	TM	TETRYL	275	265	3.7	TM	
9	TM	2,4,6-TRINITROTOLUENE	325	323	0.55	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	300	291	3.1	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	236	228	3.5	TM	
12	TM	2,4-DINITROTOLUENE	306	303	0.96	TM	
13	TM	2,6-DINITROTOLUENE	172	170	1.4	TM	
14	TM	2-NITROTOLUENE	127	117	8.0	TM	
15	TM	4-NITROTOLUENE	124	118	4.7	TM	
16	TM	3-NITROTOLUENE	150	140	6.4	TM	
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000063.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 00:07:23
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/21/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 07:40:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.833	0	13863165	N.D.	1001.612	#
Spiked Amount 62.500			Recovery	=	0.00%	1602.58%	
Target Compounds							
1) TM HMX	0.000	0.965	0	27554227	N.D.	918.940	#
2) TM RDX	0.000	1.836	0	17627797	N.D.	921.983	#
3) TM 1,3,5-TRI...	0.000	2.974	0	30505414	N.D.	968.239	#
5) TM 1,3-DINIT...	0.000	3.971	0	29108391	N.D.	975.028	#
6) TM 3,5-DINIT...	0.000	4.246	0	22584289	N.D.	938.592	#
7) TM NITROBENZENE	0.000	5.379	0	12604663	N.D.	914.037	#
8) TM NITROGLYC...	6.278	6.218	4949482	303385	945.461	NoCal	#
9) TM TETRYL	6.844	6.844	17284261	10601555	NoCal	963.374	#
10) TM 2,4,6-TRI...	7.303	7.303	16306758	12939123	NoCal	994.512	#
11) TM 2-AMINO-4...	7.721	7.721	17118208	11627091	NoCal	969.148	#
12) TM 4-AMINO-2...	8.019	8.019	16575113	9102517	NoCal	965.319	#
13) TM 2,4-DINIT...	9.235	9.235	8717656	12106755	NoCal	990.440	#
14) TM 2,6-DINIT...	9.581	9.581	9322552	6784441	NoCal	986.180	#
15) TM 2-NITROTO...	0.000	12.954	0	4665697	N.D.	919.668	#
16) TM 4-NITROTO...	0.000	13.551	0	4738498	N.D.	952.790	#
17) TM 3-NITROTO...	0.000	14.404	0	5600934	N.D.	935.785	#
18) TM PETN	16.244	0.000	4231791	0	1003.119m	N.D.	#

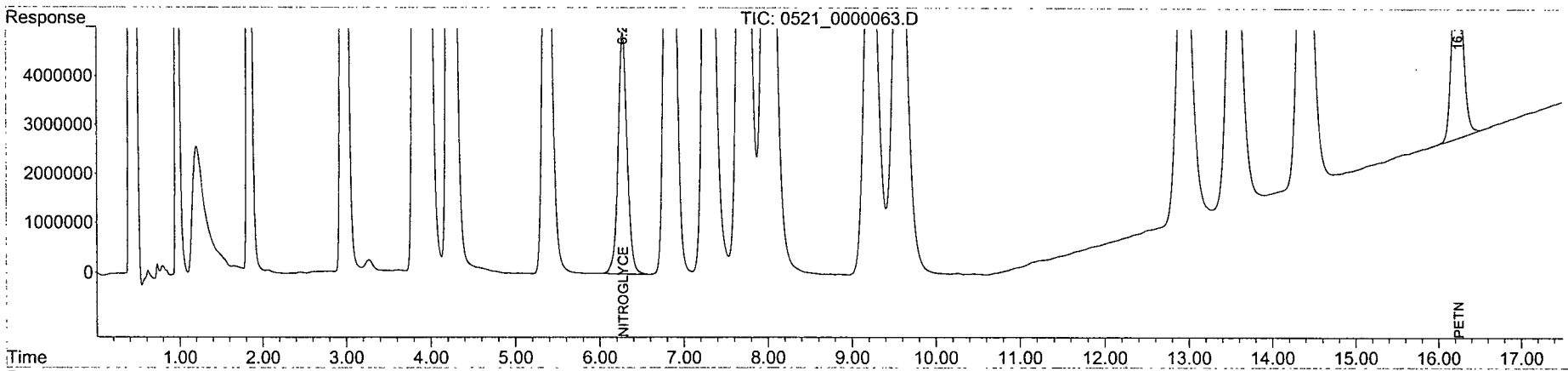
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

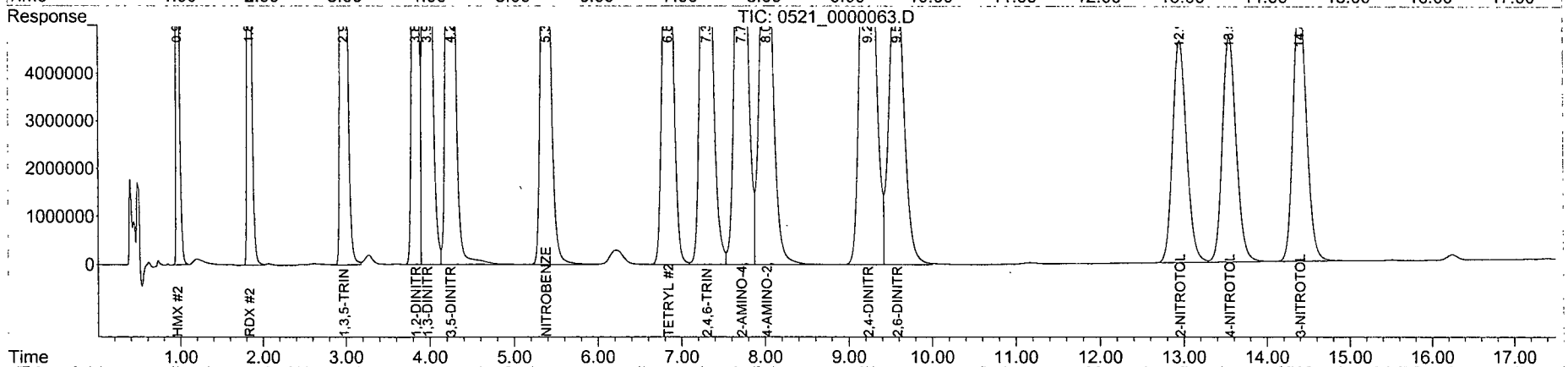
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000063.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 00:07:23
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/21/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 07:40:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



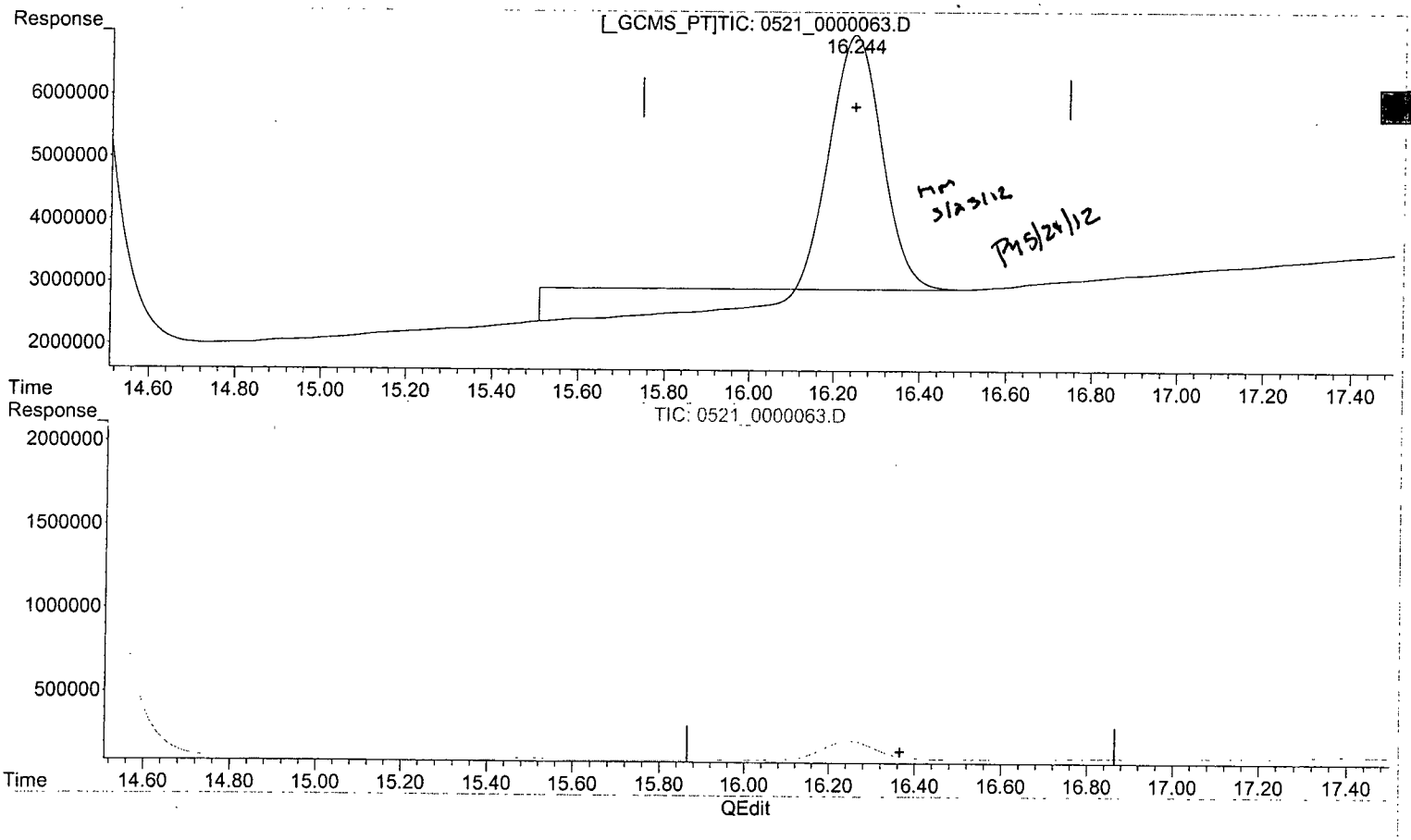


Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000063.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 00:07:23
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/21/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 07:40:02 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.244min 964.694 ppb

response 4069691

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

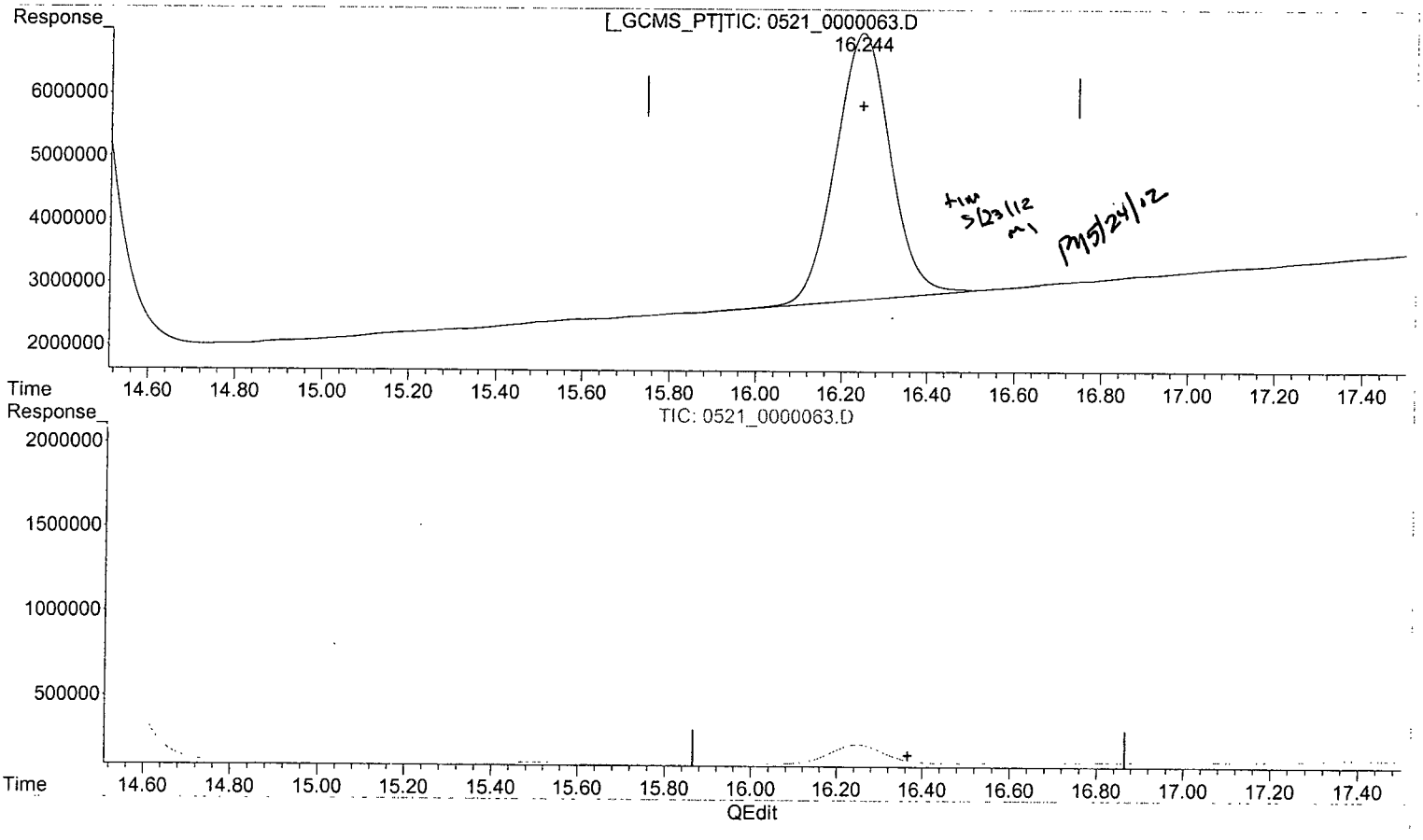
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000063.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 00:07:23
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/21/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 07:40:02 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.244min 1003.119 ppb m

response 4231791

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 23-May-2012, 08:49:52
Instrument: Waldorf
Initial Cal. Date: 05/16/12
Data File: 0521_0000078.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	131	126	3.6	TM	
2	TM	PETN	105	107	1.4	TM	
	Signal #2						
1	TM	HMX	750	690	8.0	TM	
2	TM	RDX	478	444	7.0	TM	
3	TM	1,3,5-TRINITROBENZENE	788	775	1.6	TM	
4	S	1,2-DINITROBENZENE	346	352	1.7	S	
5	TM	1,3-DINITROBENZENE	746	741	0.76	TM	
6	TM	3,5-DINITROANILINE	602	575	4.4	TM	
7	TM	NITROBENZENE	345	314	8.9	TM	
8	TM	TETRYL	275	272	0.97	TM	
9	TM	2,4,6-TRINITROTOLUENE	325	330	1.6	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	300	298	0.81	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	236	233	1.2	TM	
12	TM	2,4-DINITROTOLUENE	306	310	1.3	TM	
13	TM	2,6-DINITROTOLUENE	172	174	1.0	TM	
14	TM	2-NITROTOLUENE	127	116	8.4	TM	
15	TM	4-NITROTOLUENE	124	119	4.5	TM	
16	TM	3-NITROTOLUENE	150	140	6.7	TM	
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000078.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 08:49:52
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/21/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 10:41:53 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.830	0	14071364	N.D.	1016.654	#
Spiked Amount 62.500			Recovery	=	0.00%	1626.65%	
Target Compounds							
1) TM HMX	0.000	0.963	0	27581495	N.D.	919.850	#
2) TM RDX	0.000	1.835	0	17777808	N.D.	929.829	#
3) TM 1,3,5-TRI...	0.000	2.972	0	30990712	N.D.	983.642	#
5) TM 1,3-DINIT...	0.000	3.968	0	29627933	N.D.	992.431	#
6) TM 3,5-DINIT...	0.000	4.245	0	23009325	N.D.	956.256	#
7) TM NITROBENZENE	0.000	5.374	0	12564339	N.D.	911.112	#
8) TM NITROGLYC...	6.270	6.209	5046742	313057	964.039	NoCal	#
9) TM TETRYL	6.838	6.838	17750434	10898188	NoCal	990.329	#
.0) TM 2,4,6-TRI...	7.294	7.294	16623938	13214818	NoCal	1015.702	#
.1) TM 2-AMINO-4...	7.716	7.716	17532782	11900003	NoCal	991.896	#
.2) TM 4-AMINO-2...	8.013	8.013	16970626	9314356	NoCal	987.785	#
.3) TM 2,4-DINIT...	9.223	9.223	8887137	12380084	NoCal	1012.801	#
.4) TM 2,6-DINIT...	9.570	9.569	9533845	6951193	NoCal	1010.419	#
.5) TM 2-NITROTO...	0.000	12.938	0	4645491	N.D.	915.685	#
.6) TM 4-NITROTO...	0.000	13.535	0	4750566	N.D.	955.216	#
.7) TM 3-NITROTO...	0.000	14.390	0	5583373	N.D.	932.851	#
.8) TM PETN	16.230	0.000	4275787	0	1013.547	N.D.	#

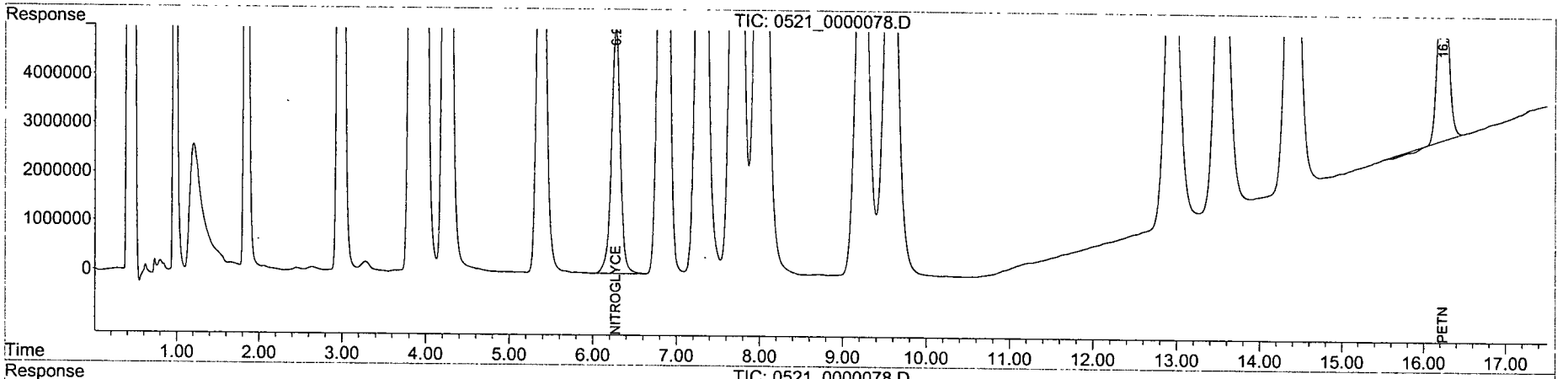
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

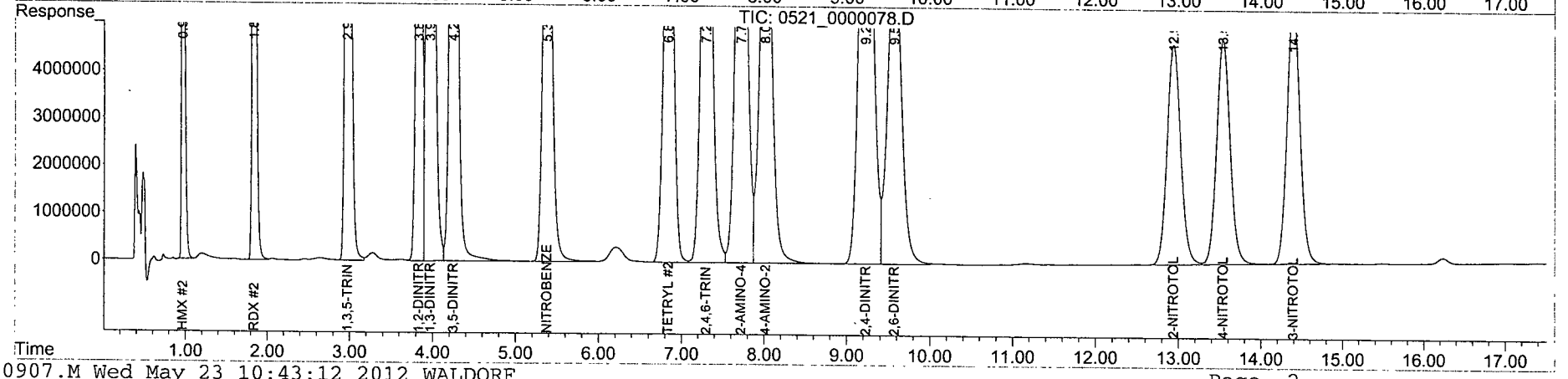
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000078.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 08:49:52
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/21/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 10:41:53 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 6746
Date Analyzed: 23-May-2012, 15:32:18
Instrument: Waldorf
Initial Cal. Date: 05/16/12
Data File: 0521_0000089.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	131	123	6.3	TM	
2	TM	PETN	105	103	2.4	TM	
	Signal #2						
1	TM	HMX	750	680	9.3	TM	
2	TM	RDX	478	435	9.1	TM	
3	TM	1,3,5-TRINITROBENZENE	788	757	3.9	TM	
4	S	1,2-DINITROBENZENE	346	345	0.17	S	
5	TM	1,3-DINITROBENZENE	746	723	3.1	TM	
6	TM	3,5-DINITROANILINE	602	559	7.2	TM	
7	TM	NITROBENZENE	345	299	13	TM	
8	TM	TETRYL	275	259	5.9	TM	
9	TM	2,4,6-TRINITROTOLUENE	325	318	2.3	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	300	283	5.5	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	236	223	5.6	TM	
12	TM	2,4-DINITROTOLUENE	306	298	2.4	TM	
13	TM	2,6-DINITROTOLUENE	172	167	2.6	TM	
14	TM	2-NITROTOLUENE	127	110	14	TM	
15	TM	4-NITROTOLUENE	124	113	8.8	TM	
16	TM	3-NITROTOLUENE	150	133	11	TM	
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000089.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 15:32:18
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/21/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 24 07:42:42 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

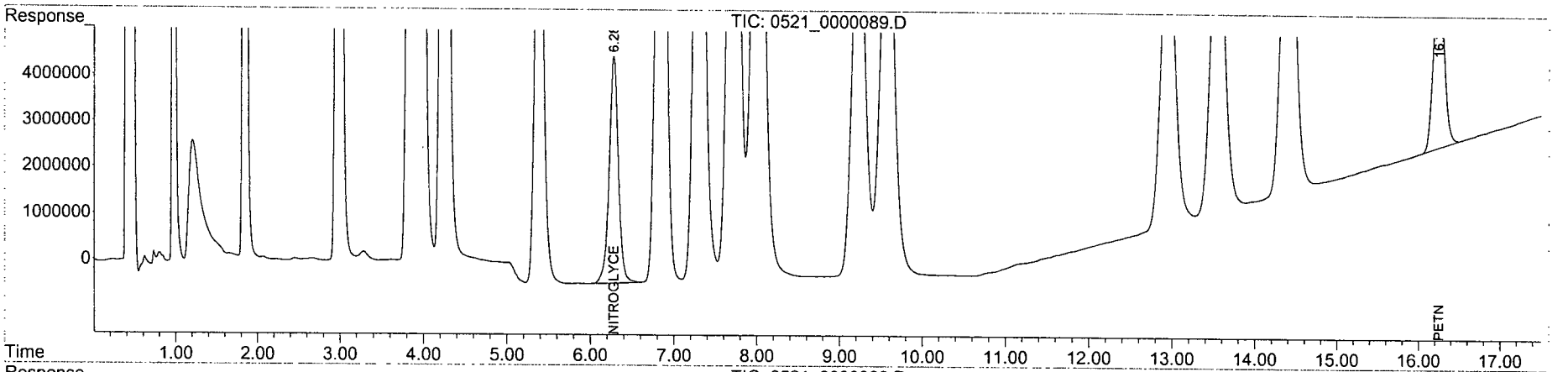
Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.836	0	13816924	N.D.	998.271	#
Spiked Amount 62.500			Recovery	=	0.00%	1597.23%	
Target Compounds							
1) TM HMX	0.000	0.965	0	27200627	N.D.	907.148	#
2) TM RDX	0.000	1.838	0	17381269	N.D.	909.089	#
3) TM 1,3,5-TRI...	0.000	2.977	0	30265490	N.D.	960.624	#
5) TM 1,3-DINIT...	0.000	3.974	0	28925462	N.D.	968.900	#
6) TM 3,5-DINIT...	0.000	4.249	0	22340845	N.D.	928.474	#
7) TM NITROBENZENE	0.000	5.382	0	11945458	N.D.	866.234	#
8) TM NITROGLYC...	6.281	6.215	4907599	52507	937.460	NoCal	#
9) TM TETRYL	6.844	6.844	16880645	10353167	NoCal	940.802	#
0) TM 2,4,6-TRI...	7.303	7.303	16028660	12716798	NoCal	977.423	#
1) TM 2-AMINO-4...	7.718	7.718	16673629	11339391	NoCal	945.167	#
2) TM 4-AMINO-2...	8.015	8.015	16177580	8905675	NoCal	944.444	#
3) TM 2,4-DINIT...	9.230	9.230	8575926	11924964	NoCal	975.568	#
4) TM 2,6-DINIT...	9.576	9.575	9161330	6698866	NoCal	973.741	#
5) TM 2-NITROTO...	0.000	12.947	0	4382025	N.D.	863.753	#
6) TM 4-NITROTO...	0.000	13.544	0	4535858	N.D.	912.044	#
7) TM 3-NITROTO...	0.000	14.398	0	5303848	N.D.	886.149	#
8) TM PETN	16.246	0.000	4118540	0	976.273m	N.D.	#

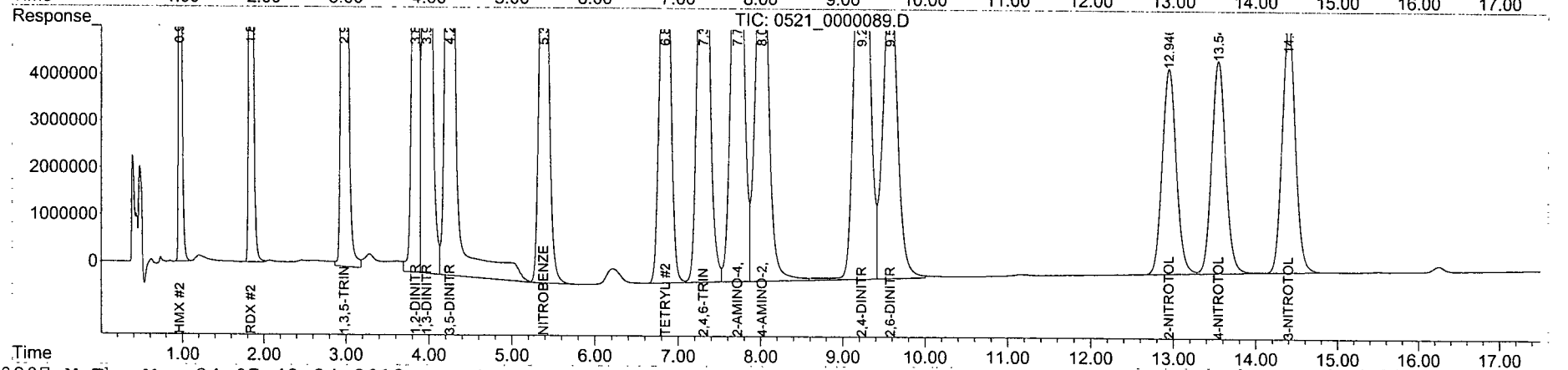
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000089.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 15:32:18
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/21/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 24 07:42:42 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



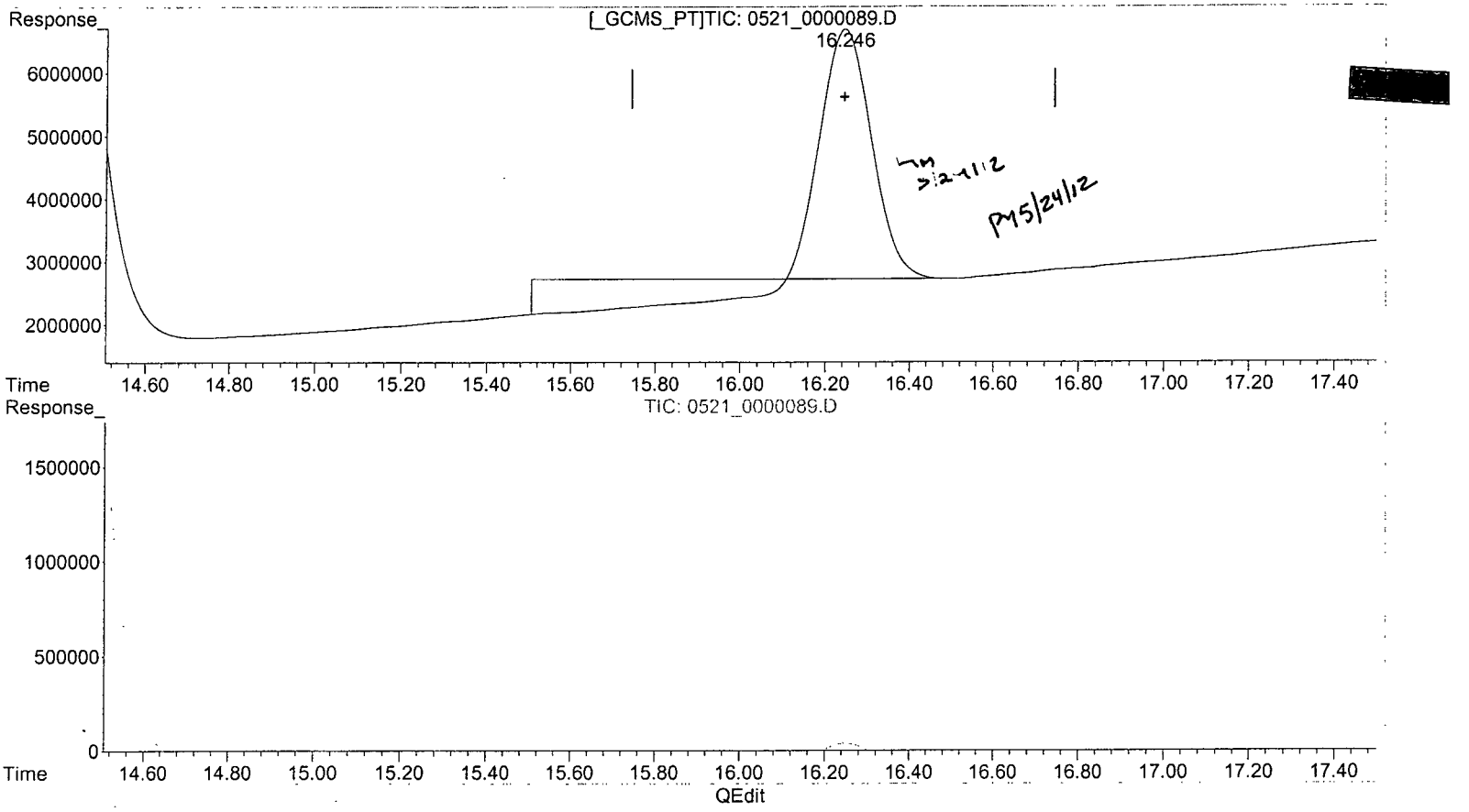


Quantitation Report (QEdit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000089.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 15:32:18
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/21/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 24 07:39:23 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.246min 940.096 ppb

response 3965923

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

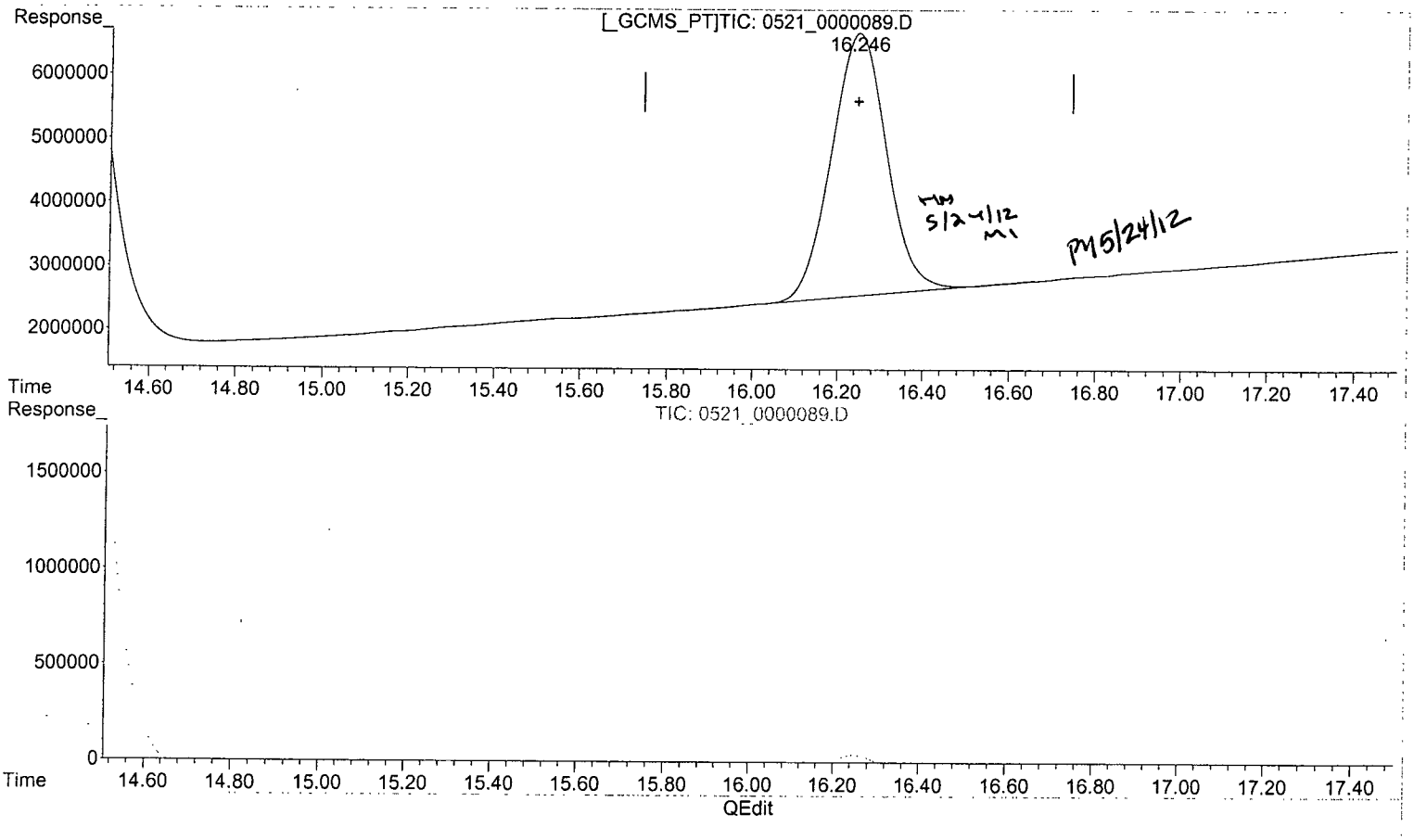
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120521\
Data File : 0521_0000089.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2012, 15:32:18
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/21/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 24 07:39:23 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120521\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.246min 976.273 ppb m

response 4118540

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 31-May-2012, 12:33:48
Instrument: Waldorf
Initial Cal. Date: 05/16/12
Data File: 0529_0000088.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	131	119	8.8	TM	
2	TM	PETN	105	102	2.9	TM	
	Signal #2						
1	TM	HMX	750	663	12	TM	
2	TM	RDX	478	422	12	TM	
3	TM	1,3,5-TRINITROBENZENE	788	728	7.5	TM	
4	S	1,2-DINITROBENZENE	346	328	5.2	S	
5	TM	1,3-DINITROBENZENE	746	693	7.1	TM	
6	TM	3,5-DINITROANILINE	602	543	9.7	TM	
7	TM	NITROBENZENE	345	317	8.0	TM	
8	TM	TETRYL	275	261	4.9	TM	
9	TM	2,4,6-TRINITROTOLUENE	325	306	5.9	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	300	275	8.5	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	236	216	8.4	TM	
12	TM	2,4-DINITROTOLUENE	306	287	6.1	TM	
13	TM	2,6-DINITROTOLUENE	172	162	6.0	TM	
14	TM	2-NITROTOLUENE	127	118	6.8	TM	
15	TM	4-NITROTOLUENE	124	117	5.5	TM	
16	TM	3-NITROTOLUENE	150	141	6.0	TM	
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000088.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 12:33:48
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 31 13:01:10 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

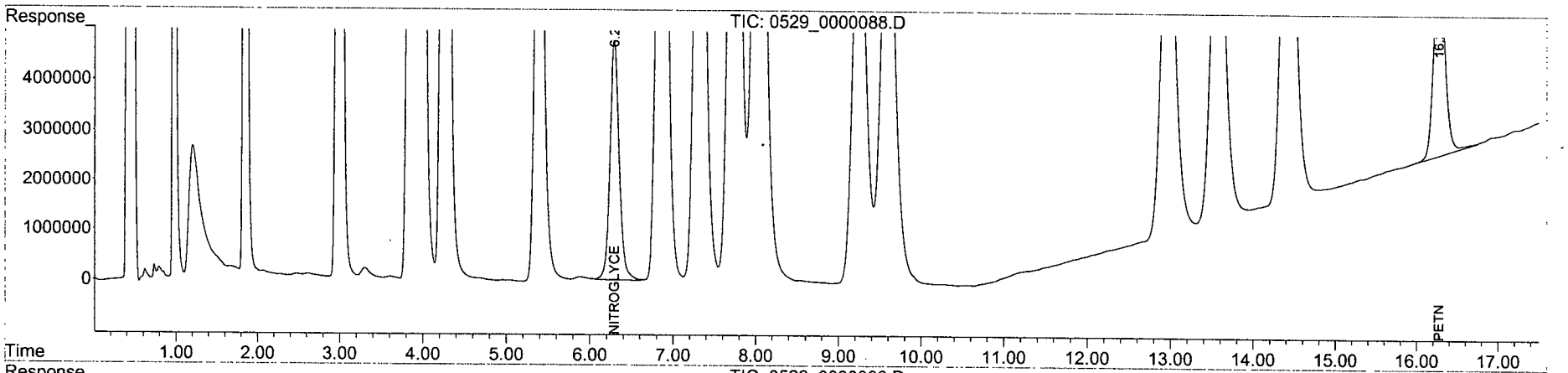
Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.843	0	13122461	N.D.	948.096	#
Spiked Amount 62.500			Recovery	=	0.00%	1516.95%	
Target Compounds							
1) TM HMX	0.000	0.966	0	26502972	N.D.	883.881	#
2) TM RDX	0.000	1.841	0	16860455	N.D.	881.849	#
3) TM 1,3,5-TRI...	0.000	2.983	0	29137022	N.D.	924.806	#
5) TM 1,3-DINIT...	0.000	3.980	0	27734837	N.D.	929.019	#
6) TM 3,5-DINIT...	0.000	4.257	0	21729976	N.D.	903.087	#
7) TM NITROBENZENE	0.000	5.386	0	12691843	N.D.	920.358	#
8) TM NITROGLYC...	6.291	6.259	4774064	230979	911.952	NoCal	#
9) TM TETRYL	6.859	6.859	17039356	10459951	NoCal	950.506	#
0) TM 2,4,6-TRI...	7.314	7.314	15419621	12246943	NoCal	941.310	#
1) TM 2-AMINO-4...	7.734	7.734	16148506	10983220	NoCal	915.480	#
2) TM 4-AMINO-2...	8.031	8.031	15668359	8637609	NoCal	916.016	#
3) TM 2,4-DINIT...	9.246	9.246	8265510	11480882	NoCal	939.238	#
4) TM 2,6-DINIT...	9.592	9.592	8882050	6467887	NoCal	940.166	#
5) TM 2-NITROTO...	0.000	12.965	0	4725917	N.D.	931.538	#
6) TM 4-NITROTO...	0.000	13.564	0	4699235	N.D.	944.895	#
7) TM 3-NITROTO...	0.000	14.418	0	5623593	N.D.	939.571	#
8) TM PETN	16.272	0.000	4096352	0	971.013m	N.D.	#

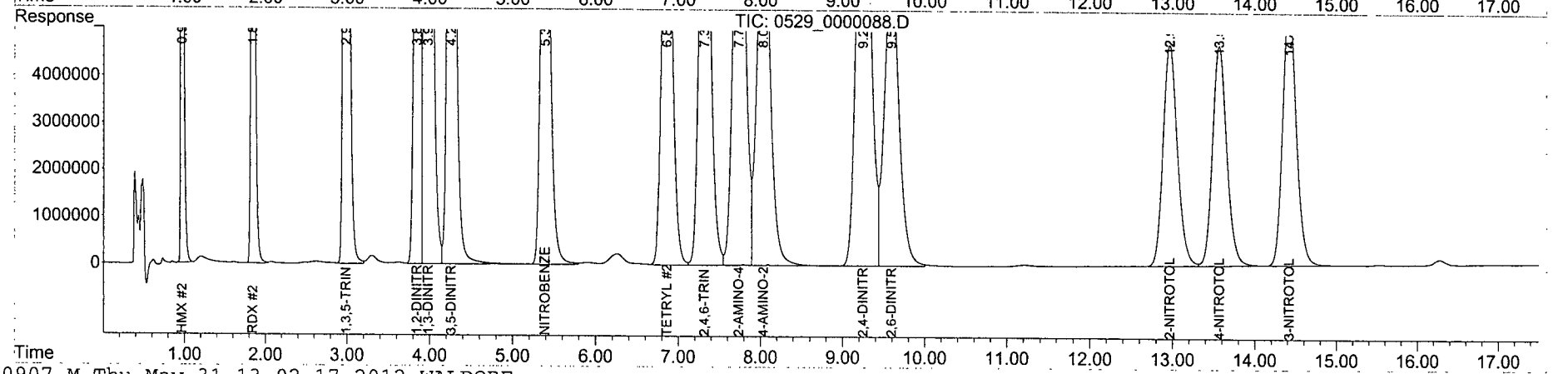
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000088.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 12:33:48
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 31 13:01:10 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



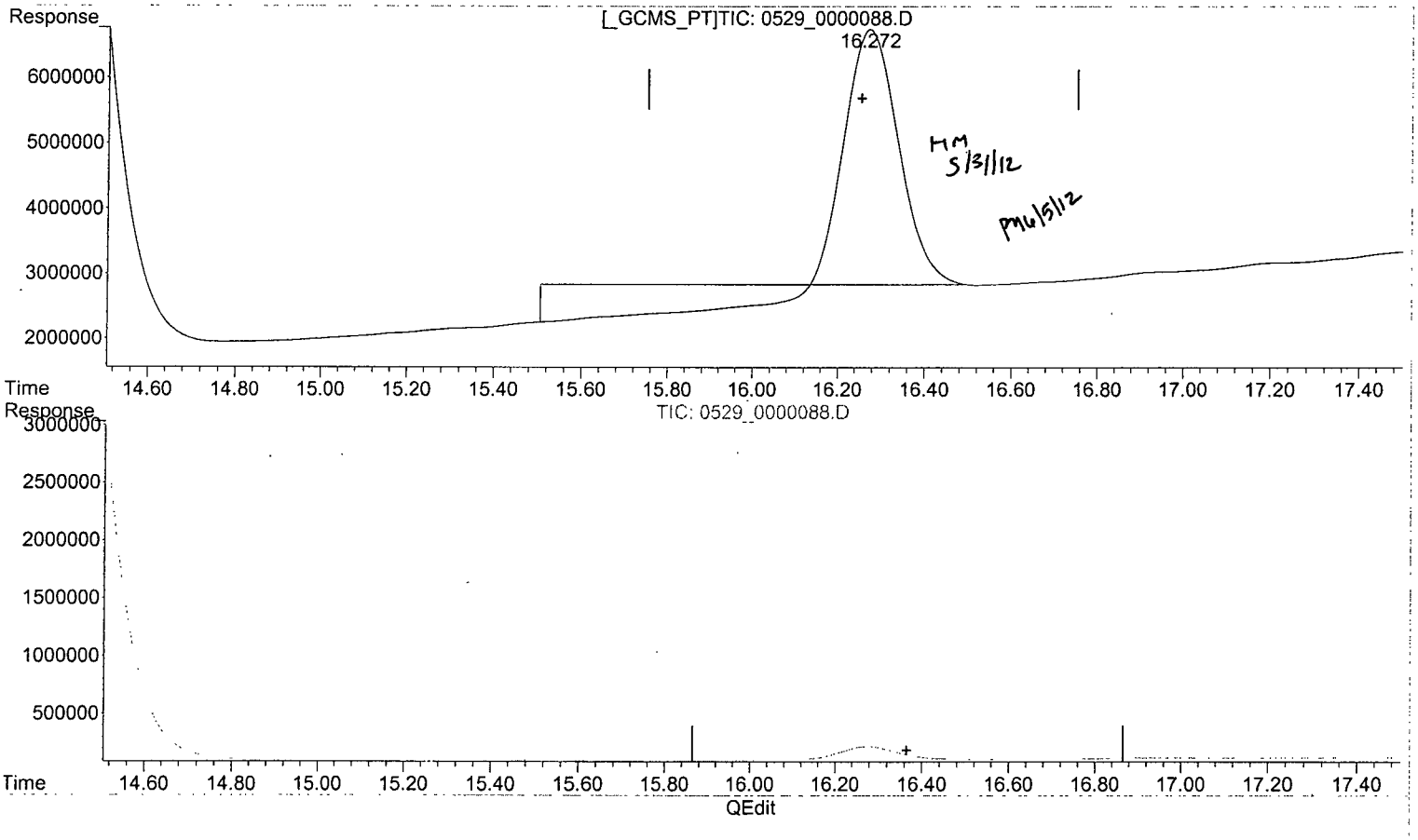


Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000088.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 12:33:48
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 31 13:00:54 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.272min 926.281 ppb

response 3907644

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

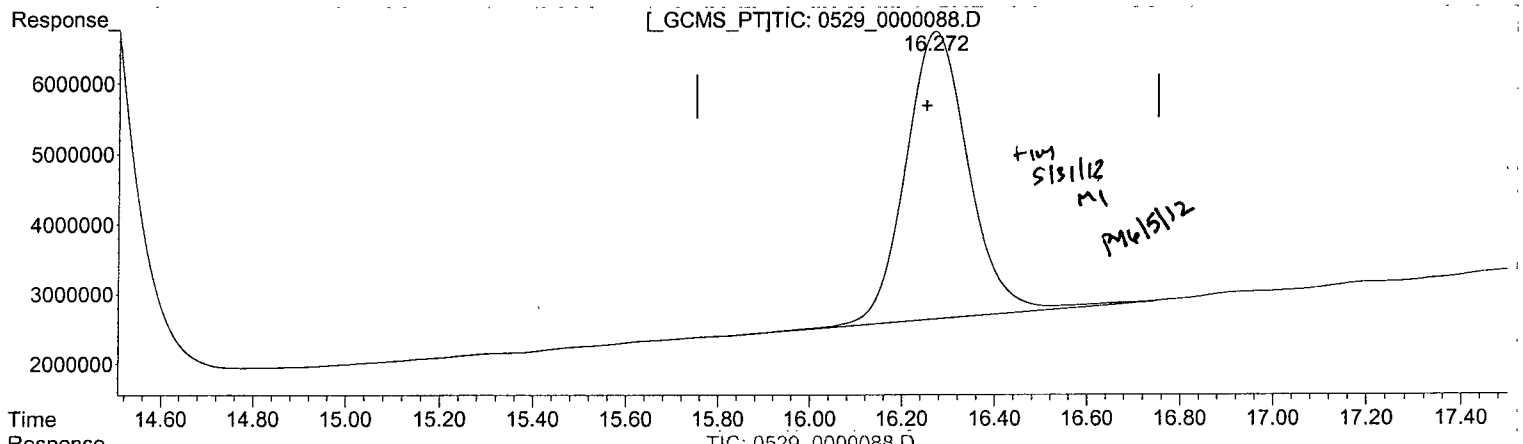
(+) = Expected Retention Time

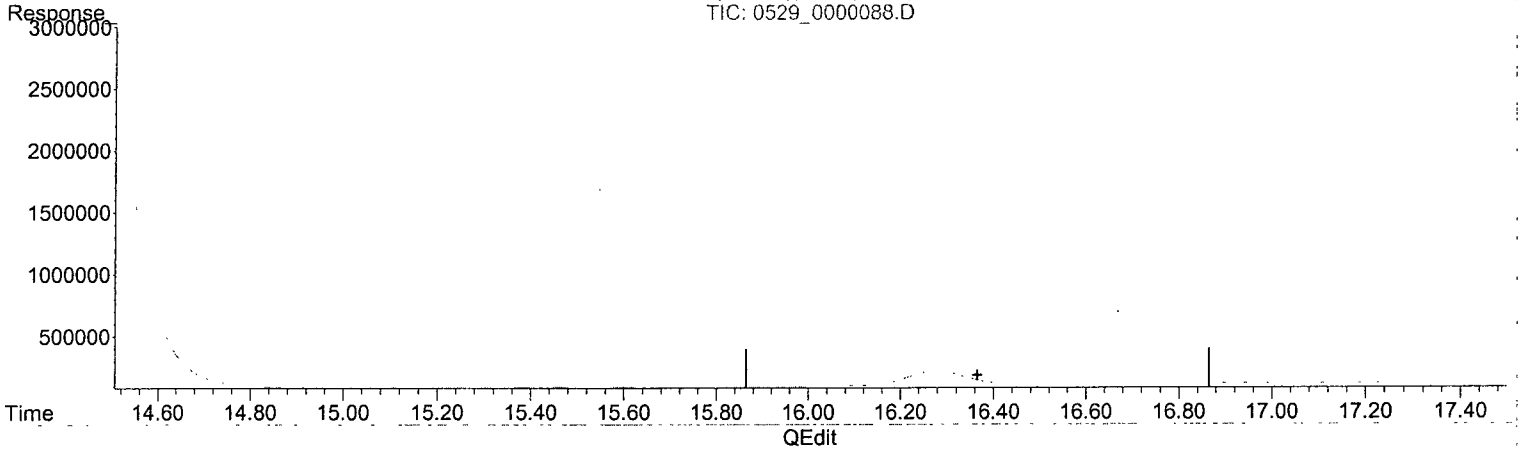
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000088.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 12:33:48
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 31 13:00:54 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.272min 971.013 ppb m

response 4096352

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 6746
Date Analyzed: 31-May-2012, 20:11:15
Instrument: Waldorf
Initial Cal. Date: 05/16/12
Data File: 0529_0000101.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	131	120	8.7	TM	
2	TM	PETN	105	101	4.4	TM	
	Signal #2						
1	TM	HMX	750	664	11	TM	
2	TM	RDX	478	425	11	TM	
3	TM	1,3,5-TRINITROBENZENE	788	735	6.7	TM	
4	S	1,2-DINITROBENZENE	346	329	4.9	S	
5	TM	1,3-DINITROBENZENE	746	695	6.9	TM	
6	TM	3,5-DINITROANILINE	602	544	9.6	TM	
7	TM	NITROBENZENE	345	312	9.6	TM	
8	TM	TETRYL	275	262	4.9	TM	
9	TM	2,4,6-TRINITROTOLUENE	325	307	5.7	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	300	274	8.7	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	236	215	8.6	TM	
12	TM	2,4-DINITROTOLUENE	306	287	6.0	TM	
13	TM	2,6-DINITROTOLUENE	172	162	6.1	TM	
14	TM	2-NITROTOLUENE	127	115	9.3	TM	
15	TM	4-NITROTOLUENE	124	115	7.3	TM	
16	TM	3-NITROTOLUENE	150	137	8.3	TM	
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000101.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 20:11:15
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 01 07:30:36 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.842	0	13161272	N.D.	950.900	#
Spiked Amount 62.500			Recovery	=	0.00%	1521.44%	
Target Compounds							
1) TM HMX	0.000	0.967	0	26566376	N.D.	885.995	#
2) TM RDX	0.000	1.841	0	17003462	N.D.	889.329	#
3) TM 1,3,5-TRI...	0.000	2.981	0	29404049	N.D.	933.282	#
5) TM 1,3-DINIT...	0.000	3.979	0	27806708	N.D.	931.426	#
6) TM 3,5-DINIT...	0.000	4.255	0	21745225	N.D.	903.721	#
7) TM NITROBENZENE	0.000	5.386	0	12463547	N.D.	903.803	#
8) TM NITROGLYC...	6.290	6.261	4781067	221847	913.290	NoCal	#
9) TM TETRYL	6.856	6.856	17027600	10462916	NoCal	950.775	#
0) TM 2,4,6-TRI...	7.312	7.312	15464514	12268511	NoCal	942.968	#
1) TM 2-AMINO-4...	7.730	7.730	16115515	10954951	NoCal	913.123	#
2) TM 4-AMINO-2...	8.027	8.027	15637700	8614273	NoCal	913.541	#
3) TM 2,4-DINIT...	9.240	9.240	8286196	11486923	NoCal	939.732	#
4) TM 2,6-DINIT...	9.585	9.585	8875154	6463114	NoCal	939.472	#
5) TM 2-NITROTO...	0.000	12.955	0	4600170	N.D.	906.752	#
6) TM 4-NITROTO...	0.000	13.554	0	4612195	N.D.	927.393	#
7) TM 3-NITROTO...	0.000	14.412	0	5486397	N.D.	916.649	#
8) TM PETN	16.271	0.000	4030980	0	955.517	N.D.	#

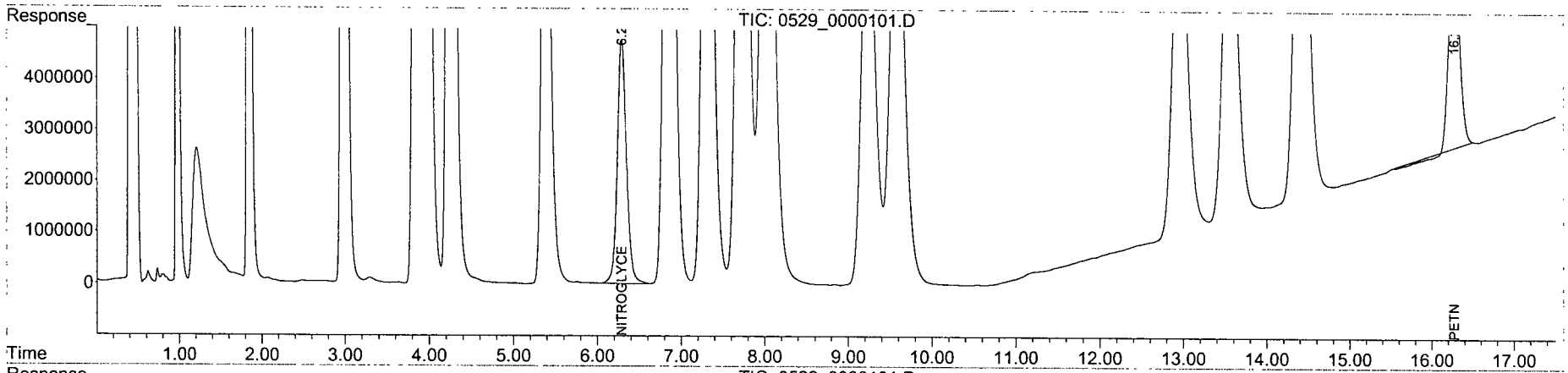
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

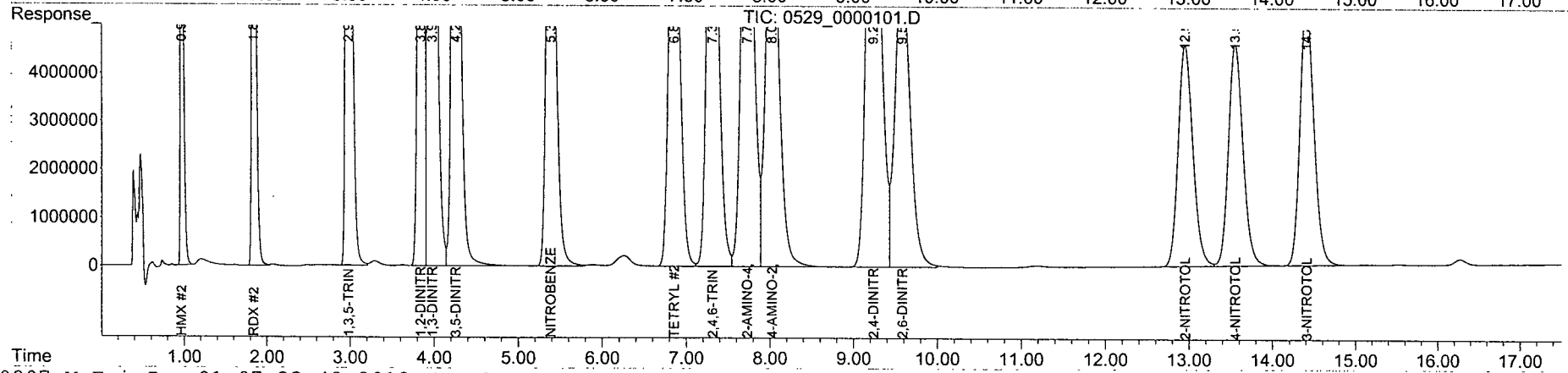
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000101.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 20:11:15
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 01 07:30:36 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 01-Jun-2012, 05:07:35
Instrument: Waldorf
Initial Cal. Date: 05/16/12
Data File: 0529_0000115.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	131	118	9.5	TM	
2	TM	PETN	105	102	3.1	TM	
	Signal #2						
1	TM	HMX	750	673	10	TM	
2	TM	RDX	478	426	11	TM	
3	TM	1,3,5-TRINITROBENZENE	788	737	6.4	TM	
4	S	1,2-DINITROBENZENE	346	332	4.2	S	
5	TM	1,3-DINITROBENZENE	746	698	6.5	TM	
6	TM	3,5-DINITROANILINE	602	549	8.8	TM	
7	TM	NITROBENZENE	345	306	11	TM	
8	TM	TETRYL	275	264	4.0	TM	
9	TM	2,4,6-TRINITROTOLUENE	325	307	5.5	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	300	277	7.6	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	236	218	7.7	TM	
12	TM	2,4-DINITROTOLUENE	306	288	5.6	TM	
13	TM	2,6-DINITROTOLUENE	172	162	5.6	TM	
14	TM	2-NITROTOLUENE	127	113	11	TM	
15	TM	4-NITROTOLUENE	124	114	8.1	TM	
16	TM	3-NITROTOLUENE	150	135	9.5	TM	
17							
18							
19							
20							
21							
22							
23							
24							
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26							
27							
28							
29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000115.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 05:07:35
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 01 07:31:31 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

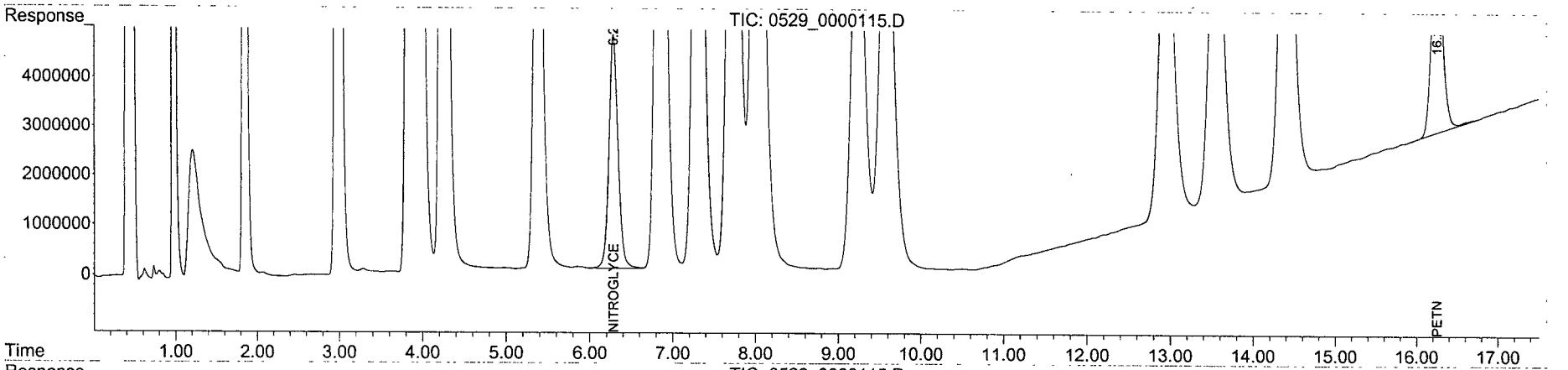
	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.838	0	13265264	N.D.	958.414	#
	Spiked Amount 62.500			Recovery	=	0.00%	1533.46%	
	Target Compounds							
1)	TM HMX	0.000	0.966	0	26924416	N.D.	897.936	#
2)	TM RDX	0.000	1.840	0	17040673	N.D.	891.275	#
3)	TM 1,3,5-TRI...	0.000	2.979	0	29495046	N.D.	936.170	#
5)	TM 1,3-DINIT...	0.000	3.975	0	27913637	N.D.	935.008	#
6)	TM 3,5-DINIT...	0.000	4.254	0	21950383	N.D.	912.247	#
7)	TM NITROBENZENE	0.000	5.381	0	12246017	N.D.	888.029	#
8)	TM NITROGLYC...	6.284	6.262	4736910	207250	904.855	NoCal	#
9)	TM TETRYL	6.856	6.856	17166794	10560095	NoCal	959.606	#
.0)	TM 2,4,6-TRI...	7.309	7.309	15458558	12296112	NoCal	945.089	#
.1)	TM 2-AMINO-4...	7.735	7.735	16316203	11083206	NoCal	923.814	#
.2)	TM 4-AMINO-2...	8.032	8.032	15839555	8706396	NoCal	923.311	#
.3)	TM 2,4-DINIT...	9.240	9.240	8283368	11539820	NoCal	944.060	#
.4)	TM 2,6-DINIT...	9.586	9.585	8890453	6494159	NoCal	943.985	#
.5)	TM 2-NITROTO...	0.000	12.953	0	4518478	N.D.	890.649	#
.6)	TM 4-NITROTO...	0.000	13.552	0	4570903	N.D.	919.091	#
.7)	TM 3-NITROTO...	0.000	14.406	0	5414462	N.D.	904.630	#
8)	TM PETN	16.252	0.000	4088443	0	969.139m	N.D.	#

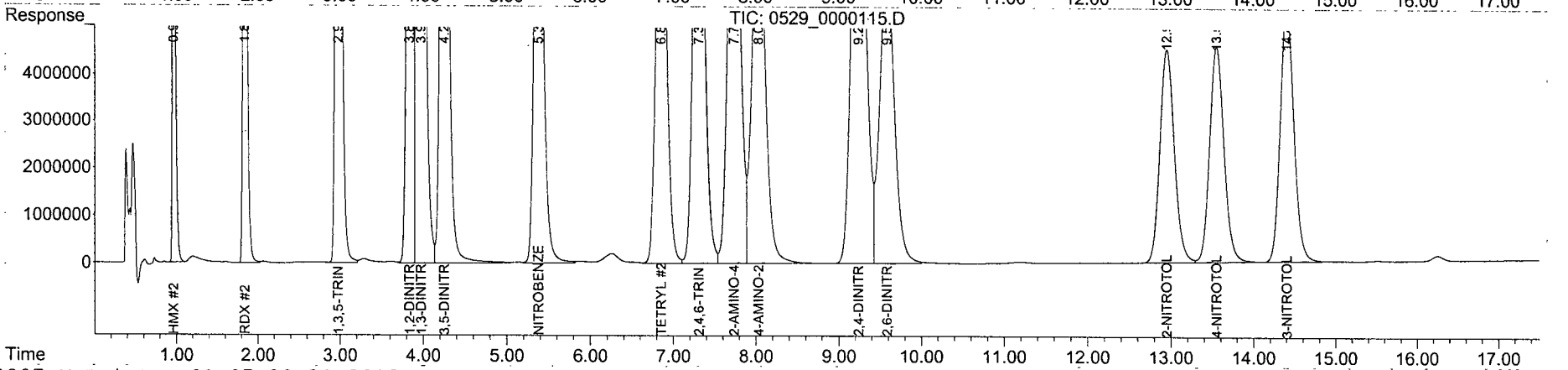
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000115.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 05:07:35
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 01 07:31:31 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



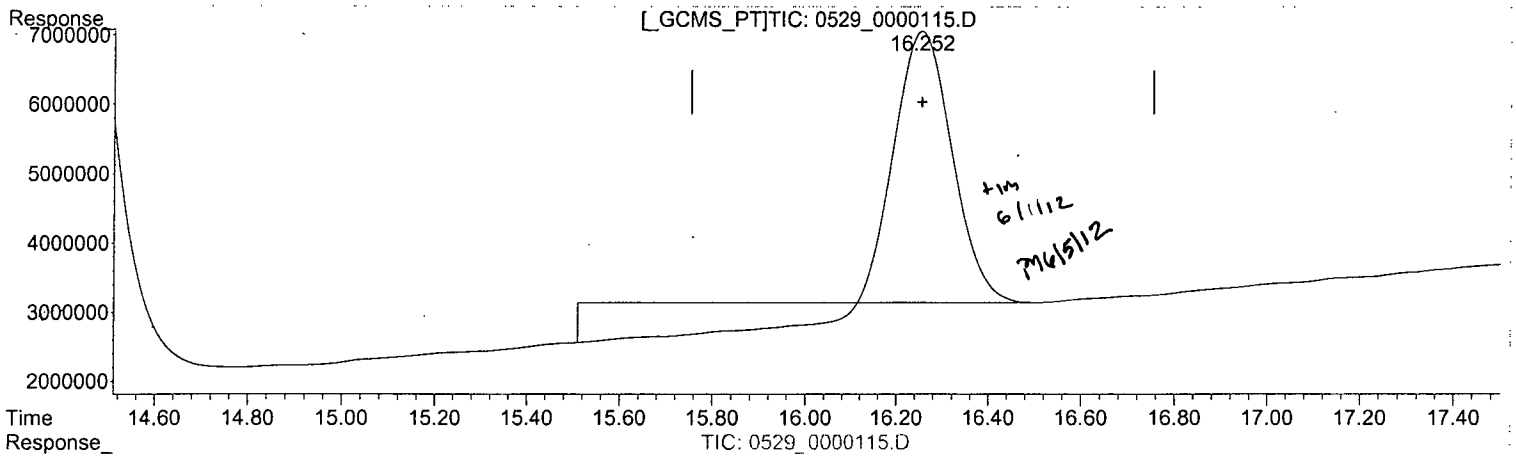


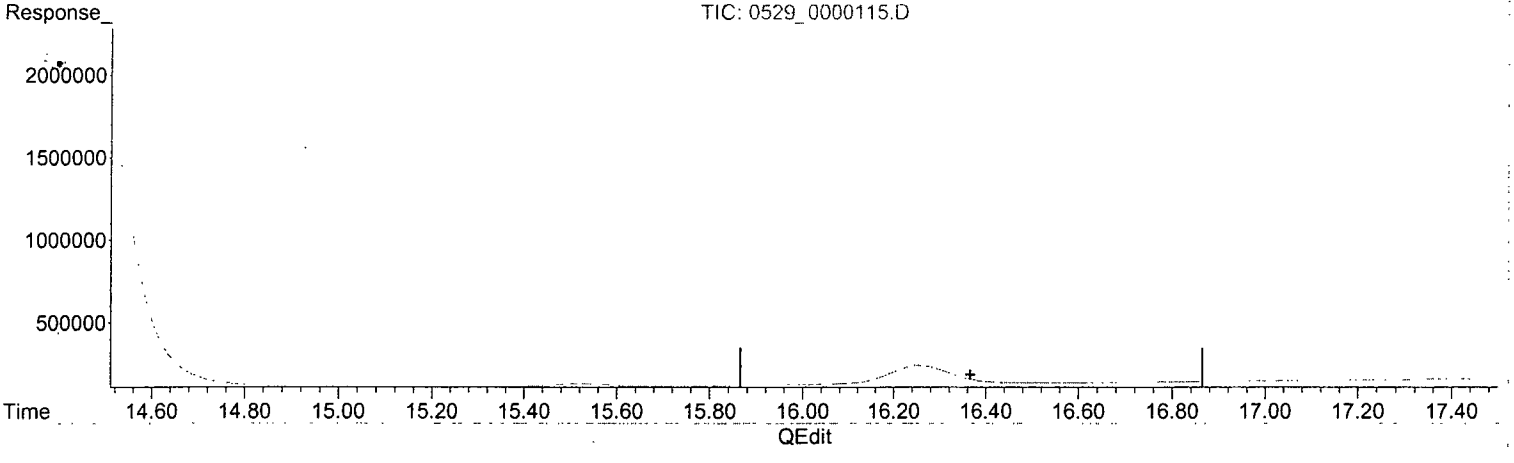
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000115.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 05:07:35
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 01 07:31:14 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.253min 928.168 ppb

response 3915603

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

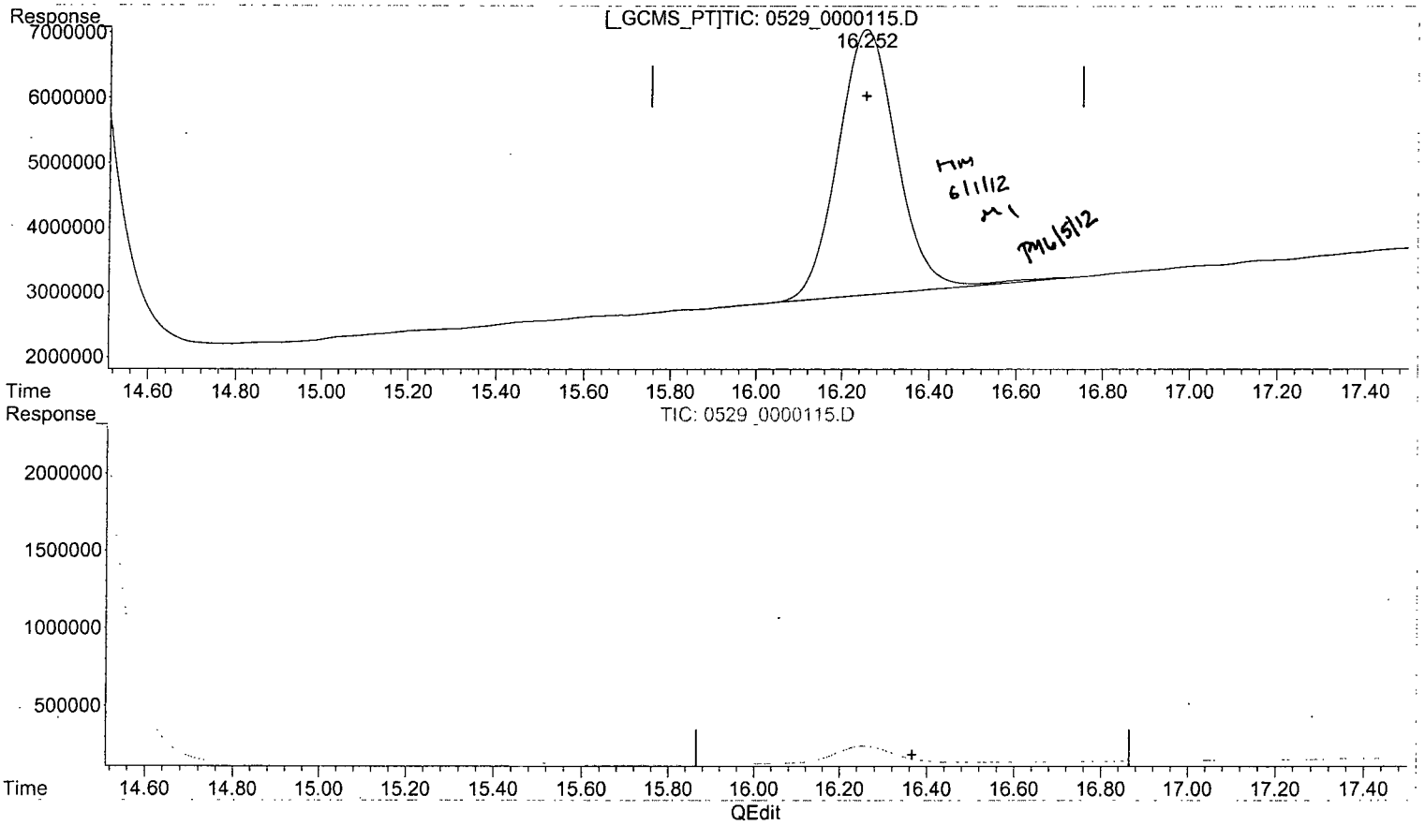
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000115.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 05:07:35
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 01 07:31:14 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.252min 969.139 ppb m

response 4088443

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 01-Jun-2012, 12:17:37
Instrument: Waldorf
Initial Cal. Date: 05/16/12
Data File: 0529_0000127.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	NITROGLYCERIN	131	118	10	TM	
2	TM	PETN	105	101	3.9	TM	
	Signal #2						
1	TM	HMX	750	665	11	TM	
2	TM	RDX	478	424	11	TM	
3	TM	1,3,5-TRINITROBENZENE	788	730	7.3	TM	
4	S	1,2-DINITROBENZENE	346	327	5.4	S	
5	TM	1,3-DINITROBENZENE	746	690	7.5	TM	
6	TM	3,5-DINITROANILINE	602	543	9.7	TM	
7	TM	NITROBENZENE	345	298	13	TM	
8	TM	TETRYL	275	259	5.8	TM	
9	TM	2,4,6-TRINITROTOLUENE	325	303	6.7	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	300	274	8.8	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	236	215	8.8	TM	
12	TM	2,4-DINITROTOLUENE	306	285	6.9	TM	
13	TM	2,6-DINITROTOLUENE	172	160	6.8	TM	
14	TM	2-NITROTOLUENE	127	110	14	TM	
15	TM	4-NITROTOLUENE	124	112	9.7	TM	
16	TM	3-NITROTOLUENE	150	132	12	TM	
17							
18							
19							
20							
21							
22							
23							
24							
25							
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27							
28							
29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000127.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 12:17:37
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:49:47 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

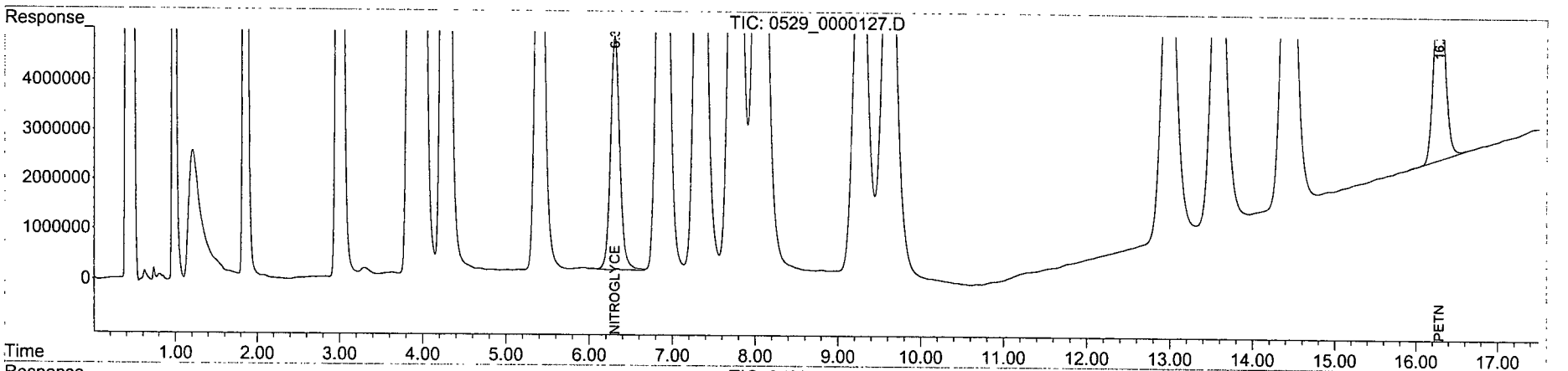
Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.852	0	13097001	N.D.	946.257	#
Spiked Amount 62.500			Recovery	=	0.00%	1514.01%	
Target Compounds							
1) TM HMX	0.000	0.968	0	26608021	N.D.	887.384	#
2) TM RDX	0.000	1.845	0	16977780	N.D.	887.985	#
3) TM 1,3,5-TRI...	0.000	2.988	0	29193674	N.D.	926.605	#
5) TM 1,3-DINIT...	0.000	3.988	0	27615271	N.D.	925.014	#
6) TM 3,5-DINIT...	0.000	4.267	0	21722922	N.D.	902.794	#
7) TM NITROBENZENE	0.000	5.398	0	11929215	N.D.	865.056	#
8) TM NITROGLYC...	6.305	6.279	4700202	219077	897.843	NoCal	#
9) TM TETRYL	6.878	6.878	16913650	10365345	NoCal	941.909	#
10) TM 2,4,6-TRI...	7.332	7.332	15309127	12132945	NoCal	932.548	#
11) TM 2-AMINO-4...	7.756	7.756	16141771	10944541	NoCal	912.256	#
12) TM 4-AMINO-2...	8.055	8.055	15650419	8603525	NoCal	912.401	#
13) TM 2,4-DINIT...	9.268	9.268	8252840	11385999	NoCal	931.476	#
14) TM 2,6-DINIT...	9.614	9.614	8811159	6412054	NoCal	932.050	#
15) TM 2-NITROTO...	0.000	12.980	0	4387742	N.D.	864.880	#
16) TM 4-NITROTO...	0.000	13.576	0	4490698	N.D.	902.963	#
17) TM 3-NITROTO...	0.000	14.429	0	5280061	N.D.	882.175	#
18) TM PETN	16.280	0.000	4052619	0	960.647m	N.D.	#

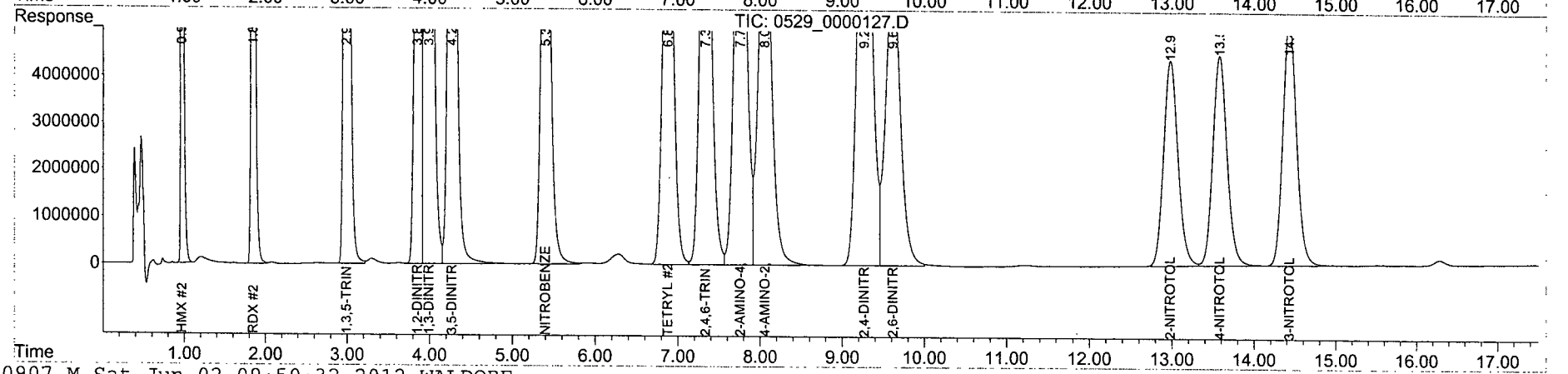
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000127.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 12:17:37
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:49:47 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



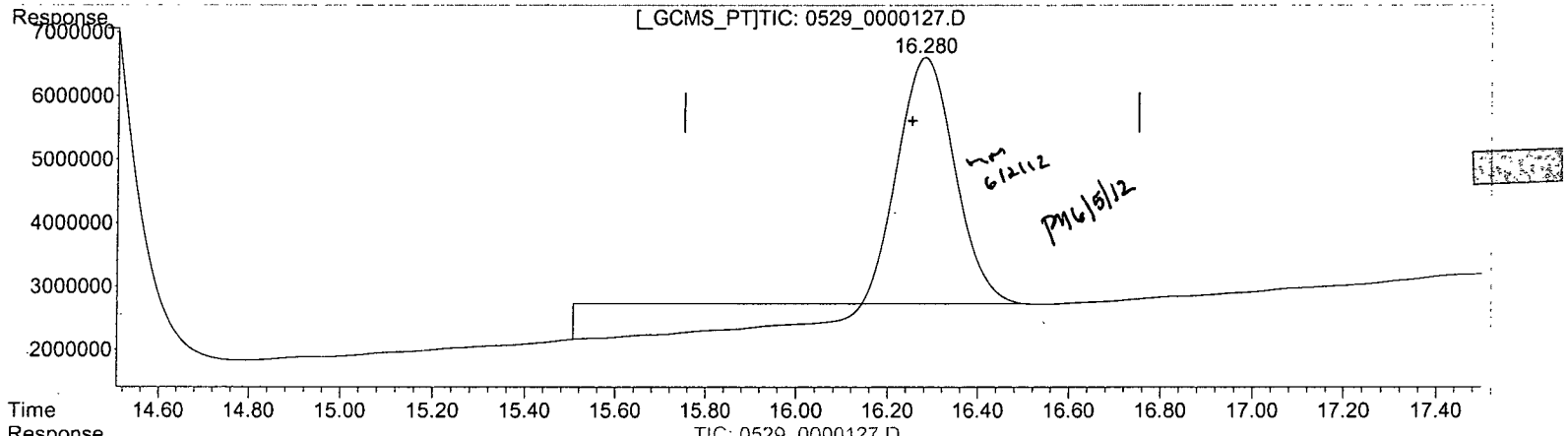


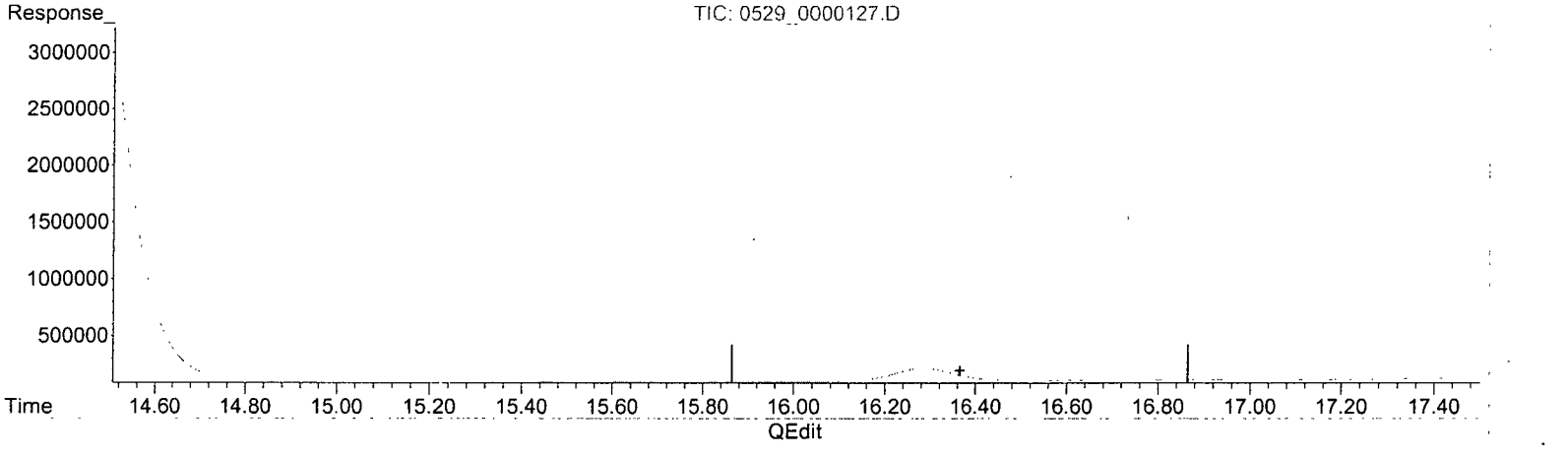
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000127.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 12:17:37
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:47:19 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.281min 917.324 ppb

response 3869855

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

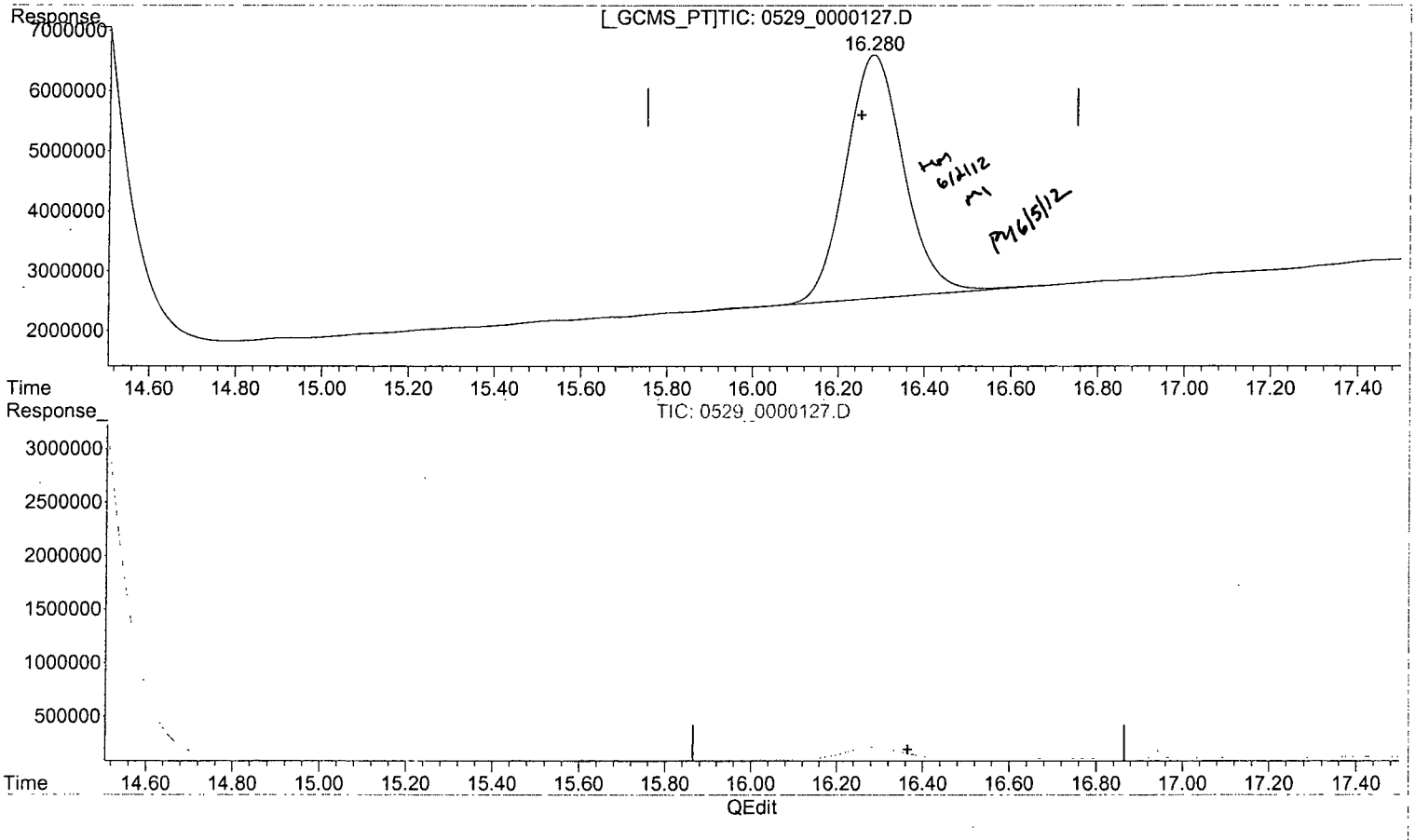
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000127.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 12:17:37
Operator : hm
Sample : 8330_CCV 1.0 PPM 05/30/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:47:19 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.280min 960.647 ppb m

response 4052619

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 01-Jun-2012, 19:00:02
Instrument: Waldorf
Initial Cal. Date: 05/16/12
Data File: 0529_0000138.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	131	111	16	TM	
2	TM	PETN	105	94.5	10	TM	
	Signal #2						
1	TM	HMX	750	644	14	TM	
2	TM	RDX	478	408	15	TM	
3	TM	1,3,5-TRINITROBENZENE	788	693	12	TM	
4	S	1,2-DINITROBENZENE	346	312	9.8	S	
5	TM	1,3-DINITROBENZENE	746	659	12	TM	
6	TM	3,5-DINITROANILINE	602	508	16	TM	
7	TM	NITROBENZENE	345	308	11	TM	
8	TM	TETRYL	275	246	10	TM	
9	TM	2,4,6-TRINITROTOLUENE	325	288	11	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	300	260	13	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	236	205	13	TM	
12	TM	2,4-DINITROTOLUENE	306	271	11	TM	
13	TM	2,6-DINITROTOLUENE	172	153	11	TM	
14	TM	2-NITROTOLUENE	127	115	9.5	TM	
15	TM	4-NITROTOLUENE	124	113	8.8	TM	
16	TM	3-NITROTOLUENE	150	136	9.0	TM	
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000138.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 19:00:02
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/01/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:48:16 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.847	0	12490774	N.D.	902.457	#
Spiked Amount 62.500			Recovery	=	0.00%	1443.93%	
Target Compounds							
1) TM HMX	0.000	0.967	0	25760073	N.D.	859.105	#
2) TM RDX	0.000	1.843	0	16309476	N.D.	853.031	#
3) TM 1,3,5-TRI...	0.000	2.985	0	27730821	N.D.	880.174	#
5) TM 1,3-DINIT...	0.000	3.984	0	26354176	N.D.	882.771	#
6) TM 3,5-DINIT...	0.000	4.262	0	20330557	N.D.	844.928	#
7) TM NITROBENZENE	0.000	5.391	0	12306110	N.D.	892.387	#
8) TM NITROGLYC...	6.296	6.260	4421353	227376	844.576	NoCal	#
9) TM TETRYL	6.866	6.866	16015835	9858132	NoCal	895.818	#
0) TM 2,4,6-TRI...	7.321	7.321	14473355	11534404	NoCal	886.544	#
1) TM 2-AMINO-4...	7.743	7.743	15233439	10392861	NoCal	866.272	#
2) TM 4-AMINO-2...	8.040	8.040	14811467	8183644	NoCal	867.873	#
3) TM 2,4-DINIT...	9.255	9.256	7840276	10823598	NoCal	885.466	#
4) TM 2,6-DINIT...	9.602	9.602	8451741	6104482	NoCal	887.342	#
5) TM 2-NITROTO...	0.000	12.973	0	4591181	N.D.	904.980	#
6) TM 4-NITROTO...	0.000	13.571	0	4534139	N.D.	911.698	#
7) TM 3-NITROTO...	0.000	14.425	0	5444132	N.D.	909.587	#
8) TM PETN	16.279	0.000	3781832	0	896.459m	N.D.	#

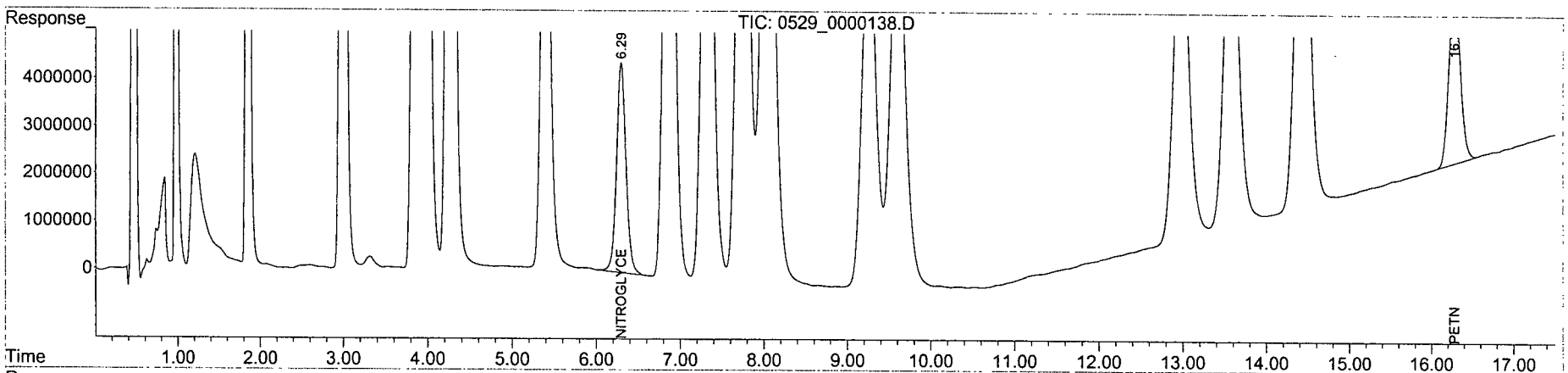
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

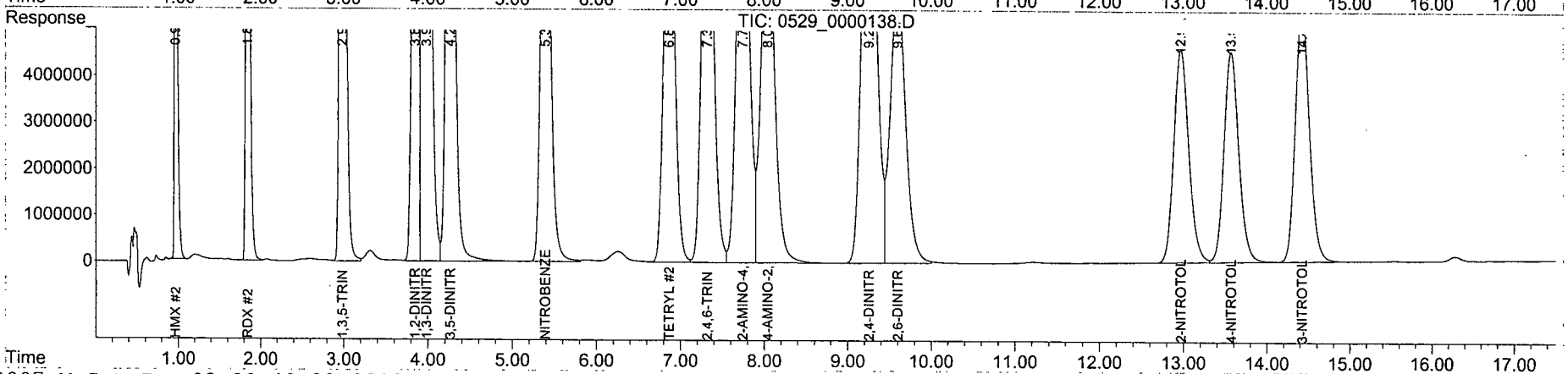
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000138.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 19:00:02
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/01/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:48:16 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



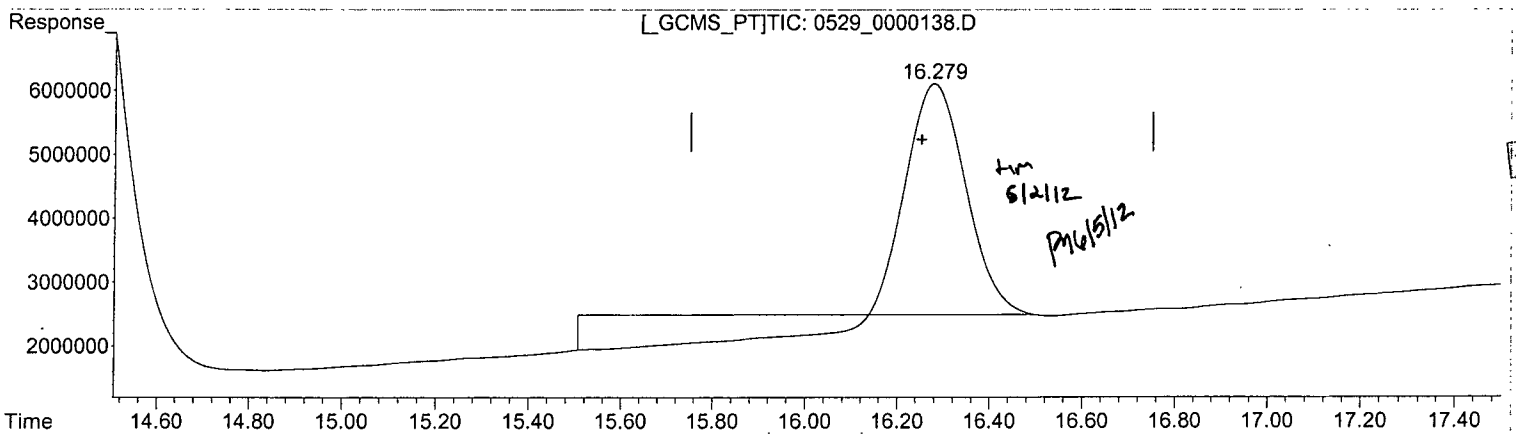


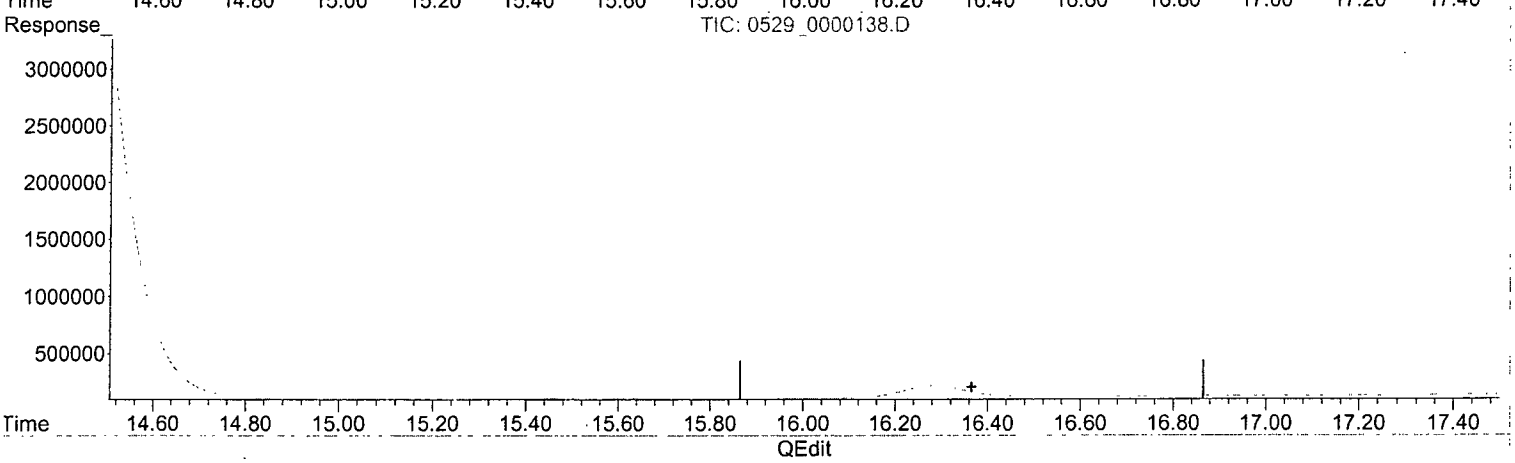
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000138.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 19:00:02
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/01/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:47:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.279min 857.315 ppb

response 3616699

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

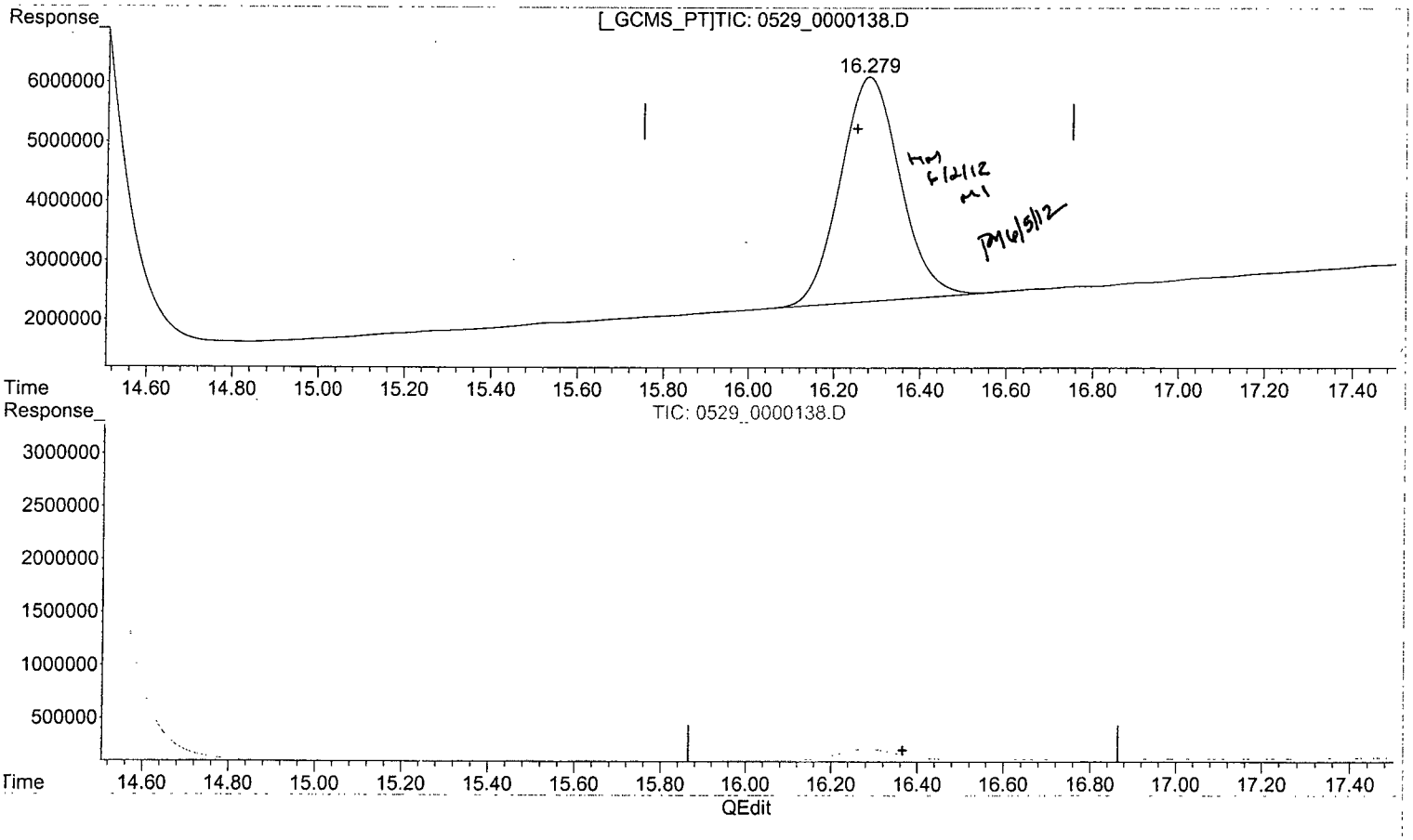
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120516\120529\
Data File : 0529_0000138.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 01-Jun-2012, 19:00:02
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/01/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 02 09:47:43 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120516\120529\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.279min 896.459 ppb m

response 3781832

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Initial Cal. Date: 05/14/12
Instrument: Statler

Initials: HM

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0514_0000005.D	0514_0000007.D	0514_0000009.D	0514_0000011.D	0514_0000013.D	0514_0000015.D	0514_0000017.D	0514_0000019.D	0514_0000021.D					
1	TM	NITROGLYCERIN		25.1	22.4	20.3	21.4	21.2	20.4	20.8	20.6		22	7.4	TM	
2	TM	3,5-DINITROANILINE	84.0	85.9	84.4	80.9	81.2	79.7	77.1	77.5	76.3		81	4.3	TM	
3	TM	PETN				20.2	19.4	18.6	17.2	17.3	17.1		18	7.2	TM	
4		Signal #2											0	0		
5	TM	HMX #2		82.9	74.1	65.2	63.3	60.8	61.1	60.2	59.4		66	13	TM	
6	TM	RDX #2	58.3	51.5	51.0	53.1	51.4	50.8	51.1	50.3	49.4		52	5.0	TM	
7	TM	1,3,5-TRINITROBENZENE #2	126	127	126	128	124	122	123	122	120		124	2.3	TM	
8	S	1,2-DINITROBENZENE #2	62.7	63.3	61.6	62.2	60.5	59.4	59.7	59.0	58.1		61	3.0	S	
9	TM	1,3-DINITROBENZENE #2	129	127	126	129	125	123	124	122	121		125	2.4	TM	
10	TM	NITROBENZENE #2	80.1	74.6	74.9	74.6	72.7	71.8	72.5	71.1	70.2		74	4.0	TM	
11	TM	2,4,6-TRINITROTOLUENE #2	69.4	69.9	69.2	68.7	68.8	66.7	67.0	65.8	64.7		68	2.7	TM	
12	TM	TETRYL #2	56.7	53.7	53.5	53.2	53.5	51.6	52.4	51.4	50.6		53	3.3	TM	
13	TM	2,6-DINITROTOLUENE #2	45.0	42.7	41.6	42.0	41.2	40.3	40.5	39.8	39.3		41	4.2	TM	
14	TM	2,4-DINITROTOLUENE #2	70.5	71.3	71.0	72.0	70.9	69.3	69.9	68.8	67.8		70	1.9	TM	
15	TM	2-NITROTOLUENE #2	35.8	31.5	29.0	29.8	28.9	28.5	28.7	28.1	27.6		30	8.5	TM	
16	TM	4-NITROTOLUENE #2	24.5	26.0	25.9	25.7	25.1	24.9	25.3	24.8	24.5		25	2.2	TM	
17	TM	3-NITROTOLUENE #2	31.3	28.7	27.1	27.8	27.2	26.9	27.3	26.8	26.4		28	5.4	TM	
18	TM	4-AMINO-2,6-DINITROTOLUENE	33.2	33.9	33.9	35.5	34.9	34.3	34.7	33.8	33.2		34	2.2	TM	
19	TM	2-AMINO-4,6-DINITROTOLUENE	47.8	46.1	45.3	45.7	44.5	43.1	43.8	42.7	41.7		45	4.3	TM	
20																
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34																
35																

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:10:12 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

	Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds						
8) S	1,2-DINITROBENZENE #2	7.329	12541	4.917	ppb	m
Spiked Amount	62.500		Recovery =	7.87%		
Target Compounds						
1) TM	NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM	3,5-DINITROANILINE	0.000	0	N.D.	ppb	
3) TM	PETN	0.000	0	N.D.	ppb	d
5) TM	HMX #2	0.000	0	N.D.	ppb	d
6) TM	RDX #2	5.802	11658	5.235	ppb	m
7) TM	1,3,5-TRINITROBENZENE #2	6.170	25223	4.675	ppb	
9) TM	1,3-DINITROBENZENE #2	7.657	25891	4.783	ppb	
10) TM	NITROBENZENE #2	8.343	16016	5.044	ppb	
11) TM	2,4,6-TRINITROTOLUENE #2	10.452	13887	4.613	ppb	
12) TM	TETRYL #2	10.919	11333	4.917	ppb	m
13) TM	2,6-DINITROTOLUENE #2	12.204	9001	4.781	ppb	m
14) TM	2,4-DINITROTOLUENE #2	12.759	14103	4.538	ppb	
15) TM	2-NITROTOLUENE #2	14.059	7164	5.612	ppb	m
16) TM	4-NITROTOLUENE #2	15.348	4891	4.321	ppb	m
17) TM	3-NITROTOLUENE #2	16.408	6259	5.180	ppb	m
18) TM	4-AMINO-2,6-DINITROTO...	17.000	6647	4.374	ppb	m
19) TM	2-AMINO-4,6-DINITROTO...	18.027	9558	4.860	ppb	m

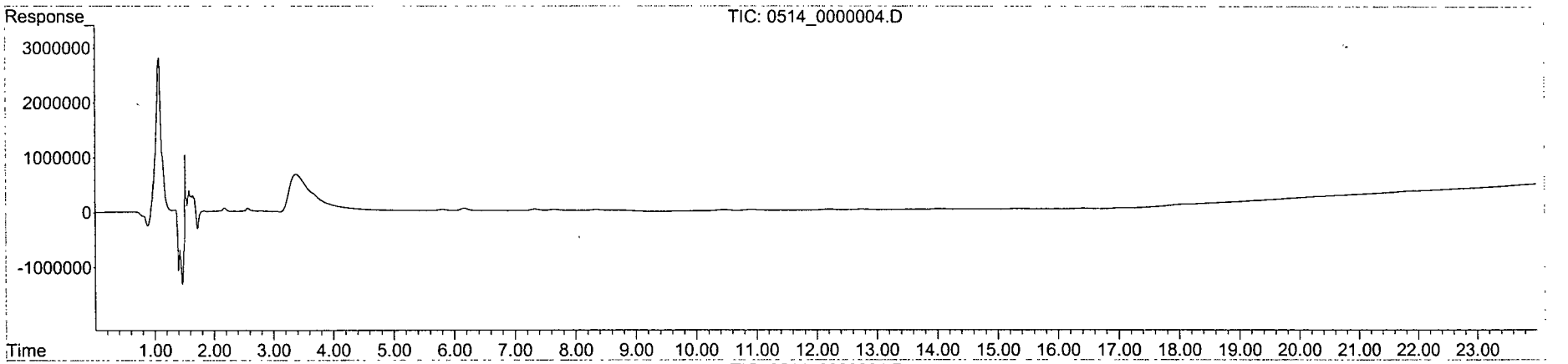
(f)=RT Delta > 1/2 Window (m)=manual int.

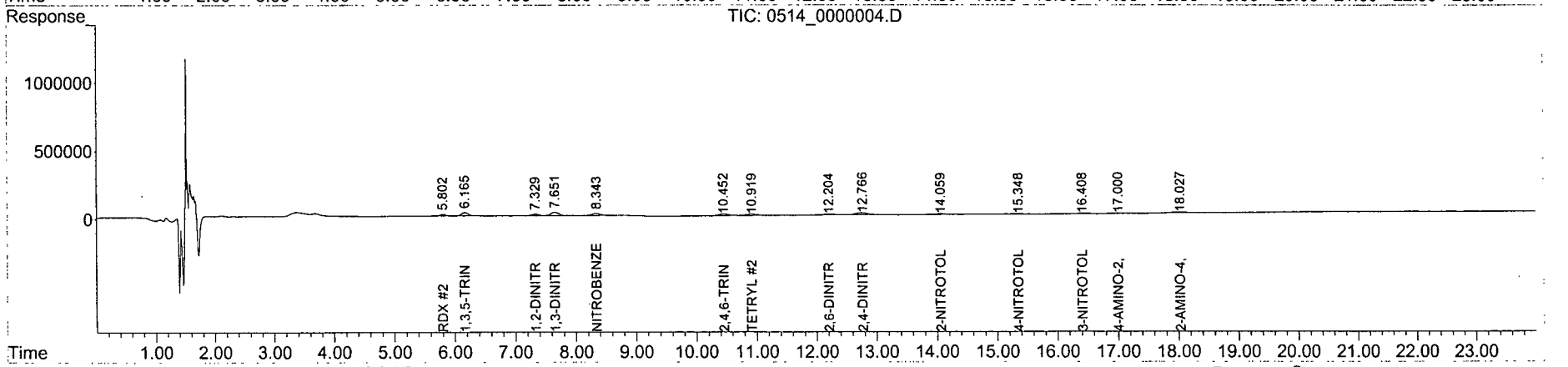
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:10:12 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



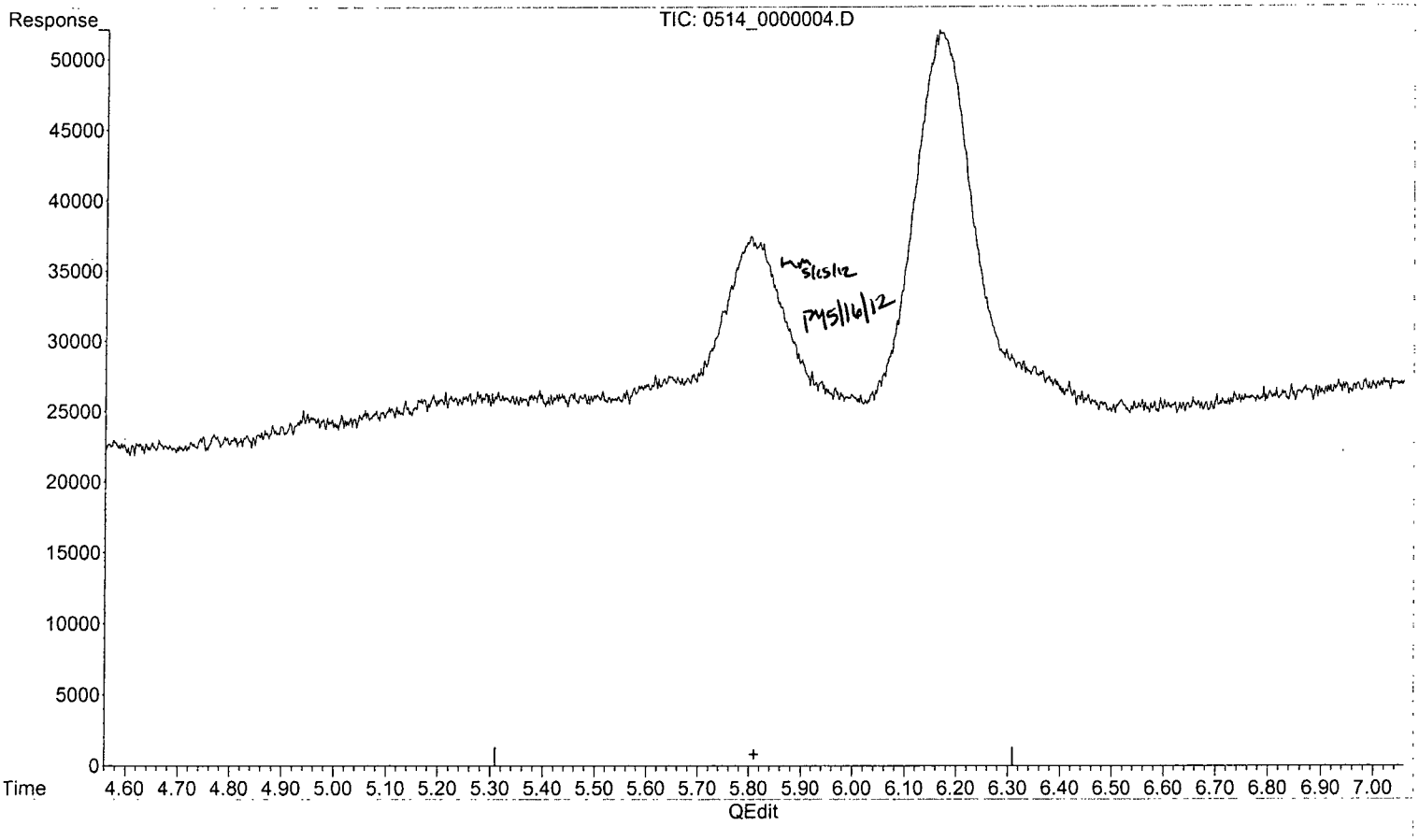


Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(6) RDX #2 (TM)

5.810min 0.000 ppb

response 0

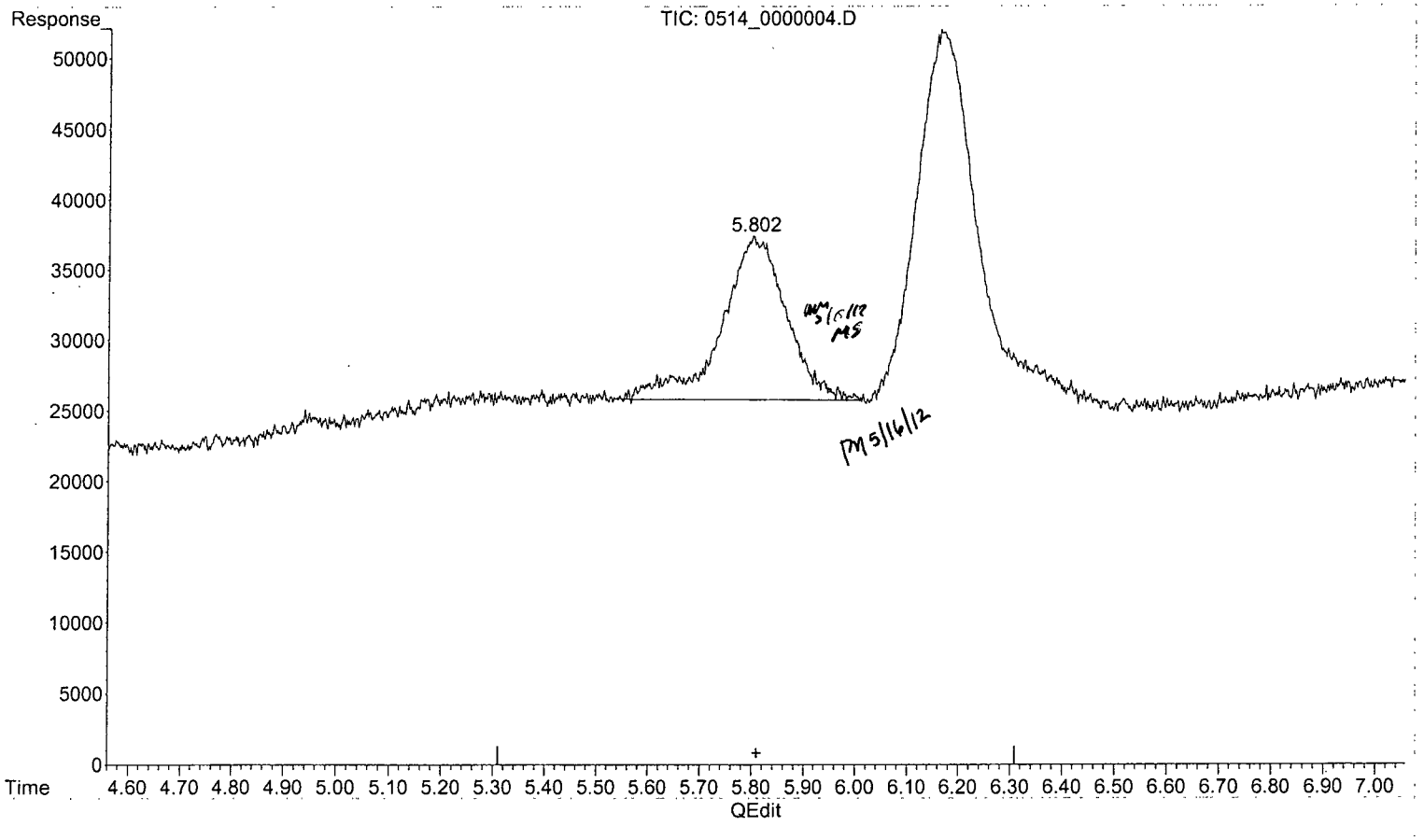
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(6) RDX #2 (TM)

5.802min 5.235 ppb m

response 11658

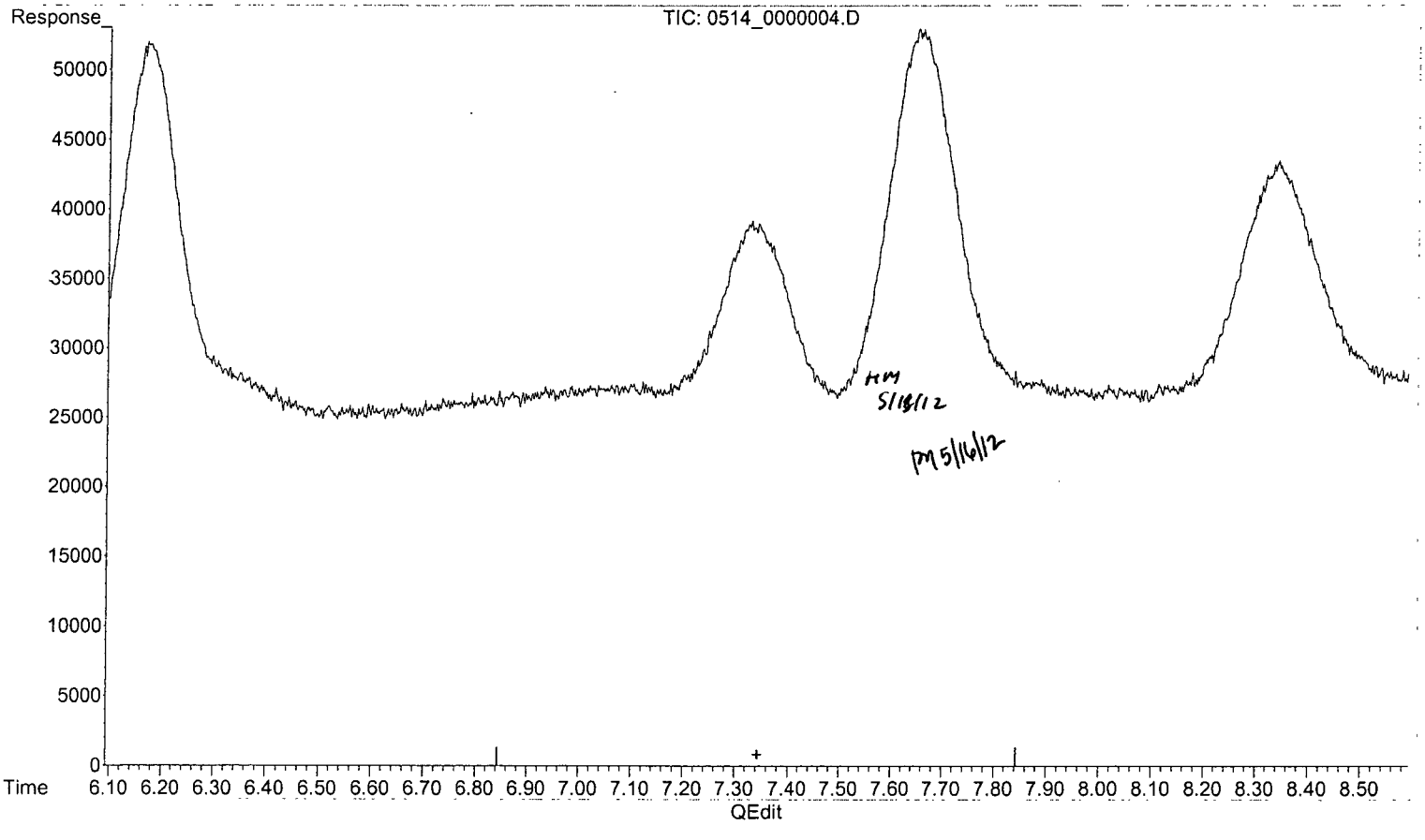
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(8) 1,2-DINITROBENZENE #2 (S)

7.343min 0.000 ppb

response 0

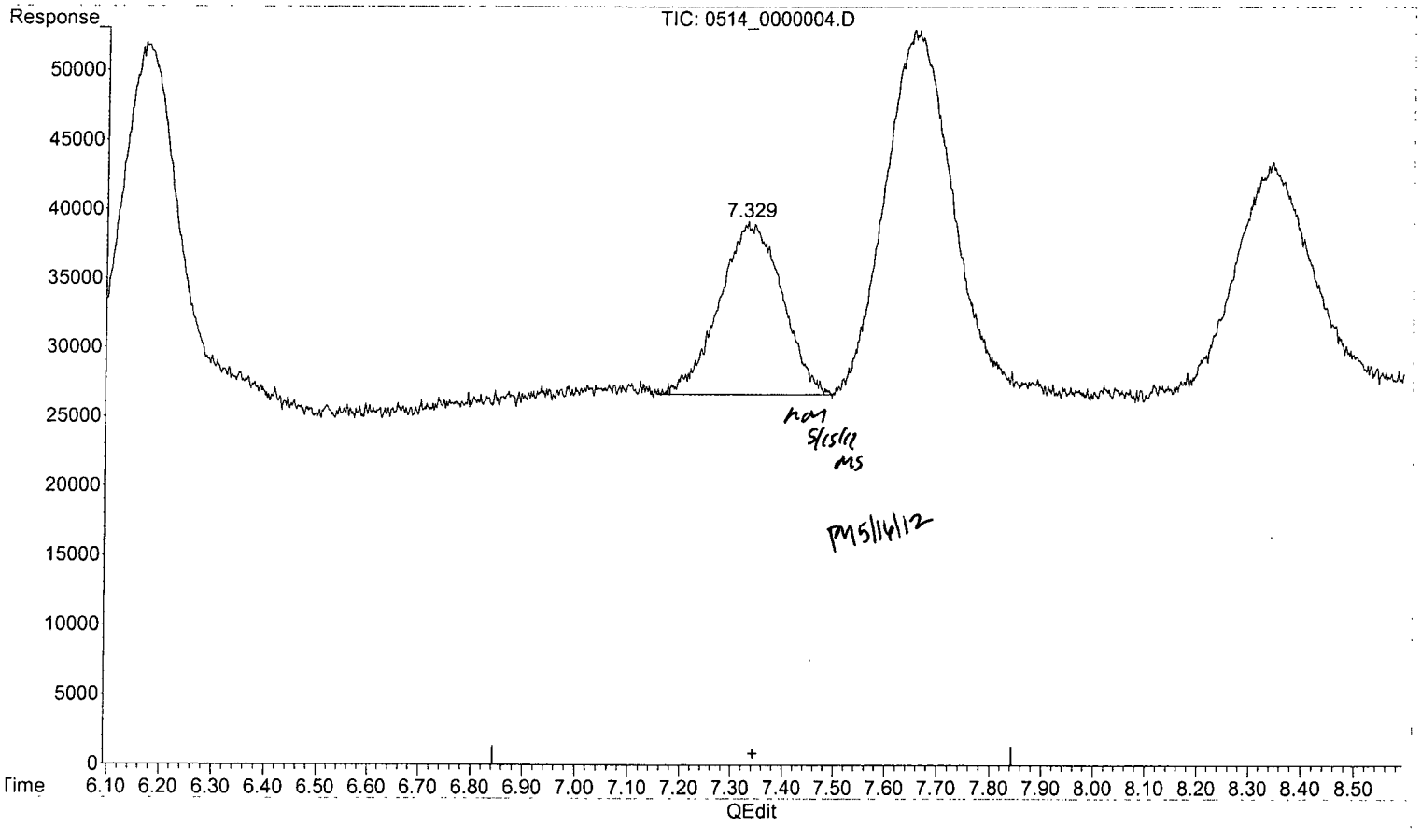
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(8) 1,2-DINITROBENZENE #2 (S)

7.329min 4.917 ppb m

response 12541

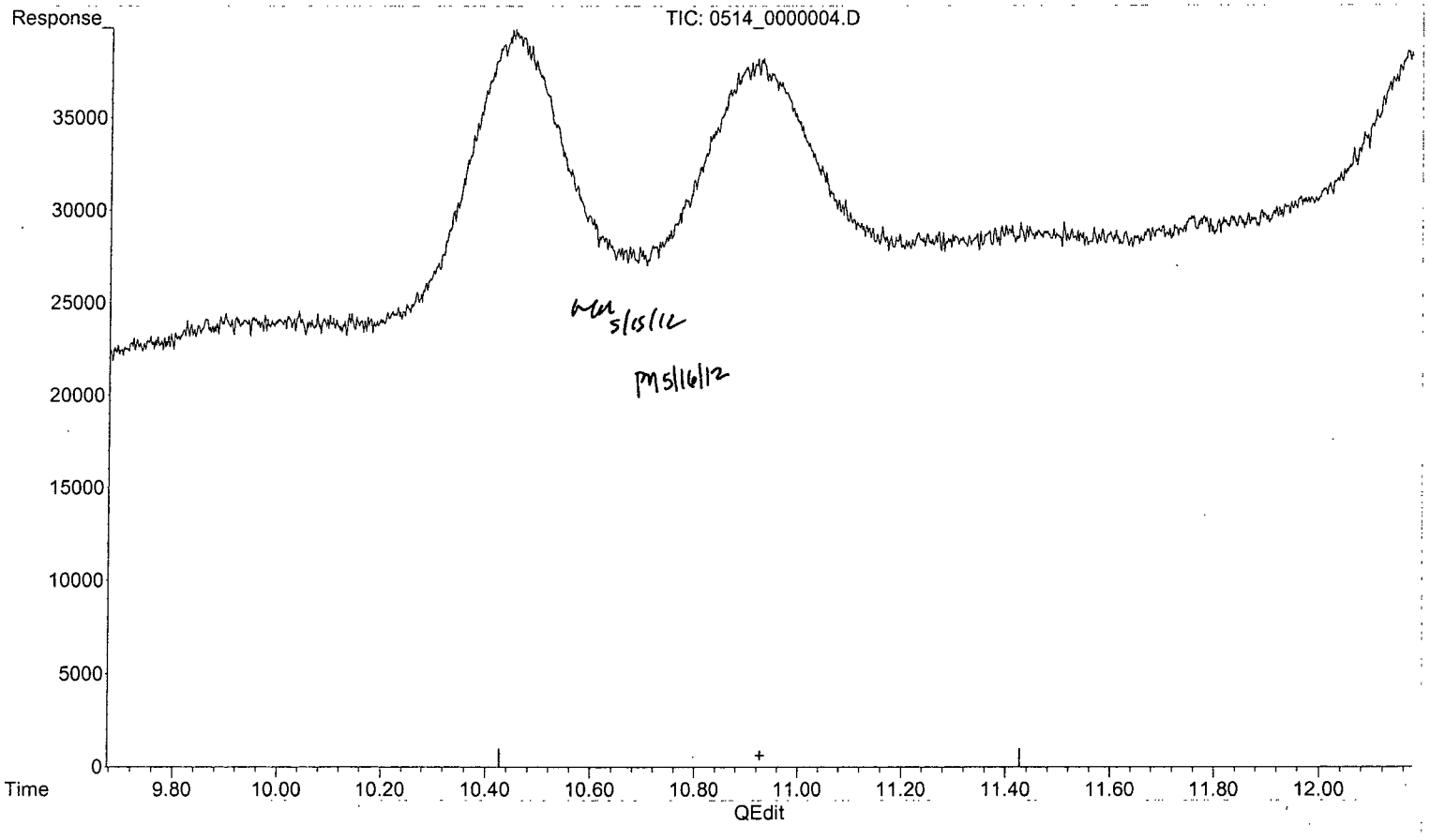
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(12) TETRYL #2 (TM)

10.927min 0.000 ppb

response 0

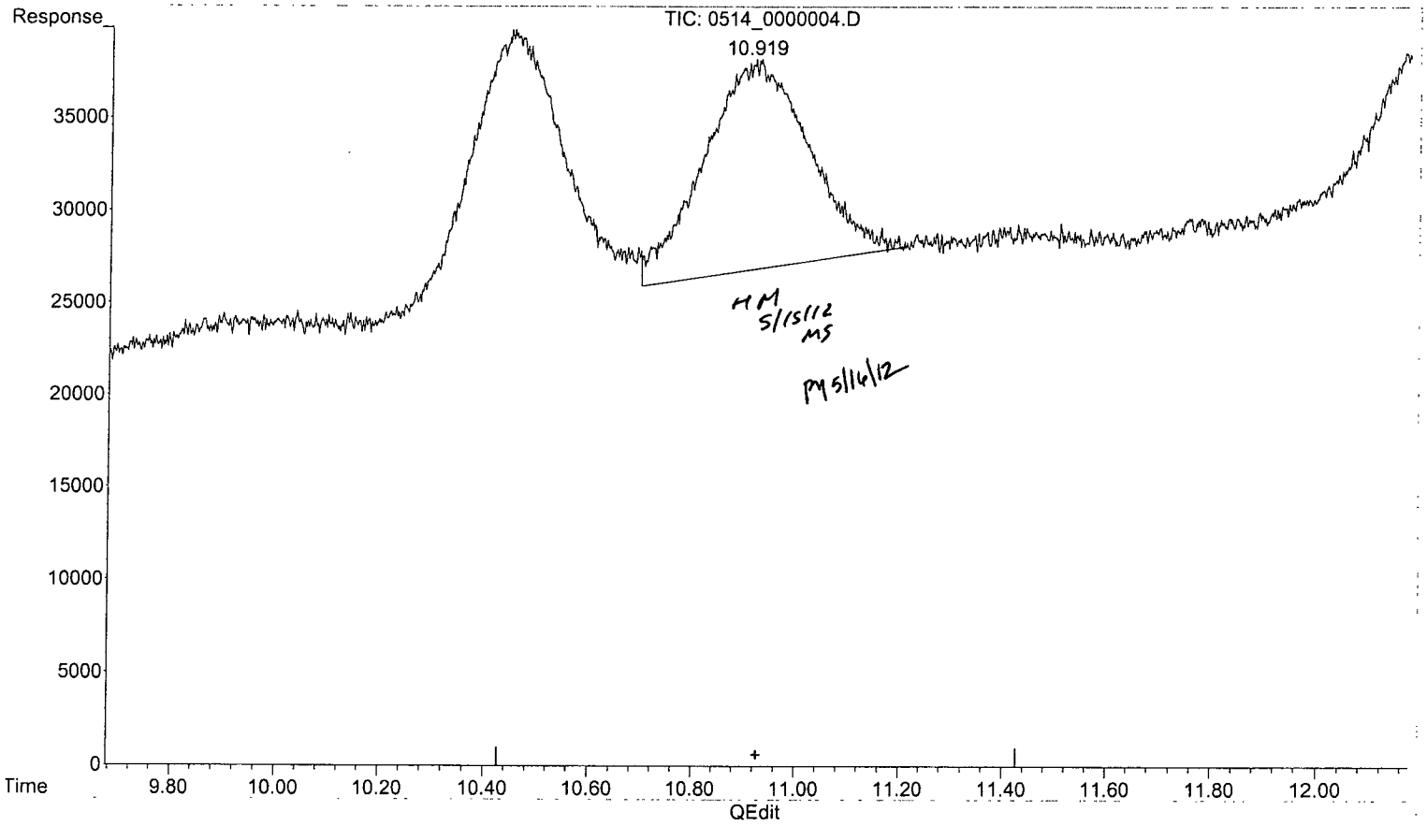
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(12) TETRYL #2 (TM)

10.919min 4.917 ppb m

response 11333

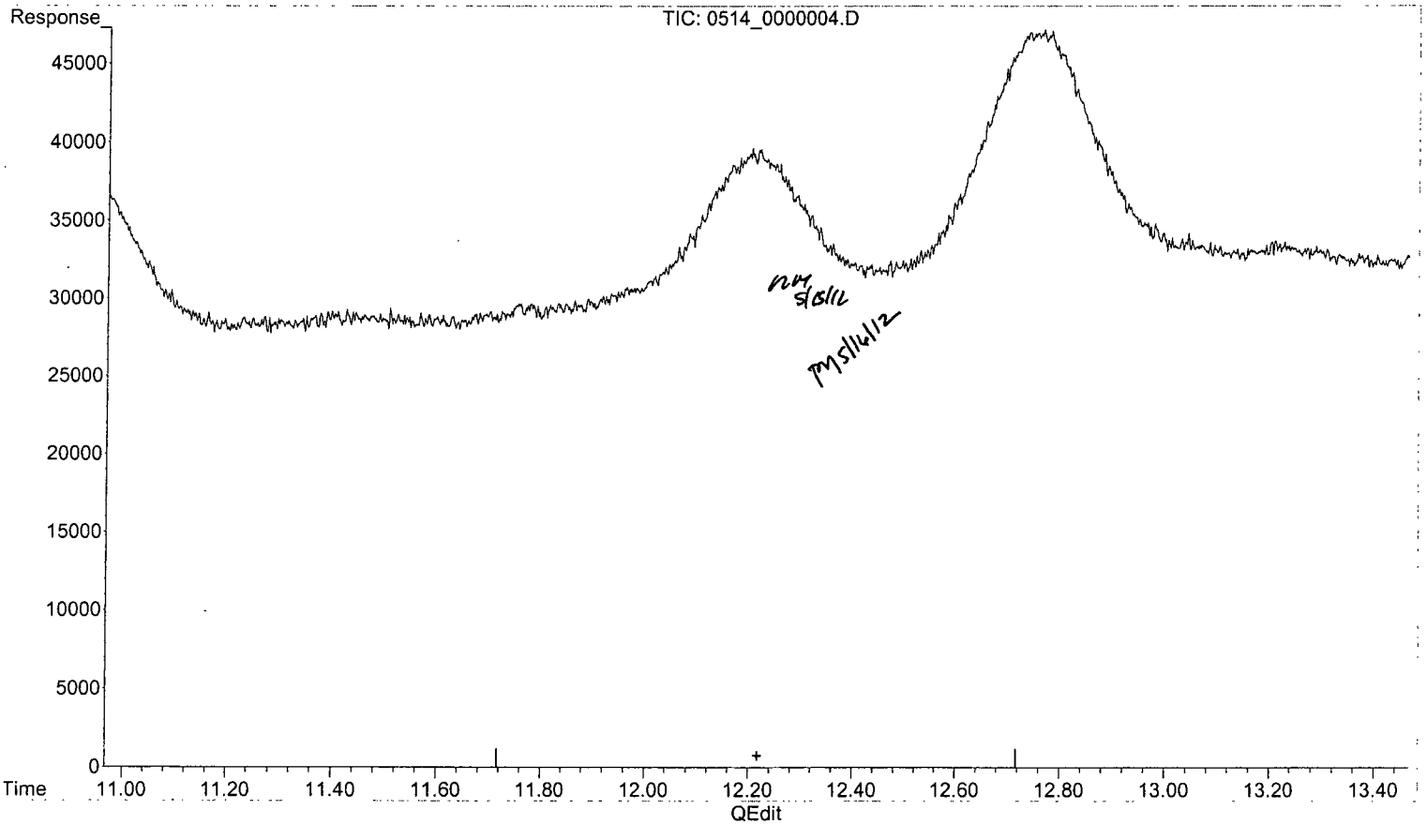
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(13) 2,6-DINITROTOLUENE #2 (TM)

12.217min 0.000 ppb

response 0

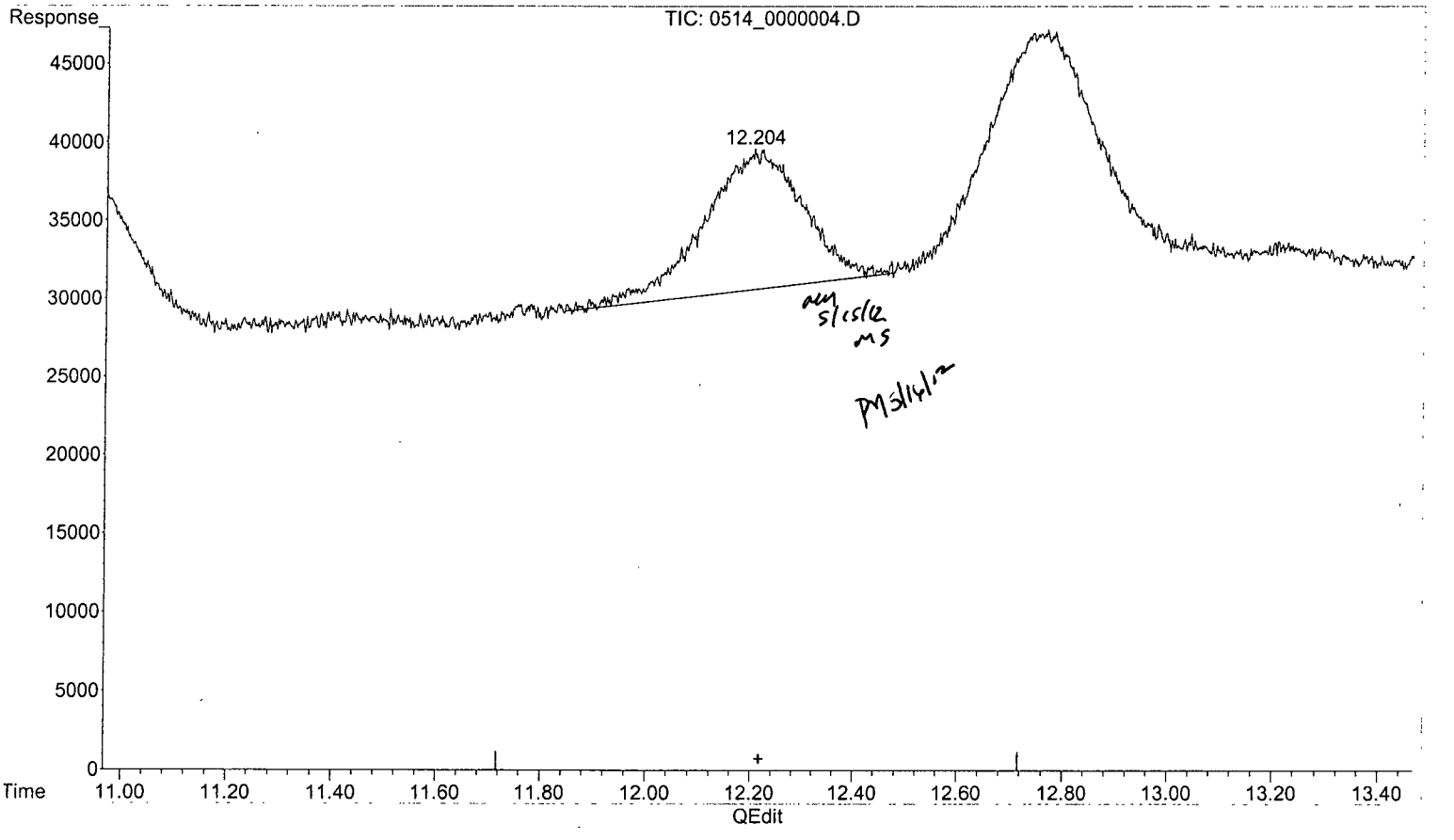
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(13) 2,6-DINITROTOLUENE #2 (TM)

12.204min 4.781 ppb m

response 9001

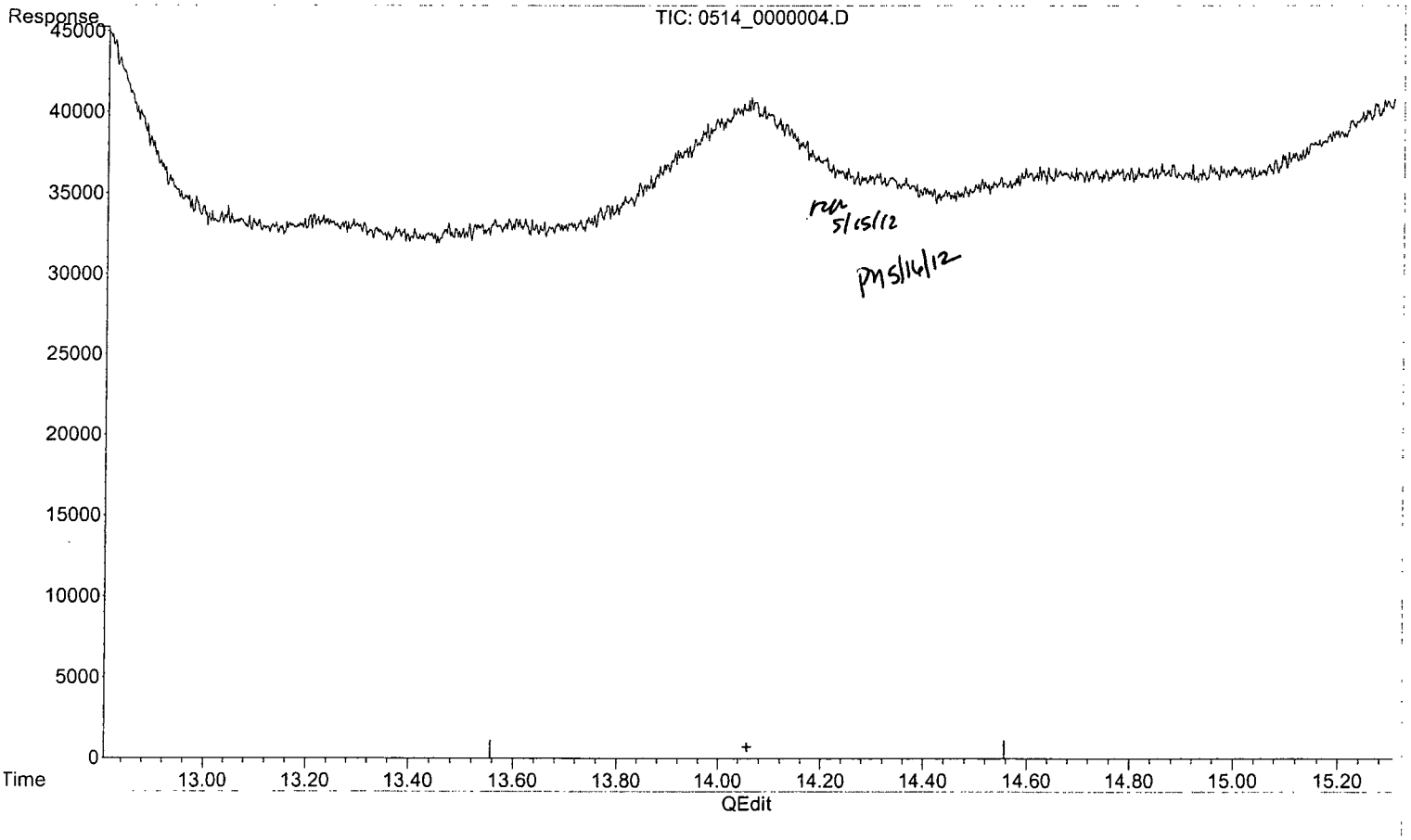
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(15) 2-NITROTOLUENE #2 (TM)

14.057min 0.000 ppb

response 0

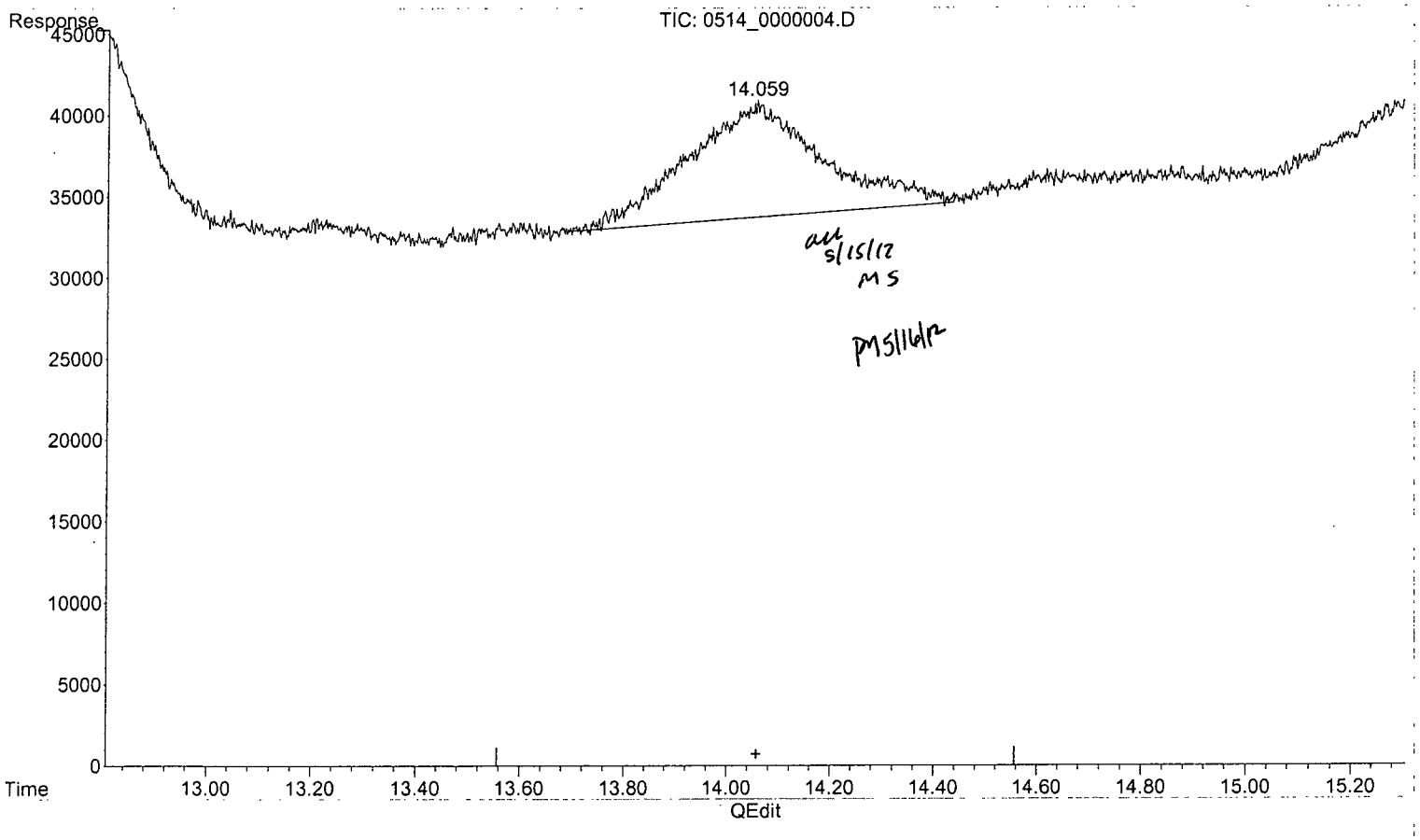
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(15) 2-NITROTOLUENE #2 (TM)

14.059min 5.612 ppb m

response 7164

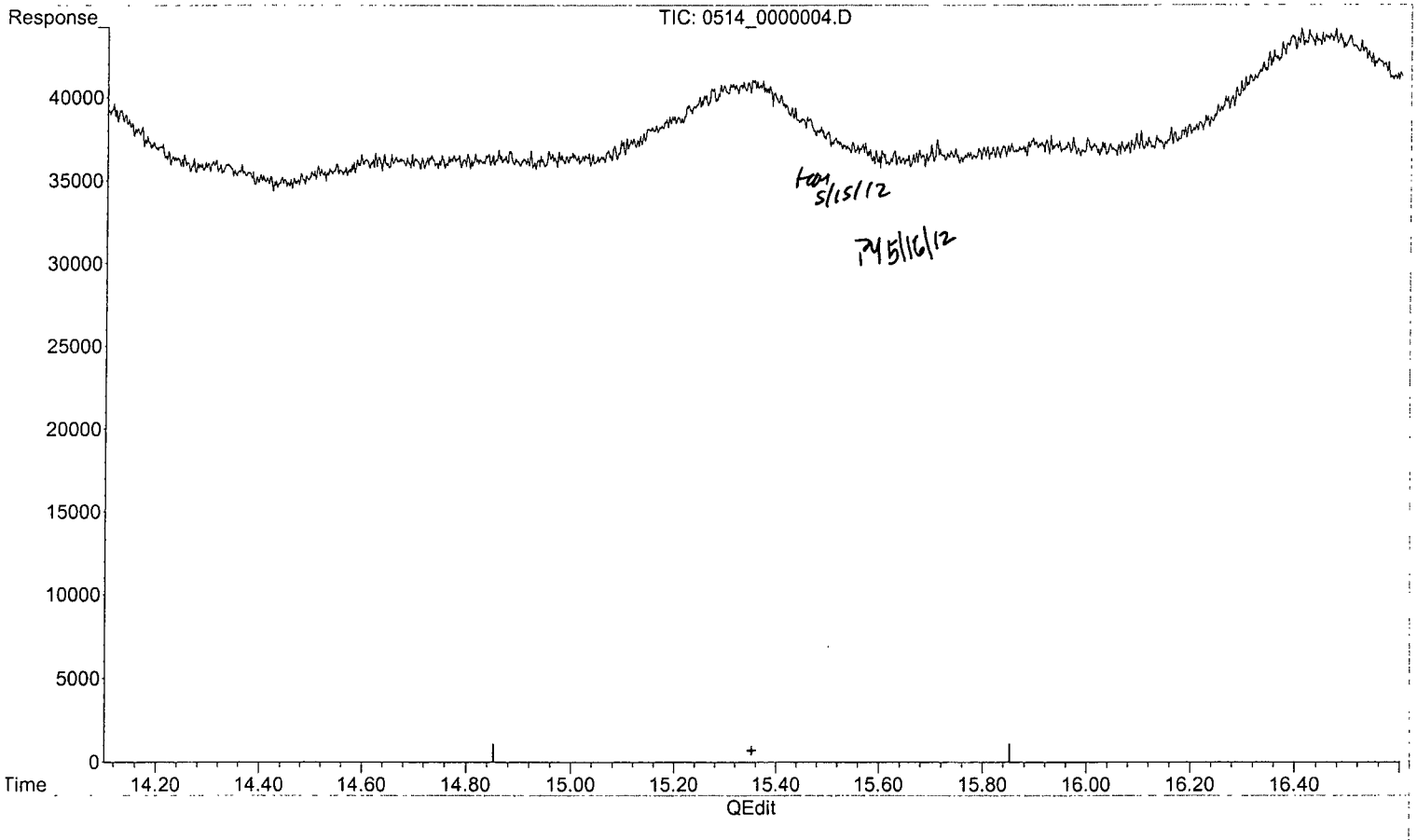
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(16) 4-NITROTOLUENE #2 (TM)

15.352min 0.000 ppb

response 0

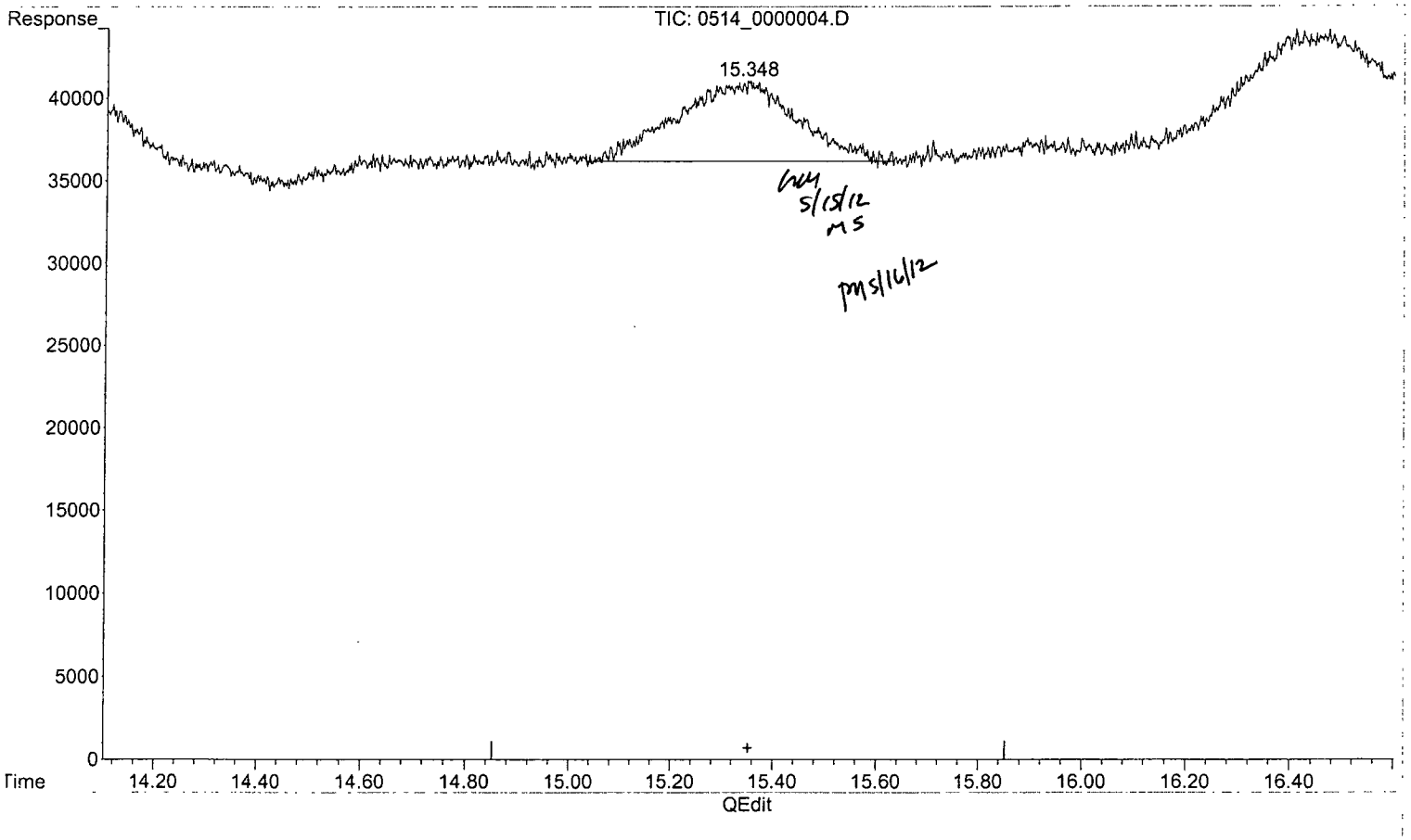
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(16) 4-NITROTOLUENE #2 (TM)

15.348min 4.321 ppb m

response 4891

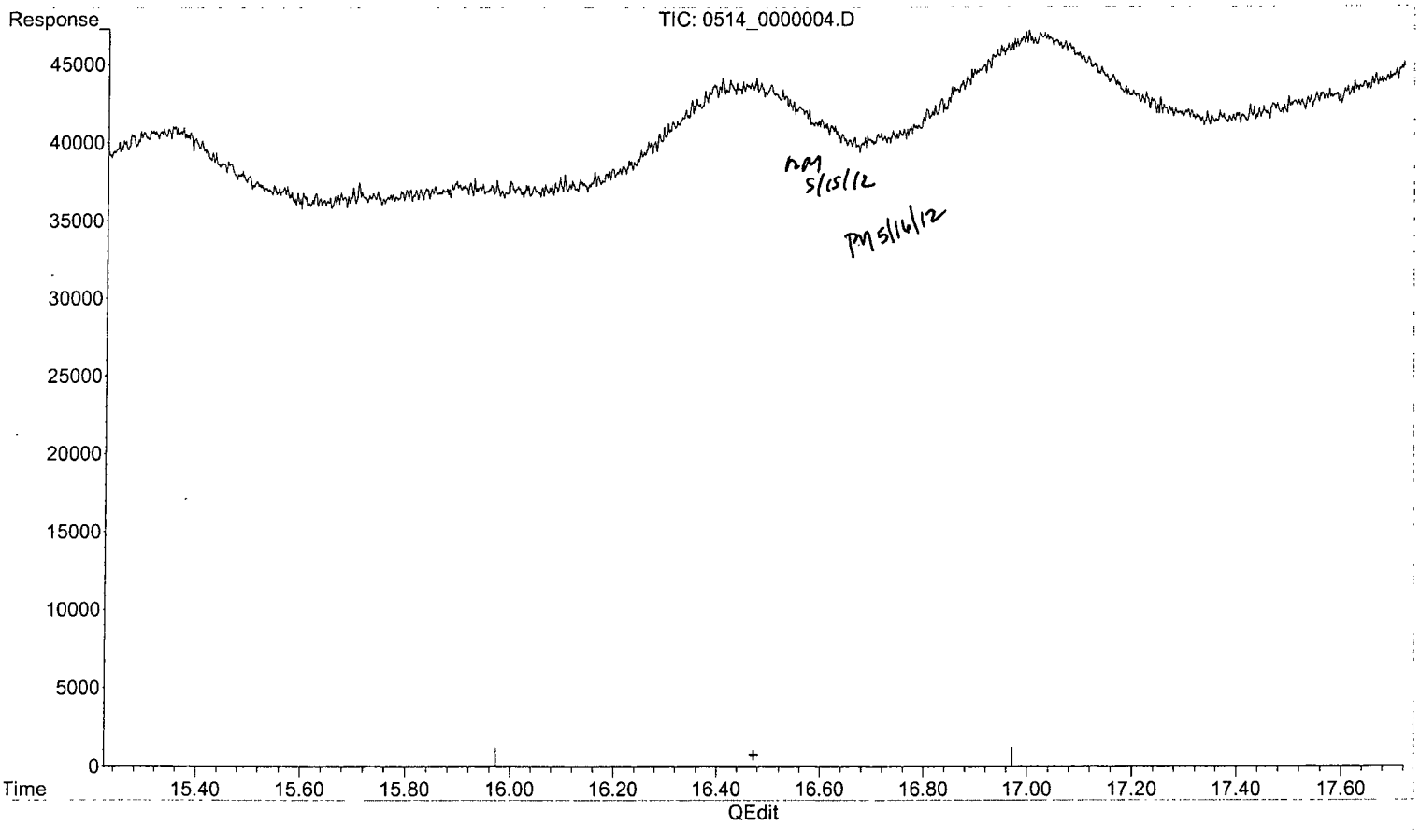
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(17) 3-NITROTOLUENE #2 (TM)

16.472min 0.000 ppb

response 0

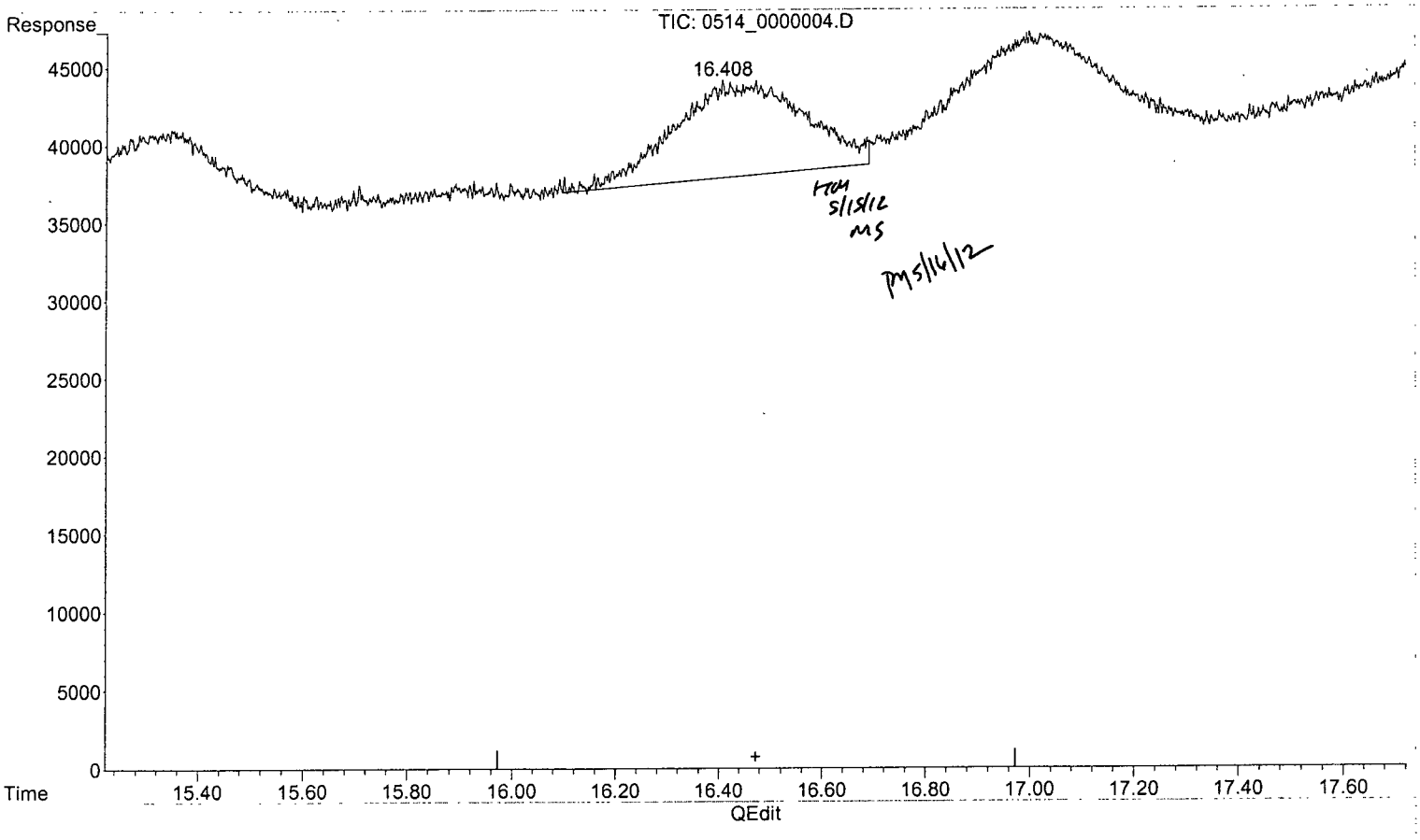
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(17) 3-NITROTOLUENE #2 (TM)

16.408min 5.180 ppb m

response 6259

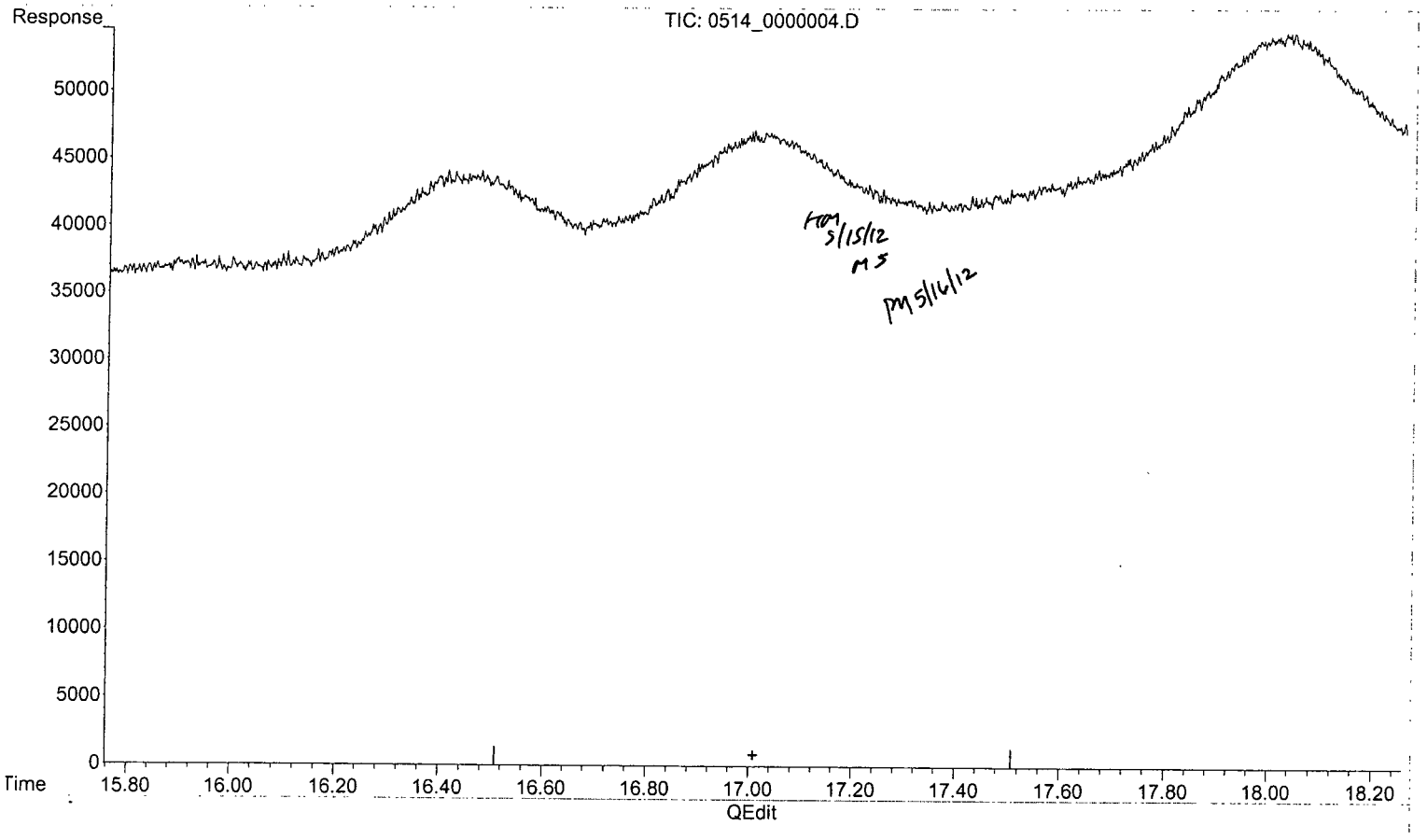
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(18) 4-AMINO-2,6-DINITROTOLUENE #2 (TM)

17.009min 0.000 ppb

response 0

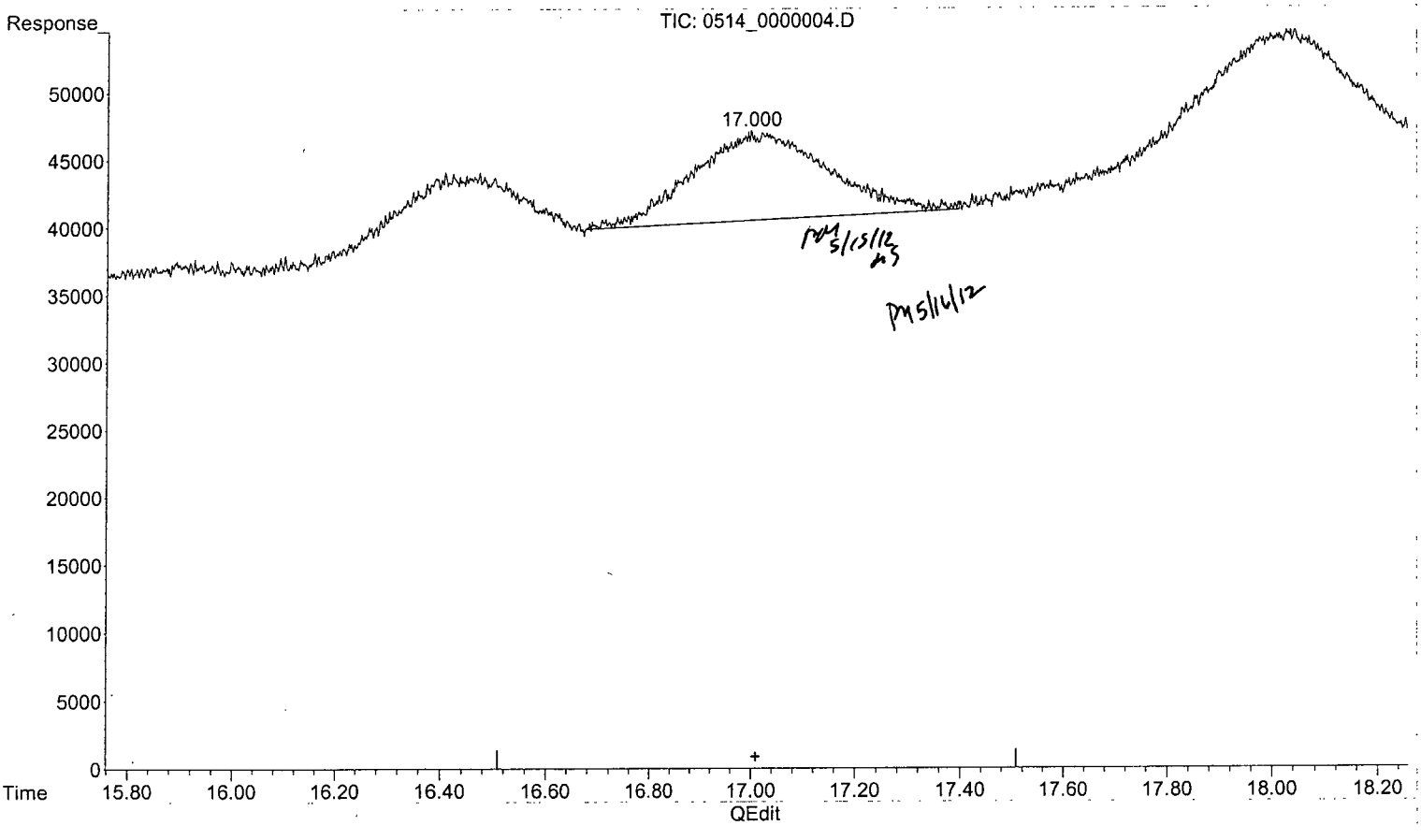
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(18) 4-AMINO-2,6-DINITROTOLUENE #2 (TM)

17.000min 4.374 ppb m

response 6647

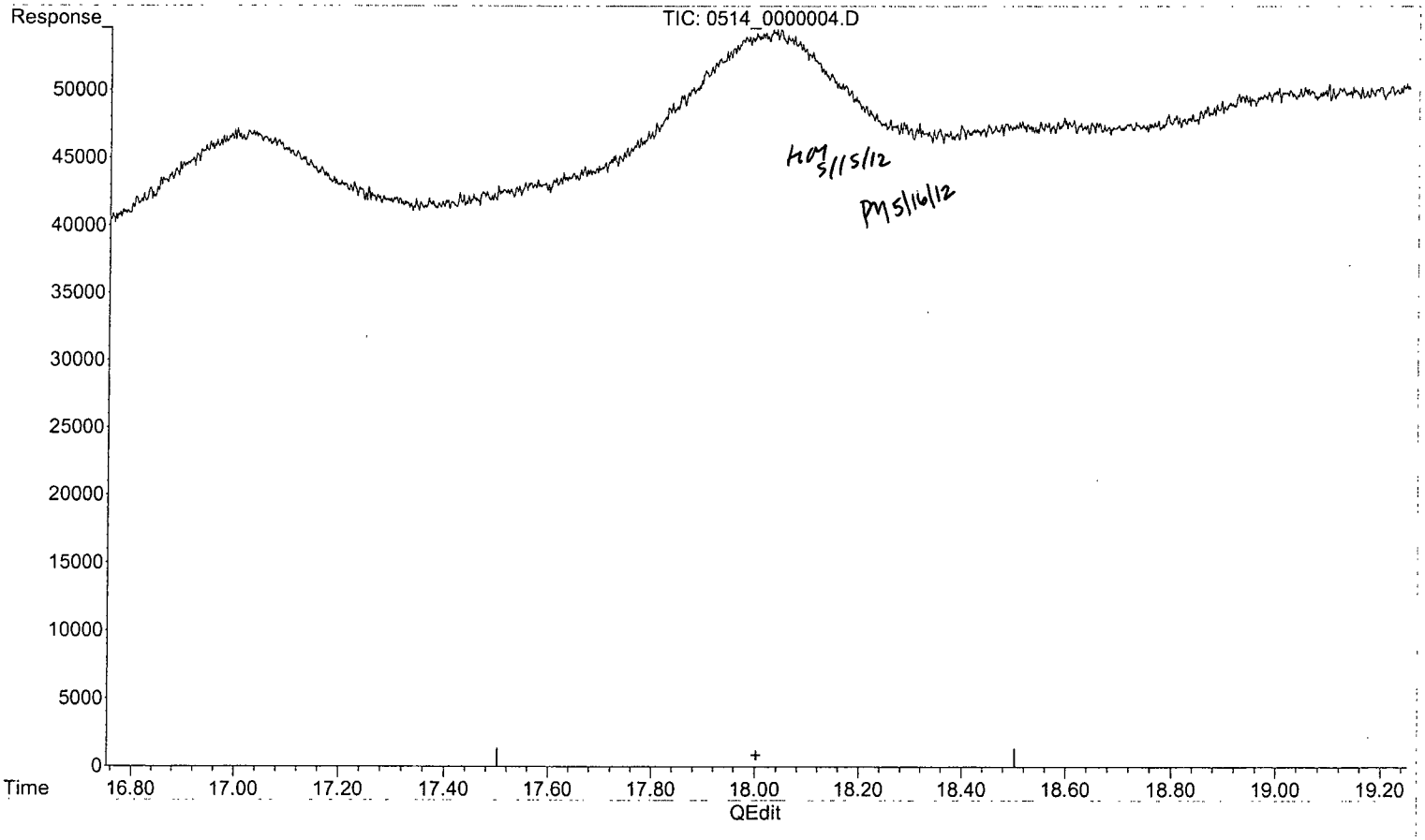
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(19) 2-AMINO-4,6-DINITROTOLUENE #2 (TM)

18.003min 0.000 ppb

response 0

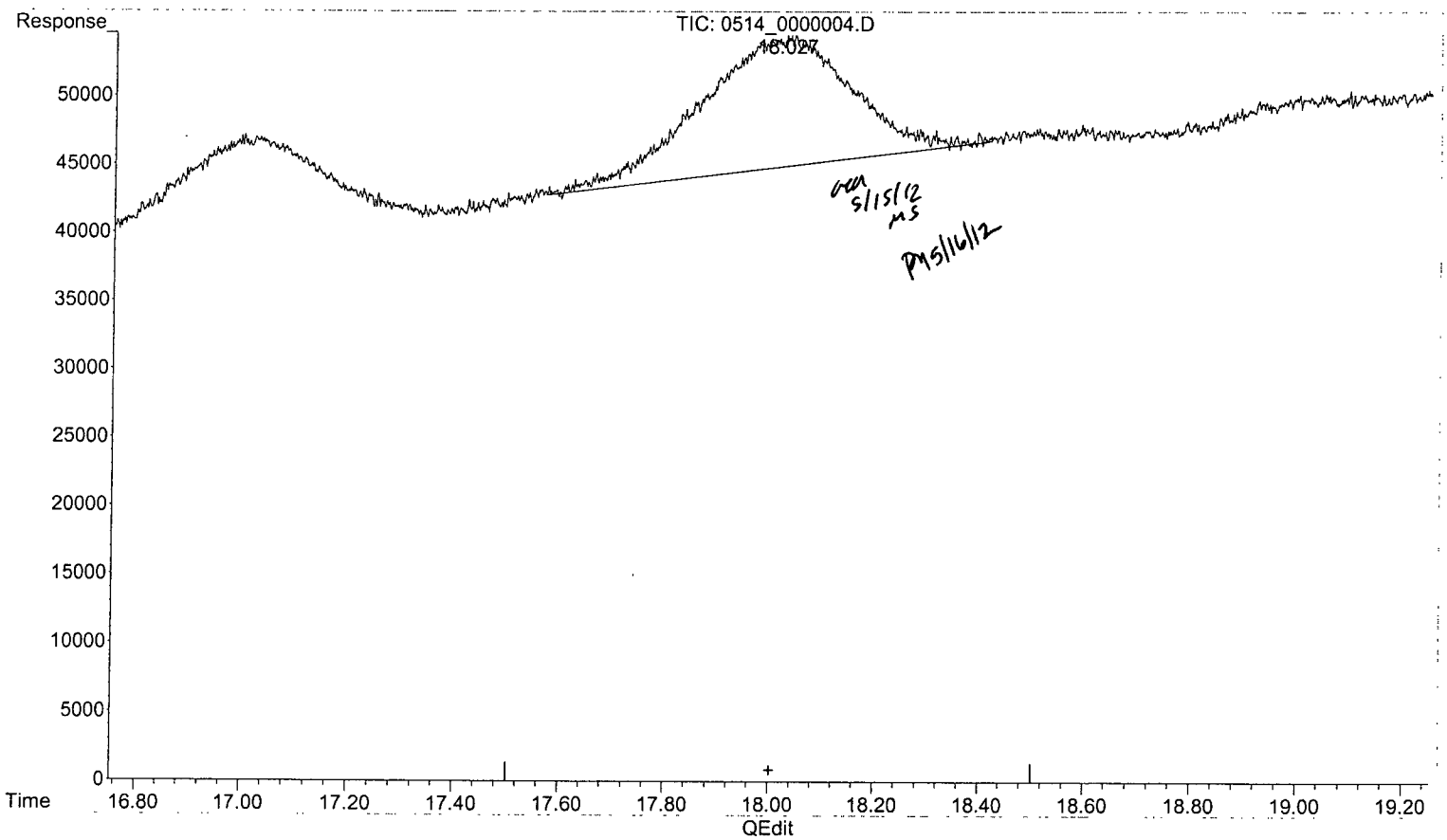
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 12:35:03
Operator : HM
Sample : 8330MX_A_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:34 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(19) 2-AMINO-4,6-DINITROTOLUENE #2 (TM)

18.027min 4.860 ppb m

response 9558

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:58:04
Operator : HM
Sample : 8330MX_A_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4097 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:08:07 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

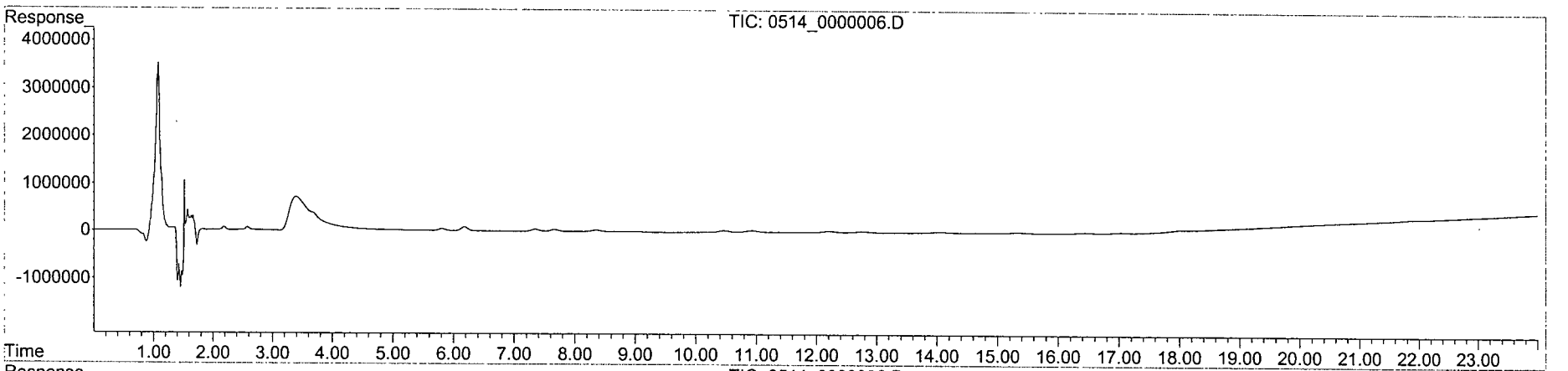
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.345	25314	9.924	ppb	
Spiked Amount 62.500		Recovery =	15.88%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	3.689	33161	12.117	ppb	
6) TM RDX #2	5.814	20600	9.250	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.179	50984	9.450	ppb	
9) TM 1,3-DINITROBENZENE #2	7.666	50765	9.379	ppb	
10) TM NITROBENZENE #2	8.349	29838	9.397	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.458	27970	9.292	ppb	
12) TM TETRYL #2	10.921	21481	9.320	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.214	17072	9.067	ppb	
14) TM 2,4-DINITROTOLUENE #2	12.758	28516	9.175	ppb	
15) TM 2-NITROTOLUENE #2	14.049	12608	9.876	ppb	m
16) TM 4-NITROTOLUENE #2	15.359	10385	9.174	ppb	m
17) TM 3-NITROTOLUENE #2	16.442	11462	9.486	ppb	m
18) TM 4-AMINO-2,6-DINITROTO...	17.008	13571	8.931	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	18.005	18428	9.370	ppb	

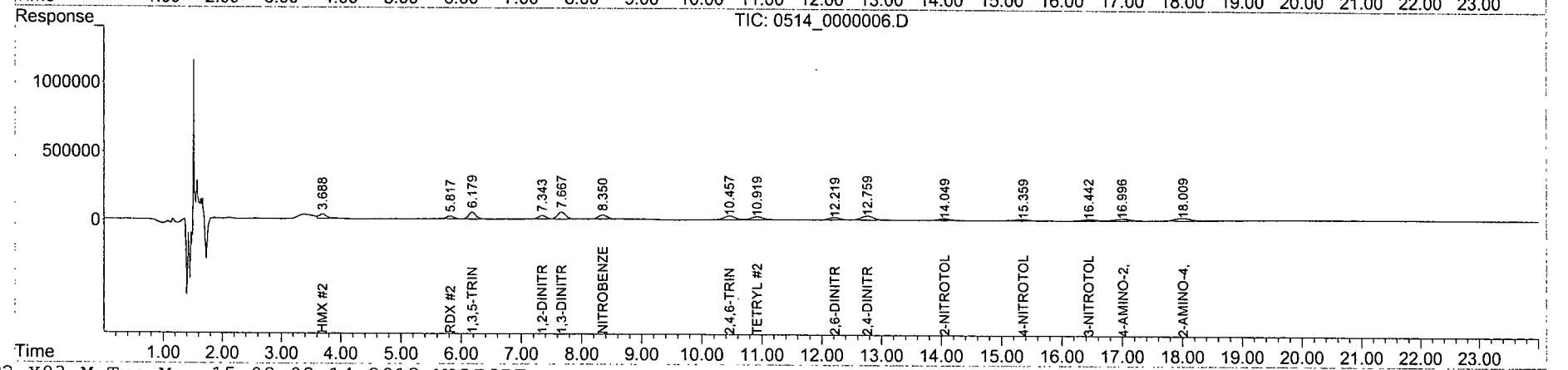
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:58:04
Operator : HM
Sample : 8330MX_A_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4097 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:08:07 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



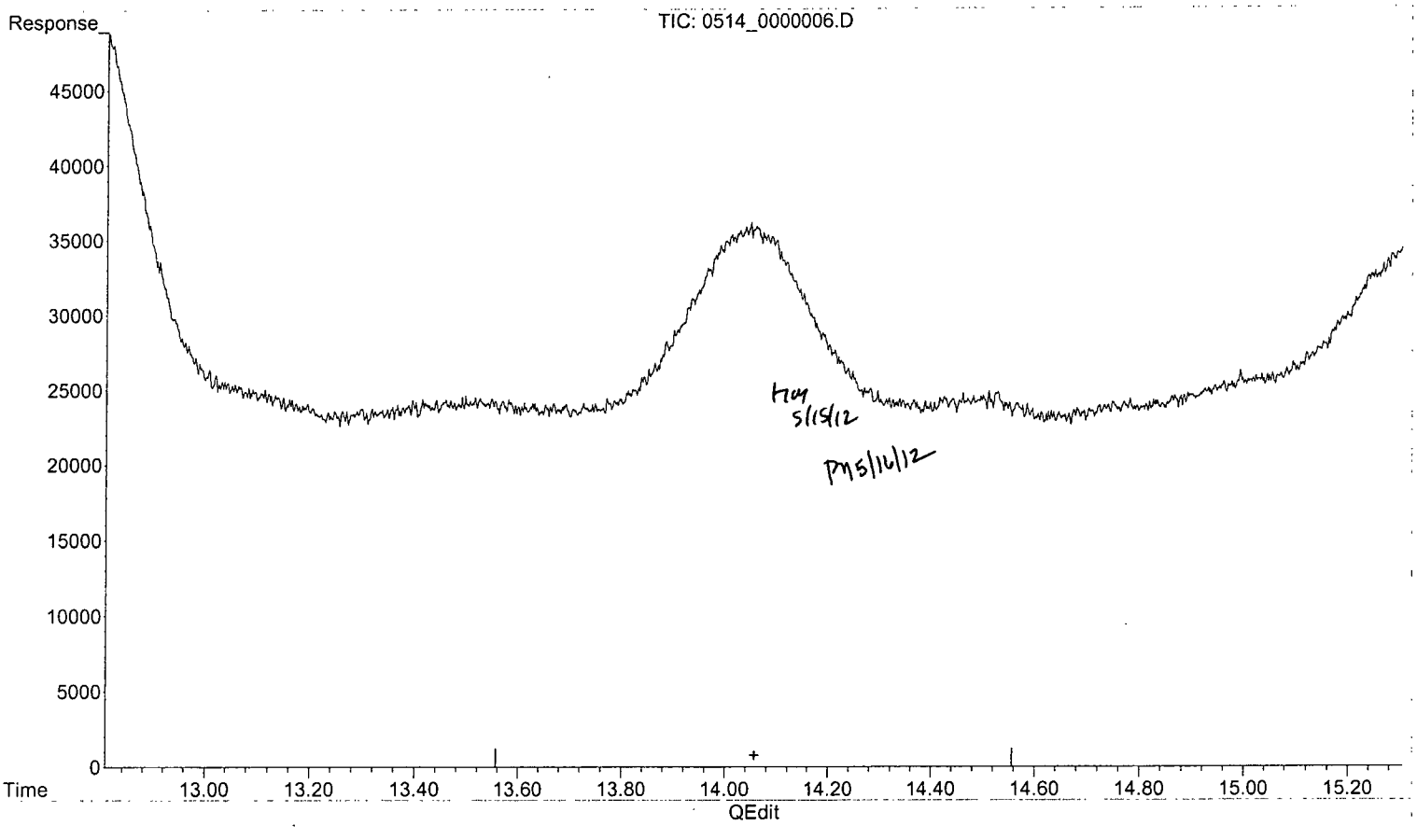


Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:58:04
Operator : HM
Sample : 8330MX_A_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4097 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:39 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(15) 2-NITROTOLUENE #2 (TM)

14.057min 0.000 ppb

response 0

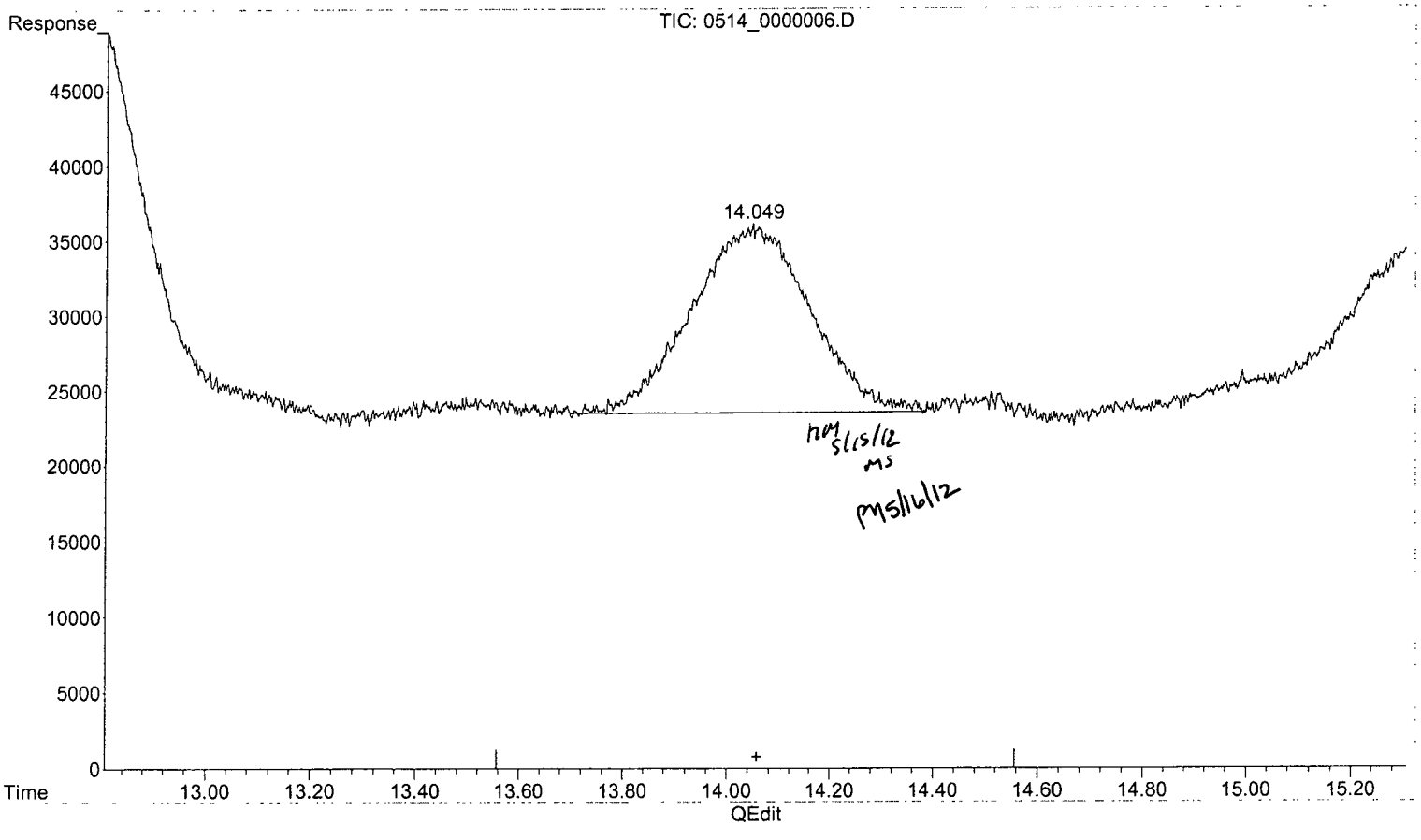
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:58:04
Operator : HM
Sample : 8330MX_A_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4097 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:39 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(15) 2-NITROTOLUENE #2 (TM)

14.049min 9.876 ppb m

response 12608

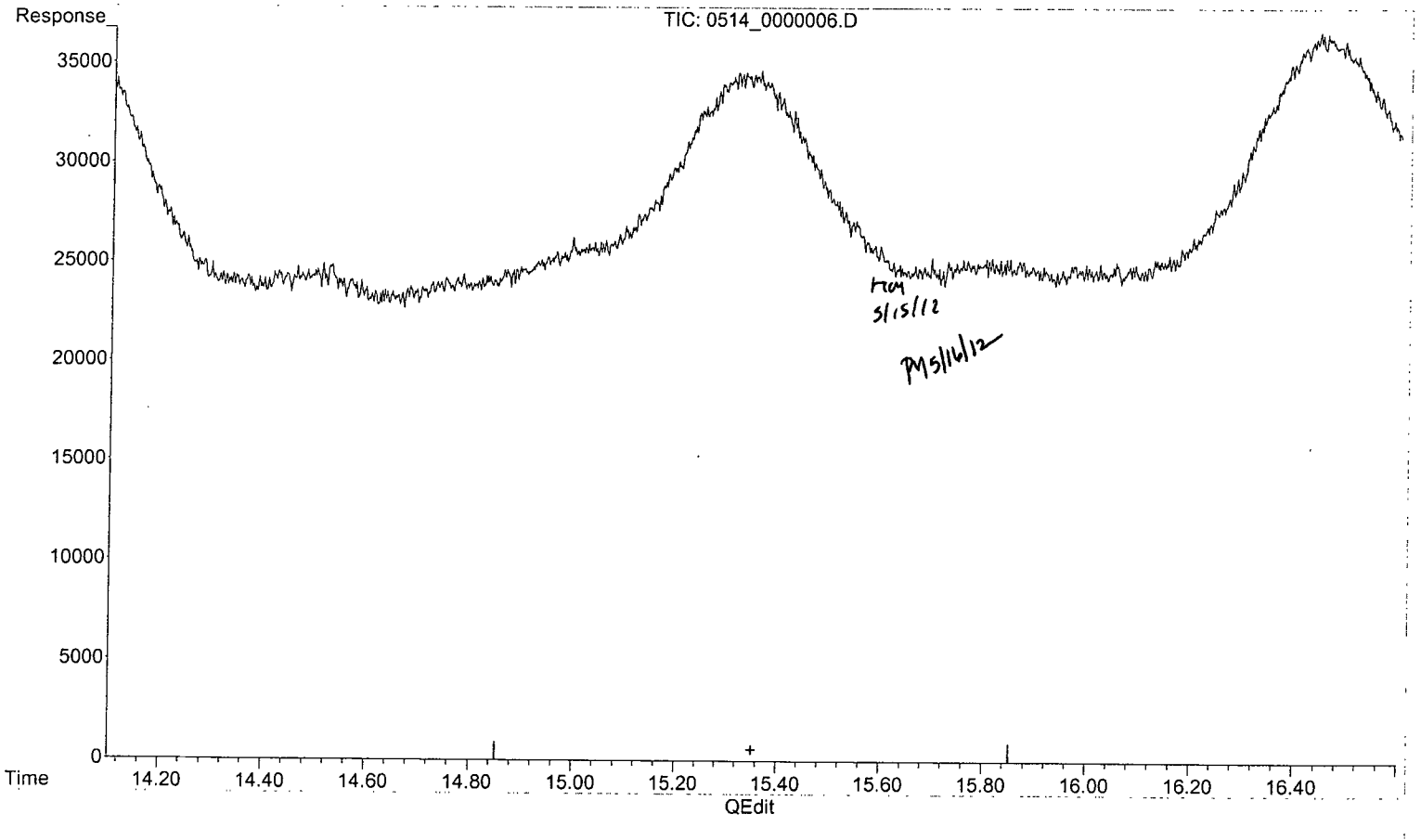
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:58:04
Operator : HM
Sample : 8330MX_A_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4097 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:39 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(16) 4-NITROTOLUENE #2 (TM)

15.352min 0.000 ppb

response 0

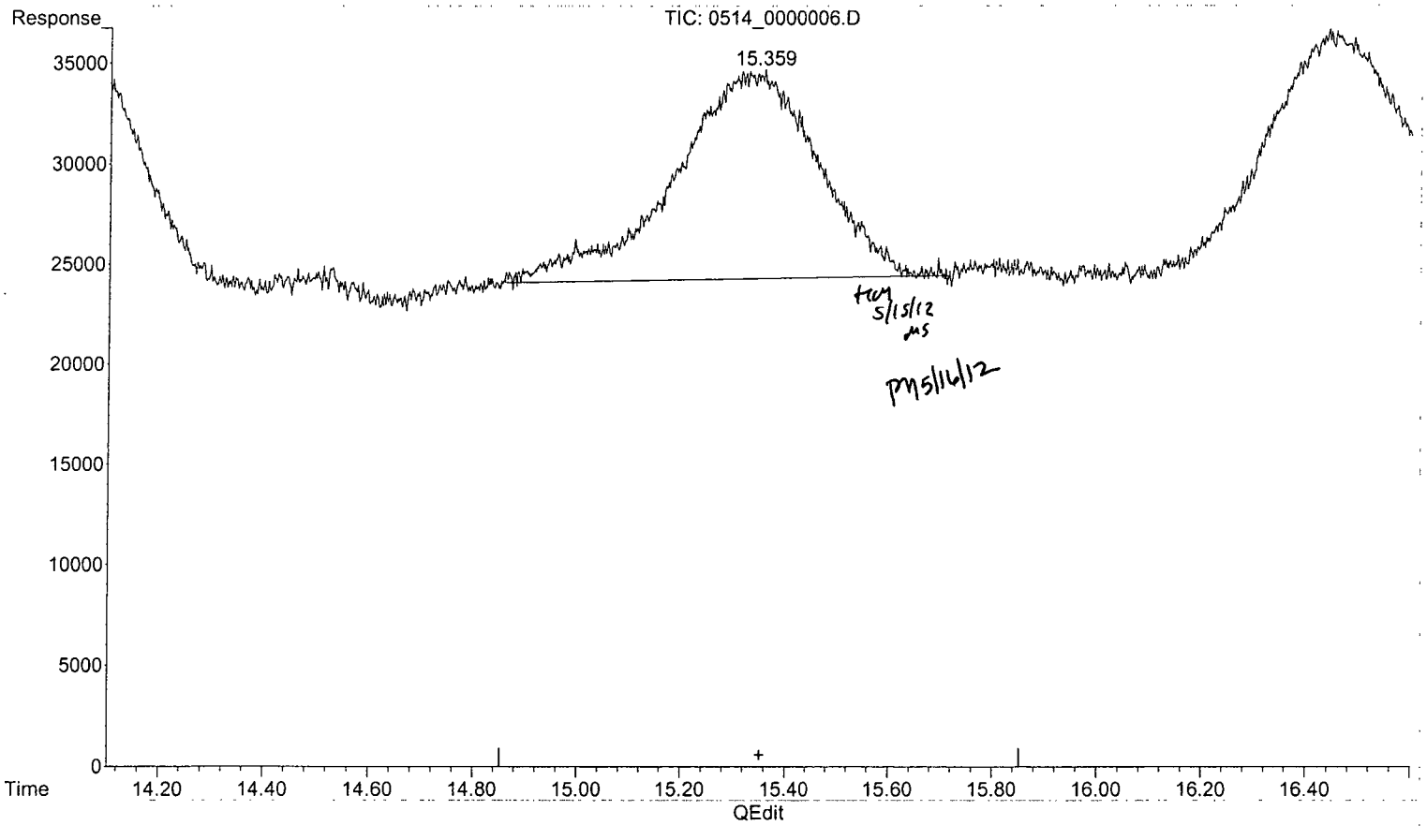
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:58:04
Operator : HM
Sample : 8330MX_A_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4097 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:39 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(16) 4-NITROTOLUENE #2 (TM)

15.359min 9.174 ppb m

response 10385

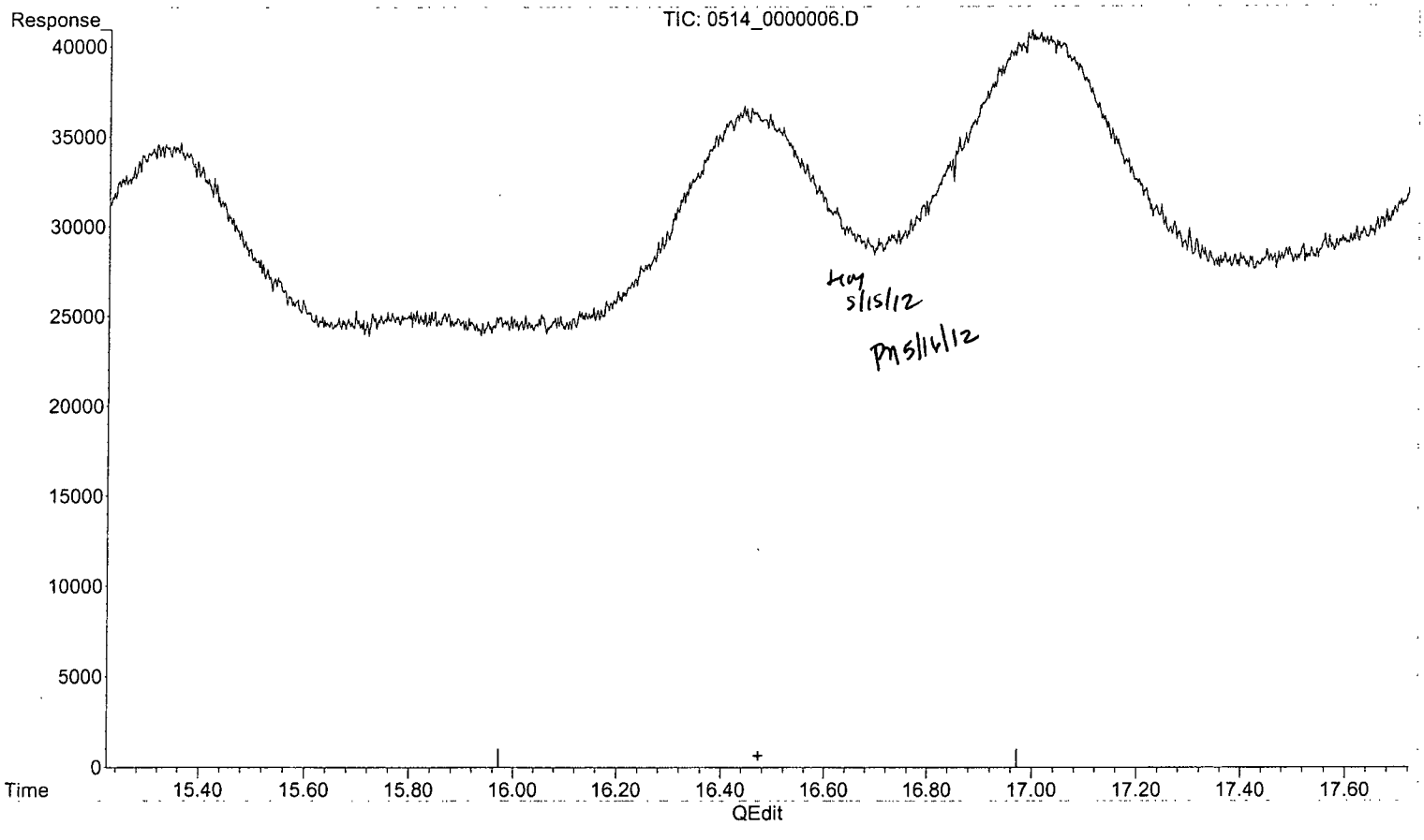
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:58:04
Operator : HM
Sample : 8330MX_A_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4097 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:39 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(17) 3-NITROTOLUENE #2 (TM)

16.472min 0.000 ppb

response 0

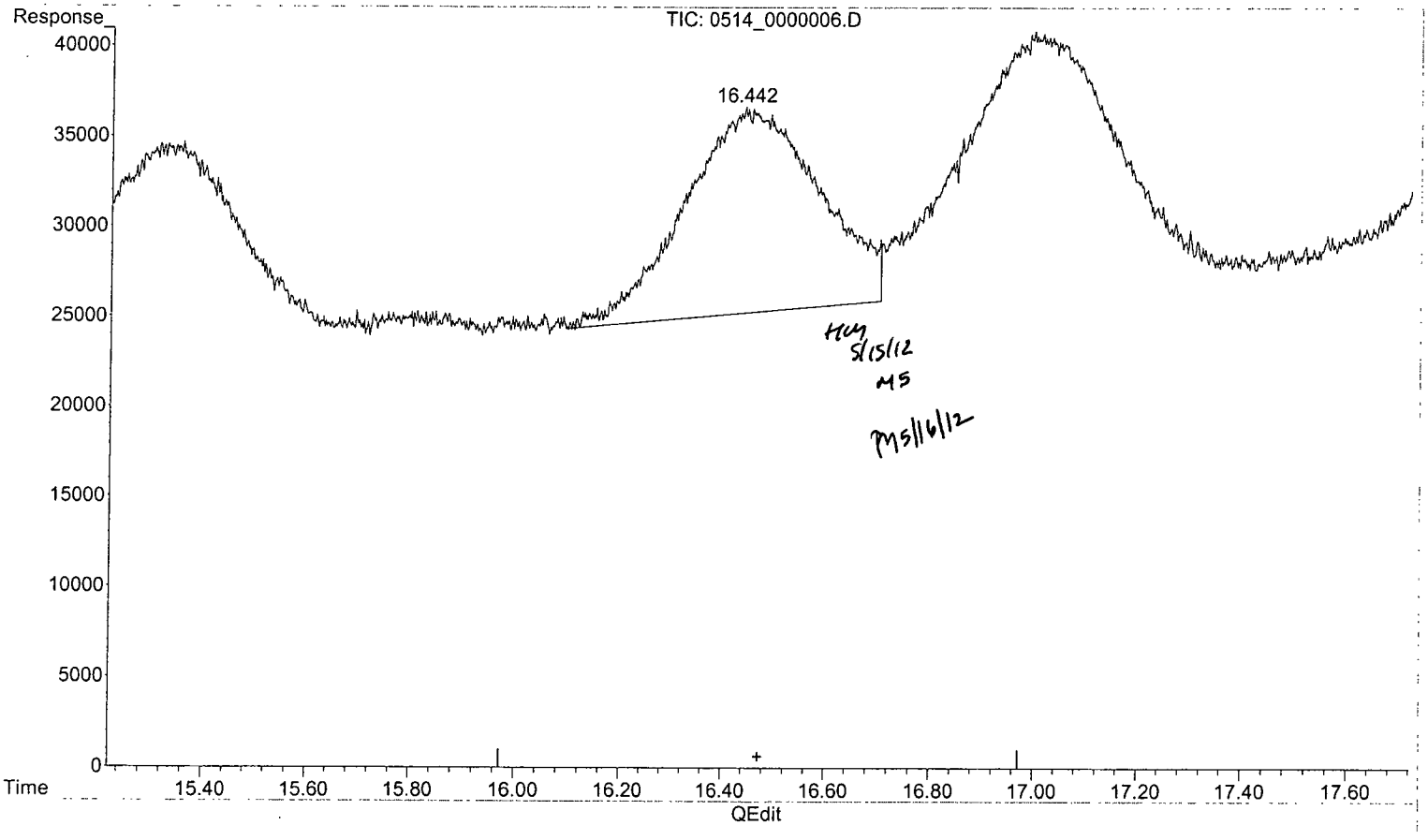
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:58:04
Operator : HM
Sample : 8330MX_A_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4097 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:39 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(17) 3-NITROTOLUENE #2 (TM)

16.442min 9.486 ppb m

response 11462

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000008.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 15:21:06
Operator : HM
Sample : 8330MX_A_CB 0.020 PPM 05/14/12
Misc :
ALS Vial : 4098 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:06:36 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

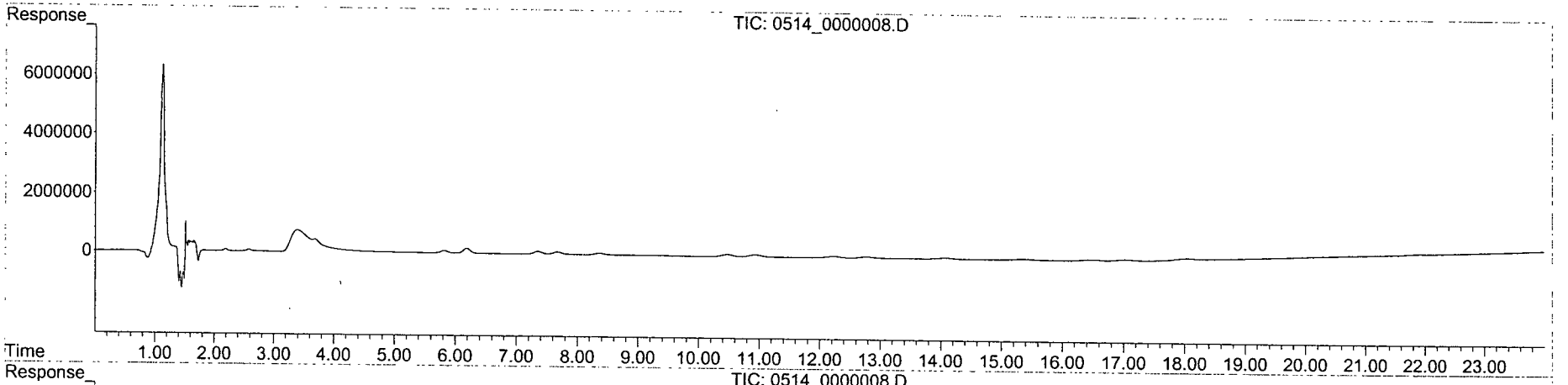
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.351	49244	19.305	ppb	
Spiked Amount 62.500		Recovery =	30.89%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	3.694	59299	21.667	ppb	
6) TM RDX #2	5.817	40785	18.315	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.183	101080	18.736	ppb	
9) TM 1,3-DINITROBENZENE #2	7.670	101168	18.691	ppb	
10) TM NITROBENZENE #2	8.357	59940	18.878	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.474	55371	18.394	ppb	
12) TM TETRYL #2	10.933	42809	18.573	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.224	33289	17.680	ppb	
14) TM 2,4-DINITROTOLUENE #2	12.775	56839	18.288	ppb	
15) TM 2-NITROTOLUENE #2	14.069	23181	18.159	ppb	
16) TM 4-NITROTOLUENE #2	15.359	20736	18.319	ppb	
17) TM 3-NITROTOLUENE #2	16.480	21653	17.920	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	17.030	27106	17.838	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	18.015	36277	18.445	ppb	

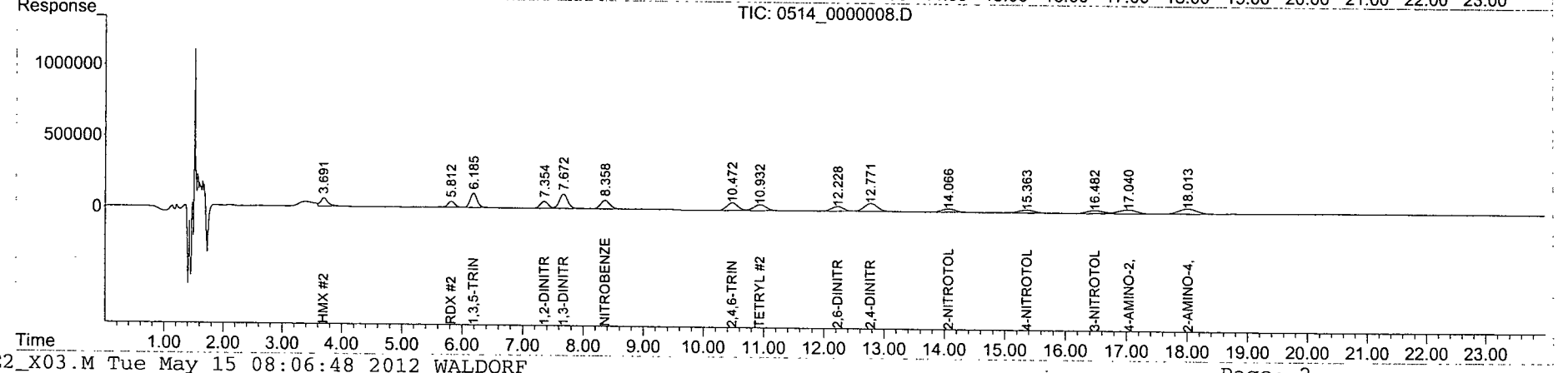
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000008.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 15:21:06
Operator : HM
Sample : 8330MX_A_CB 0.020 PPM 05/14/12
Misc :
ALS Vial : 4098 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:06:36 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 16:44:07
Operator : HM
Sample : 8330MX_A_CB 0.050 PPM 05/14/12
Misc :
ALS Vial : 4099 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:05:09 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.309	124455	48.791	ppb	
Spiked Amount 62.500		Recovery =	78.07%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	3.698	130462	47.670	ppb	
6) TM RDX #2	5.796	106176	47.678	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.163	256076	47.467	ppb	
9) TM 1,3-DINITROBENZENE #2	7.634	257160	47.511	ppb	
10) TM NITROBENZENE #2	8.314	149291	47.018	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.424	137404	45.646	ppb	
12) TM TETRYL #2	10.876	106484	46.199	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.175	83972	44.599	ppb	
14) TM 2,4-DINITROTOLUENE #2	12.728	144028	46.341	ppb	
15) TM 2-NITROTOLUENE #2	14.022	59605	46.691	ppb	
16) TM 4-NITROTOLUENE #2	15.306	51366	45.378	ppb	
17) TM 3-NITROTOLUENE #2	16.436	55613	46.026	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	16.965	71030	46.742	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	17.963	91324	46.434	ppb	

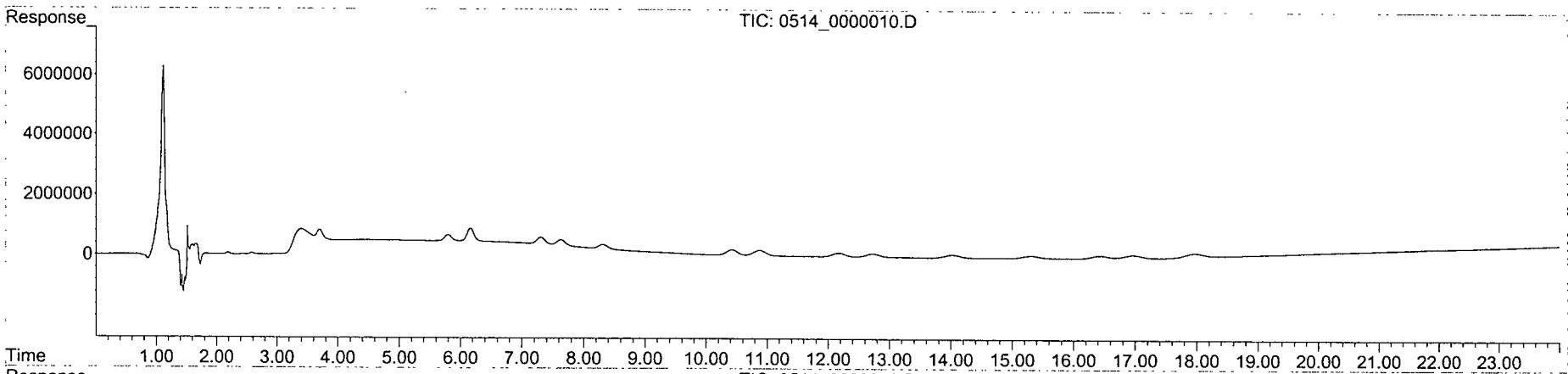
(f)=RT Delta > 1/2 Window (m)=manual int.

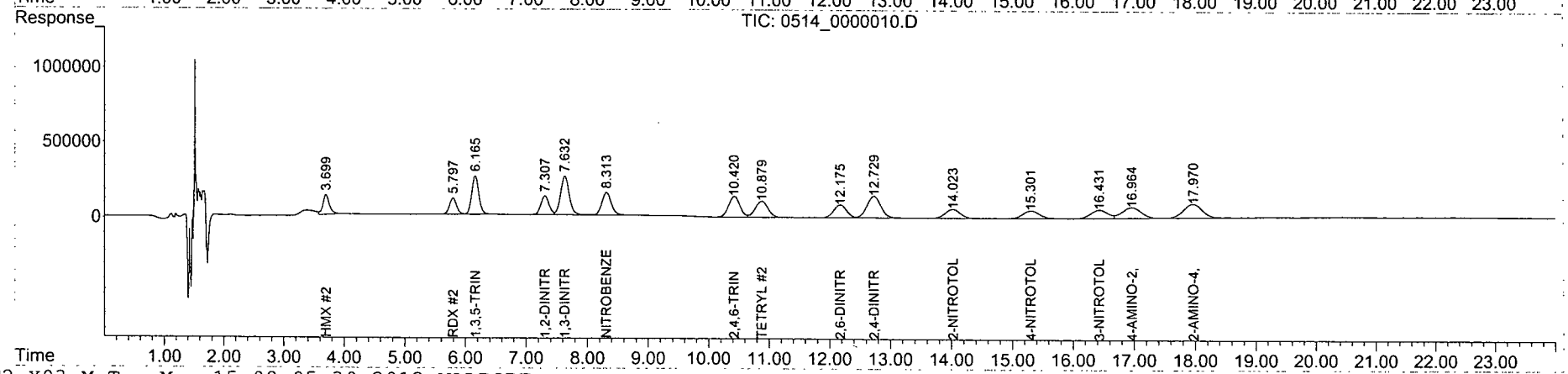
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 16:44:07
Operator : HM
Sample : 8330MX_A_CB 0.050 PPM 05/14/12
Misc :
ALS Vial : 4099 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:05:09 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000012.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 18:07:06
Operator : HM
Sample : 8330MX_A_CB 0.10 PPM 05/14/12
Misc :
ALS Vial : 4100 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:04:24 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.345	241996	94.872	ppb	
Spiked Amount 62.500		Recovery = 151.80%			
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	3.693	253094	92.479	ppb	
6) TM RDX #2	5.811	205742	92.388	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.179	497221	92.166	ppb	
9) TM 1,3-DINITROBENZENE #2	7.665	499690	92.319	ppb	
10) TM NITROBENZENE #2	8.352	290773	91.577	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.466	275053	91.373	ppb	
12) TM TETRYL #2	10.925	214064	92.873	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.217	164926	87.594	ppb	
14) TM 2,4-DINITROTOLUENE #2	12.768	283709	91.283	ppb	
15) TM 2-NITROTOLUENE #2	14.062	115502	90.479	ppb	
16) TM 4-NITROTOLUENE #2	15.351	100448	88.739	ppb	
17) TM 3-NITROTOLUENE #2	16.475	108677	89.944	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	17.006	139705	91.935	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	18.000	177996	90.503	ppb	

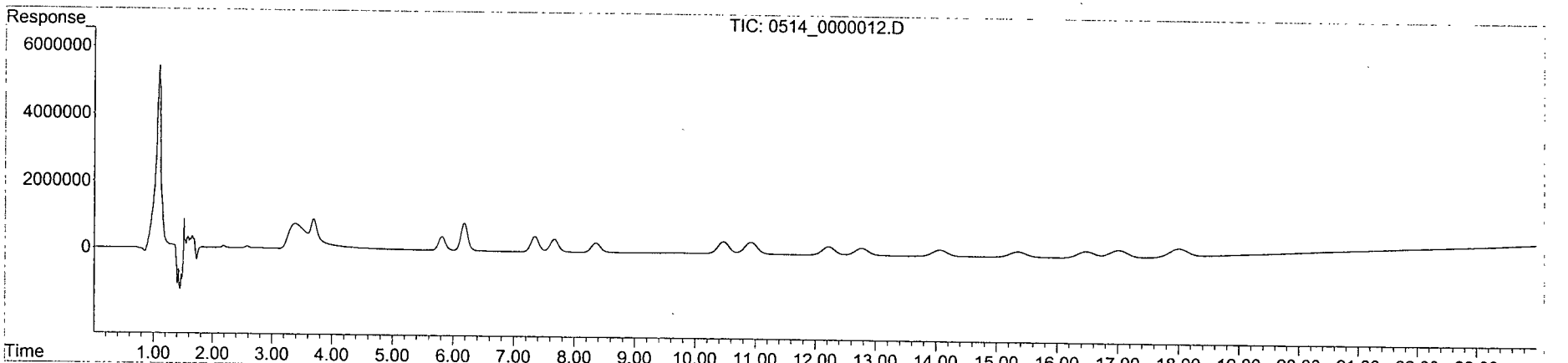
(f)=RT Delta > 1/2 Window (m)=manual int.

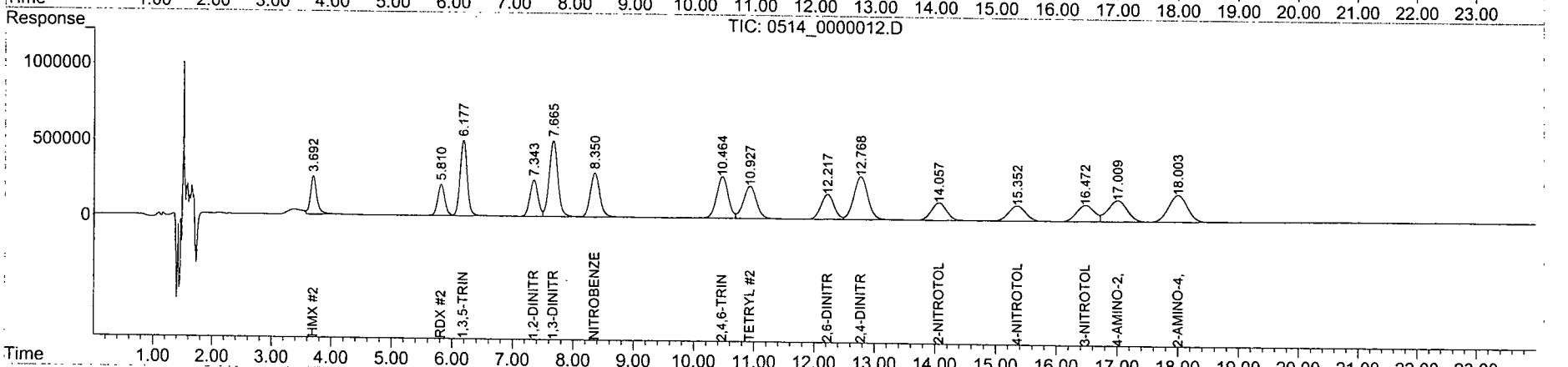
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000012.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 18:07:06
Operator : HM
Sample : 8330MX_A_CB 0.10 PPM 05/14/12
Misc :
ALS Vial : 4100 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:04:24 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 19:30:08
Operator : HM
Sample : 8330MX_A_CB 0.20 PPM 05/14/12
Misc :
ALS Vial : 4101 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:03:48 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

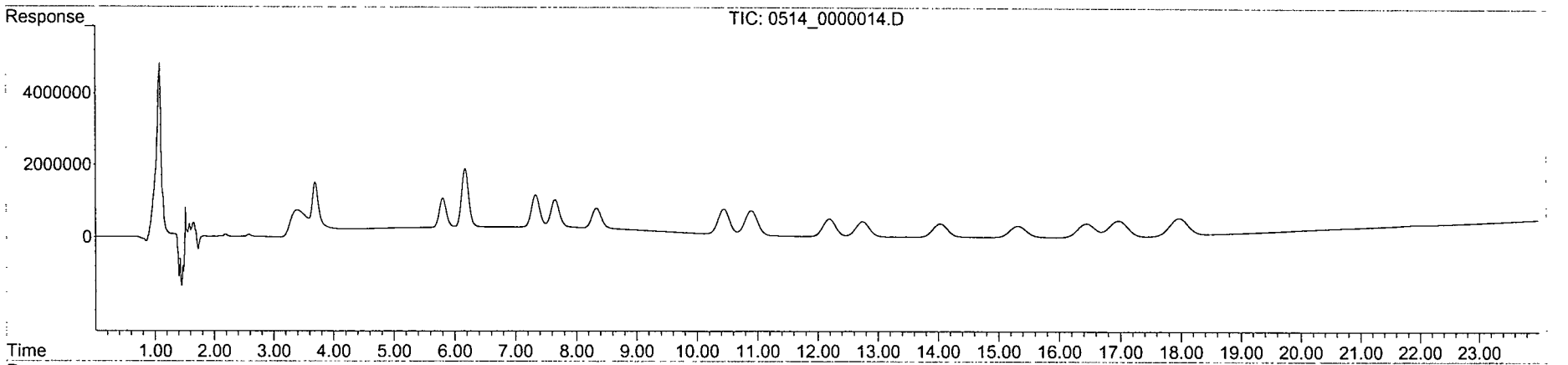
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.332	475430	186.387	ppb	
Spiked Amount 62.500		Recovery = 298.22%			
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	3.694	486625	177.809	ppb	
6) TM RDX #2	5.806	406192	182.400	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.174	979869	181.630	ppb	
9) TM 1,3-DINITROBENZENE #2	7.653	984522	181.893	ppb	
10) TM NITROBENZENE #2	8.335	574792	181.026	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.445	533226	177.138	ppb	
12) TM TETRYL #2	10.898	413172	179.257	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.194	322349	171.203	ppb	
14) TM 2,4-DINITROTOLUENE #2	12.744	554479	178.403	ppb	
15) TM 2-NITROTOLUENE #2	14.038	228246	178.797	ppb	
16) TM 4-NITROTOLUENE #2	15.323	199449	176.200	ppb	
17) TM 3-NITROTOLUENE #2	16.448	215586	178.424	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	16.970	274022	180.324	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	17.968	345193	175.516	ppb	

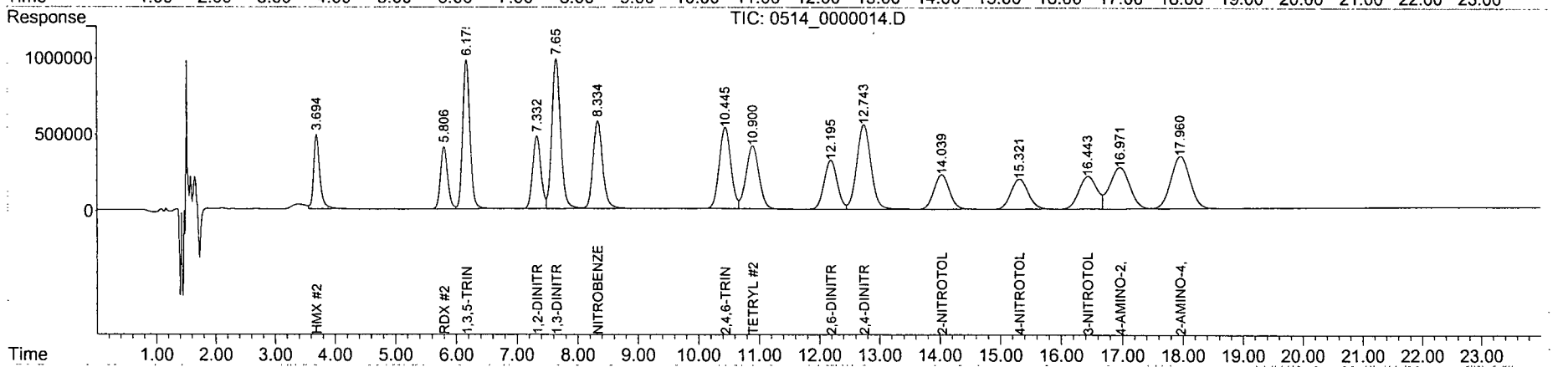
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 19:30:08
Operator : HM
Sample : 8330MX_A_CB 0.20 PPM 05/14/12
Misc :
ALS Vial : 4101 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:03:48 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000016.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 20:53:08
Operator : HM
Sample : 8330MX_A_CB 0.50 PPM 05/14/12
Misc :
ALS Vial : 4102 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:03:04 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

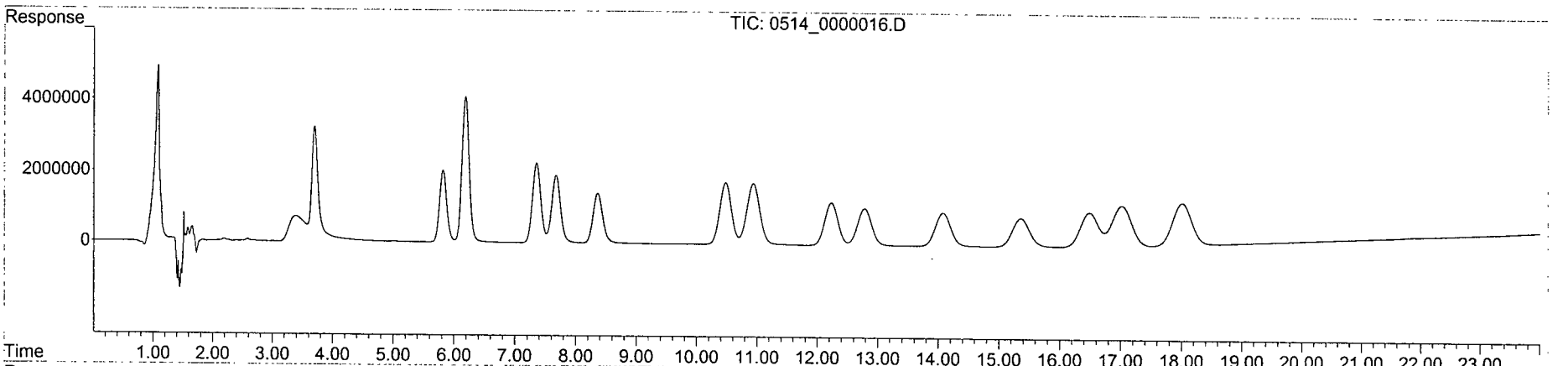
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.354	1194544	468.307	ppb	
Spiked Amount 62.500		Recovery = 749.29%			
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	3.695	1221747	446.417	ppb	
6) TM RDX #2	5.817	1021884	458.875	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.186	2469024	457.662	ppb	
9) TM 1,3-DINITROBENZENE #2	7.673	2478080	457.831	ppb	
10) TM NITROBENZENE #2	8.360	1449100	456.383	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.476	1340661	445.369	ppb	
12) TM TETRYL #2	10.935	1048149	454.746	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.231	810447	430.437	ppb	
14) TM 2,4-DINITROTOLUENE #2	12.779	1397513	449.648	ppb	
15) TM 2-NITROTOLUENE #2	14.076	574540	450.068	ppb	
16) TM 4-NITROTOLUENE #2	15.359	505179	446.292	ppb	
17) TM 3-NITROTOLUENE #2	16.486	546788	452.534	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	17.016	693173	456.154	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	18.008	875532	445.171	ppb	

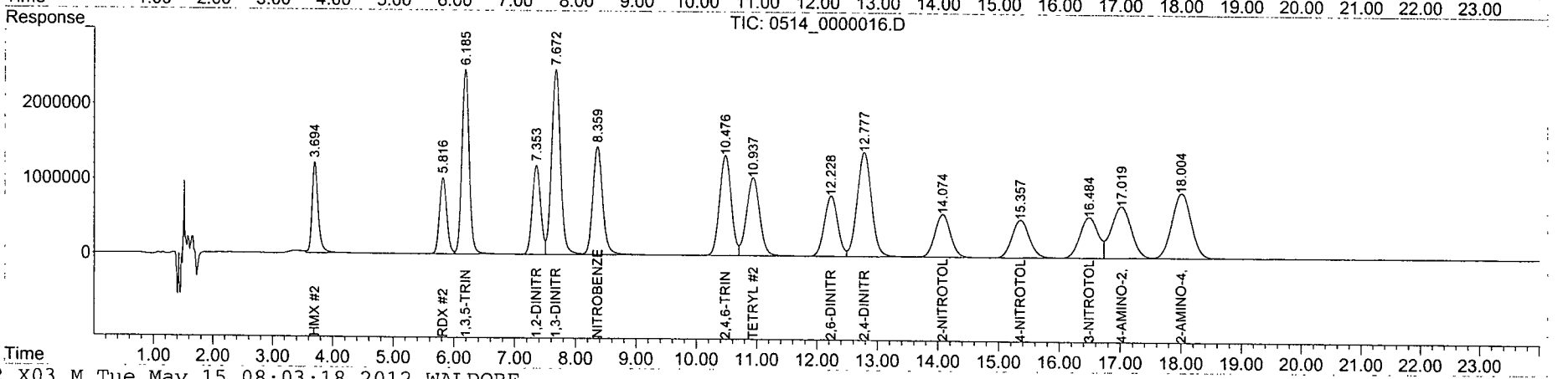
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000016.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 20:53:08
Operator : HM
Sample : 8330MX_A_CB 0.50 PPM 05/14/12
Misc :
ALS Vial : 4102 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:03:04 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 22:16:11
Operator : HM
Sample : 8330MX_A_CB 1.0 PPM 05/14/12
Misc :
ALS Vial : 4103 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:02:27 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

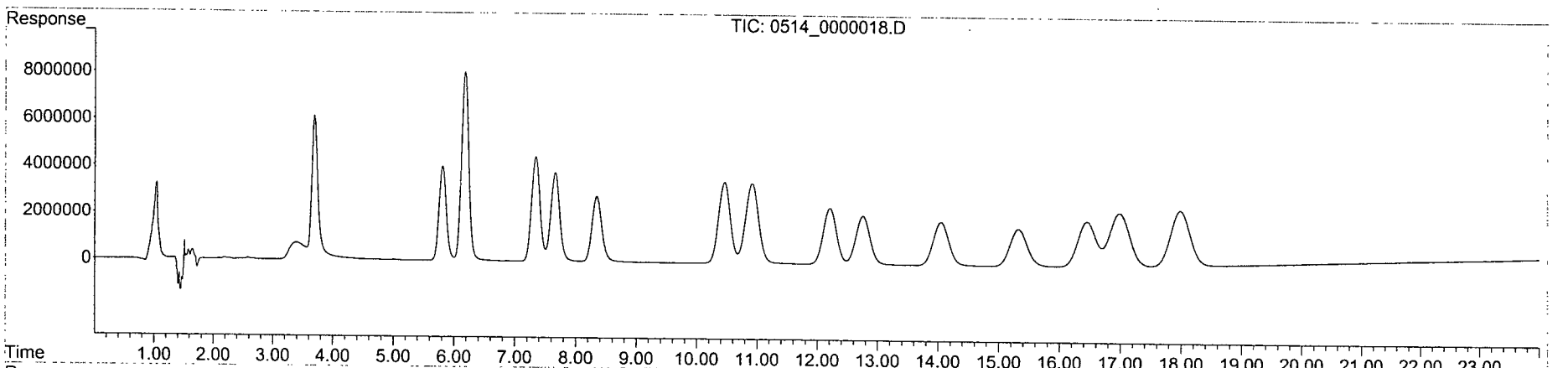
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.339	2359601	925.054	ppb	
Spiked Amount 62.500		Recovery	= 1480.09%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	3.687	2407072	879.525	ppb	
6) TM RDX #2	5.807	2011893	903.438	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.175	4863352	901.479	ppb	
9) TM 1,3-DINITROBENZENE #2	7.659	4894336	904.239	ppb	
10) TM NITROBENZENE #2	8.342	2845050	896.027	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.455	2630751	873.939	ppb	
12) TM TETRYL #2	10.912	2054513	891.362	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.206	1592481	845.784	ppb	
14) TM 2,4-DINITROTOLUENE #2	12.754	2750338	884.919	ppb	
15) TM 2-NITROTOLUENE #2	14.046	1123133	879.811	ppb	
16) TM 4-NITROTOLUENE #2	15.324	993088	877.327	ppb	
17) TM 3-NITROTOLUENE #2	16.451	1072076	887.273	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	16.986	1351950	889.672	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	17.985	1707240	868.060	ppb	

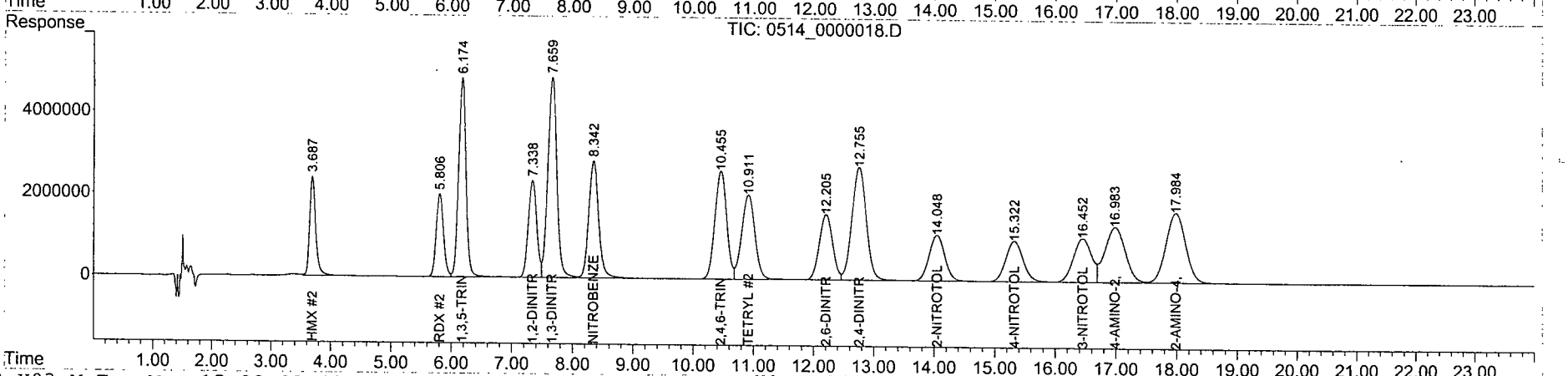
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 22:16:11
Operator : HM
Sample : 8330MX_A_CB 1.0 PPM 05/14/12
Misc :
ALS Vial : 4103 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:02:27 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000020.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 23:39:11
Operator : HM
Sample : 8330MX_A_CB 2.0 PPM 05/14/12
Misc :
ALS Vial : 4104 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:01:48 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

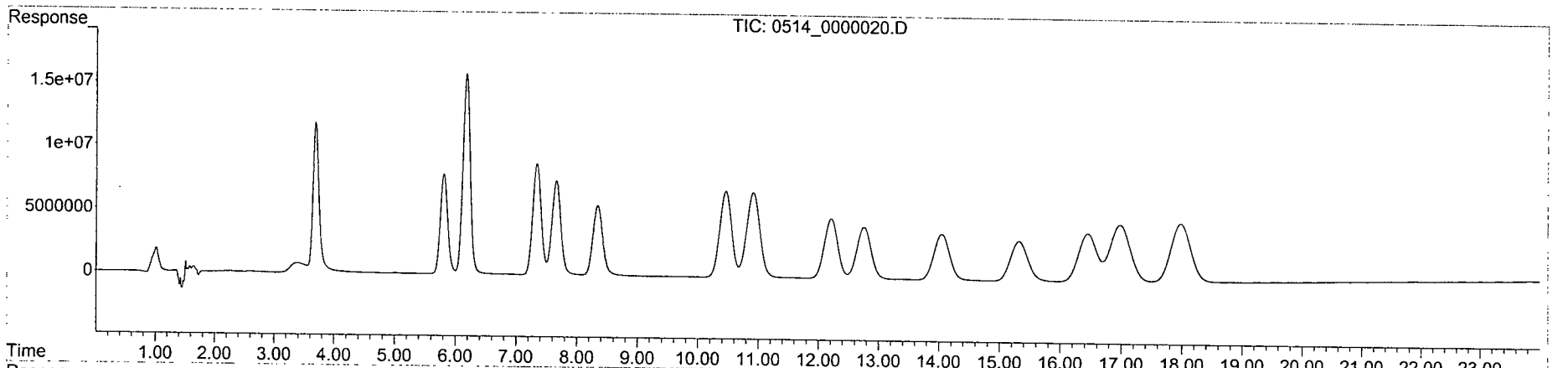
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.335	4651986	1823.756	ppb	
Spiked Amount 62.500		Recovery = 2918.01%			
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	d
5) TM HMX #2	3.681	4748665	1735.124	ppb	
6) TM RDX #2	5.803	3949225	1773.394	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.172	9578607	1775.507	ppb	
9) TM 1,3-DINITROBENZENE #2	7.656	9645979	1782.116	ppb	
10) TM NITROBENZENE #2	8.337	5618283	1769.437	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.453	5177306	1719.908	ppb	
12) TM TETRYL #2	10.909	4047509	1756.035	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.205	3141690	1668.586	ppb	
14) TM 2,4-DINITROTOLUENE #2	12.752	5424800	1745.424	ppb	
15) TM 2-NITROTOLUENE #2	14.043	2211505	1732.391	ppb	
16) TM 4-NITROTOLUENE #2	15.317	1963689	1734.787	ppb	
17) TM 3-NITROTOLUENE #2	16.446	2114014	1749.604	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	16.976	2658732	1749.620	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	17.974	3337744	1697.103	ppb	

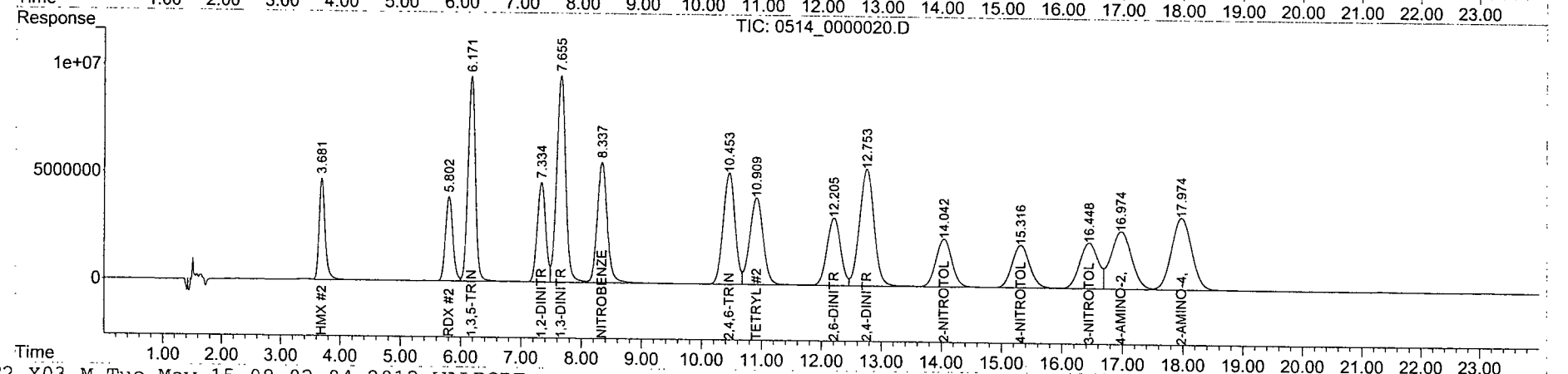
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000020.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 23:39:11
Operator : HM
Sample : 8330MX_A_CB 2.0 PPM 05/14/12
Misc :
ALS Vial : 4104 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:01:48 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:16:34
Operator : HM
Sample : 8330MX_B_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4160 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:08:32 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

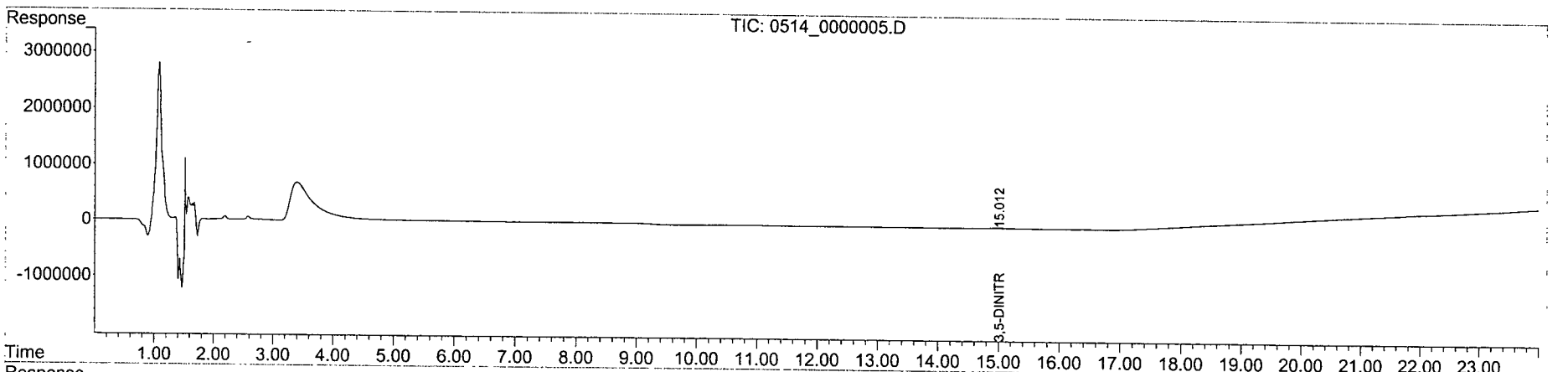
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	
Spiked Amount 62.500		Recovery =	0.00%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	
2) TM 3,5-DINITROANILINE	15.012	16807	4.828	ppb	m
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

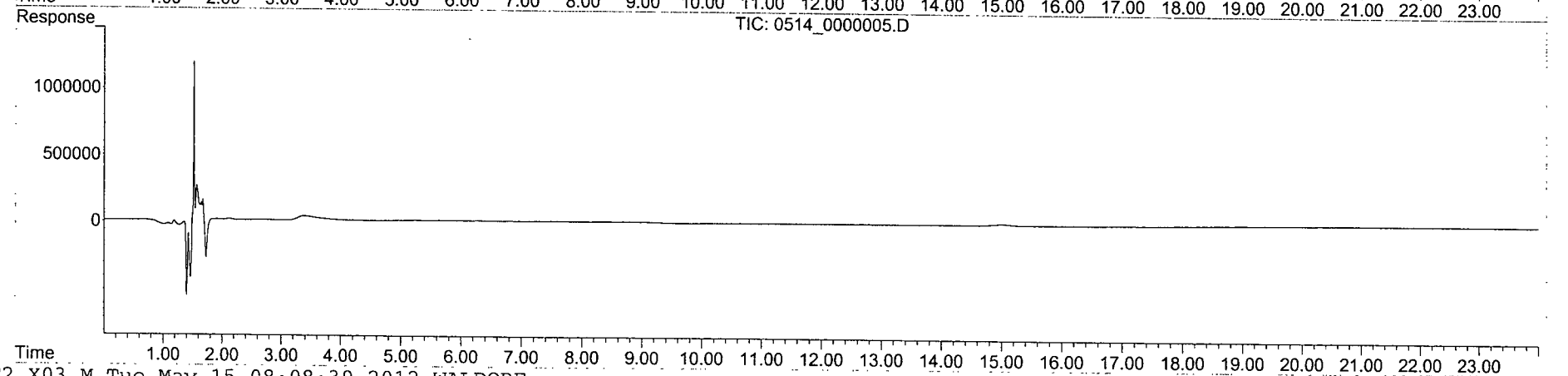
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:16:34
Operator : HM
Sample : 8330MX_B_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4160 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:08:32 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



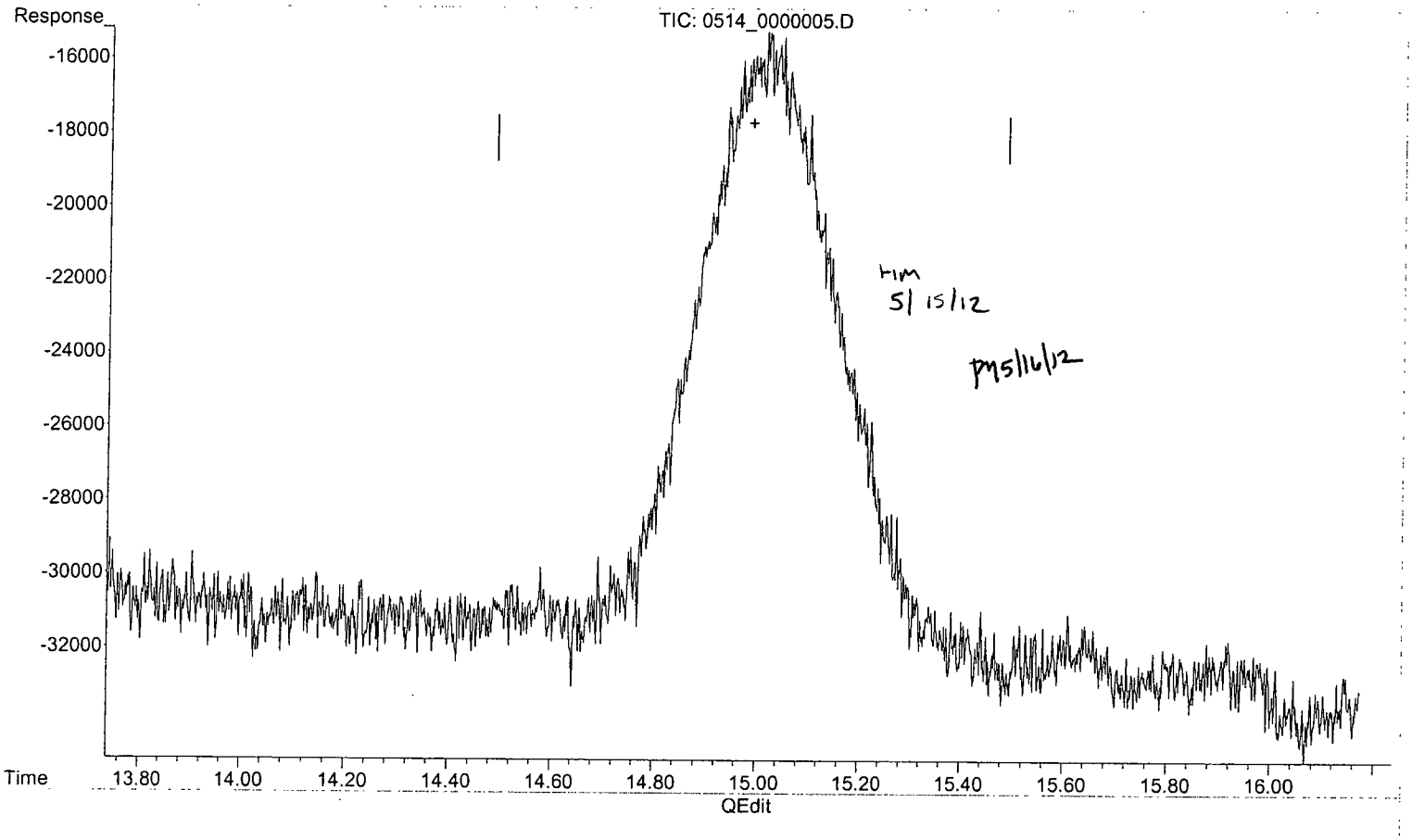


Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:16:34
Operator : HM
Sample : 8330MX_B_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4160 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:37 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(2) 3,5-DINITROANILINE (TM)

15.017min 3.270 ppb

response 11385

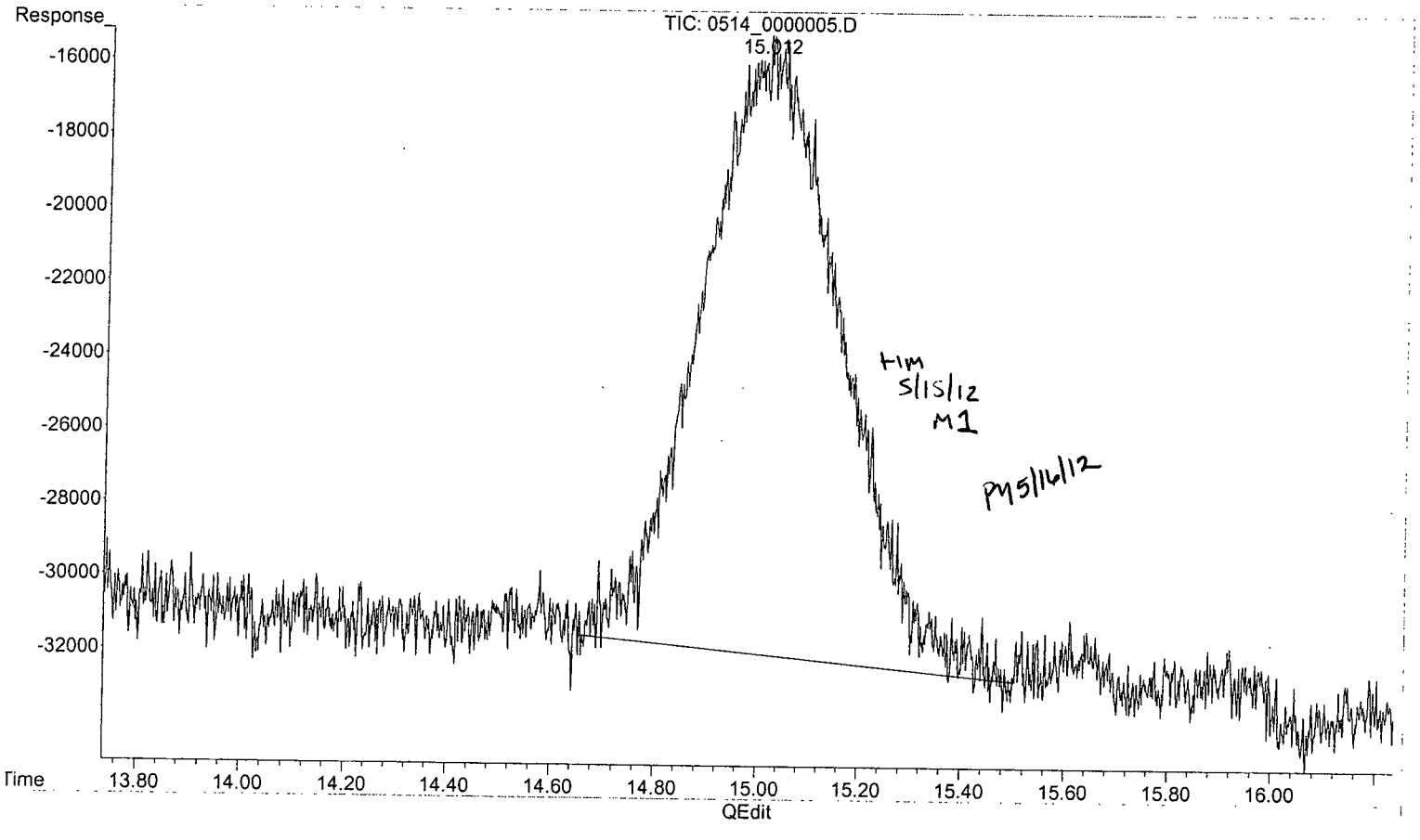
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 13:16:34
Operator : HM
Sample : 8330MX_B_CB 0.005 PPM 05/14/12
Misc :
ALS Vial : 4160 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:37 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(2) 3,5-DINITROANILINE (TM)

15.012min 4.828 ppb m

response 16807

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 14:39:34
Operator : HM
Sample : 8330MX_B_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4161 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:07:12 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

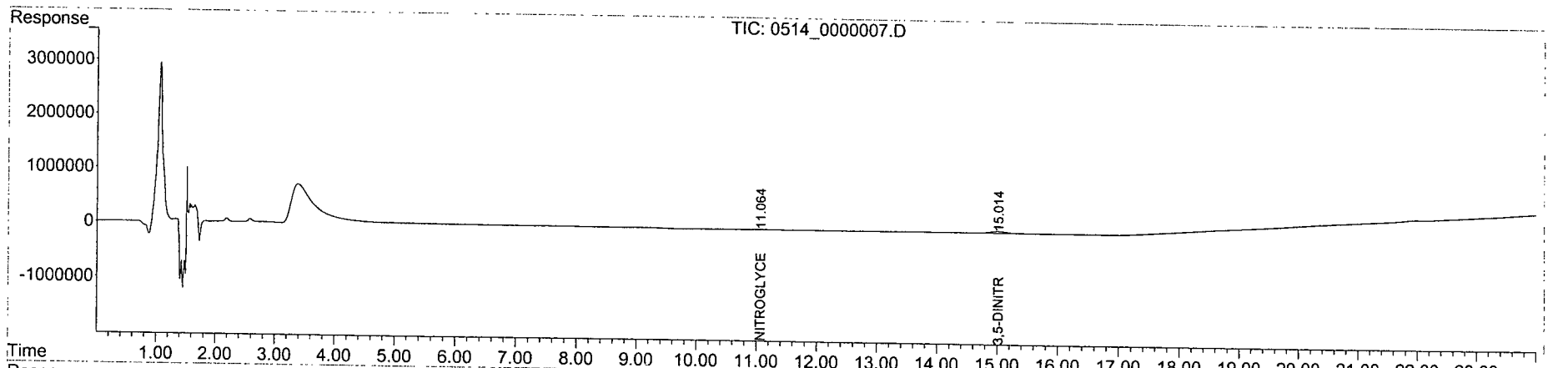
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	
Spiked Amount 62.500		Recovery =	0.00%		
Target Compounds					
1) TM NITROGLYCERIN	11.064	10032	10.006	ppb	m
2) TM 3,5-DINITROANILINE	15.014	34367	9.872	ppb	m
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	d
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

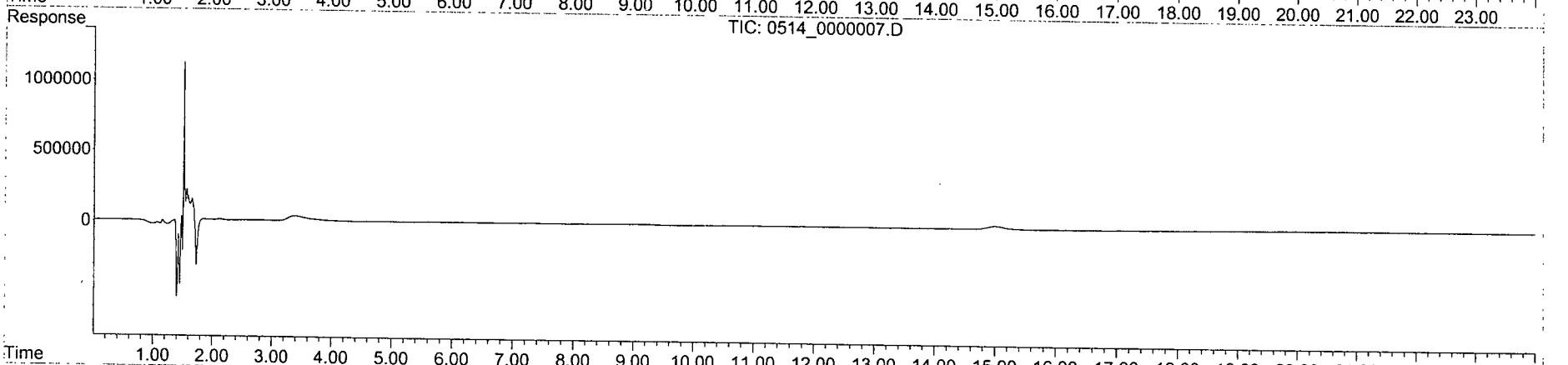
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 14:39:34
Operator : HM
Sample : 8330MX_B_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4161 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:07:12 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



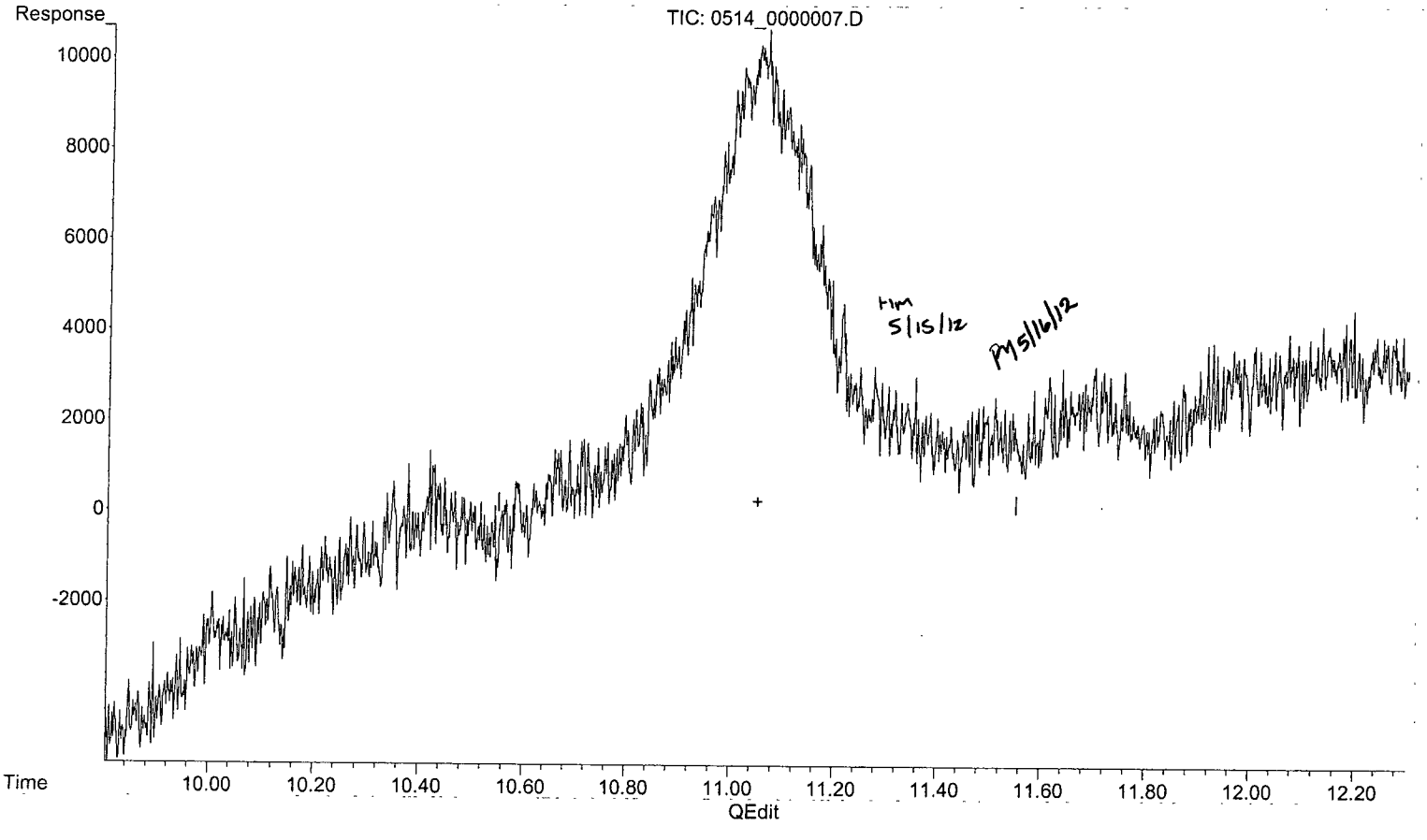


Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 14:39:34
Operator : HM
Sample : 8330MX_B_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4161 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:41 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(1) NITROGLYCERIN (TM)

11.052min 0.000 ppb

response 0

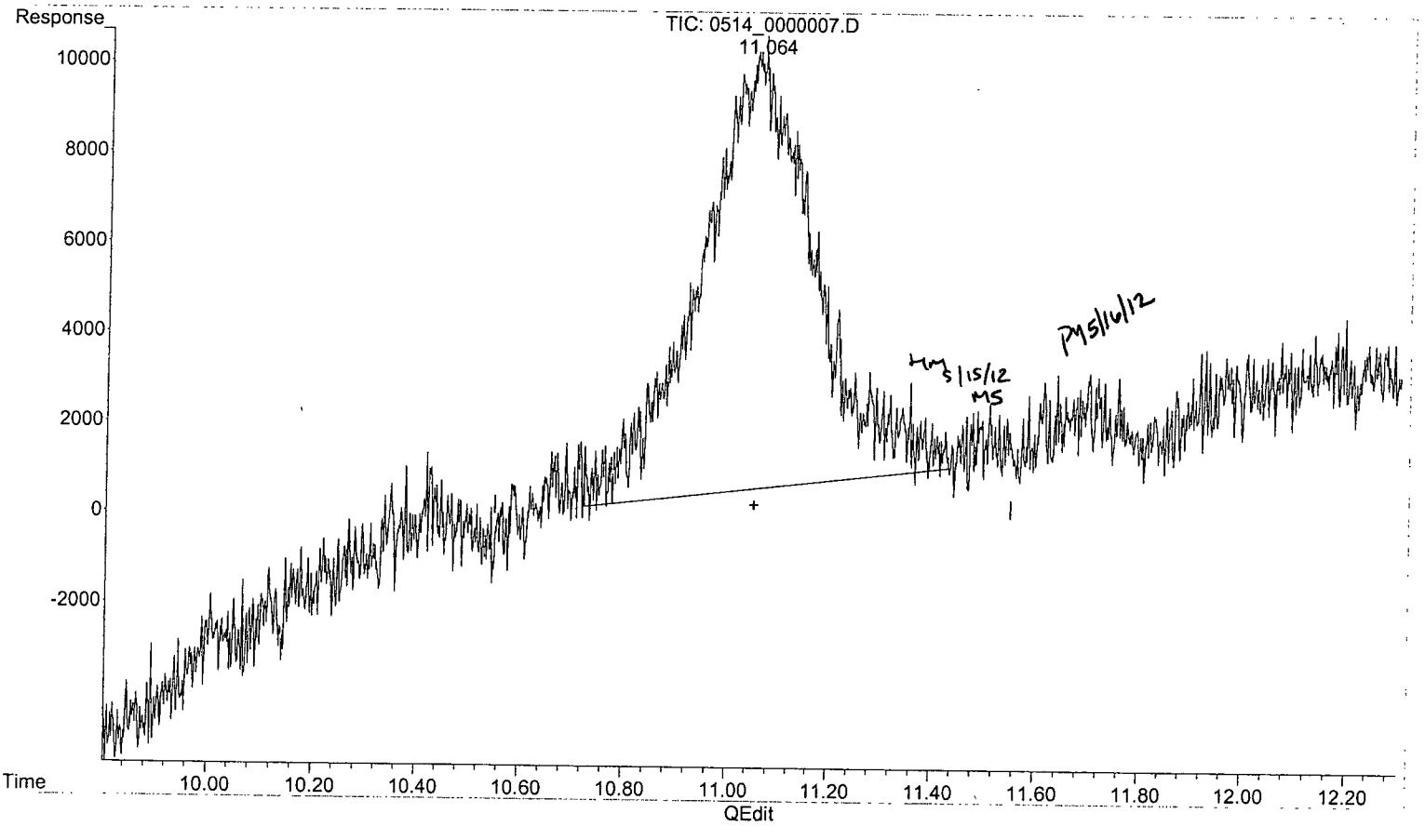
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 14:39:34
Operator : HM
Sample : 8330MX_B_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4161 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:41 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(1) NITROGLYCERIN (TM)

11.064min 10.006 ppb m

response 10032

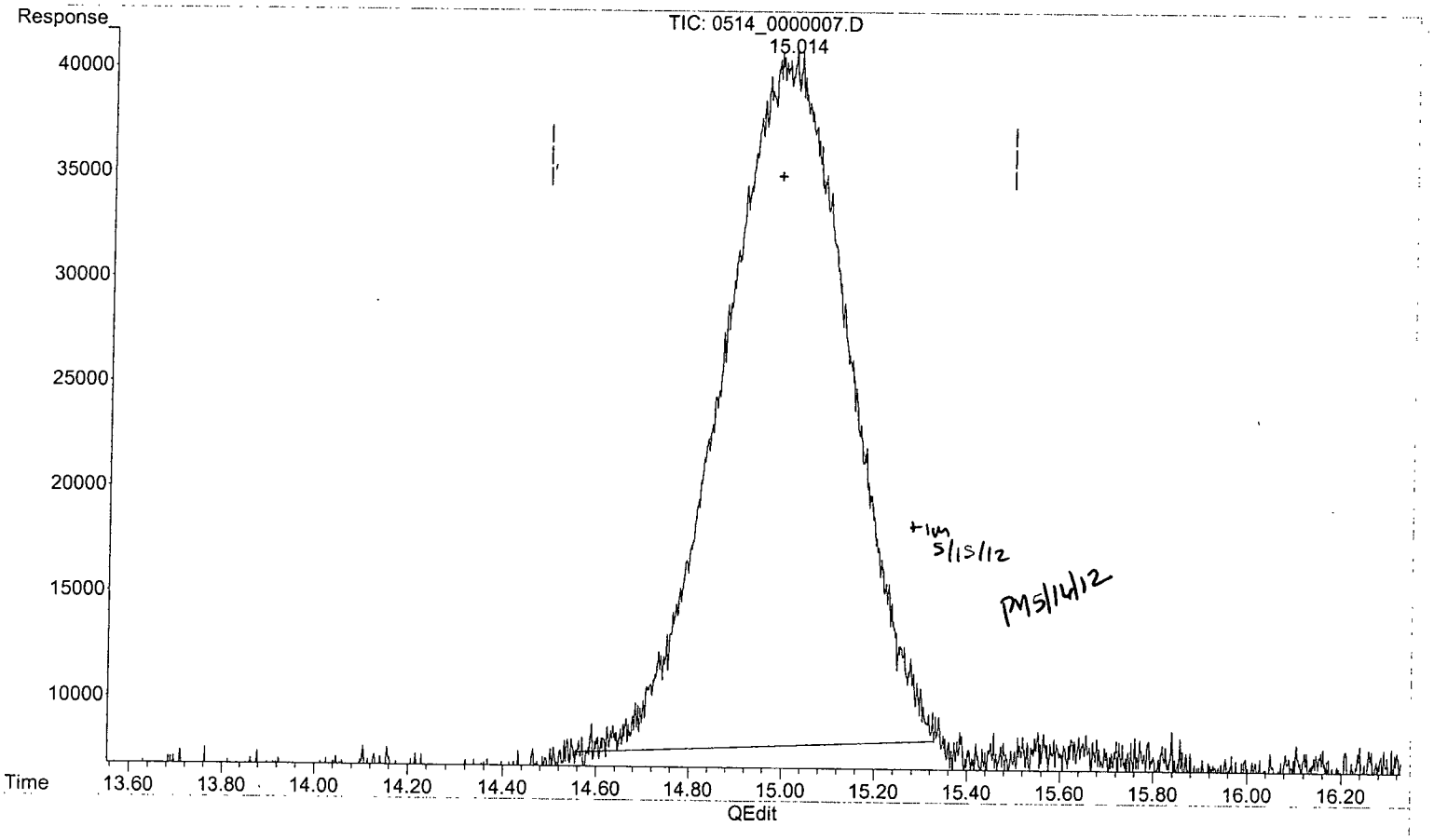
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 14:39:34
Operator : HM
Sample : 8330MX_B_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4161 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:41 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(2) 3,5-DINITROANILINE (TM)

15.026min 9.424 ppb

response 32809

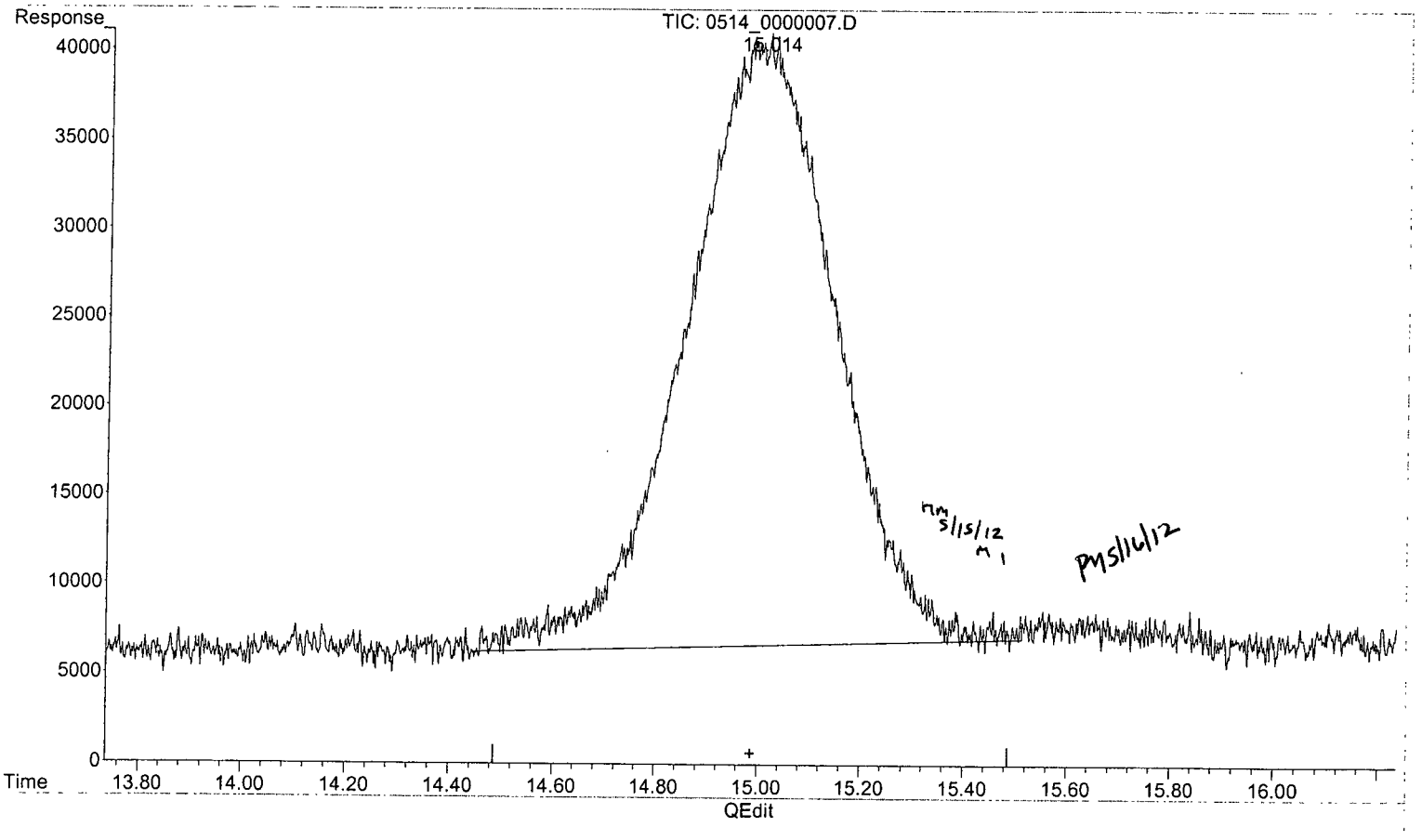
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 14:39:34
Operator : HM
Sample : 8330MX_B_CB 0.010 PPM 05/14/12
Misc :
ALS Vial : 4161 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:41 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(2) 3,5-DINITROANILINE (TM)

15.014min 9.872 ppb m

response 34367

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 16:02:37
Operator : HM
Sample : 8330MX_B_CB 0.020 PPM 05/14/12
Misc :
ALS Vial : 4162 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:06:20 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

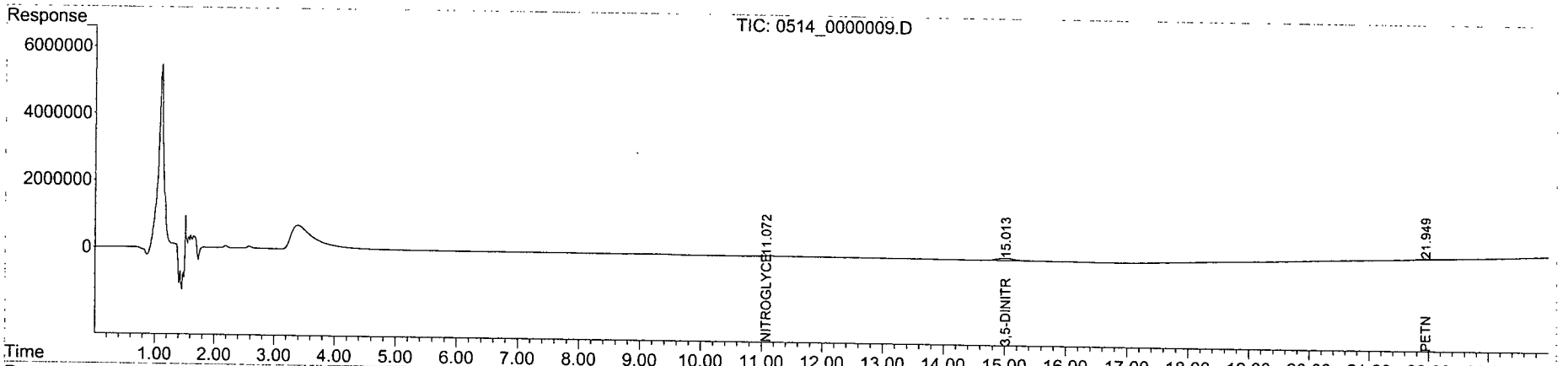
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	
Spiked Amount 62.500		Recovery =	0.00%		
Target Compounds					
1) TM NITROGLYCERIN	11.072	17950	17.903	ppb	m
2) TM 3,5-DINITROANILINE	15.013	67512	19.392	ppb	m
3) TM PETN	21.950	25204	31.965	ppb	
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	d
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

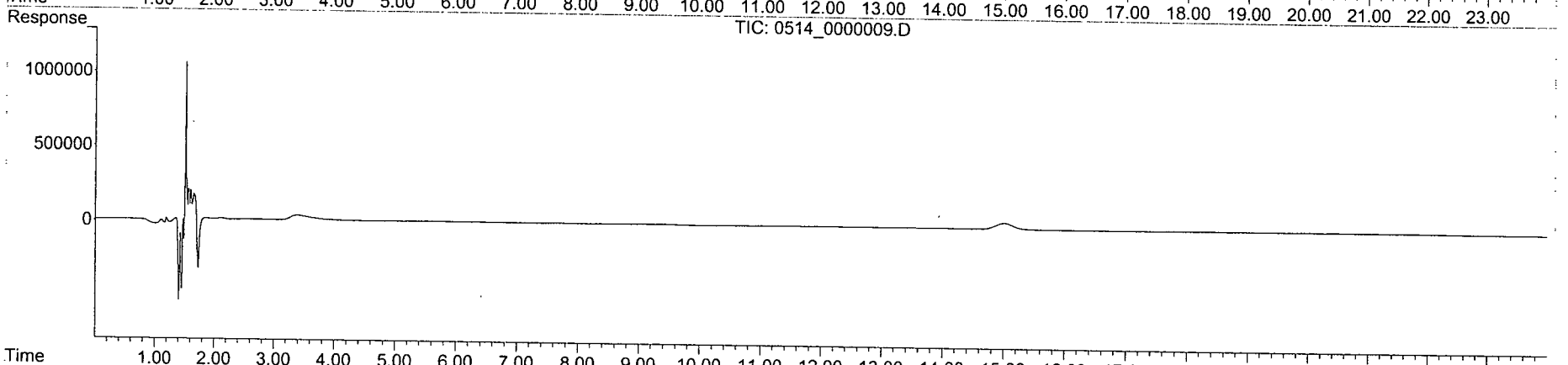
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 16:02:37
Operator : HM
Sample : 8330MX_B_CB 0.020 PPM 05/14/12
Misc :
ALS Vial : 4162 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:06:20 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



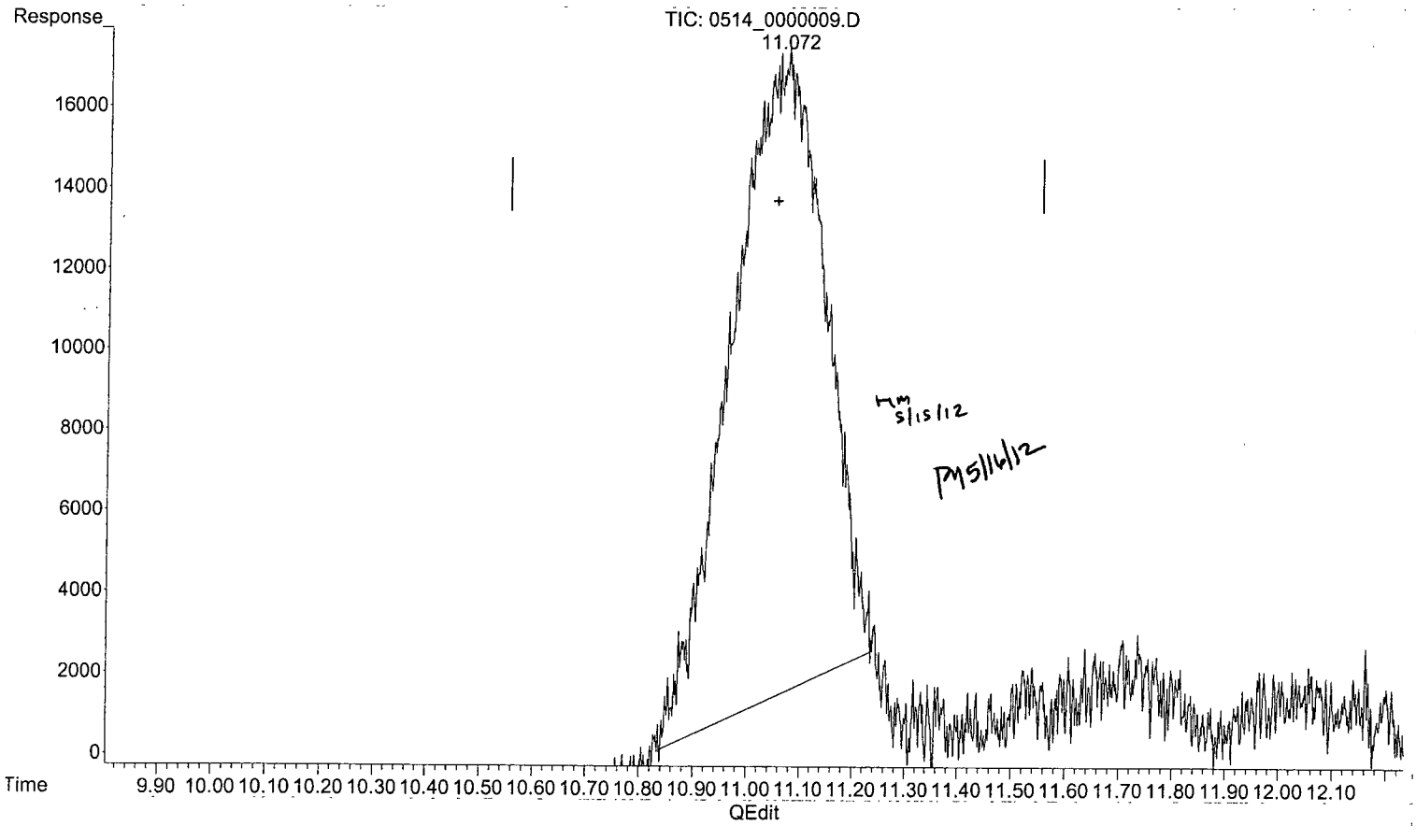


Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 16:02:37
Operator : HM
Sample : 8330MX_B_CB 0.020 PPM 05/14/12
Misc :
ALS Vial : 4162 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:45 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(1) NITROGLYCERIN (TM)

11.072min 15.834 ppb

response 15875

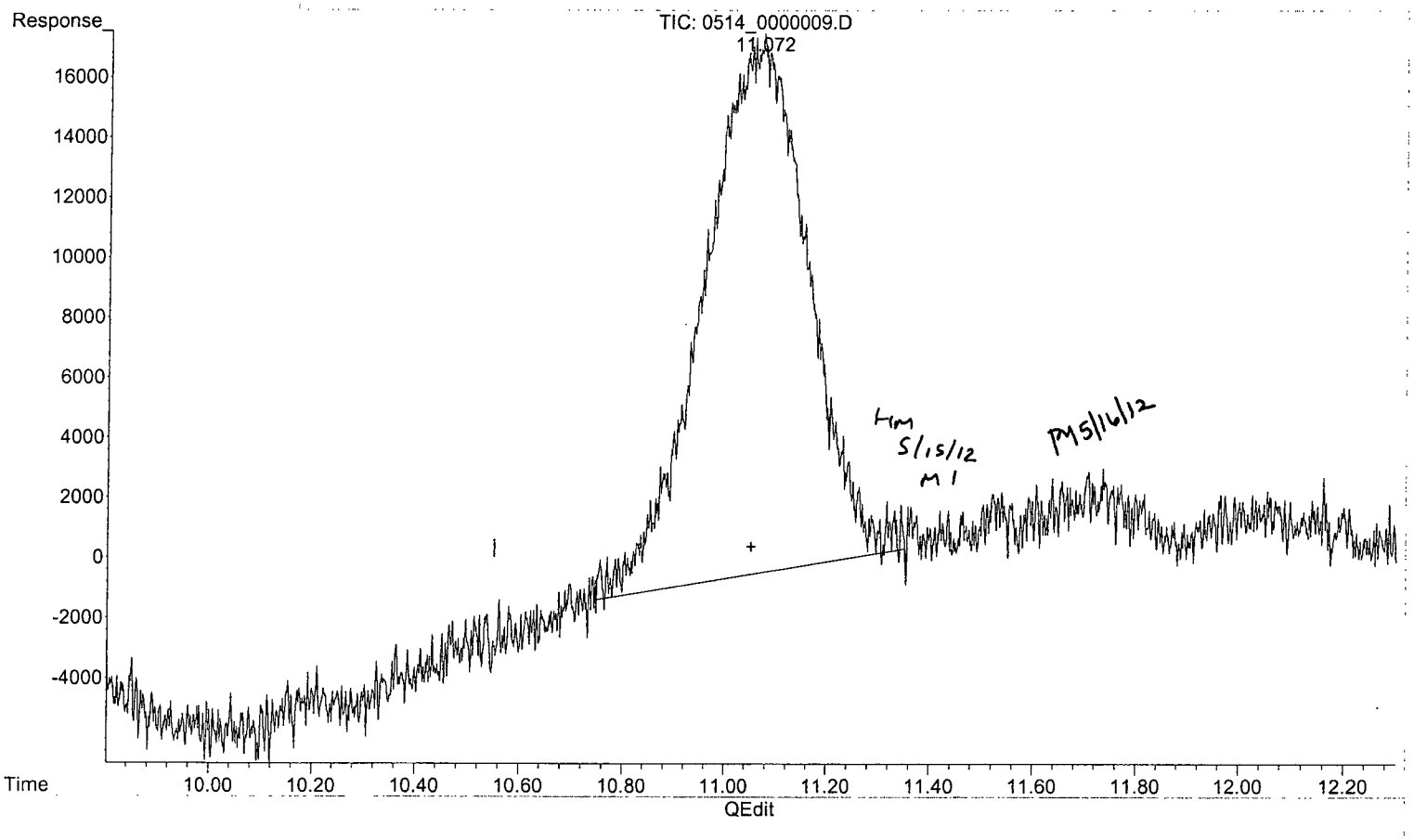
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 16:02:37
Operator : HM
Sample : 8330MX_B_CB 0.020 PPM 05/14/12
Misc :
ALS Vial : 4162 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:45 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(1) NITROGLYCERIN (TM)

11.072min 17.903 ppb m

response 17950

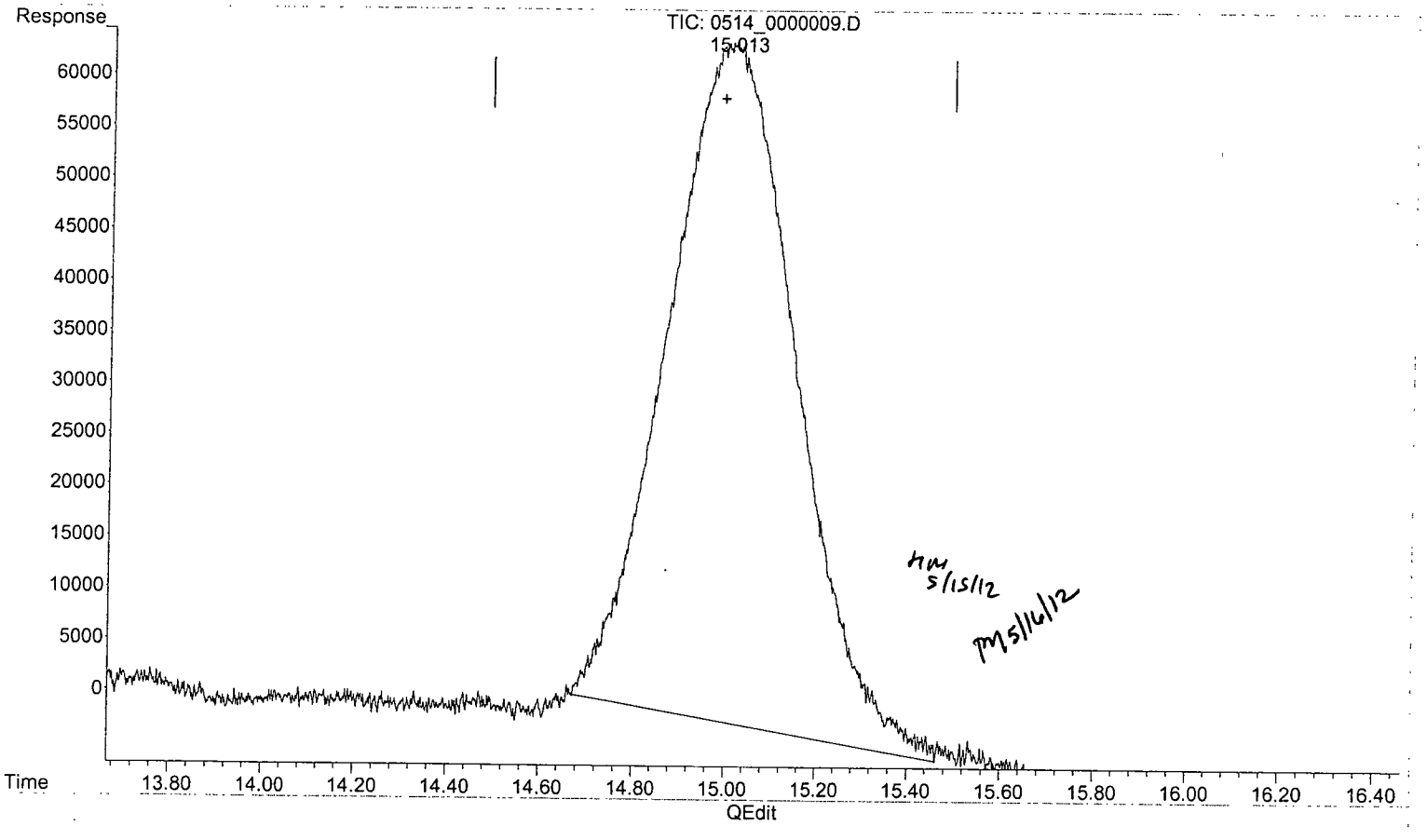
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 16:02:37
Operator : HM
Sample : 8330MX_B_CB 0.020 PPM 05/14/12
Misc :
ALS Vial : 4162 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:45 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(2) 3,5-DINITROANILINE (TM)

14.994min 18.942 ppb

response 65944

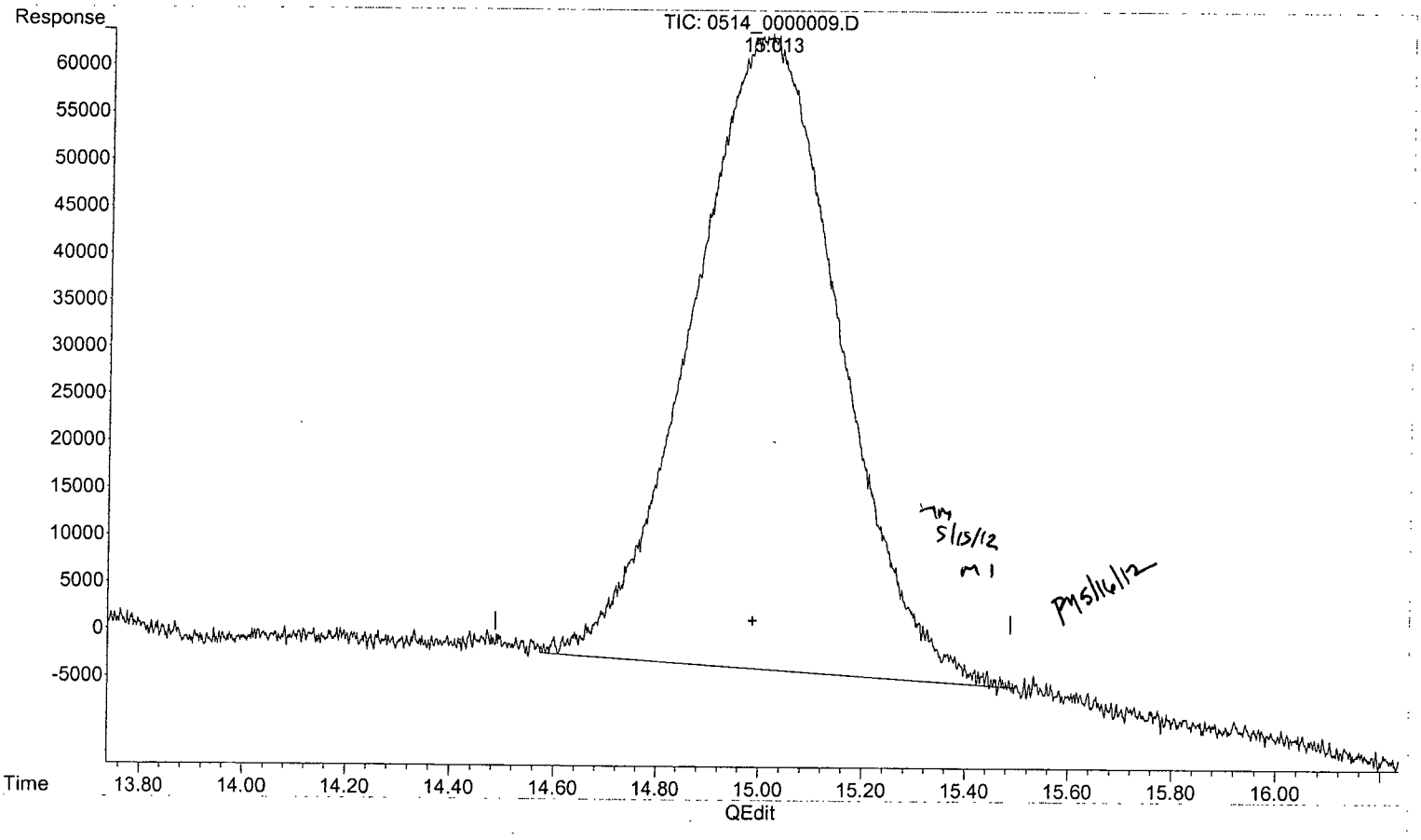
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 16:02:37
Operator : HM
Sample : 8330MX_B_CB 0.020 PPM 05/14/12
Misc :
ALS Vial : 4162 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:00:45 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm



(2) 3,5-DINITROANILINE (TM)

15.013min 19.392 ppb m

response 67512

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000011.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 17:25:37
Operator : HM
Sample : 8330MX_B_CB 0.050 PPM 05/14/12
Misc :
ALS Vial : 4163 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:04:44 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

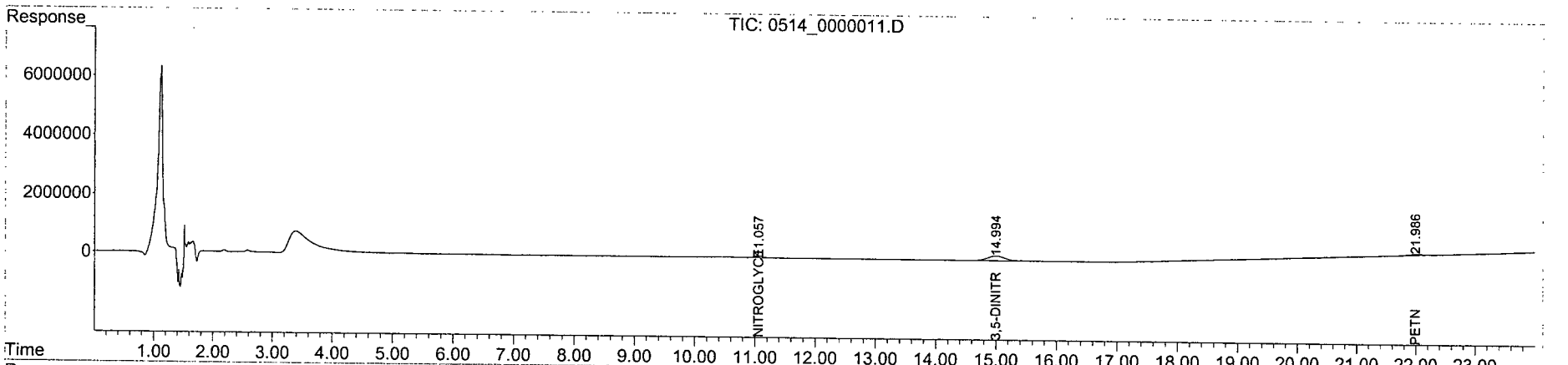
	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
8) S	1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	
Spiked Amount	62.500		Recovery =	0.00%		
	Target Compounds					
1) TM	NITROGLYCERIN	11.057	40587	40.482	ppb	
2) TM	3,5-DINITROANILINE	14.995	161705	46.449	ppb	
3) TM	PETN	21.986	40473	51.331	ppb	
5) TM	HMX #2	0.000	0	N.D.	ppb	
6) TM	RDX #2	0.000	0	N.D.	ppb	
7) TM	1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM	1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM	NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM	2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM	TETRYL #2	0.000	0	N.D.	ppb	
13) TM	2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM	2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM	2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM	4-NITROTOLUENE #2	0.000	0	N.D.	ppb	d
17) TM	3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM	4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM	2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

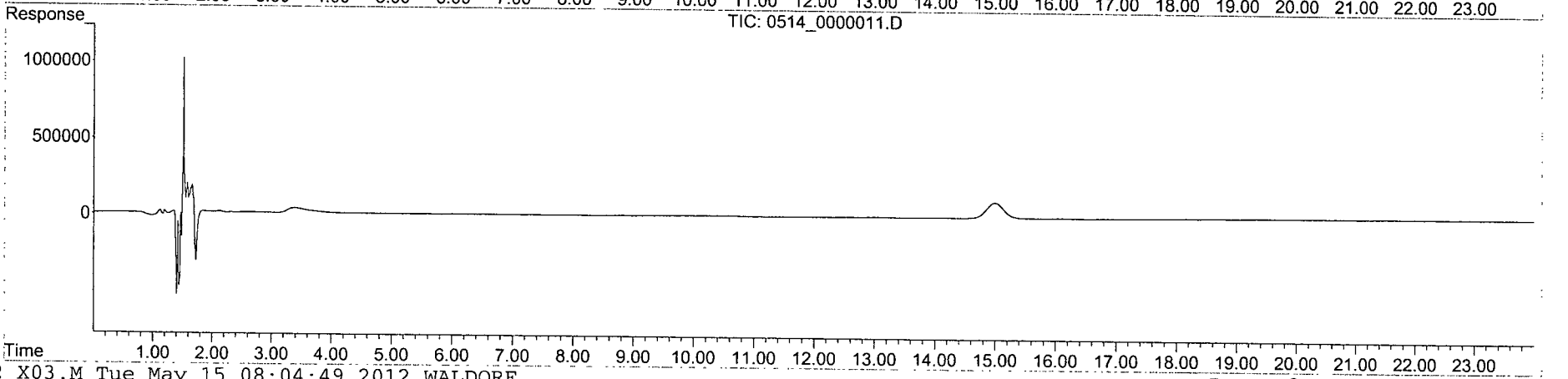
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000011.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 17:25:37
Operator : HM
Sample : 8330MX_B_CB 0.050 PPM 05/14/12
Misc :
ALS Vial : 4163 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:04:44 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000013.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 18:48:37
Operator : HM
Sample : 8330MX_B_CB 0.10 PPM 05/14/12
Misc :
ALS Vial : 4164 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:04:11 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

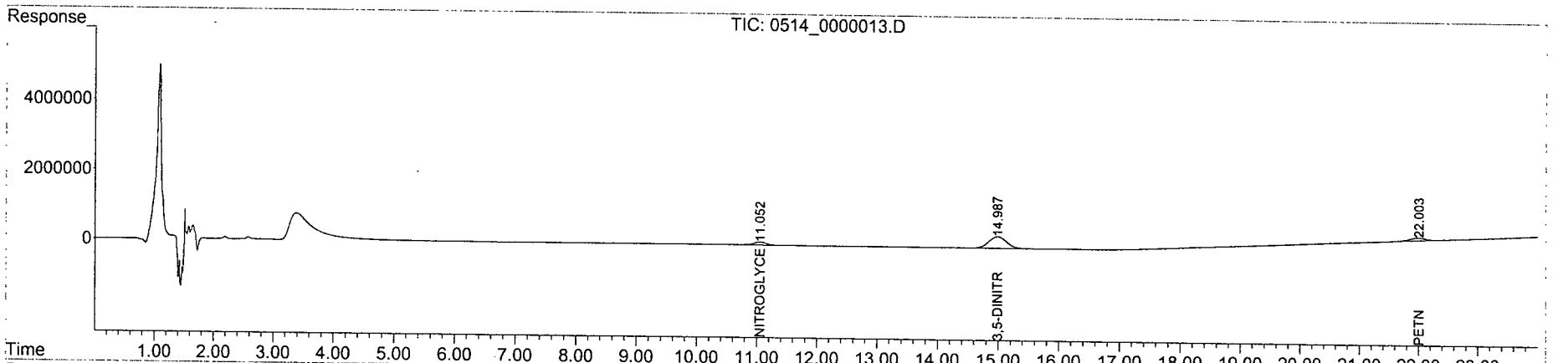
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	
Spiked Amount 62.500		Recovery =	0.00%		
Target Compounds					
1) TM NITROGLYCERIN	11.052	85504	85.282	ppb	
2) TM 3,5-DINITROANILINE	14.988	324639	93.251	ppb	
3) TM PETN	22.003	77429	98.201	ppb	
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	d
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

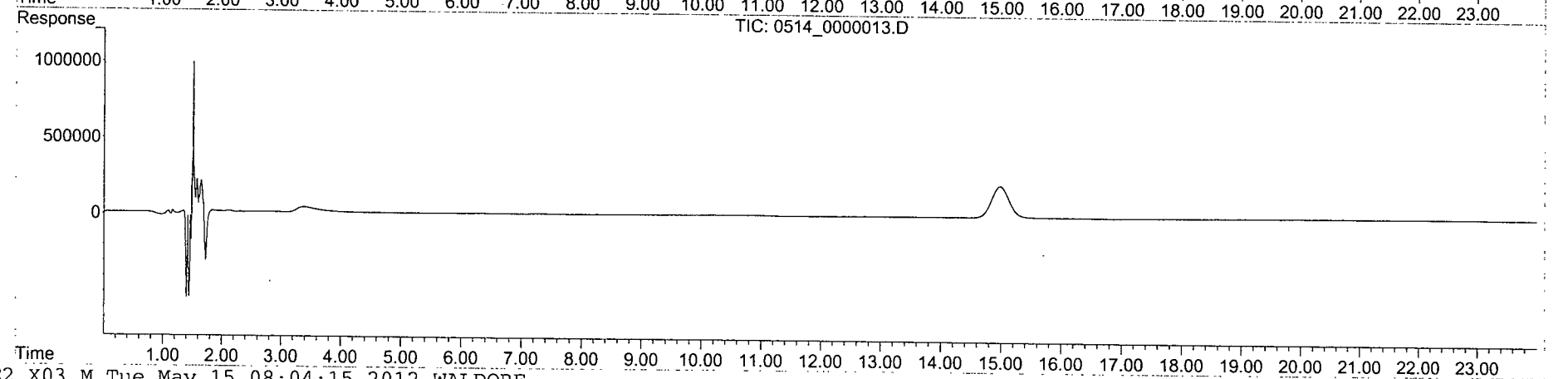
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000013.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 18:48:37
Operator : HM
Sample : 8330MX_B_CB 0.10 PPM 05/14/12
Misc :
ALS Vial : 4164 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:04:11 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000015.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 20:11:38
Operator : HM
Sample : 8330MX_B_CB 0.20 PPM 05/14/12
Misc :
ALS Vial : 4165 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:03:31 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

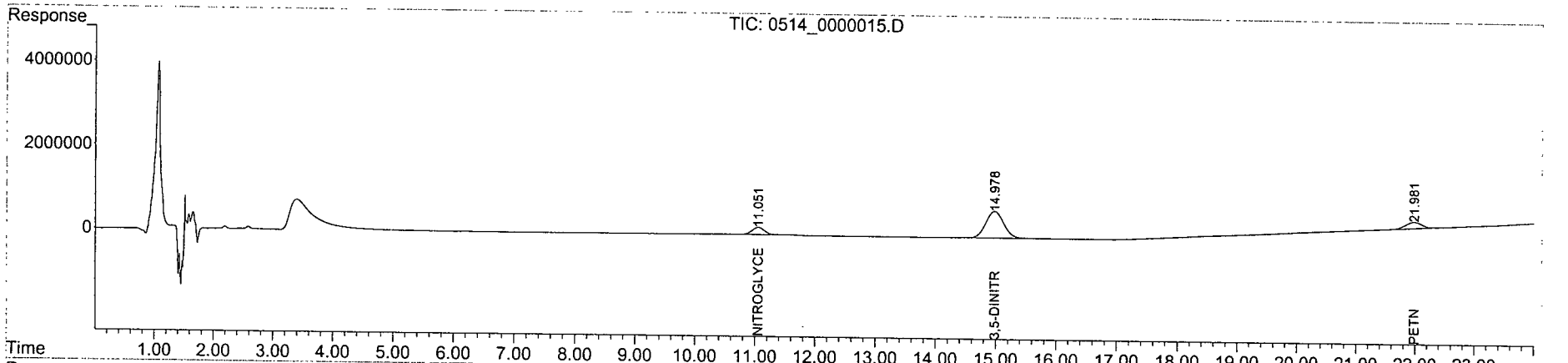
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	
Spiked Amount 62.500		Recovery =	0.00%		
Target Compounds					
1) TM NITROGLYCERIN	11.048	169765	169.324	ppb	
2) TM 3,5-DINITROANILINE	14.978	637575	183.140	ppb	
3) TM PETN	21.981	148542	188.392	ppb	
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	d
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

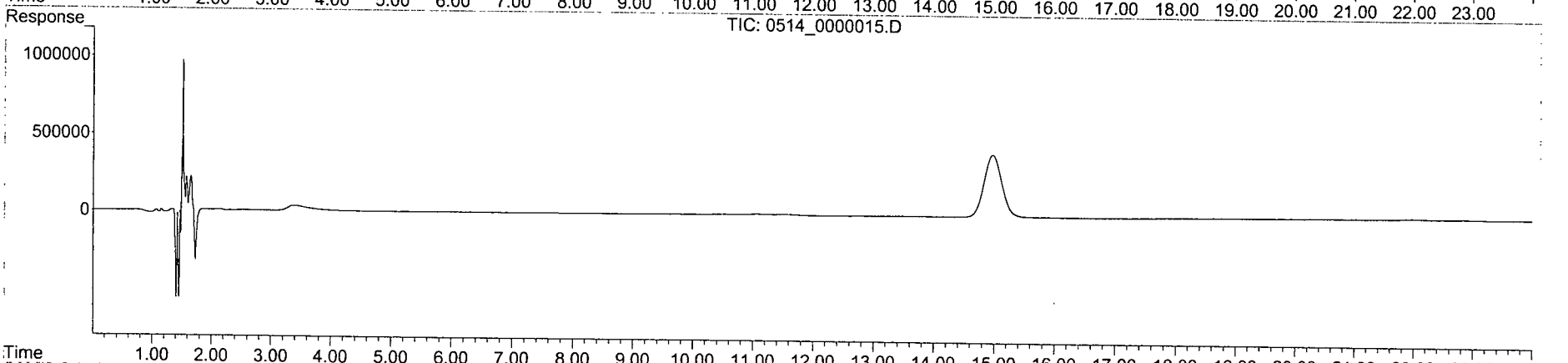
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000015.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 20:11:38
Operator : HM
Sample : 8330MX_B_CB 0.20 PPM 05/14/12
Misc :
ALS Vial : 4165 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:03:31 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000017.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 21:34:39
Operator : HM
Sample : 8330MX_B_CB 0.50 PPM 05/14/12
Misc :
ALS Vial : 4166 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:02:50 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

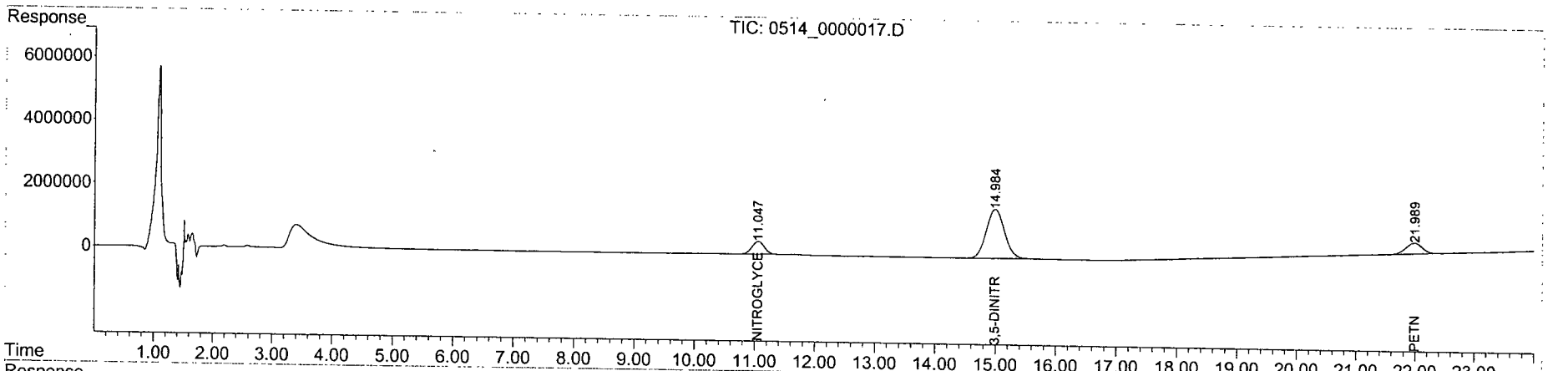
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	
Spiked Amount 62.500		Recovery =	0.00%		
Target Compounds					
1) TM NITROGLYCERIN	11.052	408658	407.598	ppb	
2) TM 3,5-DINITROANILINE	14.985	1541839	442.886	ppb	
3) TM PETN	21.982	343140	435.195	ppb	
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	d
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

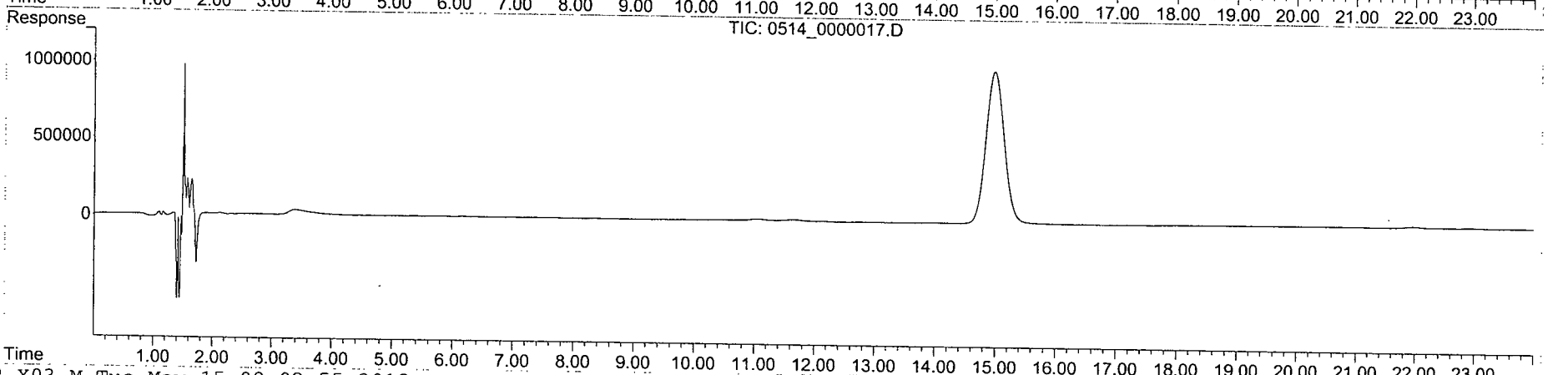
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000017.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 21:34:39
Operator : HM
Sample : 8330MX_B_CB 0.50 PPM 05/14/12
Misc :
ALS Vial : 4166 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:02:50 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000019.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 22:57:42
Operator : HM
Sample : 8330MX_B_CB 1.0 PPM 05/14/12
Misc :
ALS Vial : 4167 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:02:13 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

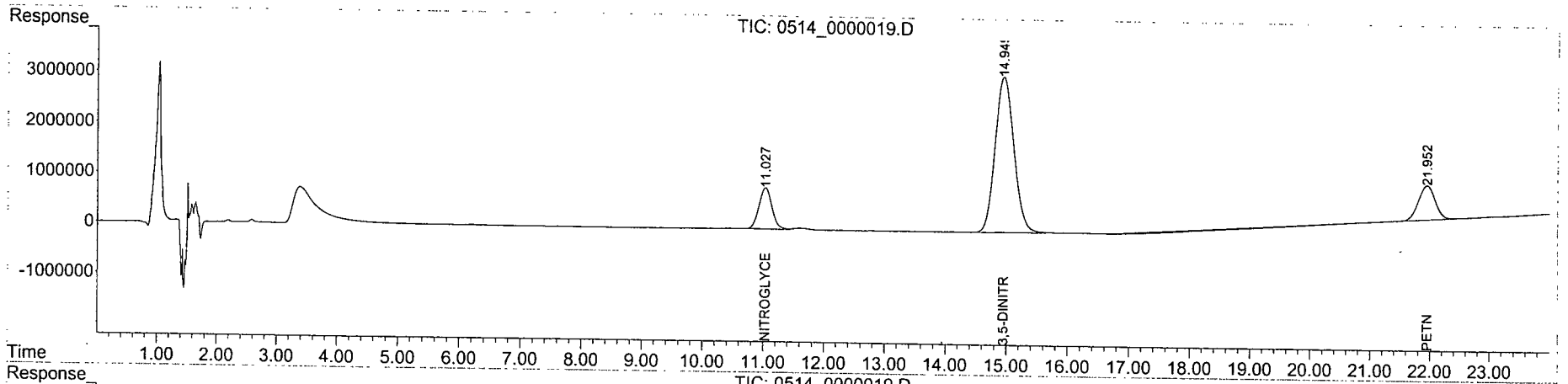
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	
Spiked Amount 62.500		Recovery =	0.00%		
Target Compounds					
1) TM NITROGLYCERIN	11.028	831574	829.417	ppb	
2) TM 3,5-DINITROANILINE	14.951	3101590	890.916	ppb	
3) TM PETN	21.952	691221	876.657	ppb	
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	d
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

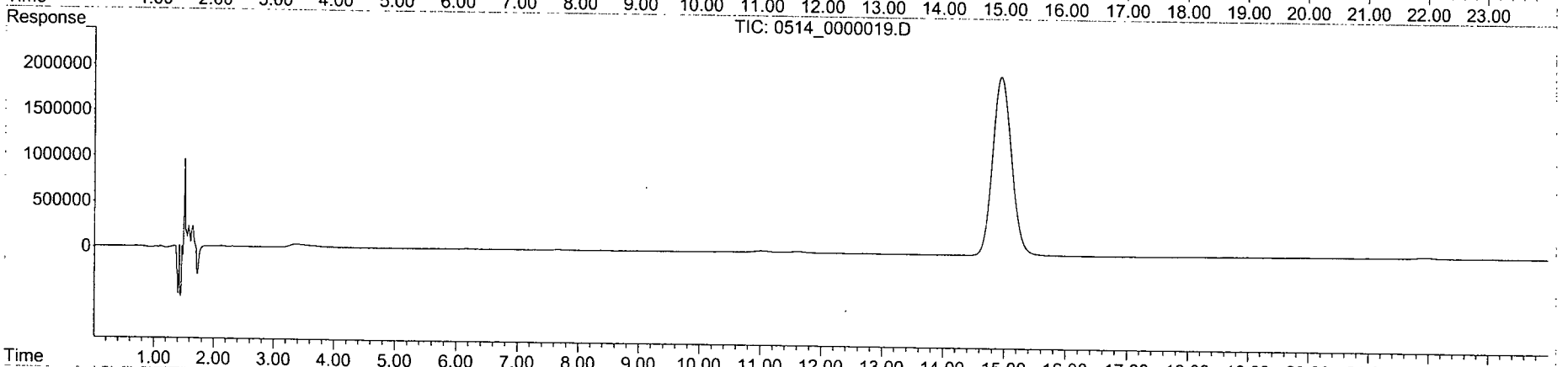
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000019.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 14-May-2012, 22:57:42
Operator : HM
Sample : 8330MX_B_CB 1.0 PPM 05/14/12
Misc :
ALS Vial : 4167 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:02:13 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000021.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 15-May-2012, 00:20:41
Operator : HM
Sample : 8330MX_B_CB 2.0 PPM 05/14/12
Misc :
ALS Vial : 4168 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:01:27 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	
Spiked Amount 62.500		Recovery =	0.00%		
Target Compounds					
1) TM NITROGLYCERIN	11.026	1649841	1645.562	ppb	
2) TM 3,5-DINITROANILINE	14.932	6101300	1752.568	ppb	
3) TM PETN	21.942	1368724	1735.916	ppb	
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	d
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

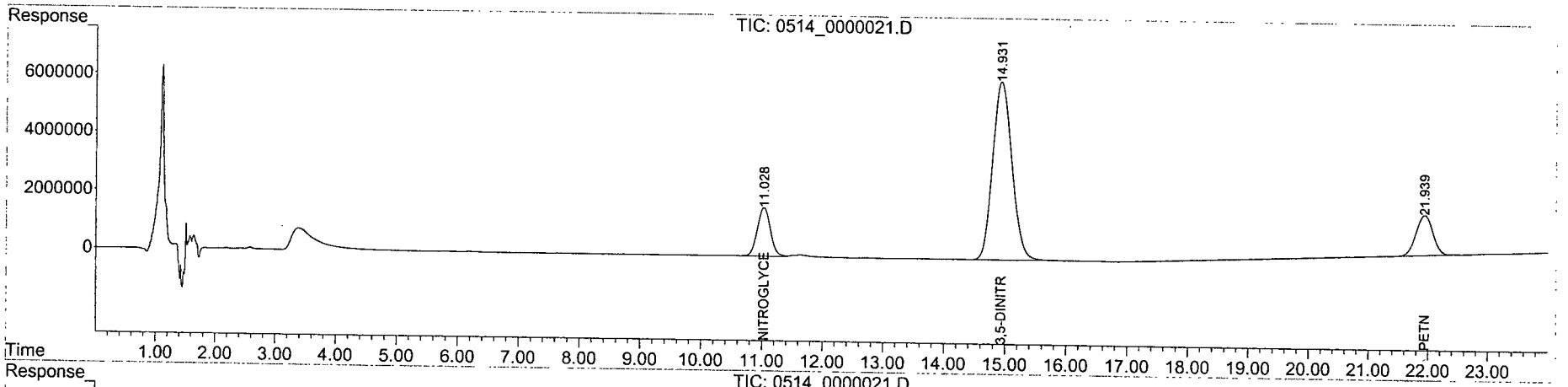
(f)=RT Delta > 1/2 Window (m)=manual int.

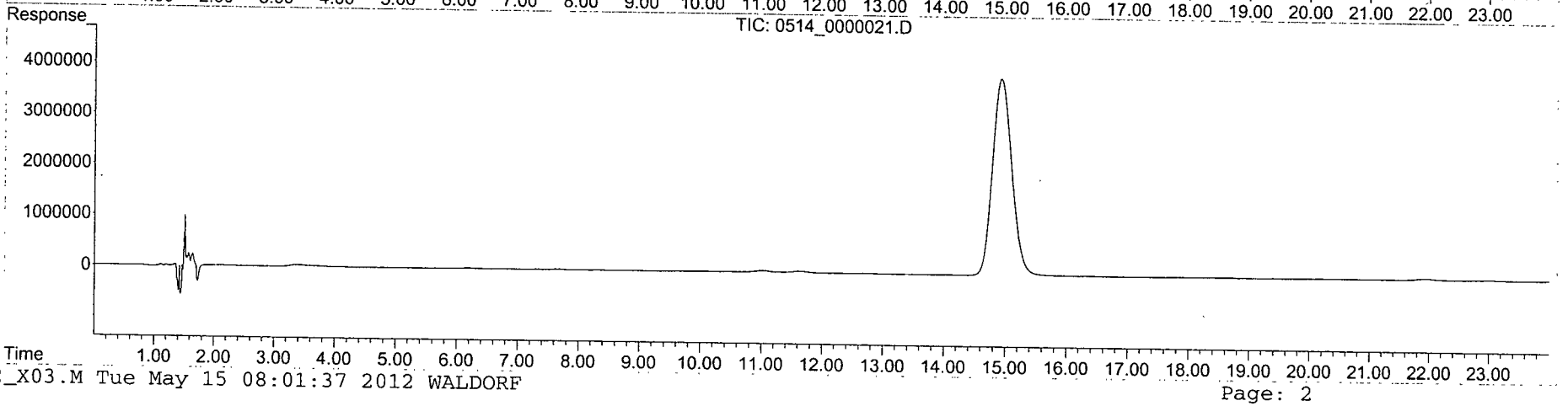
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120514\
Data File : 0514_0000021.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 15-May-2012, 00:20:41
Operator : HM
Sample : 8330MX_B_CB 2.0 PPM 05/14/12
Misc :
ALS Vial : 4168 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 15 08:01:27 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120514\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Thu May 10 09:16:27 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 16-May-2012, 01:40:00
Instrument: Statler
Initial Cal. Date: 05/14/12
Data File: 0515_025/0516_004.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	21.5	24.4	13	TM	
2	TM	3,5-DINITROANILINE	80.8	87.2	7.9	TM	
3	TM	PETN	18.3	20.3	11	TM	
	Signal #2						
1	TM	HMX #2	65.9	61.7	6.4	TM	
2	TM	RDX #2	51.9	51.0	1.6	TM	
3	TM	1,3-DINITROBENZENE #2	125	128	2.5	TM	
4	TM	NITROBENZENE #2	73.6	70.6	4.1	TM	
5	TM	2,4-DINITROTOLUENE #2	70.2	74.0	5.4	TM	
6	TM	3-NITROTOLUENE #2	27.7	27.0	2.5	TM	
7	TM	4-AMINO-2,6-DINITROTOLUENE #2	34.2	36.0	5.5	TM	
8	TM	1,3,5-TRINITROBENZENE #2	124	133	7.0	TM	
9	S	1,2-DINITROBENZENE #2	60.7	63.3	4.2	S	
10	TM	2,4,6-TRINITROTOLUENE #2	67.8	75.4	11	TM	
11	TM	TETRYL #2	53.0	49.1	7.3	TM	
12	TM	2,6-DINITROTOLUENE #2	41.4	46.7	13	TM	
13	TM	2-NITROTOLUENE #2	29.8	32.2	8.3	TM	
14	TM	4-NITROTOLUENE #2	25.2	27.5	9.2	TM	
15	TM	2-AMINO-4,6-DINITROTOLUENE #2	44.5	51.1	15	TM	
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36							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120515\
Data File : 0515_0000025.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 01:40:00
Operator : HM
Sample : 8330MX_A_SS 1.0 PPM 05/15/12
Misc :
ALS Vial : 4416 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 16 09:02:50 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120515\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

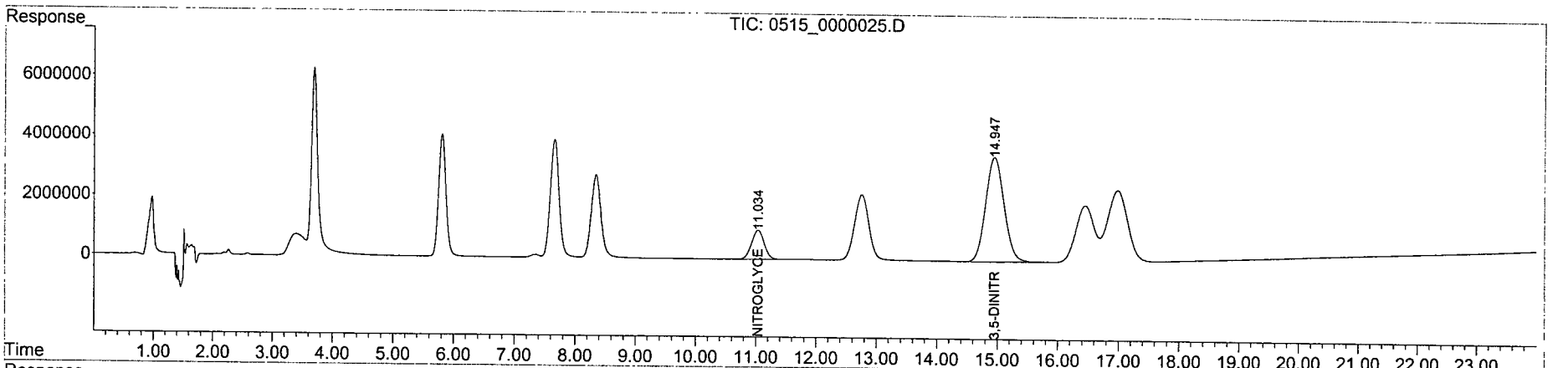
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	d
Spiked Amount 62.500		Recovery =	0.00%		
Target Compounds					
1) TM NITROGLYCERIN	11.035	976246	1133.502	ppb	
2) TM 3,5-DINITROANILINE	14.947	3487631	1079.468	ppb	
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	3.688	2466747	936.178	ppb	
6) TM RDX #2	5.807	2041157	983.789	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	7.661	5132351	1025.349	ppb	
10) TM NITROBENZENE #2	8.344	2824340	959.071	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	d
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	12.755	2958022	1053.848	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	d
17) TM 3-NITROTOLUENE #2	16.449	1081675	975.433	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	16.982	1441328	1054.860	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

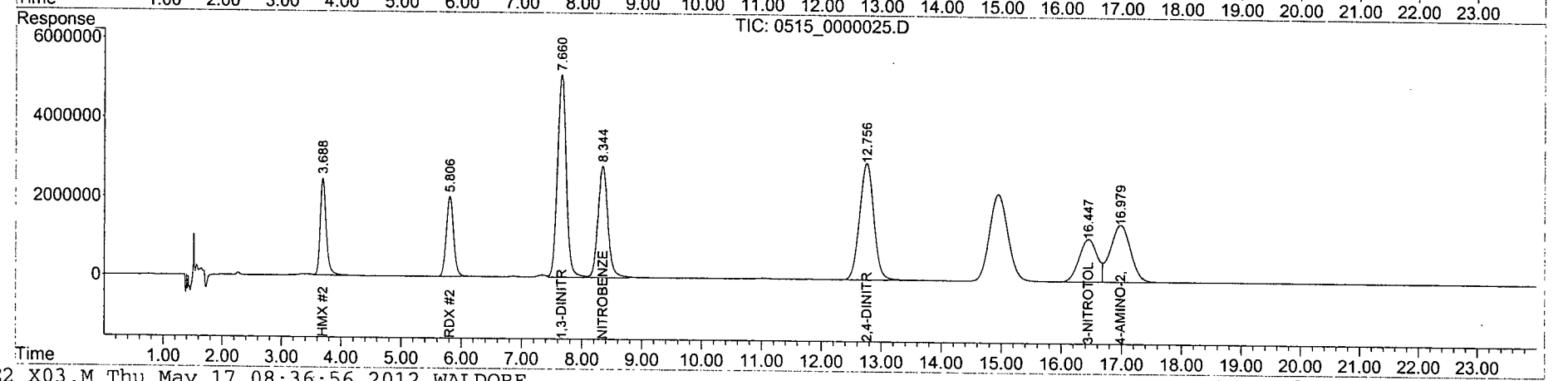
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120515\
Data File : 0515_0000025.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 01:40:00
Operator : HM
Sample : 8330MX_A_SS 1.0 PPM 05/15/12
Misc :
ALS Vial : 4416 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 16 09:02:50 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120515\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\1201516\
Data File : 0516_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 13:54:31
Operator : HM
Sample : 8330MX_B_SS 1.0 PPM 05/16/12
Misc :
ALS Vial : 4422 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 17 08:33:43 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120515\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

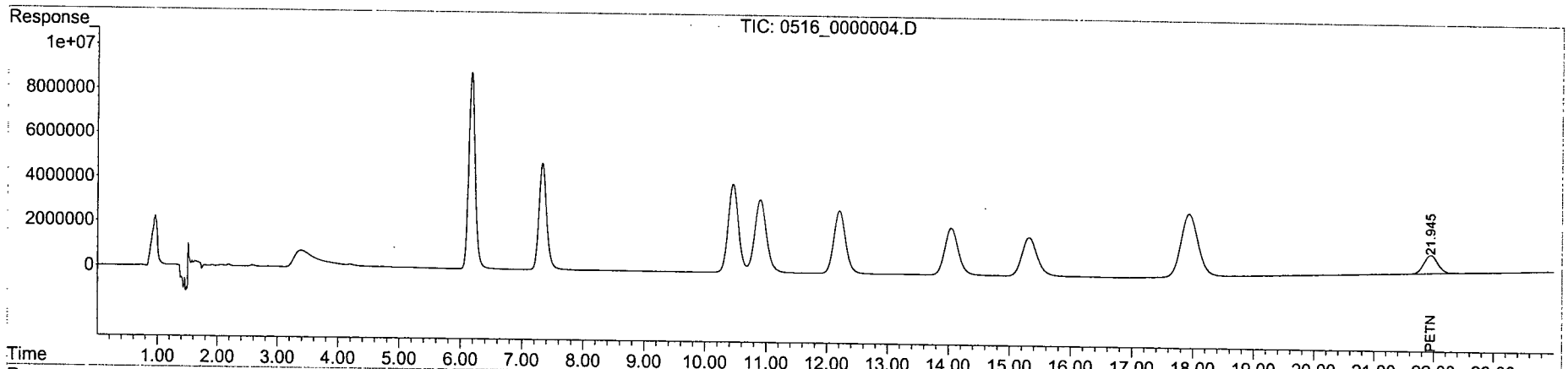
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.330	2530403	1041.667	ppb	
Spiked Amount 62.500		Recovery	= 1666.67%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	
3) TM PETN	21.947	813131	1111.763	ppb	
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.172	5326383	1070.493	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.452	3014674	1111.587	ppb	
12) TM TETRYL #2	10.898	1962899	926.583	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.201	1866320	1127.561	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	14.041	1289712	1082.874	ppb	
16) TM 4-NITROTOLUENE #2	15.316	1099805	1091.589	ppb	
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	17.931	2043070	1147.228	ppb	

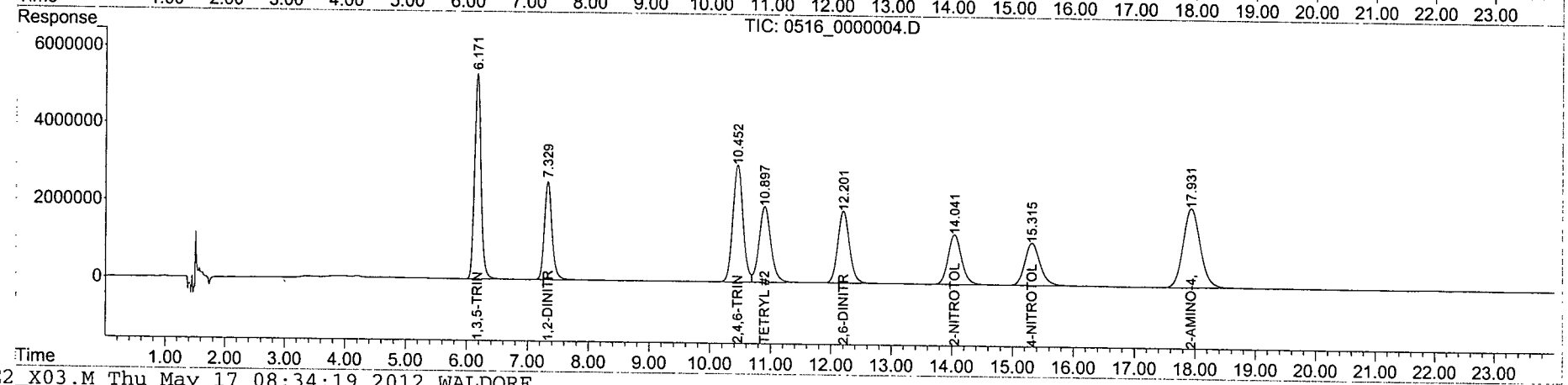
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\1201516\
Data File : 0516_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 16-May-2012, 13:54:31
Operator : HM
Sample : 8330MX_B_SS 1.0 PPM 05/16/12
Misc :
ALS Vial : 4422 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: May 17 08:33:43 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120515\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 31-May-2012, 11:33:10
Instrument: Statler
Initial Cal. Date: 05/14/12
Data File: 0531_0000004-5.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	21.5	22.2	3.3	TM	
2	TM	3,5-DINITROANILINE	80.8	79.0	2.2	TM	
3	TM	PETN	18.3	19.7	7.8	TM	
	Signal #2						
1	TM	HMX #2	65.9	56.9	14	TM	
2	TM	RDX #2	51.9	50.5	2.7	TM	
3	TM	1,3,5-TRINITROBENZENE #2	124	128	2.6	TM	
4	S	1,2-DINITROBENZENE #2	60.7	60.5	0.30	S	
5	TM	1,3-DINITROBENZENE #2	125	127	1.8	TM	
6	TM	NITROBENZENE #2	73.6	74.2	0.81	TM	
7	TM	2,4,6-TRINITROTOLUENE #2	67.8	70.1	3.4	TM	
8	TM	TETRYL #2	53.0	53.0	0.10	TM	
9	TM	2,6-DINITROTOLUENE #2	41.4	41.8	1.0	TM	
10	TM	2,4-DINITROTOLUENE #2	70.2	72.1	2.7	TM	
11	TM	2-NITROTOLUENE #2	29.8	29.7	0.14	TM	
12	TM	4-NITROTOLUENE #2	25.2	26.0	3.2	TM	
13	TM	3-NITROTOLUENE #2	27.7	28.5	2.9	TM	
14	TM	4-AMINO-2,6-DINITROTOLUENE #2	34.2	37.6	10	TM	
15	TM	2-AMINO-4,6-DINITROTOLUENE #2	44.5	47.5	6.8	TM	
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36							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 10:51:41
Operator : HM
Sample : 8330MIX-A_CCV 1.0 PPM 05/31/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:58:39 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.597	2421794	996.957	ppb	
Spiked Amount 62.500		Recovery	= 1595.13%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	d
5) TM HMX #2	3.818	2275709	863.675	ppb	
6) TM RDX #2	6.022	2018999	973.109	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.312	5104948	1025.989	ppb	
9) TM 1,3-DINITROBENZENE #2	7.885	5095084	1017.904	ppb	
10) TM NITROBENZENE #2	8.582	2968752	1008.109	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.765	2803625	1033.767	ppb	
12) TM TETRYL #2	11.359	2120467	1000.963	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.652	1671901	1010.100	ppb	
14) TM 2,4-DINITROTOLUENE #2	13.225	2883153	1027.175	ppb	
15) TM 2-NITROTOLUENE #2	14.544	1189374	998.628	ppb	
16) TM 4-NITROTOLUENE #2	15.889	1039863	1032.095	ppb	
17) TM 3-NITROTOLUENE #2	17.055	1141210	1029.120	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	17.939	1505211	1101.614	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	18.909	1901885	1067.950	ppb	

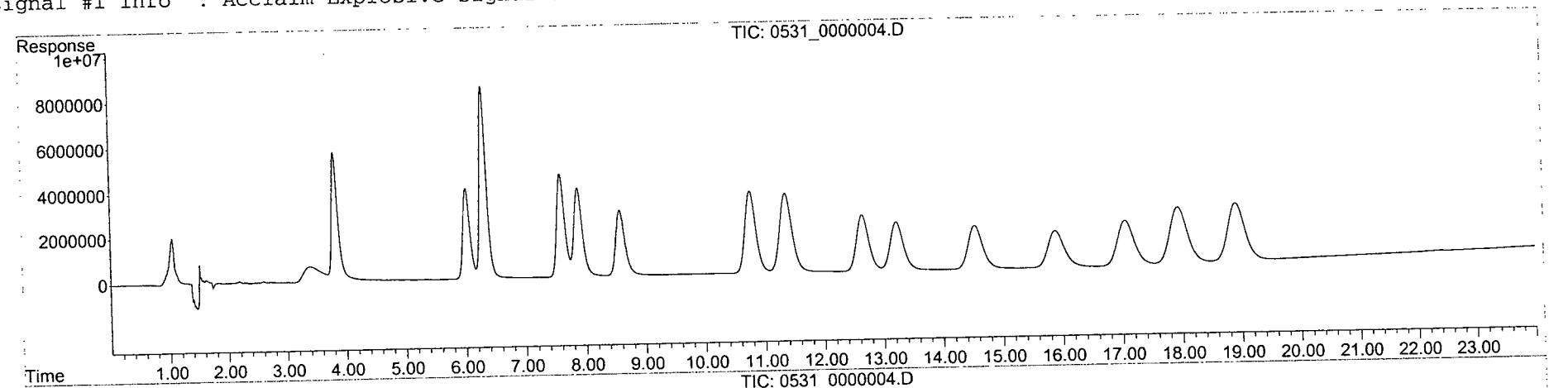
(f)=RT Delta > 1/2 Window (m)=manual int.

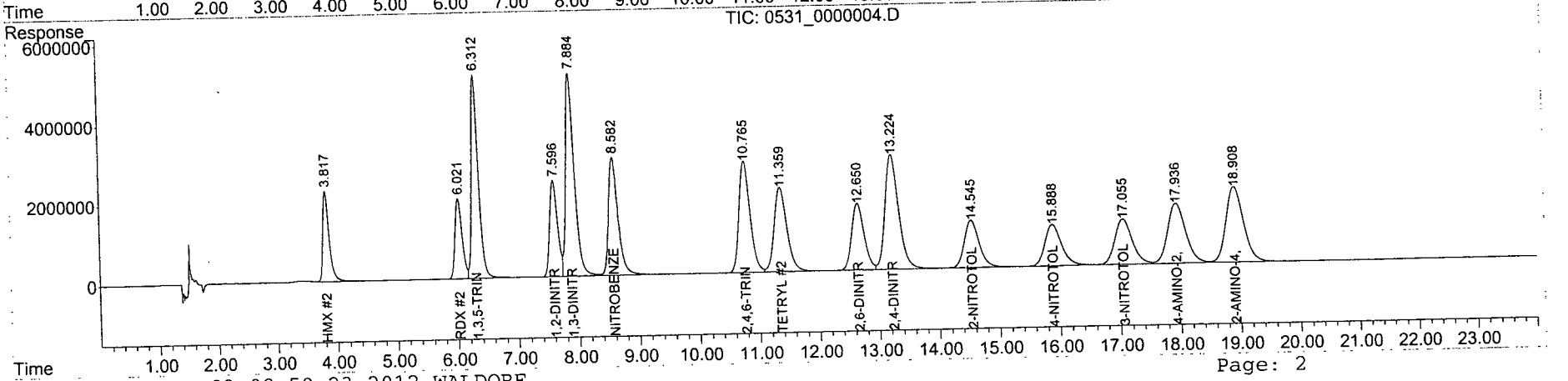
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 10:51:41
Operator : HM
Sample : 8330MIX-A_CCV 1.0 PPM 05/31/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:58:39 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





STE2_X03.M Sat Jun 02 08:59:23 2012 WALDORF

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 11:33:10
Operator : HM
Sample : 8330MIX-B_CCV 1.0 PPM 05/31/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:58:09 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
8)	S 1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	
Spiked Amount	62.500		Recovery =	0.00%		
	Target Compounds					
1)	TM NITROGLYCERIN	11.368	889429	1032.701	ppb	
2)	TM 3,5-DINITROANILINE	15.830	3158327	977.544	ppb	
3)	TM PETN	22.399	788645	1078.284	ppb	
5)	TM HMX #2	0.000	0	N.D.	ppb	
6)	TM RDX #2	0.000	0	N.D.	ppb	
7)	TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9)	TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10)	TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11)	TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12)	TM TETRYL #2	0.000	0	N.D.	ppb	d
13)	TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14)	TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15)	TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16)	TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	d
17)	TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18)	TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19)	TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

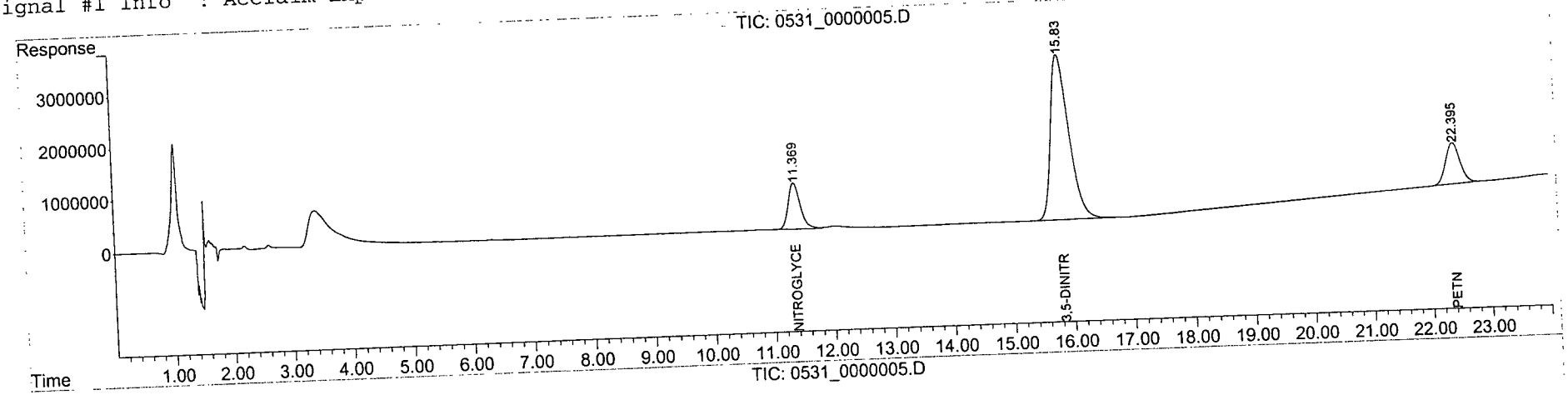
(f)=RT Delta > 1/2 Window (m)=manual int.

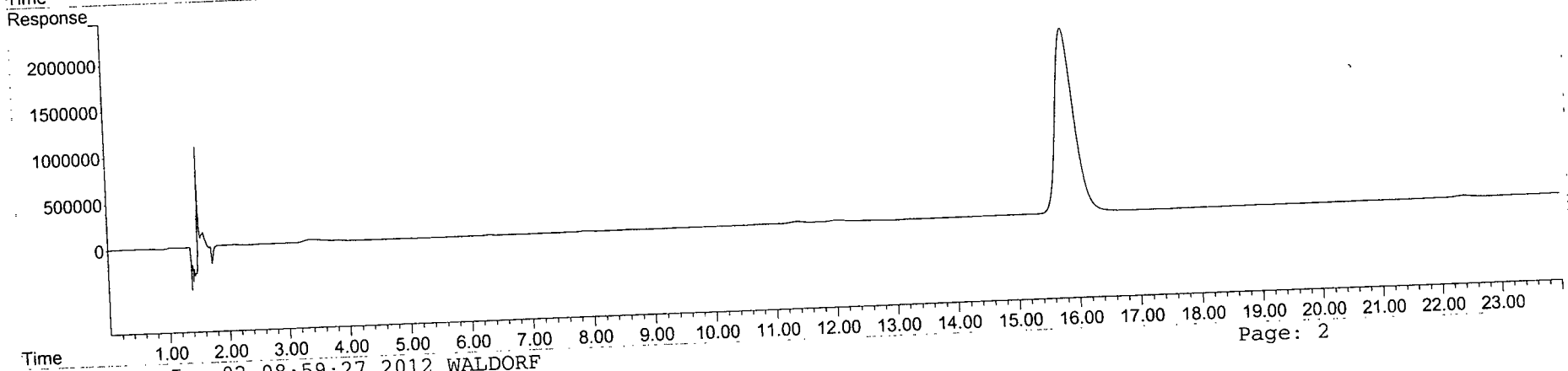
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 11:33:10
Operator : HM
Sample : 8330MIX-B_CCV 1.0 PPM 05/31/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:58:09 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm
Signal #1 Info : Acclaim Explosive
Signal #2 Phase: 254nm
Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





STE2_X03.M Sat Jun 02 08:59:27 2012 WALDORF

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 31-May-2012, 21:14:06
Instrument: Statler
Initial Cal. Date: 05/14/12
Data File: 0531_0000018-19.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	NITROGLYCERIN	21.5	21.5	0.17	TM	
2	TM	3,5-DINITROANILINE	80.8	77.9	3.5	TM	
3	TM	PETN	18.3	18.7	2.3	TM	
	Signal #2						
1	TM	HMX #2	65.9	56.8	14	TM	
2	TM	RDX #2	51.9	49.7	4.2	TM	
3	TM	1,3,5-TRINITROBENZENE #2	124	125	0.15	TM	
4	S	1,2-DINITROBENZENE #2	60.7	59.3	2.3	S	
5	TM	1,3-DINITROBENZENE #2	125	124	0.70	TM	
6	TM	NITROBENZENE #2	73.6	71.5	2.9	TM	
7	TM	2,4,6-TRINITROTOLUENE #2	67.8	68.2	0.55	TM	
8	TM	TETRYL #2	53.0	51.8	2.1	TM	
9	TM	2,6-DINITROTOLUENE #2	41.4	41.1	0.72	TM	
10	TM	2,4-DINITROTOLUENE #2	70.2	70.8	0.83	TM	
11	TM	2-NITROTOLUENE #2	29.8	28.3	4.8	TM	
12	TM	4-NITROTOLUENE #2	25.2	25.1	0.26	TM	
13	TM	3-NITROTOLUENE #2	27.7	27.4	1.2	TM	
14	TM	4-AMINO-2,6-DINITROTOLUENE #2	34.2	36.5	6.9	TM	
15	TM	2-AMINO-4,6-DINITROTOLUENE #2	44.5	46.3	3.9	TM	
16							
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Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 20:32:36
Operator : HM
Sample : 8330MIX-A_CCV 1.0 PPM 05/31/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:57:16 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.593	2372585	976.700	ppb	
Spiked Amount 62.500		Recovery	= 1562.72%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	3.812	2270321	861.630	ppb	
6) TM RDX #2	6.016	1987928	958.133	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.313	4983040	1001.488	ppb	
9) TM 1,3-DINITROBENZENE #2	7.884	4970551	993.024	ppb	
10) TM NITROBENZENE #2	8.582	2858736	970.751	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.767	2726951	1005.496	ppb	
12) TM TETRYL #2	11.352	2073044	978.577	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.651	1643281	992.809	ppb	
14) TM 2,4-DINITROTOLUENE #2	13.223	2830115	1008.279	ppb	
15) TM 2-NITROTOLUENE #2	14.545	1133890	952.043	ppb	
16) TM 4-NITROTOLUENE #2	15.890	1004866	997.360	ppb	
17) TM 3-NITROTOLUENE #2	17.059	1095089	987.529	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	17.919	1460415	1068.829	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	18.891	1851065	1039.414	ppb	

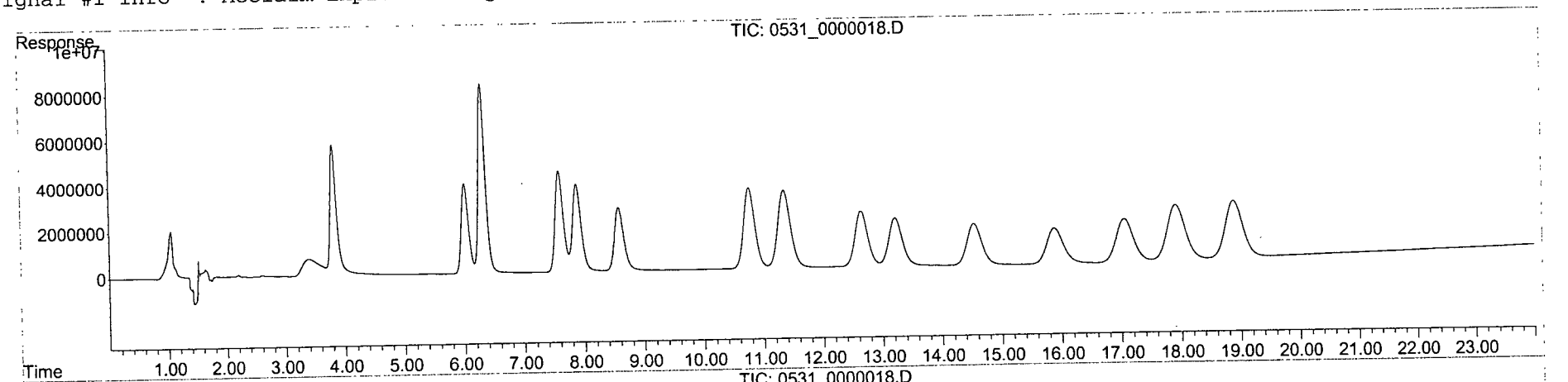
(f)=RT Delta > 1/2 Window (m)=manual int.

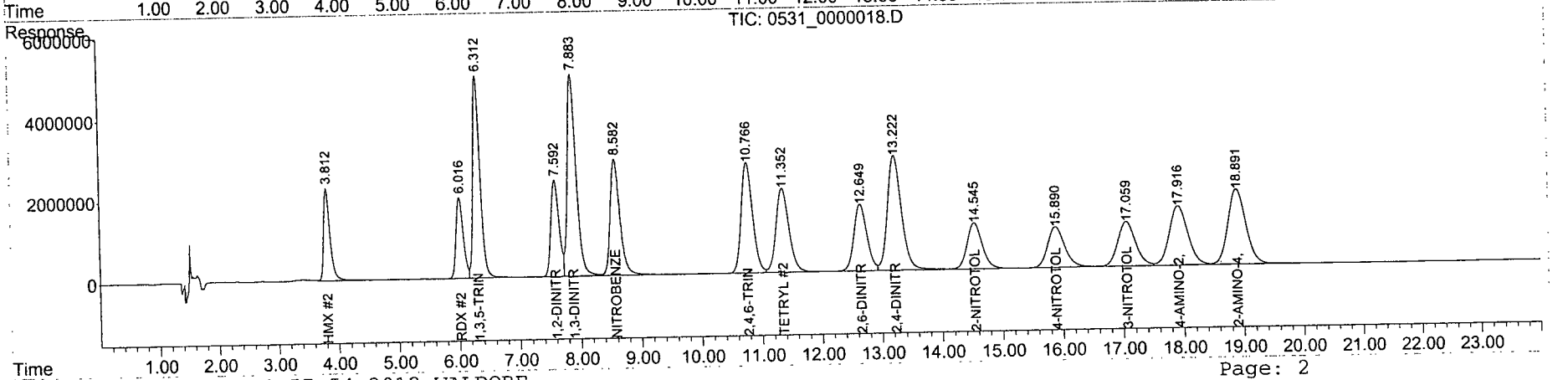
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 20:32:36
Operator : HM
Sample : 8330MIX-A_CCV 1.0 PPM 05/31/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:57:16 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000019.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 21:14:06
Operator : HM
Sample : 8330MIX-B_CCV 1.0 PPM 05/31/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:56:46 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	0.000	0	N.D.	ppb	
Spiked Amount 62.500		Recovery =	0.00%		
Target Compounds					
1) TM NITROGLYCERIN	11.370	859827	998.331	ppb	
2) TM 3,5-DINITROANILINE	15.815	3116330	964.545	ppb	
3) TM PETN	22.409	747884	1022.553	ppb	
5) TM HMX #2	0.000	0	N.D.	ppb	
6) TM RDX #2	0.000	0	N.D.	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	0.000	0	N.D.	ppb	
9) TM 1,3-DINITROBENZENE #2	0.000	0	N.D.	ppb	
10) TM NITROBENZENE #2	0.000	0	N.D.	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	0.000	0	N.D.	ppb	
12) TM TETRYL #2	0.000	0	N.D.	ppb	d
13) TM 2,6-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
14) TM 2,4-DINITROTOLUENE #2	0.000	0	N.D.	ppb	
15) TM 2-NITROTOLUENE #2	0.000	0	N.D.	ppb	
16) TM 4-NITROTOLUENE #2	0.000	0	N.D.	ppb	d
17) TM 3-NITROTOLUENE #2	0.000	0	N.D.	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	0.000	0	N.D.	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	0.000	0	N.D.	ppb	

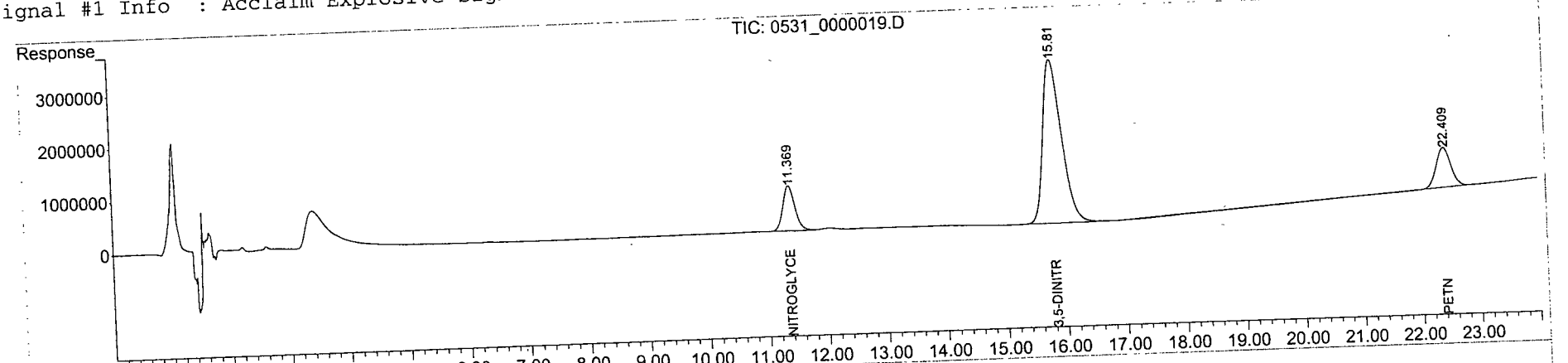
(f)=RT Delta > 1/2 Window (m)=manual int.

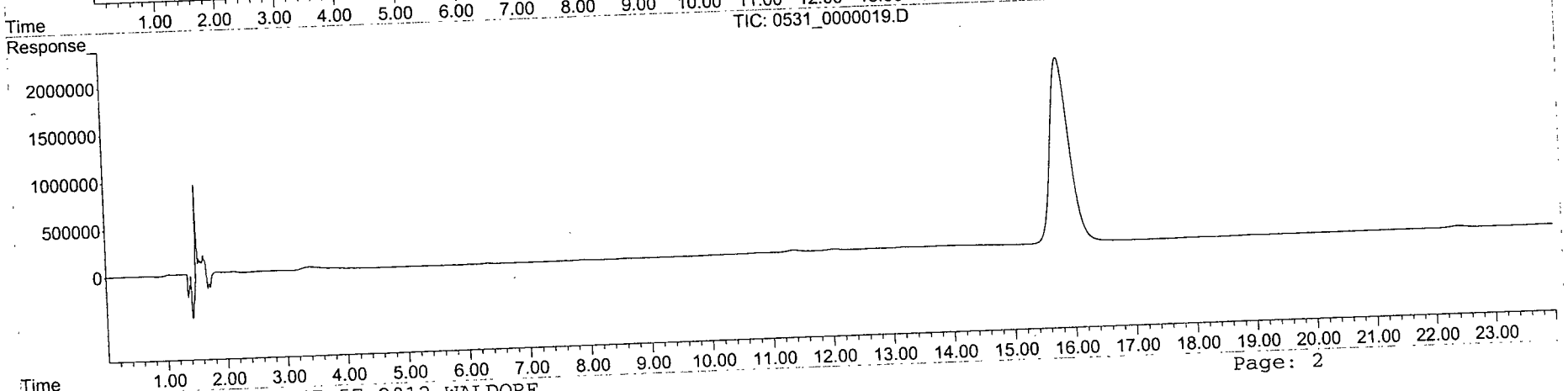
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120531\
Data File : 0531_0000019.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 31-May-2012, 21:14:06
Operator : HM
Sample : 8330MIX-B_CCV 1.0 PPM 05/31/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 02 08:56:46 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120531\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm
Signal #1 Info : Acclaim Explosive
Signal #2 Phase: 254nm
Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





STE2_X03.M Sat Jun 02 08:57:57 2012 WALDORF

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 02-Jun-2012, 10:57:37
Instrument: Statler
Initial Cal. Date: 05/14/12
Data File: 0602_0000004.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	HMX #2	65.9	57.7	12	TM	
2	TM	RDX #2	51.9	51.5	0.69	TM	
3	TM	1,3,5-TRINITROBENZENE #2	124	130	4.7	TM	
4	S	1,2-DINITROBENZENE #2	60.7	61.9	1.9	S	
5	TM	1,3-DINITROBENZENE #2	125	130	3.8	TM	
6	TM	NITROBENZENE #2	73.6	75.6	2.7	TM	
7	TM	2,4,6-TRINITROTOLUENE #2	67.8	71.4	5.3	TM	
8	TM	TETRYL #2	53.0	54.0	2.0	TM	
9	TM	2,6-DINITROTOLUENE #2	41.4	42.6	3.0	TM	
10	TM	2,4-DINITROTOLUENE #2	70.2	73.4	4.7	TM	
11	TM	2-NITROTOLUENE #2	29.8	30.3	1.6	TM	
12	TM	4-NITROTOLUENE #2	25.2	26.4	4.9	TM	
13	TM	3-NITROTOLUENE #2	27.7	29.0	4.6	TM	
14	TM	4-AMINO-2,6-DINITROTOLUENE #2	34.2	38.2	12	TM	
15	TM	2-AMINO-4,6-DINITROTOLUENE #2	44.5	48.3	8.5	TM	
16							
17							
18							
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Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120602\
Data File : 0602_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 02-Jun-2012, 10:57:37
Operator : HM
Sample : 8330MIX-A_CCV 1.0 PPM 06/02/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 04 09:33:38 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120602\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.588	2474517	1018.661	ppb	
Spiked Amount 62.500		Recovery	= 1629.86%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	d
5) TM HMX #2	3.816	2307355	875.685	ppb	
6) TM RDX #2	6.016	2060531	993.126	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.309	5211443	1047.392	ppb	
9) TM 1,3-DINITROBENZENE #2	7.879	5197883	1038.441	ppb	
10) TM NITROBENZENE #2	8.576	3023814	1026.807	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.757	2855409	1052.861	ppb	
12) TM TETRYL #2	11.343	2161782	1020.465	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.639	1704172	1029.597	ppb	
14) TM 2,4-DINITROTOLUENE #2	13.212	2937648	1046.590	ppb	
15) TM 2-NITROTOLUENE #2	14.530	1210200	1016.114	ppb	
16) TM 4-NITROTOLUENE #2	15.876	1056928	1049.033	ppb	
17) TM 3-NITROTOLUENE #2	17.044	1159540	1045.650	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	17.913	1526614	1117.278	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	18.886	1931588	1084.629	ppb	

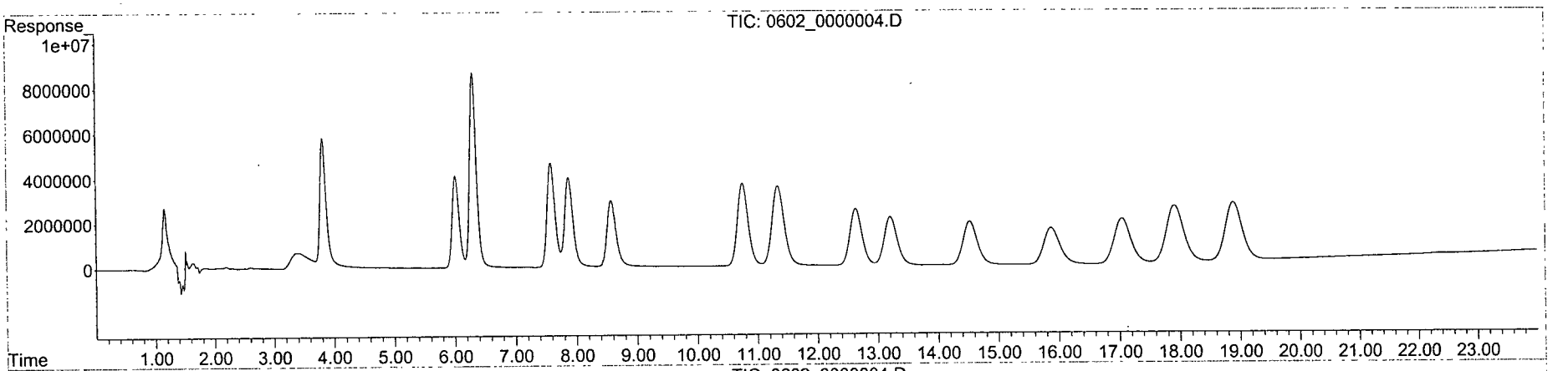
(f)=RT Delta > 1/2 Window (m)=manual int.

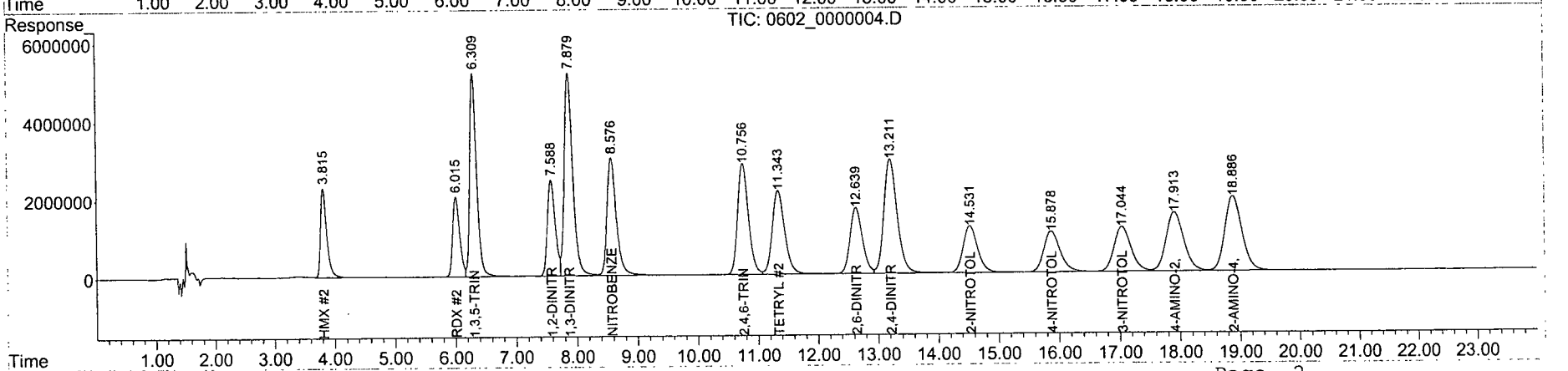
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120602\
Data File : 0602_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 02-Jun-2012, 10:57:37
Operator : HM
Sample : 8330MIX-A_CCV 1.0 PPM 06/02/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 04 09:33:38 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120602\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 02-Jun-2012, 17:11:03
Instrument: Statler
Initial Cal. Date: 05/14/12
Data File: 0602_0000013.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	HMX #2	65.9	57.7	12	TM	
2	TM	RDX #2	51.9	51.0	1.7	TM	
3	TM	1,3,5-TRINITROBENZENE #2	124	128	2.8	TM	
4	S	1,2-DINITROBENZENE #2	60.7	61.2	0.75	S	
5	TM	1,3-DINITROBENZENE #2	125	128	2.3	TM	
6	TM	NITROBENZENE #2	73.6	74.5	1.1	TM	
7	TM	2,4,6-TRINITROTOLUENE #2	67.8	70.0	3.3	TM	
8	TM	TETRYL #2	53.0	53.0	0.06	TM	
9	TM	2,6-DINITROTOLUENE #2	41.4	42.1	1.7	TM	
10	TM	2,4-DINITROTOLUENE #2	70.2	72.7	3.7	TM	
11	TM	2-NITROTOLUENE #2	29.8	29.6	0.74	TM	
12	TM	4-NITROTOLUENE #2	25.2	26.2	3.9	TM	
13	TM	3-NITROTOLUENE #2	27.7	28.6	3.1	TM	
14	TM	4-AMINO-2,6-DINITROTOLUENE #2	34.2	37.6	10	TM	
15	TM	2-AMINO-4,6-DINITROTOLUENE #2	44.5	47.7	7.2	TM	
16							
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Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\STATLER\DATA\120514\120602\
Data File : 0602_0000013.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 02-Jun-2012, 17:11:03
Operator : HM
Sample : 8330MIX-A_CCV 1.0 PPM 06/02/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 04 09:32:27 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120602\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm

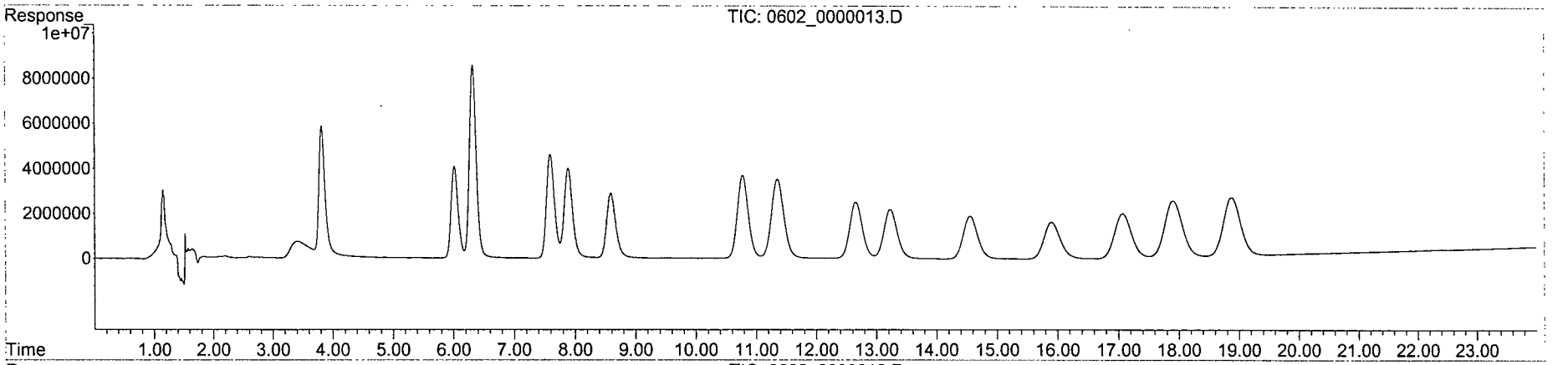
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
8) S 1,2-DINITROBENZENE #2	7.599	2447454	1007.521	ppb	
Spiked Amount 62.500		Recovery	= 1612.03%		
Target Compounds					
1) TM NITROGLYCERIN	0.000	0	N.D.	ppb	d
2) TM 3,5-DINITROANILINE	0.000	0	N.D.	ppb	d
3) TM PETN	0.000	0	N.D.	ppb	
5) TM HMX #2	3.814	2307829	875.865	ppb	
6) TM RDX #2	6.019	2040353	983.401	ppb	
7) TM 1,3,5-TRINITROBENZENE #2	6.323	5113021	1027.612	ppb	
9) TM 1,3-DINITROBENZENE #2	7.892	5121961	1023.273	ppb	
10) TM NITROBENZENE #2	8.592	2978265	1011.339	ppb	
11) TM 2,4,6-TRINITROTOLUENE #2	10.777	2801453	1032.966	ppb	
12) TM TETRYL #2	11.354	2119768	1000.633	ppb	
13) TM 2,6-DINITROTOLUENE #2	12.659	1683319	1016.998	ppb	
14) TM 2,4-DINITROTOLUENE #2	13.231	2909843	1036.683	ppb	
15) TM 2-NITROTOLUENE #2	14.557	1182143	992.557	ppb	
16) TM 4-NITROTOLUENE #2	15.903	1046613	1038.794	ppb	
17) TM 3-NITROTOLUENE #2	17.072	1143741	1031.403	ppb	
18) TM 4-AMINO-2,6-DINITROTO...	17.905	1503717	1100.521	ppb	
19) TM 2-AMINO-4,6-DINITROTO...	18.876	1909110	1072.007	ppb	

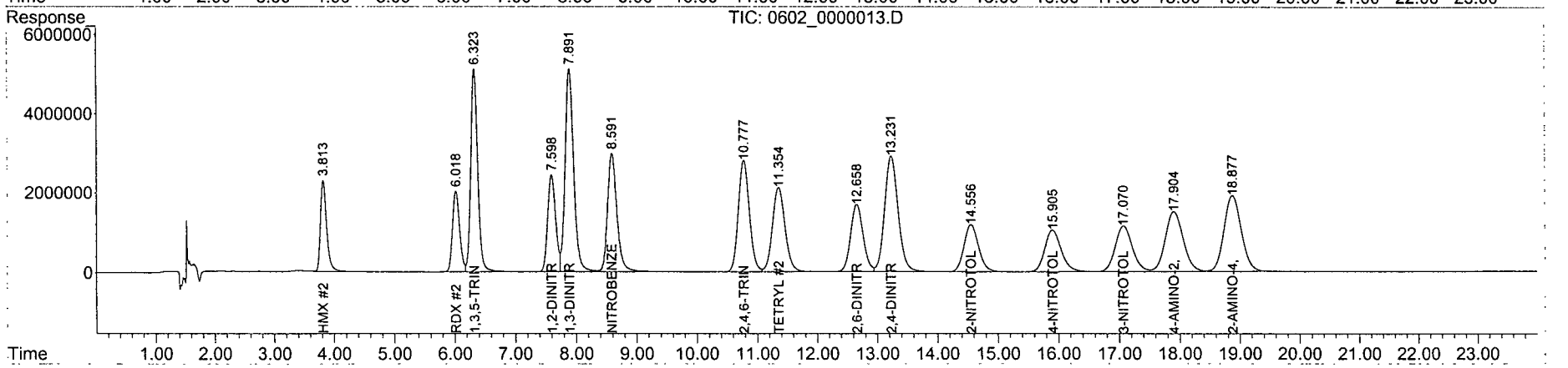
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : Y:\CHEM32\STATLER\DATA\120514\120602\
Data File : 0602_0000013.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 02-Jun-2012, 17:11:03
Operator : HM
Sample : 8330MIX-A_CCV 1.0 PPM 06/02/12
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Statler_Signal_1_110914.e
Integration File signal 2: Statler_Signal_2_110914.e
Quant Time: Jun 04 09:32:27 2012
Quant Method : Y:\CHEM32\STATLER\DATA\120514\120602\STE2_X03.M
Quant Title : 8330B - STATLER
QLast Update : Tue May 15 08:12:28 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : Acclaim Explosive Signal #2 Info : Acclaim Explosives E2 3um 3x150mm





Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Initial Cal. Date:
Instrument: Waldorf

Initials: hm

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0604_0000004.D	0604_0000005.D	0604_0000006.D	0604_0000007.D	0604_0000008.D	0604_0000009.D	0604_0000010.D	0604_0000011.D	0604_0000013.D					
1	TM	NITROGLYCERIN		140	110	105	108	103	107	108	106		111	11	TM	
2	TM	PETN			71.6	70.4	88.3	80.2	89.6	90.8	92.8		83	11	TM	
		Signal #2														
1	TM	HMX #2	704	689	676	667	660	649	638	635	609		659	4.5	TM	
2	TM	RDX #2	428	424	415	408	411	406	388	393	379		406	4.1	TM	
3	TM	1,3,5-TRINITROBENZENE #2	691	688	671	661	671	658	651	659	636		665	2.6	TM	
4	S	1,2-DINITROBENZENE #2	305	296	289	282	287	280	283	289	281		288	2.8	S	
5	TM	1,3-DINITROBENZENE #2	643	635	621	611	624	609	609	621	601		619	2.2	TM	
6	TM	3,5-DINITROANILINE #2	484	479	468	464	471	457	466	471	479		471	1.8	TM	
7	TM	NITROBENZENE #2	297	294	286	284	291	281	286	290	281		288	1.9	TM	
8	TM	TETRYL #2	224	215	214	211	216	206	216	221	216		216	2.4	TM	
9	TM	2,4,6-TRINITROTOLUENE #2	270	270	263	258	265	253	264	268	260		263	2.1	TM	
10	TM	2-AMINO-4,6-DINITROTOLUENE	244	241	235	231	237	226	236	239	231		236	2.3	TM	
11	TM	4-AMINO-2,6-DINITROTOLUENE	194	190	186	185	188	181	187	189	182		187	2.2	TM	
12	TM	2,4-DINITROTOLUENE #2	251	251	244	242	247	237	248	252	245		246	2.0	TM	
13	TM	2,6-DINITROTOLUENE #2	148	145	140	138	140	136	140	142	138		141	2.8	TM	
14	TM	2-NITROTOLUENE #2	129	117	106	104	106	100	106	107	104		109	8.1	TM	
15	TM	4-NITROTOLUENE #2	126	115	102	102	104	99.0	104	106	103		107	8.1	TM	
16	TM	3-NITROTOLUENE #2	140	134	121	122	125	118	125	127	123		126	5.6	TM	

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 12:57:22
Operator : hm
Sample : 8830B_CB 0.005 PPM 06/04/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:45:00 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.842	0	61033	N.D.	4.410 #
Spiked Amount 62.500			Recovery	=	0.00%	7.06%
Target Compounds						
1) TM HMX	0.000	0.967	0	140899	N.D.	4.699 #
2) TM RDX	0.000	1.841	0	85584	N.D.	4.476 #
3) TM 1,3,5-TRI...	0.000	2.981	0	138292	N.D.	4.389 #
5) TM 1,3-DINIT...	0.000	3.980	0	128531	N.D.	4.305 #
6) TM 3,5-DINIT...	0.000	4.251	0	96783	N.D.	4.022 #
7) TM NITROBENZENE	0.000	5.391	0	59306	N.D.	4.301 #
8) TM NITROGLYC...	0.000	0.000	0	0	N.D. d	N.D.
9) TM TETRYL	6.836	6.842	92095	44799	NoCal	4.071 #
.0) TM 2,4,6-TRI...	7.300	7.305	79326	53964	NoCal	4.148 #
.1) TM 2-AMINO-4...	7.713	7.719	89040	48722	NoCal	4.061 #
.2) TM 4-AMINO-2...	8.021	8.017	80898	38881	NoCal	4.123 #
.3) TM 2,4-DINIT...	9.230	9.237	49518	50266	NoCal	4.112 #
.4) TM 2,6-DINIT...	9.573	9.579	62892	29649	NoCal	4.310 #
.5) TM 2-NITROTO...	0.000	12.957	0	25810	N.D.	5.088 #
.6) TM 4-NITROTO...	0.000	13.547	0	25229	N.D.	5.073 #
.7) TM 3-NITROTO...	0.000	14.398	0	28095	N.D.	4.694 #
.8) TM PETN	0.000	0.000	0	0	N.D.	N.D.

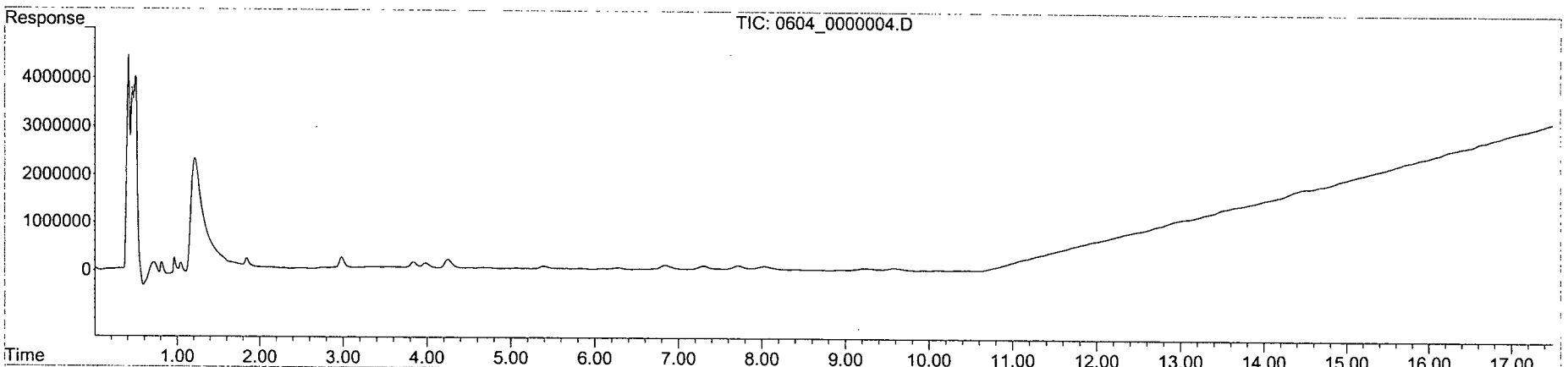
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

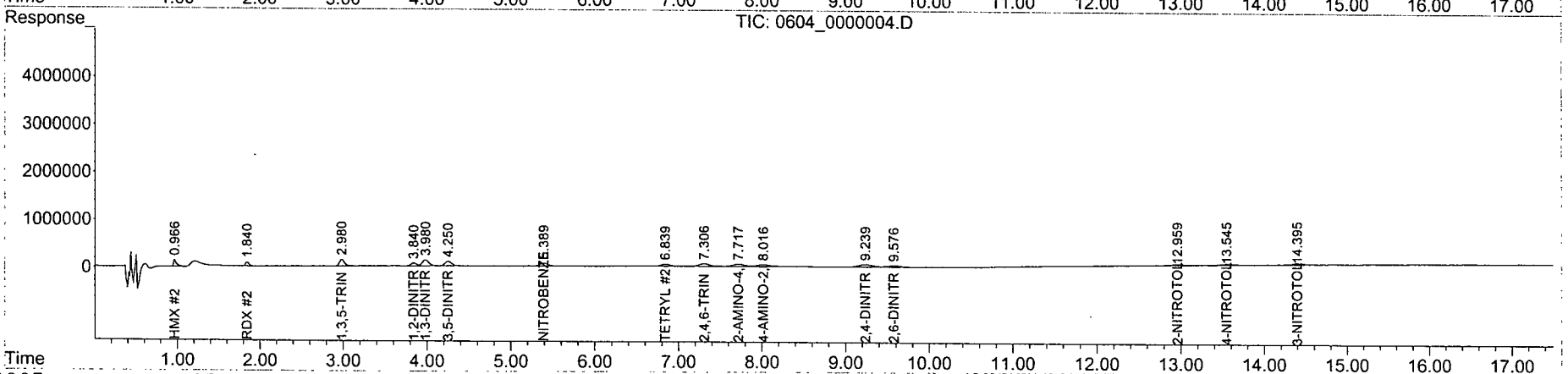
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000004.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 12:57:22
Operator : hm
Sample : 8830B_CB 0.005 PPM 06/04/12
Misc :
ALS Vial : 4096 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:45:00 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 13:34:48
Operator : hm
Sample : 8830B_CB 0.01 PPM 06/04/12
Misc :
ALS Vial : 4097 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:37:45 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.837	0	118356	N.D.	8.551 #
Spiked Amount 62.500			Recovery	=	0.00%	13.68%
Target Compounds						
1) TM HMX	0.000	0.967	0	275634	N.D.	9.192 #
2) TM RDX	0.000	1.841	0	169599	N.D.	8.871 #
3) TM 1,3,5-TRI...	0.000	2.979	0	275203	N.D.	8.735 #
5) TM 1,3-DINIT...	0.000	3.977	0	254086	N.D.	8.511 #
6) TM 3,5-DINIT...	0.000	4.247	0	191576	N.D.	7.962 #
7) TM NITROBENZENE	0.000	5.384	0	117655	N.D.	8.532 #
8) TM NITROGLYC...	6.281	0.000	55807	0	10.660	N.D. #
9) TM TETRYL	6.827	6.832	164537	86128	NoCal	7.827 #
10) TM 2,4,6-TRI...	7.292	7.293	144261	107955	NoCal	8.298 #
11) TM 2-AMINO-4...	7.712	7.708	157274	96232	NoCal	8.021 #
12) TM 4-AMINO-2...	8.001	7.999	150709	75836	NoCal	8.042 #
13) TM 2,4-DINIT...	9.240	9.226	77964	100549	NoCal	8.226 #
14) TM 2,6-DINIT...	9.573	9.570	87717	57824	NoCal	8.405 #
15) TM 2-NITROTO...	0.000	12.946	0	46612	N.D.	9.188 #
16) TM 4-NITROTO...	0.000	13.554	0	46161	N.D.	9.282 #
17) TM 3-NITROTO...	0.000	14.410	0	53759	N.D.	8.982 #
18) TM PETN	0.000	0.000	0	0	N.D. d	N.D.

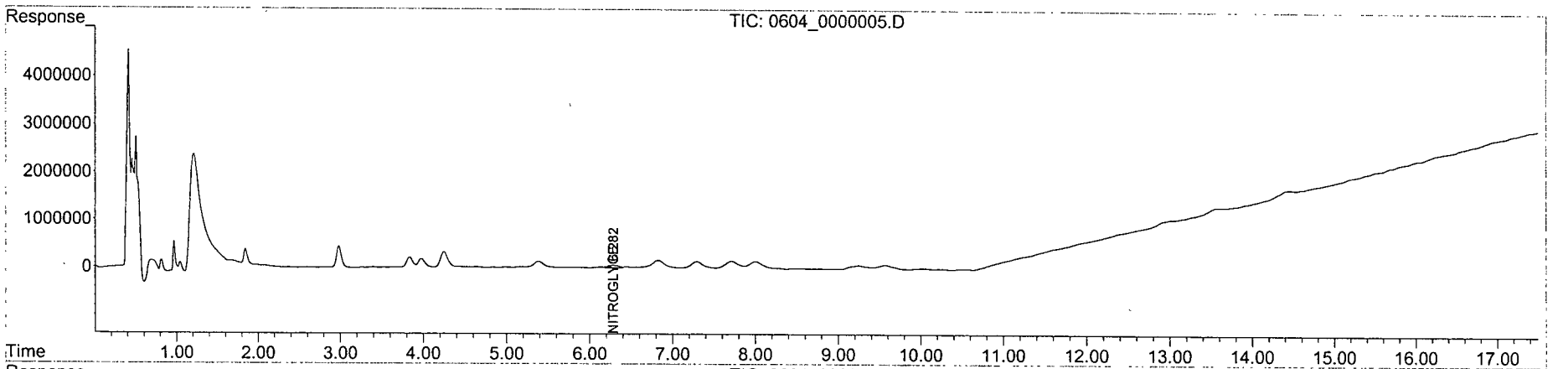
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

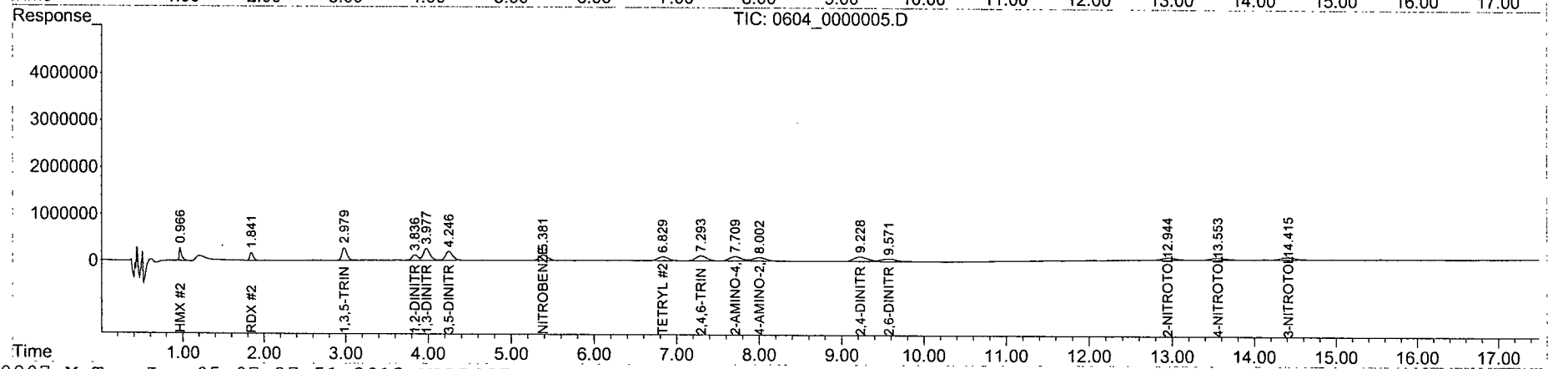
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000005.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 13:34:48
Operator : hm
Sample : 8830B_CB 0.01 PPM 06/04/12
Misc :
ALS Vial : 4097 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:37:45 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 14:12:17
Operator : hm
Sample : 8830B_CB 0.02 PPM 06/04/12
Misc :
ALS Vial : 4098 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:37:06 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

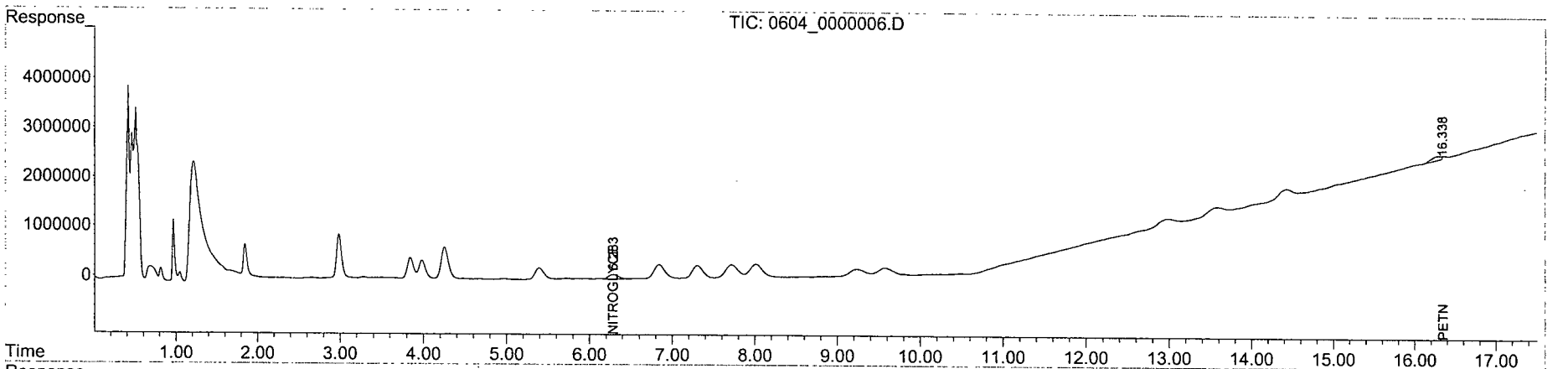
Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.841	0	231072	N.D.	16.695 #
Spiked Amount 62.500			Recovery	=	0.00%	26.71%
Target Compounds						
1) TM HMX	0.000	0.967	0	540624	N.D.	18.030 #
2) TM RDX	0.000	1.842	0	331860	N.D.	17.357 #
3) TM 1,3,5-TRI...	0.000	2.982	0	536557	N.D.	17.030 #
5) TM 1,3-DINIT...	0.000	3.981	0	496827	N.D.	16.642 #
6) TM 3,5-DINIT...	0.000	4.250	0	374672	N.D.	15.571 #
7) TM NITROBENZENE	0.000	5.389	0	228777	N.D.	16.590 #
8) TM NITROGLYC...	6.285	0.000	88144	0	16.837	N.D. #
9) TM TETRYL	6.837	6.836	283608	171470	NoCal	15.582 #
.0) TM 2,4,6-TRI...	7.299	7.299	256802	210214	NoCal	16.157 #
.1) TM 2-AMINO-4...	7.712	7.713	264965	188387	NoCal	15.703 #
.2) TM 4-AMINO-2...	8.009	8.005	270012	149156	NoCal	15.818 #
.3) TM 2,4-DINIT...	9.234	9.231	138243	195398	NoCal	15.985 #
.4) TM 2,6-DINIT...	9.569	9.570	151232	111670	NoCal	16.232 #
.5) TM 2-NITROTO...	0.000	12.956	0	84559	N.D.	16.668 #
.6) TM 4-NITROTO...	0.000	13.559	0	81426	N.D.	16.373 #
.7) TM 3-NITROTO...	0.000	14.407	0	96535	N.D.	16.129 #
.8) TM PETN	16.338	0.000	57254	0	13.572m	N.D. #

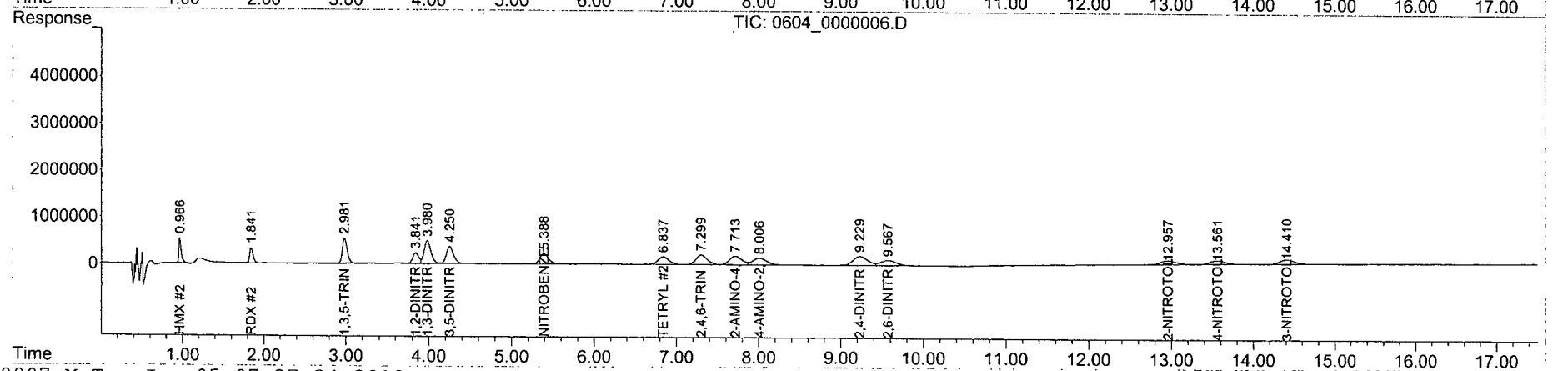
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 14:12:17
Operator : hm
Sample : 8830B_CB 0.02 PPM 06/04/12
Misc :
ALS Vial : 4098 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:37:06 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



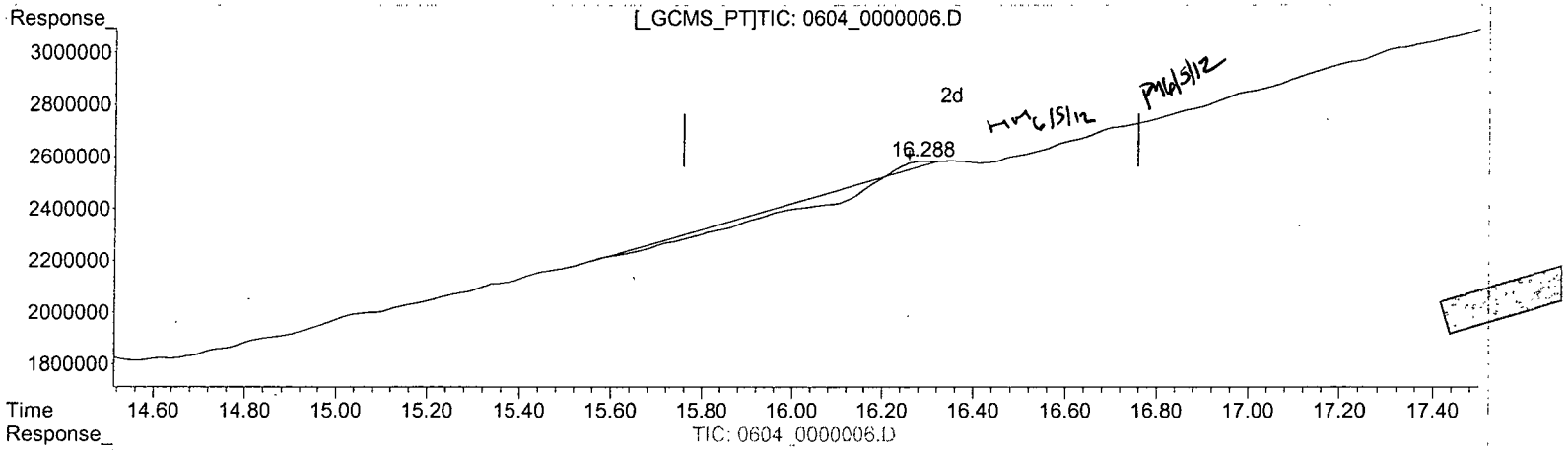


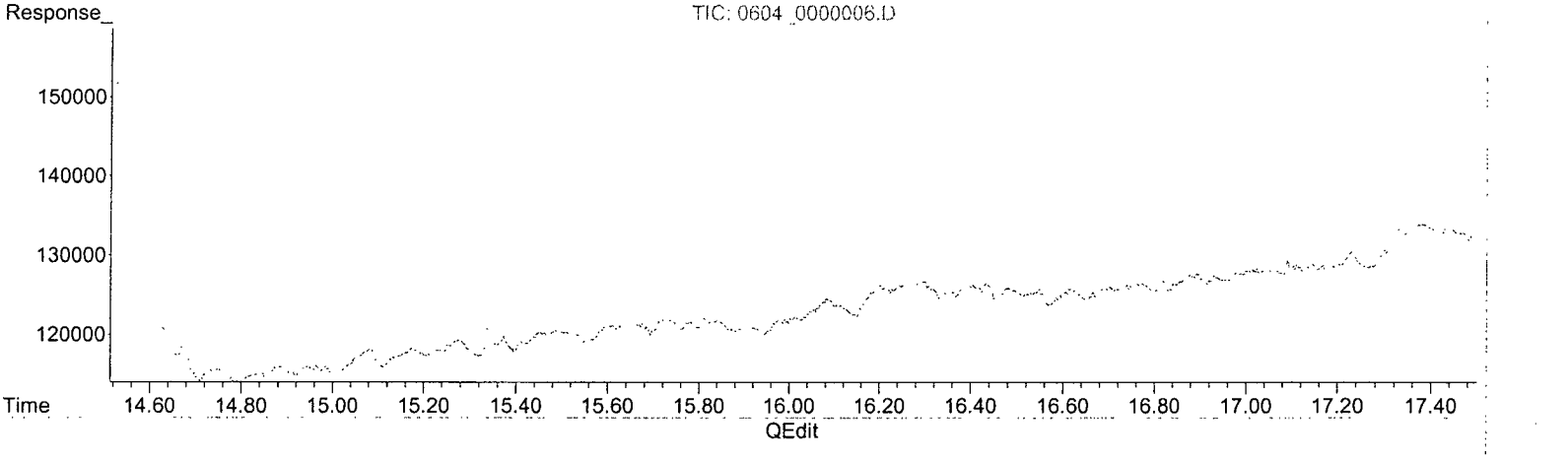
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 14:12:17
Operator : hm
Sample : 8830B_CB 0.02 PPM 06/04/12
Misc :
ALS Vial : 4098 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:20 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.288min 3.846 ppb

response 16226

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

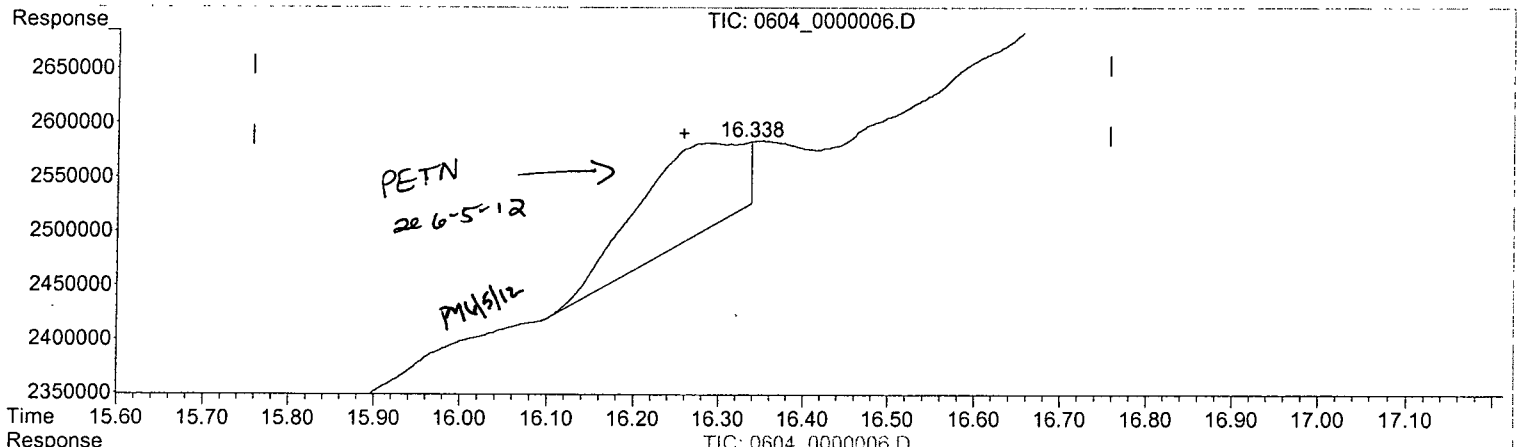
(+) = Expected Retention Time

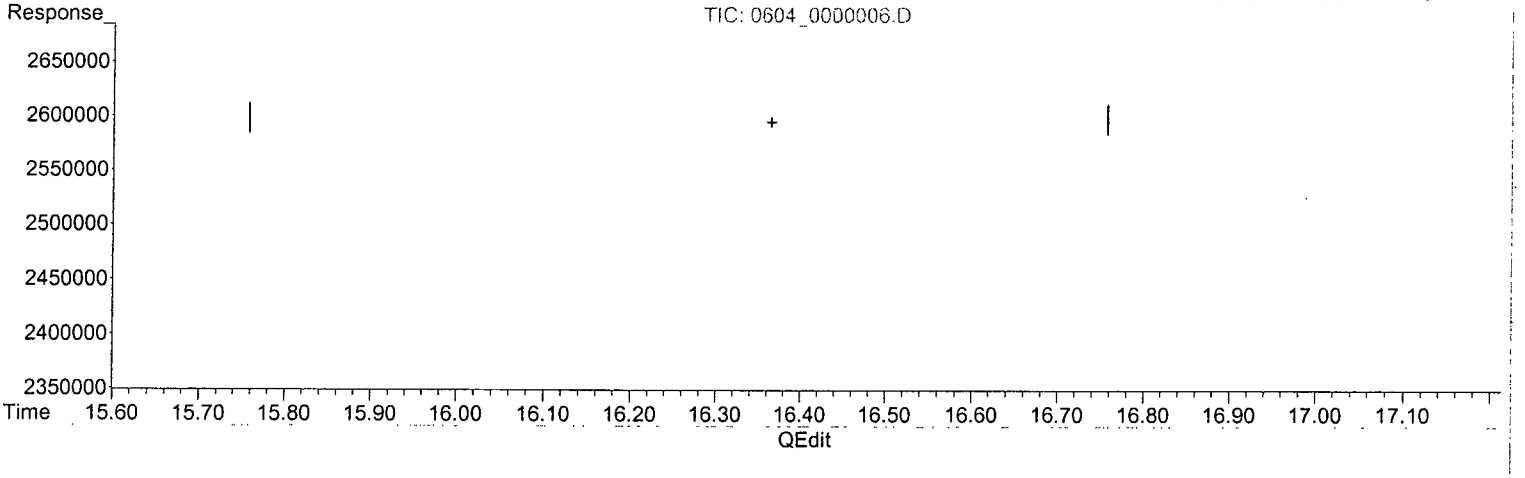
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000006.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 14:12:17
Operator : hm
Sample : 8830B_CB 0.02 PPM 06/04/12
Misc :
ALS Vial : 4098 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:37:06 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.338min 13.572 ppb m

response 57254

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 14:49:45
Operator : hm
Sample : 8830B_CB 0.05 PPM 06/04/12
Misc :
ALS Vial : 4099 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:23 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.836	0	564071	N.D.	40.754	#
Spiked Amount 62.500			Recovery	=	0.00%	65.21%	
Target Compounds							
1) TM HMX	0.000	0.966	0	1333094	N.D.	44.459	#
2) TM RDX	0.000	1.840	0	815039	N.D.	42.629	#
3) TM 1,3,5-TRI...	0.000	2.979	0	1321200	N.D.	41.935	#
5) TM 1,3-DINIT...	0.000	3.976	0	1221307	N.D.	40.909	#
6) TM 3,5-DINIT...	0.000	4.245	0	928266	N.D.	38.578	#
7) TM NITROBENZENE	0.000	5.383	0	567735	N.D.	41.170	#
8) TM NITROGLYC...	6.276	0.000	210340	0	40.180	N.D.	#
9) TM TETRYL	6.832	6.832	701269	422371	NoCal	38.381	#
.0) TM 2,4,6-TRI...	7.294	7.294	666546	516745	NoCal	39.717	#
.1) TM 2-AMINO-4...	7.706	7.707	699158	462644	NoCal	38.563	#
.2) TM 4-AMINO-2...	7.999	8.000	684769	369259	NoCal	39.160	#
.3) TM 2,4-DINIT...	9.231	9.226	361372	483437	NoCal	39.549	#
.4) TM 2,6-DINIT...	9.568	9.566	378549	276153	NoCal	40.141	#
.5) TM 2-NITROTO...	0.000	12.949	0	207311	N.D.	40.864	#
.6) TM 4-NITROTO...	0.000	13.552	0	203619	N.D.	40.943	#
.7) TM 3-NITROTO...	0.000	14.405	0	243375	N.D.	40.662	#
.8) TM PETN	16.270	0.000	140863	0	33.391	N.D.	#

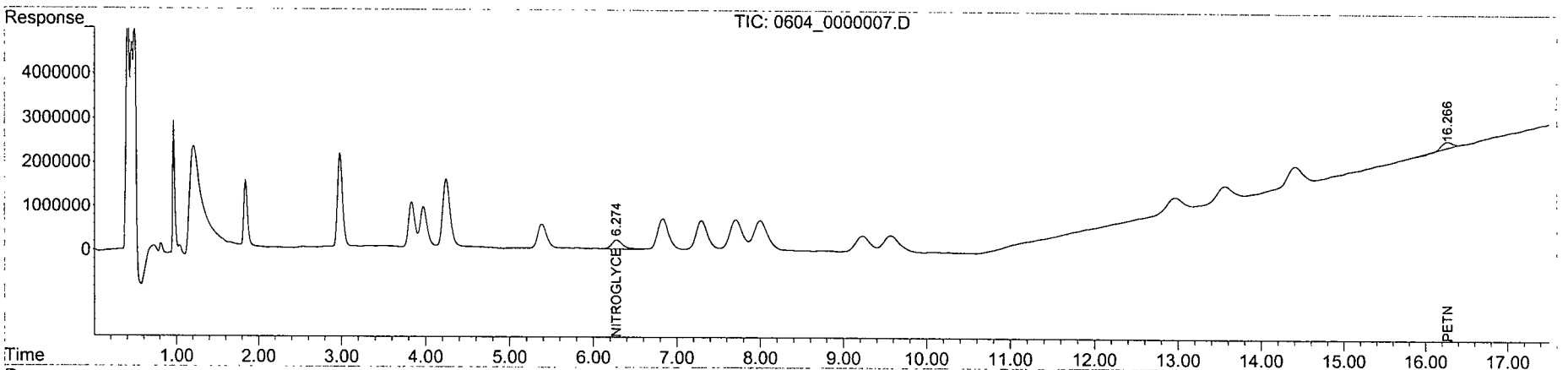
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

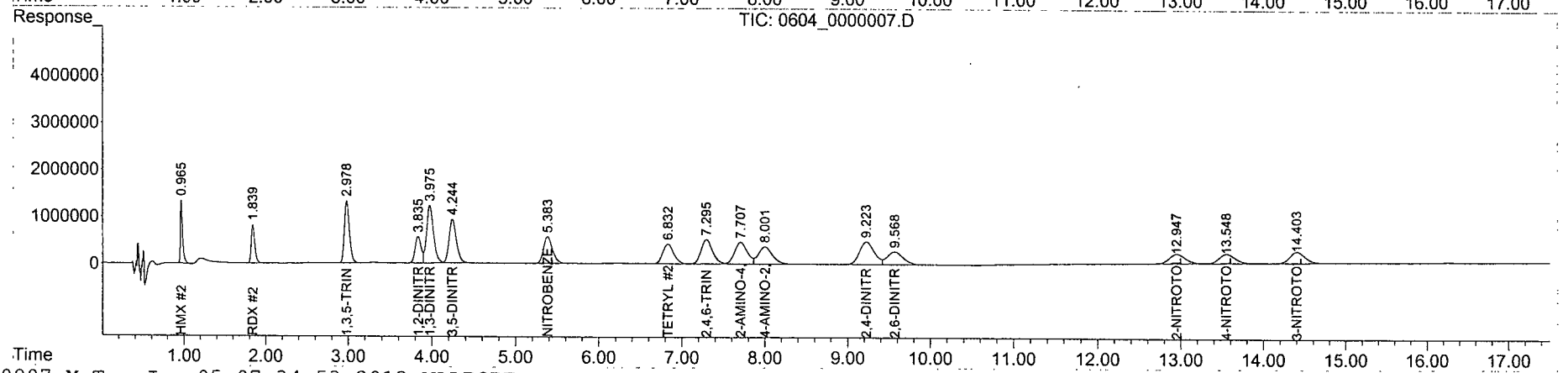
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000007.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 14:49:45
Operator : hm
Sample : 8830B_CB 0.05 PPM 06/04/12
Misc :
ALS Vial : 4099 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:23 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000008.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 15:27:15
Operator : hm
Sample : 8830B_CB 0.1 PPM 06/04/12
Misc :
ALS Vial : 4100 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:25 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.843	0	1148689	N.D.	82.993	#
Spiked Amount 62.500			Recovery	=	0.00%	132.79%	
Target Compounds							
1) TM HMX	0.000	0.968	0	2640527	N.D.	88.062	#
2) TM RDX	0.000	1.843	0	1644649	N.D.	86.020	#
3) TM 1,3,5-TRI...	0.000	2.983	0	2684471	N.D.	85.205	#
5) TM 1,3-DINIT...	0.000	3.982	0	2494320	N.D.	83.551	#
6) TM 3,5-DINIT...	0.000	4.252	0	1882970	N.D.	78.255	#
7) TM NITROBENZENE	0.000	5.390	0	1162154	N.D.	84.274	#
8) TM NITROGLYC...	6.284	6.229	430197	18942	82.177	NoCal	#
9) TM TETRYL	6.840	6.839	1435909	863018	NoCal	78.423	#
10) TM 2,4,6-TRI...	7.301	7.301	1331917	1060055	NoCal	81.477	#
11) TM 2-AMINO-4...	7.713	7.713	1392293	946851	NoCal	78.923	#
12) TM 4-AMINO-2...	8.006	8.006	1362782	753655	NoCal	79.925	#
13) TM 2,4-DINIT...	9.229	9.231	707173	989951	NoCal	80.987	#
14) TM 2,6-DINIT...	9.572	9.572	769225	561373	NoCal	81.601	#
15) TM 2-NITROTO...	0.000	12.951	0	423575	N.D.	83.492	#
16) TM 4-NITROTO...	0.000	13.551	0	415580	N.D.	83.562	#
17) TM 3-NITROTO...	0.000	14.405	0	498239	N.D.	83.244	#
18) TM PETN	16.257	0.000	353193	0	83.722	N.D.	#

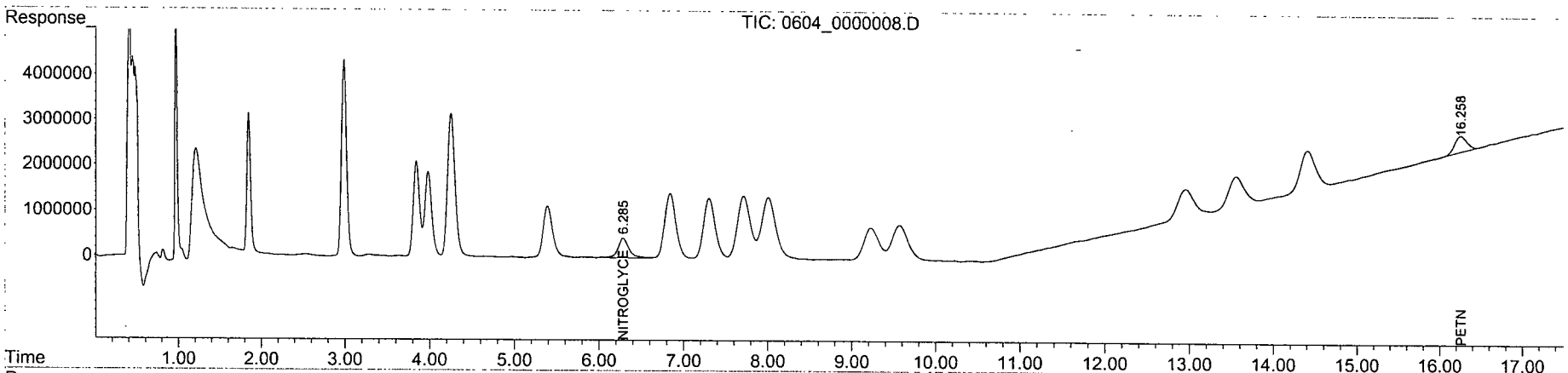
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

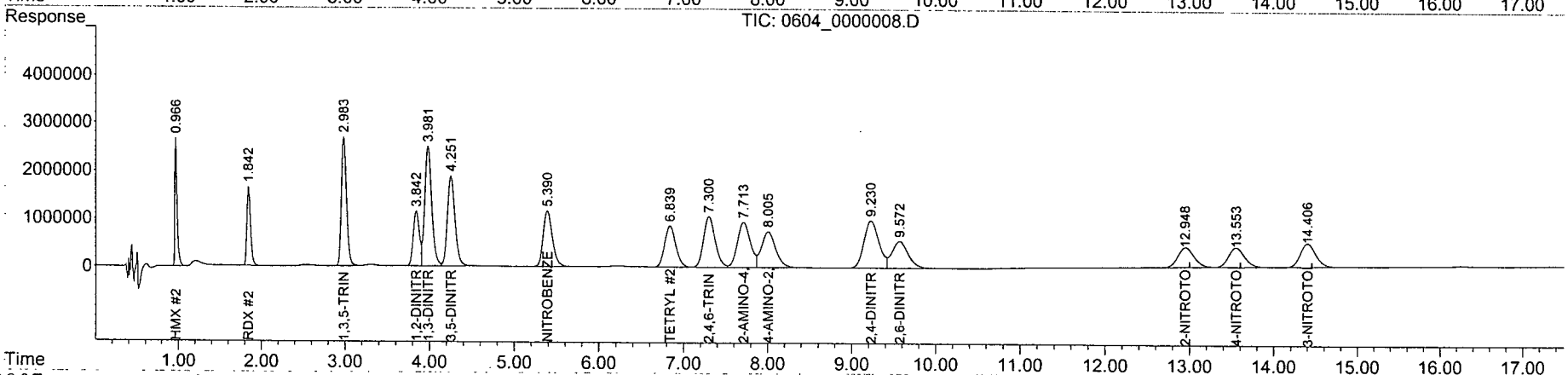
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000008.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 15:27:15
Operator : hm
Sample : 8830B_CB 0.1 PPM 06/04/12
Misc :
ALS Vial : 4100 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:25 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 16:04:43
Operator : hm
Sample : 8830B_CB 0.2 PPM 06/04/12
Misc :
ALS Vial : 4101 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:27 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.830	0	2241381	N.D.	161.940	#
Spiked Amount 62.500			Recovery	=	0.00%	259.10%	
Target Compounds							
1) TM HMX	0.000	0.964	0	5193567	N.D.	173.207	#
2) TM RDX	0.000	1.837	0	3246180	N.D.	169.784	#
3) TM 1,3,5-TRI...	0.000	2.973	0	5264533	N.D.	167.096	#
5) TM 1,3-DINIT...	0.000	3.969	0	4872610	N.D.	163.215	#
6) TM 3,5-DINIT...	0.000	4.236	0	3659530	N.D.	152.088	#
7) TM NITROBENZENE	0.000	5.378	0	2248315	N.D.	163.038	#
8) TM NITROGLYC...	6.251	6.224	825260	45013	157.643	NoCal	#
9) TM TETRYL	6.808	6.808	2724686	1648969	NoCal	149.843	#
10) TM 2,4,6-TRI...	7.270	7.271	2558402	2022658	NoCal	155.463	#
11) TM 2-AMINO-4...	7.684	7.683	2667473	1806901	NoCal	150.610	#
12) TM 4-AMINO-2...	7.974	7.973	2610162	1445947	NoCal	153.342	#
13) TM 2,4-DINIT...	9.199	9.200	1376862	1899024	NoCal	155.357	#
14) TM 2,6-DINIT...	9.540	9.538	1494852	1084035	NoCal	157.574	#
15) TM 2-NITROTO...	0.000	12.931	0	803404	N.D.	158.361	#
16) TM 4-NITROTO...	0.000	13.529	0	792116	N.D.	159.274	#
17) TM 3-NITROTO...	0.000	14.385	0	946777	N.D.	158.184	#
18) TM PETN	16.230	0.000	641403	0	152.040	N.D.	#

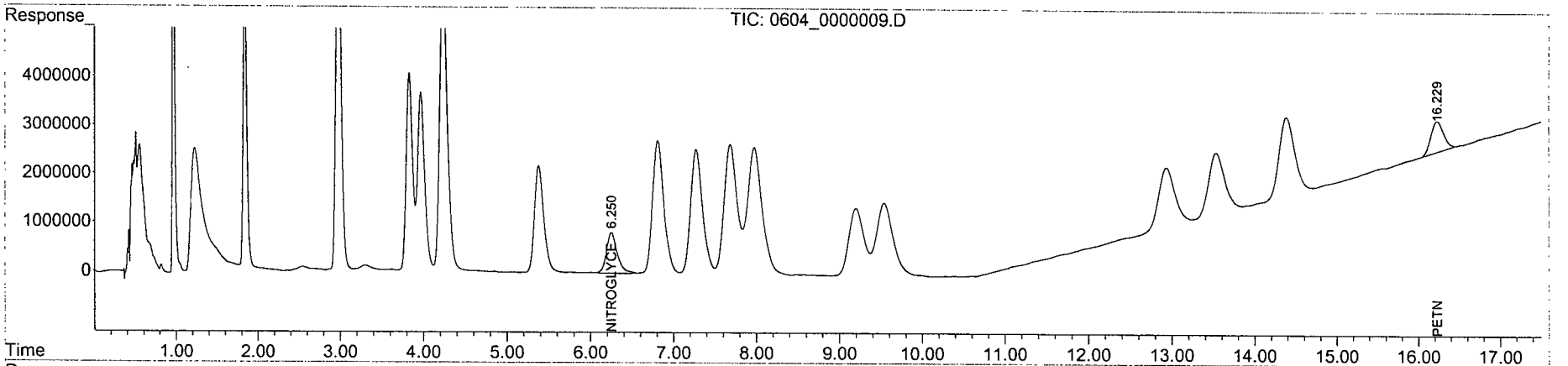
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

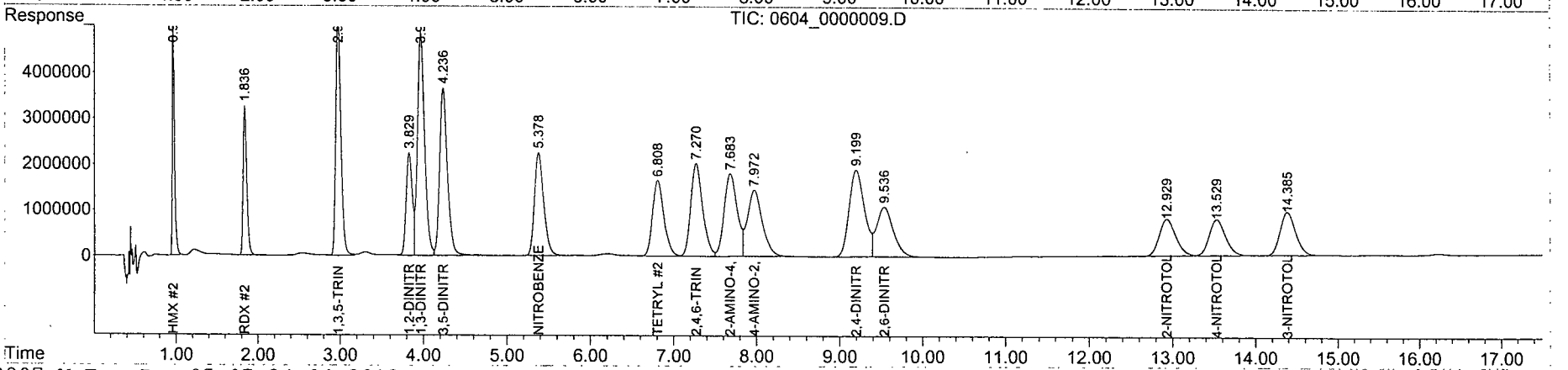
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000009.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 16:04:43
Operator : hm
Sample : 8830B_CB 0.2 PPM 06/04/12
Misc :
ALS Vial : 4101 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:27 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 16:42:13
Operator : hm
Sample : 8830B_CB 0.5 PPM 06/04/12
Misc :
ALS Vial : 4102 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:33:34 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.830	0	5650642	N.D.	408.258	#
Spiked Amount 62.500			Recovery	=	0.00%	653.21%	
Target Compounds							
1) TM HMX	0.000	0.965	0	12753417	N.D.	425.330	#
2) TM RDX	0.000	1.837	0	7752555	N.D.	405.480	#
3) TM 1,3,5-TRI...	0.000	2.974	0	13016900	N.D.	413.155	#
5) TM 1,3-DINIT...	0.000	3.970	0	12188768	N.D.	408.280	#
6) TM 3,5-DINIT...	0.000	4.240	0	9325560	N.D.	387.566	#
7) TM NITROBENZENE	0.000	5.375	0	5719657	N.D.	414.765	#
8) TM NITROGLYC...	6.273	6.203	2147925	120328	410.301	NoCal	#
9) TM TETRYL	6.827	6.826	7128902	4322348	NoCal	392.776	#
.0) TM 2,4,6-TRI...	7.288	7.288	6658811	5282740	NoCal	406.036	#
.1) TM 2-AMINO-4...	7.698	7.698	6950911	4720238	NoCal	393.444	#
.2) TM 4-AMINO-2...	7.991	7.991	6762330	3736931	NoCal	396.300	#
.3) TM 2,4-DINIT...	9.215	9.215	3572166	4956710	NoCal	405.503	#
.4) TM 2,6-DINIT...	9.558	9.556	3842149	2803612	NoCal	407.530	#
.5) TM 2-NITROTO...	0.000	12.937	0	2111847	N.D.	416.272	#
.6) TM 4-NITROTO...	0.000	13.537	0	2079517	N.D.	418.137	#
.7) TM 3-NITROTO...	0.000	14.393	0	2505080	N.D.	418.540	#
.8) TM PETN	16.249	0.000	1792117	0	424.810m	N.D.	#

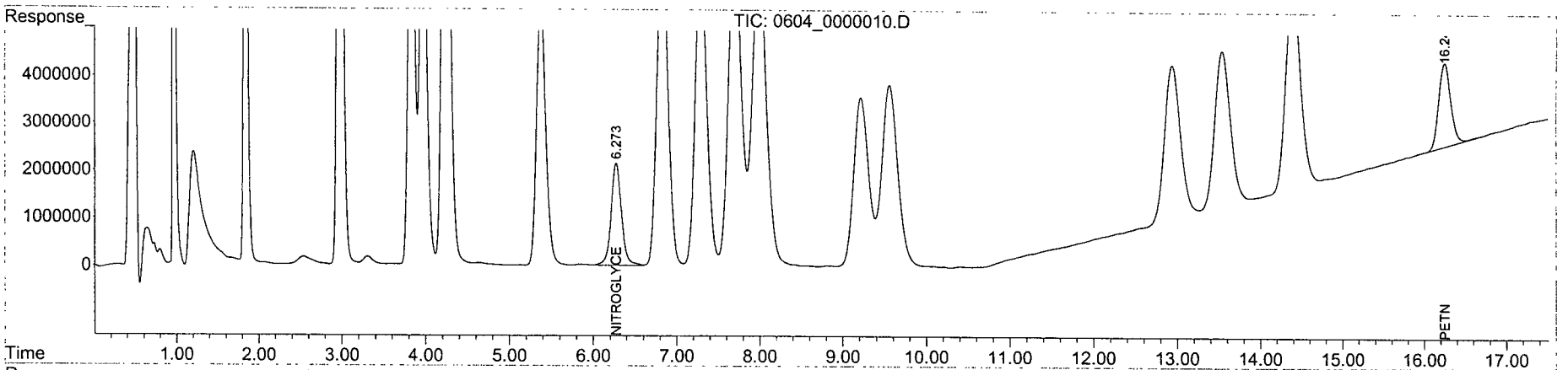
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

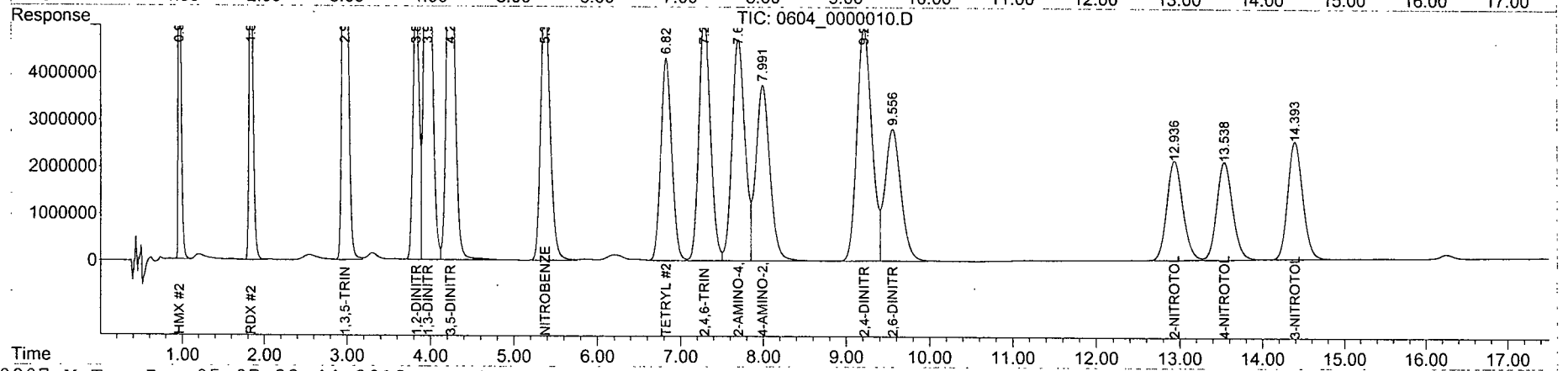
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 16:42:13
Operator : hm
Sample : 8830B_CB 0.5 PPM 06/04/12
Misc :
ALS Vial : 4102 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:33:34 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



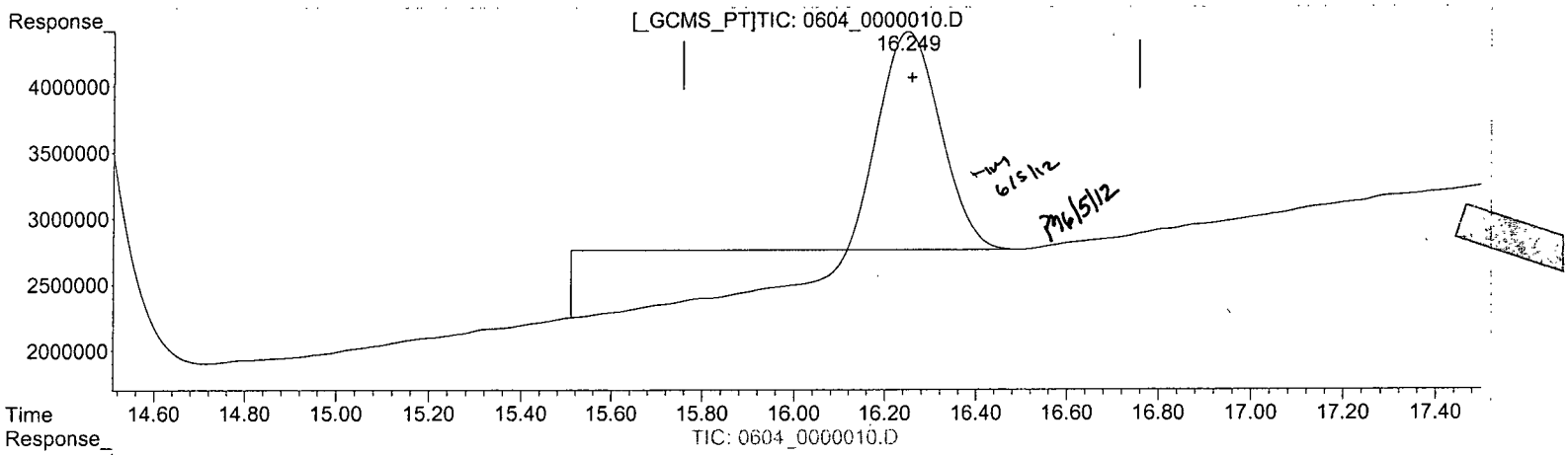


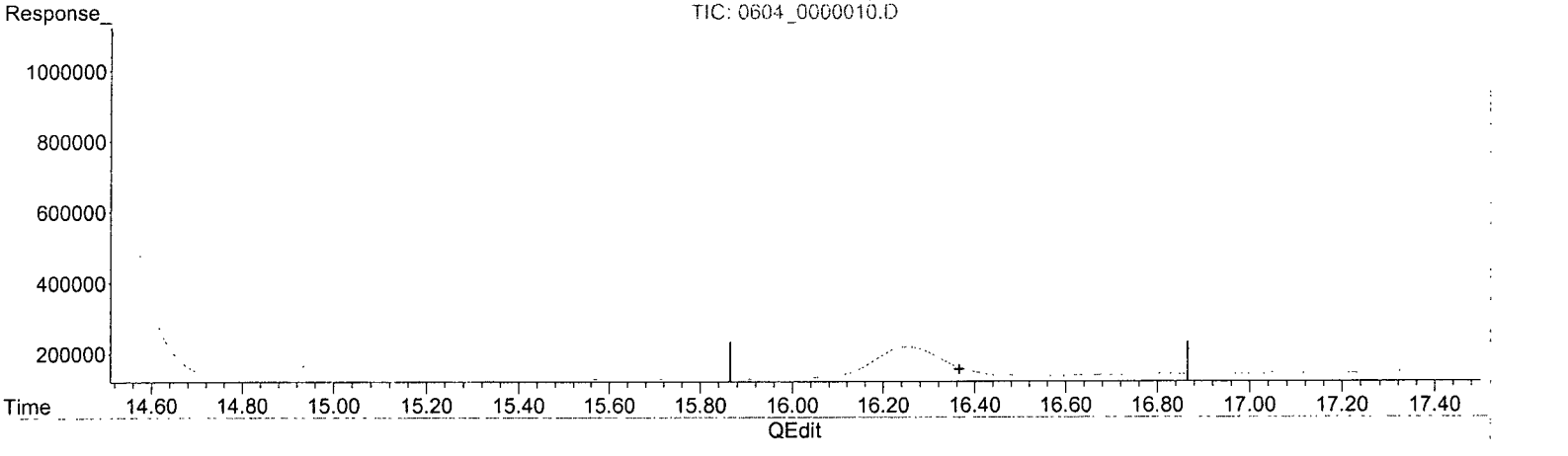
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 16:42:13
Operator : hm
Sample : 8830B_CB 0.5 PPM 06/04/12
Misc :
ALS Vial : 4102 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:29 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.249min 390.396 ppb

response 1646937

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

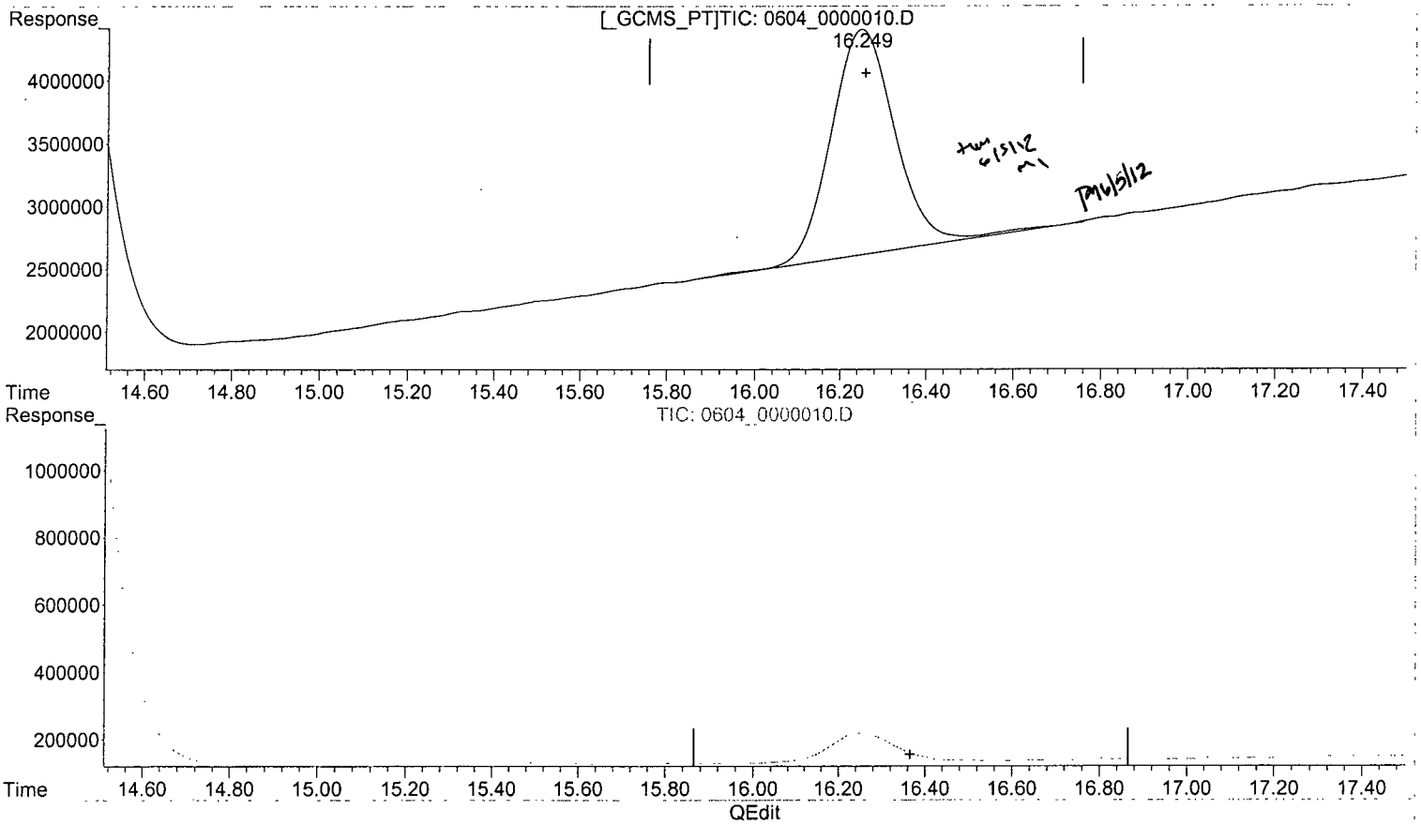
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000010.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 16:42:13
Operator : hm
Sample : 8830B_CB 0.5 PPM 06/04/12
Misc :
ALS Vial : 4102 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:29 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.249min 424.810 ppb m

response 1792117

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000011.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 17:19:43
Operator : hm
Sample : 8830B_CB 1.0 PPM 06/04/12
Misc :
ALS Vial : 4103 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:33:04 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.829	0	11553398	N.D.	834.732	#
	Spiked Amount 62.500			Recovery	=	0.00%	1335.57%	
	Target Compounds							
1)	TM HMX	0.000	0.965	0	25419390	N.D.	847.743	#
2)	TM RDX	0.000	1.836	0	15717673	N.D.	822.078	#
3)	TM 1,3,5-TRI...	0.000	2.974	0	26372912	N.D.	837.074	#
5)	TM 1,3-DINIT...	0.000	3.969	0	24836637	N.D.	831.939	#
6)	TM 3,5-DINIT...	0.000	4.239	0	18820278	N.D.	782.161	#
7)	TM NITROBENZENE	0.000	5.373	0	11616953	N.D.	842.412	#
8)	TM NITROGLYC...	6.272	6.213	4302456	251252	821.864	NoCal	#
9)	TM TETRYL	6.826	6.826	14500798	8822976	NoCal	801.752	#
10)	TM 2,4,6-TRI...	7.288	7.288	13466620	10707809	NoCal	823.011	#
11)	TM 2-AMINO-4...	7.696	7.697	14089307	9578088	NoCal	798.358	#
12)	TM 4-AMINO-2...	7.991	7.990	13677133	7545424	NoCal	800.190	#
13)	TM 2,4-DINIT...	9.215	9.215	7265499	10084957	NoCal	825.039	#
14)	TM 2,6-DINIT...	9.558	9.557	7814043	5694619	NoCal	827.765	#
15)	TM 2-NITROTO...	0.000	12.935	0	4289249	N.D.	845.465	#
16)	TM 4-NITROTO...	0.000	13.533	0	4229929	N.D.	850.529	#
17)	TM 3-NITROTO...	0.000	14.389	0	5091678	N.D.	850.701	#
18)	TM PETN	16.241	0.000	3631483	0	860.819m	N.D.	#

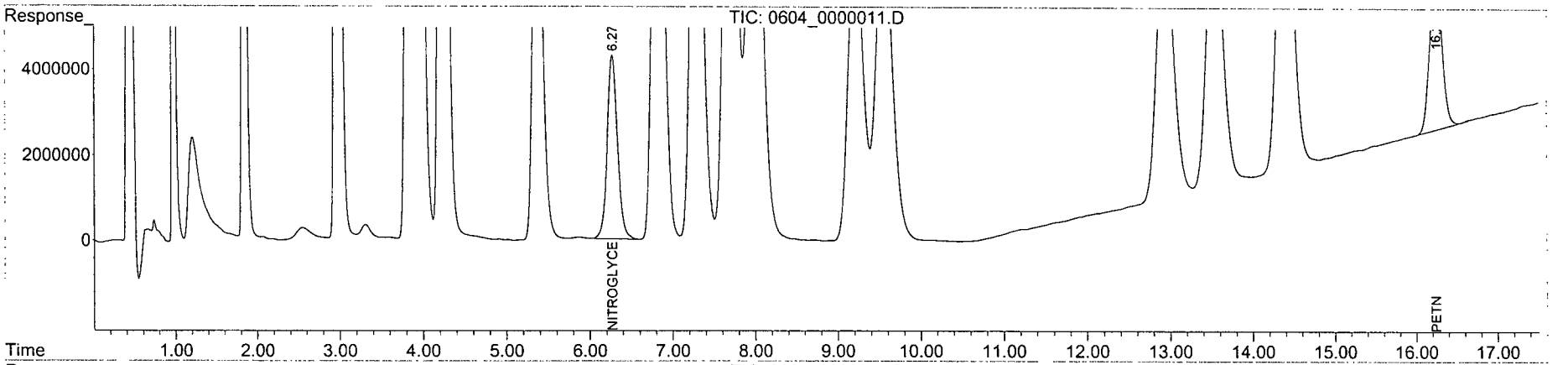
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

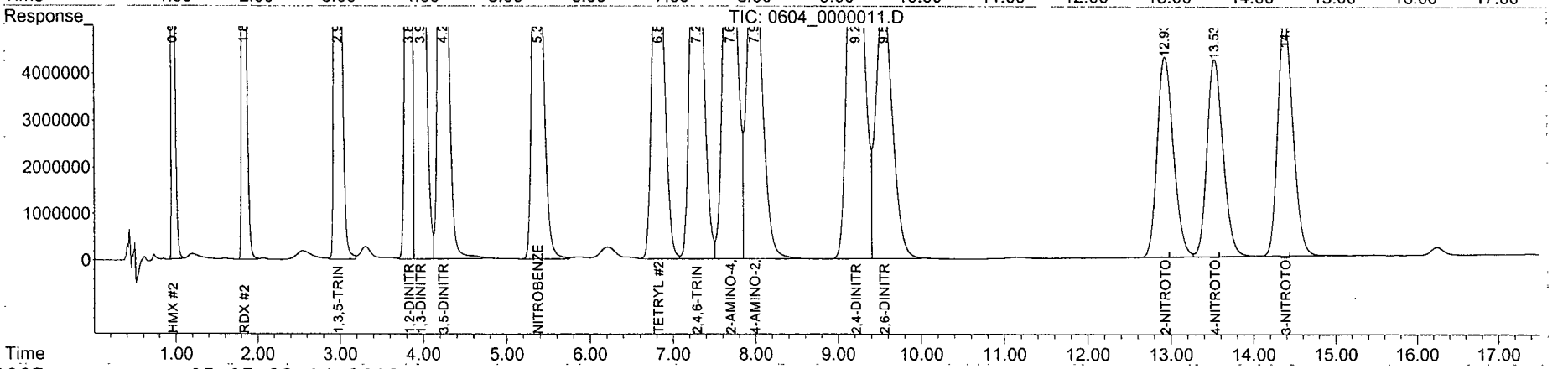
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000011.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 17:19:43
Operator : hm
Sample : 8830B_CB 1.0 PPM 06/04/12
Misc :
ALS Vial : 4103 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:33:04 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



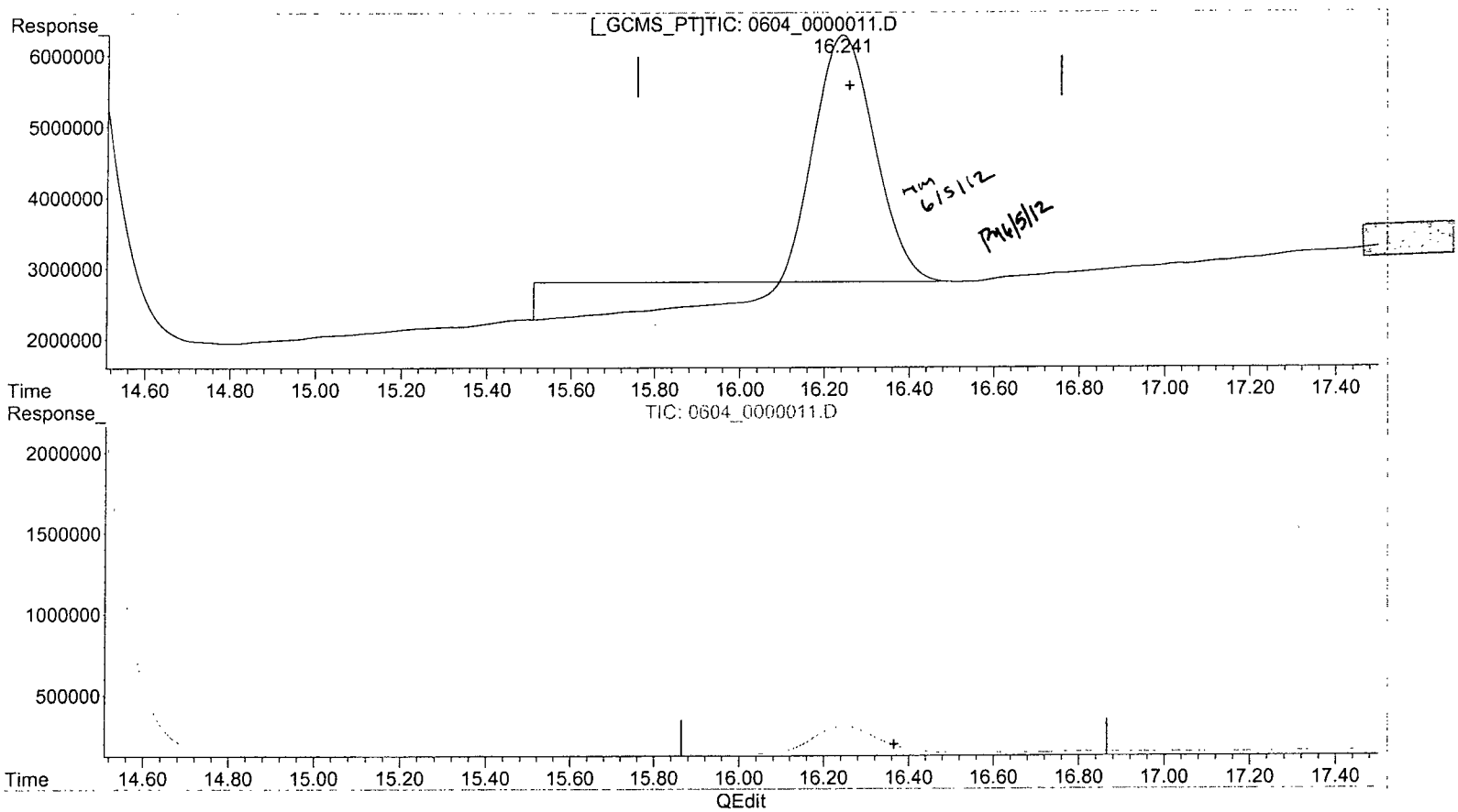


Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000011.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 17:19:43
Operator : hm
Sample : 8830B_CB 1.0 PPM 06/04/12
Misc :
ALS Vial : 4103 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:31 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.242min 823.960 ppb

response 3475986

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

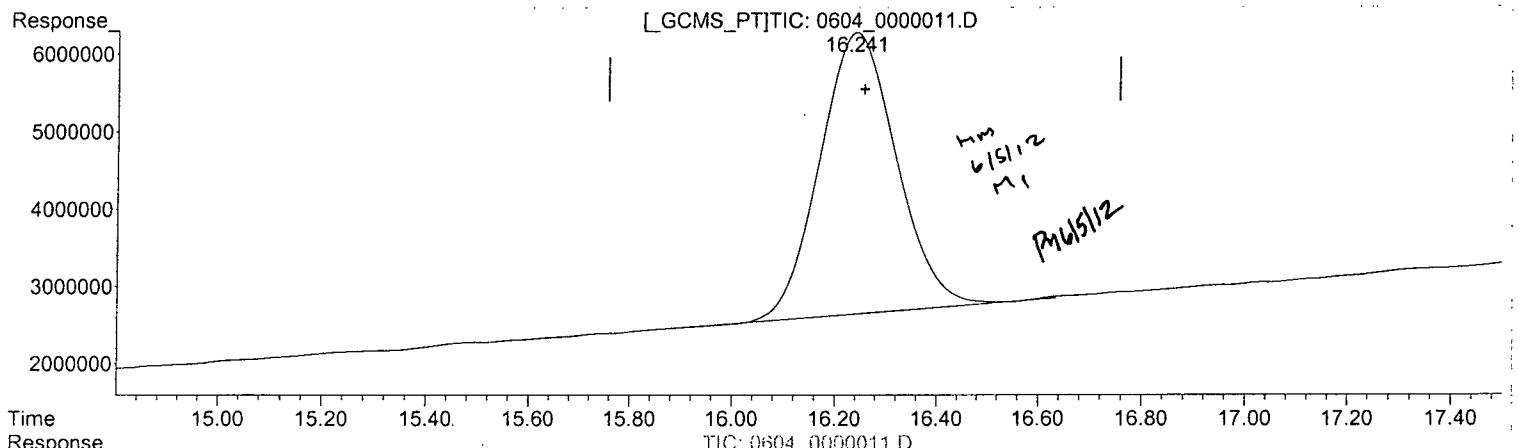
(+) = Expected Retention Time

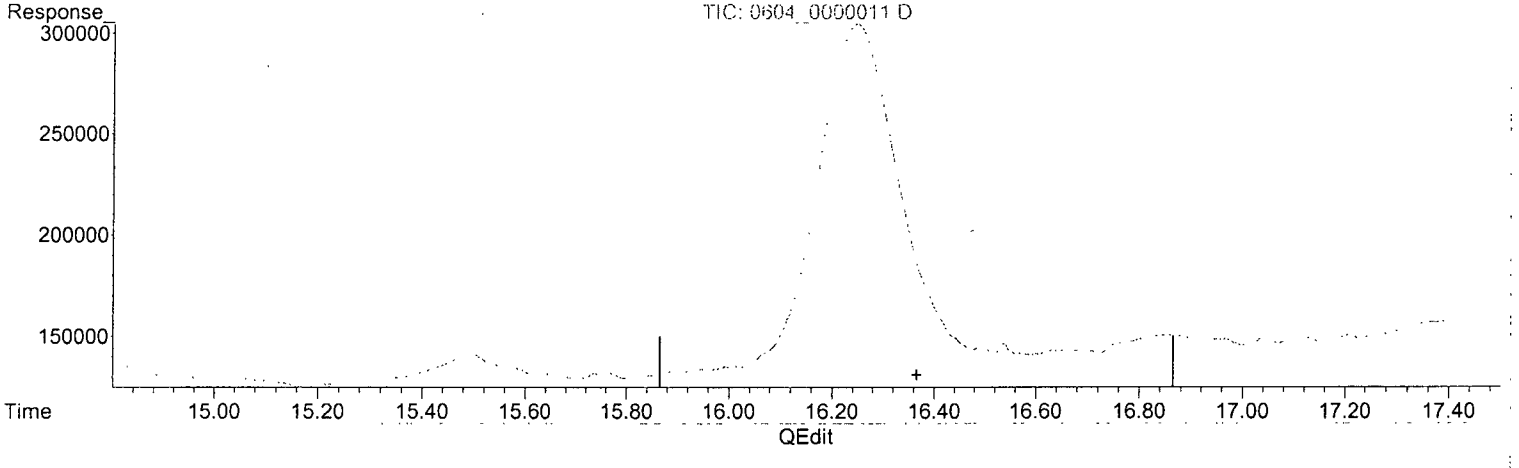
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000011.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 17:19:43
Operator : hm
Sample : 8830B_CB 1.0 PPM 06/04/12
Misc :
ALS Vial : 4103 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:31 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.241min 860.819 ppb m

response 3631483

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000012.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 17:57:11
Operator : hm
Sample : 8830B_MX-A 2.0 PPM 06/04/12
Misc :
ALS Vial : 4104 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:31:59 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.828	0	22503607	N.D.	1625.883 #
Spiked Amount 62.500			Recovery	=	0.00%	2601.41%
Target Compounds						
1) TM HMX	0.000	0.965	0	48690758	N.D.	1623.849 #
2) TM RDX	0.000	1.835	0	30287364	N.D.	1584.114 #
3) TM 1,3,5-TRI...	0.000	2.973	0	50894733	N.D.	1615.394 #
5) TM 1,3-DINIT...	0.000	3.967	0	48060160	N.D.	1609.845 #
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	5.371	0	22459780	N.D.	1628.688 #
8) TM NITROGLYC...	0.000	6.197	0	405610	N.D. d	NoCal
9) TM TETRYL	6.826	6.826	28428955	17289020	NoCal	1571.070 #
0) TM 2,4,6-TRI...	7.288	7.288	26172080	20798262	NoCal	1598.571 #
1) TM 2-AMINO-4...	7.696	7.696	27221017	18510644	NoCal	1542.910 #
2) TM 4-AMINO-2...	7.990	7.990	26473836	14581023	NoCal	1546.313 #
3) TM 2,4-DINIT...	9.212	9.212	14106132	19591240	NoCal	1602.737 #
4) TM 2,6-DINIT...	9.556	9.555	14976377	11003442	NoCal	1599.450 #
5) TM 2-NITROTO...	0.000	12.929	0	8308429	N.D.	1637.697 #
6) TM 4-NITROTO...	0.000	13.526	0	8219410	N.D.	1652.711 #
7) TM 3-NITROTO...	0.000	14.383	0	9878052	N.D.	1650.392 #
8) TM PETN	0.000	0.000	0	0	N.D.	N.D.

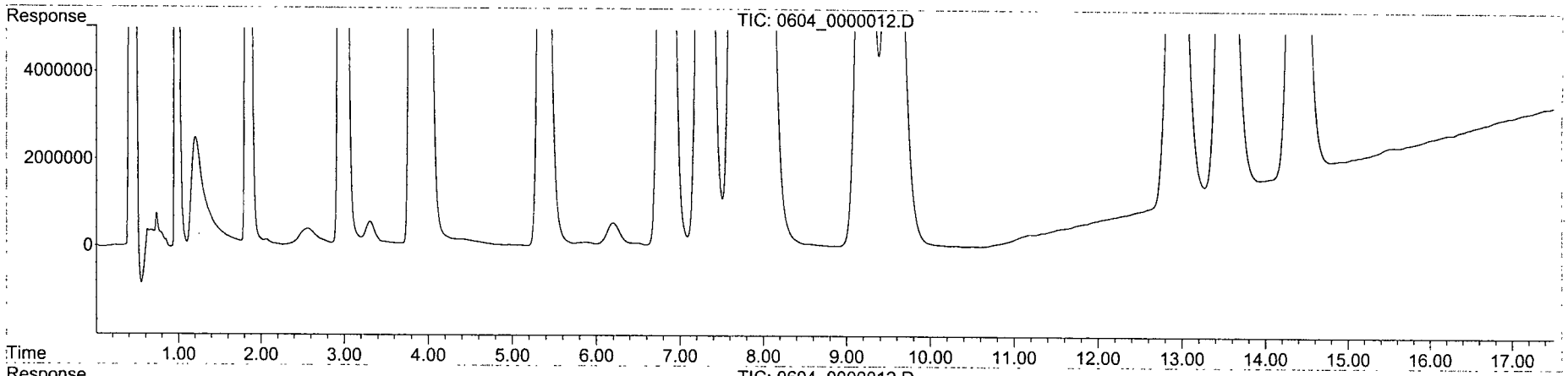
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

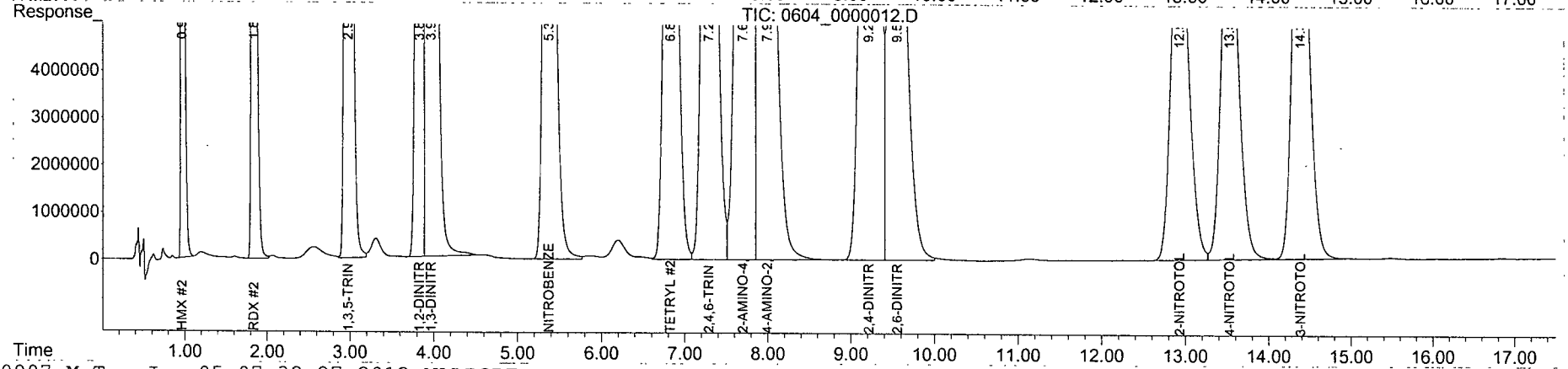
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000012.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 17:57:11
Operator : hm
Sample : 8830B_MX-A 2.0 PPM 06/04/12
Misc :
ALS Vial : 4104 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:31:59 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000013.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 18:34:41
Operator : hm
Sample : 8830B_MX-B 2.0 PPM 06/04/12
Misc :
ALS Vial : 4160 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:31:27 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	0.000	0	0	N.D. d	N.D. d
Spiked Amount 62.500			Recovery	=	0.00%	0.00%
Target Compounds						
1) TM HMX	0.000	0.000	0	0	N.D.	N.D.
2) TM RDX	0.000	0.000	0	0	N.D. d	N.D. d
3) TM 1,3,5-TRI...	0.000	0.000	0	0	N.D. d	N.D. d
5) TM 1,3-DINIT...	0.000	0.000	0	0	N.D. d	N.D. d
6) TM 3,5-DINIT...	0.000	4.236	0	38285100	N.D.	1591.109 #
7) TM NITROBENZENE	0.000	0.000	0	0	N.D. d	N.D. d
8) TM NITROGLYC...	6.264	6.265	8519764	177606	1627.464	NoCal #
9) TM TETRYL	0.000	0.000	0	0	N.D. d	N.D. d
.0) TM 2,4,6-TRI...	0.000	0.000	0	0	N.D. d	N.D. d
.1) TM 2-AMINO-4...	0.000	0.000	0	0	N.D. d	N.D. d
.2) TM 4-AMINO-2...	0.000	0.000	0	0	N.D. d	N.D. d
.3) TM 2,4-DINIT...	0.000	0.000	0	0	N.D. d	N.D. d
.4) TM 2,6-DINIT...	0.000	0.000	0	0	N.D. d	N.D. d
.5) TM 2-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
.6) TM 4-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
.7) TM 3-NITROTO...	0.000	0.000	0	0	N.D. d	N.D. d
.8) TM PETN	16.225	0.000	7426311	0	1760.358m	N.D. #

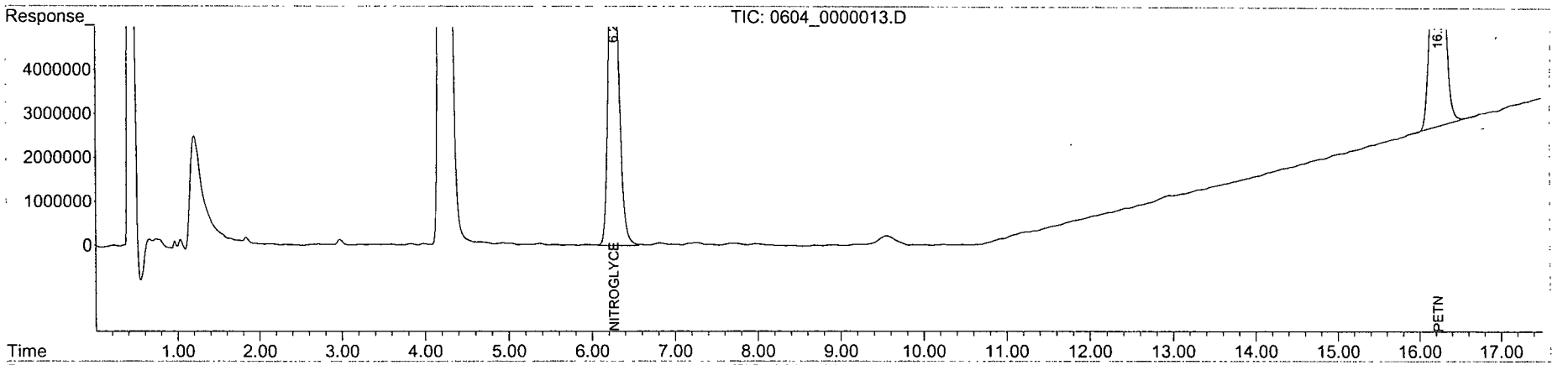
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

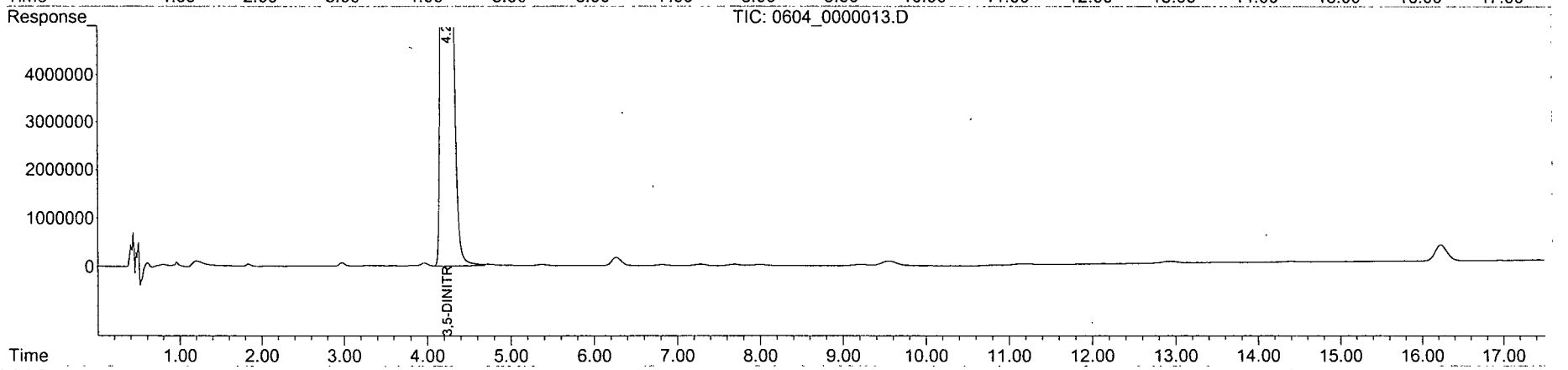
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000013.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 18:34:41
Operator : hm
Sample : 8830B_MX-B 2.0 PPM 06/04/12
Misc :
ALS Vial : 4160 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:31:27 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



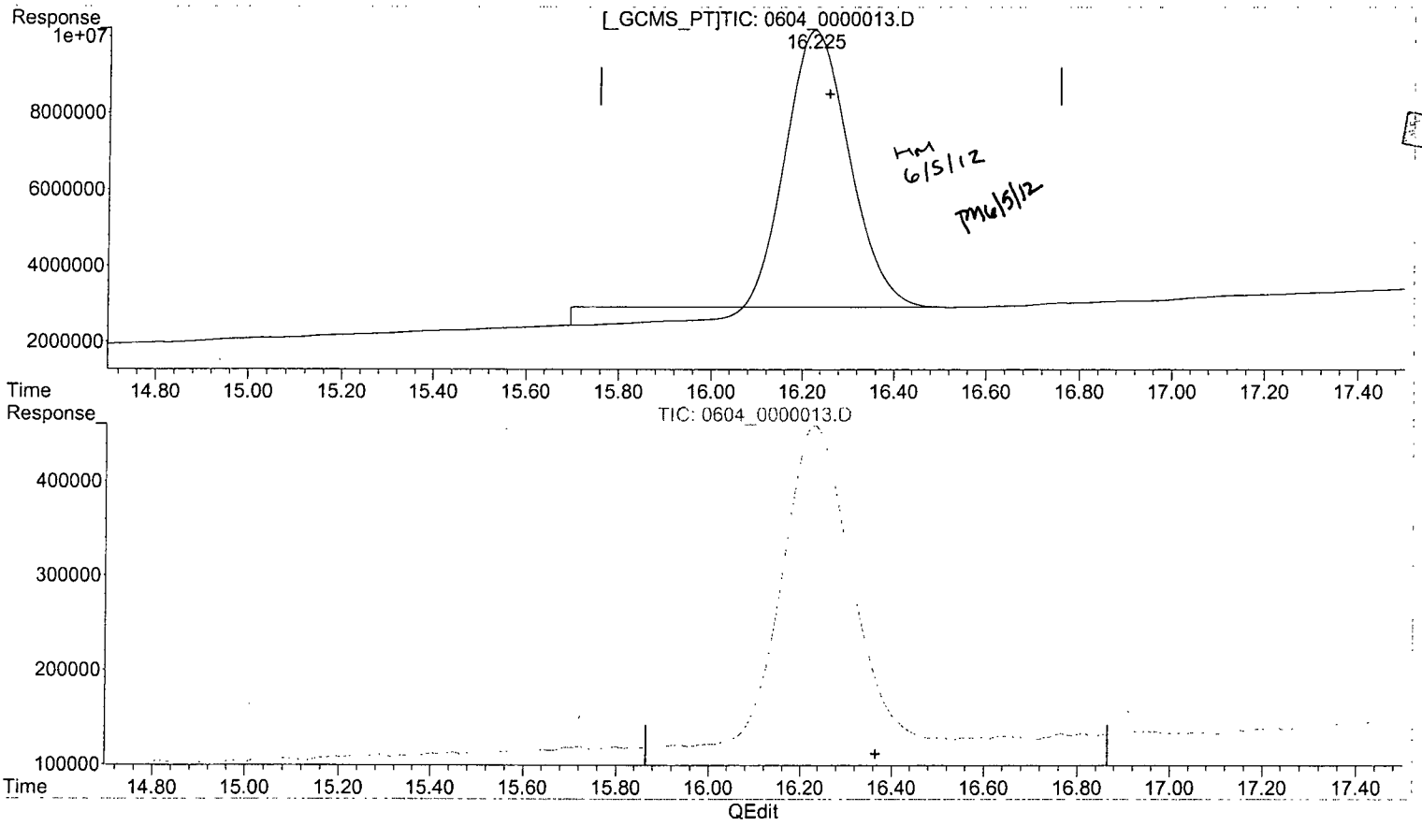


Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000013.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 18:34:41
Operator : hm
Sample : 8830B_MX-B 2.0 PPM 06/04/12
Misc :
ALS Vial : 4160 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:35 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.226min 1715.318 ppb

response 7236302

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

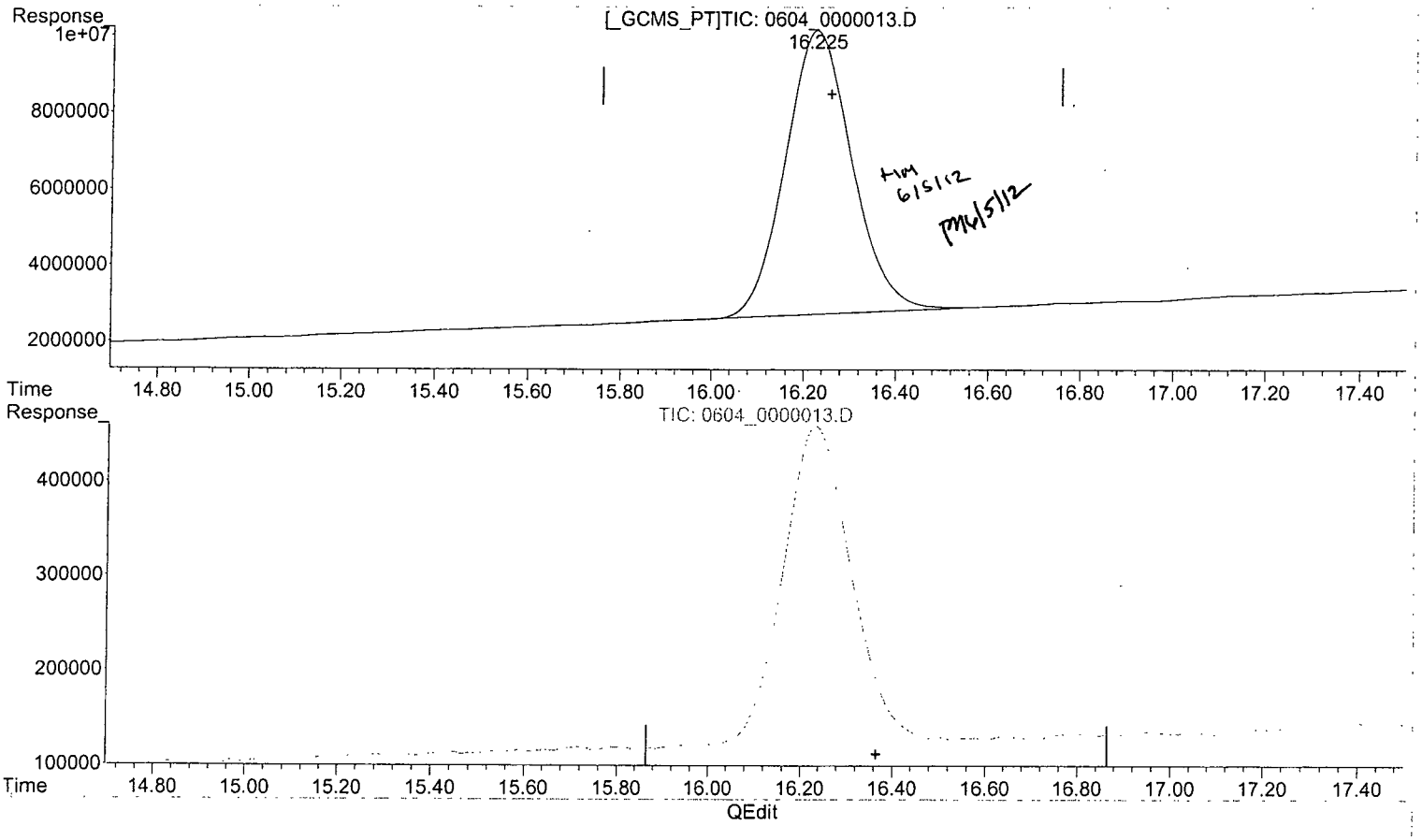
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000013.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 18:34:41
Operator : hm
Sample : 8830B_MX-B 2.0 PPM 06/04/12
Misc :
ALS Vial : 4160 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:30:35 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Thu May 17 07:45:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.225min 1760.358 ppb m

response 7426311

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 04-Jun-2012, 19:12:11
Instrument: Waldorf
Initial Cal. Date: 06/04/12
Data File: 0604_0000014.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	111	128	15	TM	
2	TM	PETN	83.4	98.1	18	TM	
	Signal #2						
1	TM	HMX	659	677	2.8	TM	
2	TM	RDX	406	415	2.3	TM	
3	TM	1,3,5-TRINITROBENZENE	665	620	6.8	TM	
4	S	1,2-DINITROBENZENE	288	273	5.1	S	
5	TM	1,3-DINITROBENZENE	619	670	8.1	TM	
6	TM	3,5-DINITROANILINE	471	541	15	TM	
7	TM	NITROBENZENE	288	306	6.3	TM	
8	TM	TETRYL	216	179	17	TM	
9	TM	2,4,6-TRINITROTOLUENE	263	256	2.7	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	236	242	2.5	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	187	208	11	TM	
12	TM	2,4-DINITROTOLUENE	246	278	13	TM	
13	TM	2,6-DINITROTOLUENE	141	137	2.6	TM	
14	TM	2-NITROTOLUENE	109	103	4.9	TM	
15	TM	4-NITROTOLUENE	107	99.4	6.8	TM	
16	TM	3-NITROTOLUENE	126	136	7.9	TM	
17							
18							
19							
20							
21							
22							
23							
24							
25							
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27							
28							
29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 19:12:11
Operator : hm
Sample : 8830B_SS 1.0 PPM 06/04/12
Misc :
ALS Vial : 4161 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:43:42 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

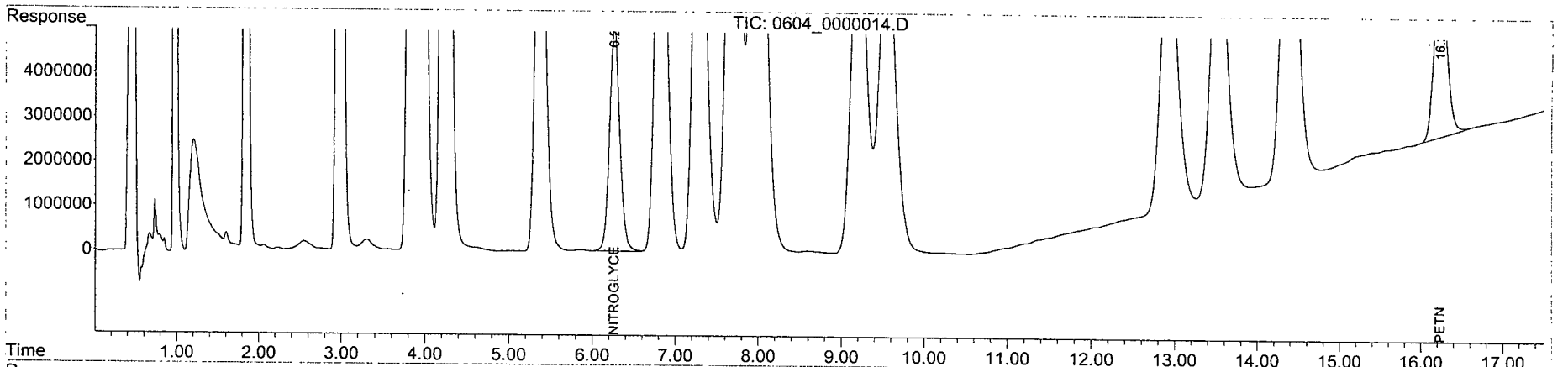
	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.824	0	10931462	N.D.	948.934	#
	Spiked Amount 62.500			Recovery	=	0.00%	1518.29%	
	Target Compounds							
1)	TM HMX	0.000	0.964	0	27090254	N.D.	1028.393	#
2)	TM RDX	0.000	1.834	0	16595510	N.D.	1022.910	#
3)	TM 1,3,5-TRI...	0.000	2.969	0	24806962	N.D.	932.390	#
5)	TM 1,3-DINIT...	0.000	3.963	0	26784919	N.D.	1081.332	#
6)	TM 3,5-DINIT...	0.000	4.234	0	21626605	N.D.	1147.946	#
7)	TM NITROBENZENE	0.000	5.365	0	12235317	N.D.	1063.226	#
8)	TM NITROGLYC...	6.262	6.225	5113103	234390	1152.862	NoCal	#
9)	TM TETRYL	6.817	6.817	11715110	7159399	NoCal	830.548	#
10)	TM 2,4,6-TRI...	7.278	7.278	12893190	10248529	NoCal	972.755	#
11)	TM 2-AMINO-4...	7.690	7.690	14201132	9662695	NoCal	1025.318	#
12)	TM 4-AMINO-2...	7.983	7.983	15083839	8319203	NoCal	1112.874	#
13)	TM 2,4-DINIT...	9.204	9.204	7988439	11122707	NoCal	1128.122	#
14)	TM 2,6-DINIT...	9.547	9.545	7453394	5484466	NoCal	974.414	#
15)	TM 2-NITROTO...	0.000	12.923	0	4131751	N.D.	950.620	#
16)	TM 4-NITROTO...	0.000	13.522	0	3977065	N.D.	931.624	#
17)	TM 3-NITROTO...	0.000	14.379	0	5450553	N.D.	1079.402	#
18)	TM PETN	16.230	0.000	3922759	0	1176.099m	N.D.	#

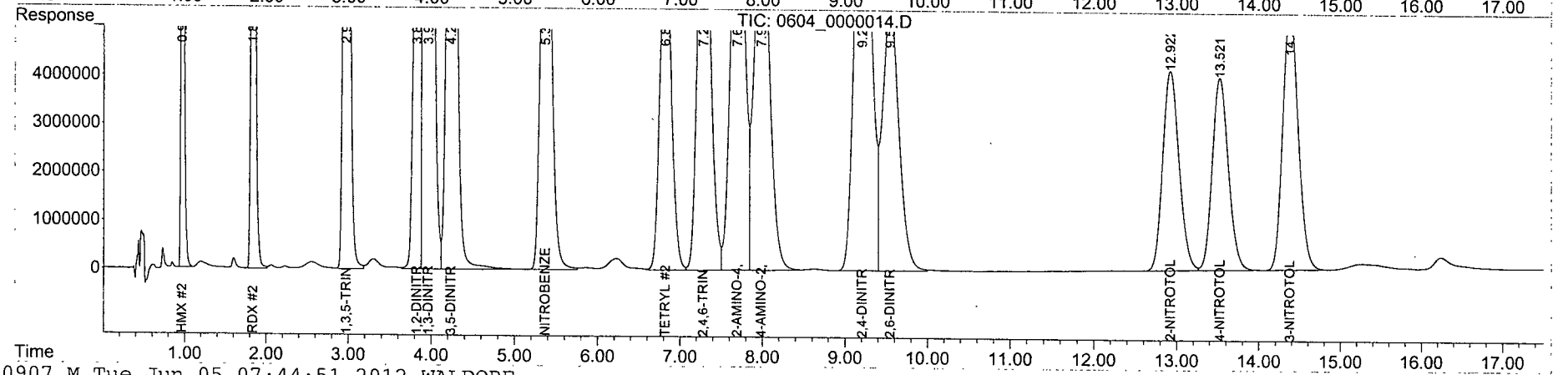
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 19:12:11
Operator : hm
Sample : 8830B_SS 1.0 PPM 06/04/12
Misc :
ALS Vial : 4161 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:43:42 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



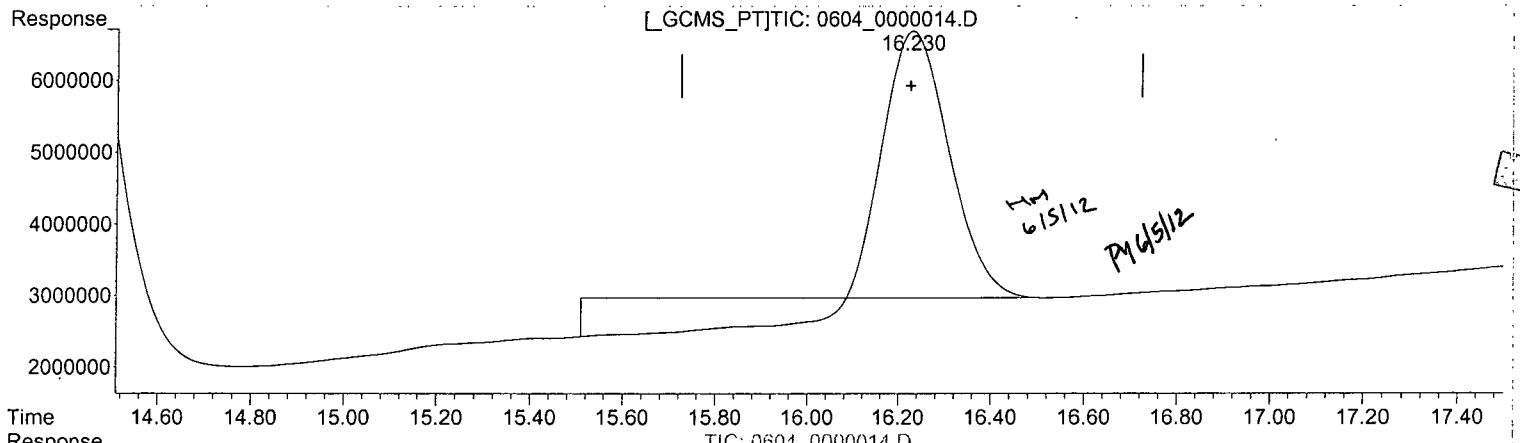


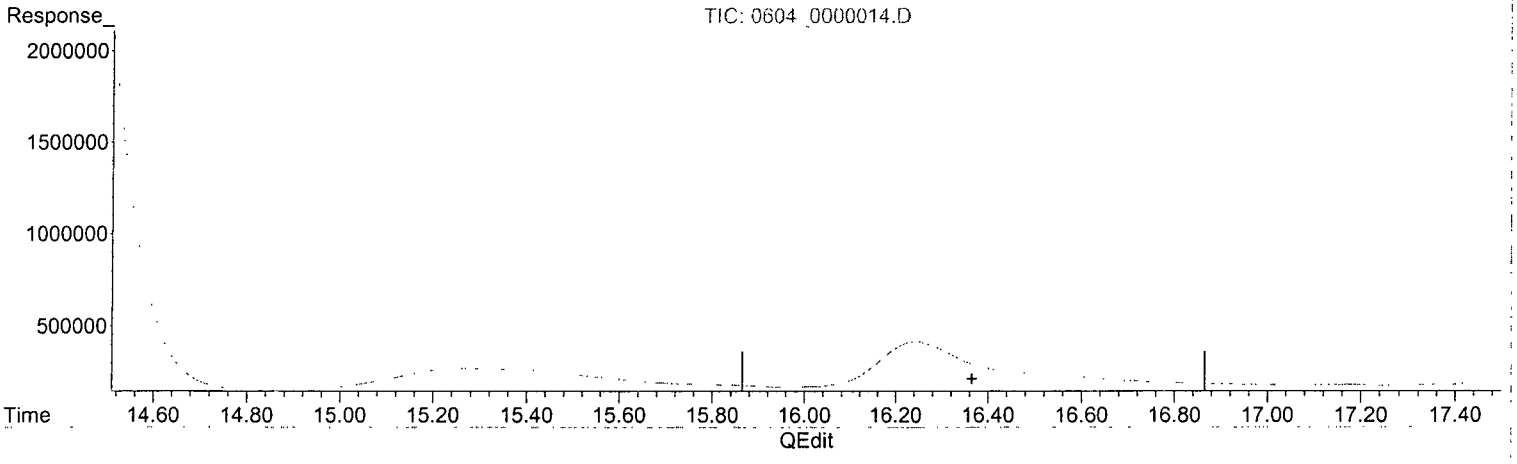
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 19:12:11
Operator : hm
Sample : 8830B_SS 1.0 PPM 06/04/12
Misc :
ALS Vial : 4161 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:42:50 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.231min 1115.182 ppb

response 3719577

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

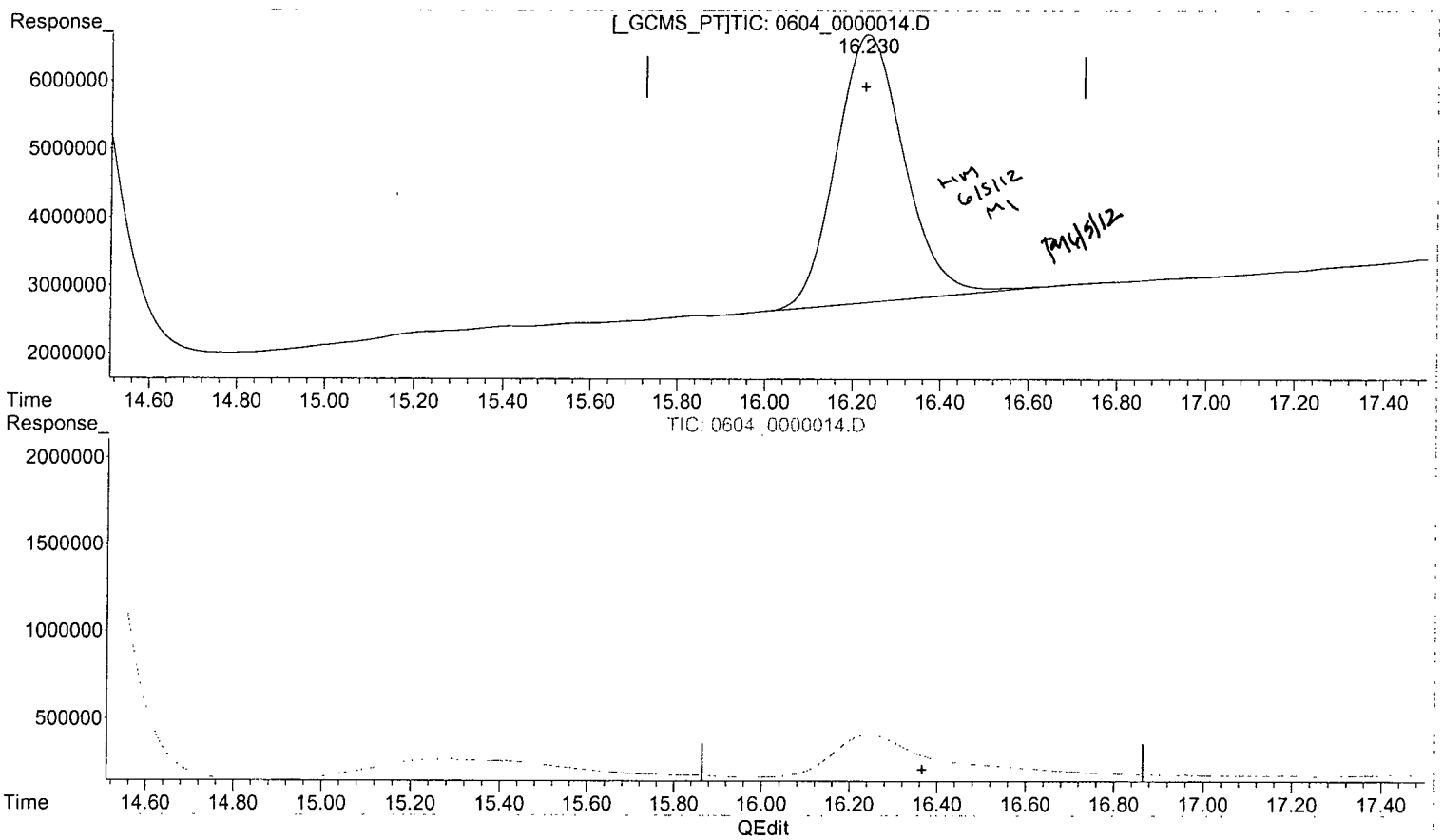
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 04-Jun-2012, 19:12:11
Operator : hm
Sample : 8830B_SS 1.0 PPM 06/04/12
Misc :
ALS Vial : 4161 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:42:50 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



(18) PETN (TM)

16.230min 1176.099 ppb m

response 3922759

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 05-Jun-2012, 04:34:31
Instrument: Waldorf
Initial Cal. Date: 06/04/12
Data File: 0604_0000029.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	NITROGLYCERIN	111	105	5.5	TM	
2	TM	PETN	83.4	87.3	4.7	TM	
	Signal #2						
1	TM	HMX	659	606	7.9	TM	
2	TM	RDX	406	373	7.9	TM	
3	TM	1,3,5-TRINITROBENZENE	665	622	6.5	TM	
4	S	1,2-DINITROBENZENE	288	272	5.4	S	
5	TM	1,3-DINITROBENZENE	619	583	5.9	TM	
6	TM	3,5-DINITROANILINE	471	451	4.2	TM	
7	TM	NITROBENZENE	288	271	5.7	TM	
8	TM	TETRYL	216	205	5.0	TM	
9	TM	2,4,6-TRINITROTOLUENE	263	249	5.4	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	236	222	5.8	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	187	176	5.9	TM	
12	TM	2,4-DINITROTOLUENE	246	235	4.9	TM	
13	TM	2,6-DINITROTOLUENE	141	133	5.2	TM	
14	TM	2-NITROTOLUENE	109	101	7.4	TM	
15	TM	4-NITROTOLUENE	107	99.4	6.9	TM	
16	TM	3-NITROTOLUENE	126	119	5.4	TM	
17							
18							
19							
20							
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22							
23							
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29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000029.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 04:34:31
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/04/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:53:46 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
4) S 1,2-DINIT...	0.000	3.841	0	10895819	N.D.	945.840 #
Spiked Amount 62.500			Recovery =		0.00%	1513.34%
Target Compounds						
1) TM HMX	0.000	0.966	0	24250224	N.D.	920.580 #
2) TM RDX	0.000	1.840	0	14935545	N.D.	920.594 #
3) TM 1,3,5-TRI...	0.000	2.979	0	24863946	N.D.	934.532 #
5) TM 1,3-DINIT...	0.000	3.978	0	23306452	N.D.	940.903 #
6) TM 3,5-DINIT...	0.000	4.257	0	18053667	N.D.	958.294 #
7) TM NITROBENZENE	0.000	5.386	0	10849007	N.D.	942.758 #
8) TM NITROGLYC...	6.282	6.245	4189543	272317	944.625	NoCal #
9) TM TETRYL	6.854	6.854	13447979	8187199	NoCal	949.781 #
0) TM 2,4,6-TRI...	7.308	7.308	12536763	9966062	NoCal	945.945 #
1) TM 2-AMINO-4...	7.737	7.737	13073275	8879774	NoCal	942.242 #
2) TM 4-AMINO-2...	8.031	8.030	12750417	7031374	NoCal	940.599 #
3) TM 2,4-DINIT...	9.244	9.244	6744098	9381049	NoCal	951.474 #
4) TM 2,6-DINIT...	9.588	9.587	7280730	5333770	NoCal	947.641 #
5) TM 2-NITROTO...	0.000	12.961	0	4025974	N.D.	926.283 #
6) TM 4-NITROTO...	0.000	13.558	0	3975152	N.D.	931.176 #
7) TM 3-NITROTO...	0.000	14.411	0	4776798	N.D.	945.975 #
8) TM PETN	16.245	0.000	3492798	0	1047.190m	N.D. #

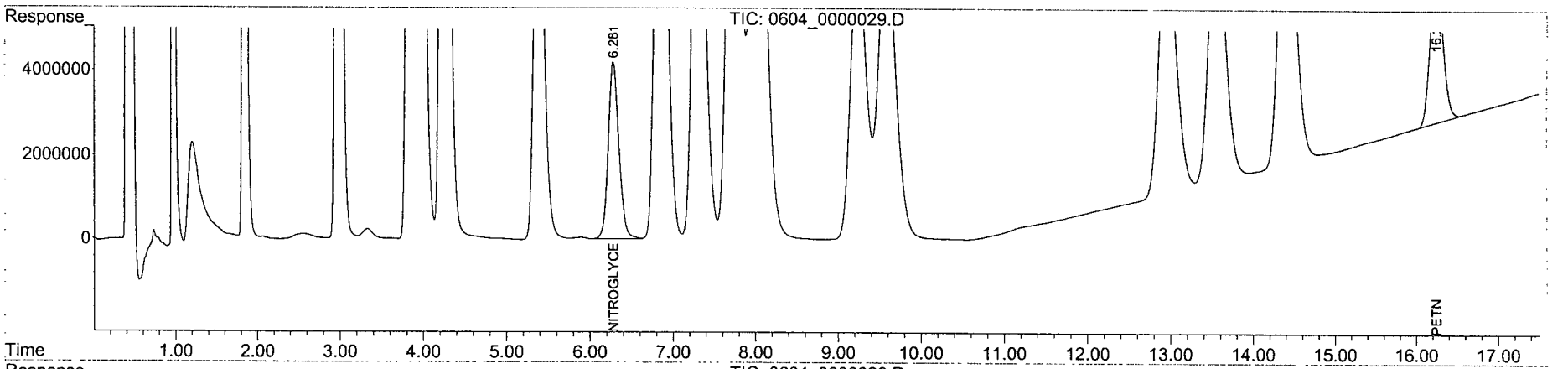
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

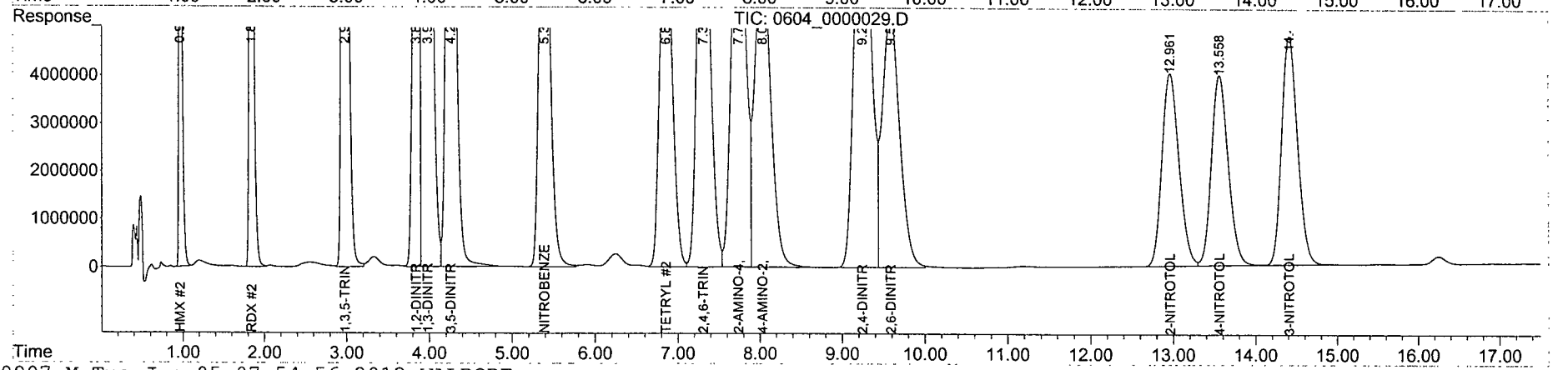
Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000029.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 04:34:31
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/04/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:53:46 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



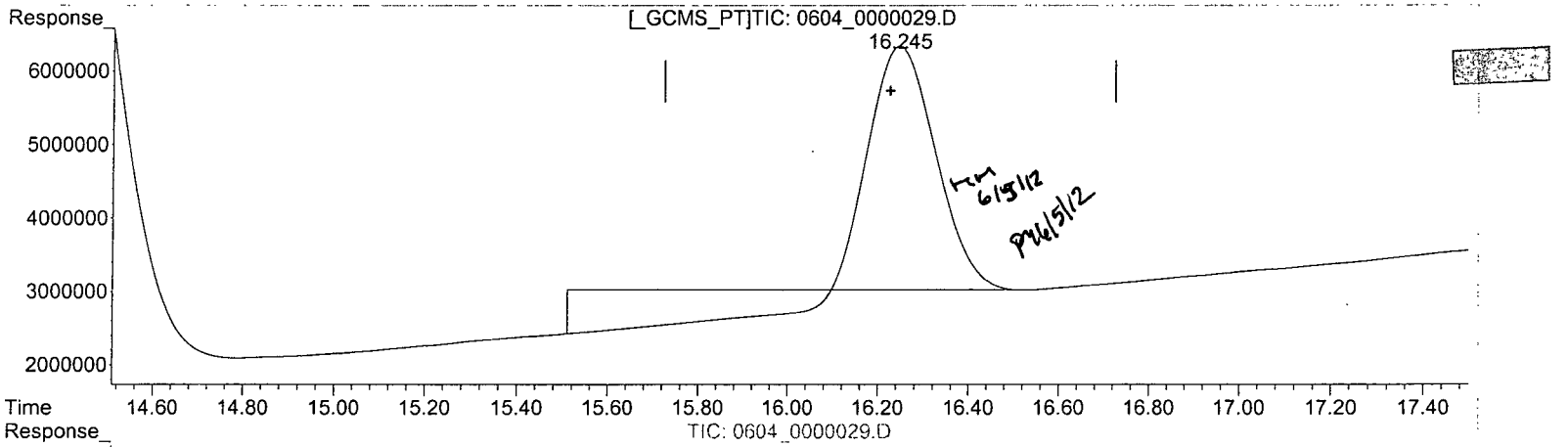


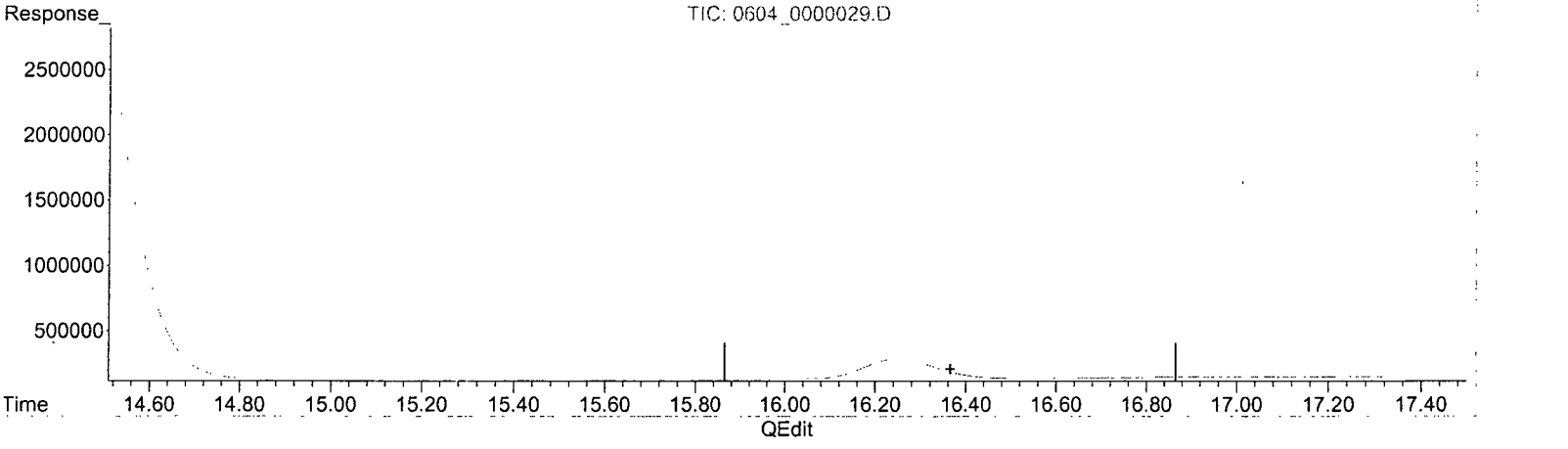
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000029.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 04:34:31
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/04/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:53:08 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.246min 994.090 ppb

response 3315686

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

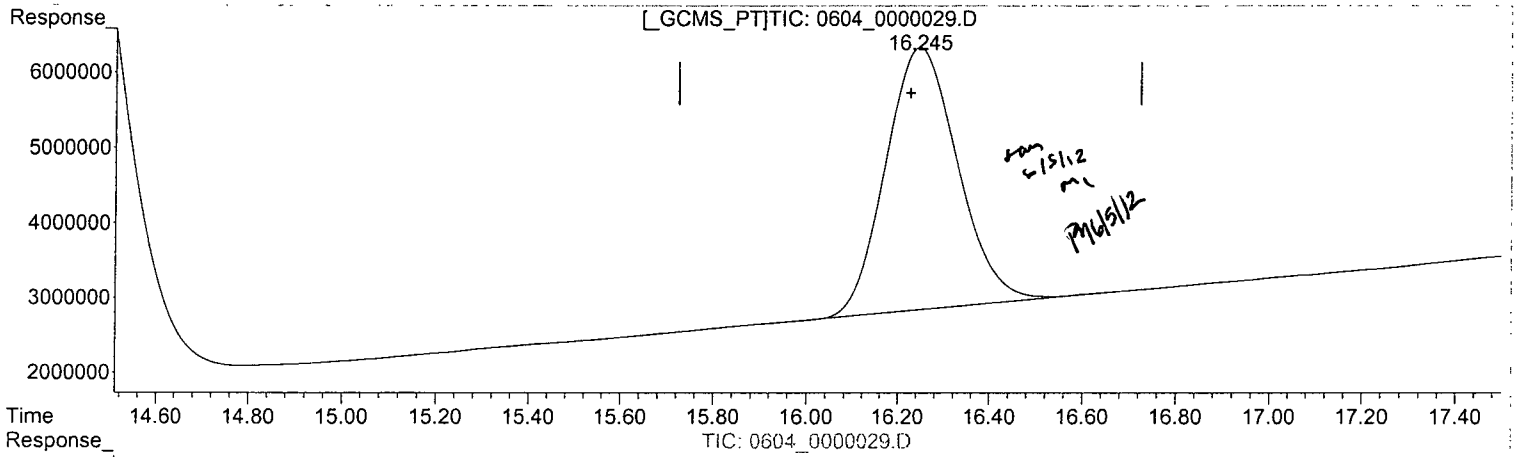
(+) = Expected Retention Time

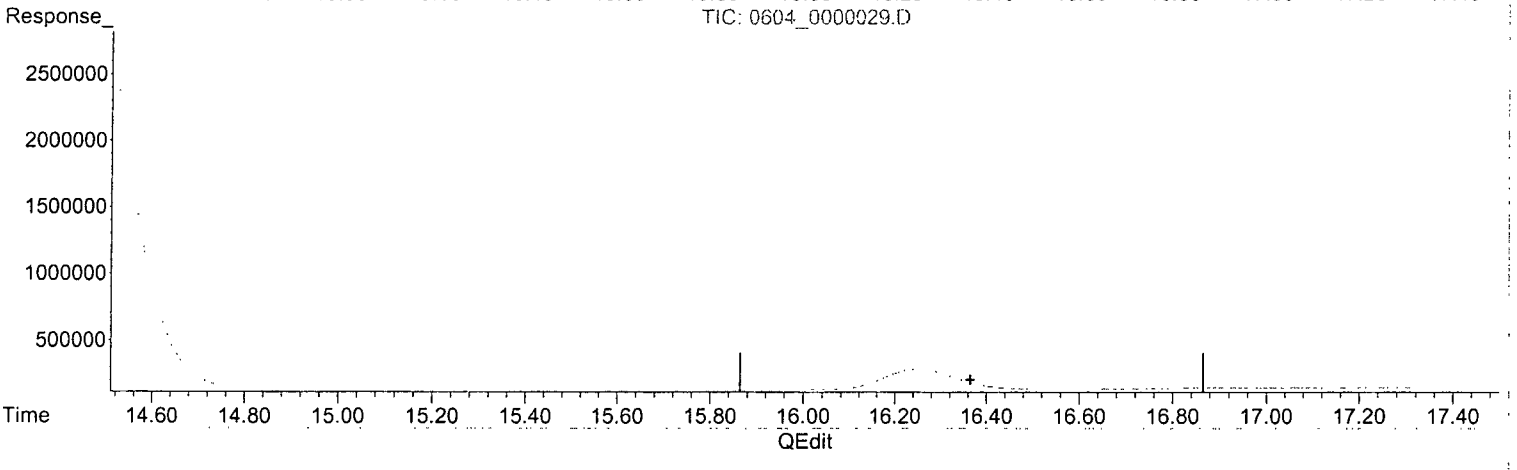
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000029.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 04:34:31
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/04/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 07:53:08 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.245min 1047.190 ppb m

response 3492798

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67746
Date Analyzed: 05-Jun-2012, 10:57:14
Instrument: Waldorf
Initial Cal. Date: 06/04/12
Data File: 0604_0000040.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	111	102	7.6	TM	
2	TM	PETN	83.4	86.4	3.6	TM	
	Signal #2						
1	TM	HMX	659	604	8.3	TM	
2	TM	RDX	406	373	8.1	TM	
3	TM	1,3,5-TRINITROBENZENE	665	613	7.8	TM	
4	S	1,2-DINITROBENZENE	288	268	6.8	S	
5	TM	1,3-DINITROBENZENE	619	576	7.0	TM	
6	TM	3,5-DINITROANILINE	471	446	5.3	TM	
7	TM	NITROBENZENE	288	264	8.1	TM	
8	TM	TETRYL	216	198	8.3	TM	
9	TM	2,4,6-TRINITROTOLUENE	263	243	7.7	TM	
10	TM	2-AMINO-4,6-DINITROTOLUEN	236	218	7.5	TM	
11	TM	4-AMINO-2,6-DINITROTOLUEN	187	173	7.7	TM	
12	TM	2,4-DINITROTOLUENE	246	230	6.7	TM	
13	TM	2,6-DINITROTOLUENE	141	131	7.2	TM	
14	TM	2-NITROTOLUENE	109	97.1	11	TM	
15	TM	4-NITROTOLUENE	107	96.8	9.3	TM	
16	TM	3-NITROTOLUENE	126	116	8.3	TM	
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

Quantitation Report (QT Reviewed)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000040.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 10:57:14
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/04/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 11:34:40 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron

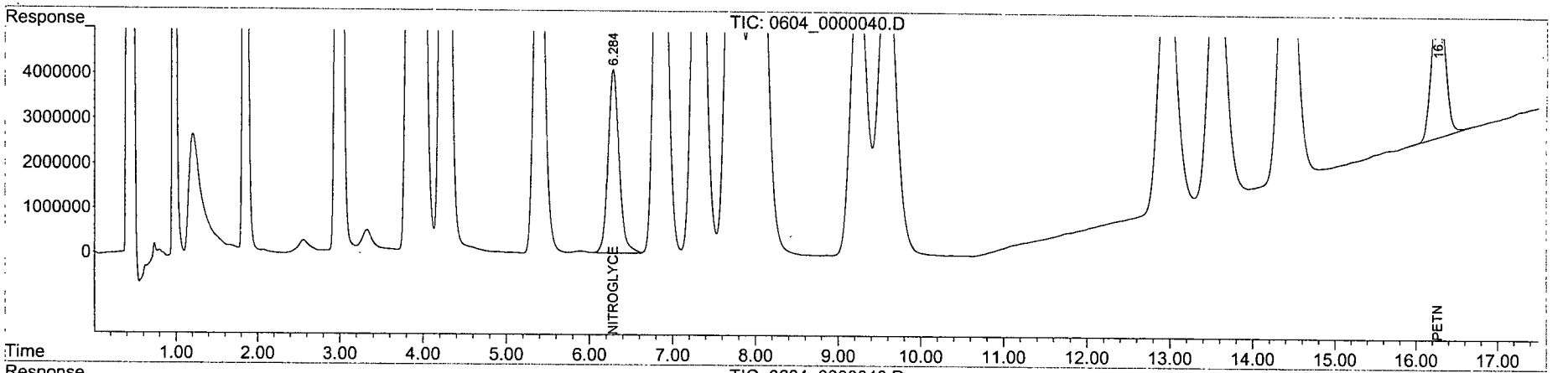
Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
System Monitoring Compounds							
4) S 1,2-DINIT...	0.000	3.841	0	10739358	N.D.	932.258	#
Spiked Amount 62.500			Recovery	=	0.00%	1491.61%	
Target Compounds							
1) TM HMX	0.000	0.967	0	24146193	N.D.	916.631	#
2) TM RDX	0.000	1.841	0	14905673	N.D.	918.752	#
3) TM 1,3,5-TRI...	0.000	2.980	0	24521350	N.D.	921.655	#
5) TM 1,3-DINIT...	0.000	3.979	0	23037359	N.D.	930.039	#
6) TM 3,5-DINIT...	0.000	4.256	0	17836265	N.D.	946.754	#
7) TM NITROBENZENE	0.000	5.386	0	10573531	N.D.	918.820	#
8) TM NITROGLYC...	6.284	6.241	4098084	261652	924.003	NoCal	#
9) TM TETRYL	6.850	6.850	13005871	7907614	NoCal	917.347	#
0) TM 2,4,6-TRI...	7.307	7.307	12252484	9726480	NoCal	923.204	#
1) TM 2-AMINO-4...	7.730	7.730	12820410	8717145	NoCal	924.985	#
2) TM 4-AMINO-2...	8.025	8.024	12489489	6901504	NoCal	923.226	#
3) TM 2,4-DINIT...	9.243	9.243	6622368	9195384	NoCal	932.643	#
4) TM 2,6-DINIT...	9.588	9.586	7154027	5225388	NoCal	928.385	#
5) TM 2-NITROTO...	0.000	12.961	0	3885958	N.D.	894.069	#
6) TM 4-NITROTO...	0.000	13.559	0	3870952	N.D.	906.767	#
7) TM 3-NITROTO...	0.000	14.415	0	4631607	N.D.	917.222	#
8) TM PETN	16.262	0.000	3454740	0	1035.780m	N.D.	#

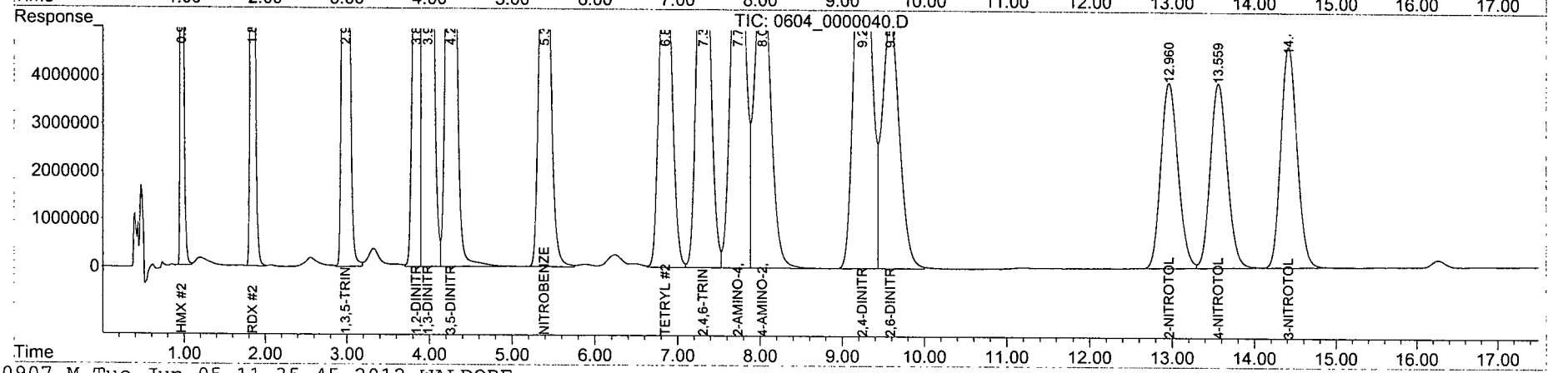
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000040.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 10:57:14
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/04/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 11:34:40 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron



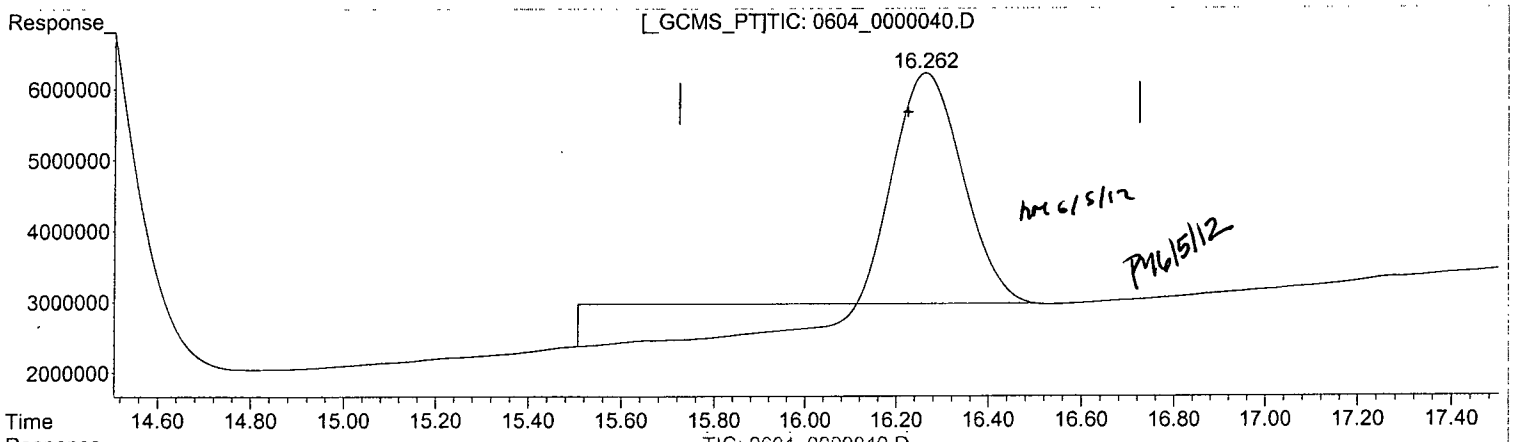


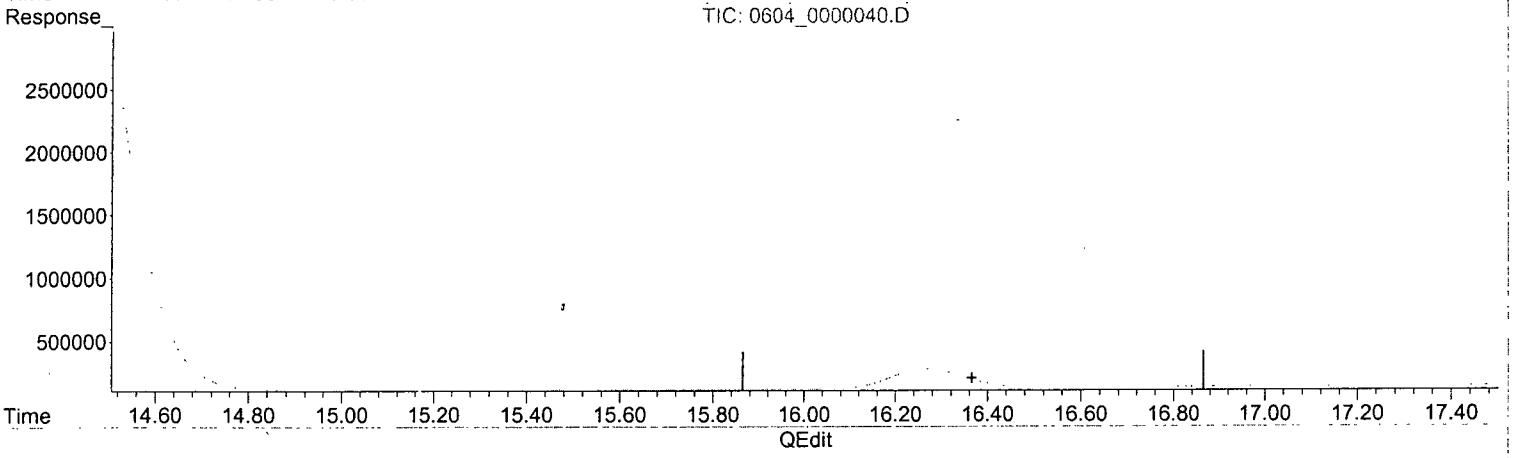
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000040.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 10:57:14
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/04/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 11:34:25 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.263min 973.340 ppb

response 3246477

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

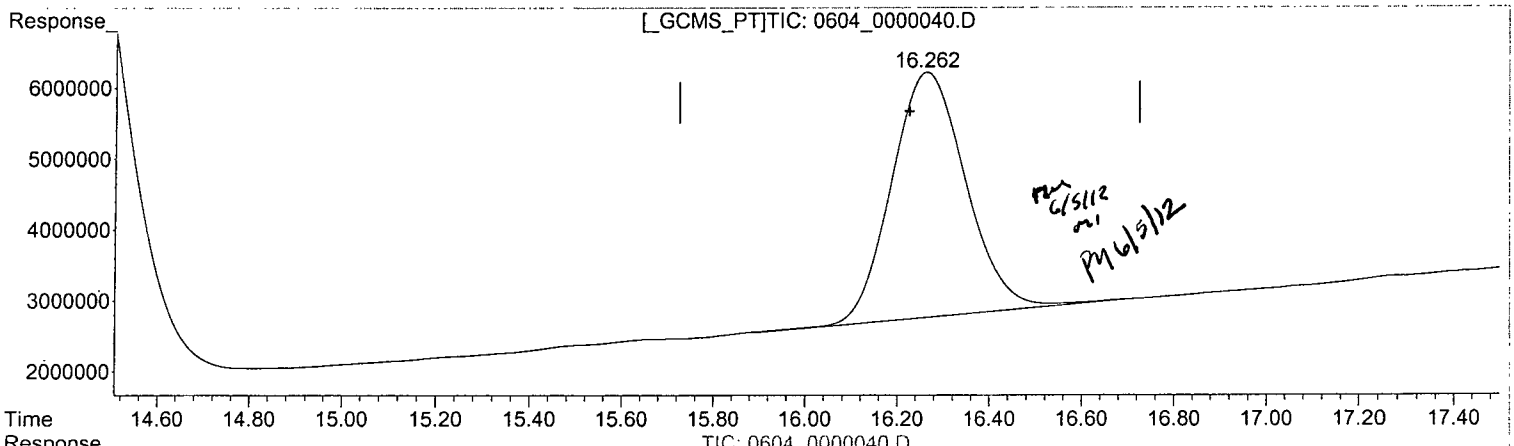
(+) = Expected Retention Time

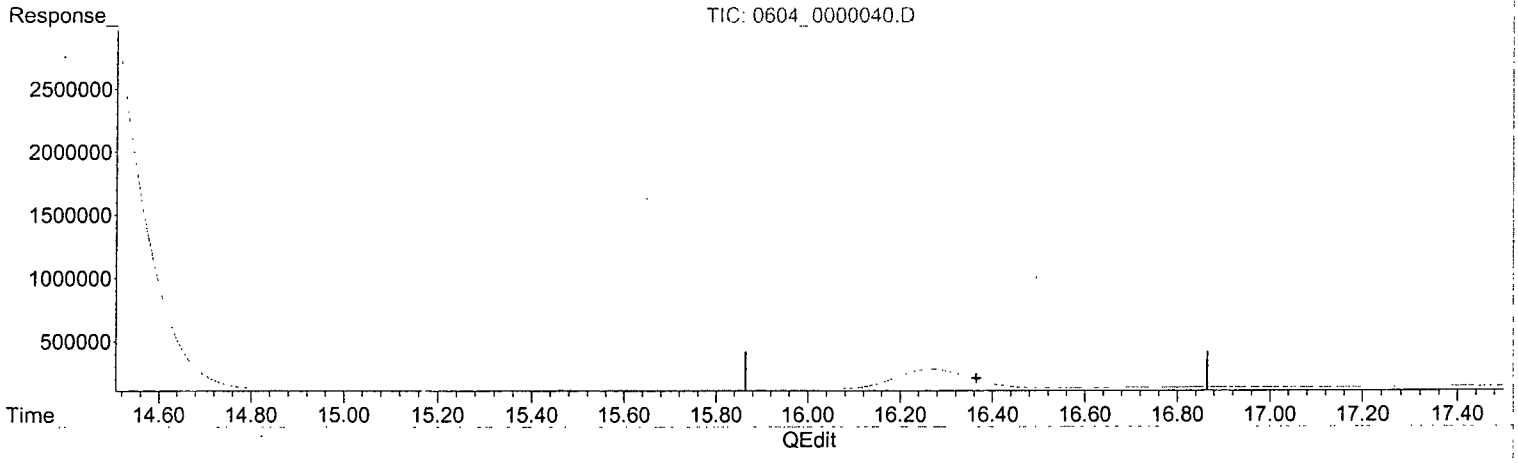
Quantitation Report (Qedit)

Data Path : Y:\CHEM32\WALDORF\DATA\120604\120604\
Data File : 0604_0000040.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 05-Jun-2012, 10:57:14
Operator : hm
Sample : 8330_CCV 1.0 PPM 06/04/12
Misc :
ALS Vial : 4424 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: Jun 05 11:34:25 2012
Quant Method : Y:\CHEM32\WALDORF\DATA\120604\120604\W110907.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Tue Jun 05 07:41:58 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 40uL
Signal #1 Phase : 214nm Signal #2 Phase: 254nm
Signal #1 Info : ZORBAX Extend-C18 Signal #2 Info : ZORBAX Extend-C18 100x3.0mm 1.8-micron





(18) PETN (TM)

16.262min 1035.780 ppb m

response 3454740

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

EXPLOSIVES

Raw Data

APPL, INC.

125 Market Street
New Haven, CT 06513
USA

Explosive by HPLC
Lot#: B8120095-89741
Rec: 8/2/09 RAFR exp. 12/09/10
Website: AccuStandard.com

AccuStandard, Inc.

CERTIFICATE OF ANALYSIS

CATALOG NO: M-8330B-R-10X **EXPIRATION:** Dec 9, 2010

DESCRIPTION: Explosive by HPLC

LOT: B8120095 See reverse for additional certification information.

SOLVENT: MeOH:AcCN (1:1)

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (HPLC)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Tetryl	479-45-8	99.4	1002	996
2,6-Dinitrotoluene	606-20-2	100	1006	1006
2-Nitrotoluene	88-72-2	99.0	1002	992
3-Nitrotoluene	99-08-1	98.7	1003	990
4-Nitrotoluene	99-99-0	99.2	1010	1002
2-Amino-4,6-dinitrotoluene	35572-78-2	97.8	1027*	1004
4-Amino-2,6-dinitrotoluene	19406-51-0	98.5	1005	

7 Components

1. All weights are traceable through NIST, Test No. 822/212103-03

2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±4% which is the Combined Uncertainty u(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is U=u(y) *K where K is the coverage factor at the 95% confidence level (K=2).

3. A product with a suffix (-1A, -2B, etc.) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

Weight compensated to 100% purity

Certified by: R. Cooper

AccuStandard

Method 8330 - Mix A
Lot #: B2120217-3C - 25789
Rec: 2/2/09 MFR exp. 10/24/09

125 Market Street
New Haven, CT 06513
USA

AccuStandard, Inc.

Website AccuStandard.com

CERTIFICATE OF ANALYSIS

CATALOG NO: M-8330A-10X

EXPIRATION: Oct 24, 2009

DESCRIPTION: Method 8330 - Mix A

LOT: B2120217-3C See reverse for additional certification information.

SOLVENT: MeOH:AcCN (1:1)

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
1,3-Dinitrobenzene	99-65-0	97.0	1031 *	1000
2,4-Dinitrotoluene	121-14-2	100	1001	1001
HMX	2691-41-0	98.7	1001	988
Nitrobenzene	98-95-3	99.8	1002	1000
RDX	121-82-4	98.0	1000	980
1,3,5-Trinitrobenzene	99-35-4	99.8	1001	999
TNT	118-96-7	99.9	1000	

AccuStandard

7 Components

1. All weights are traceable through NIST, Test No. 822/272103-05

2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±4% which is the Combined Uncertainty u(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is U(y) *K where K is the coverage factor at the 95% confidence level (K=2).

3. A product with a suffix (-1A, -2B, etc) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

Weight compensated to 100% purity

Certified by: R. Cooper

AccuStandard is accredited to ISO/IEC 17025:2005 and certified to ISO 9001:2000

QR-ORGANO-001
Rev. 8/08

125 Market Street
New Haven, CT 06513 USA

PETN
Lot#: B7100199-B2434
Rec: 7/24/08 MFR exp. 10/19/09

Tel
We

AccuStandard, Inc.

CERTIFICATE OF ANALYSIS

CATALOG NO. M-8330-ADD-2-10X

DESCRIPTION: Individual Explosives Solution

EXPIRATION: Oct 19, 2009

LOT: B7100199

SOLVENT: MeOH

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

See reverse for additional certification information.

Component	CAS #	Purity % (HPLC)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
PETN	78-11-5	99.3	1003	996

1. All weights are traceable through NIST, Test No. 822/278/03-03
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±1% which is the Combined Uncertainty u(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is U(y) *K where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -2B, etc.) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

Please note: AccuStandard follows the U.S. conventions in reporting numerical values, on both certificates and labels.

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

Certified by: R. Cooper

AccuStandard is accredited to ISO/IEC 17025:2005

OR-ORGANO-001
Rev. 7/07

125 Market Street
New Haven, CT 06513 USA

Nitroglycerin
Lot #: B6040089-1A-B2433
Rec: 7/24/08 MFR exp. 10/18/09

AccuStandard, Inc.

CERTIFICATE OF ANALYSIS

CATALOG NO. M-8330-ADD-1-10X

DESCRIPTION: Individual Explosives Solution

EXPIRATION: Oct 18, 2009

LOT: B6040089-1A

SOLVENT: EtOH : MeOH (97::3)

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

See reverse for additional certification information.

Component	CAS #	Purity % (HPLC)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Nitroglycerin	55-63-0	100	1000	1000

Please note: AccuStandard follows the U.S. conventions in reporting numerical values, on both certificates and labels.

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

1. All weights are traceable through NIST, Test No. 822/261103-03
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is 4% which is the Combined Uncertainty u(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is U=(y) *K where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -1B, etc) on its lot # has had its expiration date extended and is identical to the same lot # without the suffix.

Certified by: R. Cooper

AccuStandard is accredited to ISO/IEC 17025:2005

QR-ORD/NIC-451
Rev. 7/07

1,2-Dinitrobenzene
Lot #: 142799 - 29739
Rec: 2/3/09 MFR exp. 02/03/12

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Fax (843) 766-9182
www.o2si.com

Quality System
Audited & Registered
by NSF-ISR to ISO 9001:2000

Date Received: _____

Certificate of Analysis

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
010086-01	142799	<10 Degrees C	Acetonitrile	3-Feb-2012	1,2-Dinitrobenzene Solution, 1,000 mg/L, 1 ml

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration, mg/L
1,2-dinitrobenzene	528-29-0	99	86.1.2P	1002 +/- 14.021

Certified By: Lindsay E Edwards
Lindsay Edwards

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetrically.

800-368-1131
www.absolutestandards.com

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IS 17025 Accredited

CERTIFIED WEIGHT REPORT

Part Number: 95093
Lot Number: 051208
Description: 8330 Mix A
9 components
Expiration Date: 051211

Lot # E37818
Solvent(s): Acetonitrile

Formulated By: Justin Dippold 051208 DATE

Reviewed By: Pedro L. Rentas 051208 DATE

Nominal Concentration (µg/mL): 100

Volume(s) shown below were combined and diluted to: 10.0

5E-05 Balance Uncertainty
0.001 Flask Uncertainty

	Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette	Initial Conc.(ug/mL)	Final Conc.(ug/mL)	Expanded Uncertainty (+/-)	MSDS Information (Solvent: Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1.	4-Amino-2,6-dinitrotoluene	79070	062707	0.10	1.00	0.002	1001.6	100.2	0.00444	00000-00-0	N/A	N/A
2.	3,5-Dinitroaniline	71772	101807	0.10	1.00	0.002	1003.3	100.4	0.00581	00618-87-1	N/A	N/A
3.	1,3-Dinitrobenzene	79071	071706	0.10	1.00	0.002	1001.1	100.1	0.00451	00099-65-0	1mg/m3/8H (skin)	ord-rat 83mg/kg
4.	2,4-Dinitrotoluene	79072	110206	0.10	1.00	0.002	1002.8	100.3	0.00451	00121-14-2	1.5mg/m3/8H (skin)	ord-rat 268mg/kg
5.	HMX	79074	041808	0.10	1.00	0.002	1000.7	100.1	0.00451	02691-41-0	N/A	N/A
6.	Nitrobenzene	79075	100906	0.10	1.00	0.002	1003.4	100.4	0.00416	00098-95-3	1 ppm (5mg/m3/8H)(skin)	ord-rat 780mg/kg
7.	3-Nitrotoluene	79077	100906	0.10	1.00	0.002	1002.6	100.3	0.00417	00099-08-1	2 ppm (11mg/m3/8H)(skin)	ord-rat 1072mg/kg
8.	RDX	79079	060904	0.10	1.00	0.002	1000.7	100.1	0.00581	00121-82-4	N/A	N/A
9.	Trinitroglycerin	79252	072804	0.10	1.00	0.002	1000.3	100.1	0.00581	00055-63-0	STEL 0.1mg/m3(skin)	N/A
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

8330 Mix A
Lot # 051208-E1818
Exp: 05/12/09 NFPA 0-0-0-0

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CERTIFIED WEIGHT REPORT

Part Number: 95094
Lot Number: 051208
Description: 8330 Mix B
8 components
Expiration Date: 051211

Lot # E37818
Solvent(s): Acetonitrile

Formulated By: Justin Dippold 051208 DATE

Reviewed By: Pedro L. Rentas 051208 DATE

Nominal Concentration (µg/mL): 100

Volume(s) shown below were combined and diluted to: 10.0

5E-05 Balance Uncertainty
0.001 Flask Uncertainty

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette	Initial Conc. (ug/mL)	Final Conc. (ug/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2-Amino-4,6-dinitrotoluene	79089	082707	0.10	1.00	0.002	1002.3	100.3	0.00417	35572-78-2	N/A	N/A
2. 1,2-Dinitrobenzene	79404	051208	0.10	1.00	0.002	1004.7	100.5	0.00565	00528-29-0	1mg/m3/8H (skin)	N/A
3. 2,6-Dinitrotoluene	79073	100906	0.10	1.00	0.002	1002.2	100.3	0.00416	00606-20-2	1.5mg/m3/8H (skin)	orl-rat 177mg/kg
4. 2-Nitrotoluene	79076	100906	0.10	1.00	0.002	1003.1	100.3	0.00416	00088-72-2	2 ppm (11mg/m3/8H)(skin)	orl-rat 891mg/kg
5. 4-Nitrotoluene	79078	100906	0.10	1.00	0.002	1001.1	100.1	0.00417	00099-99-0	2 ppm (11mg/m3/8H)(skin)	orl-rat 1960mg/kg
6. Tetryl	79080	120903	0.10	1.00	0.002	1000.7	100.1	0.00581	00479-45-8	N/A	N/A
7. 1,3,5-Trinitrobenzene	79081	010406	0.10	1.00	0.002	1001.5	100.2	0.00417	00099-35-4	N/A	N/A
8. 2,4,6-Trinitrotoluene	79082	011008	0.10	1.00	0.002	1002.0	100.2	0.01015	00118-96-7	0.5mg/m3 (skin)	orl-rat 820mg/kg

PETN
Lot#: 140802-85924
Rec: 12/9/08 MFR exp. 10/31/09

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Date Received: _____

Certificate of Analysis

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
010614-04	140802	<= 6 Degrees C	Acetonitrile	31-Oct-2009	PETN Solution, 1000 mg/L, 1 ml

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration, mg/L
PETN	78-11-5	99.9	6143.2P	1000 +/- 14

Certified By: _____
Dick Potter

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetrically.

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3,5-Dinitroaniline
Lot#: 140434-83/84
Rec: 11/08/11 Exp: 11/08/14

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by NSF-ISR to ISO 9001:2000

Date Received: _____

Certificate of Analysis

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
010612-04	140434	<= -10 Degrees C	Acetonitrile	3-Nov-2011	3,5-Dinitroaniline (3,5-DNA) Solution, 1000 mg/L, 1 ml

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration, mg/L
3,5-dinitroaniline	618-87-1	97	612.1.1	1000 +/- 14

Certified By: Michael S. Wrigley
Mike Wrigley

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetrically.

LC/MS STANDARD PREP LOG# 98 PAGE# 82

082

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N LOT #	DATE/INITIALS
AY49289-W01-MS-1	7368.4	DF 11-01-11-11/30					JK
AY49289-W01-MS-1	1052.6	DF 11-01-11					11-30-11

TOOK 0.050 ML AND ADDED TO 0.300 ML PER-IS-ACN 0.005 µg/ml 11-26-11

AY49289-W01-MSD-1 7368.4 DF 11-01-11-11/30
AY49289-W01-MSD-1 1052.6 DF 11-01-11 TOOK 0.050 ML AND ADDED TO 0.300 ML PER-IS-ACN 0.005 µg/ml 11-26-11

Part #: 95093 Laboratory Use Only - See MSDS
Lot #: 111009 Exp: 111012 Storage 0 °C
8330 Mix A
9 components
100 ug/mL in aceto
ABSOLUTE STANDAR
8330 Mix A
Lot #: 111009 - 27376
Rec: 9/30/10 MFR exp. 11/10/12

The ampoule above was cracked open 12-1-11 and transferred to an amber injection vial labelled:

8330 MIX-A SS
100 PPM
opened 12-1-11
Exp 12-1-12
Absolute

Part #: 95094 Laboratory Use Only - See MSDS
Lot #: 092410 Exp: 092413 Storage 0 °C
8330 Mix B
8 components
100 ug/mL in aceton
ABSOLUTE STANDARD
8330 Mix B
Lot #: 092410 - 27369
Rec: 9/30/10 MFR exp. 09/24/13

The ampoule to the left was cracked open 12-1-11 and transferred to an amber injection vial labelled:

8330-MIX-B-SS
100 PPM
Opened 12-1-11

LC/MS STANDARD PREP LOG# 98 PAGE# 83

083

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE INITIALS
		Exp 12-1-12					
		Absolute					

Part #: 79250 Laboratory Use Only - See MSDS
Lot #: 071409 Exp: 071414 Storage 0 °C
EPA Method 8330 Analyte PETN
Pentaerythritol tetrani Lot #: 071409 - 28213
1000 ug/mL in aceton Rec: 2/11/11 MFR exp. 07/14/14
ABSOLUTE STANDARDS

The ampoule above was cracked open 12-1-11 and transferred to an amber injection vial ~~labelled~~ labelled:

PETN - SS - STK
1000 PPM
opened 12-1-11
Exp 12-1-12
Absolute

AccuStandard® 125 Market St. · New Haven, CT 06513 · USA FOR LABORATORY USE ONLY
M-8330-ADD-4-10X 3,5-Dinitroaniline
3,5-Dinitroaniline Lot #: 210111284 - 30018
1000 µg/mL in AcCN:MeOH Rec: 11/16/11 MFR exp. 11/19/13
Lot: 210111284 STORAGE Ambient
Exp. Nov 19, 2013 POISON

I broke open the vial labelled above and transferred to an amber 7.0 mL injection vial
→ 3,5-DNA 1000 ug/mL 12-1-11

3,5-DNA 100 PPM
3,5-DNA 1000 ug/mL 12-1-11 1mL 10mL 100ug/mL 1:1 ACN MeOH FM 12-1-11

PER_SS_2 0.002 µg/mL 02-28-12: JK

3-12 PER_SS 0.010 µg/mL 02-16-12 TOOK 02-28-12

0.200 ML AND ADDED TO 0.800 ML

PER_IS_50:50 0.005 µg/mL 02-28-12

AccuStandard 125 Market St. New Haven, CT 06513 USA FOR LABORATORY USE ONLY

M-8330-ADD-35
Propyleneglycol dinitrate
100 µg/mL in methanol
Lot: B7040118-2B
Exp Dec 7, 2012

Propyleneglycol dinitrate
Lot #: B7040118-2B - 30270
Rec: 1/24/12 MFR exp. 12/07/12

HIGHLY FLAMMABLE

STORAGE Freeze (<-10° C)

I broke open the vial labelled above and transfered to an amber 1.8 mL injection vial →

PGDN 100 PPM

3/1/12 HM 3/5/12

Exp 9/1/12

RES Cat# 31621
PGDN Standard
1000 ug/mL each in Methanol
Lot# A076535 Exp Date: 04/2016 Store: Refrigerate
Restek Corporation - 110 Benner Circle - Bellefonte, PA 16823

Lot #: A076535 - 30291
Rec: 2/1/12 MFR exp. 04/30/15
USACE Exp. in Soil Tet & 3,5-D

I broke open the vial labelled to the left and transfered to an amber 1.8 mL injection vial labelled →

PGDN_SS_1000 PPM

3/1/12

EXP 3/1/13 HM 3/5/12

RESTEK

The following standards and spikes were made on 3/1/12 and documented here on 3/5/12 HM 3/5/12

PGDN 10.0 PPM

PGDN 100 µg/mL 3/1/12 100 µL 1 mL 10.0 µg/mL 1:1 EN MeOH HM 3/12

DE 956 54724

HM 3/5/12

PGDN - ~~INJ STK~~ CAL - STK

PGDN 100 ug/mL 3/1/12 100 uL 1.0 mL 10.0 ug/mL 1:1 ACN MeOH DE934 S1173

1,2-DNB 100 ug/mL 3/1/12

HM 3/1/12

PGDN_SPK 1.0 PPM

PGDN 100 ug/mL 3/1/12 100 uL 10 mL 1.0 ug/mL 1:1 ACN MeOH DE936 S1074 HM 3/8/12

8330-CCV 1.0 PPM

8330_MIX-A 10.0 ug/mL 2/7/12 100 uL 1.0 mL 1.0 ug/mL 6:1:1 H2O ACN MeOH DE936 S1174

8330_MIX-B 11/30/12

HM 3/6/12

8330-MIX-CCV 1.0 PPM

8330_MIXA 10.0 ug/mL 2/7/12 100 uL 1.0 mL 1.0 ug/mL 6:1:1 H2O ACN MeOH DE936 S1174

HM 3/6/12

8330_MIXB_CCV 1.0 PPM

8330_MIXB 10.0 ug/mL 2/7/12 100 uL 1.0 mL 1.0 ug/mL 6:1:1 H2O ACN MeOH DE936 S1174

HM 3/5/12

AccuStar

M-8330-ADD-1-10X
Nitroglycerin
1000 µg/mL in EtOH:MeOH (97:3)
Lot: 211041387
Exp. Apr 19, 2013

Nitroglycerin
Lot #: 211041387 - 30267
Rec: 1/24/12 MFR exp. 04/19/13

mL

FOR LABORATORY USE ONLY

STORAGE Refrig (0-5° C)

HIGHLY FLAMMABLE

NG - 100 PPM EXP 9/6/12

NG 1000 ug/mL 3/6/12 1 mL 10 mL 100 ug/mL 1:1 ACN MeOH DE936 S1174

HM 3/6/12

LC/MS STANDARD PREP LOG# 99 PAGE# 60

060

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE / INITIALS
The following CB was made on 3/12/12 and noted here on 3/22/12.							
PGDN_CAL_STK	10.0 ppm	03/01/12	0.10 ml	1.0 mL	1.0 ppm	1:1 ACN/DE956 : MeOH/51174	03/12/2012 hm HM 3/22
PGDN_CB 1.0 ppm PGDN_CAL_STK	10.0 ppm	03/01/12	0.10 ml	1.0 mL	1.0 ppm	1 : 1 : 4 ACN : MeOH : MILLIPORE DE956 : 51174 : H2O	03/12/2012 hm
PGDN_CB 0.5 ppm PGDN_CAL_STK	10.0 ppm	03/01/12	0.05 ml	1.0 mL	0.50 ppm	1 : 1 : 4 ACN : MeOH : MILLIPORE DE956 : 51174 : H2O	03/12/2012 hm
PGDN_CB 0.2 ppm PGDN_CAL	1.0 ppm	03/12/12	0.200 ml	1.0 mL	0.20 ppm	1 : 1 : 4 ACN : MeOH : MILLIPORE DE956 : 51174 : H2O	03/12/2012 hm
PGDN_CB 0.1 ppm PGDN_CAL	1.0 ppm	03/12/12	0.100 ml	1.0 mL	0.10 ppm	1 : 1 : 4 ACN : MeOH : MILLIPORE DE956 : 51174 : H2O	03/12/2012 hm
PGDN_CB 0.05 ppm PGDN_CAL	1.0 ppm	03/12/12	0.050 ml	1.0 mL	0.05 ppm	1 : 1 : 4 ACN : MeOH : MILLIPORE DE956 : 51174 : H2O	03/12/2012 hm
PGDN_CB 0.02 ppm PGDN_CAL	1.0 ppm	03/12/12	0.020 ml	1.0 mL	0.02 ppm	1 : 1 : 4 ACN : MeOH : MILLIPORE DE956 : 51174 : H2O	03/12/2012 hm
PGDN_SS 10 ppm PGDN_SS	100 PPM	03/01/12	0.10 ml	1.0 ml	10.0 ppm	1:1 ACN/DE956 : MeOH/51174	03/12/2012 hm
PGDN_SS 0.5 ppm PGDN_SS	10 ppm	03/12/12	01/00/00	1.0 ml	0.50 ppm	1:1 ACN/DE956 : MeOH/51174	03/12/2012 hm

LC/MS STANDARD PREP LOG# 99 PAGE 69

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N LOT#	DATE / INITIALS
	8321 TS 0.0075 DF						
8321 TS	1DF	02-23-12	0.10	1.0	0.10 DF	MeOH/S1174	04-06-12
8321 TS	0.1DF	04-06-12	0.150	2.0	0.0075 DF	MeOH/S1174	04-06-12
MRLCB3	100	02-21-12	0.020	⊥	1.0	⊥	⊥
	8321 TS 0.005 DF						
8321 TS	0.10DF	04-06-12	0.10	2.0	0.005 DF	MeOH/S1174	04-06-12
MRLCB3	100	02-21-12	0.020	⊥	1.0	⊥	⊥
	8321 TS 0.0025 DF						
8321 TS	0.10DF	04-06-12	0.050	2.0	0.0025 DF	MeOH/S1174	04-06-12
MRLCB3	100	02-21-12	0.020	⊥	1.0	⊥	⊥
	8330 WS SURROGATE EXP 6/9/12						
1,2-DNB	1000 µg/mL	11/30/11	50 mL	10 mL	5.0 µg/mL	1:1 ACN MeOH OE956 S1174	HM 4/9/12

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M-8330-ADD-1-10X
Nitroglycerin
1000 µg/mL in EtOH:MeC
Lot: 211041387
Exp. Apr 19, 2013

Nitroglycerin
Lot #: 211041387 - 30268
Rec: 1/24/12 MFR exp. 04/19/13

HIGHLY FLAMMABLE

STORAGE Refrig (0-5° C)

NG-100 PPM EXP 10/10/12							
NG	1000 µg/mL	4/10/12	1.0 mL	10.0 mL	100 µg/mL	1:1 ACN MeOH OE956 S1174	HM 4/10/12

AccuStandard

M-8330-R
Method 8330 - Explosives b
1000 µg/mL in MeOH:AcCN (1:1)
Lot: 211111140
Exp: Nov 11,2013

Method 8330 - Explosives
Lot #: 211111140 - 30024
Rec: 11/16/11 MFR exp. 11/11/13

14 comps.

HIGHLY FLAMMABLE

R LABORATORY USE ONLY
RNING: This product contains
micals known to the State of
fornia to cause cancer and birth
cts or other reproductive harm.

STORAGE Freeze (<-10° C)

LC/MS STANDARD PREP LOG# 99 PAGE 70

070

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N LOT #	DATE / INITIALS
1,2-Dinitrobenzene Solution, 1,000 mg/L, 1 ml; Lot # 186469; Storage -10 Degrees C; Expiry 3/11/15; Solv Acetonitrile; Made in the USA; ≈ R.E.D. only, not chemical company							
1,2-Dinitrobenzene Lot #: 186469 - 30509 Rec: 3/15/12 MFR exp. 03/11/15							
8330_100PPM EXP 10/10/12							
M-8330-R 1,2-DNB	1000 ug/mL	4/10/12	1.0 mL	10.0 mL	100 ug/mL	1:1 ACN MeOH DE95C 51174	HM 4/10/12
8330_CCV 1.0 PPM							
8330_MIX-A 8330_MIX-B	10.0 ug/mL	2/7/12 3/19/12	100 uL	1.0 mL	1.0 ug/mL	6:1:1 H2O ACN MeOH DE95C 51174	HM 4/10/12

The following CB was made on 4/9/12 and noted here on 4/10/12:

8330_MX_A

8330_MX-A	10.0 ppm	02/07/12	200 µL	1.0 mL	2.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O

HM 4/10/12

8330_MX_B

8330_MX-B	10.0 ppm	03/19/12	200 µL	1.0 mL	2.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O

8330B_CB

8330_MX-A	10.0 ppm	02/07/12	100 µL	1.0 mL	1.0 ppm	1 : 1 ACN : MeOH
8330_MX-B	10.0 ppm	03/19/12	100 µL	1.0 mL	1.0 ppm	
8330_MX-A	10.0 ppm	02/07/12	50 µL	1.0 mL	0.5 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O
8330_MX-B	10.0 ppm	03/19/12	50 µL	1.0 mL	0.5 ppm	
8330_MX-A	2.0 ppm	04/09/12	100 µL	1.0 mL	0.2 ppm	
8330_MX-B	2.0 ppm	04/09/12	100 µL	1.0 mL	0.2 ppm	
8330B_CB	1.0 ppm	04/09/12	100 µL	1.0 mL	0.1 ppm	
8330B_CB	0.5 ppm	04/09/12	100 µL	1.0 mL	0.05 ppm	
8330B_CB	0.2 ppm	04/09/12	100 µL	1.0 mL	0.02 ppm	
8330B_CB	0.1 ppm	04/09/12	100 µL	1.0 mL	0.01 ppm	
8330B_CB	0.05 ppm	04/09/12	100 µL	1.0 mL	0.005 ppm	

8330B_SS

8330_07/13_MixA_SS_STK	100 ppm	12/01/11	10.0 µL	1.0 mL	1.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O
8330_07/13_MixB_SS_STK	100 ppm	02/28/12	10.0 µL	1.0 mL	1.0 ppm	
PETN_07/13_SS_INTSTK	100 ppm	12/01/11	10.0 µL	1.0 mL	1.0 ppm	

LC/MS STANDARD PREP LOG# 99 PAGE# 101

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N LOT #	DATE / INITIALS

PETN Solution, 1000 mg/L, 1 ml
010614-04
Lot# 186470 Storage ≤ 6 Degrees C Expiry 10/31/15
Solv: Acetonitrile
Made in the USA
For R&D only, not human consump.
PETN
Lot #: 186470 - 30510
Rec: 3/15/12 MFR exp. 10/31/15

PETN - 100 PPM EXP 10/30/12

PETN	1000 µg/mL	4/30/12	1.0 mL	10.0 mL	100 µg/mL	1:1 ACN MeOH DE956 51174	HM 4/30/12

8330 MX-A CCV 1.0 PPM

8330-MX-A	10.0 µg/mL	2/7/12	100 mL	1.0 mL	1.0 µg/mL	6:1:1 H2O ACN MeOH DE956 51174	HM 4/30/12

8330 MX-B CCV 1.0 PPM

8330-MX-B	10.0 µg/mL	3/19/12	100 mL	1.0 mL	1.0 µg/mL	6:1:1 H2O ACN MeOH DE956 51174	HM 4/30/12

8330-CCV 1.0 PPM

8330-MX-A	10.0 µg/mL	2/7/12	100 mL	1.0 mL	1.0 µg/mL	6:1:1 H2O ACN MeOH DE956 51174	HM 4/30/12
8330-MX-B	↓	3/19/12	↓	↓	↓		

ACN-H2O 50:50 05-01-12 JK

LABORATORY SOURCE DI-H2O 04-30-12 05-01-12
TOOK 10.000 ML AND COMBINED WITH
10.000 ML BURDICK & JACKSON ACETONITRILE
LOT DF301

PER IS 50:50 0.005 µg/mL 05-01-12:
TOOK 0.950 ML ACN-H2O 50:50 AND
ADDED 0.050 ML 025I $^{18}O_4$ Perchlorate
100 µg/L LOT 1032449-30256 / SOLUTION
PREPARED AS NEEDED

LC/MS STANDARD PREP LOG# 99 PAGE# 105

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE INITIALS

1,2-Dinitrobenzene
Solution, 1,000 mg/L, 1 ml
010086-01
Lot # 186469 Storage <10 Degrees C Expiry 3/11/15
Solv: Acetonitrile
For R&D only, not human consump
Made in the USA
1,2-Dinitrobenzene
Lot #: 186469 - 30638
Rec: 4/17/12 MFR exp. 03/11/15

1,2-DNB - 100 PPM EXP 11-02-12

1,2-DNB	1000 ug/mL	5/2/12	1.0 mL	10.0 mL	100 ug/mL	1:1 ACN MeOH DE956 5/17	HM 5/2/12

8330-CCV 1.0 PPM

8330-MIX-A	10.0 ug/mL	2/7/12	100 uL	1.0 mL	1.0 ug/mL	6:1:1 H_2O ACN MeOH DE956 5/17	HM 5/2/12
8330-MIX-B	⊥	3/19/12	⊥	⊥	⊥		

8330-CCV 1.0 PPM

8330-MIX-A	10.0 ug/mL	2/7/12	100 uL	1.0 mL	1.0 ug/mL	6:1:1 H_2O ACN MeOH DE956 5/17	HM 5/7/12
8330-MIX-B	⊥	3/19/12	⊥	⊥	⊥		

8330-CCV 1.0 PPM

8330-MIX-A	10.0 ug/mL	2/7/12	100 uL	1.0 mL	1.0 ug/mL	6:1:1 H_2O ACN MeOH DE956 5/17	HM 5/7/12
PETN-100 PPM	100 ug/mL	4/30/12	10 uL	⊥	⊥		

The following CBs was on 5/2/12 and noted here on 5/8/12:

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE / INITIALS
8330_MX_A							
8330_MX-A	10.0 ppm	02/07/12	200 µL	1.0 mL	2.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O	HM 5/8
8330_MX_B							
8330_MX-B	10.0 ppm	03/19/12	200 µL	1.0 mL	2.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O	
8330B_CB							
8330_MX-A	10.0 ppm	02/07/12	100 µL	1.0 mL	1.0 ppm	1 : 1 ACN : MeOH	
8330_MX-B	10.0 ppm	03/19/12	100 µL	1.0 mL	1.0 ppm		
8330_MX-A	10.0 ppm	02/07/12	50 µL	1.0 mL	0.5 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O	
8330_MX-B	10.0 ppm	03/19/12	50 µL	1.0 mL	0.5 ppm		
8330_MX-A	2.0 ppm	05/02/12	100 µL	1.0 mL	0.2 ppm		
8330_MX-B	2.0 ppm	05/02/12	100 µL	1.0 mL	0.2 ppm		
8330B_CB	1.0 ppm	05/02/12	100 µL	1.0 mL	0.1 ppm		
8330B_CB	0.5 ppm	05/02/12	100 µL	1.0 mL	0.05 ppm		
8330B_CB	0.2 ppm	05/02/12	100 µL	1.0 mL	0.02 ppm		
8330B_CB	0.1 ppm	05/02/12	100 µL	1.0 mL	0.01 ppm		
8330B_CB	0.05 ppm	05/02/12	100 µL	1.0 mL	0.005 ppm		
8330B_SS							
8330_07/13_MixA_SS_STK	100 ppm	12/01/11	10.0 µL	1.0 mL	1.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O	
8330_07/13_MixB_SS_STK	100 ppm	02/28/12	10.0 µL	1.0 mL	1.0 ppm		
PETN_07/13_SS_INTSTK	100 ppm	12/01/11	10.0 µL	1.0 mL	1.0 ppm		

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT #	DATE INITIALS

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JF 05-14-12 — JF 05-14-12

AY59254_S01 125 DF 04-24-12_5/12: — JF 05-12-12
AY59254_S01 50 DF 04-24-12_5/10
TOOK 0.010 ML AND ADDED TO
0.015 ML 8290_IL 40 mg/mL 03-21-12

AY59256_S02 9.058 DF 04-24-12_5/12:
AY59256_S02 4.529 DF 04-24-12 TOOK
0.020 ML AND ADDED TO 0.020 ML
8290_IL 40 mg/mL 03-21-12

AY59258_S02 9.108 DF 04-24-12_5/12: JF
AY59257_S02 4.554 DF 04-24-12
TOOK 0.020 ML AND ADDED TO
0.020 ML 8290_IL 40 mg/mL 03-21-12

~~1668_ICL 100 mg/mL 04-25-12:~~ JF 05-14-12
~~EC 4055 EDF 4055 500 mg/mL~~
~~11-11-11 A TOOK 0.020 ML~~
~~EDF-5005~~

AccuStandard New Haven, CT 06513 · USA FOR LABORATORY USE ONLY
M-8330-ADD-1-10X
Nitroglycerin
1000 µg/mL in EtOH:MeOH (97:3)
Lot: 211041387
Exp. Apr 19, 2013
HIGHLY FLAMMABLE
Nitroglycerin
Lot #: 211041387 - 30269
Rec: 1/24/12 MFR exp. 04/19/13
STORAGE Refrig (0-5° C)

NG_100 PPM EXP 11/14/12

NG 1000 µg/mL 5/14/12 1.0 mL 10 mL 100 µg/mL 1:1 ACN:MeOH ~~PPASE SHT~~ FM 5/14/12

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N LOT #	DATE / INITIALS
PETN Solution, 1000 mg/L, 1 ml 010614-04 Lot# 186470 Storage ≤ 6 Degrees C Expiry 10/31/15 Solv: Acetonitrile R&D only, not human consump. Made in the USA PETN Lot #: 186470 - 30511 Rec: 3/15/12 MFR exp. 10/31/15							
PETN-100 PPM EXP 11/14/12							
PETN	1000 µg/mL	5/14/12	1.0 mL	10 mL	100 µg/mL	1:1 ACN/MeOH DE956 5/17/12	HM 5/14/12
1,2-DNB-100 PPM EXP 11/14/12							
1,2-DNB	1000 µg/mL	5/9/12	500 µL	5.0 mL	100 µg/mL	1:1 ACN/MeOH DE956 5/17/12	HM 5/14/12

Part #: 95094 Laboratory Use Only - See MSDS
Lot #: 051412 Exp: 051415 Storage 0 °C
8330 Mix B
8 components
100 ug/mL in acet
ABSOLUTE STANDAI
8330 Mix B
Lot #: 051412 - 30762
Rec: 5/16/12 MFR exp. 05/14/15

The vial to the left was opened and transfered to an amber 1.8mL injection vial labelled:

8330 MIX-B SS
100 PPM
5/16/12
EXP 5/16/13
ABSOLUTE

HM 5/16/12

Part #: 95094 Laboratory Use Only - See MSDS
Lot #: 051412 Exp: 051415 Storage 0 °C
8330 Mix B
8 components
100 ug/mL in aceto
ABSOLUTE STANDAR
8330 Mix B
Lot #: 051412 - 30763
Rec: 5/16/12 MFR exp. 05/14/15

The vial to the left was opened and transfered to an amber 1.8mL injection vial labelled:

LC/MS STANDARD PREP LOG# 99 PAGE 113

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT #	DATE, INITIALS
		8330MIX-B-SS					
		100 PPM				HM 5/16/12	
		5/16/12					
		EXP 5/16/13					
		ABSOLUTE					
8330MIX-A SCV 1.0 PPM							
8330MIX-A	10.0 µg/mL	5/9/12	100 µL	1.0 mL	1.0 µg/mL	6:1:1 H2O ACN MeOH DE 956 5/17/12	HM 5/16/12
8330MIX-B-CCV 1.0 PPM							
8330MIX-B	10.0 µg/mL ~~5/16/12~~	3/19/12	100 µL	1.0 mL	1.0 µg/mL	6:1:1 H2O ACN MeOH DE 956 5/17/12	HM 5/16/12

8330_MX_A

8330_MX-A	10.0 ppm	05/09/12	200 µL	1.0 mL	2.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O

HM 5/16/12

8330_MX_B

8330_MX-B	10.0 ppm	03/19/12	200 µL	1.0 mL	2.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O

8330B_CB

8330_MX-A	10.0 ppm	05/09/12	100 µL	1.0 mL	1.0 ppm	1 : 1 ACN : MeOH
8330_MX-B	10.0 ppm	03/19/12	100 µL	1.0 mL	1.0 ppm	
8330_MX-A	10.0 ppm	05/09/12	50 µL	1.0 mL	0.5 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O
8330_MX-B	10.0 ppm	03/19/12	50 µL	1.0 mL	0.5 ppm	
8330_MX-A	2.0 ppm	05/16/12	100 µL	1.0 mL	0.2 ppm	
8330_MX-B	2.0 ppm	05/16/12	100 µL	1.0 mL	0.2 ppm	
8330B_CB	1.0 ppm	05/16/12	100 µL	1.0 mL	0.1 ppm	
8330B_CB	0.5 ppm	05/16/12	100 µL	1.0 mL	0.05 ppm	
8330B_CB	0.2 ppm	05/16/12	100 µL	1.0 mL	0.02 ppm	
8330B_CB	0.1 ppm	05/16/12	100 µL	1.0 mL	0.01 ppm	
8330B_CB	0.05 ppm	05/16/12	100 µL	1.0 mL	0.005 ppm	

8330B_SS

8330_07/13_MixA_SS_STK	100 ppm	12/01/11	10.0 µL	1.0 mL	1.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE002 : 51076 : H2O
8330_07/13_MixB_SS_STK	100 ppm	05/16/12	10.0 µL	1.0 mL	1.0 ppm	
PETN_07/13_SS_INTSTK	100 ppm	12/01/11	10.0 µL	1.0 mL	1.0 ppm	

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE / INITIALS
The following CB was made on 5/14/12 and noted here on 5/16/12:							
8330_MX-B	10.0 ppm	03/19/12	0.10 ml	1.0 mL	1.0 ppm	1:1 ACN/DE296 : MeOH/51133	05/14/12 HM
8330_MX-B	1.0 ppm	05/14/12	0.10 ml	1.0 mL	0.10 ppm	1:1 ACN/DE296 : MeOH/51133	05/14/12 HM
8330MXB_CB 2.0 ppm							
8330_MX-B	10.0 ppm	03/19/12	0.200 ml	1.0 mL	2.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE296 : 51133 : H2O	05/14/12 HM
8330MXB_CB 1.0 ppm							
8330_MX-B	10.0 ppm	03/19/12	0.100 ml	1.0 mL	1.0 ppm		
8330MXB_CB 0.5 ppm							
8330_MX-B	10.0 ppm	03/19/12	0.050 ml	1.0 mL	0.5 ppm		
8330MXB_CB 0.2 ppm							
8330_MX-B	1.0 ppm	05/14/12	0.200 ml	1.0 mL	0.2 ppm		
8330MXB_CB 0.1 ppm							
8330_MX-B	1.0 ppm	05/14/12	0.100 ml	1.0 mL	0.1 ppm		
8330MXB_CB 0.05 ppm							
8330_MX-B	1.0 ppm	05/14/12	0.050 ml	1.0 mL	0.05 ppm		
8330MXB_CB 0.02 ppm							
8330_MX-B	0.10 ppm	05/14/12	0.200 ml	1.0 mL	0.02 ppm		
8330MXB_CB 0.01 ppm							
8330_MX-B	0.10 ppm	05/14/12	0.100 ml	1.0 mL	0.01 ppm		
8330MXB_CB 0.005 ppm							
8330_MX-B	0.10 ppm	05/14/12	0.050 ml	1.0 mL	0.005 ppm		
8330_MX-A	10.0 ppm	05/09/12	0.10 ml	1.0 mL	1.0 ppm	1:1 ACN/DE296 : MeOH/51133	05/14/12 HM
8330_MX-A	1.0 ppm	05/14/12	0.10 ml	1.0 mL	0.10 ppm	1:1 ACN/DE296 : MeOH/51133	05/14/12 HM
8330MXA_CB 2.0 ppm							
8330_MX-A	10.0 ppm	05/09/12	0.200 ml	1.0 mL	2.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE296 : 51133 : H2O	05/14/12 HM
8330MXA_CB 1.0 ppm							
8330_MX-A	10.0 ppm	05/09/12	0.100 ml	1.0 mL	1.0 ppm		
8330MXA_CB 0.5 ppm							
8330_MX-A	10.0 ppm	05/09/12	0.050 ml	1.0 mL	0.5 ppm		
8330MXA_CB 0.2 ppm							
8330_MX-A	1.0 ppm	05/14/12	0.200 ml	1.0 mL	0.2 ppm		
8330MXA_CB 0.1 ppm							
8330_MX-A	1.0 ppm	05/14/12	0.100 ml	1.0 mL	0.1 ppm		
8330MXA_CB 0.05 ppm							
8330_MX-A	1.0 ppm	05/14/12	0.050 ml	1.0 mL	0.05 ppm		
8330MXA_CB 0.02 ppm							
8330_MX-A	0.10 ppm	05/14/12	0.200 ml	1.0 mL	0.02 ppm		
8330MXA_CB 0.01 ppm							
8330_MX-A	0.10 ppm	05/14/12	0.100 ml	1.0 mL	0.01 ppm		
8330MXA_CB 0.005 ppm							
8330_MX-A	0.10 ppm	05/14/12	0.050 ml	1.0 mL	0.005 ppm		

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE INITIALS
8330MXA_SS 1.0 PPM							tm 5/16/12
8330MXA_SS	100 ppm	12/01/11	0.010 ml	1.0 mL	1.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE296 : 51133 : H2O	05/14/12 HM
8330MXB_SS 1.0 PPM							
8330MXB_SS	100 ppm	05/16/12	0.010 ml	1.0 mL	1.0 ppm	1 : 1 : 6 ACN : MeOH : MILLIPORE DE296 : 51133 : H2O	05/14/12 HM
PETN_SS_INTSTK	100 ppm	12/01/11	0.010 ml				

05-18-12 HM

Flumioxazin Solution, 1000 mg/L, 1 ml
432937-01
Lot # 190007 Storage ≤-10 Degrees C Expiry 5/10/14
Solv: Methanol
Flumioxazin Solution
Lot #: 190007 - 30770
Rec: 5/16/12 MFR exp. 05/10/14

I broke open the vial labelled to the left and transferred to an amber 1.8 ml injection vial → Flumioxazin 1000 mg/L-1 05-18-12 HM

Flumioxazin spk 5.0 mg/L-1
Flumioxazin 1000 05-18-12 0.050 10.0 5.0 Methanol/51174 05-18-12

Rimsulfuron Solution, 1000 mg/L, 1 ml
432808-01
Lot # 190005 Storage ≤-10 Degrees C Expiry 5/10/14
Solv: Methanol
Rimsulfuron Solution
Lot #: 190005 - 30769
Rec: 5/16/12 MFR exp. 05/10/14

I broke open the vial labelled to the left and transferred to an amber 1.8 ml injection vial → Rimsulfuron 1000 mg/L-1 05-18-12 HM 05-18-12

Rimsulfuron spk 5.0 mg/L-1 HM
Rimsulfuron 1000 05-18-12 0.050 10.0 5.0 Methanol/51174 05-18-12

_MWE3535

Organic Extraction Worksheet

Method	EPA Method 3535A	Extraction Set	120516A	Extraction Method	MWE3535	Units	mL

Spiked ID 1	8330 100ppm STK 05-09-12 exp 11-09-12		Surrogate ID 1	8330_W_Surrogate 5 ppm 05-03-12 exp 09-03-12	
Spiked ID 2	Nitroglyerin 100ppm STK 04-10-12 exp 10-10-12		Surrogate ID 2		
Spiked ID 3	PETN 100ppm STK 04-30-12 exp 10-30-12		Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	05/16/12 12:35	
Spiked ID 8			Ext. End Time:	05/16/12 15:55	
			GC Requires Extract By:	**05/16/12 17:00**	

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 05/16/12 **Witnessed By:** CFM **Date** 05/16/12

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	120516A Blk				0.1	1 equip	500	2	NA	05/16/12 12:35	
2	120516A LCS-1		0.040	1-3	NA	NA equip	500	2	NA	05/16/12 12:35	
3	AY61127	AY61127W02			0.1	1 equip	500	2	NA	05/16/12 12:35	67746 -- Amber Liter
4	AY61132 MS-1	AY61132W05	0.040	1-3	NA	NA equip	500	2	NA	05/16/12 12:35	67746 -- Amber Liter
5	AY61132 MSD-1	AY61132W05	0.040	1-3	NA	NA equip	500	2	NA	05/16/12 12:35	67746 -- Amber Liter
6	AY61132	AY61132W04			0.1	1 equip	500	2	NA	05/16/12 12:35	67746 -- Amber Liter
7	AY61134	AY61134W01			0.1	1 equip	500	2	NA	05/16/12 12:35	67746 -- Amber Liter
8	AY61140	AY61140W01			0.1	1 equip	500	2	NA	05/16/12 12:35	67746 -- Amber Liter
9	AY61156	AY61156W02			0.1	1 equip	500	2	NA	05/16/12 12:35	67748 -- Amber Liter
10	AY61187	AY61187W02			0.1	1 equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter
11	AY61189	AY61189W01			0.1	1 equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter
12	AY61190	AY61190W02			0.1	1 equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter
13	AY61191 MS-1	AY61191W06	0.040	1-3	NA	NA equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter
14	AY61191 MSD-1	AY61191W06	0.040	1-3	NA	NA equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter
15	AY61191	AY61191W01			0.1	1 equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter
16	AY61192	AY61192W02			0.1	1 equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter

Solvent and Lot#	
Acetonitrile	DF 818
Cartridge Sorbent Lot	S311-19
Serial No	163801

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	HSM
Date	5/16/12
Time	16:00
Refrigerator	Hobart/Brown

	Technician's Initials
Scanned By	KY
Sample Preparation	KY CFM
Extraction	KY CFM
Concentration	----------

Modified	05/16/12 10:14:32 AM

Reviewed By: [illegible] **Date** 5-22-12

_MWE3535

Organic Extraction Worksheet

Method	EPA Method 3535A	Extraction Set	120516A	Extraction Method	MWE3535	Units	mL

Spiked ID 1	8330 100ppm STK 05-09-12 exp 11-09-12		Surrogate ID 1	8330_W_Surrogate 5 ppm 05-03-12 exp 09-03-12	
Spiked ID 2	Nitroglyerin 100ppm STK 04-10-12 exp 10-10-12		Surrogate ID 2		
Spiked ID 3	PETN 100ppm STK 04-30-12 exp 10-30-12		Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	05/16/12 12:35	
Spiked ID 8			Ext. End Time:	05/16/12 15:55	
			GC Requires Extract By:	**05/16/12 17:00**	

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 05/16/12 **Witnessed By:** CFM **Date** 05/16/12

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AY61193	AY61193W02			0.1	1 equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter
18	AY61194	AY61194W01			0.1	1 equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter
19	AY61195	AY61195W02			0.1	1 equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter
20	AY61196	AY61196W01			0.1	1 equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter
21	AY61197	AY61197W02			0.1	1 equip	500	2	NA	05/16/12 12:35	67752 -- Amber Liter
22	AY61205 MS-1	AY61205W03	0.040	1-3	NA	NA equip	500	2	NA	05/16/12 12:35	67747 -- Amber Liter
23	AY61205 MSD-1	AY61205W03	0.040	1-3	NA	NA equip	500	2	NA	05/16/12 12:35	67747 -- Amber Liter
24	AY61205	AY61205W01			0.1	1 equip	500	2	NA	05/16/12 12:35	67747 -- Amber Liter
25	AY61206	AY61206W01			0.1	1 equip	500	2	NA	05/16/12 12:35	67747 -- Amber Liter
26	AY61207	AY61207W02			0.1	1 equip	500	2	NA	05/16/12 12:35	67747 -- Amber Liter
27	AY61208	AY61208W01			0.1	1 equip	500	2	NA	05/16/12 12:35	67747 -- Amber Liter
28	AY61214	AY61214W02			0.1	1 equip	500	2	NA	05/16/12 12:35	67750 -- Amber Liter

Ky 5-22-12

Solvent and Lot#	
Acetonitrile	DF 818
Cartridge Sorbent Lot	S311-19
Serial No	163801

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	HSM
Date	5-16-12
Time	16:00
Refrigerator	Hobart/Brown

	Technician's Initials
Scanned By	KY
Sample Preparation	KY CFM
Extraction	KY CFM
Concentration	----------

Modified	05/16/12 10:14:32 AM

Reviewed By: Ky **Date** 5-22-12

_MSE018

Organic Extraction Worksheet

Method	Explosives Soil Extraction 8330B	Extraction Set	120524A	Extraction Method	MSE018	Units	mL

Spiked ID 1	8330 100ppm STK 05-09-12 exp 11-09-12		Surrogate ID 1	1,2-DNB STK 100 PPM 05-22-12 exp 11-22-12	
Spiked ID 2	Nitroglyerin 100ppm STK 05-14-12 exp 11-14-12		Surrogate ID 2		
Spiked ID 3	PETN 100ppm STK 05-14-12 exp 11-14-12		Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	05/24/12 15:56	
Spiked ID 8			Ext. End Time:	05/25/12 9:56	
			GC Requires Extract By:		

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 05/24/12 **Witnessed By:** CFM **Date** 05/24/12

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	120524A Blk				0.060	1 equip	10.16g	20mL	NA	05/24/12 15:56	
2	120524A LCS-1		0.2	1-3	NA	NA equip	10.14g	20mL	NA	05/24/12 15:56	
3	AY61125	AY61125S01			0.060	1 equip	10.11g	20mL	NA	05/24/12 15:56	67746 -- 4oz Jar
4	AY61126 MS-1	AY61126S01	0.2	1-3	NA	NA equip	10.03g	20mL	NA	05/24/12 15:56	67746 -- 4oz Jar
5	AY61126 MSD-1	AY61126S01	0.2	1-3	NA	NA equip	10.00g	20mL	NA	05/24/12 15:56	67746 -- 4oz Jar
6	AY61126	AY61126S01			0.060	1 equip	10.21g	20mL	NA	05/24/12 15:56	67746 -- 4oz Jar
7	AY61128	AY61128S01			0.060	1 equip	10.10g	20mL	NA	05/24/12 15:56	67746 -- 4oz Jar
8	AY61129	AY61129S01			0.060	1 equip	10.15g	20mL	NA	05/24/12 15:56	67746 -- 4oz Jar
9	AY61130	AY61130S01			0.060	1 equip	10.01g	20mL	NA	05/24/12 15:56	67746 -- 4oz Jar
10	AY61131	AY61131S01			0.060	1 equip	10.20g	20mL	NA	05/24/12 15:56	67746 -- 4oz Jar
11	AY61863 MS-1	AY61863S01	0.2	1	NA	NA equip	10.03g	20mL	NA	05/24/12 15:56	67842 -- 8oz Jar
12	AY61863 MSD-1	AY61863S01	0.2	1	NA	NA equip	10.09g	20mL	NA	05/24/12 15:56	67842 -- 8oz Jar
13	AY61863	AY61863S01			0.060	1 equip	10.00g	20mL	NA	05/24/12 15:56	67842 -- 8oz Jar
14	AY61864	AY61864S01			0.060	1 equip	10.10g	20mL	NA	05/24/12 15:56	67842 -- 8oz Jar
15	AY61865	AY61865S01			0.060	1 equip	10.00g	20mL	NA	05/24/12 15:56	67842 -- 8oz Jar
16	AY61866	AY61866S01			0.060	1 equip	10.01g	20mL	NA	05/24/12 15:56	67842 -- 8oz Jar

Solvent and Lot#	
Acetonitrile	DF 818
Silica Sand	031912

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	HSM
Date	5-25-12
Time	10:00
Refrigerator	Hobart/Brown

	Technician's Initials
Scanned By	CFM
Sample Preparation	CFM KY
Extraction	CFM KY
Concentration	----------

Modified	05/24/12 4:27:50 PM

Reviewed By: [illegible] **Date** 5-30-12

_MSE018

Organic Extraction Worksheet

Method	Explosives Soil Extraction 8330B	Extraction Set	120525A	Extraction Method	MSE018	Units	mL

Spiked ID 1	8330 100ppm STK 05-09-12 exp 11-09-12		Surrogate ID 1	1,2-DNB STK 100 PPM 05-22-12 exp 11-22-12	
Spiked ID 2	Nitroglyerin 100ppm STK 05-14-12 exp 11-14-12		Surrogate ID 2	1,2-DNB STK 100 PPM 05-25-12 exp 11-25-12	
Spiked ID 3	PETN 100ppm STK 05-14-12 exp 05-14-12		Surrogate ID 3		
Spiked ID 4	8330 100ppm STK 05-25-12 exp 11-25-12		Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	05/25/12 16:50	
Spiked ID 8			Ext. End Time:	05/26/12 10:50	
			GC Requires Extract By:		

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 05/25/12 **Witnessed By:** CFM **Date** 05/25/12

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	120525A Blk				0.050	2 equip	10.06g	20mL	NA	05/25/12 16:50	
2	120525A LCS-1		0.2	1-3	NA	NA equip	10.01g	20mL	NA	05/25/12 16:50	
3	AY61133 MS-1	AY61133S01	0.2	4,2,3	0.030	1 equip	10.22g	20mL	NA	05/25/12 16:50	67746 -- 4oz Jar
4	AY61133 MSD-1	AY61133S01	0.2	4,2,3	0.030	1 equip	10.02g	20mL	NA	05/25/12 16:50	67746 -- 4oz Jar
5	AY61133	AY61133S01			0.050	2 equip	10.17g	20mL	NA	05/25/12 16:50	67746 -- 4oz Jar
6	AY61135	AY61135S02			0.050	2 equip	10.09g	20mL	NA	05/25/12 16:50	67746 -- 8oz Jar
7	AY61136	AY61136S01			0.050	2 equip	10.00g	20mL	NA	05/25/12 16:50	67746 -- 4oz Jar
8	AY61137 MS-1	AY61137S01	0.2	4,2,3	0.030	1 equip	10.00g	20mL	NA	05/25/12 16:50	67746 -- 4oz Jar
9	AY61137 MSD-1	AY61137S01	0.2	4,2,3	0.030	1 equip	10.04g	20mL	NA	05/25/12 16:50	67746 -- 4oz Jar
10	AY61137	AY61137S01			0.050	2 equip	10.02g	20mL	NA	05/25/12 16:50	67746 -- 4oz Jar
11	AY61138	AY61138S01			0.050	2 equip	10.01g	20mL	NA	05/25/12 16:50	67746 -- 4oz Jar
12	AY61139	AY61139S01			0.050	2 equip	10.24g	20mL	NA	05/25/12 16:50	67746 -- 4oz Jar
13	AY61302 MS-1	AY61302S04	0.2	4,2,3	0.030	1 equip	10.06g	20mL	NA	05/25/12 16:50	67766 -- 4oz Jar
14	AY61302 MSD-1	AY61302S04	0.2	4,2,3	0.030	1 equip	10.04g	20mL	NA	05/25/12 16:50	67766 -- 4oz Jar
15	AY61302	AY61302S04			0.050	2 equip	10.00g	20mL	NA	05/25/12 16:50	67766 -- 4oz Jar
16	AY61303	AY61303S01			0.050	2 equip	10.17g	20mL	NA	05/25/12 16:50	67766 -- 4oz Jar

Solvent and Lot#	
Acetonitrile	DF 818
Silica Sand	031912

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	HSM
Date	05-26-12
Time	11:00
Refrigerator	Hobart/Brown

	Technician's Initials
Scanned By	CFM
Sample Preparation	CFM KY
Extraction	CFM KY
Concentration	----------

Modified	05/25/12 4:55:44 PM

Reviewed By: Ky **Date** 5-30-12

Organic Extraction Worksheet

Method	Explosives Soil Extraction 8330B	Extraction Set	120525A	Extraction Method	MSE018	Units	mL

Spiked ID 1	8330 100ppm STK 05-09-12 exp 11-09-12		Surrogate ID 1	1,2-DNB STK 100 PPM 05-22-12 exp 11-22-12	
Spiked ID 2	Nitroglyerin 100ppm STK 05-14-12 exp 11-14-12		Surrogate ID 2	1,2-DNB STK 100 PPM 05-25-12 exp 11-25-12	
Spiked ID 3	PETN 100ppm STK 05-14-12 exp 05-14-12		Surrogate ID 3		
Spiked ID 4	8330 100ppm STK 05-25-12 exp 11-25-12		Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	05/25/12 16:50	
Spiked ID 8			Ext. End Time:	05/26/12 10:50	
			GC Requires Extract By:		

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 05/25/12 **Witnessed By:** CFM **Date** 05/25/12

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AY61305 MS-1	AY61305S04	0.2	4,2,3	0.030	1 equip	10.08g	20mL	NA	05/25/12 16:50	67766 -- 8oz Jar
18	AY61305 MSD-1	AY61305S04	0.2	4,2,3	0.030	2 equip	10.12g	20mL	NA	05/25/12 16:50	67766 -- 8oz Jar
19	AY61305	AY61305S04			0.050	2 equip	10.01g	20mL	NA	05/25/12 16:50	67766 -- 8oz Jar
20	AY61307	AY61307S02			0.050	2 equip	10.03g	20mL	NA	05/25/12 16:50	67766 -- 8oz Jar
21	AY61309	AY61309S02			0.050	2 equip	10.01g	20mL	NA	05/25/12 16:50	67766 -- 8oz Jar
22	AY61310	AY61310S02			0.050	2 equip	10.00g	20mL	NA	05/25/12 16:50	67766 -- 4oz Jar
23	AY61345 MS-1	AY61345S01	0.2	4,2,3	0.030	2 equip	10.21g	20mL	NA	05/25/12 16:50	67767 -- 8oz Jar
24	AY61345 MSD-1	AY61345S01	0.2	4,2,3	0.030	2 equip	10.14g	20mL	NA	05/25/12 16:50	67767 -- 8oz Jar
25	AY61345	AY61345S01			0.050	2 equip	10.16g	20mL	NA	05/25/12 16:50	67767 -- 8oz Jar
26	AY61346	AY61346S01			0.050	2 equip	10.00g	20mL	NA	05/25/12 16:50	67767 -- 8oz Jar
27	AY61347	AY61347S01			0.050	2 equip	10.14g	20mL	NA	05/25/12 16:50	67767 -- 8oz Jar
28	AY61732	AY61732S01			0.050	2 equip	10.13g	20mL	NA	05/25/12 16:50	67821 -- 4oz Jar

KY 5-30-12

Solvent and Lot#	
Acetonitrile	DF 818
Silica Sand	031912

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	HSM
Date	5-30-12
Time	11:00
Refrigerator	Hobart/Brown

	Technician's Initials
Scanned By	CFM
Sample Preparation	CFM KY
Extraction	CFM KY
Concentration	----------

Modified	05/25/12 4:55:44 PM

Reviewed By: KY **Date** 5-30-12

Injection Log

Directory: Y:\CHEM32\STATLER\DATA\120514\120514

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	0	0514_0000004.D		8330MX_A_CB 0.005 PPM 05/14/12		05/14/2012 12:35
2	0	0514_0000005.D		8330MX_B_CB 0.005 PPM 05/14/12		05/14/2012 13:16
3	0	0514_0000006.D		8330MX_A_CB 0.010 PPM 05/14/12		05/14/2012 13:58
4	0	0514_0000007.D		8330MX_B_CB 0.010 PPM 05/14/12		05/14/2012 14:39
5	0	0514_0000008.D		8330MX_A_CB 0.020 PPM 05/14/12		05/14/2012 15:21
6	0	0514_0000009.D		8330MX_B_CB 0.020 PPM 05/14/12		05/14/2012 16:02
7	0	0514_0000010.D		8330MX_A_CB 0.050 PPM 05/14/12		05/14/2012 16:44
8	0	0514_0000011.D		8330MX_B_CB 0.050 PPM 05/14/12		05/14/2012 17:25
9	0	0514_0000012.D		8330MX_A_CB 0.10 PPM 05/14/12		05/14/2012 18:07
10	0	0514_0000013.D		8330MX_B_CB 0.10 PPM 05/14/12		05/14/2012 18:48
11	0	0514_0000014.D		8330MX_A_CB 0.20 PPM 05/14/12		05/14/2012 19:30
12	0	0514_0000015.D		8330MX_B_CB 0.20 PPM 05/14/12		05/14/2012 20:11
13	0	0514_0000016.D		8330MX_A_CB 0.50 PPM 05/14/12		05/14/2012 20:53
14	0	0514_0000017.D		8330MX_B_CB 0.50 PPM 05/14/12		05/14/2012 21:34
15	0	0514_0000018.D		8330MX_A_CB 1.0 PPM 05/14/12		05/14/2012 22:16
16	0	0514_0000019.D		8330MX_B_CB 1.0 PPM 05/14/12		05/14/2012 22:57
17	0	0514_0000020.D		8330MX_A_CB 2.0 PPM 05/14/12		05/14/2012 23:39
18	0	0514_0000021.D		8330MX_B_CB 2.0 PPM 05/14/12		05/15/2012 00:20
19	0	0515_0000025.D		8330MX_A_SS 1.0 PPM 05/15/12		05/16/2012 01:40
20	0	0516_0000004.D		8330MX_B_SS 1.0 PPM 05/16/12		05/16/2012 13:54
21	0	0531_0000004.D		8330MIX-A_CCV 1.0 PPM 05/31/12		05/31/2012 10:51
22	0	0531_0000005.D		8330MIX-B_CCV 1.0 PPM 05/31/12		05/31/2012 11:33
23	0	0531_0000008.D	7.91296	AY61125S01 7.913 DF 05/24/12	soil	05/31/2012 13:37
24	0	0531_0000009.D	7.83546	AY61126S01 7.835 DF 05/24/12	soil	05/31/2012 14:19
25	0	0531_0000010.D	7.92079	AY61128S01 7.921 DF 05/24/12	soil	05/31/2012 15:00
26	0	0531_0000011.D	7.88177	AY61129S01 7.882 DF 05/24/12	soil	05/31/2012 15:42
27	0	0531_0000012.D	7.99201	AY61130S01 7.992 DF 05/24/12	soil	05/31/2012 16:23
28	0	0531_0000013.D	7.84314	AY61131S01 7.843 DF 05/24/12	soil	05/31/2012 17:05
29	0	0531_0000018.D		8330MIX-A_CCV 1.0 PPM 05/31/12		05/31/2012 20:32
30	0	0531_0000019.D		8330MIX-B_CCV 1.0 PPM 05/31/12		05/31/2012 21:14
31	0	0602_0000004.D		8330MIX-A_CCV 1.0 PPM 06/02/12		06/02/2012 10:57
32	0	0602_0000006.D	7.86627	AY61133S01 7.866 DF 05/25/12	soil	06/02/2012 12:20
33	0	0602_0000007.D	7.92864	AY61135S02 7.929 DF 05/25/12	soil	06/02/2012 13:02
34	0	0602_0000013.D		8330MIX-A_CCV 1.0 PPM 06/02/12		06/02/2012 17:11

Injection Log

Directory: Y:\CHEM32\WALDORF\DATA\120511\120516

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	0	0516_0000017.D		8830B_CB 0.005 PPM 05/16/12		05/16/2012 19:22
2	0	0516_0000018.D		8830B_CB 0.01 PPM 05/16/12		05/16/2012 20:00
3	0	0516_0000019.D		8830B_CB 0.02 PPM 05/16/12		05/16/2012 20:37
4	0	0516_0000020.D		8830B_CB 0.05 PPM 05/16/12		05/16/2012 21:15
5	0	0516_0000021.D		8830B_CB 0.1 PPM 05/16/12		05/16/2012 21:52
6	0	0516_0000022.D		8830B_CB 0.2 PPM 05/16/12		05/16/2012 22:30
7	0	0516_0000023.D		8830B_CB 0.5 PPM 05/16/12		05/16/2012 23:07
8	0	0516_0000024.D		8830B_CB 1.0 PPM 05/16/12		05/16/2012 23:45
9	0	0516_0000025.D		8830B_MX-A 2.0 PPM 05/16/12		05/17/2012 00:22
10	0	0516_0000026.D		8830B_MX-B 2.0 PPM 05/16/12		05/17/2012 00:59
11	0	0516_0000027.D		8830B_SS 1.0 PPM 05/16/12		05/17/2012 01:37
12	0	0521_0000063.D		8330_CCV 1.0 PPM 05/21/12		05/23/2012 00:07
13	0	0521_0000068.D	0.016	120516WLCS1A 0.016 DF 05/16/12	water	05/23/2012 02:44
14	0	0521_0000069.D	0.016	AY61132W05_MS-1 0.016 DF 05/16/12	water	05/23/2012 03:12
15	0	0521_0000070.D	0.016	AY61132W05_MSD-1 0.016 DF 05/16/12	water	05/23/2012 03:50
16	0	0521_0000075.D	0.016	120516WBLK1A 0.016 DF 05/16/12	water	05/23/2012 06:57
17	0	0521_0000076.D	0.016	AY61127W02 0.016 DF 05/16/12	water	05/23/2012 07:34
18	0	0521_0000077.D	0.016	AY61132W04 0.016 DF 05/16/12	water	05/23/2012 08:12
19	0	0521_0000078.D		8330_CCV 1.0 PPM 05/21/12		05/23/2012 08:49
20	0	0521_0000079.D	0.016	AY61134W01 0.016 DF 05/16/12	water	05/23/2012 09:17
21	0	0521_0000080.D	0.016	AY61140W01 0.016 DF 05/16/12	water	05/23/2012 09:54
22	0	0521_0000089.D		8330_CCV 1.0 PPM 05/21/12		05/23/2012 15:32
23	0	0529_0000088.D		8330_CCV 1.0 PPM 05/30/12		05/31/2012 12:33
24	0	0529_0000095.D	7.88955	120524SLCS1A 7.890 DF 05/24/12	soil	05/31/2012 16:46
25	0	0529_0000096.D	7.97607	AY61126S01_MS-1 7.976 DF 05/24/12	soil	05/31/2012 17:13
26	0	0529_0000097.D	8	AY61126S01_MSD-1 8.000 DF 05/24/12	soil	05/31/2012 17:51
27	0	0529_0000100.D	7.87402	120524SBLK1A 7.874 DF 05/24/12	soil	05/31/2012 19:43
28	0	0529_0000101.D		8330_CCV 1.0 PPM 05/30/12		05/31/2012 20:11
29	0	0529_0000108.D	7.99201	120525SLCS1A 7.992 DF 05/25/12	soil	06/01/2012 00:03
30	0	0529_0000109.D	7.82779	AY61133S01_MS-1 7.828 DF 05/25/12	soil	06/01/2012 01:22
31	0	0529_0000110.D	7.98403	AY61133S01_MSD-1 7.984 DF 05/25/12	soil	06/01/2012 02:00
32	0	0529_0000111.D	8	AY61137S01_MS-1 8.000 DF 05/25/12	soil	06/01/2012 02:37
33	0	0529_0000112.D	7.96813	AY61137S01_MSD-1 7.968 DF 05/25/12	soil	06/01/2012 03:15
34	0	0529_0000115.D		8330_CCV 1.0 PPM 05/30/12		06/01/2012 05:07
35	0	0529_0000120.D	7.95229	120525SBLK1A 7.952 DF 05/25/12	soil	06/01/2012 08:05
36	0	0529_0000121.D	7.86627	AY61133S01 7.866 DF 05/25/12	soil	06/01/2012 08:32
37	0	0529_0000122.D	7.92864	AY61135S02 7.929 DF 05/25/12	soil	06/01/2012 09:10
38	0	0529_0000123.D	8	AY61136S01 8.000 DF 05/25/12	soil	06/01/2012 09:47
39	0	0529_0000124.D	7.98403	AY61137S01 7.984 DF 05/25/12	soil	06/01/2012 10:25
40	0	0529_0000125.D	7.99201	AY61138S01 7.992 DF 05/25/12	soil	06/01/2012 11:02
41	0	0529_0000127.D		8330_CCV 1.0 PPM 05/30/12		06/01/2012 12:17
42	0	0529_0000128.D	7.8125	AY61139S01 7.813 DF 05/25/12	soil	06/01/2012 12:45
43	0	0529_0000138.D		8330_CCV 1.0 PPM 06/01/12		06/01/2012 19:00

Injection Log

Directory: Y:\CHEM32\WALDORF\DATA\120604\120604

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	0	0604_0000004.D		8830B_CB 0.005 PPM 06/04/12		06/04/2012 12:57
2	0	0604_0000005.D		8830B_CB 0.01 PPM 06/04/12		06/04/2012 13:34
3	0	0604_0000006.D		8830B_CB 0.02 PPM 06/04/12		06/04/2012 14:12
4	0	0604_0000007.D		8830B_CB 0.05 PPM 06/04/12		06/04/2012 14:49
5	0	0604_0000008.D		8830B_CB 0.1 PPM 06/04/12		06/04/2012 15:27
6	0	0604_0000009.D		8830B_CB 0.2 PPM 06/04/12		06/04/2012 16:04
7	0	0604_0000010.D		8830B_CB 0.5 PPM 06/04/12		06/04/2012 16:42
8	0	0604_0000011.D		8830B_CB 1.0 PPM 06/04/12		06/04/2012 17:19
9	0	0604_0000012.D		8830B_MX-A 2.0 PPM 06/04/12		06/04/2012 17:57
10	0	0604_0000013.D		8830B_MX-B 2.0 PPM 06/04/12		06/04/2012 18:34
11	0	0604_0000014.D		8830B_SS 1.0 PPM 06/04/12		06/04/2012 19:12
12	0	0604_0000027.D	7.92079	AY61128S01 7.921 DF 05/24/12	soil	06/05/2012 03:19
13	0	0604_0000028.D	7.88177	AY61129S01 7.882 DF 05/24/12	soil	06/05/2012 03:56
14	0	0604_0000029.D		8330_CCV 1.0 PPM 06/04/12		06/05/2012 04:34
15	0	0604_0000030.D	7.99201	AY61130S01 7.992 DF 05/24/12	soil	06/05/2012 05:02
16	0	0604_0000040.D		8330_CCV 1.0 PPM 06/04/12		06/05/2012 10:57

METALS

APPL, INC.

METALS

WATER
Sample & QC Data

APPL, INC.

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-AMB-SW-02

APPL ID: AY61127

Sample Collection Date: 05/10/12

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
6010B/3010A	ALUMINUM (AL)	610	100	19.3	ug/L	1	05/29/12	05/30/12
6010B/3010A	ANTIMONY (SB)	0.8 J	3.0	0.43	ug/L	1	05/29/12	05/30/12
6010B/3010A	BARIUM (BA)	44	5.0	0.75	ug/L	1	05/29/12	05/30/12
6010B/3010A	CHROMIUM (CR)	1.37 U	5.0	1.37	ug/L	1	05/29/12	05/30/12
6010B/3010A	COPPER (CU)	2.6	2.0	0.42	ug/L	1	05/29/12	05/30/12
6010B/3010A	LEAD (PB)	0.58 J	2.0	0.37	ug/L	1	05/29/12	05/30/12
6010B/3010A	MAGNESIUM (MG)	1100	50	13.0	ug/L	1	05/29/12	05/30/12
6010B/3010A	ZINC (ZN)	3.2 J	50	2.3	ug/L	1	05/29/12	05/30/12

J = Estimated value.

Printed: 06/06/12 4:10:23 PM

APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 16
Sample ID: AY61127W03
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 0.2X

Autosampler Location: 40
Date Collected: 05/30/12 12:41:25 PM
Data Type: Reprocessed on 05/31/12 2:46:01 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AY61127W03

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1398585.8	100.2	%	1.28				1.28%
Ag 338.289†	-29.3	-0.368	ug/L	1.2471	-0.074	ug/L	0.2494	339.05%
Al 308.215†	3906.5	3045	ug/L	64.7	609.1	ug/L	12.94	2.12%
As 188.979†	1.6	0.688	ug/L	3.4005	0.138	ug/L	0.6801	493.94%
B†	179.1	36.21	ug/L	1.344	7.241	ug/L	0.2688	3.71%
Ba 233.527†	24004.2	222.3	ug/L	1.07	44.47	ug/L	0.214	0.48%
Be 313.107†	97.3	0.201	ug/L	0.0366	0.040	ug/L	0.0073	18.23%
Ca 315.887†	58486.2	5965	ug/L	112.1	1193	ug/L	22.4	1.88%
Cd 214.440†	3.0	-0.118	ug/L	0.0870	-0.024	ug/L	0.0174	73.67%
Co 228.616†	153.8	3.161	ug/L	0.5904	0.632	ug/L	0.1181	18.68%
Cr 267.716†	369.4	4.783	ug/L	0.4136	0.957	ug/L	0.0827	8.65%
Cu 327.393†	816.1	13.12	ug/L	1.531	2.623	ug/L	0.3062	11.67%
Fe 273.955†	41869.2	2601	ug/L	7.4	520.3	ug/L	1.49	0.29%
K 766.490†	7455.2	3911	ug/L	90.0	782.3	ug/L	18.01	2.30%
Mg 285.213†	99868.4	5581	ug/L	84.5	1116	ug/L	16.9	1.51%
Mn 257.610†	4723.3	101.3	ug/L	1.07	20.25	ug/L	0.215	1.06%
Mo 202.031†	17.1	0.893	ug/L	0.1792	0.179	ug/L	0.0358	20.08%
Na 589.592†	38883.6	5415	ug/L	78.6	1083	ug/L	15.7	1.45%
Ni 231.604†	297.1	8.239	ug/L	0.4911	1.648	ug/L	0.0982	5.96%
P 213.617†	764.3	206.0	ug/L	1.92	41.20	ug/L	0.383	0.93%
Pb 220.353†	25.9	2.909	ug/L	0.6581	0.582	ug/L	0.1316	22.62%
Sb 206.836†	13.5	4.011	ug/L	1.0031	0.802	ug/L	0.2006	25.01%
Se 196.026†	-6.4	-2.734	ug/L	0.7699	-0.547	ug/L	0.1540	28.16%
Sn 189.927†	7.7	1.504	ug/L	0.4587	0.301	ug/L	0.0917	30.49%
Sr 421.552†	31682.4	49.70	ug/L	0.695	9.939	ug/L	0.1390	1.40%
Ti 337.279†	3197.4	77.71	ug/L	4.347	15.54	ug/L	0.869	5.59%
Tl 190.801†	-2.3	-0.505	ug/L	0.3440	-0.101	ug/L	0.0688	68.07%
V 292.402†	725.5	4.560	ug/L	0.1408	0.912	ug/L	0.0282	3.09%
Zn 206.200†	679.7	15.81	ug/L	0.282	3.162	ug/L	0.0565	1.79%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SW-01

APPL ID: AY61132

Sample Collection Date: 05/11/12

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
6010B/3010A	ALUMINUM (AL)	130	100	19.3	ug/L	1	05/29/12	05/30/12
6010B/3010A	ANTIMONY (SB)	1.1 J	3.0	0.43	ug/L	1	05/29/12	05/30/12
6010B/3010A	BARIUM (BA)	23	5.0	0.75	ug/L	1	05/29/12	05/30/12
6010B/3010A	CHROMIUM (CR)	1.37 U	5.0	1.37	ug/L	1	05/29/12	05/30/12
6010B/3010A	COPPER (CU)	1.9 J	2.0	0.42	ug/L	1	05/29/12	05/30/12
6010B/3010A	LEAD (PB)	0.53 J	2.0	0.37	ug/L	1	05/29/12	05/30/12
6010B/3010A	MAGNESIUM (MG)	1200	50	13.0	ug/L	1	05/29/12	05/30/12
6010B/3010A	ZINC (ZN)	2.3 U J	50	2.3	ug/L	1	05/29/12	05/30/12

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 17
Sample ID: AY61132W07
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 0.2X

Autosampler Location: 41
Date Collected: 05/30/12 12:45:22 PM
Data Type: Reprocessed on 05/31/12 2:46:02 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AY61132W07

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1356888.9	97.21	%	0.922				0.95%
Ag 338.289†	-92.9	-1.164	ug/L	1.3982	-0.233	ug/L	0.2796	120.15%
Al 308.215†	803.8	625.4	ug/L	1.51	125.1	ug/L	0.30	0.24%
As 188.979†	3.2	1.351	ug/L	0.8940	0.270	ug/L	0.1788	66.19%
B†	183.4	37.09	ug/L	0.610	7.418	ug/L	0.1219	1.64%
Ba 233.527†	12277.1	113.9	ug/L	1.31	22.79	ug/L	0.263	1.15%
Be 313.107†	14.1	0.029	ug/L	0.0110	0.006	ug/L	0.0022	37.51%
Ca 315.887†	70293.1	7169	ug/L	109.7	1434	ug/L	21.9	1.53%
Cd 214.440†	2.9	-0.014	ug/L	0.0880	-0.003	ug/L	0.0176	633.93%
Co 228.616†	57.3	1.218	ug/L	0.5530	0.244	ug/L	0.1106	45.38%
Cr 267.716†	165.9	2.102	ug/L	0.2649	0.420	ug/L	0.0530	12.60%
Cu 327.393†	587.9	9.449	ug/L	0.4972	1.890	ug/L	0.0994	5.26%
Fe 273.955†	8724.4	541.4	ug/L	5.98	108.3	ug/L	1.20	1.10%
K 766.490†	7300.2	3831	ug/L	26.9	766.2	ug/L	5.38	0.70%
Mg 285.213†	107886.3	6027	ug/L	101.8	1205	ug/L	20.4	1.69%
Mn 257.610†	712.8	15.10	ug/L	0.276	3.019	ug/L	0.0551	1.83%
Mo 202.031†	26.8	1.400	ug/L	0.1722	0.280	ug/L	0.0344	12.30%
Na 589.592†	41274.0	5749	ug/L	85.2	1150	ug/L	17.0	1.48%
Ni 231.604†	54.1	1.473	ug/L	0.1169	0.295	ug/L	0.0234	7.94%
P 213.617†	655.5	176.7	ug/L	0.82	35.33	ug/L	0.164	0.46%
Pb 220.353†	23.6	2.655	ug/L	1.0378	0.531	ug/L	0.2076	39.09%
Sb 206.836†	19.0	5.625	ug/L	1.4594	1.125	ug/L	0.2919	25.95%
Se 196.026†	2.1	0.920	ug/L	1.6757	0.184	ug/L	0.3351	182.05%
Sn 189.927†	-1.9	0.433	ug/L	1.6659	0.087	ug/L	0.3332	384.81%
Sr 421.552†	32817.3	51.47	ug/L	0.822	10.29	ug/L	0.164	1.60%
Ti 337.279†	526.9	12.74	ug/L	1.668	2.548	ug/L	0.3337	13.10%
Tl 190.801†	-7.8	-1.742	ug/L	0.5729	-0.348	ug/L	0.1146	32.89%
V 292.402†	92.6	0.562	ug/L	0.1187	0.112	ug/L	0.0237	21.13%
Zn 206.200†	278.1	6.468	ug/L	0.1018	1.294	ug/L	0.0204	1.57%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SW-03

APPL ID: AY61134

Sample Collection Date: 05/11/12

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
6010B/3010A	ALUMINUM (AL)	140	100	19.3	ug/L	1	05/29/12	05/30/12
6010B/3010A	ANTIMONY (SB)	1.0 J	3.0	0.43	ug/L	1	05/29/12	05/30/12
6010B/3010A	BARIUM (BA)	23	5.0	0.75	ug/L	1	05/29/12	05/30/12
6010B/3010A	CHROMIUM (CR)	1.37 U	5.0	1.37	ug/L	1	05/29/12	05/30/12
6010B/3010A	COPPER (CU)	1.9 J	2.0	0.42	ug/L	1	05/29/12	05/30/12
6010B/3010A	LEAD (PB)	0.52 J	2.0	0.37	ug/L	1	05/29/12	05/30/12
6010B/3010A	MAGNESIUM (MG)	1200	50	13.0	ug/L	1	05/29/12	05/30/12
6010B/3010A	ZINC (ZN)	2.3 U	50	2.3	ug/L	1	05/29/12	05/30/12

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 22
Sample ID: AY61134W03
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 0.2X

Autosampler Location: 46
Date Collected: 05/30/12 1:05:46 PM
Data Type: Reprocessed on 05/31/12 2:46:14 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AY61134W03

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1417384.0	101.5	%	0.59				0.58%
Ag 338.289†	-101.8	-1.276	ug/L	0.3529	-0.255	ug/L	0.0706	27.65%
Al 308.215†	929.3	723.3	ug/L	16.63	144.7	ug/L	3.33	2.30%
As 188.979†	7.6	3.196	ug/L	2.8129	0.639	ug/L	0.5626	88.02%
B†	191.5	38.72	ug/L	1.142	7.744	ug/L	0.2284	2.95%
Ba 233.527†	12297.8	114.1	ug/L	0.59	22.82	ug/L	0.119	0.52%
Be 313.107†	29.7	0.061	ug/L	0.0081	0.012	ug/L	0.0016	13.16%
Ca 315.887†	72446.0	7388	ug/L	113.1	1478	ug/L	22.6	1.53%
Cd 214.440†	-21.9	-0.138	ug/L	0.0805	-0.028	ug/L	0.0161	58.38%
Co 228.616†	62.1	1.315	ug/L	0.2612	0.263	ug/L	0.0522	19.87%
Cr 267.716†	146.0	1.843	ug/L	0.0973	0.369	ug/L	0.0195	5.28%
Cu 327.393†	593.5	9.538	ug/L	0.9792	1.908	ug/L	0.1958	10.27%
Fe 273.955†	10069.8	625.0	ug/L	0.19	125.0	ug/L	0.04	0.03%
K 766.490†	7500.2	3935	ug/L	32.9	787.1	ug/L	6.59	0.84%
Mg 285.213†	106238.5	5935	ug/L	86.6	1187	ug/L	17.3	1.46%
Mn 257.610†	723.7	15.33	ug/L	0.286	3.066	ug/L	0.0572	1.87%
Mo 202.031†	28.8	1.503	ug/L	0.1568	0.301	ug/L	0.0314	10.43%
Na 589.592†	40954.6	5704	ug/L	89.9	1141	ug/L	18.0	1.58%
Ni 231.604†	72.1	1.976	ug/L	0.1290	0.395	ug/L	0.0258	6.53%
P 213.617†	787.7	212.3	ug/L	1.77	42.46	ug/L	0.354	0.83%
Pb 220.353†	23.1	2.598	ug/L	1.3000	0.520	ug/L	0.2600	50.03%
Sb 206.836†	17.3	5.124	ug/L	1.6586	1.025	ug/L	0.3317	32.37%
Se 196.026†	-8.1	-3.477	ug/L	2.4124	-0.695	ug/L	0.4825	69.39%
Sn 189.927†	-20.5	-1.802	ug/L	0.7673	-0.360	ug/L	0.1535	42.58%
Sr 421.552†	33075.9	51.88	ug/L	0.912	10.38	ug/L	0.182	1.76%
Ti 337.279†	653.1	15.81	ug/L	0.963	3.162	ug/L	0.1927	6.09%
Tl 190.801†	-3.0	-0.681	ug/L	0.2848	-0.136	ug/L	0.0570	41.82%
V 292.402†	158.5	1.007	ug/L	0.2246	0.201	ug/L	0.0449	22.30%
Zn 206.200†	352.1	8.190	ug/L	0.1380	1.638	ug/L	0.0276	1.68%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri
Project: 748073 WVMA-MRS01 & MRS02
Sample ID: WVMA-MRS02-EB1
Sample Collection Date: 05/11/12

ARF: 67746
APPL ID: AY61140

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
6010B/3010A	ANTIMONY (SB)	0.69 J	3.0	0.43	ug/L	1	05/29/12	05/30/12
6010B/3010A	COPPER (CU)	3.1	2.0	0.42	ug/L	1	05/29/12	05/30/12
6010B/3010A	LEAD (PB)	0.37 U	2.0	0.37	ug/L	1	05/29/12	05/30/12
6010B/3010A	MANGANESE (MN)	1.23 U	5.0	1.23	ug/L	1	05/29/12	05/30/12
7470A/7470A	MERCURY (HG)	0.065 J	0.2	0.06	ug/L	1	05/23/12	05/30/12
6010B/3010A	ZINC (ZN)	3.7 J	50	2.3	ug/L	1	05/29/12	05/30/12

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 23
Sample ID: AY61140W03
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 0.2X

Autosampler Location: 47
Date Collected: 05/30/12 1:09:48 PM
Data Type: Reprocessed on 05/31/12 2:46:15 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AY61140W03

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1404542.3	100.6	%	0.10				0.10%
Ag 338.289†	-38.5	-0.483	ug/L	0.1941	-0.097	ug/L	0.0388	40.19%
Al 308.215†	50.1	38.94	ug/L	17.457	7.787	ug/L	3.4914	44.84%
As 188.979†	-1.3	-0.554	ug/L	2.2059	-0.111	ug/L	0.4412	398.09%
B†	21.9	4.432	ug/L	0.6666	0.886	ug/L	0.1333	15.04%
Ba 233.527†	258.4	2.394	ug/L	0.1629	0.479	ug/L	0.0326	6.81%
Be 313.107†	-10.3	-0.021	ug/L	0.0190	-0.004	ug/L	0.0038	89.61%
Ca 315.887†	2433.5	248.2	ug/L	1.02	49.64	ug/L	0.204	0.41%
Cd 214.440†	67.4	0.325	ug/L	0.0282	0.065	ug/L	0.0056	8.67%
Co 228.616†	32.5	0.724	ug/L	0.3100	0.145	ug/L	0.0620	42.85%
Cr 267.716†	101.0	1.331	ug/L	0.3674	0.266	ug/L	0.0735	27.60%
Cu 327.393†	957.3	15.39	ug/L	0.376	3.077	ug/L	0.0752	2.44%
Fe 273.955†	434.3	26.98	ug/L	2.148	5.395	ug/L	0.4295	7.96%
K 766.490†	74.6	39.33	ug/L	48.428	7.867	ug/L	9.6855	123.12%
Mg 285.213†	272.4	15.23	ug/L	0.163	3.045	ug/L	0.0326	1.07%
Mn 257.610†	97.5	2.099	ug/L	0.1022	0.420	ug/L	0.0204	4.87%
Mo 202.031†	17.5	0.913	ug/L	0.0737	0.183	ug/L	0.0147	8.07%
Na 589.592†	4895.2	682.3	ug/L	25.35	136.5	ug/L	5.07	3.72%
Ni 231.604†	-50.7	-1.429	ug/L	0.5990	-0.286	ug/L	0.1198	41.93%
P 213.617†	548.7	147.9	ug/L	2.02	29.58	ug/L	0.404	1.36%
Pb 220.353†	-2.1	-0.232	ug/L	0.6267	-0.046	ug/L	0.1253	270.12%
Sb 206.836†	11.7	3.465	ug/L	0.8821	0.693	ug/L	0.1764	25.46%
Se 196.026†	-6.9	-2.945	ug/L	4.7992	-0.589	ug/L	0.9598	162.94%
Sn 189.927†	17.3	2.121	ug/L	1.6158	0.424	ug/L	0.3232	76.20%
Sr 421.552†	158.2	0.245	ug/L	0.1591	0.049	ug/L	0.0318	64.98%
Ti 337.279†	75.9	1.847	ug/L	0.5115	0.369	ug/L	0.1023	27.69%
Tl 190.801†	-2.8	-0.637	ug/L	1.2006	-0.127	ug/L	0.2401	188.40%
V 292.402†	-17.0	-0.101	ug/L	0.1827	-0.020	ug/L	0.0365	181.34%
Zn 206.200†	790.8	18.39	ug/L	0.149	3.679	ug/L	0.0298	0.81%

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	RL	MDL	Units	Prep Date	Analysis Date	QC Group
6010B	ALUMINUM (AL)	19.3 U	100	19.3	ug/L	05/29/12	05/30/12	#61WMM-120529A-AY61132
6010B	ANTIMONY (SB)	0.43 U	3.0	0.43	ug/L	05/29/12	05/30/12	#61WMM-120529A-AY61132
6010B	BARIUM (BA)	0.75 U	5.0	0.75	ug/L	05/29/12	05/30/12	#61WMM-120529A-AY61132
6010B	CHROMIUM (CR)	1.37 U	5.0	1.37	ug/L	05/29/12	05/30/12	#61WMM-120529A-AY61132
6010B	COPPER (CU)	0.50 J	2.0	0.42	ug/L	05/29/12	05/30/12	#61WMM-120529A-AY61132
6010B	LEAD (PB)	0.37 U	2.0	0.37	ug/L	05/29/12	05/30/12	#61WMM-120529A-AY61132
6010B	MAGNESIUM (MG)	13.0 U	50	13.0	ug/L	05/29/12	05/30/12	#61WMM-120529A-AY61132
6010B	MANGANESE (MN)	1.23 U	5.0	1.23	ug/L	05/29/12	05/30/12	#61WMM-120529A-AY61132
6010B	ZINC (ZN)	2.3 U	50	2.3	ug/L	05/29/12	05/30/12	#61WMM-120529A-AY61132
7470A	MERCURY (HG)	0.06 U	0.2	0.06	ug/L	05/23/12	05/30/12	HGDOD-120523A1-AY61304

Sequence No.: 14
Sample ID: 120529A-3010LL-BLK
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 0.2X

Autosampler Location: 38
Date Collected: 05/30/12 12:33:29 PM
Data Type: Reprocessed on 05/31/12 2:45:58 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 120529A-3010LL-BLK

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1440570.5	103.2	%	0.22				0.22%
Ag 338.289†	-14.8	-0.186	ug/L	0.7867	-0.037	ug/L	0.1573	422.95%
Al 308.215†	10.1	7.844	ug/L	10.5481	1.569	ug/L	2.1096	134.47%
As 188.979†	-0.7	-0.314	ug/L	0.6598	-0.063	ug/L	0.1320	210.46%
B†	12.0	2.433	ug/L	0.4372	0.487	ug/L	0.0874	17.97%
Ba 233.527†	74.5	0.689	ug/L	0.1519	0.138	ug/L	0.0304	22.05%
Be 313.107†	36.1	0.074	ug/L	0.0173	0.015	ug/L	0.0035	23.17%
Ca 315.887†	724.3	73.87	ug/L	0.811	14.77	ug/L	0.162	1.10%
Cd 214.440†	7.8	0.037	ug/L	0.0512	0.007	ug/L	0.0102	138.47%
Co 228.616†	3.1	0.067	ug/L	0.2192	0.013	ug/L	0.0438	327.02%
Cr 267.716†	-45.2	-0.597	ug/L	0.2527	-0.119	ug/L	0.0505	42.29%
Cu 327.393†	154.9	2.489	ug/L	0.4046	0.498	ug/L	0.0809	16.25%
Fe 273.955†	197.8	12.31	ug/L	0.954	2.462	ug/L	0.1908	7.75%
K 766.490†	120.5	63.12	ug/L	24.459	12.62	ug/L	4.892	38.75%
Mg 285.213†	109.8	6.144	ug/L	0.2464	1.229	ug/L	0.0493	4.01%
Mn 257.610†	36.7	0.789	ug/L	0.1252	0.158	ug/L	0.0250	15.87%
Mo 202.031†	2.4	0.128	ug/L	0.0399	0.026	ug/L	0.0080	31.25%
Na 589.592†	110.3	15.30	ug/L	12.746	3.060	ug/L	2.5493	83.30%
Ni 231.604†	-15.4	-0.433	ug/L	0.5785	-0.087	ug/L	0.1157	133.76%
P 213.617†	65.8	17.74	ug/L	4.215	3.548	ug/L	0.8430	23.76%
Pb 220.353†	10.1	1.139	ug/L	1.1724	0.228	ug/L	0.2345	102.95%
Sb 206.836†	3.4	1.015	ug/L	0.4309	0.203	ug/L	0.0862	42.44%
Se 196.026†	-3.0	-1.293	ug/L	1.2655	-0.259	ug/L	0.2531	97.89%
Sn 189.927†	20.3	2.462	ug/L	0.8482	0.492	ug/L	0.1696	34.45%
Sr 421.552†	78.3	0.122	ug/L	0.2517	0.024	ug/L	0.0503	205.61%
Ti 337.279†	40.3	0.980	ug/L	0.2269	0.196	ug/L	0.0454	23.14%
Tl 190.801†	-2.5	-0.556	ug/L	0.2006	-0.111	ug/L	0.0401	36.07%
V 292.402†	-23.8	-0.176	ug/L	0.1459	-0.035	ug/L	0.0292	82.76%
Zn 206.200†	75.2	1.748	ug/L	0.1371	0.350	ug/L	0.0274	7.84%

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6010B	ALUMINUM (AL)	2000	1940	97.0	80-120	05/29/12	05/30/12	#61WMM-120529A-AY61132
EPA 6010B	ANTIMONY (SB)	250	251	100	80-120	05/29/12	05/30/12	#61WMM-120529A-AY61132
EPA 6010B	BARIUM (BA)	250	247	98.8	80-120	05/29/12	05/30/12	#61WMM-120529A-AY61132
EPA 6010B	CHROMIUM (CR)	250	252	101	80-120	05/29/12	05/30/12	#61WMM-120529A-AY61132
EPA 6010B	COPPER (CU)	250	237	94.8	80-120	05/29/12	05/30/12	#61WMM-120529A-AY61132
EPA 6010B	LEAD (PB)	250	255	102	80-120	05/29/12	05/30/12	#61WMM-120529A-AY61132
EPA 6010B	MAGNESIUM (MG)	25000	24600	98.4	80-120	05/29/12	05/30/12	#61WMM-120529A-AY61132
EPA 6010B	MANGANESE (MN)	250	256	102	80-120	05/29/12	05/30/12	#61WMM-120529A-AY61132
EPA 6010B	ZINC (ZN)	500	435	87.0	80-120	05/29/12	05/30/12	#61WMM-120529A-AY61132

Comments:

Printed: 06/06/12 4:10:20 PM
APPL Standard LCS

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 7470A	MERCURY (HG)	4.00	3.7	92.5	80-120	05/23/12	05/30/12	#HGDOD-120523A1-AY61304

Comments:

Printed: 06/06/12 4:10:20 PM
APPL Standard LCS

Sequence No.: 15
Sample ID: 120529A-3010LL-LCS
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 39
Date Collected: 05/30/12 12:37:27 PM
Data Type: Reprocessed on 05/31/12 2:46:00 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 120529A-3010LL-LCS

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1418586.6	101.6	%	1.26				1.24%
Ag 338.289†	5792.2	72.59	ug/L	1.518	72.59	ug/L	1.518	2.09%
Al 308.215†	2492.3	1940	ug/L	7.8	1940	ug/L	7.8	0.40%
As 188.979†	579.6	244.4	ug/L	5.09	244.4	ug/L	5.09	2.08%
B†	1189.2	240.5	ug/L	2.41	240.5	ug/L	2.41	1.00%
Ba 233.527†	26594.5	247.1	ug/L	2.27	247.1	ug/L	2.27	0.92%
Be 313.107†	23771.1	49.08	ug/L	0.938	49.08	ug/L	0.938	1.91%
Ca 315.887†	239377.9	24410	ug/L	343.9	24410	ug/L	343.9	1.41%
Cd 214.440†	10095.8	48.76	ug/L	0.680	48.76	ug/L	0.680	1.40%
Co 228.616†	11670.1	261.1	ug/L	1.27	261.1	ug/L	1.27	0.49%
Cr 267.716†	19101.5	252.0	ug/L	1.90	252.0	ug/L	1.90	0.75%
Cu 327.393†	14761.3	237.2	ug/L	0.37	237.2	ug/L	0.37	0.16%
Fe 273.955†	15874.1	965.3	ug/L	8.59	965.3	ug/L	8.59	0.89%
K 766.490†	9519.0	5014	ug/L	76.1	5014	ug/L	76.1	1.52%
Mg 285.213†	439569.6	24550	ug/L	351.2	24550	ug/L	351.2	1.43%
Mn 257.610†	11911.5	255.7	ug/L	0.24	255.7	ug/L	0.24	0.10%
Mo 202.031†	4810.5	251.3	ug/L	1.30	251.3	ug/L	1.30	0.52%
Na 589.592†	177929.8	24790	ug/L	343.5	24790	ug/L	343.5	1.39%
Ni 231.604†	9245.5	259.2	ug/L	1.67	259.2	ug/L	1.67	0.64%
P 213.617†	7532.4	2030	ug/L	7.0	2030	ug/L	7.0	0.35%
Pb 220.353†	2266.5	254.9	ug/L	1.70	254.9	ug/L	1.70	0.67%
Sb 206.836†	848.0	251.2	ug/L	3.40	251.2	ug/L	3.40	1.35%
Se 196.026†	564.8	242.0	ug/L	2.33	242.0	ug/L	2.33	0.96%
Sn 189.927†	2020.0	246.7	ug/L	2.01	246.7	ug/L	2.01	0.81%
Sr 421.552†	158178.0	248.2	ug/L	3.53	248.2	ug/L	3.53	1.42%
Ti 337.279†	10195.0	247.7	ug/L	0.26	247.7	ug/L	0.26	0.10%
Tl 190.801†	1072.8	240.0	ug/L	1.80	240.0	ug/L	1.80	0.75%
V 292.402†	35270.4	256.2	ug/L	1.54	256.2	ug/L	1.54	0.60%
Zn 206.200†	18697.2	434.9	ug/L	5.10	434.9	ug/L	5.10	1.17%

Matrix Spike Recoveries

METALS

APPL ID: **120529W-61132 MS - 167699**

Sample ID: AY61132

Client ID: WVMA-MRS01-SW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6010B	ALUMINUM (AL)	2000	130	1790	2060	83.0	96.5	14.0	20	80-120	05/29/12	05/30/12	05/29/12	05/30/12	167699	AY61132
EPA 6010B	ANTIMONY (SB)	250	1.1	223	249	88.8	99.2	11.0	20	80-120	05/29/12	05/30/12	05/29/12	05/30/12	167699	AY61132
EPA 6010B	BARIUM (BA)	250	23.0	234	267	84.4	97.6	13.2	20	80-120	05/29/12	05/30/12	05/29/12	05/30/12	167699	AY61132
EPA 6010B	CHROMIUM (CR)	250	ND	219	252	87.6	101	14.0	20	80-120	05/29/12	05/30/12	05/29/12	05/30/12	167699	AY61132
EPA 6010B	COPPER (CU)	250	1.9	211	241	83.6	95.6	13.3	20	80-120	05/29/12	05/30/12	05/29/12	05/30/12	167699	AY61132
EPA 6010B	LEAD (PB)	250	0.53	219	247	87.4	98.6	12.0	20	80-120	05/29/12	05/30/12	05/29/12	05/30/12	167699	AY61132
EPA 6010B	MAGNESIUM (MG)	25000	1200	22100	24700	83.6	94.0	11.1	20	80-120	05/29/12	05/30/12	05/29/12	05/30/12	167699	AY61132
EPA 6010B	ZINC (ZN)	500	ND	374	427	74.8 #	85.4	13.2	20	80-120	05/29/12	05/30/12	05/29/12	05/30/12	167699	AY61132

= Recovery is outside QC limits.

Comments:

Printed: 06/06/12 4:10:18 PM
APPL MSD SCII

Sequence No.: 18
Sample ID: AY61132W08 MS
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 42
Date Collected: 05/30/12 12:49:19 PM
Data Type: Reprocessed on 05/31/12 2:46:04 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AY61132W08 MS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1420834.3	101.8	%	0.76				0.74%
Ag 338.289†	5112.2	64.07	ug/L	0.998	64.07	ug/L	0.998	1.56%
Al 308.215†	2303.3	1793	ug/L	16.8	1793	ug/L	16.8	0.94%
As 188.979†	509.4	214.8	ug/L	3.27	214.8	ug/L	3.27	1.52%
B†	1072.7	216.9	ug/L	1.36	216.9	ug/L	1.36	0.63%
Ba 233.527†	25187.1	234.0	ug/L	1.17	234.0	ug/L	1.17	0.50%
Be 313.107†	20116.2	41.54	ug/L	0.492	41.54	ug/L	0.492	1.19%
Ca 315.887†	213728.8	21800	ug/L	157.8	21800	ug/L	157.8	0.72%
Cd 214.440†	8872.6	42.85	ug/L	0.673	42.85	ug/L	0.673	1.57%
Co 228.616†	9952.4	222.7	ug/L	3.02	222.7	ug/L	3.02	1.36%
Cr 267.716†	16610.3	219.2	ug/L	1.05	219.2	ug/L	1.05	0.48%
Cu 327.393†	13106.1	210.6	ug/L	1.69	210.6	ug/L	1.69	0.80%
Fe 273.955†	15477.8	943.2	ug/L	5.96	943.2	ug/L	5.96	0.63%
K 766.490†	9217.9	4853	ug/L	69.2	4853	ug/L	69.2	1.43%
Mg 285.213†	394796.5	22050	ug/L	173.2	22050	ug/L	173.2	0.79%
Mn 257.610†	10286.6	220.8	ug/L	3.07	220.8	ug/L	3.07	1.39%
Mo 202.031†	4210.6	220.0	ug/L	3.82	220.0	ug/L	3.82	1.74%
Na 589.592†	159982.7	22290	ug/L	190.2	22290	ug/L	190.2	0.85%
Ni 231.604†	7815.1	219.1	ug/L	3.16	219.1	ug/L	3.16	1.44%
P 213.617†	6339.3	1708	ug/L	29.4	1708	ug/L	29.4	1.72%
Pb 220.353†	1946.0	218.9	ug/L	2.71	218.9	ug/L	2.71	1.24%
Sb 206.836†	752.7	223.0	ug/L	1.31	223.0	ug/L	1.31	0.59%
Se 196.026†	472.1	202.3	ug/L	5.82	202.3	ug/L	5.82	2.88%
Sn 189.927†	1773.4	216.6	ug/L	3.10	216.6	ug/L	3.10	1.43%
Sr 421.552†	141529.2	222.0	ug/L	1.80	222.0	ug/L	1.80	0.81%
Ti 337.279†	8964.2	217.8	ug/L	2.55	217.8	ug/L	2.55	1.17%
Tl 190.801†	924.5	206.8	ug/L	3.13	206.8	ug/L	3.13	1.51%
V 292.402†	30990.1	225.1	ug/L	1.58	225.1	ug/L	1.58	0.70%
Zn 206.200†	16069.8	373.8	ug/L	1.78	373.8	ug/L	1.78	0.48%

Sequence No.: 19
Sample ID: AY61132W08 MSD
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 43
Date Collected: 05/30/12 12:53:16 PM
Data Type: Reprocessed on 05/31/12 2:46:10 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AY61132W08 MSD

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1357502.9	97.25	%	5.429				5.58%
Ag 338.289†	5807.8	72.79	ug/L	6.018	72.79	ug/L	6.018	8.27%
Al 308.215†	2643.6	2058	ug/L	123.1	2058	ug/L	123.1	5.98%
As 188.979†	572.8	241.5	ug/L	9.98	241.5	ug/L	9.98	4.13%
B†	1223.8	247.5	ug/L	14.61	247.5	ug/L	14.61	5.90%
Ba 233.527†	28692.1	266.6	ug/L	23.11	266.6	ug/L	23.11	8.67%
Be 313.107†	22665.0	46.80	ug/L	2.668	46.80	ug/L	2.668	5.70%
Ca 315.887†	238870.2	24360	ug/L	1554.0	24360	ug/L	1554.0	6.38%
Cd 214.440†	9854.6	47.59	ug/L	3.957	47.59	ug/L	3.957	8.31%
Co 228.616†	11189.0	250.3	ug/L	11.13	250.3	ug/L	11.13	4.44%
Cr 267.716†	19099.4	252.0	ug/L	22.22	252.0	ug/L	22.22	8.82%
Cu 327.393†	15013.8	241.3	ug/L	20.25	241.3	ug/L	20.25	8.39%
Fe 273.955†	18091.0	1103	ug/L	98.5	1103	ug/L	98.5	8.93%
K 766.490†	10734.2	5650	ug/L	337.1	5650	ug/L	337.1	5.97%
Mg 285.213†	441263.3	24650	ug/L	1521.6	24650	ug/L	1521.6	6.17%
Mn 257.610†	11533.7	247.5	ug/L	13.44	247.5	ug/L	13.44	5.43%
Mo 202.031†	4729.5	247.1	ug/L	12.00	247.1	ug/L	12.00	4.86%
Na 589.592†	178906.6	24930	ug/L	1566.1	24930	ug/L	1566.1	6.28%
Ni 231.604†	8769.5	245.9	ug/L	11.23	245.9	ug/L	11.23	4.57%
P 213.617†	7140.5	1924	ug/L	85.6	1924	ug/L	85.6	4.45%
Pb 220.353†	2197.5	247.2	ug/L	11.87	247.2	ug/L	11.87	4.80%
Sb 206.836†	840.5	249.0	ug/L	10.60	249.0	ug/L	10.60	4.26%
Se 196.026†	539.4	231.2	ug/L	13.37	231.2	ug/L	13.37	5.78%
Sn 189.927†	2008.0	245.2	ug/L	12.27	245.2	ug/L	12.27	5.00%
Sr 421.552†	158012.5	247.9	ug/L	15.38	247.9	ug/L	15.38	6.21%
Ti 337.279†	10005.6	243.1	ug/L	12.08	243.1	ug/L	12.08	4.97%
Tl 190.801†	1042.8	233.2	ug/L	10.43	233.2	ug/L	10.43	4.47%
V 292.402†	35215.6	255.8	ug/L	21.16	255.8	ug/L	21.16	8.27%
Zn 206.200†	18352.2	426.8	ug/L	35.44	426.8	ug/L	35.44	8.30%

A.P.P.L. INC.
9
ICP SERIAL DILUTION

CLIENT SAMPLE NO.
WVMA-MRS01-SW-01

Lab Name: A.P.P.L. INC.
Contract: Eco & Associates, Inc.
ARF No.: 67746
SDG: 67746
Matrix: water

Analysis Date: 05/30/12
Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Magnesium (Mg)	1205		1271		5.48		

Comments:

05/30/12 12:45 AY61132W07

05/30/12 13:01 AY61132W07-1/5

Sequence No.: 21
Sample ID: AY61132W07-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 45
Date Collected: 05/30/12 1:01:46 PM
Data Type: Reprocessed on 05/31/12 2:46:13 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AY61132W07-1/5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1429822.1	102.4	%	0.22				0.21%
Ag 338.289†	-95.0	-1.190	ug/L	0.1968	-1.190	ug/L	0.1968	16.54%
Al 308.215†	174.8	136.0	ug/L	10.79	136.0	ug/L	10.79	7.93%
As 188.979†	6.1	2.551	ug/L	1.7012	2.551	ug/L	1.7012	66.68%
B†	70.5	14.26	ug/L	0.343	14.26	ug/L	0.343	2.40%
Ba 233.527†	2497.8	23.18	ug/L	0.132	23.18	ug/L	0.132	0.57%
Be 313.107†	39.7	0.082	ug/L	0.0123	0.082	ug/L	0.0123	15.05%
Ca 315.887†	14980.7	1528	ug/L	10.8	1528	ug/L	10.8	0.71%
Cd 214.440†	-13.3	-0.069	ug/L	0.0571	-0.069	ug/L	0.0571	82.52%
Co 228.616†	31.7	0.697	ug/L	0.4660	0.697	ug/L	0.4660	66.91%
Cr 267.716†	-35.2	-0.483	ug/L	0.4178	-0.483	ug/L	0.4178	86.55%
Cu 327.393†	295.7	4.753	ug/L	0.7077	4.753	ug/L	0.7077	14.89%
Fe 273.955†	1663.3	103.2	ug/L	1.41	103.2	ug/L	1.41	1.37%
K 766.490†	1407.2	738.6	ug/L	64.96	738.6	ug/L	64.96	8.79%
Mg 285.213†	22759.5	1271	ug/L	5.7	1271	ug/L	5.7	0.45%
Mn 257.610†	141.8	3.002	ug/L	0.1677	3.002	ug/L	0.1677	5.59%
Mo 202.031†	15.9	0.831	ug/L	0.0928	0.831	ug/L	0.0928	11.17%
Na 589.592†	8394.3	1169	ug/L	12.6	1169	ug/L	12.6	1.08%
Ni 231.604†	2.3	0.055	ug/L	0.2921	0.055	ug/L	0.2921	533.18%
P 213.617†	128.4	34.60	ug/L	1.059	34.60	ug/L	1.059	3.06%
Pb 220.353†	6.1	0.684	ug/L	0.2525	0.684	ug/L	0.2525	36.91%
Sb 206.836†	11.7	3.458	ug/L	0.4530	3.458	ug/L	0.4530	13.10%
Se 196.026†	-4.5	-1.937	ug/L	2.2136	-1.937	ug/L	2.2136	114.26%
Sn 189.927†	3.5	0.567	ug/L	0.2342	0.567	ug/L	0.2342	41.31%
Sr 421.552†	6887.3	10.80	ug/L	0.205	10.80	ug/L	0.205	1.89%
Ti 337.279†	144.9	3.508	ug/L	0.4297	3.508	ug/L	0.4297	12.25%
Tl 190.801†	2.9	0.641	ug/L	0.7450	0.641	ug/L	0.7450	116.25%
V 292.402†	25.4	0.162	ug/L	0.0466	0.162	ug/L	0.0466	28.75%
Zn 206.200†	66.4	1.544	ug/L	0.0750	1.544	ug/L	0.0750	4.86%

A.P.P.L. INC.
5B
POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.
WVMA-MRS01-SW-01

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.

ARF No.: 67746 SDG: 67746

Analysis Date: 05/30/12 Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum (Al)	75-125	485		125.1		400.000	90.0		
Barium (Ba)	75-125	70.66		22.79		50.000	95.7		
Chromium (Cr)	75-125	51.71		0.42		50.000	103		
Copper (Cu)	75-125	51.47		1.89		50.000	99.2		
Manganese (Mn)	75-125	51.96		3.019		50.000	97.9		
Lead (Pb)	75-125	50.16		0.531		50.000	99.3		
Antimony (Sb)	75-125	50.18		1.125		50.000	98.1		
Zinc (Zn)	75-125	86.22		1.294		100.000	84.9		

Comments:

05/30/12 12:45 AY61132W07

05/30/12 12:57 AY61132W07-A

Sequence No.: 20
Sample ID: AY61132W07-A
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 0.2X

Autosampler Location: 44
Date Collected: 05/30/12 12:57:13 PM
Data Type: Reprocessed on 05/31/12 2:46:11 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AY61132W07-A

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1408696.2	100.9	%	0.57				0.57%
Ag 338.289†	5590.0	70.06	ug/L	0.848	14.01	ug/L	0.170	1.21%
Al 308.215†	3115.4	2425	ug/L	20.1	485.0	ug/L	4.02	0.83%
As 188.979†	569.2	240.0	ug/L	3.18	48.00	ug/L	0.636	1.33%
B†	1383.6	279.8	ug/L	1.53	55.95	ug/L	0.307	0.55%
Ba 233.527†	38032.3	353.3	ug/L	1.01	70.66	ug/L	0.202	0.29%
Be 313.107†	22425.5	46.30	ug/L	1.065	9.261	ug/L	0.2129	2.30%
Ca 315.887†	294204.4	30000	ug/L	673.6	6001	ug/L	134.7	2.24%
Cd 214.440†	9724.8	46.96	ug/L	0.327	9.392	ug/L	0.0653	0.70%
Co 228.616†	11314.5	253.1	ug/L	2.83	50.62	ug/L	0.566	1.12%
Cr 267.716†	19600.8	258.6	ug/L	1.26	51.71	ug/L	0.252	0.49%
Cu 327.393†	16012.5	257.4	ug/L	1.76	51.47	ug/L	0.352	0.68%
Fe 273.955†	23989.2	1469	ug/L	2.2	293.7	ug/L	0.44	0.15%
K 766.490†	15915.5	8369	ug/L	154.2	1674	ug/L	30.8	1.84%
Mg 285.213†	522990.6	29210	ug/L	576.6	5843	ug/L	115.3	1.97%
Mn 257.610†	12113.3	259.8	ug/L	1.48	51.96	ug/L	0.295	0.57%
Mo 202.031†	5031.1	262.8	ug/L	2.62	52.56	ug/L	0.524	1.00%
Na 589.592†	208955.0	29120	ug/L	535.2	5823	ug/L	107.0	1.84%
Ni 231.604†	8805.1	246.8	ug/L	3.09	49.37	ug/L	0.619	1.25%
P 213.617†	7521.6	2027	ug/L	21.0	405.4	ug/L	4.19	1.03%
Pb 220.353†	2230.1	250.8	ug/L	3.26	50.16	ug/L	0.651	1.30%
Sb 206.836†	847.1	250.9	ug/L	1.46	50.18	ug/L	0.292	0.58%
Se 196.026†	523.8	224.4	ug/L	2.86	44.89	ug/L	0.572	1.27%
Sn 189.927†	2141.4	261.8	ug/L	3.34	52.37	ug/L	0.669	1.28%
Sr 421.552†	183810.6	288.4	ug/L	5.84	57.67	ug/L	1.168	2.03%
Ti 337.279†	10671.8	259.3	ug/L	2.40	51.86	ug/L	0.479	0.92%
Tl 190.801†	1065.1	238.2	ug/L	1.85	47.65	ug/L	0.370	0.78%
V 292.402†	36371.3	264.2	ug/L	0.73	52.84	ug/L	0.146	0.28%
Zn 206.200†	18535.2	431.1	ug/L	0.34	86.22	ug/L	0.068	0.08%

METALS

SOIL
Sample & QC Data

APPL, INC.

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SS-04-01

APPL ID: AY61125

Sample Collection Date: 05/10/12

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 34.1 Percent Moisture.)								
6010B/3050B	ALUMINUM (AL)	9700	76	7.6	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ANTIMONY (SB)	1.0	0.30	0.074	mg/kg	1	06/01/12	06/05/12
6010B/3050B	BARIUM (BA)	130	3.80	0.360	mg/kg	5	06/01/12	06/05/12
6010B/3050B	CHROMIUM (CR)	11	3.80	0.220	mg/kg	5	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	18	3.80	0.710	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	99	3.80	0.700	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MAGNESIUM (MG)	1500	38.0	5.60	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ZINC (ZN)	53	38	8.3	mg/kg	5	06/01/12	06/05/12

Sequence No.: 83
Sample ID: AY61125S02
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.97 g
Dilution:

Autosampler Location: 92
Date Collected: 06/05/12 10:21:09 PM
Data Type: Reprocessed on 06/06/12 8:09:48 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61125S02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-3076.2	-19.30	ug/L	0.257	-0.194	mg/kg	0.0026	1.33%
Al 308.215	1639478.4	610000	ug/L	4403.2	6118	mg/kg	44.2	0.72%
As 188.979	2420.9	467.1	ug/L	5.08	4.685	mg/kg	0.0509	1.09%
B	-23689.8	-744.5	ug/L	22.75	-7.468	mg/kg	0.2282	3.06%
Ba 233.527	1761974.1	7837	ug/L	96.7	78.60	mg/kg	0.970	1.23%
Be 313.107	183485.6	15.06	ug/L	0.404	0.151	mg/kg	0.0041	2.69%
Ca 315.887	1331986.3	63490	ug/L	449.7	636.8	mg/kg	4.51	0.71%
Cd 214.440	29913.9	23.13	ug/L	0.348	0.232	mg/kg	0.0035	1.51%
Co 228.616	54921.9	576.4	ug/L	5.46	5.781	mg/kg	0.0548	0.95%
Cr 267.716	104172.1	684.7	ug/L	6.55	6.868	mg/kg	0.0657	0.96%
Cu 327.393	174489.8	1108	ug/L	14.7	11.11	mg/kg	0.147	1.32%
Fe 273.955	27200435.4	828600	ug/L	3550.8	8311	mg/kg	35.6	0.43%
K 766.490	191335.8	46960	ug/L	280.1	471.0	mg/kg	2.81	0.60%
Mg 285.213	3283042.0	90570	ug/L	578.0	908.5	mg/kg	5.80	0.64%
Mn 257.610	2658750.7	27460	ug/L	218.1	275.4	mg/kg	2.19	0.79%
Mo 202.031	-2690.6	8.626	ug/L	1.9109	0.087	mg/kg	0.0192	22.15%
Na 589.592	15903.7	849.7	ug/L	10.02	8.523	mg/kg	0.1005	1.18%
Ni 231.604	66252.9	892.6	ug/L	7.80	8.952	mg/kg	0.0782	0.87%
P 213.617	127660.0	15940	ug/L	209.7	159.9	mg/kg	2.10	1.32%
Pb 220.353	112356.1	6052	ug/L	63.6	60.70	mg/kg	0.637	1.05%
Sb 206.836	486.3	66.50	ug/L	2.184	0.667	mg/kg	0.0219	3.28%
Se 196.026	426.3	84.07	ug/L	13.879	0.843	mg/kg	0.1392	16.51%
Sn 189.927	261.6	26.66	ug/L	1.055	0.267	mg/kg	0.0106	3.96%
Sr 421.552	909389.1	715.8	ug/L	4.86	7.179	mg/kg	0.0487	0.68%
Ti 337.279	51854.0	594.2	ug/L	4.78	5.960	mg/kg	0.0480	0.81%
Tl 190.801	-2182.3	28.60	ug/L	3.923	0.287	mg/kg	0.0393	13.72%
V 292.402	335486.5	1008	ug/L	14.4	10.11	mg/kg	0.144	1.43%
Zn 206.200	373422.4	3134	ug/L	41.6	31.44	mg/kg	0.418	1.33%

Sequence No.: 18
Sample ID: AY61125S02-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.97 g
Dilution: 5X

Autosampler Location: 136
Date Collected: 06/05/12 5:14:09 PM
Data Type: Reprocessed on 06/06/12 8:08:43 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61125S02-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-621.3	-3.898	ug/L	0.2379	-0.196	mg/kg	0.0119	6.10%
Al 308.215	341705.4	127100	ug/L	1029.6	6376	mg/kg	51.6	0.81%
As 188.979	482.3	93.05	ug/L	0.621	4.667	mg/kg	0.0312	0.67%
B	-5219.6	-49.98	ug/L	10.806	-2.507	mg/kg	0.5419	21.62%
Ba 233.527	372403.9	1645	ug/L	11.6	82.50	mg/kg	0.581	0.70%
Be 313.107	38441.0	2.234	ug/L	0.0719	0.112	mg/kg	0.0036	3.22%
Ca 315.887	298955.1	14250	ug/L	113.8	714.6	mg/kg	5.71	0.80%
Cd 214.440	6063.7	1.691	ug/L	0.1779	0.085	mg/kg	0.0089	10.52%
Co 228.616	12003.6	125.0	ug/L	2.21	6.267	mg/kg	0.1110	1.77%
Cr 267.716	21633.0	143.1	ug/L	1.31	7.175	mg/kg	0.0655	0.91%
Cu 327.393	36980.3	235.4	ug/L	2.49	11.81	mg/kg	0.125	1.06%
Fe 273.955	7139207.2	217500	ug/L	5741.2	10910	mg/kg	287.9	2.64%
K 766.490	38270.4	9381	ug/L	44.6	470.5	mg/kg	2.24	0.48%
Mg 285.213	706644.7	19540	ug/L	386.3	980.1	mg/kg	19.37	1.98%
Mn 257.610	585560.9	6048	ug/L	123.6	303.3	mg/kg	6.20	2.04%
Mo 202.031	-638.5	3.694	ug/L	0.4871	0.185	mg/kg	0.0244	13.19%
Na 589.592	8491.9	538.1	ug/L	4.10	26.99	mg/kg	0.206	0.76%
Ni 231.604	14351.6	192.7	ug/L	3.26	9.666	mg/kg	0.1637	1.69%
P 213.617	26445.3	3302	ug/L	65.7	165.6	mg/kg	3.30	1.99%
Pb 220.353	23925.0	1289	ug/L	8.8	64.63	mg/kg	0.439	0.68%
Sb 206.836	91.7	12.54	ug/L	0.761	0.629	mg/kg	0.0382	6.07%
Se 196.026	99.5	19.62	ug/L	2.149	0.984	mg/kg	0.1078	10.95%
Sn 189.927	34.1	3.478	ug/L	0.4990	0.174	mg/kg	0.0250	14.35%
Sr 421.552	190837.7	150.1	ug/L	3.20	7.530	mg/kg	0.1603	2.13%
Ti 337.279	10802.0	124.0	ug/L	1.34	6.218	mg/kg	0.0670	1.08%
Tl 190.801	-478.2	6.079	ug/L	1.3771	0.305	mg/kg	0.0691	22.65%
V 292.402	68825.1	196.0	ug/L	1.29	9.829	mg/kg	0.0646	0.66%
Zn 206.200	84347.3	705.7	ug/L	5.54	35.39	mg/kg	0.278	0.78%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SS-04-02

APPL ID: AY61126

Sample Collection Date: 05/10/12

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 30.9 Percent Moisture.)								
6010B/3050B	ALUMINUM (AL)	14000 J	72	7.2	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ANTIMONY (SB)	0.41 J	0.29	0.071	mg/kg	1	06/01/12	06/05/12
6010B/3050B	BARIUM (BA)	96 J	3.60	0.340	mg/kg	5	06/01/12	06/05/12
6010B/3050B	CHROMIUM (CR)	19 J	3.60	0.210	mg/kg	5	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	17 J	3.60	0.680	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	20 J	3.60	0.670	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MAGNESIUM (MG)	2000 J	36.0	5.40	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ZINC (ZN)	71 J	36	8.0	mg/kg	5	06/01/12	06/05/12

J = Estimated value.

Printed: 06/06/12 4:06:55 PM

PL-F1-SC-MCRes/MCPQL-REG MDLs

Sequence No.: 84
Sample ID: AY61126S02
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.95 g
Dilution:

Autosampler Location: 93
Date Collected: 06/05/12 10:25:27 PM
Data Type: Reprocessed on 06/06/12 8:09:49 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61126S02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-4788.4	-30.04	ug/L	0.677	-0.302	mg/kg	0.0068	2.25%
Al 308.215	2065321.3	768400	ug/L	1419.5	7723	mg/kg	14.3	0.18%
As 188.979	3527.6	680.6	ug/L	15.02	6.840	mg/kg	0.1510	2.21%
B	-35130.7	-1531	ug/L	25.5	-15.38	mg/kg	0.256	1.67%
Ba 233.527	1158906.6	5011	ug/L	38.0	50.36	mg/kg	0.382	0.76%
Be 313.107	244093.5	20.99	ug/L	0.361	0.211	mg/kg	0.0036	1.72%
Ca 315.887	352358.5	16820	ug/L	89.3	169.0	mg/kg	0.90	0.53%
Cd 214.440	41678.2	35.91	ug/L	1.436	0.361	mg/kg	0.0144	4.00%
Co 228.616	69027.7	722.8	ug/L	8.72	7.265	mg/kg	0.0876	1.21%
Cr 267.716	149173.2	990.5	ug/L	6.47	9.955	mg/kg	0.0651	0.65%
Cu 327.393	138481.0	882.9	ug/L	6.88	8.873	mg/kg	0.0691	0.78%
Fe 273.955	35576437.8	1084000	ug/L	2727.1	10890	mg/kg	27.4	0.25%
K 766.490	228016.5	55930	ug/L	170.4	562.1	mg/kg	1.71	0.30%
Mg 285.213	3927550.0	108500	ug/L	198.6	1090	mg/kg	2.0	0.18%
Mn 257.610	2189706.2	22620	ug/L	45.2	227.3	mg/kg	0.45	0.20%
Mo 202.031	-4390.1	-8.004	ug/L	1.8493	-0.080	mg/kg	0.0186	23.11%
Na 589.592	18948.4	1005	ug/L	16.0	10.10	mg/kg	0.161	1.59%
Ni 231.604	81639.7	1100	ug/L	12.3	11.06	mg/kg	0.124	1.12%
P 213.617	137773.0	17200	ug/L	186.2	172.9	mg/kg	1.87	1.08%
Pb 220.353	18643.1	1004	ug/L	6.5	10.09	mg/kg	0.066	0.65%
Sb 206.836	202.8	27.74	ug/L	3.017	0.279	mg/kg	0.0303	10.88%
Se 196.026	554.6	109.4	ug/L	20.54	1.099	mg/kg	0.2065	18.79%
Sn 189.927	101.6	10.35	ug/L	1.313	0.104	mg/kg	0.0132	12.68%
Sr 421.552	708280.9	557.1	ug/L	1.00	5.599	mg/kg	0.0101	0.18%
Ti 337.279	81420.0	932.9	ug/L	8.06	9.376	mg/kg	0.0810	0.86%
Tl 190.801	-1765.8	32.69	ug/L	3.961	0.329	mg/kg	0.0398	12.12%
V 292.402	481951.9	1469	ug/L	11.7	14.76	mg/kg	0.117	0.80%
Zn 206.200	412793.0	3458	ug/L	24.4	34.76	mg/kg	0.245	0.70%

Sequence No.: 19
Sample ID: AY61126S02-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.95 g
Dilution: 5X

Autosampler Location: 137
Date Collected: 06/05/12 5:19:17 PM
Data Type: Reprocessed on 06/06/12 8:08:44 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61126S02-1/5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-1193.3	-7.487	ug/L	0.1618	-0.376	mg/kg	0.0081	2.16%
Al 308.215	514402.8	191400	ug/L	2176.7	9618	mg/kg	109.4	1.14%
As 188.979	883.5	170.5	ug/L	5.94	8.566	mg/kg	0.2986	3.49%
B	-9397.5	-102.1	ug/L	2.59	-5.129	mg/kg	0.1302	2.54%
Ba 233.527	308098.6	1306	ug/L	26.0	65.65	mg/kg	1.307	1.99%
Be 313.107	64311.1	3.426	ug/L	0.1218	0.172	mg/kg	0.0061	3.56%
Ca 315.887	106311.4	5072	ug/L	39.1	254.9	mg/kg	1.97	0.77%
Cd 214.440	10475.9	2.167	ug/L	0.4555	0.109	mg/kg	0.0229	21.02%
Co 228.616	19080.6	197.5	ug/L	4.28	9.923	mg/kg	0.2151	2.17%
Cr 267.716	38608.2	258.9	ug/L	4.29	13.01	mg/kg	0.216	1.66%
Cu 327.393	37388.9	239.7	ug/L	3.18	12.05	mg/kg	0.160	1.33%
Fe 273.955	12618164.1	384400	ug/L	4143.9	19320	mg/kg	208.2	1.08%
K 766.490	55720.2	13640	ug/L	103.7	685.2	mg/kg	5.21	0.76%
Mg 285.213	1024399.9	28420	ug/L	290.8	1428	mg/kg	14.6	1.02%
Mn 257.610	581920.7	6011	ug/L	69.7	302.1	mg/kg	3.50	1.16%
Mo 202.031	-1262.6	3.377	ug/L	0.8821	0.170	mg/kg	0.0443	26.12%
Na 589.592	11011.7	684.7	ug/L	10.84	34.41	mg/kg	0.545	1.58%
Ni 231.604	22347.5	300.0	ug/L	5.92	15.07	mg/kg	0.297	1.97%
P 213.617	35956.8	4489	ug/L	78.1	225.6	mg/kg	3.93	1.74%
Pb 220.353	5133.6	276.5	ug/L	5.71	13.90	mg/kg	0.287	2.07%
Sb 206.836	55.5	7.591	ug/L	0.7362	0.381	mg/kg	0.0370	9.70%
Se 196.026	139.5	27.51	ug/L	3.475	1.382	mg/kg	0.1746	12.63%
Sn 189.927	13.9	1.414	ug/L	0.2322	0.071	mg/kg	0.0117	16.43%
Sr 421.552	179959.3	141.4	ug/L	1.57	7.106	mg/kg	0.0789	1.11%
Ti 337.279	20524.1	235.7	ug/L	2.60	11.84	mg/kg	0.131	1.10%
Tl 190.801	-511.0	4.770	ug/L	1.2016	0.240	mg/kg	0.0604	25.19%
V 292.402	123817.3	353.1	ug/L	7.29	17.74	mg/kg	0.367	2.07%
Zn 206.200	117299.8	977.0	ug/L	15.50	49.09	mg/kg	0.779	1.59%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-AMB-SD-02

APPL ID: AY61128

Sample Collection Date: 05/10/12

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 59.6 Percent Moisture.)								
6010B/3050B	ALUMINUM (AL)	9200	124	12.0	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ANTIMONY (SB)	0.32 J	0.50	0.120	mg/kg	1	06/01/12	06/05/12
6010B/3050B	BARIUM (BA)	240	6.20	0.580	mg/kg	5	06/01/12	06/05/12
6010B/3050B	CHROMIUM (CR)	11	6.20	0.360	mg/kg	5	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	9.7	6.20	1.200	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	13	6.20	1.100	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MAGNESIUM (MG)	1500	62.0	9.20	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ZINC (ZN)	45	12.0	2.80	mg/kg	1	06/01/12	06/05/12

J = Estimated value.

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PL-F1-SC-MCRes/MCPQL-REG MDLs

Sequence No.: 87
Sample ID: AY61128S02
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.96 g
Dilution:

Autosampler Location: 96
Date Collected: 06/05/12 10:38:20 PM
Data Type: Reprocessed on 06/06/12 8:09:52 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61128S02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-1971.2	-12.37	ug/L	0.696	-0.124	mg/kg	0.0070	5.63%
Al 308.215	930322.3	346100	ug/L	4442.2	3475	mg/kg	44.6	1.28%
As 188.979	1398.2	269.8	ug/L	9.84	2.708	mg/kg	0.0988	3.65%
B	-11811.7	-132.0	ug/L	26.41	-1.326	mg/kg	0.2651	20.00%
Ba 233.527	1904522.2	8578	ug/L	61.2	86.12	mg/kg	0.615	0.71%
Be 313.107	186594.7	23.36	ug/L	0.279	0.234	mg/kg	0.0028	1.20%
Ca 315.887	998286.8	47580	ug/L	636.1	477.7	mg/kg	6.39	1.34%
Cd 214.440	15862.4	9.233	ug/L	0.2494	0.093	mg/kg	0.0025	2.70%
Co 228.616	56829.9	607.4	ug/L	2.18	6.098	mg/kg	0.0219	0.36%
Cr 267.716	59327.5	377.4	ug/L	2.76	3.789	mg/kg	0.0277	0.73%
Cu 327.393	56262.4	358.7	ug/L	0.82	3.602	mg/kg	0.0082	0.23%
Fe 273.955	16141716.3	491700	ug/L	2988.3	4937	mg/kg	30.0	0.61%
K 766.490	129645.8	31810	ug/L	312.4	319.4	mg/kg	3.14	0.98%
Mg 285.213	1923299.5	53070	ug/L	677.7	532.8	mg/kg	6.80	1.28%
Mn 257.610	3222191.6	33280	ug/L	429.6	334.1	mg/kg	4.31	1.29%
Mo 202.031	-1580.2	8.624	ug/L	0.7355	0.087	mg/kg	0.0074	8.53%
Na 589.592	16095.5	969.1	ug/L	11.60	9.730	mg/kg	0.1165	1.20%
Ni 231.604	66772.9	905.9	ug/L	5.68	9.095	mg/kg	0.0570	0.63%
P 213.617	62100.7	7753	ug/L	37.7	77.84	mg/kg	0.378	0.49%
Pb 220.353	8486.5	457.1	ug/L	1.83	4.590	mg/kg	0.0184	0.40%
Sb 206.836	97.3	13.30	ug/L	9.113	0.134	mg/kg	0.0915	68.49%
Se 196.026	341.9	67.41	ug/L	6.874	0.677	mg/kg	0.0690	10.20%
Sn 189.927	41.5	4.228	ug/L	1.6543	0.042	mg/kg	0.0166	39.13%
Sr 421.552	812774.1	640.2	ug/L	9.01	6.428	mg/kg	0.0905	1.41%
Ti 337.279	69268.2	792.5	ug/L	11.01	7.957	mg/kg	0.1106	1.39%
Tl 190.801	-2691.9	28.80	ug/L	0.396	0.289	mg/kg	0.0040	1.37%
V 292.402	191707.2	574.9	ug/L	5.45	5.772	mg/kg	0.0547	0.95%
Zn 206.200	212808.0	1782	ug/L	13.0	17.89	mg/kg	0.131	0.73%

Sequence No.: 22
Sample ID: AY61128S02-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.96 g
Dilution: 5X

Autosampler Location: 140
Date Collected: 06/05/12 5:32:38 PM
Data Type: Reprocessed on 06/06/12 8:08:46 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61128S02-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-482.0	-3.024	ug/L	0.4887	-0.152	mg/kg	0.0245	16.16%
Al 308.215	200592.5	74620	ug/L	1263.2	3746	mg/kg	63.4	1.69%
As 188.979	304.4	58.73	ug/L	2.849	2.949	mg/kg	0.1430	4.85%
B	-2793.0	6.618	ug/L	7.4914	0.332	mg/kg	0.3761	113.20%
Ba 233.527	433566.4	1949	ug/L	22.7	97.82	mg/kg	1.138	1.16%
Be 313.107	40731.2	4.699	ug/L	0.1017	0.236	mg/kg	0.0051	2.17%
Ca 315.887	221312.3	10550	ug/L	186.4	529.5	mg/kg	9.36	1.77%
Cd 214.440	3530.8	0.932	ug/L	0.0856	0.047	mg/kg	0.0043	9.18%
Co 228.616	13382.2	142.7	ug/L	0.20	7.165	mg/kg	0.0101	0.14%
Cr 267.716	13926.4	89.01	ug/L	0.199	4.468	mg/kg	0.0100	0.22%
Cu 327.393	12149.9	77.72	ug/L	0.134	3.902	mg/kg	0.0068	0.17%
Fe 273.955	4184582.3	127500	ug/L	1114.8	6399	mg/kg	56.0	0.87%
K 766.490	27908.5	6842	ug/L	52.5	343.5	mg/kg	2.64	0.77%
Mg 285.213	423446.2	11710	ug/L	188.7	587.7	mg/kg	9.47	1.61%
Mn 257.610	739240.2	7634	ug/L	132.0	383.3	mg/kg	6.63	1.73%
Mo 202.031	-409.0	2.207	ug/L	0.0618	0.111	mg/kg	0.0031	2.80%
Na 589.592	3451.8	206.1	ug/L	2.71	10.35	mg/kg	0.136	1.31%
Ni 231.604	16139.0	218.9	ug/L	0.80	10.99	mg/kg	0.040	0.36%
P 213.617	14156.0	1767	ug/L	4.2	88.72	mg/kg	0.211	0.24%
Pb 220.353	2008.5	108.2	ug/L	0.60	5.431	mg/kg	0.0300	0.55%
Sb 206.836	14.2	1.948	ug/L	1.3043	0.098	mg/kg	0.0655	66.95%
Se 196.026	67.6	13.33	ug/L	1.443	0.669	mg/kg	0.0725	10.83%
Sn 189.927	-0.1	-0.010	ug/L	0.3856	-0.001	mg/kg	0.0194	>999.9%
Sr 421.552	173619.8	136.7	ug/L	2.49	6.864	mg/kg	0.1250	1.82%
Ti 337.279	15614.5	178.7	ug/L	3.87	8.973	mg/kg	0.1940	2.16%
Tl 190.801	-643.9	4.467	ug/L	1.6454	0.224	mg/kg	0.0826	36.84%
V 292.402	42557.0	123.5	ug/L	1.78	6.200	mg/kg	0.0893	1.44%
Zn 206.200	50542.2	422.4	ug/L	6.17	21.20	mg/kg	0.310	1.46%

Metals Analysis

Eco & Associates, Inc.
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Clovis, CA 93611

Attn: Mohammad Estiri
Project: 748073 WVMA-MRS01 & MRS02
Sample ID: WVMA-MRS01-AMB-SS-04-04
Sample Collection Date: 05/10/12

ARF: 67746
APPL ID: AY61129

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 31.7 Percent Moisture.)								
6010B/3050B	ALUMINUM (AL)	12000	73	7.3	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ANTIMONY (SB)	0.26 J	0.29	0.072	mg/kg	1	06/01/12	06/05/12
6010B/3050B	BARIUM (BA)	190	3.70	0.340	mg/kg	5	06/01/12	06/05/12
6010B/3050B	CHROMIUM (CR)	13	3.70	0.210	mg/kg	5	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	7.9	3.70	0.690	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	26	3.70	0.670	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MAGNESIUM (MG)	1500	37.0	5.40	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ZINC (ZN)	66	37	8.1	mg/kg	5	06/01/12	06/05/12

J = Estimated value.

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PL-F1-SC-MCRes/MCPQL-REG MDLs

Sequence No.: 88
Sample ID: AY61129S01
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.02 g
Dilution:

Autosampler Location: 97
Date Collected: 06/05/12 10:42:36 PM
Data Type: Reprocessed on 06/06/12 8:09:53 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61129S01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-3403.7	-21.36	ug/L	0.309	-0.213	mg/kg	0.0031	1.45%
Al 308.215	2035339.8	757100	ug/L	5968.1	7556	mg/kg	59.6	0.79%
As 188.979	2436.7	470.1	ug/L	8.78	4.692	mg/kg	0.0877	1.87%
B	-23553.3	-824.8	ug/L	27.66	-8.231	mg/kg	0.2760	3.35%
Ba 233.527	2343570.3	10500	ug/L	43.1	104.8	mg/kg	0.43	0.41%
Be 313.107	282792.5	32.98	ug/L	0.134	0.329	mg/kg	0.0013	0.41%
Ca 315.887	896417.0	42750	ug/L	397.2	426.6	mg/kg	3.96	0.93%
Cd 214.440	29688.2	25.32	ug/L	0.465	0.253	mg/kg	0.0046	1.84%
Co 228.616	76094.4	808.4	ug/L	4.74	8.068	mg/kg	0.0473	0.59%
Cr 267.716	118430.7	738.8	ug/L	4.11	7.373	mg/kg	0.0410	0.56%
Cu 327.393	80033.6	506.0	ug/L	2.15	5.050	mg/kg	0.0214	0.42%
Fe 273.955	26570493.5	809300	ug/L	4209.2	8077	mg/kg	42.0	0.52%
K 766.490	256391.6	62940	ug/L	262.2	628.2	mg/kg	2.62	0.42%
Mg 285.213	3323069.8	91640	ug/L	670.6	914.6	mg/kg	6.69	0.73%
Mn 257.610	7816730.6	80720	ug/L	108.0	805.6	mg/kg	1.08	0.13%
Mo 202.031	-2825.8	12.95	ug/L	2.313	0.129	mg/kg	0.0231	17.86%
Na 589.592	19823.4	1072	ug/L	1.6	10.70	mg/kg	0.016	0.15%
Ni 231.604	73183.1	979.2	ug/L	4.09	9.772	mg/kg	0.0408	0.42%
P 213.617	136192.0	17000	ug/L	127.4	169.7	mg/kg	1.27	0.75%
Pb 220.353	27073.7	1458	ug/L	8.5	14.55	mg/kg	0.084	0.58%
Sb 206.836	130.9	17.90	ug/L	1.479	0.179	mg/kg	0.0148	8.26%
Se 196.026	670.5	132.2	ug/L	14.33	1.319	mg/kg	0.1430	10.84%
Sn 189.927	247.2	25.18	ug/L	2.785	0.251	mg/kg	0.0278	11.06%
Sr 421.552	915112.0	720.4	ug/L	5.18	7.190	mg/kg	0.0517	0.72%
Ti 337.279	82369.6	942.5	ug/L	2.46	9.406	mg/kg	0.0245	0.26%
Tl 190.801	-6365.6	74.83	ug/L	3.728	0.747	mg/kg	0.0372	4.98%
V 292.402	380404.5	1183	ug/L	3.3	11.80	mg/kg	0.033	0.28%
Zn 206.200	416776.8	3499	ug/L	16.6	34.92	mg/kg	0.165	0.47%

Sequence No.: 23
Sample ID: AY61129S01-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.02 g
Dilution: 5X

Autosampler Location: 141
Date Collected: 06/05/12 5:37:51 PM
Data Type: Reprocessed on 06/06/12 8:08:47 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61129S01-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-768.7	-4.823	ug/L	0.3597	-0.241	mg/kg	0.0180	7.46%
Al 308.215	445940.5	165900	ug/L	2353.1	8278	mg/kg	117.4	1.42%
As 188.979	568.8	109.7	ug/L	1.00	5.476	mg/kg	0.0499	0.91%
B	-5510.1	-22.01	ug/L	6.063	-1.098	mg/kg	0.3025	27.54%
Ba 233.527	563187.6	2511	ug/L	11.2	125.3	mg/kg	0.56	0.44%
Be 313.107	65507.1	6.522	ug/L	0.0920	0.325	mg/kg	0.0046	1.41%
Ca 315.887	207846.7	9911	ug/L	52.3	494.5	mg/kg	2.61	0.53%
Cd 214.440	7029.3	2.826	ug/L	0.0435	0.141	mg/kg	0.0022	1.54%
Co 228.616	19149.4	202.4	ug/L	1.01	10.10	mg/kg	0.050	0.50%
Cr 267.716	28106.7	176.1	ug/L	0.64	8.785	mg/kg	0.0317	0.36%
Cu 327.393	17147.5	109.1	ug/L	1.49	5.444	mg/kg	0.0743	1.37%
Fe 273.955	7933372.3	241700	ug/L	780.7	12060	mg/kg	39.0	0.32%
K 766.490	53665.6	13160	ug/L	39.5	656.5	mg/kg	1.97	0.30%
Mg 285.213	753023.7	20840	ug/L	274.9	1040	mg/kg	13.7	1.32%
Mn 257.610	1924227.0	19870	ug/L	268.3	991.6	mg/kg	13.39	1.35%
Mo 202.031	-759.2	5.327	ug/L	1.0533	0.266	mg/kg	0.0526	19.77%
Na 589.592	4350.6	231.3	ug/L	12.96	11.54	mg/kg	0.647	5.60%
Ni 231.604	18313.5	244.6	ug/L	0.84	12.20	mg/kg	0.042	0.34%
P 213.617	31375.3	3917	ug/L	50.1	195.5	mg/kg	2.50	1.28%
Pb 220.353	6874.1	370.3	ug/L	2.66	18.48	mg/kg	0.133	0.72%
Sb 206.836	33.6	4.588	ug/L	0.8265	0.229	mg/kg	0.0412	18.01%
Se 196.026	168.5	33.23	ug/L	3.583	1.658	mg/kg	0.1788	10.78%
Sn 189.927	53.3	5.428	ug/L	0.4145	0.271	mg/kg	0.0207	7.64%
Sr 421.552	200739.2	158.0	ug/L	2.57	7.882	mg/kg	0.1283	1.63%
Ti 337.279	19465.2	223.0	ug/L	13.80	11.13	mg/kg	0.689	6.19%
Tl 190.801	-1605.7	15.06	ug/L	2.426	0.752	mg/kg	0.1211	16.11%
V 292.402	88223.4	262.1	ug/L	2.62	13.08	mg/kg	0.131	1.00%
Zn 206.200	106683.0	892.8	ug/L	3.40	44.55	mg/kg	0.169	0.38%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
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Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SS-04-03

APPL ID: AY61130

Sample Collection Date: 05/10/12

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 27.8 Percent Moisture.)								
6010B/3050B	ALUMINUM (AL)	13000	69	6.9	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ANTIMONY (SB)	0.42	0.28	0.068	mg/kg	1	06/01/12	06/05/12
6010B/3050B	BARIUM (BA)	120	3.50	0.330	mg/kg	5	06/01/12	06/05/12
6010B/3050B	CHROMIUM (CR)	15	3.50	0.200	mg/kg	5	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	28	3.50	0.650	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	17	3.50	0.640	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MAGNESIUM (MG)	1700	35.0	5.10	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ZINC (ZN)	54	35	7.6	mg/kg	5	06/01/12	06/05/12

Sequence No.: 89
Sample ID: AY61130S02
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.03 g
Dilution:

Autosampler Location: 98
Date Collected: 06/05/12 10:47:03 PM
Data Type: Reprocessed on 06/06/12 8:09:54 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61130S02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-4417.0	-27.71	ug/L	0.639	-0.276	mg/kg	0.0064	2.31%
Al 308.215	2226529.2	828400	ug/L	1829.4	8259	mg/kg	18.2	0.22%
As 188.979	2892.9	558.2	ug/L	6.27	5.565	mg/kg	0.0625	1.12%
B	-28732.2	-1075	ug/L	11.5	-10.72	mg/kg	0.114	1.06%
Ba 233.527	1722609.6	7623	ug/L	24.3	76.00	mg/kg	0.242	0.32%
Be 313.107	266521.2	26.98	ug/L	0.132	0.269	mg/kg	0.0013	0.49%
Ca 315.887	222574.7	10640	ug/L	110.2	106.0	mg/kg	1.10	1.04%
Cd 214.440	32691.5	23.66	ug/L	0.278	0.236	mg/kg	0.0028	1.17%
Co 228.616	62209.2	651.8	ug/L	1.58	6.498	mg/kg	0.0158	0.24%
Cr 267.716	145189.6	966.6	ug/L	3.07	9.638	mg/kg	0.0306	0.32%
Cu 327.393	295595.2	1872	ug/L	7.1	18.66	mg/kg	0.071	0.38%
Fe 273.955	31371579.5	955600	ug/L	5756.0	9527	mg/kg	57.4	0.60%
K 766.490	254832.6	62560	ug/L	674.4	623.8	mg/kg	6.72	1.08%
Mg 285.213	3767334.8	103900	ug/L	258.5	1036	mg/kg	2.6	0.25%
Mn 257.610	1476998.7	15260	ug/L	164.7	152.1	mg/kg	1.64	1.08%
Mo 202.031	-2977.8	8.588	ug/L	1.5022	0.086	mg/kg	0.0150	17.49%
Na 589.592	23353.2	1302	ug/L	14.3	12.98	mg/kg	0.142	1.09%
Ni 231.604	80698.2	1090	ug/L	2.4	10.87	mg/kg	0.023	0.22%
P 213.617	73512.1	9178	ug/L	15.0	91.50	mg/kg	0.149	0.16%
Pb 220.353	17232.8	928.2	ug/L	6.40	9.255	mg/kg	0.0638	0.69%
Sb 206.836	222.3	30.40	ug/L	4.668	0.303	mg/kg	0.0465	15.35%
Se 196.026	534.3	105.4	ug/L	8.75	1.050	mg/kg	0.0872	8.30%
Sn 189.927	102.7	10.46	ug/L	2.158	0.104	mg/kg	0.0215	20.63%
Sr 421.552	831646.8	654.5	ug/L	0.93	6.526	mg/kg	0.0093	0.14%
Ti 337.279	72397.5	829.2	ug/L	7.12	8.267	mg/kg	0.0710	0.86%
Tl 190.801	-1265.3	20.42	ug/L	4.102	0.204	mg/kg	0.0409	20.09%
V 292.402	477216.0	1481	ug/L	6.4	14.76	mg/kg	0.064	0.43%
Zn 206.200	378829.2	3180	ug/L	10.4	31.71	mg/kg	0.103	0.33%

Sequence No.: 24
Sample ID: AY61130S02-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.03 g
Dilution: 5X

Autosampler Location: 142
Date Collected: 06/05/12 5:42:50 PM
Data Type: Reprocessed on 06/06/12 8:08:48 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61130S02-1/5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-918.1	-5.760	ug/L	0.1851	-0.287	mg/kg	0.0092	3.21%
Al 308.215	495952.3	184500	ug/L	1363.8	9199	mg/kg	68.0	0.74%
As 188.979	663.9	128.1	ug/L	0.73	6.386	mg/kg	0.0363	0.57%
B	-6733.8	-37.40	ug/L	9.347	-1.865	mg/kg	0.4660	24.99%
Ba 233.527	400280.3	1753	ug/L	10.7	87.40	mg/kg	0.533	0.61%
Be 313.107	59837.8	4.491	ug/L	0.0603	0.224	mg/kg	0.0030	1.34%
Ca 315.887	51877.4	2479	ug/L	35.6	123.6	mg/kg	1.77	1.43%
Cd 214.440	7409.2	0.846	ug/L	0.1330	0.042	mg/kg	0.0066	15.71%
Co 228.616	15410.7	160.0	ug/L	1.32	7.977	mg/kg	0.0657	0.82%
Cr 267.716	32978.4	221.3	ug/L	1.55	11.03	mg/kg	0.077	0.70%
Cu 327.393	63912.3	405.8	ug/L	1.67	20.23	mg/kg	0.083	0.41%
Fe 273.955	9518357.1	289900	ug/L	1421.6	14450	mg/kg	70.9	0.49%
K 766.490	54817.3	13440	ug/L	159.9	669.8	mg/kg	7.97	1.19%
Mg 285.213	866087.9	23980	ug/L	167.4	1196	mg/kg	8.3	0.70%
Mn 257.610	348878.0	3604	ug/L	54.5	179.7	mg/kg	2.72	1.51%
Mo 202.031	-746.6	6.133	ug/L	1.8342	0.306	mg/kg	0.0914	29.91%
Na 589.592	4838.1	259.7	ug/L	4.97	12.94	mg/kg	0.248	1.91%
Ni 231.604	19891.7	268.1	ug/L	1.09	13.36	mg/kg	0.054	0.41%
P 213.617	17831.5	2226	ug/L	16.1	111.0	mg/kg	0.80	0.72%
Pb 220.353	4301.4	231.7	ug/L	1.25	11.55	mg/kg	0.062	0.54%
Sb 206.836	37.6	5.143	ug/L	0.8605	0.256	mg/kg	0.0429	16.73%
Se 196.026	101.1	19.93	ug/L	0.272	0.994	mg/kg	0.0136	1.36%
Sn 189.927	17.2	1.750	ug/L	0.2460	0.087	mg/kg	0.0123	14.06%
Sr 421.552	183056.1	144.0	ug/L	1.24	7.177	mg/kg	0.0619	0.86%
Ti 337.279	16468.6	189.0	ug/L	4.88	9.420	mg/kg	0.2432	2.58%
Tl 190.801	-327.7	2.053	ug/L	0.7719	0.102	mg/kg	0.0385	37.59%
V 292.402	107378.6	316.0	ug/L	1.00	15.75	mg/kg	0.050	0.32%
Zn 206.200	94039.8	785.4	ug/L	4.57	39.15	mg/kg	0.228	0.58%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SS-04-05

APPL ID: AY61131

Sample Collection Date: 05/10/12

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 29.7 Percent Moisture.)								
6010B/3050B	ALUMINUM (AL)	12000	71	7.1	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ANTIMONY (SB)	0.36	0.28	0.070	mg/kg	1	06/01/12	06/05/12
6010B/3050B	BARIUM (BA)	110	3.60	0.330	mg/kg	5	06/01/12	06/05/12
6010B/3050B	CHROMIUM (CR)	16	3.60	0.210	mg/kg	5	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	17	3.60	0.670	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	17	3.60	0.650	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MAGNESIUM (MG)	1600	36.0	5.30	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ZINC (ZN)	54	36	7.8	mg/kg	5	06/01/12	06/05/12

Sequence No.: 90
Sample ID: AY61131S02
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.05 g
Dilution:

Autosampler Location: 99
Date Collected: 06/05/12 10:51:22 PM
Data Type: Reprocessed on 06/06/12 8:09:56 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61131S02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-4034.3	-25.31	ug/L	0.584	-0.252	mg/kg	0.0058	2.31%
Al 308.215	2060582.5	766600	ug/L	5332.4	7628	mg/kg	53.1	0.70%
As 188.979	2585.3	498.8	ug/L	14.30	4.963	mg/kg	0.1423	2.87%
B	-27058.2	-996.1	ug/L	65.92	-9.912	mg/kg	0.6559	6.62%
Ba 233.527	1478777.1	6522	ug/L	96.6	64.89	mg/kg	0.961	1.48%
Be 313.107	243151.3	23.87	ug/L	0.645	0.238	mg/kg	0.0064	2.70%
Ca 315.887	281454.9	13440	ug/L	111.9	133.7	mg/kg	1.11	0.83%
Cd 214.440	30189.6	20.52	ug/L	0.882	0.204	mg/kg	0.0088	4.30%
Co 228.616	59152.2	620.0	ug/L	10.84	6.169	mg/kg	0.1078	1.75%
Cr 267.716	136314.7	904.8	ug/L	12.66	9.003	mg/kg	0.1260	1.40%
Cu 327.393	175433.3	1114	ug/L	13.4	11.08	mg/kg	0.134	1.21%
Fe 273.955	29687344.0	904300	ug/L	6852.1	8998	mg/kg	68.2	0.76%
K 766.490	227605.4	55880	ug/L	503.3	556.0	mg/kg	5.01	0.90%
Mg 285.213	3650955.2	100700	ug/L	644.6	1002	mg/kg	6.4	0.64%
Mn 257.610	1754583.1	18120	ug/L	123.0	180.3	mg/kg	1.22	0.68%
Mo 202.031	-2723.1	10.82	ug/L	1.456	0.108	mg/kg	0.0145	13.45%
Na 589.592	20951.0	1159	ug/L	16.8	11.53	mg/kg	0.167	1.45%
Ni 231.604	77020.5	1041	ug/L	13.3	10.35	mg/kg	0.132	1.28%
P 213.617	83243.3	10390	ug/L	176.9	103.4	mg/kg	1.76	1.70%
Pb 220.353	18124.5	976.3	ug/L	15.86	9.714	mg/kg	0.1578	1.62%
Sb 206.836	182.5	24.96	ug/L	0.816	0.248	mg/kg	0.0081	3.27%
Se 196.026	442.4	87.24	ug/L	24.319	0.868	mg/kg	0.2420	27.88%
Sn 189.927	106.6	10.86	ug/L	1.925	0.108	mg/kg	0.0192	17.72%
Sr 421.552	727338.8	572.3	ug/L	3.55	5.695	mg/kg	0.0354	0.62%
Ti 337.279	64809.0	742.3	ug/L	4.53	7.387	mg/kg	0.0451	0.61%
Tl 190.801	-1564.9	15.55	ug/L	3.631	0.155	mg/kg	0.0361	23.35%
V 292.402	434809.2	1342	ug/L	23.1	13.36	mg/kg	0.230	1.72%
Zn 206.200	358922.0	3012	ug/L	45.9	29.97	mg/kg	0.457	1.53%

Sequence No.: 25
Sample ID: AY61131S02-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.05 g
Dilution: 5X

Autosampler Location: 143
Date Collected: 06/05/12 5:47:49 PM
Data Type: Reprocessed on 06/06/12 8:08:49 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61131S02-1/5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-910.7	-5.714	ug/L	0.4642	-0.284	mg/kg	0.0231	8.12%
Al 308.215	453352.5	168700	ug/L	1501.0	8392	mg/kg	74.7	0.89%
As 188.979	581.5	112.2	ug/L	1.42	5.582	mg/kg	0.0706	1.27%
B	-6236.6	-29.58	ug/L	10.985	-1.472	mg/kg	0.5465	37.14%
Ba 233.527	351478.3	1535	ug/L	8.1	76.38	mg/kg	0.401	0.53%
Be 313.107	55684.4	4.121	ug/L	0.0329	0.205	mg/kg	0.0016	0.80%
Ca 315.887	63853.2	3049	ug/L	34.9	151.7	mg/kg	1.74	1.15%
Cd 214.440	6824.0	0.589	ug/L	0.1120	0.029	mg/kg	0.0056	19.02%
Co 228.616	14444.8	150.1	ug/L	0.65	7.467	mg/kg	0.0322	0.43%
Cr 267.716	31587.7	211.1	ug/L	0.83	10.50	mg/kg	0.041	0.39%
Cu 327.393	38325.9	244.2	ug/L	1.43	12.15	mg/kg	0.071	0.58%
Fe 273.955	8863385.7	270000	ug/L	1376.8	13430	mg/kg	68.5	0.51%
K 766.490	47314.5	11600	ug/L	143.1	576.9	mg/kg	7.12	1.23%
Mg 285.213	826855.9	22890	ug/L	172.5	1139	mg/kg	8.6	0.75%
Mn 257.610	412697.3	4263	ug/L	32.6	212.1	mg/kg	1.62	0.77%
Mo 202.031	-703.7	5.738	ug/L	0.5770	0.285	mg/kg	0.0287	10.06%
Na 589.592	4469.9	240.9	ug/L	5.73	11.99	mg/kg	0.285	2.38%
Ni 231.604	18798.3	253.3	ug/L	0.43	12.60	mg/kg	0.021	0.17%
P 213.617	19720.6	2462	ug/L	8.1	122.5	mg/kg	0.40	0.33%
Pb 220.353	4469.8	240.8	ug/L	0.90	11.98	mg/kg	0.045	0.38%
Sb 206.836	30.5	4.177	ug/L	0.7632	0.208	mg/kg	0.0380	18.27%
Se 196.026	96.4	19.00	ug/L	0.551	0.945	mg/kg	0.0274	2.90%
Sn 189.927	21.8	2.223	ug/L	0.2689	0.111	mg/kg	0.0134	12.10%
Sr 421.552	158037.9	124.3	ug/L	0.86	6.182	mg/kg	0.0428	0.69%
Ti 337.279	14092.1	161.7	ug/L	1.40	8.047	mg/kg	0.0697	0.87%
Tl 190.801	-394.2	1.186	ug/L	1.0997	0.059	mg/kg	0.0547	92.74%
V 292.402	99677.0	293.4	ug/L	1.75	14.60	mg/kg	0.087	0.60%
Zn 206.200	90889.1	759.4	ug/L	3.18	37.78	mg/kg	0.158	0.42%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SD-01

APPL ID: AY61133

Sample Collection Date: 05/11/12

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 33.4 Percent Moisture.)								
6010B/3050B	ALUMINUM (AL)	8100 J	75	7.5	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ANTIMONY (SB)	0.39 J	0.30	0.074	mg/kg	1	06/01/12	06/05/12
6010B/3050B	BARIUM (BA)	120 J	3.80	0.350	mg/kg	5	06/01/12	06/05/12
6010B/3050B	CHROMIUM (CR)	12 J	3.80	0.220	mg/kg	5	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	18 J	3.80	0.710	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	13 J	3.80	0.690	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MAGNESIUM (MG)	1500	38.0	5.60	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ZINC (ZN)	53 J	38	8.3	mg/kg	5	06/01/12	06/05/12

J = Estimated value.

Printed: 06/06/12 4:06:55 PM

PL-F1-SC-MCRes/MCPQL-REG MDLs

Sequence No.: 91
Sample ID: AY61133S02
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.93 g
Dilution:

Autosampler Location: 100
Date Collected: 06/05/12 10:55:39 PM
Data Type: Reprocessed on 06/06/12 8:09:57 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61133S02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-3872.0	-24.29	ug/L	0.322	-0.245	mg/kg	0.0032	1.32%
Al 308.215	1346821.6	501100	ug/L	3609.6	5047	mg/kg	36.4	0.72%
As 188.979	2985.9	576.1	ug/L	5.64	5.801	mg/kg	0.0568	0.98%
B	-26331.4	-856.9	ug/L	49.70	-8.630	mg/kg	0.5005	5.80%
Ba 233.527	1521044.5	6716	ug/L	33.9	67.64	mg/kg	0.341	0.50%
Be 313.107	269144.4	28.84	ug/L	0.221	0.290	mg/kg	0.0022	0.77%
Ca 315.887	414962.7	19790	ug/L	217.9	199.3	mg/kg	2.19	1.10%
Cd 214.440	31667.5	21.96	ug/L	0.470	0.221	mg/kg	0.0047	2.14%
Co 228.616	54302.0	567.2	ug/L	4.17	5.712	mg/kg	0.0420	0.73%
Cr 267.716	103607.6	691.3	ug/L	2.37	6.961	mg/kg	0.0239	0.34%
Cu 327.393	121978.5	778.6	ug/L	4.42	7.841	mg/kg	0.0445	0.57%
Fe 273.955	29457742.2	897300	ug/L	4128.3	9037	mg/kg	41.6	0.46%
K 766.490	177298.3	43450	ug/L	492.6	437.6	mg/kg	4.96	1.13%
Mg 285.213	3025936.4	83640	ug/L	567.2	842.3	mg/kg	5.71	0.68%
Mn 257.610	1538757.2	15890	ug/L	110.4	160.1	mg/kg	1.11	0.69%
Mo 202.031	-3000.5	6.706	ug/L	1.0849	0.068	mg/kg	0.0109	16.18%
Na 589.592	20837.9	1230	ug/L	7.5	12.38	mg/kg	0.075	0.61%
Ni 231.604	88897.3	1207	ug/L	6.2	12.15	mg/kg	0.062	0.51%
P 213.617	89396.3	11160	ug/L	53.1	112.4	mg/kg	0.54	0.48%
Pb 220.353	12959.3	698.0	ug/L	4.68	7.030	mg/kg	0.0472	0.67%
Sb 206.836	184.8	25.28	ug/L	4.980	0.255	mg/kg	0.0502	19.70%
Se 196.026	354.2	69.85	ug/L	13.377	0.703	mg/kg	0.1347	19.15%
Sn 189.927	23.9	2.436	ug/L	1.0460	0.025	mg/kg	0.0105	42.95%
Sr 421.552	700941.4	551.6	ug/L	4.32	5.555	mg/kg	0.0435	0.78%
Ti 337.279	76579.7	877.4	ug/L	7.56	8.836	mg/kg	0.0761	0.86%
Tl 190.801	-1364.3	14.56	ug/L	7.592	0.147	mg/kg	0.0765	52.15%
V 292.402	328045.4	963.3	ug/L	5.96	9.701	mg/kg	0.0600	0.62%
Zn 206.200	331348.1	2771	ug/L	14.7	27.91	mg/kg	0.148	0.53%

Sequence No.: 28
Sample ID: AY61133S02-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.93 g
Dilution: 5X

Autosampler Location: 144
Date Collected: 06/05/12 6:02:25 PM
Data Type: Reprocessed on 06/06/12 8:08:52 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61133S02-1/5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-805.0	-5.051	ug/L	0.7467	-0.254	mg/kg	0.0376	14.78%
Al 308.215	286516.8	106600	ug/L	643.0	5368	mg/kg	32.4	0.60%
As 188.979	649.1	125.2	ug/L	0.81	6.306	mg/kg	0.0406	0.64%
B	-5722.5	9.560	ug/L	19.1331	0.481	mg/kg	0.9634	200.13%
Ba 233.527	354848.6	1554	ug/L	9.3	78.27	mg/kg	0.469	0.60%
Be 313.107	60553.1	5.307	ug/L	0.0313	0.267	mg/kg	0.0016	0.59%
Ca 315.887	130889.5	6240	ug/L	37.7	314.2	mg/kg	1.90	0.60%
Cd 214.440	6975.6	1.254	ug/L	0.1149	0.063	mg/kg	0.0058	9.16%
Co 228.616	13340.8	138.5	ug/L	0.25	6.972	mg/kg	0.0124	0.18%
Cr 267.716	23566.4	158.5	ug/L	1.13	7.983	mg/kg	0.0571	0.72%
Cu 327.393	36307.5	231.9	ug/L	0.53	11.68	mg/kg	0.027	0.23%
Fe 273.955	8395904.6	255800	ug/L	2234.2	12880	mg/kg	112.5	0.87%
K 766.490	35974.3	8799	ug/L	38.7	443.0	mg/kg	1.95	0.44%
Mg 285.213	692598.4	19210	ug/L	212.0	967.1	mg/kg	10.67	1.10%
Mn 257.610	349307.8	3608	ug/L	23.5	181.7	mg/kg	1.18	0.65%
Mo 202.031	-683.6	5.486	ug/L	1.0389	0.276	mg/kg	0.0523	18.94%
Na 589.592	23526.6	1599	ug/L	9.1	80.51	mg/kg	0.457	0.57%
Ni 231.604	21397.1	289.9	ug/L	1.04	14.60	mg/kg	0.052	0.36%
P 213.617	20898.2	2609	ug/L	10.3	131.4	mg/kg	0.52	0.40%
Pb 220.353	3073.2	165.5	ug/L	0.19	8.335	mg/kg	0.0094	0.11%
Sb 206.836	39.8	5.447	ug/L	0.2632	0.274	mg/kg	0.0133	4.83%
Se 196.026	84.4	16.65	ug/L	3.917	0.838	mg/kg	0.1972	23.52%
Sn 189.927	35.5	3.617	ug/L	0.1177	0.182	mg/kg	0.0059	3.25%
Sr 421.552	163593.2	128.7	ug/L	1.46	6.479	mg/kg	0.0736	1.14%
Ti 337.279	15913.4	182.6	ug/L	0.41	9.196	mg/kg	0.0206	0.22%
Tl 190.801	-317.7	2.246	ug/L	0.3106	0.113	mg/kg	0.0156	13.83%
V 292.402	74233.6	205.9	ug/L	1.81	10.37	mg/kg	0.091	0.88%
Zn 206.200	82564.5	688.0	ug/L	3.53	34.64	mg/kg	0.178	0.51%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS01-SD-03

APPL ID: AY61135

Sample Collection Date: 05/11/12

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 29.7 Percent Moisture.)								
6010B/3050B	ALUMINUM (AL)	12000	71	7.1	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ANTIMONY (SB)	0.68	0.28	0.070	mg/kg	1	06/01/12	06/05/12
6010B/3050B	BARIUM (BA)	140	3.60	0.330	mg/kg	5	06/01/12	06/05/12
6010B/3050B	CHROMIUM (CR)	21	3.60	0.210	mg/kg	5	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	19	3.60	0.670	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	17	3.60	0.650	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MAGNESIUM (MG)	2100	36.0	5.30	mg/kg	5	06/01/12	06/05/12
6010B/3050B	ZINC (ZN)	74	36	7.8	mg/kg	5	06/01/12	06/05/12

Sequence No.: 97
Sample ID: AY61135S02
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.96 g
Dilution:

Autosampler Location: 104
Date Collected: 06/05/12 11:20:52 PM
Data Type: Reprocessed on 06/06/12 8:10:03 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61135S02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-6856.7	-43.02	ug/L	0.585	-0.432	mg/kg	0.0059	1.36%
Al 308.215	1941116.4	722200	ug/L	9080.1	7251	mg/kg	91.2	1.26%
As 188.979	5875.3	1134	ug/L	4.0	11.38	mg/kg	0.041	0.36%
B	-50884.7	-2935	ug/L	90.6	-29.47	mg/kg	0.910	3.09%
Ba 233.527	1810137.6	7927	ug/L	20.4	79.59	mg/kg	0.205	0.26%
Be 313.107	385016.8	39.19	ug/L	0.274	0.393	mg/kg	0.0028	0.70%
Ca 315.887	470606.0	22450	ug/L	186.9	225.4	mg/kg	1.88	0.83%
Cd 214.440	60773.7	64.97	ug/L	0.739	0.652	mg/kg	0.0074	1.14%
Co 228.616	86344.6	906.4	ug/L	3.79	9.100	mg/kg	0.0381	0.42%
Cr 267.716	174357.9	1157	ug/L	2.3	11.62	mg/kg	0.024	0.20%
Cu 327.393	184776.7	1178	ug/L	3.9	11.83	mg/kg	0.039	0.33%
Fe 273.955	43262667.9	1318000	ug/L	4449.2	13230	mg/kg	44.7	0.34%
K 766.490	198854.1	48700	ug/L	400.4	489.0	mg/kg	4.02	0.82%
Mg 285.213	4471106.6	123600	ug/L	1483.4	1241	mg/kg	14.9	1.20%
Mn 257.610	2742333.6	28330	ug/L	342.4	284.4	mg/kg	3.44	1.21%
Mo 202.031	-5679.5	-14.40	ug/L	0.869	-0.145	mg/kg	0.0087	6.03%
Na 589.592	23231.0	1307	ug/L	18.7	13.12	mg/kg	0.188	1.43%
Ni 231.604	120943.8	1638	ug/L	8.9	16.45	mg/kg	0.089	0.54%
P 213.617	137105.0	17120	ug/L	152.0	171.9	mg/kg	1.53	0.89%
Pb 220.353	18223.9	981.6	ug/L	13.54	9.856	mg/kg	0.1359	1.38%
Sb 206.836	351.6	48.08	ug/L	6.171	0.483	mg/kg	0.0620	12.83%
Se 196.026	528.9	104.3	ug/L	15.57	1.047	mg/kg	0.1564	14.93%
Sn 189.927	-3.1	-0.312	ug/L	3.1351	-0.003	mg/kg	0.0315	>999.9%
Sr 421.552	879581.3	691.9	ug/L	9.24	6.947	mg/kg	0.0928	1.34%
Ti 337.279	78006.2	894.8	ug/L	9.32	8.984	mg/kg	0.0936	1.04%
Tl 190.801	-2175.8	40.51	ug/L	4.301	0.407	mg/kg	0.0432	10.62%
V 292.402	549806.2	1658	ug/L	5.6	16.64	mg/kg	0.056	0.34%
Zn 206.200	477207.1	3990	ug/L	10.8	40.06	mg/kg	0.108	0.27%

Sequence No.: 33
Sample ID: AY61135S02-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.96 g
Dilution: 5X

Autosampler Location: 149
Date Collected: 06/05/12 6:22:35 PM
Data Type: Reprocessed on 06/06/12 8:08:57 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61135S02-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-1508.6	-9.465	ug/L	0.0912	-0.475	mg/kg	0.0046	0.96%
Al 308.215	438773.6	163300	ug/L	1329.1	8197	mg/kg	66.7	0.81%
As 188.979	1350.4	260.5	ug/L	6.45	13.08	mg/kg	0.324	2.48%
B	-12240.1	-158.2	ug/L	23.99	-7.941	mg/kg	1.2042	15.16%
Ba 233.527	447084.3	1915	ug/L	14.3	96.12	mg/kg	0.717	0.75%
Be 313.107	90467.4	5.469	ug/L	0.0996	0.275	mg/kg	0.0050	1.82%
Ca 315.887	110845.9	5287	ug/L	40.3	265.4	mg/kg	2.02	0.76%
Cd 214.440	13997.7	3.756	ug/L	0.2481	0.189	mg/kg	0.0125	6.60%
Co 228.616	21932.9	226.0	ug/L	1.83	11.34	mg/kg	0.092	0.81%
Cr 267.716	42995.0	289.5	ug/L	1.84	14.53	mg/kg	0.092	0.64%
Cu 327.393	40863.3	263.0	ug/L	1.32	13.20	mg/kg	0.066	0.50%
Fe 273.955	15968339.3	486400	ug/L	2063.9	24420	mg/kg	103.6	0.42%
K 766.490	41934.6	10220	ug/L	84.9	512.8	mg/kg	4.26	0.83%
Mg 285.213	1046476.7	29140	ug/L	220.0	1463	mg/kg	11.0	0.75%
Mn 257.610	677143.8	6995	ug/L	62.1	351.2	mg/kg	3.12	0.89%
Mo 202.031	-1566.2	5.507	ug/L	0.4016	0.276	mg/kg	0.0202	7.29%
Na 589.592	4828.0	253.3	ug/L	18.43	12.72	mg/kg	0.925	7.27%
Ni 231.604	31867.9	429.7	ug/L	3.40	21.57	mg/kg	0.171	0.79%
P 213.617	32750.8	4089	ug/L	31.3	205.3	mg/kg	1.57	0.77%
Pb 220.353	4608.9	248.3	ug/L	4.00	12.46	mg/kg	0.201	1.61%
Sb 206.836	69.4	9.487	ug/L	2.7690	0.476	mg/kg	0.1390	29.19%
Se 196.026	149.4	29.47	ug/L	7.292	1.479	mg/kg	0.3661	24.75%
Sn 189.927	-14.2	-1.451	ug/L	0.7718	-0.073	mg/kg	0.0387	53.21%
Sr 421.552	194788.3	153.0	ug/L	1.23	7.681	mg/kg	0.0620	0.81%
Ti 337.279	17288.8	199.2	ug/L	1.21	10.00	mg/kg	0.061	0.61%
Tl 190.801	-539.5	8.538	ug/L	2.3612	0.429	mg/kg	0.1185	27.66%
V 292.402	129651.7	350.8	ug/L	3.58	17.61	mg/kg	0.180	1.02%
Zn 206.200	126055.4	1044	ug/L	5.9	52.42	mg/kg	0.298	0.57%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri
Project: 748073 WVMA-MRS01 & MRS02
Sample ID: WVMA-MRS02-SS-24-01
Sample Collection Date: 05/11/12

ARF: 67746
APPL ID: AY61136

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 26.5 Percent Moisture.)								
6010B/3050B	ANTIMONY (SB)	0.12 J	0.27	0.067	mg/kg	1	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	8.7	3.40	0.640	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	9.4	3.40	0.630	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MANGANESE (MN)	270	3.4	0.88	mg/kg	5	06/01/12	06/05/12
7471/7471	MERCURY (HG)	0.041 J	0.07	0.023	mg/Kg	1	06/01/12	06/01/12
6010B/3050B	ZINC (ZN)	40	34	7.5	mg/kg	5	06/01/12	06/05/12

J = Estimated value.

Printed: 06/21/12 11:23:13 AM

PL-F1-SC-MCRes/MCPQL-REG MDLs

AMENDED PAGE

Sequence No.: 98
Sample ID: AY61136S01
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.06 g
Dilution:

Autosampler Location: 105
Date Collected: 06/05/12 11:25:14 PM
Data Type: Reprocessed on 06/06/12 8:10:04 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61136S01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-3560.1	-22.34	ug/L	0.094	-0.222	mg/kg	0.0009	0.42%
Al 308.215	2114415.6	786700	ug/L	1743.1	7820	mg/kg	17.3	0.22%
As 188.979	1756.1	338.8	ug/L	8.43	3.368	mg/kg	0.0838	2.49%
B	-21873.9	-735.1	ug/L	41.03	-7.308	mg/kg	0.4078	5.58%
Ba 233.527	1057413.4	4632	ug/L	12.4	46.04	mg/kg	0.123	0.27%
Be 313.107	239222.3	26.11	ug/L	0.094	0.260	mg/kg	0.0009	0.36%
Ca 315.887	1356743.1	64680	ug/L	150.7	642.9	mg/kg	1.50	0.23%
Cd 214.440	23573.3	13.84	ug/L	0.558	0.138	mg/kg	0.0055	4.03%
Co 228.616	56198.0	591.5	ug/L	1.16	5.880	mg/kg	0.0115	0.20%
Cr 267.716	118679.8	786.4	ug/L	1.91	7.817	mg/kg	0.0190	0.24%
Cu 327.393	98152.4	625.8	ug/L	3.29	6.221	mg/kg	0.0327	0.52%
Fe 273.955	25153661.8	766200	ug/L	1790.3	7616	mg/kg	17.8	0.23%
K 766.490	184149.1	45270	ug/L	321.4	450.0	mg/kg	3.19	0.71%
Mg 285.213	2855745.8	78840	ug/L	127.3	783.7	mg/kg	1.27	0.16%
Mn 257.610	1669712.4	17250	ug/L	33.5	171.4	mg/kg	0.33	0.19%
Mo 202.031	-1851.4	17.06	ug/L	2.267	0.170	mg/kg	0.0225	13.29%
Na 589.592	25140.7	1462	ug/L	23.8	14.53	mg/kg	0.236	1.63%
Ni 231.604	57410.9	772.1	ug/L	2.27	7.675	mg/kg	0.0226	0.29%
P 213.617	98865.9	12340	ug/L	24.8	122.7	mg/kg	0.25	0.20%
Pb 220.353	10580.5	569.9	ug/L	2.46	5.665	mg/kg	0.0244	0.43%
Sb 206.836	66.7	9.122	ug/L	3.6137	0.091	mg/kg	0.0359	39.62%
Se 196.026	396.9	78.27	ug/L	7.620	0.778	mg/kg	0.0758	9.74%
Sn 189.927	61.7	6.288	ug/L	2.1375	0.063	mg/kg	0.0212	33.99%
Sr 421.552	601451.1	472.7	ug/L	1.15	4.699	mg/kg	0.0114	0.24%
Ti 337.279	64865.0	742.5	ug/L	8.34	7.381	mg/kg	0.0829	1.12%
Tl 190.801	-1479.8	15.58	ug/L	4.636	0.155	mg/kg	0.0461	29.76%
V 292.402	389580.6	1213	ug/L	4.1	12.06	mg/kg	0.040	0.34%
Zn 206.200	280933.3	2358	ug/L	4.0	23.44	mg/kg	0.040	0.17%

Sequence No.: 34
Sample ID: AY61136S01-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.06 g
Dilution: 5X

Autosampler Location: 150
Date Collected: 06/05/12 6:26:51 PM
Data Type: Reprocessed on 06/06/12 8:08:58 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61136S01-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-806.9	-5.063	ug/L	0.4302	-0.252	mg/kg	0.0214	8.50%
Al 308.215	455521.1	169500	ug/L	745.6	8423	mg/kg	37.1	0.44%
As 188.979	386.3	74.54	ug/L	1.102	3.705	mg/kg	0.0548	1.48%
B	-5015.8	-22.37	ug/L	11.683	-1.112	mg/kg	0.5806	52.22%
Ba 233.527	245218.6	1063	ug/L	8.9	52.82	mg/kg	0.442	0.84%
Be 313.107	53939.6	4.873	ug/L	0.1388	0.242	mg/kg	0.0069	2.85%
Ca 315.887	306266.1	14600	ug/L	42.5	725.6	mg/kg	2.11	0.29%
Cd 214.440	5348.2	0.222	ug/L	0.0917	0.011	mg/kg	0.0046	41.39%
Co 228.616	13657.0	142.9	ug/L	0.57	7.101	mg/kg	0.0283	0.40%
Cr 267.716	27294.9	182.0	ug/L	1.03	9.044	mg/kg	0.0512	0.57%
Cu 327.393	20187.1	129.5	ug/L	0.81	6.437	mg/kg	0.0400	0.62%
Fe 273.955	7232753.8	220300	ug/L	540.0	10950	mg/kg	26.8	0.25%
K 766.490	37964.9	9318	ug/L	54.4	463.1	mg/kg	2.70	0.58%
Mg 285.213	629004.0	17430	ug/L	74.7	866.3	mg/kg	3.71	0.43%
Mn 257.610	383187.2	3958	ug/L	15.8	196.7	mg/kg	0.79	0.40%
Mo 202.031	-525.3	5.390	ug/L	0.2599	0.268	mg/kg	0.0129	4.82%
Na 589.592	5465.4	314.9	ug/L	5.50	15.65	mg/kg	0.274	1.75%
Ni 231.604	13902.8	186.6	ug/L	0.77	9.273	mg/kg	0.0384	0.41%
P 213.617	23055.1	2878	ug/L	10.0	143.1	mg/kg	0.49	0.35%
Pb 220.353	2584.9	139.2	ug/L	0.76	6.920	mg/kg	0.0378	0.55%
Sb 206.836	8.8	1.206	ug/L	1.7032	0.060	mg/kg	0.0847	141.28%
Se 196.026	68.6	13.52	ug/L	1.956	0.672	mg/kg	0.0972	14.47%
Sn 189.927	5.6	0.566	ug/L	0.3186	0.028	mg/kg	0.0158	56.34%
Sr 421.552	128165.9	100.7	ug/L	0.48	5.003	mg/kg	0.0238	0.48%
Ti 337.279	14101.0	161.7	ug/L	0.41	8.035	mg/kg	0.0204	0.25%
Tl 190.801	-361.6	1.572	ug/L	0.7094	0.078	mg/kg	0.0353	45.13%
V 292.402	88550.3	265.1	ug/L	2.16	13.18	mg/kg	0.108	0.82%
Zn 206.200	69536.6	581.1	ug/L	4.14	28.88	mg/kg	0.206	0.71%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Sample ID: WVMA-MRS02-SS-24-02

APPL ID: AY61137

Sample Collection Date: 05/11/12

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 22.8 Percent Moisture.)								
6010B/3050B	ANTIMONY (SB)	0.18 J	0.26	0.063	mg/kg	1	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	13 J	3.20	0.610	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	8.7 J	3.20	0.600	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MANGANESE (MN)	250 J	3.2	0.84	mg/kg	5	06/01/12	06/05/12
7471/7471	MERCURY (HG)	0.031 J	0.07	0.022	mg/Kg	1	06/01/12	06/01/12
6010B/3050B	ZINC (ZN)	40 J	32	7.1	mg/kg	5	06/01/12	06/05/12

J = Estimated value.

Printed: 06/21/12 11:23:13 AM

PL-F1-SC-MCRes/MCPQL-REG MDLs

AMENDED PAGE

Sequence No.: 99
Sample ID: AY61137S01
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.05 g
Dilution:

Autosampler Location: 106
Date Collected: 06/05/12 11:29:29 PM
Data Type: Reprocessed on 06/06/12 8:10:05 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61137S01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-3849.7	-24.15	ug/L	0.443	-0.240	mg/kg	0.0044	1.83%
Al 308.215	1940431.7	721900	ug/L	5475.5	7183	mg/kg	54.5	0.76%
As 188.979	1862.7	359.4	ug/L	0.61	3.576	mg/kg	0.0061	0.17%
B	-23905.6	-827.0	ug/L	31.12	-8.229	mg/kg	0.3097	3.76%
Ba 233.527	844582.1	3644	ug/L	50.9	36.26	mg/kg	0.507	1.40%
Be 313.107	164057.0	12.20	ug/L	0.405	0.121	mg/kg	0.0040	3.32%
Ca 315.887	963995.8	45960	ug/L	355.8	457.3	mg/kg	3.54	0.77%
Cd 214.440	25931.5	15.48	ug/L	0.351	0.154	mg/kg	0.0035	2.27%
Co 228.616	56297.6	591.5	ug/L	5.99	5.886	mg/kg	0.0596	1.01%
Cr 267.716	115152.1	764.9	ug/L	9.22	7.611	mg/kg	0.0917	1.20%
Cu 327.393	108433.1	691.0	ug/L	4.41	6.876	mg/kg	0.0439	0.64%
Fe 273.955	26901180.6	819400	ug/L	818.4	8154	mg/kg	8.1	0.10%
K 766.490	151666.2	37260	ug/L	299.6	370.8	mg/kg	2.98	0.80%
Mg 285.213	3250977.2	89690	ug/L	643.0	892.4	mg/kg	6.40	0.72%
Mn 257.610	1587147.7	16390	ug/L	126.7	163.1	mg/kg	1.26	0.77%
Mo 202.031	-2508.9	8.481	ug/L	2.5749	0.084	mg/kg	0.0256	30.36%
Na 589.592	20488.8	1158	ug/L	16.6	11.52	mg/kg	0.165	1.43%
Ni 231.604	59846.2	805.3	ug/L	8.64	8.013	mg/kg	0.0860	1.07%
P 213.617	46641.9	5823	ug/L	72.0	57.94	mg/kg	0.716	1.24%
Pb 220.353	10052.3	541.5	ug/L	5.01	5.388	mg/kg	0.0498	0.92%
Sb 206.836	102.2	13.98	ug/L	4.894	0.139	mg/kg	0.0487	35.01%
Se 196.026	256.4	50.56	ug/L	14.581	0.503	mg/kg	0.1451	28.84%
Sn 189.927	55.7	5.671	ug/L	0.8005	0.056	mg/kg	0.0080	14.12%
Sr 421.552	522096.7	410.2	ug/L	3.03	4.082	mg/kg	0.0302	0.74%
Ti 337.279	55121.9	631.4	ug/L	7.13	6.283	mg/kg	0.0710	1.13%
Tl 190.801	-1384.3	15.12	ug/L	3.464	0.150	mg/kg	0.0345	22.91%
V 292.402	366564.4	1119	ug/L	17.8	11.13	mg/kg	0.178	1.60%
Zn 206.200	286111.1	2397	ug/L	29.1	23.85	mg/kg	0.289	1.21%

Sequence No.: 35
Sample ID: AY61137S01-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.05 g
Dilution: 5X

Autosampler Location: 151
Date Collected: 06/05/12 6:32:02 PM
Data Type: Reprocessed on 06/06/12 8:08:59 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61137S01-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-825.8	-5.181	ug/L	0.5749	-0.258	mg/kg	0.0286	11.10%
Al 308.215	419001.4	155900	ug/L	1808.0	7756	mg/kg	90.0	1.16%
As 188.979	427.4	82.46	ug/L	0.105	4.102	mg/kg	0.0052	0.13%
B	-5460.9	-24.96	ug/L	5.838	-1.242	mg/kg	0.2904	23.39%
Ba 233.527	200411.7	853.2	ug/L	11.78	42.45	mg/kg	0.586	1.38%
Be 313.107	37871.1	1.778	ug/L	0.1331	0.088	mg/kg	0.0066	7.48%
Ca 315.887	261321.1	12460	ug/L	81.0	619.8	mg/kg	4.03	0.65%
Cd 214.440	5832.3	0.175	ug/L	0.1535	0.009	mg/kg	0.0076	87.86%
Co 228.616	13875.7	144.9	ug/L	0.75	7.207	mg/kg	0.0373	0.52%
Cr 267.716	26731.9	178.7	ug/L	1.89	8.891	mg/kg	0.0940	1.06%
Cu 327.393	32369.2	206.6	ug/L	1.03	10.28	mg/kg	0.051	0.50%
Fe 273.955	7798268.0	237600	ug/L	2671.9	11820	mg/kg	132.9	1.12%
K 766.490	31903.3	7823	ug/L	110.6	389.2	mg/kg	5.50	1.41%
Mg 285.213	751048.2	20780	ug/L	225.1	1034	mg/kg	11.2	1.08%
Mn 257.610	374075.4	3864	ug/L	23.1	192.3	mg/kg	1.15	0.60%
Mo 202.031	-598.1	5.364	ug/L	1.0602	0.267	mg/kg	0.0527	19.76%
Na 589.592	23538.3	1589	ug/L	5.6	79.05	mg/kg	0.279	0.35%
Ni 231.604	14596.4	195.9	ug/L	1.30	9.749	mg/kg	0.0648	0.66%
P 213.617	11021.1	1376	ug/L	6.8	68.46	mg/kg	0.337	0.49%
Pb 220.353	2514.8	135.5	ug/L	0.17	6.739	mg/kg	0.0083	0.12%
Sb 206.836	20.8	2.843	ug/L	1.2226	0.141	mg/kg	0.0608	43.01%
Se 196.026	73.1	14.42	ug/L	3.111	0.718	mg/kg	0.1548	21.57%
Sn 189.927	28.1	2.859	ug/L	0.3819	0.142	mg/kg	0.0190	13.36%
Sr 421.552	127612.2	100.2	ug/L	0.66	4.986	mg/kg	0.0326	0.65%
Ti 337.279	12028.6	138.1	ug/L	1.02	6.868	mg/kg	0.0509	0.74%
Tl 190.801	-356.1	0.957	ug/L	0.0944	0.048	mg/kg	0.0047	9.86%
V 292.402	84608.7	247.1	ug/L	3.63	12.30	mg/kg	0.181	1.47%
Zn 206.200	73909.5	616.8	ug/L	9.46	30.68	mg/kg	0.471	1.53%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri
Project: 748073 WVMA-MRS01 & MRS02
Sample ID: WVMA-MRS02-AMB-SS-24-03
Sample Collection Date: 05/11/12

ARF: 67746
APPL ID: AY61138

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 27.2 Percent Moisture.)								
6010B/3050B	ANTIMONY (SB)	0.22 J	0.27	0.067	mg/kg	1	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	13	3.40	0.650	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	9.6	3.40	0.630	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MANGANESE (MN)	210	3.4	0.89	mg/kg	5	06/01/12	06/05/12
7471/7471	MERCURY (HG)	0.04 J	0.07	0.023	mg/Kg	1	06/01/12	06/01/12
6010B/3050B	ZINC (ZN)	52	34	7.6	mg/kg	5	06/01/12	06/05/12

J = Estimated value.

Printed: 06/21/12 11:23:13 AM

PL-F1-SC-MCRes/MCPQL-REG MDLs

AMENDED PAGE

Sequence No.: 103
Sample ID: AY61138S01
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.01 g
Dilution:

Autosampler Location: 110
Date Collected: 06/05/12 11:46:46 PM
Data Type: Reprocessed on 06/06/12 8:10:09 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61138S01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-3758.0	-23.58	ug/L	0.306	-0.236	mg/kg	0.0031	1.30%
Al 308.215	2355617.9	876400	ug/L	10001.3	8755	mg/kg	99.9	1.14%
As 188.979	1775.0	342.5	ug/L	8.26	3.421	mg/kg	0.0825	2.41%
B	-22007.6	-753.5	ug/L	5.26	-7.528	mg/kg	0.0525	0.70%
Ba 233.527	1134247.9	4982	ug/L	43.9	49.77	mg/kg	0.439	0.88%
Be 313.107	248333.2	27.31	ug/L	0.245	0.273	mg/kg	0.0024	0.90%
Ca 315.887	907446.5	43270	ug/L	506.7	432.3	mg/kg	5.06	1.17%
Cd 214.440	22743.4	12.32	ug/L	0.533	0.123	mg/kg	0.0053	4.32%
Co 228.616	53160.6	557.9	ug/L	1.06	5.573	mg/kg	0.0106	0.19%
Cr 267.716	130684.5	868.3	ug/L	8.33	8.674	mg/kg	0.0832	0.96%
Cu 327.393	139659.2	886.7	ug/L	6.85	8.858	mg/kg	0.0684	0.77%
Fe 273.955	25348102.8	772100	ug/L	1848.2	7713	mg/kg	18.5	0.24%
K 766.490	207785.8	51090	ug/L	335.5	510.4	mg/kg	3.35	0.66%
Mg 285.213	3204237.9	88360	ug/L	945.9	882.7	mg/kg	9.45	1.07%
Mn 257.610	1284263.8	13270	ug/L	156.9	132.5	mg/kg	1.57	1.18%
Mo 202.031	-1827.4	16.61	ug/L	0.168	0.166	mg/kg	0.0017	1.01%
Na 589.592	25650.5	1472	ug/L	8.9	14.71	mg/kg	0.089	0.61%
Ni 231.604	72404.6	979.2	ug/L	3.15	9.782	mg/kg	0.0315	0.32%
P 213.617	89823.5	11210	ug/L	60.0	112.0	mg/kg	0.60	0.53%
Pb 220.353	10465.9	563.7	ug/L	3.53	5.632	mg/kg	0.0352	0.63%
Sb 206.836	119.0	16.28	ug/L	4.928	0.163	mg/kg	0.0492	30.27%
Se 196.026	353.4	69.69	ug/L	22.032	0.696	mg/kg	0.2201	31.61%
Sn 189.927	54.2	5.525	ug/L	1.7264	0.055	mg/kg	0.0172	31.25%
Sr 421.552	585692.4	460.3	ug/L	5.30	4.599	mg/kg	0.0530	1.15%
Ti 337.279	60711.4	694.9	ug/L	5.32	6.942	mg/kg	0.0531	0.77%
Tl 190.801	-1216.2	8.946	ug/L	5.2039	0.089	mg/kg	0.0520	58.17%
V 292.402	422772.7	1329	ug/L	11.2	13.28	mg/kg	0.112	0.84%
Zn 206.200	363408.8	3062	ug/L	29.0	30.59	mg/kg	0.290	0.95%

Sequence No.: 44
Sample ID: AY61138S01-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.01 g
Dilution: 5X

Autosampler Location: 156
Date Collected: 06/05/12 7:10:59 PM
Data Type: Reprocessed on 06/06/12 8:09:08 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61138S01-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-834.0	-5.233	ug/L	0.1141	-0.261	mg/kg	0.0057	2.18%
Al 308.215	509124.6	189400	ug/L	1853.4	9462	mg/kg	92.6	0.98%
As 188.979	402.8	77.72	ug/L	1.818	3.882	mg/kg	0.0908	2.34%
B	-5023.7	-23.16	ug/L	8.016	-1.157	mg/kg	0.4004	34.61%
Ba 233.527	263924.9	1148	ug/L	15.6	57.34	mg/kg	0.780	1.36%
Be 313.107	55941.2	5.123	ug/L	0.0550	0.256	mg/kg	0.0027	1.07%
Ca 315.887	203133.2	9686	ug/L	77.8	483.8	mg/kg	3.89	0.80%
Cd 214.440	5258.9	0.095	ug/L	0.1079	0.005	mg/kg	0.0054	113.67%
Co 228.616	13159.7	137.3	ug/L	0.56	6.860	mg/kg	0.0281	0.41%
Cr 267.716	30165.4	201.5	ug/L	2.43	10.07	mg/kg	0.121	1.21%
Cu 327.393	30140.2	192.1	ug/L	2.61	9.594	mg/kg	0.1303	1.36%
Fe 273.955	7278839.4	221700	ug/L	1742.2	11080	mg/kg	87.0	0.79%
K 766.490	42533.0	10440	ug/L	67.4	521.7	mg/kg	3.37	0.65%
Mg 285.213	710236.4	19650	ug/L	193.3	981.4	mg/kg	9.65	0.98%
Mn 257.610	296655.0	3065	ug/L	21.0	153.1	mg/kg	1.05	0.68%
Mo 202.031	-466.6	6.363	ug/L	0.3811	0.318	mg/kg	0.0190	5.99%
Na 589.592	5379.8	303.4	ug/L	9.20	15.15	mg/kg	0.459	3.03%
Ni 231.604	17919.4	242.0	ug/L	0.79	12.09	mg/kg	0.039	0.32%
P 213.617	21362.5	2667	ug/L	3.6	133.2	mg/kg	0.18	0.14%
Pb 220.353	2592.7	139.7	ug/L	0.34	6.976	mg/kg	0.0172	0.25%
Sb 206.836	6.5	0.885	ug/L	1.0651	0.044	mg/kg	0.0532	120.35%
Se 196.026	79.8	15.74	ug/L	1.129	0.786	mg/kg	0.0564	7.17%
Sn 189.927	0.3	0.033	ug/L	0.1017	0.002	mg/kg	0.0051	312.24%
Sr 421.552	123614.4	97.09	ug/L	0.765	4.849	mg/kg	0.0382	0.79%
Ti 337.279	12941.5	148.4	ug/L	1.04	7.411	mg/kg	0.0519	0.70%
Tl 190.801	-308.8	-0.421	ug/L	0.9686	-0.021	mg/kg	0.0484	229.84%
V 292.402	96221.9	292.0	ug/L	3.85	14.58	mg/kg	0.192	1.32%
Zn 206.200	90583.0	760.7	ug/L	9.25	38.00	mg/kg	0.462	1.22%

Metals Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri
Project: 748073 WVMA-MRS01 & MRS02
Sample ID: WVMA-MRS02-SS-24-04
Sample Collection Date: 05/11/12

ARF: 67746
APPL ID: AY61139

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 24.8 Percent Moisture.)								
6010B/3050B	ANTIMONY (SB)	0.29	0.27	0.065	mg/kg	1	06/01/12	06/05/12
6010B/3050B	COPPER (CU)	8.5	3.30	0.630	mg/kg	5	06/01/12	06/05/12
6010B/3050B	LEAD (PB)	9.4	3.30	0.610	mg/kg	5	06/01/12	06/05/12
6010B/3050B	MANGANESE (MN)	370	3.3	0.86	mg/kg	5	06/01/12	06/05/12
7471/7471	MERCURY (HG)	0.036 J	0.07	0.023	mg/Kg	1	06/01/12	06/01/12
6010B/3050B	ZINC (ZN)	40	33	7.3	mg/kg	5	06/01/12	06/05/12

J = Estimated value.

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Printed: 06/21/12 11:23:13 AM
PL-F1-SC-MCRes/MCPQL-REG MDLs

Sequence No.: 104
Sample ID: AY61139S01
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.97 g
Dilution:

Autosampler Location: 111
Date Collected: 06/05/12 11:51:02 PM
Data Type: Reprocessed on 06/06/12 8:10:10 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61139S01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-4415.5	-27.70	ug/L	0.413	-0.278	mg/kg	0.0041	1.49%
Al 308.215	2086239.4	776200	ug/L	6598.2	7785	mg/kg	66.2	0.85%
As 188.979	2141.5	413.2	ug/L	14.29	4.144	mg/kg	0.1434	3.46%
B	-31141.6	-1322	ug/L	73.7	-13.26	mg/kg	0.739	5.58%
Ba 233.527	1066055.3	4614	ug/L	47.3	46.28	mg/kg	0.474	1.02%
Be 313.107	212125.5	17.15	ug/L	0.454	0.172	mg/kg	0.0046	2.65%
Ca 315.887	1055538.0	50330	ug/L	847.6	504.8	mg/kg	8.50	1.68%
Cd 214.440	34464.3	25.73	ug/L	0.924	0.258	mg/kg	0.0093	3.59%
Co 228.616	79604.9	842.7	ug/L	7.31	8.452	mg/kg	0.0733	0.87%
Cr 267.716	120819.4	800.8	ug/L	5.95	8.032	mg/kg	0.0596	0.74%
Cu 327.393	101673.8	649.8	ug/L	4.87	6.517	mg/kg	0.0488	0.75%
Fe 273.955	32148463.0	979300	ug/L	4993.0	9822	mg/kg	50.1	0.51%
K 766.490	167759.5	41180	ug/L	556.5	413.0	mg/kg	5.58	1.35%
Mg 285.213	3069451.9	84930	ug/L	714.3	851.9	mg/kg	7.16	0.84%
Mn 257.610	2342536.5	24200	ug/L	204.1	242.7	mg/kg	2.05	0.84%
Mo 202.031	-3522.6	1.283	ug/L	2.3260	0.013	mg/kg	0.0233	181.30%
Na 589.592	21735.2	1216	ug/L	25.1	12.19	mg/kg	0.252	2.07%
Ni 231.604	61633.2	825.6	ug/L	8.02	8.281	mg/kg	0.0805	0.97%
P 213.617	71386.8	8912	ug/L	138.0	89.39	mg/kg	1.384	1.55%
Pb 220.353	10542.6	567.9	ug/L	2.99	5.696	mg/kg	0.0300	0.53%
Sb 206.836	158.3	21.65	ug/L	10.264	0.217	mg/kg	0.1029	47.41%
Se 196.026	409.5	80.75	ug/L	28.479	0.810	mg/kg	0.2856	35.27%
Sn 189.927	18.9	1.928	ug/L	2.6567	0.019	mg/kg	0.0266	137.82%
Sr 421.552	606813.6	476.8	ug/L	7.83	4.782	mg/kg	0.0786	1.64%
Ti 337.279	64284.0	736.8	ug/L	13.89	7.391	mg/kg	0.1393	1.88%
Tl 190.801	-1976.2	23.55	ug/L	2.194	0.236	mg/kg	0.0220	9.32%
V 292.402	414777.0	1254	ug/L	15.3	12.58	mg/kg	0.154	1.22%
Zn 206.200	293576.8	2450	ug/L	19.9	24.57	mg/kg	0.199	0.81%

Sequence No.: 45
Sample ID: AY61139S01-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.97 g
Dilution: 5X

Autosampler Location: 157
Date Collected: 06/05/12 7:15:02 PM
Data Type: Reprocessed on 06/06/12 8:09:09 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61139S01-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-1099.7	-6.900	ug/L	0.3898	-0.346	mg/kg	0.0196	5.65%
Al 308.215	445728.7	165800	ug/L	429.1	8317	mg/kg	21.5	0.26%
As 188.979	490.8	94.69	ug/L	1.745	4.749	mg/kg	0.0875	1.84%
B	-7133.8	-37.76	ug/L	2.607	-1.893	mg/kg	0.1307	6.90%
Ba 233.527	249251.0	1058	ug/L	14.5	53.07	mg/kg	0.726	1.37%
Be 313.107	47498.3	2.003	ug/L	0.1363	0.100	mg/kg	0.0068	6.81%
Ca 315.887	237992.7	11350	ug/L	97.3	569.0	mg/kg	4.88	0.86%
Cd 214.440	7895.4	0.817	ug/L	0.2364	0.041	mg/kg	0.0119	28.95%
Co 228.616	19774.2	207.7	ug/L	0.30	10.41	mg/kg	0.015	0.15%
Cr 267.716	27608.3	185.0	ug/L	2.79	9.279	mg/kg	0.1399	1.51%
Cu 327.393	19595.9	126.7	ug/L	1.47	6.353	mg/kg	0.0736	1.16%
Fe 273.955	10038629.3	305800	ug/L	3145.9	15340	mg/kg	157.8	1.03%
K 766.490	34486.4	8437	ug/L	108.2	423.1	mg/kg	5.42	1.28%
Mg 285.213	672686.1	18730	ug/L	57.7	939.1	mg/kg	2.89	0.31%
Mn 257.610	541319.6	5592	ug/L	18.5	280.4	mg/kg	0.93	0.33%
Mo 202.031	-821.6	6.301	ug/L	0.9642	0.316	mg/kg	0.0484	15.30%
Na 589.592	4463.8	240.7	ug/L	11.95	12.07	mg/kg	0.599	4.97%
Ni 231.604	14646.4	195.1	ug/L	0.42	9.786	mg/kg	0.0208	0.21%
P 213.617	17064.2	2130	ug/L	4.4	106.8	mg/kg	0.22	0.20%
Pb 220.353	2632.1	141.8	ug/L	0.39	7.110	mg/kg	0.0195	0.27%
Sb 206.836	23.3	3.192	ug/L	0.9420	0.160	mg/kg	0.0472	29.51%
Se 196.026	76.9	15.16	ug/L	3.011	0.760	mg/kg	0.1510	19.86%
Sn 189.927	-9.8	-1.001	ug/L	0.2476	-0.050	mg/kg	0.0124	24.74%
Sr 421.552	127927.3	100.4	ug/L	0.74	5.035	mg/kg	0.0369	0.73%
Ti 337.279	13684.8	157.3	ug/L	1.00	7.889	mg/kg	0.0503	0.64%
Tl 190.801	-482.0	2.898	ug/L	0.3431	0.145	mg/kg	0.0172	11.84%
V 292.402	94210.3	265.8	ug/L	4.56	13.33	mg/kg	0.229	1.72%
Zn 206.200	72889.9	603.5	ug/L	8.95	30.27	mg/kg	0.449	1.48%

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	RL	MDL	Units	Prep Date	Analysis Date	QC Group
6010B	ALUMINUM (AL)	1.0 U	10	1.0	mg/kg	06/01/12	06/05/12	#61SMM-120601A1-AY61126
6010B	BARIUM (BA)	0.047 U	0.50	0.047	mg/kg	06/01/12	06/05/12	#61SMM-120601A1-AY61126
6010B	CHROMIUM (CR)	0.029 U	0.50	0.029	mg/kg	06/01/12	06/05/12	#61SMM-120601A1-AY61126
6010B	COPPER (CU)	0.099 J	0.50	0.094	mg/kg	06/01/12	06/05/12	#61SMM-120601A1-AY61126
6010B	LEAD (PB)	0.092 U	0.50	0.092	mg/kg	06/01/12	06/05/12	#61SMM-120601A1-AY61126
6010B	MAGNESIUM (MG)	0.74 U	5.0	0.74	mg/kg	06/01/12	06/05/12	#61SMM-120601A1-AY61126
6010B	MANGANESE (MN)	0.18 J	0.5	0.13	mg/kg	06/01/12	06/05/12	#61SMM-120601A1-AY61126
6010B	ZINC (ZN)	1.1 U	5	1.1	mg/kg	06/01/12	06/05/12	#61SMM-120601A1-AY61126
6010B	ANTIMONY (SB)	0.049 U	0.20	0.049	mg/kg	06/01/12	06/05/12	#61SMM-120601A-AY61137
7471	MERCURY (HG)	0.017 U	0.05	0.017	mg/Kg	06/01/12	06/01/12	#HGDOD-120601A-AY61137

Metals SC-Blank-REG MDLs
Printed: 06/21/12 11:23:24 AM

AMENDED PAGE

Sequence No.: 16
Sample ID: 120601A-3050LL-BLK
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10 g
Dilution:

Autosampler Location: 134
Date Collected: 06/05/12 4:51:53 PM
Data Type: Reprocessed on 06/06/12 8:08:41 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: 120601A-3050LL-BLK

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-56.1	-0.352	ug/L	0.3321	-0.004	mg/kg	0.0033	94.31%
Al 308.215	80.9	30.09	ug/L	4.771	0.301	mg/kg	0.0477	15.86%
As 188.979	-2.5	-0.475	ug/L	1.4468	-0.005	mg/kg	0.0145	304.36%
B	-29.7	-2.399	ug/L	1.6493	-0.024	mg/kg	0.0165	68.74%
Ba 233.527	112.2	0.371	ug/L	0.0698	0.004	mg/kg	0.0007	18.84%
Be 313.107	252.2	0.039	ug/L	0.0267	0.000	mg/kg	0.0003	69.22%
Ca 315.887	700.9	33.40	ug/L	1.075	0.334	mg/kg	0.0107	3.22%
Cd 214.440	15.2	0.003	ug/L	0.0422	0.000	mg/kg	0.0004	>999.9%
Co 228.616	66.1	0.708	ug/L	0.2494	0.007	mg/kg	0.0025	35.22%
Cr 267.716	9.3	0.061	ug/L	0.1734	0.001	mg/kg	0.0017	284.37%
Cu 327.393	1566.1	9.886	ug/L	3.1094	0.099	mg/kg	0.0311	31.45%
Fe 273.955	17408.7	530.4	ug/L	113.11	5.304	mg/kg	1.1311	21.33%
K 766.490	-14.9	-3.787	ug/L	68.9222	-0.038	mg/kg	0.6892	>999.9%
Mg 285.213	337.7	9.862	ug/L	0.3222	0.099	mg/kg	0.0032	3.27%
Mn 257.610	1701.8	17.58	ug/L	0.523	0.176	mg/kg	0.0052	2.97%
Mo 202.031	33.9	0.722	ug/L	0.2624	0.007	mg/kg	0.0026	36.37%
Na 589.592	624.1	43.80	ug/L	12.207	0.438	mg/kg	0.1221	27.87%
Ni 231.604	66.4	0.905	ug/L	0.5073	0.009	mg/kg	0.0051	56.04%
P 213.617	125.2	15.63	ug/L	2.529	0.156	mg/kg	0.0253	16.18%
Pb 220.353	21.4	1.151	ug/L	0.7158	0.012	mg/kg	0.0072	62.17%
Sb 206.836	1.4	0.191	ug/L	0.3187	0.002	mg/kg	0.0032	166.82%
Se 196.026	-7.4	-1.453	ug/L	0.6189	-0.015	mg/kg	0.0062	42.58%
Sn 189.927	63.0	6.415	ug/L	2.3245	0.064	mg/kg	0.0232	36.23%
Sr 421.552	18.0	0.013	ug/L	0.0608	0.000	mg/kg	0.0006	460.23%
Ti 337.279	189.5	2.168	ug/L	0.1626	0.022	mg/kg	0.0016	7.50%
Tl 190.801	-5.6	-0.294	ug/L	0.2798	-0.003	mg/kg	0.0028	95.29%
V 292.402	1.8	-0.102	ug/L	0.2545	-0.001	mg/kg	0.0025	250.27%
Zn 206.200	318.9	2.676	ug/L	0.3637	0.027	mg/kg	0.0036	13.59%

Laboratory Control Spike Recovery
METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6010B	ALUMINUM (AL)	20.0	19.1	95.5	80-120	06/01/12	06/05/12	#61SMM-120601A1-AY61126
EPA 6010B	BARIUM (BA)	2.50	2.6	104	80-120	06/01/12	06/05/12	#61SMM-120601A1-AY61126
EPA 6010B	CHROMIUM (CR)	2.50	2.6	104	80-120	06/01/12	06/05/12	#61SMM-120601A1-AY61126
EPA 6010B	COPPER (CU)	2.50	2.7	108	80-120	06/01/12	06/05/12	#61SMM-120601A1-AY61126
EPA 6010B	LEAD (PB)	2.50	2.6	104	80-120	06/01/12	06/05/12	#61SMM-120601A1-AY61126
EPA 6010B	MAGNESIUM (MG)	250	250	100	80-120	06/01/12	06/05/12	#61SMM-120601A1-AY61126
EPA 6010B	MANGANESE (MN)	2.50	2.7	108	80-120	06/01/12	06/05/12	#61SMM-120601A1-AY61126
EPA 6010B	ZINC (ZN)	5.00	5.1	102	80-120	06/01/12	06/05/12	#61SMM-120601A1-AY61126

Comments: _____

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6010B	ANTIMONY (SB)	2.50	2.5	100	80-120	06/01/12	06/05/12	#61SMM-120601A-AY61137
EPA 7471	MERCURY (HG)	0.667	0.62	93.0	80-120	06/01/12	06/01/12	#HGDOD-120601A-AY61137

Comments: _____

Printed: 06/06/12 4:03:42 PM
APPL Standard LCS

Sequence No.: 17
Sample ID: 120601A-3050LL-LCS
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10 g
Dilution:

Autosampler Location: 135
Date Collected: 06/05/12 5:09:06 PM
Data Type: Reprocessed on 06/06/12 8:08:42 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: 120601A-3050LL-LCS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	16462.1	103.3	ug/L	0.66	1.033	mg/kg	0.0066	0.64%
Al 308.215	5142.4	1909	ug/L	53.0	19.09	mg/kg	0.530	2.78%
As 188.979	1263.1	243.7	ug/L	0.91	2.437	mg/kg	0.0091	0.37%
B	1755.0	242.2	ug/L	10.24	2.422	mg/kg	0.1024	4.23%
Ba 233.527	55823.6	255.1	ug/L	3.00	2.551	mg/kg	0.0300	1.17%
Be 313.107	319898.6	53.68	ug/L	0.717	0.537	mg/kg	0.0072	1.34%
Ca 315.887	525719.8	25050	ug/L	151.5	250.5	mg/kg	1.52	0.60%
Cd 214.440	22108.2	50.77	ug/L	0.069	0.508	mg/kg	0.0007	0.13%
Co 228.616	24453.3	268.6	ug/L	0.26	2.686	mg/kg	0.0026	0.10%
Cr 267.716	40342.8	264.2	ug/L	3.55	2.642	mg/kg	0.0355	1.34%
Cu 327.393	42511.1	269.5	ug/L	2.94	2.695	mg/kg	0.0294	1.09%
Fe 273.955	54448.3	1636	ug/L	13.8	16.36	mg/kg	0.138	0.84%
K 766.490	20209.5	4988	ug/L	14.4	49.88	mg/kg	0.144	0.29%
Mg 285.213	916328.5	24990	ug/L	140.4	249.9	mg/kg	1.40	0.56%
Mn 257.610	26377.5	271.6	ug/L	3.12	2.716	mg/kg	0.0312	1.15%
Mo 202.031	13498.8	270.0	ug/L	0.55	2.700	mg/kg	0.0055	0.20%
Na 589.592	360427.8	25320	ug/L	135.8	253.2	mg/kg	1.36	0.54%
Ni 231.604	19432.5	267.7	ug/L	0.48	2.677	mg/kg	0.0048	0.18%
P 213.617	16310.4	2036	ug/L	4.0	20.36	mg/kg	0.040	0.20%
Pb 220.353	4837.8	260.6	ug/L	0.72	2.606	mg/kg	0.0072	0.27%
Sb 206.836	1852.4	253.3	ug/L	0.44	2.533	mg/kg	0.0044	0.18%
Se 196.026	1211.5	238.9	ug/L	1.29	2.389	mg/kg	0.0129	0.54%
Sn 189.927	2571.7	262.0	ug/L	0.93	2.620	mg/kg	0.0093	0.36%
Sr 421.552	321173.4	253.2	ug/L	1.19	2.532	mg/kg	0.0119	0.47%
Ti 337.279	22389.5	255.6	ug/L	2.73	2.556	mg/kg	0.0273	1.07%
Tl 190.801	3418.4	262.3	ug/L	1.19	2.623	mg/kg	0.0119	0.45%
V 292.402	74888.0	271.4	ug/L	3.51	2.714	mg/kg	0.0351	1.29%
Zn 206.200	59999.5	512.3	ug/L	7.69	5.123	mg/kg	0.0769	1.50%

Matrix Spike Recoveries

METALS

APPL ID: **120601S-61126 MS - 167705**

Sample ID: AY61126

Client ID: WVMA-MRS01-SS-04-02

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/kg	Matrix Res mg/kg	SPK Res mg/kg	DUP Res mg/kg	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6010B	ALUMINUM (AL)	80.4	9600	8490	8090	0#	0#	4.8	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61126
EPA 6010B	ANTIMONY (SB)	10.1	0.28	5.1	4.9	47.7 #	45.7 #	4.0	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167675	AY61126
EPA 6010B	BARIUM (BA)	10.1	66.0	63.6	69.6	0#	35.6 #	9.0	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61126
EPA 6010B	CHROMIUM (CR)	10.1	13.0	18.1	18.2	50.5 #	51.5 #	0.6	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61126
EPA 6010B	COPPER (CU)	10.1	12.0	16.7	16.7	46.5 #	46.5 #	0.0	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61126
EPA 6010B	LEAD (PB)	10.1	14.0	18.6	22.1	45.5 #	80.2	17.2	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61126
EPA 6010B	MAGNESIUM (MG)	1010	1400	2010	1910	60.4 #	50.5 #	5.1	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61126
EPA 6010B	ZINC (ZN)	20.2	49.0	56.1	54.8	35.1 #	28.7 #	2.3	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61126

= Recovery is outside QC limits.

Comments:

Printed: 06/06/12 4:03:40 PM
APPL MSD SCII

Sequence No.: 85
Sample ID: AY61126S02 MS
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.95 g
Dilution:

Autosampler Location: 94
Date Collected: 06/05/12 10:29:45 PM
Data Type: Reprocessed on 06/06/12 8:09:50 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61126S02 MS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	37244.5	233.7	ug/L	3.74	2.349	mg/kg	0.0376	1.60%
Al 308.215	2046141.1	761300	ug/L	3295.8	7651	mg/kg	33.1	0.43%
As 188.979	6220.9	1200	ug/L	22.7	12.06	mg/kg	0.228	1.89%
B	-28193.6	-897.7	ug/L	13.75	-9.022	mg/kg	0.1382	1.53%
Ba 233.527	1216590.5	5301	ug/L	14.2	53.28	mg/kg	0.143	0.27%
Be 313.107	958454.2	141.8	ug/L	0.43	1.425	mg/kg	0.0044	0.31%
Ca 315.887	1623827.7	77400	ug/L	353.3	777.9	mg/kg	3.55	0.46%
Cd 214.440	84827.2	141.1	ug/L	1.94	1.418	mg/kg	0.0195	1.38%
Co 228.616	120607.4	1293	ug/L	13.9	13.00	mg/kg	0.140	1.08%
Cr 267.716	228332.7	1507	ug/L	4.3	15.15	mg/kg	0.043	0.28%
Cu 327.393	231686.4	1472	ug/L	9.0	14.80	mg/kg	0.091	0.61%
Fe 273.955	32381202.2	986300	ug/L	4861.5	9913	mg/kg	48.9	0.49%
K 766.490	278930.3	68520	ug/L	714.6	688.7	mg/kg	7.18	1.04%
Mg 285.213	6244192.4	171500	ug/L	844.2	1724	mg/kg	8.5	0.49%
Mn 257.610	2090118.4	21590	ug/L	92.6	217.0	mg/kg	0.93	0.43%
Mo 202.031	25094.0	573.9	ug/L	2.13	5.768	mg/kg	0.0214	0.37%
Na 589.592	928847.1	64930	ug/L	343.0	652.6	mg/kg	3.45	0.53%
Ni 231.604	120827.3	1642	ug/L	4.8	16.50	mg/kg	0.048	0.29%
P 213.617	156696.4	19560	ug/L	120.0	196.6	mg/kg	1.21	0.61%
Pb 220.353	27228.5	1467	ug/L	21.3	14.74	mg/kg	0.214	1.45%
Sb 206.836	3679.1	503.1	ug/L	7.77	5.057	mg/kg	0.0780	1.54%
Se 196.026	3408.4	672.1	ug/L	10.55	6.755	mg/kg	0.1060	1.57%
Sn 189.927	5799.6	590.8	ug/L	2.66	5.938	mg/kg	0.0267	0.45%
Sr 421.552	1638507.0	1291	ug/L	7.0	12.97	mg/kg	0.070	0.54%
Ti 337.279	104604.7	1197	ug/L	9.0	12.03	mg/kg	0.090	0.75%
Tl 190.801	5428.5	570.6	ug/L	8.85	5.734	mg/kg	0.0889	1.55%
V 292.402	592968.6	1898	ug/L	5.5	19.08	mg/kg	0.055	0.29%
Zn 206.200	512065.9	4313	ug/L	3.5	43.35	mg/kg	0.035	0.08%

Sequence No.: 86
Sample ID: AY61126S02 MSD
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.95 g
Dilution:

Autosampler Location: 95
Date Collected: 06/05/12 10:34:02 PM
Data Type: Reprocessed on 06/06/12 8:09:51 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61126S02 MSD

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	35464.5	222.5	ug/L	1.47	2.236	mg/kg	0.0148	0.66%
Al 308.215	1968872.5	732500	ug/L	6516.7	7362	mg/kg	65.5	0.89%
As 188.979	6395.5	1234	ug/L	5.4	12.40	mg/kg	0.054	0.44%
B	-26780.8	-754.3	ug/L	37.91	-7.581	mg/kg	0.3810	5.03%
Ba 233.527	1347940.7	5907	ug/L	44.8	59.37	mg/kg	0.450	0.76%
Be 313.107	932533.0	137.6	ug/L	0.85	1.383	mg/kg	0.0085	0.61%
Ca 315.887	1571855.7	74920	ug/L	621.2	753.0	mg/kg	6.24	0.83%
Cd 214.440	82490.1	136.6	ug/L	1.14	1.373	mg/kg	0.0115	0.83%
Co 228.616	118231.7	1268	ug/L	8.8	12.74	mg/kg	0.089	0.70%
Cr 267.716	224119.4	1479	ug/L	9.3	14.86	mg/kg	0.094	0.63%
Cu 327.393	240606.3	1528	ug/L	6.0	15.36	mg/kg	0.060	0.39%
Fe 273.955	31787354.4	968200	ug/L	6311.2	9731	mg/kg	63.4	0.65%
K 766.490	269005.6	66080	ug/L	200.2	664.1	mg/kg	2.01	0.30%
Mg 285.213	5975787.6	164200	ug/L	1263.2	1650	mg/kg	12.7	0.77%
Mn 257.610	2094025.5	21630	ug/L	168.7	217.4	mg/kg	1.70	0.78%
Mo 202.031	24808.0	567.1	ug/L	3.73	5.699	mg/kg	0.0375	0.66%
Na 589.592	900003.3	62920	ug/L	518.1	632.3	mg/kg	5.21	0.82%
Ni 231.604	115025.9	1563	ug/L	8.0	15.70	mg/kg	0.080	0.51%
P 213.617	149770.0	18700	ug/L	150.7	187.9	mg/kg	1.51	0.81%
Pb 220.353	32469.0	1749	ug/L	8.9	17.58	mg/kg	0.090	0.51%
Sb 206.836	3543.4	484.6	ug/L	10.48	4.870	mg/kg	0.1053	2.16%
Se 196.026	3320.1	654.7	ug/L	11.14	6.580	mg/kg	0.1120	1.70%
Sn 189.927	5665.1	577.1	ug/L	6.02	5.800	mg/kg	0.0605	1.04%
Sr 421.552	1572498.7	1239	ug/L	11.5	12.45	mg/kg	0.115	0.93%
Ti 337.279	97513.7	1116	ug/L	11.0	11.21	mg/kg	0.110	0.98%
Tl 190.801	5340.7	563.5	ug/L	8.79	5.663	mg/kg	0.0883	1.56%
V 292.402	583773.8	1870	ug/L	9.9	18.79	mg/kg	0.099	0.53%
Zn 206.200	508376.7	4282	ug/L	30.1	43.04	mg/kg	0.303	0.70%

Sequence No.: 20
Sample ID: AY61126S02 MS-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.95 g
Dilution: 5X

Autosampler Location: 138
Date Collected: 06/05/12 5:24:27 PM
Data Type: Reprocessed on 06/06/12 8:08:45 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61126S02 MS-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	8275.6	51.92	ug/L	0.511	2.609	mg/kg	0.0257	0.98%
Al 308.215	453891.8	168900	ug/L	1474.5	8486	mg/kg	74.1	0.87%
As 188.979	1434.2	276.7	ug/L	9.24	13.90	mg/kg	0.464	3.34%
B	-6718.7	48.76	ug/L	8.129	2.450	mg/kg	0.4085	16.67%
Ba 233.527	295296.8	1266	ug/L	11.2	63.63	mg/kg	0.562	0.88%
Be 313.107	226067.3	31.67	ug/L	0.325	1.591	mg/kg	0.0163	1.03%
Ca 315.887	379147.1	18070	ug/L	183.7	908.1	mg/kg	9.23	1.02%
Cd 214.440	20809.6	29.94	ug/L	0.532	1.504	mg/kg	0.0267	1.78%
Co 228.616	30436.5	324.5	ug/L	3.60	16.31	mg/kg	0.181	1.11%
Cr 267.716	54136.8	359.3	ug/L	2.82	18.06	mg/kg	0.142	0.79%
Cu 327.393	52028.8	331.9	ug/L	1.62	16.68	mg/kg	0.081	0.49%
Fe 273.955	10365131.9	315700	ug/L	2318.9	15870	mg/kg	116.5	0.73%
K 766.490	58780.7	14420	ug/L	49.6	724.4	mg/kg	2.49	0.34%
Mg 285.213	1454861.5	40070	ug/L	347.7	2014	mg/kg	17.5	0.87%
Mn 257.610	501749.2	5183	ug/L	42.0	260.4	mg/kg	2.11	0.81%
Mo 202.031	5933.7	142.1	ug/L	1.68	7.140	mg/kg	0.0845	1.18%
Na 589.592	204277.4	14270	ug/L	111.8	717.2	mg/kg	5.62	0.78%
Ni 231.604	31405.5	426.1	ug/L	3.08	21.41	mg/kg	0.155	0.72%
P 213.617	39077.1	4879	ug/L	30.2	245.2	mg/kg	1.52	0.62%
Pb 220.353	6866.0	369.8	ug/L	3.30	18.58	mg/kg	0.166	0.89%
Sb 206.836	856.1	117.1	ug/L	7.17	5.883	mg/kg	0.3601	6.12%
Se 196.026	776.5	153.1	ug/L	9.20	7.694	mg/kg	0.4621	6.01%
Sn 189.927	1474.9	150.3	ug/L	1.48	7.551	mg/kg	0.0745	0.99%
Sr 421.552	359595.3	283.1	ug/L	2.60	14.23	mg/kg	0.131	0.92%
Ti 337.279	23542.5	269.8	ug/L	1.40	13.56	mg/kg	0.070	0.52%
Tl 190.801	1372.0	141.4	ug/L	3.58	7.104	mg/kg	0.1799	2.53%
V 292.402	138260.0	423.1	ug/L	4.05	21.26	mg/kg	0.204	0.96%
Zn 206.200	133057.3	1116	ug/L	9.7	56.08	mg/kg	0.487	0.87%

Sequence No.: 21
Sample ID: AY61126S02 MSD-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.95 g
Dilution: 5X

Autosampler Location: 139
Date Collected: 06/05/12 5:28:41 PM
Data Type: Reprocessed on 06/06/12 8:08:46 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61126S02 MSD-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	7992.6	50.15	ug/L	0.527	2.520	mg/kg	0.0265	1.05%
Al 308.215	432572.5	160900	ug/L	3563.5	8088	mg/kg	179.1	2.21%
As 188.979	1464.1	282.5	ug/L	7.16	14.19	mg/kg	0.360	2.53%
B	-6345.7	69.37	ug/L	8.059	3.486	mg/kg	0.4050	11.62%
Ba 233.527	320529.1	1384	ug/L	15.8	69.57	mg/kg	0.794	1.14%
Be 313.107	216649.7	30.26	ug/L	0.409	1.521	mg/kg	0.0205	1.35%
Ca 315.887	365006.1	17400	ug/L	406.6	874.2	mg/kg	20.43	2.34%
Cd 214.440	20043.1	28.75	ug/L	0.379	1.444	mg/kg	0.0190	1.32%
Co 228.616	29584.2	315.5	ug/L	2.61	15.85	mg/kg	0.131	0.83%
Cr 267.716	54656.4	362.5	ug/L	2.22	18.22	mg/kg	0.112	0.61%
Cu 327.393	52088.5	332.2	ug/L	5.38	16.69	mg/kg	0.270	1.62%
Fe 273.955	10031694.7	305600	ug/L	1545.6	15360	mg/kg	77.7	0.51%
K 766.490	57391.8	14070	ug/L	110.8	707.2	mg/kg	5.57	0.79%
Mg 285.213	1376986.3	37940	ug/L	797.7	1906	mg/kg	40.1	2.10%
Mn 257.610	498341.2	5147	ug/L	116.8	258.7	mg/kg	5.87	2.27%
Mo 202.031	5765.8	138.0	ug/L	1.19	6.935	mg/kg	0.0600	0.87%
Na 589.592	196544.1	13730	ug/L	288.2	690.1	mg/kg	14.48	2.10%
Ni 231.604	29381.3	398.4	ug/L	4.78	20.02	mg/kg	0.240	1.20%
P 213.617	37298.1	4657	ug/L	41.0	234.0	mg/kg	2.06	0.88%
Pb 220.353	8145.8	438.8	ug/L	6.55	22.05	mg/kg	0.329	1.49%
Sb 206.836	826.5	113.0	ug/L	2.60	5.680	mg/kg	0.1305	2.30%
Se 196.026	776.2	153.1	ug/L	2.72	7.691	mg/kg	0.1366	1.78%
Sn 189.927	1432.0	145.9	ug/L	1.89	7.331	mg/kg	0.0948	1.29%
Sr 421.552	340965.6	268.4	ug/L	5.84	13.49	mg/kg	0.294	2.18%
Ti 337.279	21882.7	250.8	ug/L	1.68	12.60	mg/kg	0.084	0.67%
Tl 190.801	1297.6	135.3	ug/L	2.63	6.800	mg/kg	0.1319	1.94%
V 292.402	133122.9	407.2	ug/L	6.06	20.46	mg/kg	0.304	1.49%
Zn 206.200	130026.5	1091	ug/L	12.4	54.81	mg/kg	0.624	1.14%

Matrix Spike Recoveries

METALS

APPL ID: **120601S-61133 MS - 167705**

Sample ID: AY61133

Client ID: WVMA-MRS01-SD-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/kg	Matrix Res mg/kg	SPK Res mg/kg	DUP Res mg/kg	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6010B	ALUMINUM (AL)	80.6	5400	7570	7940	2692 #	3151 #	4.8	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61133
EPA 6010B	ANTIMONY (SB)	10.1	0.26	3.5	6.4	32.1 #	60.8 #	58.6 #	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167675	AY61133
EPA 6010B	BARIUM (BA)	10.1	78.0	106	106	277 #	277 #	0.0	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61133
EPA 6010B	CHROMIUM (CR)	10.1	8.0	20.0	20.4	119	123 #	2.0	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61133
EPA 6010B	COPPER (CU)	10.1	12.0	20.3	24.5	82.2	124 #	18.7	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61133
EPA 6010B	LEAD (PB)	10.1	8.3	20.7	19.2	123 #	108	7.5	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61133
EPA 6010B	MAGNESIUM (MG)	1010	970	2180	2140	120	116	1.9	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61133
EPA 6010B	ZINC (ZN)	20.2	35.0	61.9	61.8	133 #	133 #	0.2	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61133

= Recovery is outside QC limits.

Comments:

Printed: 06/06/12 4:03:40 PM
APPL MSD SCII

Sequence No.: 92
Sample ID: AY61133S02 MS
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.93 g
Dilution:

Autosampler Location: 101
Date Collected: 06/05/12 10:59:56 PM
Data Type: Reprocessed on 06/06/12 8:09:58 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61133S02 MS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	45631.4	286.3	ug/L	0.92	2.883	mg/kg	0.0093	0.32%
Al 308.215	1842184.5	685400	ug/L	1393.0	6902	mg/kg	14.0	0.20%
As 188.979	8162.9	1575	ug/L	3.1	15.86	mg/kg	0.031	0.20%
B	-34944.9	-1382	ug/L	24.8	-13.92	mg/kg	0.250	1.79%
Ba 233.527	2006941.9	8880	ug/L	93.7	89.43	mg/kg	0.943	1.06%
Be 313.107	1244652.5	184.9	ug/L	2.35	1.862	mg/kg	0.0236	1.27%
Ca 315.887	2061331.2	98240	ug/L	208.3	989.3	mg/kg	2.10	0.21%
Cd 214.440	103838.0	175.9	ug/L	0.24	1.772	mg/kg	0.0024	0.14%
Co 228.616	150421.3	1618	ug/L	1.9	16.29	mg/kg	0.019	0.12%
Cr 267.716	265517.5	1749	ug/L	3.9	17.61	mg/kg	0.040	0.22%
Cu 327.393	294770.9	1872	ug/L	4.3	18.85	mg/kg	0.043	0.23%
Fe 273.955	36764717.6	1120000	ug/L	6216.9	11280	mg/kg	62.6	0.56%
K 766.490	237637.9	58350	ug/L	420.7	587.6	mg/kg	4.24	0.72%
Mg 285.213	6801504.0	186900	ug/L	251.8	1882	mg/kg	2.5	0.13%
Mn 257.610	2790493.2	28820	ug/L	49.8	290.2	mg/kg	0.50	0.17%
Mo 202.031	30627.0	696.8	ug/L	1.56	7.017	mg/kg	0.0157	0.22%
Na 589.592	1157948.1	81050	ug/L	135.9	816.2	mg/kg	1.37	0.17%
Ni 231.604	168205.9	2293	ug/L	4.7	23.09	mg/kg	0.047	0.21%
P 213.617	161492.2	20160	ug/L	71.4	203.0	mg/kg	0.72	0.35%
Pb 220.353	29277.4	1577	ug/L	5.3	15.88	mg/kg	0.054	0.34%
Sb 206.836	2577.1	352.4	ug/L	3.82	3.549	mg/kg	0.0384	1.08%
Se 196.026	3873.6	763.8	ug/L	28.10	7.692	mg/kg	0.2830	3.68%
Sn 189.927	7006.0	713.7	ug/L	4.79	7.188	mg/kg	0.0482	0.67%
Sr 421.552	1930813.5	1521	ug/L	3.0	15.32	mg/kg	0.030	0.20%
Ti 337.279	74691.7	855.5	ug/L	7.04	8.615	mg/kg	0.0709	0.82%
Tl 190.801	6518.1	699.1	ug/L	4.20	7.041	mg/kg	0.0423	0.60%
V 292.402	676935.6	2171	ug/L	28.7	21.86	mg/kg	0.289	1.32%
Zn 206.200	570070.8	4797	ug/L	47.3	48.30	mg/kg	0.476	0.99%

Sequence No.: 95
Sample ID: AY61133S02 MSD
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.93 g
Dilution:

Autosampler Location: 102
Date Collected: 06/05/12 11:12:14 PM
Data Type: Reprocessed on 06/06/12 8:10:01 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61133S02 MSD

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	42673.0	267.7	ug/L	1.09	2.696	mg/kg	0.0110	0.41%
Al 308.215	1878945.2	699100	ug/L	5060.5	7040	mg/kg	51.0	0.72%
As 188.979	10470.5	2020	ug/L	4.4	20.34	mg/kg	0.044	0.22%
B	-31642.5	-1106	ug/L	52.6	-11.14	mg/kg	0.530	4.76%
Ba 233.527	1891885.0	8369	ug/L	71.7	84.28	mg/kg	0.722	0.86%
Be 313.107	1162628.5	174.2	ug/L	1.46	1.754	mg/kg	0.0147	0.84%
Ca 315.887	1907574.6	90920	ug/L	548.4	915.6	mg/kg	5.52	0.60%
Cd 214.440	97132.0	164.0	ug/L	0.65	1.651	mg/kg	0.0065	0.40%
Co 228.616	124692.5	1336	ug/L	11.8	13.45	mg/kg	0.118	0.88%
Cr 267.716	246940.5	1631	ug/L	13.6	16.43	mg/kg	0.137	0.83%
Cu 327.393	333035.1	2114	ug/L	13.4	21.29	mg/kg	0.135	0.63%
Fe 273.955	34965851.0	1065000	ug/L	3725.6	10730	mg/kg	37.5	0.35%
K 766.490	260765.2	64040	ug/L	203.0	644.9	mg/kg	2.04	0.32%
Mg 285.213	6501375.2	178600	ug/L	1136.1	1799	mg/kg	11.4	0.64%
Mn 257.610	2038749.2	21060	ug/L	145.1	212.0	mg/kg	1.46	0.69%
Mo 202.031	29233.7	663.1	ug/L	6.71	6.678	mg/kg	0.0676	1.01%
Na 589.592	1080983.0	75630	ug/L	596.1	761.7	mg/kg	6.00	0.79%
Ni 231.604	151644.0	2067	ug/L	15.6	20.81	mg/kg	0.157	0.76%
P 213.617	147872.7	18460	ug/L	110.0	185.9	mg/kg	1.11	0.60%
Pb 220.353	27318.6	1471	ug/L	2.6	14.82	mg/kg	0.026	0.18%
Sb 206.836	4663.0	637.7	ug/L	3.12	6.422	mg/kg	0.0314	0.49%
Se 196.026	3794.2	748.2	ug/L	27.52	7.534	mg/kg	0.2771	3.68%
Sn 189.927	6505.6	662.8	ug/L	4.21	6.674	mg/kg	0.0424	0.64%
Sr 421.552	2025199.5	1596	ug/L	11.9	16.07	mg/kg	0.120	0.75%
Ti 337.279	112718.5	1290	ug/L	9.9	12.99	mg/kg	0.100	0.77%
Tl 190.801	6537.5	652.3	ug/L	2.49	6.569	mg/kg	0.0251	0.38%
V 292.402	635523.0	2033	ug/L	18.4	20.47	mg/kg	0.186	0.91%
Zn 206.200	532854.9	4484	ug/L	37.4	45.16	mg/kg	0.377	0.83%

Sequence No.: 29
Sample ID: AY61133S02 MS-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.93 g
Dilution: 5X

Autosampler Location: 145
Date Collected: 06/05/12 6:06:15 PM
Data Type: Reprocessed on 06/06/12 8:08:53 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61133S02 MS-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	10255.5	64.35	ug/L	0.894	3.240	mg/kg	0.0450	1.39%
Al 308.215	403991.8	150300	ug/L	2011.5	7569	mg/kg	101.3	1.34%
As 188.979	1874.9	361.7	ug/L	7.98	18.21	mg/kg	0.402	2.20%
B	-8046.3	59.47	ug/L	5.327	2.995	mg/kg	0.2682	8.96%
Ba 233.527	482408.9	2106	ug/L	12.8	106.1	mg/kg	0.65	0.61%
Be 313.107	288421.4	40.41	ug/L	0.307	2.034	mg/kg	0.0154	0.76%
Ca 315.887	477700.8	22770	ug/L	313.7	1146	mg/kg	15.8	1.38%
Cd 214.440	25847.7	37.73	ug/L	0.854	1.900	mg/kg	0.0430	2.26%
Co 228.616	38662.2	413.5	ug/L	4.92	20.82	mg/kg	0.248	1.19%
Cr 267.716	59996.7	398.0	ug/L	2.54	20.04	mg/kg	0.128	0.64%
Cu 327.393	63318.6	403.9	ug/L	2.18	20.34	mg/kg	0.110	0.54%
Fe 273.955	12301097.5	374700	ug/L	946.7	18870	mg/kg	47.7	0.25%
K 766.490	49206.9	12050	ug/L	102.5	606.6	mg/kg	5.16	0.85%
Mg 285.213	1571037.8	43310	ug/L	547.5	2181	mg/kg	27.6	1.26%
Mn 257.610	665172.9	6870	ug/L	90.2	345.9	mg/kg	4.54	1.31%
Mo 202.031	7140.1	171.2	ug/L	1.59	8.619	mg/kg	0.0800	0.93%
Na 589.592	252110.2	17640	ug/L	208.3	888.0	mg/kg	10.49	1.18%
Ni 231.604	43131.7	586.8	ug/L	7.07	29.55	mg/kg	0.356	1.20%
P 213.617	39498.1	4931	ug/L	39.8	248.3	mg/kg	2.01	0.81%
Pb 220.353	7624.2	410.7	ug/L	0.87	20.68	mg/kg	0.044	0.21%
Sb 206.836	596.4	81.56	ug/L	2.653	4.107	mg/kg	0.1336	3.25%
Se 196.026	987.2	194.7	ug/L	9.51	9.801	mg/kg	0.4787	4.88%
Sn 189.927	1798.9	183.3	ug/L	1.39	9.228	mg/kg	0.0700	0.76%
Sr 421.552	417350.2	328.6	ug/L	4.16	16.55	mg/kg	0.210	1.27%
Ti 337.279	16311.4	187.4	ug/L	1.27	9.436	mg/kg	0.0639	0.68%
Tl 190.801	1683.2	175.3	ug/L	1.58	8.827	mg/kg	0.0794	0.90%
V 292.402	154662.0	468.7	ug/L	3.25	23.60	mg/kg	0.164	0.69%
Zn 206.200	146778.1	1228	ug/L	9.1	61.85	mg/kg	0.459	0.74%

Sequence No.: 30
Sample ID: AY61133S02 MSD-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.93 g
Dilution: 5X

Autosampler Location: 146
Date Collected: 06/05/12 6:08:50 PM
Data Type: Reprocessed on 06/06/12 8:08:54 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61133S02 MSD-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	9829.6	61.67	ug/L	0.545	3.105	mg/kg	0.0274	0.88%
Al 308.215	423496.3	157600	ug/L	812.9	7935	mg/kg	40.9	0.52%
As 188.979	2435.2	469.8	ug/L	13.19	23.66	mg/kg	0.664	2.81%
B	-7692.8	76.67	ug/L	13.088	3.861	mg/kg	0.6590	17.07%
Ba 233.527	480981.7	2102	ug/L	6.6	105.8	mg/kg	0.33	0.31%
Be 313.107	285478.6	40.51	ug/L	0.188	2.040	mg/kg	0.0095	0.46%
Ca 315.887	455496.4	21710	ug/L	130.2	1093	mg/kg	6.6	0.60%
Cd 214.440	24503.4	35.28	ug/L	0.520	1.777	mg/kg	0.0262	1.47%
Co 228.616	34183.6	364.3	ug/L	4.09	18.34	mg/kg	0.206	1.12%
Cr 267.716	61093.2	406.2	ug/L	2.10	20.45	mg/kg	0.106	0.52%
Cu 327.393	76272.5	485.7	ug/L	2.36	24.46	mg/kg	0.119	0.49%
Fe 273.955	11994852.7	365400	ug/L	1156.7	18400	mg/kg	58.2	0.32%
K 766.490	56190.3	13760	ug/L	151.9	693.1	mg/kg	7.65	1.10%
Mg 285.213	1542427.1	42520	ug/L	192.2	2141	mg/kg	9.7	0.45%
Mn 257.610	501684.7	5182	ug/L	28.2	260.9	mg/kg	1.42	0.54%
Mo 202.031	7110.9	169.5	ug/L	1.01	8.535	mg/kg	0.0507	0.59%
Na 589.592	242604.6	16970	ug/L	65.6	854.3	mg/kg	3.30	0.39%
Ni 231.604	40698.2	553.6	ug/L	8.63	27.88	mg/kg	0.435	1.56%
P 213.617	38357.6	4789	ug/L	52.1	241.1	mg/kg	2.62	1.09%
Pb 220.353	7091.6	382.0	ug/L	3.05	19.23	mg/kg	0.154	0.80%
Sb 206.836	1093.3	149.5	ug/L	1.30	7.528	mg/kg	0.0655	0.87%
Se 196.026	894.1	176.3	ug/L	5.29	8.877	mg/kg	0.2663	3.00%
Sn 189.927	1713.7	174.6	ug/L	2.97	8.791	mg/kg	0.1497	1.70%
Sr 421.552	450074.5	354.4	ug/L	1.70	17.85	mg/kg	0.085	0.48%
Ti 337.279	25392.4	291.1	ug/L	3.97	14.66	mg/kg	0.200	1.37%
Tl 190.801	1653.8	162.9	ug/L	2.29	8.203	mg/kg	0.1155	1.41%
V 292.402	154190.7	468.8	ug/L	2.24	23.61	mg/kg	0.113	0.48%
Zn 206.200	146511.8	1227	ug/L	5.4	61.80	mg/kg	0.271	0.44%

Matrix Spike Recoveries

METALS

APPL ID: **120601S-61137 MS - 167675**

Sample ID: AY61137

Client ID: WVMA-MRS02-SS-24-02

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/kg	Matrix Res mg/kg	SPK Res mg/kg	DUP Res mg/kg	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6010B	ANTIMONY (SB)	9.95	0.14	4.6	4.3	44.8 #	41.8 #	6.7	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167675	AY61137
EPA 6010B	COPPER (CU)	9.95	10.0	14.8	13.8	48.2 #	38.2 #	7.0	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61137
EPA 6010B	LEAD (PB)	9.95	6.7	13.6	12.8	69.3 #	61.3 #	6.1	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61137
EPA 6010B	MANGANESE (MN)	9.95	190	185	186	0#	0#	0.5	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61137
EPA 6010B	ZINC (ZN)	19.9	31.0	44.1	41.5	65.8 #	52.8 #	6.1	20	80-120	06/01/12	06/05/12	06/01/12	06/05/12	167705	AY61137
EPA 7471	MERCURY (HG)	0.635	0.024	0.62	0.62	93.9	93.9	0.0	20	80-120	06/01/12	06/01/12	06/01/12	06/01/12	167700	AY61137

= Recovery is outside QC limits.

Comments:

Printed: 06/07/12 2:38:40 PM
APPL MSD SCII

Sequence No.: 100
Sample ID: AY61137S01 MS
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.05 g
Dilution:

Autosampler Location: 107
Date Collected: 06/05/12 11:33:48 PM
Data Type: Reprocessed on 06/06/12 8:10:06 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61137S01 MS

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	35875.3	225.1	ug/L	2.42	2.240	mg/kg	0.0241	1.07%
Al 308.215	1981194.4	737100	ug/L	13726.3	7334	mg/kg	136.6	1.86%
As 188.979	4784.5	923.1	ug/L	9.30	9.185	mg/kg	0.0926	1.01%
B	-21268.6	-491.8	ug/L	10.13	-4.894	mg/kg	0.1008	2.06%
Ba 233.527	952782.1	4141	ug/L	34.6	41.20	mg/kg	0.344	0.84%
Be 313.107	893145.9	133.2	ug/L	0.96	1.326	mg/kg	0.0095	0.72%
Ca 315.887	2200438.6	104900	ug/L	1892.8	1044	mg/kg	18.8	1.80%
Cd 214.440	73327.7	124.9	ug/L	2.43	1.243	mg/kg	0.0242	1.95%
Co 228.616	101425.6	1088	ug/L	12.7	10.83	mg/kg	0.127	1.17%
Cr 267.716	206797.3	1366	ug/L	9.6	13.59	mg/kg	0.096	0.70%
Cu 327.393	209836.6	1333	ug/L	5.2	13.27	mg/kg	0.052	0.39%
Fe 273.955	26747627.5	814700	ug/L	7568.5	8107	mg/kg	75.3	0.93%
K 766.490	198451.4	48820	ug/L	552.9	485.7	mg/kg	5.50	1.13%
Mg 285.213	5353656.3	147000	ug/L	2538.2	1463	mg/kg	25.3	1.73%
Mn 257.610	1464383.2	15130	ug/L	270.2	150.5	mg/kg	2.69	1.79%
Mo 202.031	25098.0	559.7	ug/L	4.32	5.570	mg/kg	0.0429	0.77%
Na 589.592	901138.3	63020	ug/L	1195.2	627.0	mg/kg	11.89	1.90%
Ni 231.604	99675.9	1354	ug/L	17.5	13.48	mg/kg	0.174	1.29%
P 213.617	85120.0	10630	ug/L	122.5	105.7	mg/kg	1.22	1.15%
Pb 220.353	19635.9	1058	ug/L	10.6	10.52	mg/kg	0.106	1.00%
Sb 206.836	3367.2	460.5	ug/L	3.80	4.582	mg/kg	0.0378	0.83%
Se 196.026	3036.6	598.8	ug/L	8.73	5.958	mg/kg	0.0869	1.46%
Sn 189.927	5584.7	568.9	ug/L	9.02	5.661	mg/kg	0.0897	1.58%
Sr 421.552	1394506.4	1098	ug/L	21.3	10.93	mg/kg	0.212	1.94%
Ti 337.279	71439.8	817.3	ug/L	9.48	8.132	mg/kg	0.0944	1.16%
Tl 190.801	5761.4	549.0	ug/L	8.65	5.463	mg/kg	0.0861	1.58%
V 292.402	541238.8	1752	ug/L	12.6	17.44	mg/kg	0.125	0.72%
Zn 206.200	408764.9	3446	ug/L	31.3	34.29	mg/kg	0.311	0.91%

Sequence No.: 101
Sample ID: AY61137S01 MSD
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.05 g
Dilution:

Autosampler Location: 108
Date Collected: 06/05/12 11:38:10 PM
Data Type: Reprocessed on 06/06/12 8:10:07 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61137S01 MSD

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	34012.4	213.4	ug/L	2.81	2.123	mg/kg	0.0279	1.32%
Al 308.215	1935655.1	720200	ug/L	6120.5	7166	mg/kg	60.9	0.85%
As 188.979	4485.4	865.4	ug/L	7.92	8.611	mg/kg	0.0788	0.92%
B	-19481.1	-338.9	ug/L	13.99	-3.372	mg/kg	0.1392	4.13%
Ba 233.527	943435.2	4106	ug/L	22.9	40.86	mg/kg	0.228	0.56%
Be 313.107	853611.8	127.6	ug/L	0.55	1.270	mg/kg	0.0055	0.43%
Ca 315.887	2079656.7	99120	ug/L	873.2	986.2	mg/kg	8.69	0.88%
Cd 214.440	69645.2	118.2	ug/L	1.39	1.176	mg/kg	0.0138	1.18%
Co 228.616	102671.2	1103	ug/L	10.4	10.97	mg/kg	0.104	0.95%
Cr 267.716	196462.8	1297	ug/L	5.7	12.91	mg/kg	0.057	0.44%
Cu 327.393	198955.4	1264	ug/L	3.1	12.58	mg/kg	0.030	0.24%
Fe 273.955	25754784.7	784500	ug/L	2841.6	7806	mg/kg	28.3	0.36%
K 766.490	204610.5	50330	ug/L	377.4	500.8	mg/kg	3.76	0.75%
Mg 285.213	5191175.7	142600	ug/L	1053.2	1419	mg/kg	10.5	0.74%
Mn 257.610	1514295.9	15640	ug/L	120.4	155.6	mg/kg	1.20	0.77%
Mo 202.031	24148.7	538.7	ug/L	1.01	5.360	mg/kg	0.0100	0.19%
Na 589.592	867232.5	60640	ug/L	441.7	603.4	mg/kg	4.40	0.73%
Ni 231.604	96494.1	1311	ug/L	9.3	13.04	mg/kg	0.092	0.71%
P 213.617	77208.1	9639	ug/L	128.7	95.91	mg/kg	1.281	1.34%
Pb 220.353	18907.2	1018	ug/L	17.0	10.13	mg/kg	0.169	1.67%
Sb 206.836	3173.8	434.0	ug/L	9.54	4.319	mg/kg	0.0949	2.20%
Se 196.026	2769.0	546.0	ug/L	9.19	5.433	mg/kg	0.0914	1.68%
Sn 189.927	5317.3	541.7	ug/L	6.09	5.390	mg/kg	0.0606	1.12%
Sr 421.552	1403565.2	1105	ug/L	9.6	11.00	mg/kg	0.095	0.87%
Ti 337.279	78139.6	893.8	ug/L	4.63	8.893	mg/kg	0.0461	0.52%
Tl 190.801	5444.1	528.6	ug/L	3.43	5.260	mg/kg	0.0341	0.65%
V 292.402	517138.6	1673	ug/L	8.6	16.65	mg/kg	0.085	0.51%
Zn 206.200	396296.9	3341	ug/L	17.6	33.24	mg/kg	0.175	0.53%

Sequence No.: 36
Sample ID: AY61137S01 MS-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.05 g
Dilution: 5X

Autosampler Location: 152
Date Collected: 06/05/12 6:37:14 PM
Data Type: Reprocessed on 06/06/12 8:09:00 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61137S01 MS-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	8236.9	51.68	ug/L	0.916	2.571	mg/kg	0.0456	1.77%
Al 308.215	436149.6	162300	ug/L	498.2	8073	mg/kg	24.8	0.31%
As 188.979	1121.3	216.3	ug/L	2.47	10.76	mg/kg	0.123	1.14%
B	-4991.0	64.65	ug/L	25.035	3.217	mg/kg	1.2455	38.72%
Ba 233.527	229160.3	982.4	ug/L	7.50	48.88	mg/kg	0.373	0.76%
Be 313.107	208334.1	29.87	ug/L	0.214	1.486	mg/kg	0.0106	0.72%
Ca 315.887	510490.9	24330	ug/L	108.8	1210	mg/kg	5.4	0.45%
Cd 214.440	18320.8	28.41	ug/L	0.511	1.413	mg/kg	0.0254	1.80%
Co 228.616	25995.7	277.9	ug/L	3.10	13.83	mg/kg	0.154	1.11%
Cr 267.716	51457.4	341.1	ug/L	1.65	16.97	mg/kg	0.082	0.48%
Cu 327.393	46506.9	296.4	ug/L	2.11	14.75	mg/kg	0.105	0.71%
Fe 273.955	8087645.2	246400	ug/L	1422.0	12260	mg/kg	70.7	0.58%
K 766.490	42052.8	10330	ug/L	219.9	513.8	mg/kg	10.94	2.13%
Mg 285.213	1229864.9	33850	ug/L	106.8	1684	mg/kg	5.3	0.32%
Mn 257.610	359093.4	3709	ug/L	69.4	184.5	mg/kg	3.45	1.87%
Mo 202.031	6020.0	138.3	ug/L	0.30	6.879	mg/kg	0.0149	0.22%
Na 589.592	197588.8	13810	ug/L	14.4	687.2	mg/kg	0.71	0.10%
Ni 231.604	25781.7	349.9	ug/L	2.35	17.41	mg/kg	0.117	0.67%
P 213.617	21039.9	2627	ug/L	23.0	130.7	mg/kg	1.14	0.88%
Pb 220.353	5067.9	273.0	ug/L	1.85	13.58	mg/kg	0.092	0.68%
Sb 206.836	802.5	109.7	ug/L	2.62	5.460	mg/kg	0.1303	2.39%
Se 196.026	709.8	140.0	ug/L	3.69	6.963	mg/kg	0.1835	2.64%
Sn 189.927	1450.5	147.8	ug/L	1.80	7.352	mg/kg	0.0896	1.22%
Sr 421.552	301225.4	237.1	ug/L	0.46	11.80	mg/kg	0.023	0.19%
Ti 337.279	15938.7	182.6	ug/L	3.53	9.086	mg/kg	0.1757	1.93%
Tl 190.801	1477.0	138.8	ug/L	4.11	6.905	mg/kg	0.2046	2.96%
V 292.402	125895.0	394.9	ug/L	2.55	19.64	mg/kg	0.127	0.65%
Zn 206.200	105547.5	886.7	ug/L	6.87	44.11	mg/kg	0.342	0.77%

Sequence No.: 37
Sample ID: AY61137S01 MSD-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 10.05 g
Dilution: 5X

Autosampler Location: 153
Date Collected: 06/05/12 6:41:29 PM
Data Type: Reprocessed on 06/06/12 8:09:01 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61137S01 MSD-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	7619.7	47.81	ug/L	0.076	2.379	mg/kg	0.0038	0.16%
Al 308.215	421487.1	156800	ug/L	1034.5	7802	mg/kg	51.5	0.66%
As 188.979	1046.6	201.9	ug/L	5.67	10.05	mg/kg	0.282	2.81%
B	-4624.3	65.67	ug/L	15.281	3.267	mg/kg	0.7603	23.27%
Ba 233.527	223403.3	960.3	ug/L	5.60	47.78	mg/kg	0.279	0.58%
Be 313.107	194212.1	27.94	ug/L	0.081	1.390	mg/kg	0.0040	0.29%
Ca 315.887	478023.5	22780	ug/L	152.5	1133	mg/kg	7.6	0.67%
Cd 214.440	17120.3	26.57	ug/L	0.539	1.322	mg/kg	0.0268	2.03%
Co 228.616	25727.4	275.4	ug/L	1.54	13.70	mg/kg	0.077	0.56%
Cr 267.716	47940.5	317.6	ug/L	1.87	15.80	mg/kg	0.093	0.59%
Cu 327.393	43477.9	277.1	ug/L	1.04	13.79	mg/kg	0.052	0.37%
Fe 273.955	7569071.9	230600	ug/L	4367.6	11470	mg/kg	217.3	1.89%
K 766.490	42774.6	10510	ug/L	17.4	522.7	mg/kg	0.87	0.17%
Mg 285.213	1179329.0	32450	ug/L	196.6	1615	mg/kg	9.8	0.61%
Mn 257.610	362541.9	3745	ug/L	12.1	186.3	mg/kg	0.60	0.32%
Mo 202.031	5621.7	129.2	ug/L	1.66	6.426	mg/kg	0.0825	1.28%
Na 589.592	189009.7	13210	ug/L	56.7	657.3	mg/kg	2.82	0.43%
Ni 231.604	24263.9	329.3	ug/L	1.71	16.38	mg/kg	0.085	0.52%
P 213.617	18655.7	2329	ug/L	14.9	115.9	mg/kg	0.74	0.64%
Pb 220.353	4756.0	256.2	ug/L	2.57	12.75	mg/kg	0.128	1.00%
Sb 206.836	767.5	105.0	ug/L	3.61	5.222	mg/kg	0.1794	3.44%
Se 196.026	681.2	134.3	ug/L	2.58	6.683	mg/kg	0.1286	1.92%
Sn 189.927	1359.9	138.5	ug/L	2.07	6.893	mg/kg	0.1032	1.50%
Sr 421.552	299813.4	236.0	ug/L	1.15	11.74	mg/kg	0.057	0.49%
Ti 337.279	17335.6	198.6	ug/L	0.73	9.878	mg/kg	0.0363	0.37%
Tl 190.801	1335.9	128.4	ug/L	2.40	6.390	mg/kg	0.1195	1.87%
V 292.402	118315.1	371.3	ug/L	1.70	18.47	mg/kg	0.085	0.46%
Zn 206.200	99368.4	834.9	ug/L	6.04	41.54	mg/kg	0.300	0.72%

A.P.P.L. INC.
9
ICP SERIAL DILUTION

CLIENT SAMPLE NO.
WVMA-MRS01-SD-01

Lab Name: A.P.P.L. INC.
Contract: Eco & Associates, Inc.
ARF No.: 67746
SDG: 67746
Matrix: soil

Analysis Date: 06/05/12
Concentration Units: mg/kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Aluminum (Al)	5368		5252		2.16		
Barium (Ba)	78.27		73.86		5.63		
Chromium (Cr)	7.983		8.06		0.965		
Copper (Cu)	11.68		7.774		33.4		M
Magnesium (Mg)	967.1		909.8		5.92		
Manganese (Mn)	181.7		182		0.165		
Lead (Pb)	8.335		8.412		0.924		

Comments:

06/05/12 18:02 AY61133S02-1/5

06/05/12 18:17 AY61133S02-1/25

Sequence No.: 32
Sample ID: AY61133S02-1/25
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.93 g
Dilution: 25X

Autosampler Location: 148
Date Collected: 06/05/12 6:17:30 PM
Data Type: Reprocessed on 06/06/12 8:08:56 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61133S02-1/25

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-170.1	-1.067	ug/L	0.1472	-0.269	mg/kg	0.0370	13.79%
Al 308.215	56066.4	20860	ug/L	317.6	5252	mg/kg	79.9	1.52%
As 188.979	131.1	25.29	ug/L	1.166	6.367	mg/kg	0.2935	4.61%
B	-1164.8	15.97	ug/L	5.158	4.022	mg/kg	1.2986	32.29%
Ba 233.527	67447.5	293.4	ug/L	2.94	73.86	mg/kg	0.739	1.00%
Be 313.107	11584.7	0.864	ug/L	0.0215	0.218	mg/kg	0.0054	2.49%
Ca 315.887	17804.0	849.0	ug/L	15.12	213.8	mg/kg	3.81	1.78%
Cd 214.440	1365.5	-0.139	ug/L	0.0354	-0.035	mg/kg	0.0089	25.49%
Co 228.616	2692.6	27.81	ug/L	0.046	7.002	mg/kg	0.0116	0.17%
Cr 267.716	4740.0	32.02	ug/L	0.116	8.060	mg/kg	0.0291	0.36%
Cu 327.393	4795.6	30.88	ug/L	0.151	7.774	mg/kg	0.0380	0.49%
Fe 273.955	1849540.6	56340	ug/L	567.0	14180	mg/kg	142.7	1.01%
K 766.490	7028.5	1717	ug/L	27.0	432.3	mg/kg	6.80	1.57%
Mg 285.213	129941.0	3614	ug/L	8.5	909.8	mg/kg	2.14	0.24%
Mn 257.610	69986.5	723.0	ug/L	11.90	182.0	mg/kg	2.99	1.65%
Mo 202.031	-130.2	1.626	ug/L	0.2818	0.409	mg/kg	0.0709	17.33%
Na 589.592	930.1	54.37	ug/L	5.107	13.69	mg/kg	1.286	9.39%
Ni 231.604	4418.4	59.81	ug/L	0.117	15.06	mg/kg	0.029	0.19%
P 213.617	4214.8	526.2	ug/L	1.22	132.5	mg/kg	0.31	0.23%
Pb 220.353	620.3	33.41	ug/L	0.462	8.412	mg/kg	0.1164	1.38%
Sb 206.836	7.1	0.969	ug/L	0.1703	0.244	mg/kg	0.0429	17.59%
Se 196.026	17.9	3.533	ug/L	1.5308	0.890	mg/kg	0.3854	43.33%
Sn 189.927	-7.6	-0.771	ug/L	0.2601	-0.194	mg/kg	0.0655	33.74%
Sr 421.552	28537.3	22.44	ug/L	0.088	5.648	mg/kg	0.0222	0.39%
Ti 337.279	3139.7	36.06	ug/L	0.895	9.079	mg/kg	0.2254	2.48%
Tl 190.801	-61.8	0.542	ug/L	0.7610	0.137	mg/kg	0.1916	140.28%
V 292.402	14686.0	39.43	ug/L	0.170	9.926	mg/kg	0.0428	0.43%
Zn 206.200	16928.6	140.8	ug/L	0.49	35.44	mg/kg	0.122	0.35%

A.P.P.L. INC.
5B
POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.
WVMA-MRS01-SD-01

Lab Name: A.P.P.L. INC.
Contract: Eco & Associates, Inc.
ARF No.: 67746
SDG: 67746

Analysis Date: 06/05/12
Concentration Units: mg/kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Antimony (Sb)	75-125	8.317		0.255		10.070	80.1		

Comments:

06/05/12 22:55 AY61133S02

06/05/12 23:16 AY61133S02--A

Sequence No.: 96
Sample ID: AY61133S02--A
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.93 g
Dilution:

Autosampler Location: 103
Date Collected: 06/05/12 11:16:34 PM
Data Type: Reprocessed on 06/06/12 8:10:02 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61133S02--A

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	52349.3	328.5	ug/L	0.69	3.308	mg/kg	0.0069	0.21%
Al 308.215	1266490.5	471200	ug/L	571.9	4745	mg/kg	5.8	0.12%
As 188.979	6958.1	1342	ug/L	2.2	13.52	mg/kg	0.022	0.17%
B	-17392.8	100.6	ug/L	1.04	1.013	mg/kg	0.0105	1.04%
Ba 233.527	1521766.7	6743	ug/L	99.2	67.90	mg/kg	0.999	1.47%
Be 313.107	1243602.2	194.3	ug/L	2.83	1.956	mg/kg	0.0285	1.45%
Ca 315.887	2144346.8	102200	ug/L	970.6	1029	mg/kg	9.8	0.95%
Cd 214.440	95794.7	174.3	ug/L	1.16	1.756	mg/kg	0.0116	0.66%
Co 228.616	126175.0	1359	ug/L	7.6	13.69	mg/kg	0.076	0.56%
Cr 267.716	221224.7	1460	ug/L	20.7	14.71	mg/kg	0.208	1.41%
Cu 327.393	254622.0	1619	ug/L	21.7	16.30	mg/kg	0.218	1.34%
Fe 273.955	26745497.4	814600	ug/L	4827.1	8204	mg/kg	48.6	0.59%
K 766.490	233088.2	57250	ug/L	79.9	576.5	mg/kg	0.80	0.14%
Mg 285.213	5817017.2	159700	ug/L	1364.9	1608	mg/kg	13.7	0.85%
Mn 257.610	1446000.0	14930	ug/L	133.4	150.4	mg/kg	1.34	0.89%
Mo 202.031	38386.1	828.0	ug/L	10.67	8.338	mg/kg	0.1075	1.29%
Na 589.592	1269386.7	88950	ug/L	768.0	895.8	mg/kg	7.73	0.86%
Ni 231.604	137718.6	1881	ug/L	27.2	18.94	mg/kg	0.274	1.45%
P 213.617	131632.6	16430	ug/L	50.4	165.5	mg/kg	0.51	0.31%
Pb 220.353	25739.9	1386	ug/L	6.7	13.96	mg/kg	0.068	0.48%
Sb 206.836	6038.9	825.9	ug/L	5.82	8.317	mg/kg	0.0586	0.70%
Se 196.026	4421.6	871.9	ug/L	18.22	8.780	mg/kg	0.1835	2.09%
Sn 189.927	7988.7	813.9	ug/L	4.68	8.196	mg/kg	0.0471	0.57%
Sr 421.552	1794799.4	1414	ug/L	13.2	14.24	mg/kg	0.133	0.94%
Ti 337.279	145979.5	1669	ug/L	4.6	16.81	mg/kg	0.046	0.27%
Tl 190.801	8940.1	793.8	ug/L	2.34	7.994	mg/kg	0.0236	0.30%
V 292.402	537382.5	1743	ug/L	26.8	17.55	mg/kg	0.270	1.54%
Zn 206.200	474229.1	3998	ug/L	58.9	40.26	mg/kg	0.593	1.47%

A.P.P.L. INC.
5B
POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.
WVMA-MRS01-SD-01

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.

ARF No.: 67746 SDG: 67746

Analysis Date: 06/05/12 Concentration Units: mg/kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Copper (Cu)	75-125	59.53		11.68		50.352	95.0		
Zinc (Zn)	75-125	129		34.64		100.705	93.7		

Comments:

06/05/12 18:02 AY61133S02-1/5

06/05/12 18:13 AY61133S02-1/-5-A

Sequence No.: 31
Sample ID: AY61133S02-1/-5-A
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 9.93 g
Dilution: 5X

Autosampler Location: 147
Date Collected: 06/05/12 6:13:08 PM
Data Type: Reprocessed on 06/06/12 8:08:55 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY61133S02-1/-5-A

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	60973.2	382.6	ug/L	6.36	19.26	mg/kg	0.320	1.66%
Al 308.215	302596.4	112600	ug/L	1215.3	5669	mg/kg	61.2	1.08%
As 188.979	5439.3	1049	ug/L	24.4	52.84	mg/kg	1.228	2.32%
B	1595.3	962.6	ug/L	13.55	48.47	mg/kg	0.682	1.41%
Ba 233.527	522502.9	2325	ug/L	41.3	117.1	mg/kg	2.08	1.78%
Be 313.107	1235428.5	203.0	ug/L	3.90	10.22	mg/kg	0.196	1.92%
Ca 315.887	2164278.2	103100	ug/L	1722.2	5193	mg/kg	86.7	1.67%
Cd 214.440	88785.7	190.2	ug/L	3.41	9.575	mg/kg	0.1719	1.80%
Co 228.616	103105.0	1125	ug/L	20.3	56.64	mg/kg	1.020	1.80%
Cr 267.716	173696.4	1141	ug/L	20.9	57.47	mg/kg	1.055	1.84%
Cu 327.393	186154.2	1182	ug/L	23.5	59.53	mg/kg	1.183	1.99%
Fe 273.955	8023443.5	244300	ug/L	3572.8	12300	mg/kg	179.9	1.46%
K 766.490	113981.1	28060	ug/L	286.8	1413	mg/kg	14.4	1.02%
Mg 285.213	4224721.1	115500	ug/L	1807.6	5817	mg/kg	91.0	1.56%
Mn 257.610	416580.1	4300	ug/L	71.4	216.5	mg/kg	3.60	1.66%
Mo 202.031	46262.1	943.3	ug/L	17.07	47.50	mg/kg	0.859	1.81%
Na 589.592	1404794.0	98630	ug/L	1592.6	4966	mg/kg	80.2	1.61%
Ni 231.604	91528.7	1256	ug/L	22.8	63.25	mg/kg	1.147	1.81%
P 213.617	79631.4	9942	ug/L	199.0	500.6	mg/kg	10.02	2.00%
Pb 220.353	20112.0	1083	ug/L	20.4	54.55	mg/kg	1.026	1.88%
Sb 206.836	6729.3	920.3	ug/L	16.23	46.34	mg/kg	0.817	1.76%
Se 196.026	4855.0	957.3	ug/L	14.25	48.20	mg/kg	0.717	1.49%
Sn 189.927	9781.4	996.5	ug/L	16.38	50.18	mg/kg	0.825	1.64%
Sr 421.552	1428142.2	1126	ug/L	18.8	56.67	mg/kg	0.946	1.67%
Ti 337.279	101212.9	1156	ug/L	10.6	58.23	mg/kg	0.536	0.92%
Tl 190.801	11282.7	892.7	ug/L	11.44	44.95	mg/kg	0.576	1.28%
V 292.402	351250.7	1213	ug/L	22.7	61.06	mg/kg	1.142	1.87%
Zn 206.200	301850.1	2562	ug/L	45.5	129.0	mg/kg	2.29	1.78%

METALS

Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.
ARF No: 67746 SDG: 67746
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/30/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:07	%R(1)	True CCV1	Found 11:37	%R(1)	True CCV1	Found 12:19	%R(1)	
Aluminum (Al)	25000	24030	96.1	20000	19510	97.5	20000	19950	99.8	P
Barium (Ba)	1000	985.1	98.5	1000	995.3	99.5	1000	994.3	99.4	P
Chromium (Cr)	1000	1021	102	1000	1002	100	1000	999.2	99.9	P
Copper (Cu)	1000	996.9	99.7	1000	995.4	99.5	1000	992.2	99.2	P
Magnesium (Mg)	25000	24160	96.6	50000	49880	99.8	50000	50010	100	P
Manganese (Mn)	1000	1011	101	1000	977.3	97.7	1000	1001	100	P
Lead (Pb)	1000	1041	104	1000	1020	102	1000	1014	101	P
Antimony (Sb)	1000	1068	107	1000	1002	100	1000	1008	101	P
Zinc (Zn)	1000	1047	105	1000	1018	102	1000	1005	101	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.
ARF No: 67746 SDG: 67746
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/30/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:07	%R(1)	True CCV2	Found 13:13	%R(1)	True	Found	%R(1)	
Aluminum (Al)	25000	24030	96.1	15000	14900	99.3				P
Barium (Ba)	1000	985.1	98.5	750	755.8	101				P
Chromium (Cr)	1000	1021	102	750	757.4	101				P
Copper (Cu)	1000	996.9	99.7	750	751.5	100				P
Magnesium (Mg)	25000	24160	96.6	37500	37300	99.5				P
Manganese (Mn)	1000	1011	101	750	748.6	99.8				P
Lead (Pb)	1000	1041	104	750	762.2	102				P
Antimony (Sb)	1000	1068	107	750	756.7	101				P
Zinc (Zn)	1000	1047	105	750	763.8	102				P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.

ARF No.: 67746 SDG: 67746

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 05/30/12

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
	11:14		11:44		12:23		13:16		12:33		
Aluminum (Al)	100.00	U	100.00	U	100.00	U	100.00	U	100.00	U	P
Barium (Ba)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P
Chromium (Cr)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P
Copper (Cu)	.44	J	2.00	U	.47	J	2.00	U	.50	J	P
Magnesium (Mg)	50.00	U	50.00	U	50.00	U	50.00	U	50.00	U	P
Manganese (Mn)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P
Lead (Pb)	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	P
Antimony (Sb)	3.00	U	3.00	U	3.00	U	3.00	U	3.00	U	P
Zinc (Zn)	50.00	U	50.00	U	50.00	U	50.00	U	50.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC.
Contract: Eco & Associates, Inc.
ARF No.: 67746
SDG: 67746
ICP ID Number: Phoebe
ICS Source: Environmental Express

Analysis Date: 05/30/12
Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 11:30	Sol AB 11:33	%R(1)
Aluminum (Al)	200000	200000	198200	198700	99.3
Barium (Ba)		500	0.065	477.7	95.5
Calcium (Ca)	200000	200000	198500	199400	99.7
Chromium (Cr)		500	1.101	488.3	97.7
Copper (Cu)		500	ND	485.9	97.2
Iron (Fe)	200000	200000	195000	194700	97.3
Magnesium (Mg)	200000	200000	203700	204400	102
Manganese (Mn)		500	ND	493.6	98.7
Lead (Pb)		1000	ND	979.5	98.0
Antimony (Sb)		500	0.398	480.7	96.1
Zinc (Zn)		1000	ND	826.9	82.7

(1) Control Limits: Metals 80-120

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.
ARF No: 67746 SDG: 67746
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 06/05/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 15:28	%R(1)	True CCV1	Found 15:50	%R(1)	True CCV1	Found 16:43	%R(1)	
Aluminum (Al)	25000	23810	95.2	20000	20280	101	20000	19730	98.7	P
Barium (Ba)	1000	994.6	99.5	1000	1015	102	1000	1014	101	P
Chromium (Cr)	1000	1026	103	1000	1017	102	1000	1017	102	P
Copper (Cu)	1000	1007	101	1000	1008	101	1000	1012	101	P
Magnesium (Mg)	25000	24280	97.1	50000	50520	101	50000	50170	100	P
Manganese (Mn)	1000	1015	102	1000	1028	103	1000	997.7	99.8	P
Lead (Pb)	1000	1030	103	1000	1030	103	1000	998.4	99.8	P
Antimony (Sb)	1000	985.9	98.6	1000	1002	100	1000	982.5	98.3	P
Zinc (Zn)	1000	1062	106	1000	1048	105	1000	1035	104	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.
ARF No: 67746 SDG: 67746
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 06/05/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 15:28	%R(1)	True CCV2	Found 17:54	%R(1)	True CCV1	Found 18:45	%R(1)	
Aluminum (Al)	25000	23810	95.2	15000	15370	102	20000	20120	101	P
Barium (Ba)	1000	994.6	99.5	750	792.5	106	1000	1029	103	P
Chromium (Cr)	1000	1026	103	750	795.3	106	1000	1031	103	P
Copper (Cu)	1000	1007	101	750	789.1	105	1000	1025	103	P
Magnesium (Mg)	25000	24280	97.1	37500	39340	105	50000	50990	102	P
Manganese (Mn)	1000	1015	102	750	782.2	104	1000	1021	102	P
Lead (Pb)	1000	1030	103	750	805.3	107	1000	1019	102	P
Antimony (Sb)	1000	985.9	98.6	750	789.1	105	1000	1006	101	P
Zinc (Zn)	1000	1062	106	750	815.4	109	1000	1058	106	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.
ARF No: 67746 SDG: 67746
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 06/05/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 15:28	%R(1)	True CCV2	Found 19:41	%R(1)	True CCV1	Found 22:12	%R(1)	
Aluminum (Al)	25000	23810	95.2	15000	15050	100	20000	19630	98.2	P
Barium (Ba)	1000	994.6	99.5	750	777.8	104	1000	1016	102	P
Chromium (Cr)	1000	1026	103	750	780	104	1000	1019	102	P
Copper (Cu)	1000	1007	101	750	770.7	103	1000	1014	101	P
Magnesium (Mg)	25000	24280	97.1	37500	38730	103	50000	49720	99.4	P
Manganese (Mn)	1000	1015	102	750	766.7	102	1000	987.5	98.8	P
Lead (Pb)	1000	1030	103	750	791	105	1000	1014	101	P
Antimony (Sb)	1000	985.9	98.6	750	776.7	104	1000	988.8	98.9	P
Zinc (Zn)	1000	1062	106	750	803.9	107	1000	1041	104	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.
ARF No: 67746 SDG: 67746
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 06/05/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 15:28	%R(1)	True CCV2	Found 23:04	%R(1)	True CCV1	Found 23:55	%R(1)	
Aluminum (Al)	25000	23810	95.2	15000	14710	98.1	20000	19850	99.3	P
Barium (Ba)	1000	994.6	99.5	750	779.3	104	1000	1004	100	P
Chromium (Cr)	1000	1026	103	750	779.9	104	1000	1006	101	P
Copper (Cu)	1000	1007	101	750	778.2	104	1000	1014	101	P
Magnesium (Mg)	25000	24280	97.1	37500	37920	101	50000	50070	100	P
Manganese (Mn)	1000	1015	102	750	741.4	98.9	1000	995.7	99.6	P
Lead (Pb)	1000	1030	103	750	775.9	103	1000	996.5	99.7	P
Antimony (Sb)	1000	985.9	98.6	750	755.1	101	1000	977.6	97.8	P
Zinc (Zn)	1000	1062	106	750	800.1	107	1000	1025	103	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.

ARF No.: 67746 SDG: 67746

Preparation Blank Matrix (soil/water): soil

Preparation Blank Concentration Units (ug/L or mg/kg): mg/kg

Analysis Date: 06/05/12

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
	15:32		15:54		16:47		17:58		16:51		
Aluminum (Al)	100.00	U	100.00	U	100.00	U	100.00	U	10.00	U	P
Barium (Ba)	5.00	U	5.00	U	5.00	U	5.00	U	.50	U	P
Chromium (Cr)	5.00	U	5.00	U	5.00	U	5.00	U	.50	U	P
Copper (Cu)	5.00	U	5.00	U	5.00	U	5.00	U	.10	J	P
Magnesium (Mg)	50.00	U	50.00	U	50.00	U	50.00	U	5.00	U	P
Manganese (Mn)	5.00	U	5.00	U	5.00	U	5.00	U	.18	J	P
Lead (Pb)	5.00	U	5.00	U	5.00	U	5.00	U	.50	U	P
Antimony (Sb)	2.00	U	2.00	U	2.00	U	2.00	U	.20	U	P
Zinc (Zn)	50.00	U	50.00	U	50.00	U	50.00	U	5.00	U	P

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.

ARF No.: 67746 SDG: 67746

Preparation Blank Matrix (soil/water): soil

Preparation Blank Concentration Units (ug/L or mg/kg): mg/kg

Analysis Date: 06/05/12

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
	15:32		18:49		19:45		22:16		16:51		
Aluminum (Al)	100.00	U	100.00	U	100.00	U	100.00	U	10.00	U	P
Barium (Ba)	5.00	U	5.00	U	5.00	U	5.00	U	.50	U	P
Chromium (Cr)	5.00	U	5.00	U	5.00	U	5.00	U	.50	U	P
Copper (Cu)	5.00	U	5.00	U	5.00	U	5.00	U	.10	J	P
Magnesium (Mg)	50.00	U	50.00	U	50.00	U	50.00	U	5.00	U	P
Manganese (Mn)	5.00	U	5.00	U	5.00	U	5.00	U	.18	J	P
Lead (Pb)	5.00	U	5.00	U	5.00	U	5.00	U	.50	U	P
Antimony (Sb)	2.00	U	2.00	U	2.00	U	2.00	U	.20	U	P
Zinc (Zn)	50.00	U	50.00	U	50.00	U	50.00	U	5.00	U	P

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.

ARF No.: 67746 SDG: 67746

Preparation Blank Matrix (soil/water): soil

Preparation Blank Concentration Units (ug/L or mg/kg): mg/kg

Analysis Date: 06/05/12

Analyte	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
	15:32		23:07		23:59				16:51		
Aluminum (Al)	100.00	U	100.00	U	100.00	U			10.00	U	P
Barium (Ba)	5.00	U	5.00	U	5.00	U			.50	U	P
Chromium (Cr)	5.00	U	5.00	U	5.00	U			.50	U	P
Copper (Cu)	5.00	U	5.00	U	5.00	U			.10	J	P
Magnesium (Mg)	50.00	U	50.00	U	50.00	U			5.00	U	P
Manganese (Mn)	5.00	U	5.00	U	5.00	U			.18	J	P
Lead (Pb)	5.00	U	5.00	U	5.00	U			.50	U	P
Antimony (Sb)	2.00	U	2.00	U	2.00	U			.20	U	P
Zinc (Zn)	50.00	U	50.00	U	50.00	U			5.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC.
ARF No.: 67746
ICP ID Number: Phoebe

Contract: Eco & Associates, Inc.
SDG: 67746
ICS Source: Environmental Express

Analysis Date: 06/05/12

Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 15:40	Sol AB 15:46	%R(1)
Aluminum (Al)	200000	200000	195000	194100	97.0
Barium (Ba)		500	ND	479.5	95.9
Calcium (Ca)	200000	200000	196600	195900	98.0
Chromium (Cr)		500	ND	488.5	97.7
Copper (Cu)		500	ND	504.5	101
Iron (Fe)	200000	200000	181100	181200	90.6
Magnesium (Mg)	200000	200000	193200	192600	96.3
Manganese (Mn)		500	0.614	480.7	96.1
Lead (Pb)		1000	1.652	967	96.7
Antimony (Sb)		500	0.307	480.3	96.1
Zinc (Zn)		1000	14.17	964.6	96.5

(1) Control Limits: Metals 80-120

Eco & Associates, Inc.

Hg BY METHOD 7470A
QCG: 120523A-7470A
ANALYSIS DATE: 05/30/2012

ARF # 67746

R=0.99870

NAME	TRUE	RESULT	% RECOVERY
ICV	4.00ppb	3.755	93.9%
ICB	0ppb	-0.010	
CCV-1	5.00 ppb	5.228	104.6%
CCB-1	0ppb	0.005	
CCV-2	5.00 ppb	5.799	116.0%
CCB-2	0ppb	0.051	

Eco & Associates, Inc. Hg BY METHOD 7471B ARF#67746

QCG 120601A-7471B

ANALYSIS DATE: 06/01/12

R=0.99924

NAME	TRUE	RESULT	% RECOVERY
ICV	4.17ppb	4.149	99.5%
ICB	0ppb	0.066	
CCV-1	5.208ppb	5.121	98.3%
CCB-1	0ppb	0.063	
CCV-2	5.208ppb	4.819	92.5%
CCB-2	0ppb	0.095	
CCV-3	5.208ppb	4.931	94.7%
CCB-3	0ppb	0.071	

Sequence No.: 1
Sample ID: CalBlk 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 05/30/12 10:52:24 AM
Data Type: Reprocessed on 05/31/12 2:45:25 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CalBlk 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1395865.4	12021.80	0.86%	100.0	%
Ag 338.289†	-80.1	18.93	23.63%	[0.00]	ug/L
Al 308.215†	184.8	9.09	4.92%	[0.00]	ug/L
As 188.979†	-4.7	1.44	30.46%	[0.00]	ug/L
B†	25.7	2.09	8.14%	[0.00]	ug/L
Ba 233.527†	177.3	11.46	6.46%	[0.00]	ug/L
Be 313.107†	-874.1	4.36	0.50%	[0.00]	ug/L
Ca 315.887†	8.2	5.32	64.97%	[0.00]	ug/L
Cd 214.440†	523.0	10.72	2.05%	[0.00]	ug/L
Co 228.616†	87.9	7.56	8.60%	[0.00]	ug/L
Cr 267.716†	740.6	23.99	3.24%	[0.00]	ug/L
Cu 327.393†	-43.6	71.62	164.45%	[0.00]	ug/L
Fe 273.955†	382.4	12.63	3.30%	[0.00]	ug/L
K 766.490†	132.5	18.07	13.64%	[0.00]	ug/L
Mg 285.213†	1.8	22.47	>999.9%	[0.00]	ug/L
Mn 257.610†	-38.5	5.65	14.69%	[0.00]	ug/L
Mo 202.031†	1.8	3.79	214.32%	[0.00]	ug/L
Na 589.592†	321.9	54.40	16.90%	[0.00]	ug/L
Ni 231.604†	-215.5	4.46	2.07%	[0.00]	ug/L
P 213.617†	-46.7	6.02	12.90%	[0.00]	ug/L
Pb 220.353†	7.7	8.12	105.25%	[0.00]	ug/L
Sb 206.836†	4.3	5.17	121.52%	[0.00]	ug/L
Se 196.026†	-4.1	1.46	35.40%	[0.00]	ug/L
Sn 189.927†	212.9	5.23	2.46%	[0.00]	ug/L
Sr 421.552†	1003.5	113.84	11.34%	[0.00]	ug/L
Ti 337.279†	-517.5	17.66	3.41%	[0.00]	ug/L
Tl 190.801†	-11.0	2.96	26.82%	[0.00]	ug/L
V 292.402†	-489.8	9.70	1.98%	[0.00]	ug/L
Zn 206.200†	-223.1	2.02	0.91%	[0.00]	ug/L

Sequence No.: 2
Sample ID: STD 1 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 05/30/12 10:56:24 AM
Data Type: Reprocessed on 05/31/12 2:45:27 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 1 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1410206.6	20469.12	1.45%	101.0	%
Ag 338.289†	111.2	62.43	56.16%	[1.00]	ug/L
Al 308.215†	142.3	16.01	11.26%	[100.00]	ug/L
As 188.979†	7.2	0.76	10.49%	[3.50]	ug/L
B†	254.9	2.17	0.85%	[50.00]	ug/L
Ba 233.527†	597.4	12.02	2.01%	[5.00]	ug/L
Be 313.107†	1165.1	3.17	0.27%	[2.00]	ug/L
Ca 315.887†	1421.9	39.22	2.76%	[100.00]	ug/L
Cd 214.440†	1191.0	31.62	2.65%	[5.00]	ug/L
Co 228.616†	268.3	20.41	7.61%	[5.00]	ug/L
Cr 267.716†	445.0	25.78	5.79%	[5.00]	ug/L
Cu 327.393†	364.6	24.15	6.62%	[5.00]	ug/L
Fe 273.955†	1071.3	37.20	3.47%	[50.00]	ug/L
K 766.490†	1742.9	243.94	14.00%	[1000.00]	ug/L
Mg 285.213†	1471.9	16.61	1.13%	[50]	ug/L
Mn 257.610†	253.8	3.54	1.39%	[5.00]	ug/L
Mo 202.031†	107.0	2.06	1.93%	[5.00]	ug/L
Na 589.592†	7158.3	120.07	1.68%	[1000.00]	ug/L
Ni 231.604†	221.3	13.19	5.96%	[5.00]	ug/L
P 213.617†	103.8	3.08	2.97%	[25.00]	ug/L
Pb 220.353†	31.3	6.57	20.96%	[3.00]	ug/L
Sb 206.836†	25.0	2.18	8.72%	[5.00]	ug/L
Se 196.026†	12.6	10.27	81.72%	[5.00]	ug/L
Sn 189.927†	24.9	3.17	12.76%	[5.00]	ug/L
Sr 421.552†	3610.4	92.89	2.57%	[5.00]	ug/L
Ti 337.279†	156.3	15.78	10.10%	[5.00]	ug/L
Tl 190.801†	22.6	1.24	5.48%	[5.00]	ug/L
V 292.402†	817.3	31.25	3.82%	[5.00]	ug/L
Zn 206.200†	832.3	13.45	1.62%	[20.00]	ug/L

Sequence No.: 3
Sample ID: STD 2 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 05/30/12 11:00:22 AM
Data Type: Reprocessed on 05/31/12 2:45:29 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 2 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1386907.7	13608.54	0.98%	99.36	%
Ag 338.289†	39910.6	153.47	0.38%	[500.0]	ug/L
Al 308.215†	25459.6	580.79	2.28%	[20000.00]	ug/L
As 188.979†	2344.5	21.46	0.92%	[1000.00]	ug/L
B†	4852.6	115.07	2.37%	[1000.00]	ug/L
Ba 233.527†	107676.8	405.61	0.38%	[1000.00]	ug/L
Be 313.107†	481671.6	4118.33	0.86%	[1000.00]	ug/L
Ca 315.887†	485441.4	2347.09	0.48%	[50000]	ug/L
Cd 214.440†	208810.9	403.18	0.19%	[1000.00]	ug/L
Co 228.616†	45161.3	144.90	0.32%	[1000.00]	ug/L
Cr 267.716†	75905.9	309.31	0.41%	[1000.00]	ug/L
Cu 327.393†	62139.8	206.74	0.33%	[1000.00]	ug/L
Fe 273.955†	323563.1	931.52	0.29%	[20000]	ug/L
K 766.490†	37490.0	279.31	0.75%	[20000]	ug/L
Mg 285.213†	891980.7	5390.97	0.60%	[50000]	ug/L
Mn 257.610†	46372.6	1017.90	2.20%	[1000.00]	ug/L
Mo 202.031†	19770.4	149.22	0.75%	[1000.00]	ug/L
Na 589.592†	178048.3	1380.25	0.78%	[25000]	ug/L
Ni 231.604†	36125.1	88.94	0.25%	[1000.00]	ug/L
P 213.617†	18916.0	120.36	0.64%	[5000]	ug/L
Pb 220.353†	8943.3	82.01	0.92%	[1000.00]	ug/L
Sb 206.836†	3335.1	25.49	0.76%	[1000.00]	ug/L
Se 196.026†	2319.6	22.38	0.96%	[1000.00]	ug/L
Sn 189.927†	8163.3	64.70	0.79%	[1000.00]	ug/L
Sr 421.552†	630883.6	4736.25	0.75%	[1000.00]	ug/L
Ti 337.279†	40739.6	983.93	2.42%	[1000.00]	ug/L
Tl 190.801†	4496.2	32.69	0.73%	[1000.00]	ug/L
V 292.402†	140522.4	477.82	0.34%	[1000.00]	ug/L
Zn 206.200†	43162.2	95.69	0.22%	[1000.00]	ug/L

Sequence No.: 4
Sample ID: STD 3 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 05/30/12 11:03:26 AM
Data Type: Reprocessed on 05/31/12 2:45:30 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 3 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1373636.0	2074.74	0.15%	98.41	%
Ag 338.289†	79783.6	568.22	0.71%	[1000.00]	ug/L
Al 308.215†	51383.0	507.95	0.99%	[40000.00]	ug/L
As 188.979†	4756.7	29.91	0.63%	[2000.00]	ug/L
B†	9937.1	74.04	0.75%	[2000.00]	ug/L
Ba 233.527†	215185.7	800.49	0.37%	[2000.00]	ug/L
Be 313.107†	969917.1	2593.62	0.27%	[2000.00]	ug/L
Ca 315.887†	982910.3	1108.21	0.11%	[100000.0]	ug/L
Cd 214.440†	414805.2	1620.10	0.39%	[2000.00]	ug/L
Co 228.616†	89053.7	252.34	0.28%	[2000.00]	ug/L
Cr 267.716†	151481.7	396.38	0.26%	[2000.00]	ug/L
Cu 327.393†	124480.2	445.29	0.36%	[2000.00]	ug/L
Fe 273.955†	642672.1	1806.58	0.28%	[40000]	ug/L
K 766.490†	76732.3	168.78	0.22%	[40000]	ug/L
Mg 285.213†	1791772.9	2127.46	0.12%	[100000]	ug/L
Mn 257.610†	92888.0	813.33	0.88%	[2000.00]	ug/L
Mo 202.031†	37971.4	137.31	0.36%	[2000.00]	ug/L
Na 589.592†	359290.7	560.48	0.16%	[50000]	ug/L
Ni 231.604†	70883.3	323.15	0.46%	[2000.00]	ug/L
P 213.617†	36923.3	258.43	0.70%	[10000]	ug/L
Pb 220.353†	17755.9	74.23	0.42%	[2000.00]	ug/L
Sb 206.836†	6772.0	22.46	0.33%	[2000.00]	ug/L
Se 196.026†	4674.1	6.95	0.15%	[2000.00]	ug/L
Sn 189.927†	16608.0	39.81	0.24%	[2000.00]	ug/L
Sr 421.552†	1276611.9	960.01	0.08%	[2000.00]	ug/L
Ti 337.279†	82409.4	813.38	0.99%	[2000.00]	ug/L
Tl 190.801†	8928.6	16.56	0.19%	[2000.00]	ug/L
V 292.402†	282229.6	878.10	0.31%	[2000.00]	ug/L
Zn 206.200†	85908.0	242.27	0.28%	[2000.00]	ug/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 338.289	3	Lin Thru 0	0.0	79.79	0.00000	1.000000	
Al 308.215	3	Lin Thru 0	0.0	1.282	0.00000	0.999993	
As 188.979	3	Lin Thru 0	0.0	2.372	0.00000	0.999984	
B	3	Lin Thru 0	0.0	4.945	0.00000	0.999956	
Ba 233.527	3	Lin Thru 0	0.0	107.6	0.00000	1.000000	
Be 313.107	3	Lin Thru 0	0.0	484.3	0.00000	0.999996	
Ca 315.887	3	Lin Thru 0	0.0	9.805	0.00000	0.999988	
Cd 214.440	3	Lin Thru 0	0.0	207.7	0.00000	0.999996	
Co 228.616	3	Lin Thru 0	0.0	44.65	0.00000	0.999984	
Cr 267.716	3	Lin Thru 0	0.0	75.77	0.00000	1.000000	
Cu 327.393	3	Lin Thru 0	0.0	62.22	0.00000	1.000000	
Fe 273.955	3	Lin Thru 0	0.0	16.09	0.00000	0.999996	
K 766.490	3	Lin Thru 0	0.0	1.909	0.00000	0.999956	
Mg 285.213	3	Lin Thru 0	0.0	17.90	0.00000	0.999998	
Mn 257.610	3	Lin Thru 0	0.0	46.43	0.00000	1.000000	
Mo 202.031	3	Lin Thru 0	0.0	19.14	0.00000	0.999866	
Na 589.592	3	Lin Thru 0	0.0	7.173	0.00000	0.999994	
Ni 231.604	3	Lin Thru 0	0.0	35.58	0.00000	0.999970	
P 213.617	3	Lin Thru 0	0.0	3.711	0.00000	0.999952	
Pb 220.353	3	Lin Thru 0	0.0	8.891	0.00000	0.999996	
Sb 206.836	3	Lin Thru 0	0.0	3.376	0.00000	0.999981	
Se 196.026	3	Lin Thru 0	0.0	2.334	0.00000	0.999995	
Sn 189.927	3	Lin Thru 0	0.0	8.276	0.00000	0.999976	
Sr 421.552	3	Lin Thru 0	0.0	636.8	0.00000	0.999989	
Ti 337.279	3	Lin Thru 0	0.0	41.11	0.00000	0.999990	

Tl 190.801	3	Lin Thru 0	0.0	4.471	0.00000	0.999996
V 292.402	3	Lin Thru 0	0.0	141.0	0.00000	0.999999
Zn 206.200	3	Lin Thru 0	0.0	43.00	0.00000	0.999998

Sequence No.: 5
Sample ID: ICV 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 11
Date Collected: 05/30/12 11:07:28 AM
Data Type: Reprocessed on 05/31/12 2:45:32 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICV 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1419058.8	101.7	%	0.93				0.91%
Ag 338.289†	40185.5	503.6	ug/L	0.44	503.6	ug/L	0.44	0.09%
QC value within limits for Ag 338.289 Recovery = 100.73%								
Al 308.215†	30810.8	24030	ug/L	123.5	24030	ug/L	123.5	0.51%
QC value within limits for Al 308.215 Recovery = 96.12%								
As 188.979†	2372.4	1000	ug/L	9.8	1000	ug/L	9.8	0.98%
QC value within limits for As 188.979 Recovery = 100.04%								
B†	5011.7	1013	ug/L	10.7	1013	ug/L	10.7	1.05%
QC value within limits for B Recovery = 101.34%								
Ba 233.527†	106663.8	985.1	ug/L	2.40	985.1	ug/L	2.40	0.24%
QC value within limits for Ba 233.527 Recovery = 98.51%								
Be 313.107†	474847.6	980.5	ug/L	12.70	980.5	ug/L	12.70	1.29%
QC value within limits for Be 313.107 Recovery = 98.05%								
Ca 315.887†	236417.7	24110	ug/L	359.6	24110	ug/L	359.6	1.49%
QC value within limits for Ca 315.887 Recovery = 96.44%								
Cd 214.440†	211990.2	1020	ug/L	3.7	1020	ug/L	3.7	0.36%
QC value within limits for Cd 214.440 Recovery = 102.02%								
Co 228.616†	45765.9	1024	ug/L	3.4	1024	ug/L	3.4	0.34%
QC value within limits for Co 228.616 Recovery = 102.36%								
Cr 267.716†	77260.1	1021	ug/L	2.0	1021	ug/L	2.0	0.19%
QC value within limits for Cr 267.716 Recovery = 102.09%								
Cu 327.393†	62030.2	996.9	ug/L	4.42	996.9	ug/L	4.42	0.44%
QC value within limits for Cu 327.393 Recovery = 99.69%								
Fe 273.955†	397120.6	24600	ug/L	76.1	24600	ug/L	76.1	0.31%
QC value within limits for Fe 273.955 Recovery = 98.42%								
K 766.490†	47062.7	24670	ug/L	95.8	24670	ug/L	95.8	0.39%
QC value within limits for K 766.490 Recovery = 98.69%								
Mg 285.213†	432075.5	24160	ug/L	347.9	24160	ug/L	347.9	1.44%
QC value within limits for Mg 285.213 Recovery = 96.66%								
Mn 257.610†	47100.7	1011	ug/L	4.0	1011	ug/L	4.0	0.39%
QC value within limits for Mn 257.610 Recovery = 101.12%								
Mo 202.031†	19803.5	1035	ug/L	8.1	1035	ug/L	8.1	0.78%
QC value within limits for Mo 202.031 Recovery = 103.45%								
Na 589.592†	172928.8	24070	ug/L	334.0	24070	ug/L	334.0	1.39%
QC value within limits for Na 589.592 Recovery = 96.26%								
Ni 231.604†	37331.3	1047	ug/L	3.2	1047	ug/L	3.2	0.31%
QC value within limits for Ni 231.604 Recovery = 104.68%								
P 213.617†	18337.2	4942	ug/L	39.0	4942	ug/L	39.0	0.79%
QC value within limits for P 213.617 Recovery = 98.84%								
Pb 220.353†	9251.1	1041	ug/L	8.6	1041	ug/L	8.6	0.82%
QC value within limits for Pb 220.353 Recovery = 104.05%								
Sb 206.836†	3606.5	1068	ug/L	7.1	1068	ug/L	7.1	0.67%
QC value within limits for Sb 206.836 Recovery = 106.83%								
Se 196.026†	2368.1	1015	ug/L	8.9	1015	ug/L	8.9	0.88%
QC value within limits for Se 196.026 Recovery = 101.48%								
Sn 189.927†	4448.2	540.7	ug/L	3.72	540.7	ug/L	3.72	0.69%
QC value within limits for Sn 189.927 Recovery = 108.14%								
Sr 421.552†	612975.7	962.3	ug/L	13.00	962.3	ug/L	13.00	1.35%
QC value within limits for Sr 421.552 Recovery = 96.23%								
Ti 337.279†	41410.1	1007	ug/L	4.6	1007	ug/L	4.6	0.45%
QC value within limits for Ti 337.279 Recovery = 100.72%								
Tl 190.801†	4395.0	983.1	ug/L	8.84	983.1	ug/L	8.84	0.90%
QC value within limits for Tl 190.801 Recovery = 98.31%								
V 292.402†	142556.8	1031	ug/L	2.4	1031	ug/L	2.4	0.23%
QC value within limits for V 292.402 Recovery = 103.13%								
Zn 206.200†	45006.5	1047	ug/L	5.3	1047	ug/L	5.3	0.51%
QC value within limits for Zn 206.200 Recovery = 104.68%								

All analyte(s) passed QC.

Sequence No.: 6
Sample ID: ICB 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 05/30/12 11:14:29 AM
Data Type: Reprocessed on 05/31/12 2:45:34 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1420775.7	101.8	%	1.04				1.02%
Ag 338.289†	-33.6	-0.421	ug/L	0.6922	-0.421	ug/L	0.6922	164.40%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	11.2	8.702	ug/L	11.8637	8.702	ug/L	11.8637	136.33%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	-1.7	-0.712	ug/L	0.9144	-0.712	ug/L	0.9144	128.47%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	53.2	10.77	ug/L	1.165	10.77	ug/L	1.165	10.82%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	-4.7	-0.044	ug/L	0.1177	-0.044	ug/L	0.1177	270.26%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	54.4	0.112	ug/L	0.0119	0.112	ug/L	0.0119	10.56%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	57.1	5.825	ug/L	2.5649	5.825	ug/L	2.5649	44.03%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	-4.8	-0.022	ug/L	0.0785	-0.022	ug/L	0.0785	354.88%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	17.5	0.393	ug/L	0.5551	0.393	ug/L	0.5551	141.34%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-12.3	-0.164	ug/L	0.2266	-0.164	ug/L	0.2266	138.35%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	272.1	4.372	ug/L	0.4826	4.372	ug/L	0.4826	11.04%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	-68.0	-4.186	ug/L	2.7487	-4.186	ug/L	2.7487	65.66%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	-30.4	-15.93	ug/L	127.282	-15.93	ug/L	127.282	799.05%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	44.8	2.497	ug/L	0.5453	2.497	ug/L	0.5453	21.84%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-3.8	-0.081	ug/L	0.2826	-0.081	ug/L	0.2826	348.00%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	10.7	0.557	ug/L	0.1480	0.557	ug/L	0.1480	26.59%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-68.3	-9.520	ug/L	5.1462	-9.520	ug/L	5.1462	54.06%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-10.1	-0.285	ug/L	0.6592	-0.285	ug/L	0.6592	231.44%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	2.6	0.688	ug/L	3.6684	0.688	ug/L	3.6684	533.01%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	15.8	1.778	ug/L	1.2037	1.778	ug/L	1.2037	67.69%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	10.6	3.140	ug/L	1.0292	3.140	ug/L	1.0292	32.78%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	4.3	1.846	ug/L	1.4929	1.846	ug/L	1.4929	80.85%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	13.8	1.668	ug/L	0.6707	1.668	ug/L	0.6707	40.22%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	235.3	0.369	ug/L	0.0947	0.369	ug/L	0.0947	25.65%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	22.1	0.537	ug/L	0.2602	0.537	ug/L	0.2602	48.44%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	5.5	1.240	ug/L	0.2514	1.240	ug/L	0.2514	20.27%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-74.2	-0.518	ug/L	0.4841	-0.518	ug/L	0.4841	93.41%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	23.8	0.553	ug/L	0.0605	0.553	ug/L	0.0605	10.94%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 8
Sample ID: ICSA 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 12
Date Collected: 05/30/12 11:30:15 AM
Data Type: Reprocessed on 05/31/12 2:45:45 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1345362.9	96.38	%	0.861				0.89%
Ag 338.289†	-68.2	-0.855	ug/L	0.2223	-0.855	ug/L	0.2223	25.99%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	254136.6	198200	ug/L	2976.1	198200	ug/L	2976.1	1.50%
QC value within limits for Al 308.215 Recovery = 99.10%								
As 188.979†	-2.8	-1.196	ug/L	2.7610	-1.196	ug/L	2.7610	230.76%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	-78.9	-15.96	ug/L	4.176	-15.96	ug/L	4.176	26.17%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	5950.0	0.065	ug/L	2.4136	0.065	ug/L	2.4136	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	25.9	0.053	ug/L	0.0627	0.053	ug/L	0.0627	117.41%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	1946044.9	198500	ug/L	3163.7	198500	ug/L	3163.7	1.59%
QC value within limits for Ca 315.887 Recovery = 99.24%								
Cd 214.440†	2177.1	0.132	ug/L	0.2004	0.132	ug/L	0.2004	151.46%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	279.2	-0.239	ug/L	0.0995	-0.239	ug/L	0.0995	41.59%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-14.0	1.101	ug/L	0.1030	1.101	ug/L	0.1030	9.35%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-254.9	-4.097	ug/L	0.2712	-4.097	ug/L	0.2712	6.62%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	3138289.3	195000	ug/L	364.6	195000	ug/L	364.6	0.19%
QC value within limits for Fe 273.955 Recovery = 97.52%								
K 766.490†	228.7	316.6	ug/L	58.38	316.6	ug/L	58.38	18.44%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	3642953.7	203700	ug/L	2850.8	203700	ug/L	2850.8	1.40%
QC value within limits for Mg 285.213 Recovery = 101.87%								
Mn 257.610†	1355.9	-0.003	ug/L	0.6505	-0.003	ug/L	0.6505	>999.9%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	6.6	0.345	ug/L	0.3269	0.345	ug/L	0.3269	94.87%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	758.8	17.31	ug/L	10.767	17.31	ug/L	10.767	62.22%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	172.5	-0.263	ug/L	0.2236	-0.263	ug/L	0.2236	85.13%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-67.8	-18.28	ug/L	1.649	-18.28	ug/L	1.649	9.02%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	-26.7	-3.000	ug/L	0.2971	-3.000	ug/L	0.2971	9.90%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	1.3	0.398	ug/L	1.7701	0.398	ug/L	1.7701	444.34%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	21.5	9.220	ug/L	0.4199	9.220	ug/L	0.4199	4.55%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	-294.1	-23.79	ug/L	2.098	-23.79	ug/L	2.098	8.82%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	1626.8	0.735	ug/L	0.0537	0.735	ug/L	0.0537	7.31%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	133.1	1.031	ug/L	1.3982	1.031	ug/L	1.3982	135.66%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	14.5	3.244	ug/L	0.4403	3.244	ug/L	0.4403	13.57%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	6477.5	1.351	ug/L	0.4234	1.351	ug/L	0.4234	31.35%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-144.6	-3.363	ug/L	0.0232	-3.363	ug/L	0.0232	0.69%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

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Sequence No.: 9
Sample ID: ICSAB 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 13
Date Collected: 05/30/12 11:33:55 AM
Data Type: Reprocessed on 05/31/12 2:45:46 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSAB 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1345573.3	96.40	%	0.537				0.56%
Ag 338.289†	79729.9	999.2	ug/L	3.08	999.2	ug/L	3.08	0.31%
QC value within limits for Ag 338.289 Recovery = 99.92%								
Al 308.215†	254796.8	198700	ug/L	1791.3	198700	ug/L	1791.3	0.90%
QC value within limits for Al 308.215 Recovery = 99.36%								
As 188.979†	1166.0	491.6	ug/L	2.95	491.6	ug/L	2.95	0.60%
QC value within limits for As 188.979 Recovery = 98.33%								
B†	-83.6	-16.90	ug/L	7.812	-16.90	ug/L	7.812	46.22%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	57290.5	477.7	ug/L	2.51	477.7	ug/L	2.51	0.53%
QC value within limits for Ba 233.527 Recovery = 95.54%								
Be 313.107†	236437.4	488.2	ug/L	4.76	488.2	ug/L	4.76	0.98%
QC value within limits for Be 313.107 Recovery = 97.64%								
Ca 315.887†	1955465.7	199400	ug/L	1852.6	199400	ug/L	1852.6	0.93%
QC value within limits for Ca 315.887 Recovery = 99.72%								
Cd 214.440†	199998.2	952.9	ug/L	2.85	952.9	ug/L	2.85	0.30%
QC value within limits for Cd 214.440 Recovery = 95.29%								
Co 228.616†	22418.6	496.4	ug/L	1.85	496.4	ug/L	1.85	0.37%
QC value within limits for Co 228.616 Recovery = 99.28%								
Cr 267.716†	36862.0	488.3	ug/L	1.97	488.3	ug/L	1.97	0.40%
QC value within limits for Cr 267.716 Recovery = 97.67%								
Cu 327.393†	30234.4	485.9	ug/L	0.86	485.9	ug/L	0.86	0.18%
QC value within limits for Cu 327.393 Recovery = 97.19%								
Fe 273.955†	3133418.3	194700	ug/L	337.9	194700	ug/L	337.9	0.17%
QC value within limits for Fe 273.955 Recovery = 97.35%								
K 766.490†	186.2	293.4	ug/L	74.40	293.4	ug/L	74.40	25.36%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	3654490.5	204400	ug/L	1635.4	204400	ug/L	1635.4	0.80%
QC value within limits for Mg 285.213 Recovery = 102.19%								
Mn 257.610†	24269.5	493.6	ug/L	0.85	493.6	ug/L	0.85	0.17%
QC value within limits for Mn 257.610 Recovery = 98.73%								
Mo 202.031†	9516.6	497.1	ug/L	3.73	497.1	ug/L	3.73	0.75%
QC value within limits for Mo 202.031 Recovery = 99.43%								
Na 589.592†	1053.6	54.50	ug/L	4.972	54.50	ug/L	4.972	9.12%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	34654.1	968.0	ug/L	1.44	968.0	ug/L	1.44	0.15%
QC value within limits for Ni 231.604 Recovery = 96.80%								
P 213.617†	-77.9	-20.99	ug/L	4.578	-20.99	ug/L	4.578	21.81%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	8708.7	979.5	ug/L	7.67	979.5	ug/L	7.67	0.78%
QC value within limits for Pb 220.353 Recovery = 97.95%								
Sb 206.836†	1622.7	480.7	ug/L	5.17	480.7	ug/L	5.17	1.08%
QC value within limits for Sb 206.836 Recovery = 96.14%								
Se 196.026†	1177.9	504.8	ug/L	3.32	504.8	ug/L	3.32	0.66%
QC value within limits for Se 196.026 Recovery = 100.96%								
Sn 189.927†	-307.8	-25.17	ug/L	1.165	-25.17	ug/L	1.165	4.63%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	1899.5	1.163	ug/L	0.0432	1.163	ug/L	0.0432	3.71%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	145.7	1.426	ug/L	1.5795	1.426	ug/L	1.5795	110.80%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	2117.1	473.6	ug/L	2.22	473.6	ug/L	2.22	0.47%
QC value within limits for Tl 190.801 Recovery = 94.71%								
V 292.402†	76466.9	510.6	ug/L	1.27	510.6	ug/L	1.27	0.25%
QC value within limits for V 292.402 Recovery = 102.13%								
Zn 206.200†	35553.1	826.9	ug/L	6.36	826.9	ug/L	6.36	0.77%
QC value within limits for Zn 206.200 Recovery = 82.69%								

All analyte(s) passed QC.

Sequence No.: 10
Sample ID: CCV1 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 05/30/12 11:37:37 AM
Data Type: Reprocessed on 05/31/12 2:45:48 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1398151.9	100.2	%	0.43				0.43%
Ag 338.289†	39455.6	494.5	ug/L	0.34	494.5	ug/L	0.34	0.07%
QC value within limits for Ag 338.289 Recovery = 98.90%								
Al 308.215†	25024.0	19510	ug/L	90.5	19510	ug/L	90.5	0.46%
QC value within limits for Al 308.215 Recovery = 97.57%								
As 188.979†	2379.5	1003	ug/L	8.9	1003	ug/L	8.9	0.89%
QC value within limits for As 188.979 Recovery = 100.33%								
B†	4821.4	974.9	ug/L	2.47	974.9	ug/L	2.47	0.25%
QC value within limits for B Recovery = 97.49%								
Ba 233.527†	107621.3	995.3	ug/L	3.16	995.3	ug/L	3.16	0.32%
QC value within limits for Ba 233.527 Recovery = 99.53%								
Be 313.107†	478016.0	987.0	ug/L	15.35	987.0	ug/L	15.35	1.56%
QC value within limits for Be 313.107 Recovery = 98.70%								
Ca 315.887†	484872.7	49450	ug/L	676.4	49450	ug/L	676.4	1.37%
QC value within limits for Ca 315.887 Recovery = 98.90%								
Cd 214.440†	209422.8	1008	ug/L	5.8	1008	ug/L	5.8	0.58%
QC value within limits for Cd 214.440 Recovery = 100.81%								
Co 228.616†	45265.5	1013	ug/L	4.0	1013	ug/L	4.0	0.39%
QC value within limits for Co 228.616 Recovery = 101.25%								
Cr 267.716†	75847.4	1002	ug/L	3.6	1002	ug/L	3.6	0.36%
QC value within limits for Cr 267.716 Recovery = 100.18%								
Cu 327.393†	61932.0	995.4	ug/L	4.51	995.4	ug/L	4.51	0.45%
QC value within limits for Cu 327.393 Recovery = 99.54%								
Fe 273.955†	324915.1	20120	ug/L	88.3	20120	ug/L	88.3	0.44%
QC value within limits for Fe 273.955 Recovery = 100.58%								
K 766.490†	38410.7	20170	ug/L	137.8	20170	ug/L	137.8	0.68%
QC value within limits for K 766.490 Recovery = 100.83%								
Mg 285.213†	892468.8	49880	ug/L	639.1	49880	ug/L	639.1	1.28%
QC value within limits for Mg 285.213 Recovery = 99.75%								
Mn 257.610†	45550.9	977.3	ug/L	1.99	977.3	ug/L	1.99	0.20%
QC value within limits for Mn 257.610 Recovery = 97.73%								
Mo 202.031†	19830.1	1036	ug/L	11.3	1036	ug/L	11.3	1.09%
QC value within limits for Mo 202.031 Recovery = 103.59%								
Na 589.592†	178034.7	24780	ug/L	320.4	24780	ug/L	320.4	1.29%
QC value within limits for Na 589.592 Recovery = 99.12%								
Ni 231.604†	36225.5	1016	ug/L	4.7	1016	ug/L	4.7	0.47%
QC value within limits for Ni 231.604 Recovery = 101.57%								
P 213.617†	18830.0	5075	ug/L	61.2	5075	ug/L	61.2	1.21%
QC value within limits for P 213.617 Recovery = 101.50%								
Pb 220.353†	9066.9	1020	ug/L	9.9	1020	ug/L	9.9	0.97%
QC value within limits for Pb 220.353 Recovery = 101.98%								
Sb 206.836†	3381.9	1002	ug/L	9.1	1002	ug/L	9.1	0.91%
QC value within limits for Sb 206.836 Recovery = 100.18%								
Se 196.026†	2337.1	1002	ug/L	12.7	1002	ug/L	12.7	1.27%
QC value within limits for Se 196.026 Recovery = 100.15%								
Sn 189.927†	8198.3	996.2	ug/L	11.15	996.2	ug/L	11.15	1.12%
QC value within limits for Sn 189.927 Recovery = 99.62%								
Sr 421.552†	627774.5	985.4	ug/L	12.93	985.4	ug/L	12.93	1.31%
QC value within limits for Sr 421.552 Recovery = 98.54%								
Ti 337.279†	40578.6	986.6	ug/L	1.29	986.6	ug/L	1.29	0.13%
QC value within limits for Ti 337.279 Recovery = 98.66%								
Tl 190.801†	4487.3	1004	ug/L	10.9	1004	ug/L	10.9	1.08%
QC value within limits for Tl 190.801 Recovery = 100.37%								
V 292.402†	140862.4	1020	ug/L	1.5	1020	ug/L	1.5	0.15%
QC value within limits for V 292.402 Recovery = 102.02%								
Zn 206.200†	43750.4	1018	ug/L	4.8	1018	ug/L	4.8	0.47%
QC value within limits for Zn 206.200 Recovery = 101.76%								

All analyte(s) passed QC.

Sequence No.: 11
Sample ID: CCB 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 05/30/12 11:44:31 AM
Data Type: Reprocessed on 05/31/12 2:45:49 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1421865.8	101.9	%	0.14				0.13%
Ag 338.289†	25.2	0.315	ug/L	0.3248	0.315	ug/L	0.3248	102.95%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	25.6	19.93	ug/L	8.693	19.93	ug/L	8.693	43.61%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	2.8	1.185	ug/L	2.5422	1.185	ug/L	2.5422	214.51%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	36.0	7.280	ug/L	0.6392	7.280	ug/L	0.6392	8.78%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	-13.2	-0.124	ug/L	0.1359	-0.124	ug/L	0.1359	109.24%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	35.0	0.072	ug/L	0.0179	0.072	ug/L	0.0179	24.75%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	78.8	8.036	ug/L	0.9763	8.036	ug/L	0.9763	12.15%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	16.3	0.079	ug/L	0.0343	0.079	ug/L	0.0343	43.50%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	26.0	0.585	ug/L	0.0520	0.585	ug/L	0.0520	8.90%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-6.8	-0.090	ug/L	0.3442	-0.090	ug/L	0.3442	380.94%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	190.2	3.058	ug/L	0.9343	3.058	ug/L	0.9343	30.56%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	89.2	5.563	ug/L	0.4071	5.563	ug/L	0.4071	7.32%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	69.2	36.26	ug/L	95.743	36.26	ug/L	95.743	264.01%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	642.4	35.89	ug/L	0.625	35.89	ug/L	0.625	1.74%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-2.2	-0.050	ug/L	0.1407	-0.050	ug/L	0.1407	284.00%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	9.6	0.500	ug/L	0.0120	0.500	ug/L	0.0120	2.40%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-40.7	-5.723	ug/L	3.3653	-5.723	ug/L	3.3653	58.80%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-15.4	-0.433	ug/L	0.6662	-0.433	ug/L	0.6662	153.81%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-5.9	-1.579	ug/L	2.8108	-1.579	ug/L	2.8108	177.98%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	17.8	1.998	ug/L	0.6510	1.998	ug/L	0.6510	32.58%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	4.9	1.452	ug/L	0.5805	1.452	ug/L	0.5805	39.97%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-5.2	-2.225	ug/L	2.2835	-2.225	ug/L	2.2835	102.61%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	0.0	0.006	ug/L	0.6360	0.006	ug/L	0.6360	>999.9%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	-69.1	-0.109	ug/L	0.1548	-0.109	ug/L	0.1548	142.59%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-5.9	-0.144	ug/L	0.4509	-0.144	ug/L	0.4509	312.57%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	2.7	0.598	ug/L	0.0894	0.598	ug/L	0.0894	14.95%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-50.3	-0.350	ug/L	0.1376	-0.350	ug/L	0.1376	39.28%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	7.0	0.164	ug/L	0.0610	0.164	ug/L	0.0610	37.27%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 12
Sample ID: CCV1 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 05/30/12 12:19:57 PM
Data Type: Reprocessed on 05/31/12 2:45:55 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1380559.0	98.90	%	0.431				0.44%
Ag 338.289†	39295.1	492.5	ug/L	0.99	492.5	ug/L	0.99	0.20%
QC value within limits for Ag 338.289 Recovery = 98.49%								
Al 308.215†	25581.0	19950	ug/L	167.9	19950	ug/L	167.9	0.84%
QC value within limits for Al 308.215 Recovery = 99.74%								
As 188.979†	2372.0	1000	ug/L	5.1	1000	ug/L	5.1	0.51%
QC value within limits for As 188.979 Recovery = 100.02%								
B†	4969.1	1005	ug/L	12.0	1005	ug/L	12.0	1.19%
QC value within limits for B Recovery = 100.48%								
Ba 233.527†	107507.4	994.3	ug/L	3.41	994.3	ug/L	3.41	0.34%
QC value within limits for Ba 233.527 Recovery = 99.43%								
Be 313.107†	474618.7	980.0	ug/L	12.12	980.0	ug/L	12.12	1.24%
QC value within limits for Be 313.107 Recovery = 98.00%								
Ca 315.887†	484722.5	49430	ug/L	739.3	49430	ug/L	739.3	1.50%
QC value within limits for Ca 315.887 Recovery = 98.87%								
Cd 214.440†	208082.3	1002	ug/L	5.8	1002	ug/L	5.8	0.58%
QC value within limits for Cd 214.440 Recovery = 100.16%								
Co 228.616†	45087.0	1008	ug/L	1.8	1008	ug/L	1.8	0.18%
QC value within limits for Co 228.616 Recovery = 100.85%								
Cr 267.716†	75650.9	999.2	ug/L	1.58	999.2	ug/L	1.58	0.16%
QC value within limits for Cr 267.716 Recovery = 99.92%								
Cu 327.393†	61736.0	992.2	ug/L	3.19	992.2	ug/L	3.19	0.32%
QC value within limits for Cu 327.393 Recovery = 99.22%								
Fe 273.955†	322958.7	19990	ug/L	69.4	19990	ug/L	69.4	0.35%
QC value within limits for Fe 273.955 Recovery = 99.97%								
K 766.490†	39843.3	20920	ug/L	209.3	20920	ug/L	209.3	1.00%
QC value within limits for K 766.490 Recovery = 104.58%								
Mg 285.213†	894938.8	50010	ug/L	637.8	50010	ug/L	637.8	1.28%
QC value within limits for Mg 285.213 Recovery = 100.03%								
Mn 257.610†	46657.4	1001	ug/L	7.8	1001	ug/L	7.8	0.78%
QC value within limits for Mn 257.610 Recovery = 100.12%								
Mo 202.031†	19742.1	1031	ug/L	1.9	1031	ug/L	1.9	0.18%
QC value within limits for Mo 202.031 Recovery = 103.13%								
Na 589.592†	178122.2	24790	ug/L	308.8	24790	ug/L	308.8	1.25%
QC value within limits for Na 589.592 Recovery = 99.16%								
Ni 231.604†	36010.3	1010	ug/L	3.4	1010	ug/L	3.4	0.33%
QC value within limits for Ni 231.604 Recovery = 100.96%								
P 213.617†	18633.9	5022	ug/L	11.5	5022	ug/L	11.5	0.23%
QC value within limits for P 213.617 Recovery = 100.44%								
Pb 220.353†	9014.5	1014	ug/L	2.0	1014	ug/L	2.0	0.20%
QC value within limits for Pb 220.353 Recovery = 101.39%								
Sb 206.836†	3401.4	1008	ug/L	5.2	1008	ug/L	5.2	0.52%
QC value within limits for Sb 206.836 Recovery = 100.76%								
Se 196.026†	2325.2	996.4	ug/L	4.78	996.4	ug/L	4.78	0.48%
QC value within limits for Se 196.026 Recovery = 99.64%								
Sn 189.927†	8117.1	986.4	ug/L	2.40	986.4	ug/L	2.40	0.24%
QC value within limits for Sn 189.927 Recovery = 98.64%								
Sr 421.552†	627647.9	985.2	ug/L	12.23	985.2	ug/L	12.23	1.24%
QC value within limits for Sr 421.552 Recovery = 98.52%								
Ti 337.279†	41714.2	1014	ug/L	6.2	1014	ug/L	6.2	0.61%
QC value within limits for Ti 337.279 Recovery = 101.43%								
Tl 190.801†	4465.7	998.9	ug/L	1.88	998.9	ug/L	1.88	0.19%
QC value within limits for Tl 190.801 Recovery = 99.89%								
V 292.402†	140600.8	1018	ug/L	3.9	1018	ug/L	3.9	0.38%
QC value within limits for V 292.402 Recovery = 101.83%								
Zn 206.200†	43204.3	1005	ug/L	2.6	1005	ug/L	2.6	0.26%
QC value within limits for Zn 206.200 Recovery = 100.49%								

All analyte(s) passed QC.

Sequence No.: 13
Sample ID: CCB 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 05/30/12 12:23:37 PM
Data Type: Reprocessed on 05/31/12 2:45:57 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1378812.4	98.78	%	1.007				1.02%
Ag 338.289†	-20.9	-0.262	ug/L	0.3195	-0.262	ug/L	0.3195	121.77%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	13.6	10.61	ug/L	7.306	10.61	ug/L	7.306	68.87%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	2.1	0.885	ug/L	0.8767	0.885	ug/L	0.8767	99.10%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	85.8	17.34	ug/L	2.700	17.34	ug/L	2.700	15.57%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	-10.7	-0.098	ug/L	0.1603	-0.098	ug/L	0.1603	163.05%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	57.9	0.119	ug/L	0.0131	0.119	ug/L	0.0131	10.97%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	97.6	9.948	ug/L	2.1845	9.948	ug/L	2.1845	21.96%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	26.5	0.129	ug/L	0.0238	0.129	ug/L	0.0238	18.51%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	14.1	0.316	ug/L	0.4605	0.316	ug/L	0.4605	145.64%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-16.8	-0.223	ug/L	0.4128	-0.223	ug/L	0.4128	185.43%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	290.7	4.672	ug/L	1.1875	4.672	ug/L	1.1875	25.42%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	-85.5	-5.292	ug/L	1.2087	-5.292	ug/L	1.2087	22.84%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	87.9	46.06	ug/L	37.497	46.06	ug/L	37.497	81.41%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	193.6	10.81	ug/L	1.222	10.81	ug/L	1.222	11.30%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-1.0	-0.020	ug/L	0.3649	-0.020	ug/L	0.3649	>999.9%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	7.9	0.411	ug/L	0.1377	0.411	ug/L	0.1377	33.54%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-124.8	-17.46	ug/L	11.418	-17.46	ug/L	11.418	65.41%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-35.7	-1.005	ug/L	0.2899	-1.005	ug/L	0.2899	28.85%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-13.5	-3.627	ug/L	1.9449	-3.627	ug/L	1.9449	53.62%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	13.5	1.515	ug/L	0.2235	1.515	ug/L	0.2235	14.75%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	10.7	3.176	ug/L	1.0106	3.176	ug/L	1.0106	31.81%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	6.1	2.614	ug/L	1.8859	2.614	ug/L	1.8859	72.15%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	12.6	1.518	ug/L	1.1162	1.518	ug/L	1.1162	73.51%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	22.9	0.036	ug/L	0.1582	0.036	ug/L	0.1582	439.88%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-1.2	-0.029	ug/L	0.3736	-0.029	ug/L	0.3736	>999.9%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	5.0	1.122	ug/L	0.5000	1.122	ug/L	0.5000	44.56%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-45.5	-0.316	ug/L	0.2224	-0.316	ug/L	0.2224	70.29%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	19.7	0.457	ug/L	0.2070	0.457	ug/L	0.2070	45.29%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 24
Sample ID: CCV2 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 05/30/12 1:13:46 PM
Data Type: Reprocessed on 05/31/12 2:46:17 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1445470.5	103.6	%	1.11				1.07%
Ag 338.289†	29723.5	372.5	ug/L	3.14	372.5	ug/L	3.14	0.84%
QC value within limits for Ag 338.289 Recovery = 99.34%								
Al 308.215†	19100.8	14900	ug/L	201.4	14900	ug/L	201.4	1.35%
QC value within limits for Al 308.215 Recovery = 99.31%								
As 188.979†	1774.2	748.1	ug/L	9.41	748.1	ug/L	9.41	1.26%
QC value within limits for As 188.979 Recovery = 99.75%								
B†	3680.9	744.3	ug/L	11.83	744.3	ug/L	11.83	1.59%
QC value within limits for B Recovery = 99.24%								
Ba 233.527†	81725.7	755.8	ug/L	1.16	755.8	ug/L	1.16	0.15%
QC value within limits for Ba 233.527 Recovery = 100.78%								
Be 313.107†	351232.5	725.2	ug/L	12.40	725.2	ug/L	12.40	1.71%
QC value within limits for Be 313.107 Recovery = 96.70%								
Ca 315.887†	361078.6	36820	ug/L	691.8	36820	ug/L	691.8	1.88%
QC value within limits for Ca 315.887 Recovery = 98.20%								
Cd 214.440†	158042.2	760.8	ug/L	2.36	760.8	ug/L	2.36	0.31%
QC value within limits for Cd 214.440 Recovery = 101.43%								
Co 228.616†	34452.3	770.6	ug/L	2.78	770.6	ug/L	2.78	0.36%
QC value within limits for Co 228.616 Recovery = 102.75%								
Cr 267.716†	57347.3	757.4	ug/L	1.28	757.4	ug/L	1.28	0.17%
QC value within limits for Cr 267.716 Recovery = 100.99%								
Cu 327.393†	46759.7	751.5	ug/L	4.51	751.5	ug/L	4.51	0.60%
QC value within limits for Cu 327.393 Recovery = 100.20%								
Fe 273.955†	245291.8	15190	ug/L	26.8	15190	ug/L	26.8	0.18%
QC value within limits for Fe 273.955 Recovery = 101.24%								
K 766.490†	29039.4	15250	ug/L	396.6	15250	ug/L	396.6	2.60%
QC value within limits for K 766.490 Recovery = 101.63%								
Mg 285.213†	667408.3	37300	ug/L	646.9	37300	ug/L	646.9	1.73%
QC value within limits for Mg 285.213 Recovery = 99.46%								
Mn 257.610†	34888.6	748.6	ug/L	10.35	748.6	ug/L	10.35	1.38%
QC value within limits for Mn 257.610 Recovery = 99.81%								
Mo 202.031†	14737.9	769.9	ug/L	10.69	769.9	ug/L	10.69	1.39%
QC value within limits for Mo 202.031 Recovery = 102.65%								
Na 589.592†	133227.9	18540	ug/L	330.0	18540	ug/L	330.0	1.78%
QC value within limits for Na 589.592 Recovery = 98.90%								
Ni 231.604†	27826.4	780.2	ug/L	8.10	780.2	ug/L	8.10	1.04%
QC value within limits for Ni 231.604 Recovery = 104.03%								
P 213.617†	13909.1	3749	ug/L	53.5	3749	ug/L	53.5	1.43%
QC value within limits for P 213.617 Recovery = 99.96%								
Pb 220.353†	6776.9	762.2	ug/L	8.51	762.2	ug/L	8.51	1.12%
QC value within limits for Pb 220.353 Recovery = 101.63%								
Sb 206.836†	2554.6	756.7	ug/L	9.00	756.7	ug/L	9.00	1.19%
QC value within limits for Sb 206.836 Recovery = 100.90%								
Se 196.026†	1732.0	742.2	ug/L	7.43	742.2	ug/L	7.43	1.00%
QC value within limits for Se 196.026 Recovery = 98.96%								
Sn 189.927†	6146.6	746.9	ug/L	7.48	746.9	ug/L	7.48	1.00%
QC value within limits for Sn 189.927 Recovery = 99.58%								
Sr 421.552†	467102.5	733.2	ug/L	12.45	733.2	ug/L	12.45	1.70%
QC value within limits for Sr 421.552 Recovery = 97.76%								
Ti 337.279†	30685.1	746.1	ug/L	10.59	746.1	ug/L	10.59	1.42%
QC value within limits for Ti 337.279 Recovery = 99.48%								
Tl 190.801†	3337.0	746.4	ug/L	9.77	746.4	ug/L	9.77	1.31%
QC value within limits for Tl 190.801 Recovery = 99.52%								
V 292.402†	106352.8	770.1	ug/L	0.68	770.1	ug/L	0.68	0.09%
QC value within limits for V 292.402 Recovery = 102.68%								
Zn 206.200†	32841.8	763.8	ug/L	3.35	763.8	ug/L	3.35	0.44%
QC value within limits for Zn 206.200 Recovery = 101.85%								

All analyte(s) passed QC.

Sequence No.: 25
Sample ID: CCB 120530EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 05/30/12 1:16:49 PM
Data Type: Reprocessed on 05/31/12 2:46:18 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120530EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1432627.7	102.6	%	0.20				0.20%
Ag 338.289†	9.9	0.124	ug/L	0.9140	0.124	ug/L	0.9140	734.52%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	10.5	8.186	ug/L	19.7613	8.186	ug/L	19.7613	241.41%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	1.9	0.804	ug/L	2.0363	0.804	ug/L	2.0363	253.12%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	52.8	10.68	ug/L	1.958	10.68	ug/L	1.958	18.34%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	-12.3	-0.112	ug/L	0.1326	-0.112	ug/L	0.1326	118.27%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	68.9	0.142	ug/L	0.0081	0.142	ug/L	0.0081	5.69%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	128.6	13.11	ug/L	2.063	13.11	ug/L	2.063	15.74%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	-0.3	0.000	ug/L	0.0290	0.000	ug/L	0.0290	>999.9%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	35.7	0.800	ug/L	0.3945	0.800	ug/L	0.3945	49.31%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-43.5	-0.575	ug/L	0.2539	-0.575	ug/L	0.2539	44.14%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	186.9	3.003	ug/L	0.5163	3.003	ug/L	0.5163	17.19%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	-128.0	-7.945	ug/L	0.3204	-7.945	ug/L	0.3204	4.03%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	-8.1	-4.247	ug/L	100.4767	-4.247	ug/L	100.4767	>999.9%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	141.0	7.866	ug/L	0.6879	7.866	ug/L	0.6879	8.75%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	0.2	0.005	ug/L	0.2053	0.005	ug/L	0.2053	>999.9%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	14.5	0.759	ug/L	0.0622	0.759	ug/L	0.0622	8.20%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-203.9	-28.43	ug/L	13.621	-28.43	ug/L	13.621	47.91%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-26.7	-0.752	ug/L	0.3062	-0.752	ug/L	0.3062	40.71%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-16.2	-4.356	ug/L	0.3882	-4.356	ug/L	0.3882	8.91%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	7.3	0.819	ug/L	0.0856	0.819	ug/L	0.0856	10.46%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	10.9	3.227	ug/L	1.2839	3.227	ug/L	1.2839	39.78%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	1.3	0.578	ug/L	5.2990	0.578	ug/L	5.2990	916.22%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	10.8	1.307	ug/L	1.0635	1.307	ug/L	1.0635	81.39%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	203.2	0.319	ug/L	0.1309	0.319	ug/L	0.1309	41.05%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	13.0	0.315	ug/L	0.1682	0.315	ug/L	0.1682	53.38%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	9.8	2.190	ug/L	0.7475	2.190	ug/L	0.7475	34.14%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-25.5	-0.172	ug/L	0.3080	-0.172	ug/L	0.3080	178.87%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	0.2	0.006	ug/L	0.1967	0.006	ug/L	0.1967	>999.9%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Reprocessing Begun
Logged In Analyst: chemist_metals Technique: ICP Continuous

Results Data Set (original): 120605B6010X
Results Library (original): C:\PE\chemist\RESULTS\Results.mdb
Results Data Set (reprocessed):
Results Library (reprocessed):

Sequence No.: 1
Sample ID: CalBlk 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 06/05/12 3:10:41 PM
Data Type: Reprocessed on 06/06/12 8:08:26 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CalBlk 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ag 338.289	-67.6	33.65	49.77%	[0.00]	ug/L
Al 308.215	234.8	12.84	5.47%	[0.00]	ug/L
As 188.979	-5.6	4.95	87.81%	[0.00]	ug/L
B	94.2	11.00	11.68%	[0.00]	ug/L
Ba 233.527	194.7	10.06	5.17%	[0.00]	ug/L
Be 313.107	-12568.5	97.15	0.77%	[0.00]	ug/L
Ca 315.887	-79.8	17.43	21.83%	[0.00]	ug/L
Cd 214.440	627.6	11.12	1.77%	[0.00]	ug/L
Co 228.616	116.9	5.27	4.51%	[0.00]	ug/L
Cr 267.716	795.1	27.26	3.43%	[0.00]	ug/L
Cu 327.393	823.4	46.22	5.61%	[0.00]	ug/L
Fe 273.955	1814.9	78.82	4.34%	[0.00]	ug/L
K 766.490	242.9	184.84	76.09%	[0.00]	ug/L
Mg 285.213	-303.7	12.42	4.09%	[0.00]	ug/L
Mn 257.610	42.8	8.17	19.10%	[0.00]	ug/L
Mo 202.031	167.5	6.32	3.77%	[0.00]	ug/L
Na 589.592	-416.5	56.53	13.57%	[0.00]	ug/L
Ni 231.604	-268.2	13.42	5.00%	[0.00]	ug/L
P 213.617	-63.1	3.01	4.76%	[0.00]	ug/L
Pb 220.353	12.9	2.21	17.20%	[0.00]	ug/L
Sb 206.836	7.4	6.39	86.60%	[0.00]	ug/L
Se 196.026	-1.7	2.93	171.44%	[0.00]	ug/L
Sn 189.927	0.2	1.73	>999.9%	[0.00]	ug/L
Sr 421.552	1029.0	199.68	19.40%	[0.00]	ug/L
Ti 337.279	-617.8	32.29	5.23%	[0.00]	ug/L
Tl 190.801	-162.2	4.37	2.69%	[0.00]	ug/L
V 292.402	-518.0	45.71	8.82%	[0.00]	ug/L
Zn 206.200	-218.0	14.55	6.67%	[0.00]	ug/L

Sequence No.: 2
Sample ID: STD 1 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 06/05/12 3:15:04 PM
Data Type: Reprocessed on 06/06/12 8:08:27 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 1 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ag 338.289	311.6	70.26	22.55%	[1.00]	ug/L
Al 308.215	315.1	19.69	6.25%	[100.00]	ug/L
As 188.979	20.5	2.23	10.86%	[3.50]	ug/L
B	384.6	12.53	3.26%	[50.00]	ug/L
Ba 233.527	1397.2	5.07	0.36%	[5.00]	ug/L
Be 313.107	16075.4	325.16	2.02%	[2.00]	ug/L
Ca 315.887	2978.8	22.05	0.74%	[100.00]	ug/L
Cd 214.440	2850.5	21.27	0.75%	[5.00]	ug/L
Co 228.616	613.0	14.08	2.30%	[5.00]	ug/L
Cr 267.716	1004.0	2.59	0.26%	[5.00]	ug/L
Cu 327.393	889.2	90.71	10.20%	[5.00]	ug/L
Fe 273.955	2225.4	39.77	1.79%	[50.00]	ug/L
K 766.490	4023.6	25.10	0.62%	[1000.00]	ug/L
Mg 285.213	2955.9	15.16	0.51%	[50]	ug/L
Mn 257.610	560.1	25.44	4.54%	[5.00]	ug/L
Mo 202.031	306.2	10.19	3.33%	[5.00]	ug/L
Na 589.592	15652.9	117.34	0.75%	[1000.00]	ug/L
Ni 231.604	506.4	15.84	3.13%	[5.00]	ug/L
P 213.617	218.3	4.02	1.84%	[25.00]	ug/L
Pb 220.353	77.9	0.95	1.22%	[3.00]	ug/L
Sb 206.836	39.4	1.53	3.87%	[5.00]	ug/L
Se 196.026	22.5	3.51	15.59%	[5.00]	ug/L
Sn 189.927	8.8	2.11	23.92%	[5.00]	ug/L
Sr 421.552	7392.4	142.25	1.92%	[5.00]	ug/L
Ti 337.279	291.4	1.00	0.34%	[5.00]	ug/L
Tl 190.801	71.5	4.06	5.68%	[5.00]	ug/L
V 292.402	1776.3	26.19	1.47%	[5.00]	ug/L
Zn 206.200	3209.1	16.70	0.52%	[20.00]	ug/L

Sequence No.: 3
Sample ID: STD 2 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 06/05/12 3:19:29 PM
Data Type: Reprocessed on 06/06/12 8:08:28 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 2 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ag 338.289	81574.1	946.33	1.16%	[500.0]	ug/L
Al 308.215	54059.3	559.76	1.04%	[20000.00]	ug/L
As 188.979	5221.4	48.74	0.93%	[1000.00]	ug/L
B	7279.9	106.27	1.46%	[1000.00]	ug/L
Ba 233.527	226161.3	2487.58	1.10%	[1000.00]	ug/L
Be 313.107	6213208.7	24411.15	0.39%	[1000.00]	ug/L
Ca 315.887	1072848.2	5302.88	0.49%	[50000]	ug/L
Cd 214.440	457416.8	5080.58	1.11%	[1000.00]	ug/L
Co 228.616	94674.4	1047.92	1.11%	[1000.00]	ug/L
Cr 267.716	157774.6	1684.58	1.07%	[1000.00]	ug/L
Cu 327.393	161205.7	1421.01	0.88%	[1000.00]	ug/L
Fe 273.955	681894.7	7531.54	1.10%	[20000]	ug/L
K 766.490	81008.0	322.77	0.40%	[20000]	ug/L
Mg 285.213	1881160.5	7539.45	0.40%	[50000]	ug/L
Mn 257.610	98950.0	1145.24	1.16%	[1000.00]	ug/L
Mo 202.031	52551.6	374.51	0.71%	[1000.00]	ug/L
Na 589.592	360635.1	1211.61	0.34%	[25000]	ug/L
Ni 231.604	75591.7	797.48	1.05%	[1000.00]	ug/L
P 213.617	41727.2	333.05	0.80%	[5000]	ug/L
Pb 220.353	19079.8	150.14	0.79%	[1000.00]	ug/L
Sb 206.836	7347.1	22.89	0.31%	[1000.00]	ug/L
Se 196.026	5156.5	73.17	1.42%	[1000.00]	ug/L
Sn 189.927	9904.2	97.51	0.98%	[1000.00]	ug/L
Sr 421.552	1282486.4	4666.59	0.36%	[1000.00]	ug/L
Ti 337.279	88192.9	1021.52	1.16%	[1000.00]	ug/L
Tl 190.801	13660.4	123.39	0.90%	[1000.00]	ug/L
V 292.402	289933.9	3300.51	1.14%	[1000.00]	ug/L
Zn 206.200	123050.7	1305.64	1.06%	[1000.00]	ug/L

Sequence No.: 4
Sample ID: STD 3 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 06/05/12 3:22:11 PM
Data Type: Reprocessed on 06/06/12 8:08:29 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 3 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ag 338.289	158439.9	729.71	0.46%	[1000.00]	ug/L
Al 308.215	107379.6	562.25	0.52%	[40000.00]	ug/L
As 188.979	10346.9	63.99	0.62%	[2000.00]	ug/L
B	14535.7	37.97	0.26%	[2000.00]	ug/L
Ba 233.527	433628.1	79.68	0.02%	[2000.00]	ug/L
Be 313.107	12064620.8	80365.52	0.67%	[2000.00]	ug/L
Ca 315.887	2086934.6	9637.26	0.46%	[100000.0]	ug/L
Cd 214.440	862475.5	662.29	0.08%	[2000.00]	ug/L
Co 228.616	180056.9	109.79	0.06%	[2000.00]	ug/L
Cr 267.716	302828.4	147.39	0.05%	[2000.00]	ug/L
Cu 327.393	315822.0	269.01	0.09%	[2000.00]	ug/L
Fe 273.955	1300259.1	379.77	0.03%	[40000]	ug/L
K 766.490	163253.5	322.94	0.20%	[40000]	ug/L
Mg 285.213	3642175.0	15155.40	0.42%	[100000]	ug/L
Mn 257.610	192622.3	978.89	0.51%	[2000.00]	ug/L
Mo 202.031	98799.3	26.22	0.03%	[2000.00]	ug/L
Na 589.592	709028.4	2454.80	0.35%	[50000]	ug/L
Ni 231.604	143270.4	310.01	0.22%	[2000.00]	ug/L
P 213.617	79259.3	360.22	0.45%	[10000]	ug/L
Pb 220.353	36873.2	148.77	0.40%	[2000.00]	ug/L
Sb 206.836	14607.0	85.56	0.59%	[2000.00]	ug/L
Se 196.026	10100.1	98.33	0.97%	[2000.00]	ug/L
Sn 189.927	19587.6	59.63	0.30%	[2000.00]	ug/L
Sr 421.552	2527278.9	9317.57	0.37%	[2000.00]	ug/L
Ti 337.279	174673.5	802.45	0.46%	[2000.00]	ug/L
Tl 190.801	26431.9	59.40	0.22%	[2000.00]	ug/L
V 292.402	561503.7	618.93	0.11%	[2000.00]	ug/L
Zn 206.200	232362.7	91.03	0.04%	[2000.00]	ug/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 338.289	3	Lin Thru 0	0.0	159.4	0.00000	0.999930	
Al 308.215	3	Lin Thru 0	0.0	2.688	0.00000	0.999996	
As 188.979	3	Lin Thru 0	0.0	5.183	0.00000	0.999993	
B	3	Lin Thru 0	0.0	7.270	0.00000	0.999999	
Ba 233.527	3	Lin Thru 0	0.0	218.7	0.00000	0.999854	
Be 313.107	3	Lin Thru 0	0.0	6068	0.00000	0.999929	
Ca 315.887	3	Lin Thru 0	0.0	20.99	0.00000	0.999937	
Cd 214.440	3	Lin Thru 0	0.0	436.5	0.00000	0.999712	
Co 228.616	3	Lin Thru 0	0.0	90.96	0.00000	0.999791	
Cr 267.716	3	Lin Thru 0	0.0	152.7	0.00000	0.999861	
Cu 327.393	3	Lin Thru 0	0.0	158.6	0.00000	0.999965	
Fe 273.955	3	Lin Thru 0	0.0	32.82	0.00000	0.999813	
K 766.490	3	Lin Thru 0	0.0	4.075	0.00000	0.999995	
Mg 285.213	3	Lin Thru 0	0.0	36.66	0.00000	0.999914	
Mn 257.610	3	Lin Thru 0	0.0	96.84	0.00000	0.999941	
Mo 202.031	3	Lin Thru 0	0.0	50.03	0.00000	0.999682	
Na 589.592	3	Lin Thru 0	0.0	14.23	0.00000	0.999975	
Ni 231.604	3	Lin Thru 0	0.0	72.43	0.00000	0.999761	
P 213.617	3	Lin Thru 0	0.0	8.010	0.00000	0.999781	
Pb 220.353	3	Lin Thru 0	0.0	18.57	0.00000	0.999904	
Sb 206.836	3	Lin Thru 0	0.0	7.312	0.00000	0.999997	
Se 196.026	3	Lin Thru 0	0.0	5.071	0.00000	0.999965	
Sn 189.927	3	Lin Thru 0	0.0	9.816	0.00000	0.999988	
Sr 421.552	3	Lin Thru 0	0.0	1267	0.00000	0.999982	
Ti 337.279	3	Lin Thru 0	0.0	87.51	0.00000	0.999992	
Tl 190.801	3	Lin Thru 0	0.0	13.30	0.00000	0.999911	

V 292.402	3	Lin Thru 0	0.0	282.6	0.00000	0.999915
Zn 206.200	3	Lin Thru 0	0.0	117.6	0.00000	0.999722

Sequence No.: 5
Sample ID: ICV 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 11
Date Collected: 06/05/12 3:28:05 PM
Data Type: Reprocessed on 06/06/12 8:08:30 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICV 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	79115.7	496.4	ug/L	2.33	496.4	ug/L	2.33	0.47%
QC value within limits for Ag 338.289 Recovery = 99.28%								
Al 308.215	63989.0	23810	ug/L	158.1	23810	ug/L	158.1	0.66%
QC value within limits for Al 308.215 Recovery = 95.23%								
As 188.979	4916.8	948.6	ug/L	6.96	948.6	ug/L	6.96	0.73%
QC value within limits for As 188.979 Recovery = 94.86%								
B	7201.7	1059	ug/L	9.0	1059	ug/L	9.0	0.85%
QC value within limits for B Recovery = 105.94%								
Ba 233.527	218750.3	994.6	ug/L	6.84	994.6	ug/L	6.84	0.69%
QC value within limits for Ba 233.527 Recovery = 99.46%								
Be 313.107	6158347.4	1017	ug/L	20.5	1017	ug/L	20.5	2.01%
QC value within limits for Be 313.107 Recovery = 101.75%								
Ca 315.887	501876.1	23910	ug/L	242.0	23910	ug/L	242.0	1.01%
QC value within limits for Ca 315.887 Recovery = 95.65%								
Cd 214.440	449222.0	1029	ug/L	6.7	1029	ug/L	6.7	0.65%
QC value within limits for Cd 214.440 Recovery = 102.87%								
Co 228.616	93295.5	1025	ug/L	7.2	1025	ug/L	7.2	0.70%
QC value within limits for Co 228.616 Recovery = 102.48%								
Cr 267.716	156505.5	1026	ug/L	6.0	1026	ug/L	6.0	0.58%
QC value within limits for Cr 267.716 Recovery = 102.65%								
Cu 327.393	159229.4	1007	ug/L	5.8	1007	ug/L	5.8	0.58%
QC value within limits for Cu 327.393 Recovery = 100.67%								
Fe 273.955	812366.4	24670	ug/L	150.8	24670	ug/L	150.8	0.61%
QC value within limits for Fe 273.955 Recovery = 98.68%								
K 766.490	96937.8	23810	ug/L	267.3	23810	ug/L	267.3	1.12%
QC value within limits for K 766.490 Recovery = 95.25%								
Mg 285.213	889098.5	24280	ug/L	228.3	24280	ug/L	228.3	0.94%
QC value within limits for Mg 285.213 Recovery = 97.12%								
Mn 257.610	98280.6	1015	ug/L	6.7	1015	ug/L	6.7	0.66%
QC value within limits for Mn 257.610 Recovery = 101.46%								
Mo 202.031	50699.2	1016	ug/L	6.8	1016	ug/L	6.8	0.67%
QC value within limits for Mo 202.031 Recovery = 101.56%								
Na 589.592	342429.3	24020	ug/L	197.6	24020	ug/L	197.6	0.82%
QC value within limits for Na 589.592 Recovery = 96.09%								
Ni 231.604	75895.1	1045	ug/L	6.2	1045	ug/L	6.2	0.60%
QC value within limits for Ni 231.604 Recovery = 104.54%								
P 213.617	37672.2	4703	ug/L	34.7	4703	ug/L	34.7	0.74%
QC value within limits for P 213.617 Recovery = 94.06%								
Pb 220.353	19128.2	1030	ug/L	10.0	1030	ug/L	10.0	0.97%
QC value within limits for Pb 220.353 Recovery = 103.03%								
Sb 206.836	7209.0	985.9	ug/L	8.75	985.9	ug/L	8.75	0.89%
QC value within limits for Sb 206.836 Recovery = 98.59%								
Se 196.026	5024.7	990.8	ug/L	1.61	990.8	ug/L	1.61	0.16%
QC value within limits for Se 196.026 Recovery = 99.08%								
Sn 189.927	2515.8	256.3	ug/L	2.04	256.3	ug/L	2.04	0.80%
QC value less than the lower limit for Sn 189.927 Recovery = 51.26%								
Sr 421.552	1219636.3	962.1	ug/L	8.65	962.1	ug/L	8.65	0.90%
QC value within limits for Sr 421.552 Recovery = 96.21%								
Ti 337.279	71262.1	814.3	ug/L	6.57	814.3	ug/L	6.57	0.81%
QC value less than the lower limit for Ti 337.279 Recovery = 81.43%								
Tl 190.801	13246.7	1014	ug/L	3.8	1014	ug/L	3.8	0.38%
QC value within limits for Tl 190.801 Recovery = 101.37%								
V 292.402	287354.4	1037	ug/L	6.5	1037	ug/L	6.5	0.62%
QC value within limits for V 292.402 Recovery = 103.70%								
Zn 206.200	123949.6	1062	ug/L	6.9	1062	ug/L	6.9	0.65%
QC value within limits for Zn 206.200 Recovery = 106.16%								

QC Failed. Continue with analysis.

Sequence No.: 6
Sample ID: ICB 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 06/05/12 3:32:12 PM
Data Type: Reprocessed on 06/06/12 8:08:31 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	-43.6	-0.274	ug/L	0.1298	-0.274	ug/L	0.1298	47.39%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	-8.4	-3.131	ug/L	0.6481	-3.131	ug/L	0.6481	20.70%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	1.6	0.310	ug/L	1.2388	0.310	ug/L	1.2388	400.06%
QC value within limits for As 188.979 Recovery = Not calculated								
B	116.6	16.04	ug/L	3.397	16.04	ug/L	3.397	21.18%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	-5.4	-0.025	ug/L	0.0823	-0.025	ug/L	0.0823	325.97%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	754.0	0.124	ug/L	0.0396	0.124	ug/L	0.0396	31.82%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	2.7	0.128	ug/L	0.5491	0.128	ug/L	0.5491	428.20%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	19.9	0.046	ug/L	0.0273	0.046	ug/L	0.0273	59.65%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	1.6	0.019	ug/L	0.1791	0.019	ug/L	0.1791	964.71%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	-2.2	-0.013	ug/L	0.2083	-0.013	ug/L	0.2083	>999.9%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	359.2	2.266	ug/L	0.1797	2.266	ug/L	0.1797	7.93%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	72.4	2.178	ug/L	0.8361	2.178	ug/L	0.8361	38.38%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	46.9	11.50	ug/L	3.037	11.50	ug/L	3.037	26.40%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	24.1	0.660	ug/L	0.3149	0.660	ug/L	0.3149	47.68%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	-7.2	-0.075	ug/L	0.0634	-0.075	ug/L	0.0634	84.95%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	27.5	0.550	ug/L	0.2002	0.550	ug/L	0.2002	36.40%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	73.3	5.136	ug/L	9.4612	5.136	ug/L	9.4612	184.23%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	2.3	0.032	ug/L	0.2359	0.032	ug/L	0.2359	728.53%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	-2.7	-0.341	ug/L	0.3238	-0.341	ug/L	0.3238	95.08%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	23.1	1.244	ug/L	0.4126	1.244	ug/L	0.4126	33.15%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	1.6	0.219	ug/L	0.9454	0.219	ug/L	0.9454	432.00%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	1.0	0.193	ug/L	1.0937	0.193	ug/L	1.0937	565.60%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	7.3	0.742	ug/L	0.2499	0.742	ug/L	0.2499	33.68%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	-1.6	-0.001	ug/L	0.0507	-0.001	ug/L	0.0507	>999.9%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	4.7	0.054	ug/L	0.0955	0.054	ug/L	0.0955	176.44%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	1.4	0.111	ug/L	0.2252	0.111	ug/L	0.2252	202.87%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	97.0	0.352	ug/L	0.1726	0.352	ug/L	0.1726	49.11%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	165.4	1.407	ug/L	0.2136	1.407	ug/L	0.2136	15.18%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 8
Sample ID: ICSA 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 12
Date Collected: 06/05/12 3:40:55 PM
Data Type: Reprocessed on 06/06/12 8:08:33 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	-13.5	-0.085	ug/L	0.0639	-0.085	ug/L	0.0639	75.41%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	524218.8	195000	ug/L	2142.2	195000	ug/L	2142.2	1.10%
QC value within limits for Al 308.215 Recovery = 97.51%								
As 188.979	10.7	2.061	ug/L	2.4533	2.061	ug/L	2.4533	119.02%
QC value within limits for As 188.979 Recovery = Not calculated								
B	-4262.9	-70.74	ug/L	12.425	-70.74	ug/L	12.425	17.56%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	10397.4	-0.843	ug/L	1.1805	-0.843	ug/L	1.1805	140.10%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	7.0	-3.747	ug/L	0.0311	-3.747	ug/L	0.0311	0.83%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	4125530.3	196600	ug/L	2306.1	196600	ug/L	2306.1	1.17%
QC value within limits for Ca 315.887 Recovery = 98.29%								
Cd 214.440	4250.9	0.191	ug/L	0.1192	0.191	ug/L	0.1192	62.27%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	521.4	-0.381	ug/L	0.2326	-0.381	ug/L	0.2326	60.98%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	-298.7	-0.034	ug/L	0.0311	-0.034	ug/L	0.0311	92.55%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	-1295.7	-0.700	ug/L	0.2289	-0.700	ug/L	0.2289	32.72%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	5946777.5	181100	ug/L	784.0	181100	ug/L	784.0	0.43%
QC value within limits for Fe 273.955 Recovery = 90.57%								
K 766.490	294.3	265.3	ug/L	28.64	265.3	ug/L	28.64	10.79%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	7076446.4	193200	ug/L	1946.2	193200	ug/L	1946.2	1.01%
QC value within limits for Mg 285.213 Recovery = 96.62%								
Mn 257.610	558.6	0.614	ug/L	0.9491	0.614	ug/L	0.9491	154.62%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	-652.7	-1.997	ug/L	0.1708	-1.997	ug/L	0.1708	8.55%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	1407.7	12.49	ug/L	7.717	12.49	ug/L	7.717	61.80%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	333.7	-0.216	ug/L	0.3938	-0.216	ug/L	0.3938	182.60%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	-69.0	-8.615	ug/L	2.0275	-8.615	ug/L	2.0275	23.53%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	30.7	1.652	ug/L	0.5140	1.652	ug/L	0.5140	31.12%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	2.2	0.307	ug/L	0.5084	0.307	ug/L	0.5084	165.47%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	35.6	7.010	ug/L	2.2112	7.010	ug/L	2.2112	31.54%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	-45.2	-4.609	ug/L	0.3782	-4.609	ug/L	0.3782	8.21%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	2927.1	0.516	ug/L	0.1091	0.516	ug/L	0.1091	21.15%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	320.3	1.524	ug/L	0.6569	1.524	ug/L	0.6569	43.11%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	-14.1	0.000	ug/L	0.8789	0.000	ug/L	0.8789	>999.9%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	12056.3	1.008	ug/L	1.1292	1.008	ug/L	1.1292	112.01%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	2784.4	14.17	ug/L	0.193	14.17	ug/L	0.193	1.36%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 9
Sample ID: ICSAB 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 13
Date Collected: 06/05/12 3:46:02 PM
Data Type: Reprocessed on 06/06/12 8:08:34 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSAB 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	162024.9	1017	ug/L	12.0	1017	ug/L	12.0	1.18%
QC value within limits for Ag 338.289 Recovery = 101.66%								
Al 308.215	521639.9	194100	ug/L	2214.7	194100	ug/L	2214.7	1.14%
QC value within limits for Al 308.215 Recovery = 97.03%								
As 188.979	2339.3	451.3	ug/L	7.52	451.3	ug/L	7.52	1.67%
QC value within limits for As 188.979 Recovery = 90.27%								
B	-4364.5	-84.68	ug/L	17.328	-84.68	ug/L	17.328	20.46%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	115364.0	479.5	ug/L	5.32	479.5	ug/L	5.32	1.11%
QC value within limits for Ba 233.527 Recovery = 95.91%								
Be 313.107	2982486.7	487.8	ug/L	4.59	487.8	ug/L	4.59	0.94%
QC value within limits for Be 313.107 Recovery = 97.55%								
Ca 315.887	4110851.8	195900	ug/L	2528.1	195900	ug/L	2528.1	1.29%
QC value within limits for Ca 315.887 Recovery = 97.94%								
Cd 214.440	414335.3	940.0	ug/L	8.40	940.0	ug/L	8.40	0.89%
QC value within limits for Cd 214.440 Recovery = 94.00%								
Co 228.616	45076.9	490.3	ug/L	5.73	490.3	ug/L	5.73	1.17%
QC value within limits for Co 228.616 Recovery = 98.05%								
Cr 267.716	74194.0	488.5	ug/L	3.25	488.5	ug/L	3.25	0.66%
QC value within limits for Cr 267.716 Recovery = 97.69%								
Cu 327.393	78816.1	504.5	ug/L	3.32	504.5	ug/L	3.32	0.66%
QC value within limits for Cu 327.393 Recovery = 100.91%								
Fe 273.955	5950363.1	181200	ug/L	1647.8	181200	ug/L	1647.8	0.91%
QC value within limits for Fe 273.955 Recovery = 90.61%								
K 766.490	224.8	245.4	ug/L	57.82	245.4	ug/L	57.82	23.56%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	7053415.4	192600	ug/L	1883.6	192600	ug/L	1883.6	0.98%
QC value within limits for Mg 285.213 Recovery = 96.31%								
Mn 257.610	47036.7	480.7	ug/L	1.86	480.7	ug/L	1.86	0.39%
QC value within limits for Mn 257.610 Recovery = 96.14%								
Mo 202.031	23501.8	481.2	ug/L	3.57	481.2	ug/L	3.57	0.74%
QC value within limits for Mo 202.031 Recovery = 96.24%								
Na 589.592	1160.1	-8.220	ug/L	12.4768	-8.220	ug/L	12.4768	151.79%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	70180.8	963.3	ug/L	7.28	963.3	ug/L	7.28	0.76%
QC value within limits for Ni 231.604 Recovery = 96.33%								
P 213.617	-87.0	-10.86	ug/L	1.985	-10.86	ug/L	1.985	18.28%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	17952.2	967.0	ug/L	11.67	967.0	ug/L	11.67	1.21%
QC value within limits for Pb 220.353 Recovery = 96.70%								
Sb 206.836	3511.7	480.3	ug/L	9.94	480.3	ug/L	9.94	2.07%
QC value within limits for Sb 206.836 Recovery = 96.05%								
Se 196.026	2461.2	485.3	ug/L	6.20	485.3	ug/L	6.20	1.28%
QC value within limits for Se 196.026 Recovery = 97.06%								
Sn 189.927	-52.4	-5.340	ug/L	1.2595	-5.340	ug/L	1.2595	23.59%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	3002.8	0.589	ug/L	0.0484	0.589	ug/L	0.0484	8.23%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	266.7	1.021	ug/L	0.5168	1.021	ug/L	0.5168	50.61%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	6242.3	475.3	ug/L	9.31	475.3	ug/L	9.31	1.96%
QC value within limits for Tl 190.801 Recovery = 95.06%								
V 292.402	151199.9	506.0	ug/L	4.69	506.0	ug/L	4.69	0.93%
QC value within limits for V 292.402 Recovery = 101.20%								
Zn 206.200	114040.3	964.6	ug/L	8.10	964.6	ug/L	8.10	0.84%
QC value within limits for Zn 206.200 Recovery = 96.46%								

All analyte(s) passed QC.

Sequence No.: 10
Sample ID: CCV1 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 06/05/12 3:50:15 PM
Data Type: Reprocessed on 06/06/12 8:08:35 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	80107.4	502.6	ug/L	2.67	502.6	ug/L	2.67	0.53%
QC value within limits for Ag 338.289 Recovery = 100.52%								
Al 308.215	54508.6	20280	ug/L	160.9	20280	ug/L	160.9	0.79%
QC value within limits for Al 308.215 Recovery = 101.38%								
As 188.979	5201.0	1003	ug/L	8.8	1003	ug/L	8.8	0.88%
QC value within limits for As 188.979 Recovery = 100.35%								
B	7293.5	1056	ug/L	4.7	1056	ug/L	4.7	0.44%
QC value within limits for B Recovery = 105.62%								
Ba 233.527	223025.0	1015	ug/L	2.7	1015	ug/L	2.7	0.27%
QC value within limits for Ba 233.527 Recovery = 101.53%								
Be 313.107	6247038.2	1033	ug/L	7.4	1033	ug/L	7.4	0.72%
QC value within limits for Be 313.107 Recovery = 103.29%								
Ca 315.887	1052688.3	50160	ug/L	77.0	50160	ug/L	77.0	0.15%
QC value within limits for Ca 315.887 Recovery = 100.31%								
Cd 214.440	452412.1	1036	ug/L	4.1	1036	ug/L	4.1	0.40%
QC value within limits for Cd 214.440 Recovery = 103.62%								
Co 228.616	93683.4	1029	ug/L	3.2	1029	ug/L	3.2	0.31%
QC value within limits for Co 228.616 Recovery = 102.87%								
Cr 267.716	155091.1	1017	ug/L	4.2	1017	ug/L	4.2	0.41%
QC value within limits for Cr 267.716 Recovery = 101.67%								
Cu 327.393	159329.5	1008	ug/L	0.5	1008	ug/L	0.5	0.05%
QC value within limits for Cu 327.393 Recovery = 100.84%								
Fe 273.955	674850.1	20480	ug/L	55.0	20480	ug/L	55.0	0.27%
QC value within limits for Fe 273.955 Recovery = 102.40%								
K 766.490	79722.5	19610	ug/L	63.8	19610	ug/L	63.8	0.33%
QC value within limits for K 766.490 Recovery = 98.07%								
Mg 285.213	1851364.4	50520	ug/L	80.9	50520	ug/L	80.9	0.16%
QC value within limits for Mg 285.213 Recovery = 101.04%								
Mn 257.610	99646.6	1028	ug/L	7.4	1028	ug/L	7.4	0.72%
QC value within limits for Mn 257.610 Recovery = 102.77%								
Mo 202.031	51973.1	1041	ug/L	7.3	1041	ug/L	7.3	0.70%
QC value within limits for Mo 202.031 Recovery = 104.07%								
Na 589.592	355000.7	24910	ug/L	41.5	24910	ug/L	41.5	0.17%
QC value within limits for Na 589.592 Recovery = 99.63%								
Ni 231.604	74659.3	1028	ug/L	2.7	1028	ug/L	2.7	0.26%
QC value within limits for Ni 231.604 Recovery = 102.83%								
P 213.617	41780.7	5216	ug/L	52.1	5216	ug/L	52.1	1.00%
QC value within limits for P 213.617 Recovery = 104.32%								
Pb 220.353	19130.5	1030	ug/L	9.7	1030	ug/L	9.7	0.94%
QC value within limits for Pb 220.353 Recovery = 103.04%								
Sb 206.836	7329.7	1002	ug/L	9.2	1002	ug/L	9.2	0.92%
QC value within limits for Sb 206.836 Recovery = 100.24%								
Se 196.026	5174.5	1020	ug/L	8.5	1020	ug/L	8.5	0.83%
QC value within limits for Se 196.026 Recovery = 102.03%								
Sn 189.927	9884.8	1007	ug/L	12.6	1007	ug/L	12.6	1.25%
QC value within limits for Sn 189.927 Recovery = 100.70%								
Sr 421.552	1259919.4	993.7	ug/L	1.87	993.7	ug/L	1.87	0.19%
QC value within limits for Sr 421.552 Recovery = 99.37%								
Ti 337.279	88927.5	1016	ug/L	7.2	1016	ug/L	7.2	0.70%
QC value within limits for Ti 337.279 Recovery = 101.58%								
Tl 190.801	13592.2	1042	ug/L	8.5	1042	ug/L	8.5	0.81%
QC value within limits for Tl 190.801 Recovery = 104.18%								
V 292.402	285569.5	1032	ug/L	2.0	1032	ug/L	2.0	0.20%
QC value within limits for V 292.402 Recovery = 103.18%								
Zn 206.200	122316.4	1048	ug/L	5.1	1048	ug/L	5.1	0.49%
QC value within limits for Zn 206.200 Recovery = 104.76%								

All analyte(s) passed QC.

Sequence No.: 11
Sample ID: CCB 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 06/05/12 3:54:28 PM
Data Type: Reprocessed on 06/06/12 8:08:36 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	67.5	0.424	ug/L	0.6847	0.424	ug/L	0.6847	161.66%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	6.3	2.322	ug/L	9.1350	2.322	ug/L	9.1350	393.35%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	8.1	1.566	ug/L	1.3381	1.566	ug/L	1.3381	85.43%
QC value within limits for As 188.979 Recovery = Not calculated								
B	26.8	3.711	ug/L	1.2531	3.711	ug/L	1.2531	33.77%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	16.2	0.072	ug/L	0.0071	0.072	ug/L	0.0071	9.85%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	488.9	0.080	ug/L	0.0093	0.080	ug/L	0.0093	11.64%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	34.5	1.642	ug/L	0.5035	1.642	ug/L	0.5035	30.66%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	44.1	0.101	ug/L	0.0196	0.101	ug/L	0.0196	19.39%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	10.7	0.120	ug/L	0.0801	0.120	ug/L	0.0801	66.98%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	6.4	0.042	ug/L	0.2089	0.042	ug/L	0.2089	497.97%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	246.3	1.553	ug/L	0.5757	1.553	ug/L	0.5757	37.06%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	260.8	7.937	ug/L	2.1191	7.937	ug/L	2.1191	26.70%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	-66.7	-16.38	ug/L	12.364	-16.38	ug/L	12.364	75.48%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	41.4	1.140	ug/L	0.2820	1.140	ug/L	0.2820	24.74%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	6.5	0.067	ug/L	0.1208	0.067	ug/L	0.1208	179.11%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	30.0	0.600	ug/L	0.1462	0.600	ug/L	0.1462	24.35%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	-14.0	-0.970	ug/L	5.7262	-0.970	ug/L	5.7262	590.33%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	-1.0	-0.014	ug/L	0.2027	-0.014	ug/L	0.2027	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	2.7	0.331	ug/L	0.5632	0.331	ug/L	0.5632	170.19%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	25.1	1.352	ug/L	0.4433	1.352	ug/L	0.4433	32.80%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	-3.0	-0.416	ug/L	0.3223	-0.416	ug/L	0.3223	77.39%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	1.9	0.366	ug/L	1.5032	0.366	ug/L	1.5032	410.77%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	6.1	0.621	ug/L	0.2584	0.621	ug/L	0.2584	41.58%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	-112.6	-0.089	ug/L	0.1082	-0.089	ug/L	0.1082	121.70%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	-9.8	-0.111	ug/L	0.2068	-0.111	ug/L	0.2068	185.74%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	4.9	0.366	ug/L	0.9702	0.366	ug/L	0.9702	265.11%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	21.7	0.085	ug/L	0.2522	0.085	ug/L	0.2522	295.96%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	203.6	1.732	ug/L	0.1952	1.732	ug/L	0.1952	11.27%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 14
Sample ID: CCV1 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 06/05/12 4:43:12 PM
Data Type: Reprocessed on 06/06/12 8:08:39 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	79894.3	501.3	ug/L	1.77	501.3	ug/L	1.77	0.35%
QC value within limits for Ag 338.289 Recovery = 100.26%								
Al 308.215	53026.7	19730	ug/L	203.3	19730	ug/L	203.3	1.03%
QC value within limits for Al 308.215 Recovery = 98.63%								
As 188.979	5068.5	977.9	ug/L	9.47	977.9	ug/L	9.47	0.97%
QC value within limits for As 188.979 Recovery = 97.79%								
B	7051.1	1023	ug/L	10.6	1023	ug/L	10.6	1.04%
QC value within limits for B Recovery = 102.27%								
Ba 233.527	222652.7	1014	ug/L	6.8	1014	ug/L	6.8	0.67%
QC value within limits for Ba 233.527 Recovery = 101.36%								
Be 313.107	6180673.8	1022	ug/L	3.3	1022	ug/L	3.3	0.33%
QC value within limits for Be 313.107 Recovery = 102.19%								
Ca 315.887	1040977.5	49600	ug/L	429.5	49600	ug/L	429.5	0.87%
QC value within limits for Ca 315.887 Recovery = 99.20%								
Cd 214.440	448643.1	1028	ug/L	5.8	1028	ug/L	5.8	0.56%
QC value within limits for Cd 214.440 Recovery = 102.76%								
Co 228.616	93306.9	1025	ug/L	7.5	1025	ug/L	7.5	0.73%
QC value within limits for Co 228.616 Recovery = 102.46%								
Cr 267.716	155118.0	1017	ug/L	7.6	1017	ug/L	7.6	0.75%
QC value within limits for Cr 267.716 Recovery = 101.69%								
Cu 327.393	159937.6	1012	ug/L	5.5	1012	ug/L	5.5	0.55%
QC value within limits for Cu 327.393 Recovery = 101.22%								
Fe 273.955	671125.2	20370	ug/L	127.1	20370	ug/L	127.1	0.62%
QC value within limits for Fe 273.955 Recovery = 101.83%								
K 766.490	79268.5	19500	ug/L	165.1	19500	ug/L	165.1	0.85%
QC value within limits for K 766.490 Recovery = 97.51%								
Mg 285.213	1838305.7	50170	ug/L	366.3	50170	ug/L	366.3	0.73%
QC value within limits for Mg 285.213 Recovery = 100.33%								
Mn 257.610	96746.3	997.7	ug/L	10.47	997.7	ug/L	10.47	1.05%
QC value within limits for Mn 257.610 Recovery = 99.77%								
Mo 202.031	51278.3	1027	ug/L	5.7	1027	ug/L	5.7	0.56%
QC value within limits for Mo 202.031 Recovery = 102.68%								
Na 589.592	353638.3	24810	ug/L	185.7	24810	ug/L	185.7	0.75%
QC value within limits for Na 589.592 Recovery = 99.25%								
Ni 231.604	74262.4	1023	ug/L	5.3	1023	ug/L	5.3	0.51%
QC value within limits for Ni 231.604 Recovery = 102.28%								
P 213.617	40326.9	5035	ug/L	43.0	5035	ug/L	43.0	0.85%
QC value within limits for P 213.617 Recovery = 100.69%								
Pb 220.353	18536.2	998.4	ug/L	6.05	998.4	ug/L	6.05	0.61%
QC value within limits for Pb 220.353 Recovery = 99.84%								
Sb 206.836	7184.2	982.5	ug/L	9.19	982.5	ug/L	9.19	0.94%
QC value within limits for Sb 206.836 Recovery = 98.25%								
Se 196.026	4962.2	978.5	ug/L	12.55	978.5	ug/L	12.55	1.28%
QC value within limits for Se 196.026 Recovery = 97.85%								
Sn 189.927	9647.5	982.8	ug/L	7.04	982.8	ug/L	7.04	0.72%
QC value within limits for Sn 189.927 Recovery = 98.28%								
Sr 421.552	1253636.3	988.7	ug/L	7.02	988.7	ug/L	7.02	0.71%
QC value within limits for Sr 421.552 Recovery = 98.87%								
Ti 337.279	86435.2	987.3	ug/L	7.00	987.3	ug/L	7.00	0.71%
QC value within limits for Ti 337.279 Recovery = 98.73%								
Tl 190.801	13333.9	1022	ug/L	11.8	1022	ug/L	11.8	1.15%
QC value within limits for Tl 190.801 Recovery = 102.20%								
V 292.402	285787.2	1032	ug/L	6.6	1032	ug/L	6.6	0.64%
QC value within limits for V 292.402 Recovery = 103.24%								
Zn 206.200	120811.8	1035	ug/L	6.8	1035	ug/L	6.8	0.66%
QC value within limits for Zn 206.200 Recovery = 103.48%								

All analyte(s) passed QC.

Sequence No.: 15
Sample ID: CCB 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 06/05/12 4:47:32 PM
Data Type: Reprocessed on 06/06/12 8:08:40 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	54.1	0.339	ug/L	0.2211	0.339	ug/L	0.2211	65.16%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	-17.4	-6.483	ug/L	2.6415	-6.483	ug/L	2.6415	40.75%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	4.5	0.873	ug/L	0.5934	0.873	ug/L	0.5934	68.01%
QC value within limits for As 188.979 Recovery = Not calculated								
B	-2.5	-0.336	ug/L	1.0700	-0.336	ug/L	1.0700	318.47%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	7.2	0.032	ug/L	0.0271	0.032	ug/L	0.0271	83.81%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	292.6	0.049	ug/L	0.0091	0.049	ug/L	0.0091	18.79%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	-2.6	-0.122	ug/L	0.7499	-0.122	ug/L	0.7499	616.34%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	-8.6	-0.020	ug/L	0.0171	-0.020	ug/L	0.0171	86.39%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	6.6	0.074	ug/L	0.1605	0.074	ug/L	0.1605	217.33%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	-0.4	-0.001	ug/L	0.2097	-0.001	ug/L	0.2097	>999.9%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	-131.1	-0.826	ug/L	0.5754	-0.826	ug/L	0.5754	69.65%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	124.7	3.763	ug/L	0.9543	3.763	ug/L	0.9543	25.36%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	7.8	1.919	ug/L	52.6446	1.919	ug/L	52.6446	>999.9%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	20.6	0.566	ug/L	0.3918	0.566	ug/L	0.3918	69.28%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	-9.1	-0.094	ug/L	0.0690	-0.094	ug/L	0.0690	73.63%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	25.7	0.514	ug/L	0.1857	0.514	ug/L	0.1857	36.16%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	-48.6	-3.417	ug/L	9.1222	-3.417	ug/L	9.1222	266.96%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	-12.4	-0.172	ug/L	0.0917	-0.172	ug/L	0.0917	53.46%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	3.7	0.462	ug/L	0.9122	0.462	ug/L	0.9122	197.36%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	5.0	0.271	ug/L	0.0998	0.271	ug/L	0.0998	36.86%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	-3.4	-0.462	ug/L	0.2453	-0.462	ug/L	0.2453	53.12%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	6.0	1.181	ug/L	0.4295	1.181	ug/L	0.4295	36.38%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	0.2	0.023	ug/L	0.1414	0.023	ug/L	0.1414	614.01%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	-101.9	-0.080	ug/L	0.1781	-0.080	ug/L	0.1781	221.52%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	9.8	0.112	ug/L	0.1438	0.112	ug/L	0.1438	128.78%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	8.9	0.672	ug/L	0.2466	0.672	ug/L	0.2466	36.73%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	143.9	0.516	ug/L	0.2849	0.516	ug/L	0.2849	55.19%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	107.7	0.916	ug/L	0.1606	0.916	ug/L	0.1606	17.54%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 26
Sample ID: CCV2 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 06/05/12 5:54:53 PM
Data Type: Reprocessed on 06/06/12 8:08:50 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	62868.8	394.5	ug/L	2.96	394.5	ug/L	2.96	0.75%
QC value within limits for Ag 338.289 Recovery = 105.19%								
Al 308.215	41309.0	15370	ug/L	127.0	15370	ug/L	127.0	0.83%
QC value within limits for Al 308.215 Recovery = 102.45%								
As 188.979	4020.9	775.8	ug/L	7.28	775.8	ug/L	7.28	0.94%
QC value within limits for As 188.979 Recovery = 103.44%								
B	5661.5	820.1	ug/L	7.68	820.1	ug/L	7.68	0.94%
QC value within limits for B Recovery = 109.35%								
Ba 233.527	174088.3	792.5	ug/L	7.75	792.5	ug/L	7.75	0.98%
QC value within limits for Ba 233.527 Recovery = 105.67%								
Be 313.107	4815582.6	796.2	ug/L	11.96	796.2	ug/L	11.96	1.50%
QC value within limits for Be 313.107 Recovery = 106.16%								
Ca 315.887	816345.7	38900	ug/L	83.1	38900	ug/L	83.1	0.21%
QC value within limits for Ca 315.887 Recovery = 103.72%								
Cd 214.440	351598.9	805.3	ug/L	7.68	805.3	ug/L	7.68	0.95%
QC value within limits for Cd 214.440 Recovery = 107.37%								
Co 228.616	73107.6	802.8	ug/L	8.90	802.8	ug/L	8.90	1.11%
QC value within limits for Co 228.616 Recovery = 107.04%								
Cr 267.716	121314.4	795.3	ug/L	7.77	795.3	ug/L	7.77	0.98%
QC value within limits for Cr 267.716 Recovery = 106.03%								
Cu 327.393	124690.5	789.1	ug/L	4.84	789.1	ug/L	4.84	0.61%
QC value within limits for Cu 327.393 Recovery = 105.22%								
Fe 273.955	525295.0	15940	ug/L	150.3	15940	ug/L	150.3	0.94%
QC value within limits for Fe 273.955 Recovery = 106.27%								
K 766.490	61475.6	15120	ug/L	104.4	15120	ug/L	104.4	0.69%
QC value within limits for K 766.490 Recovery = 100.83%								
Mg 285.213	1441591.9	39340	ug/L	59.4	39340	ug/L	59.4	0.15%
QC value within limits for Mg 285.213 Recovery = 104.91%								
Mn 257.610	75845.3	782.2	ug/L	5.83	782.2	ug/L	5.83	0.75%
QC value within limits for Mn 257.610 Recovery = 104.29%								
Mo 202.031	39239.2	785.8	ug/L	7.56	785.8	ug/L	7.56	0.96%
QC value within limits for Mo 202.031 Recovery = 104.77%								
Na 589.592	276154.9	19380	ug/L	42.7	19380	ug/L	42.7	0.22%
QC value within limits for Na 589.592 Recovery = 103.34%								
Ni 231.604	58132.3	800.6	ug/L	8.13	800.6	ug/L	8.13	1.02%
QC value within limits for Ni 231.604 Recovery = 106.75%								
P 213.617	31022.0	3873	ug/L	43.9	3873	ug/L	43.9	1.13%
QC value within limits for P 213.617 Recovery = 103.28%								
Pb 220.353	14950.4	805.3	ug/L	3.30	805.3	ug/L	3.30	0.41%
QC value within limits for Pb 220.353 Recovery = 107.37%								
Sb 206.836	5770.3	789.1	ug/L	5.13	789.1	ug/L	5.13	0.65%
QC value within limits for Sb 206.836 Recovery = 105.22%								
Se 196.026	3996.7	788.1	ug/L	6.86	788.1	ug/L	6.86	0.87%
QC value within limits for Se 196.026 Recovery = 105.08%								
Sn 189.927	7778.2	792.4	ug/L	3.09	792.4	ug/L	3.09	0.39%
QC value within limits for Sn 189.927 Recovery = 105.66%								
Sr 421.552	979543.4	772.6	ug/L	1.80	772.6	ug/L	1.80	0.23%
QC value within limits for Sr 421.552 Recovery = 103.01%								
Ti 337.279	67662.4	772.9	ug/L	8.38	772.9	ug/L	8.38	1.08%
QC value within limits for Ti 337.279 Recovery = 103.05%								
Tl 190.801	10810.8	828.1	ug/L	3.73	828.1	ug/L	3.73	0.45%
QC value greater than the upper limit for Tl 190.801 Recovery = 110.41%								
V 292.402	222925.8	805.1	ug/L	6.83	805.1	ug/L	6.83	0.85%
QC value within limits for V 292.402 Recovery = 107.34%								
Zn 206.200	95208.7	815.4	ug/L	8.97	815.4	ug/L	8.97	1.10%
QC value within limits for Zn 206.200 Recovery = 108.73%								

QC Failed. Continue with analysis.

Sequence No.: 27
Sample ID: CCB 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 06/05/12 5:58:04 PM
Data Type: Reprocessed on 06/06/12 8:08:51 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-9.9	-0.062	ug/L	0.4422	-0.062	ug/L	0.4422	711.12%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	-19.2	-7.189	ug/L	2.4301	-7.189	ug/L	2.4301	33.80%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	4.9	0.945	ug/L	0.6865	0.945	ug/L	0.6865	72.68%
QC value within limits for As 188.979 Recovery = Not calculated								
B	80.3	11.08	ug/L	1.776	11.08	ug/L	1.776	16.03%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	-18.0	-0.085	ug/L	0.1143	-0.085	ug/L	0.1143	133.67%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	410.1	0.067	ug/L	0.0263	0.067	ug/L	0.0263	39.13%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	64.6	3.080	ug/L	0.3532	3.080	ug/L	0.3532	11.47%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	43.7	0.100	ug/L	0.0317	0.100	ug/L	0.0317	31.70%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	8.0	0.090	ug/L	0.1852	0.090	ug/L	0.1852	204.62%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	-20.0	-0.131	ug/L	0.2234	-0.131	ug/L	0.2234	170.28%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	135.8	0.856	ug/L	0.5173	0.856	ug/L	0.5173	60.41%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	317.5	9.683	ug/L	3.4229	9.683	ug/L	3.4229	35.35%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	-273.3	-67.07	ug/L	32.615	-67.07	ug/L	32.615	48.63%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	73.7	2.023	ug/L	0.4666	2.023	ug/L	0.4666	23.06%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	9.1	0.094	ug/L	0.0705	0.094	ug/L	0.0705	75.23%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	43.2	0.865	ug/L	0.1991	0.865	ug/L	0.1991	23.02%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	48.4	3.463	ug/L	10.2665	3.463	ug/L	10.2665	296.46%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	-2.3	-0.033	ug/L	0.2066	-0.033	ug/L	0.2066	628.75%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	6.8	0.852	ug/L	0.7153	0.852	ug/L	0.7153	83.98%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	18.6	1.003	ug/L	0.1922	1.003	ug/L	0.1922	19.17%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	2.9	0.392	ug/L	0.2375	0.392	ug/L	0.2375	60.57%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	2.5	0.488	ug/L	0.7158	0.488	ug/L	0.7158	146.62%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	11.6	1.184	ug/L	0.2524	1.184	ug/L	0.2524	21.32%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	9.1	0.007	ug/L	0.0326	0.007	ug/L	0.0326	462.48%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	-4.2	-0.048	ug/L	0.1868	-0.048	ug/L	0.1868	388.33%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	9.7	0.725	ug/L	0.6041	0.725	ug/L	0.6041	83.36%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	-38.4	-0.125	ug/L	0.1372	-0.125	ug/L	0.1372	109.37%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	351.7	2.990	ug/L	0.3378	2.990	ug/L	0.3378	11.30%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 38
Sample ID: CCV1 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 06/05/12 6:45:43 PM
Data Type: Reprocessed on 06/06/12 8:09:02 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	82065.7	514.9	ug/L	1.63	514.9	ug/L	1.63	0.32%
QC value within limits for Ag 338.289 Recovery = 102.98%								
Al 308.215	54093.4	20120	ug/L	50.1	20120	ug/L	50.1	0.25%
QC value within limits for Al 308.215 Recovery = 100.61%								
As 188.979	5128.6	989.5	ug/L	12.13	989.5	ug/L	12.13	1.23%
QC value within limits for As 188.979 Recovery = 98.95%								
B	7177.0	1041	ug/L	1.4	1041	ug/L	1.4	0.14%
QC value within limits for B Recovery = 104.09%								
Ba 233.527	226112.2	1029	ug/L	1.7	1029	ug/L	1.7	0.16%
QC value within limits for Ba 233.527 Recovery = 102.94%								
Be 313.107	6263014.7	1036	ug/L	6.5	1036	ug/L	6.5	0.63%
QC value within limits for Be 313.107 Recovery = 103.55%								
Ca 315.887	1064686.1	50730	ug/L	265.1	50730	ug/L	265.1	0.52%
QC value within limits for Ca 315.887 Recovery = 101.46%								
Cd 214.440	455965.9	1044	ug/L	2.0	1044	ug/L	2.0	0.20%
QC value within limits for Cd 214.440 Recovery = 104.44%								
Co 228.616	94878.0	1042	ug/L	1.8	1042	ug/L	1.8	0.18%
QC value within limits for Co 228.616 Recovery = 104.19%								
Cr 267.716	157348.5	1031	ug/L	1.7	1031	ug/L	1.7	0.16%
QC value within limits for Cr 267.716 Recovery = 103.15%								
Cu 327.393	161880.0	1025	ug/L	0.4	1025	ug/L	0.4	0.04%
QC value within limits for Cu 327.393 Recovery = 102.45%								
Fe 273.955	682252.2	20700	ug/L	27.2	20700	ug/L	27.2	0.13%
QC value within limits for Fe 273.955 Recovery = 103.52%								
K 766.490	80436.1	19790	ug/L	154.6	19790	ug/L	154.6	0.78%
QC value within limits for K 766.490 Recovery = 98.94%								
Mg 285.213	1868681.4	50990	ug/L	269.0	50990	ug/L	269.0	0.53%
QC value within limits for Mg 285.213 Recovery = 101.99%								
Mn 257.610	99045.7	1021	ug/L	2.8	1021	ug/L	2.8	0.27%
QC value within limits for Mn 257.610 Recovery = 102.15%								
Mo 202.031	52224.0	1046	ug/L	5.4	1046	ug/L	5.4	0.52%
QC value within limits for Mo 202.031 Recovery = 104.57%								
Na 589.592	358371.3	25140	ug/L	155.5	25140	ug/L	155.5	0.62%
QC value within limits for Na 589.592 Recovery = 100.58%								
Ni 231.604	75559.1	1041	ug/L	3.7	1041	ug/L	3.7	0.35%
QC value within limits for Ni 231.604 Recovery = 104.07%								
P 213.617	41574.2	5190	ug/L	41.2	5190	ug/L	41.2	0.79%
QC value within limits for P 213.617 Recovery = 103.81%								
Pb 220.353	18919.4	1019	ug/L	6.7	1019	ug/L	6.7	0.65%
QC value within limits for Pb 220.353 Recovery = 101.91%								
Sb 206.836	7355.5	1006	ug/L	2.8	1006	ug/L	2.8	0.28%
QC value within limits for Sb 206.836 Recovery = 100.59%								
Se 196.026	5092.0	1004	ug/L	5.2	1004	ug/L	5.2	0.52%
QC value within limits for Se 196.026 Recovery = 100.41%								
Sn 189.927	9862.0	1005	ug/L	5.7	1005	ug/L	5.7	0.57%
QC value within limits for Sn 189.927 Recovery = 100.47%								
Sr 421.552	1273913.7	1005	ug/L	5.9	1005	ug/L	5.9	0.59%
QC value within limits for Sr 421.552 Recovery = 100.47%								
Ti 337.279	88015.4	1005	ug/L	3.3	1005	ug/L	3.3	0.33%
QC value within limits for Ti 337.279 Recovery = 100.54%								
Tl 190.801	13446.7	1031	ug/L	7.6	1031	ug/L	7.6	0.74%
QC value within limits for Tl 190.801 Recovery = 103.09%								
V 292.402	289628.7	1046	ug/L	1.4	1046	ug/L	1.4	0.13%
QC value within limits for V 292.402 Recovery = 104.63%								
Zn 206.200	123524.5	1058	ug/L	0.5	1058	ug/L	0.5	0.05%
QC value within limits for Zn 206.200 Recovery = 105.80%								

All analyte(s) passed QC.

Sequence No.: 39
Sample ID: CCB 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 06/05/12 6:49:55 PM
Data Type: Reprocessed on 06/06/12 8:09:03 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	4.2	0.026	ug/L	0.2370	0.026	ug/L	0.2370	906.73%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	-11.9	-4.453	ug/L	3.9945	-4.453	ug/L	3.9945	89.69%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	0.4	0.084	ug/L	0.3296	0.084	ug/L	0.3296	392.55%
QC value within limits for As 188.979 Recovery = Not calculated								
B	22.6	3.151	ug/L	1.3865	3.151	ug/L	1.3865	44.01%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	-2.7	-0.016	ug/L	0.0415	-0.016	ug/L	0.0415	266.08%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	-135.4	-0.022	ug/L	0.0323	-0.022	ug/L	0.0323	147.49%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	84.5	4.025	ug/L	1.3886	4.025	ug/L	1.3886	34.50%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	15.2	0.034	ug/L	0.0139	0.034	ug/L	0.0139	40.50%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	6.4	0.071	ug/L	0.0949	0.071	ug/L	0.0949	132.99%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	-16.4	-0.107	ug/L	0.0516	-0.107	ug/L	0.0516	48.24%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	164.4	1.037	ug/L	0.5730	1.037	ug/L	0.5730	55.24%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	363.0	11.06	ug/L	2.485	11.06	ug/L	2.485	22.47%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	57.9	14.21	ug/L	39.879	14.21	ug/L	39.879	280.63%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	56.5	1.554	ug/L	0.4616	1.554	ug/L	0.4616	29.70%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	-14.9	-0.154	ug/L	0.1211	-0.154	ug/L	0.1211	78.63%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	23.3	0.468	ug/L	0.3352	0.468	ug/L	0.3352	71.67%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	98.5	6.903	ug/L	5.4334	6.903	ug/L	5.4334	78.71%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	-0.1	-0.002	ug/L	0.1852	-0.002	ug/L	0.1852	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	13.9	1.740	ug/L	0.5756	1.740	ug/L	0.5756	33.08%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	15.3	0.822	ug/L	0.2187	0.822	ug/L	0.2187	26.61%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	0.7	0.098	ug/L	0.9655	0.098	ug/L	0.9655	982.37%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	-1.9	-0.381	ug/L	1.1397	-0.381	ug/L	1.1397	299.03%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	5.4	0.554	ug/L	0.1722	0.554	ug/L	0.1722	31.06%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	-178.1	-0.141	ug/L	0.1887	-0.141	ug/L	0.1887	134.23%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	15.0	0.171	ug/L	0.0796	0.171	ug/L	0.0796	46.51%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	-0.5	-0.036	ug/L	0.0638	-0.036	ug/L	0.0638	178.64%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	-9.7	-0.031	ug/L	0.3528	-0.031	ug/L	0.3528	>999.9%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	507.5	4.316	ug/L	0.3664	4.316	ug/L	0.3664	8.49%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 50
Sample ID: CCV2 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 06/05/12 7:41:41 PM
Data Type: Reprocessed on 06/06/12 8:09:14 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	61522.2	386.0	ug/L	6.48	386.0	ug/L	6.48	1.68%
QC value within limits for Ag 338.289 Recovery = 102.93%								
Al 308.215	40450.4	15050	ug/L	31.8	15050	ug/L	31.8	0.21%
QC value within limits for Al 308.215 Recovery = 100.32%								
As 188.979	3965.6	765.1	ug/L	2.00	765.1	ug/L	2.00	0.26%
QC value within limits for As 188.979 Recovery = 102.01%								
B	5435.7	788.3	ug/L	0.97	788.3	ug/L	0.97	0.12%
QC value within limits for B Recovery = 105.11%								
Ba 233.527	170857.5	777.8	ug/L	6.64	777.8	ug/L	6.64	0.85%
QC value within limits for Ba 233.527 Recovery = 103.71%								
Be 313.107	4783376.4	790.8	ug/L	3.54	790.8	ug/L	3.54	0.45%
QC value within limits for Be 313.107 Recovery = 105.45%								
Ca 315.887	807700.4	38480	ug/L	188.9	38480	ug/L	188.9	0.49%
QC value within limits for Ca 315.887 Recovery = 102.62%								
Cd 214.440	346347.4	793.3	ug/L	6.63	793.3	ug/L	6.63	0.84%
QC value within limits for Cd 214.440 Recovery = 105.77%								
Co 228.616	71937.5	789.9	ug/L	7.10	789.9	ug/L	7.10	0.90%
QC value within limits for Co 228.616 Recovery = 105.32%								
Cr 267.716	118995.0	780.0	ug/L	6.30	780.0	ug/L	6.30	0.81%
QC value within limits for Cr 267.716 Recovery = 104.01%								
Cu 327.393	121776.6	770.7	ug/L	7.08	770.7	ug/L	7.08	0.92%
QC value within limits for Cu 327.393 Recovery = 102.76%								
Fe 273.955	516171.2	15660	ug/L	132.5	15660	ug/L	132.5	0.85%
QC value within limits for Fe 273.955 Recovery = 104.42%								
K 766.490	61108.4	15030	ug/L	108.0	15030	ug/L	108.0	0.72%
QC value within limits for K 766.490 Recovery = 100.23%								
Mg 285.213	1419408.0	38730	ug/L	175.7	38730	ug/L	175.7	0.45%
QC value within limits for Mg 285.213 Recovery = 103.29%								
Mn 257.610	74348.0	766.7	ug/L	1.47	766.7	ug/L	1.47	0.19%
QC value within limits for Mn 257.610 Recovery = 102.23%								
Mo 202.031	38521.5	771.4	ug/L	7.61	771.4	ug/L	7.61	0.99%
QC value within limits for Mo 202.031 Recovery = 102.85%								
Na 589.592	271913.1	19080	ug/L	83.9	19080	ug/L	83.9	0.44%
QC value within limits for Na 589.592 Recovery = 101.75%								
Ni 231.604	57280.6	788.9	ug/L	8.07	788.9	ug/L	8.07	1.02%
QC value within limits for Ni 231.604 Recovery = 105.19%								
P 213.617	30673.7	3830	ug/L	68.3	3830	ug/L	68.3	1.78%
QC value within limits for P 213.617 Recovery = 102.12%								
Pb 220.353	14685.7	791.0	ug/L	3.27	791.0	ug/L	3.27	0.41%
QC value within limits for Pb 220.353 Recovery = 105.47%								
Sb 206.836	5679.5	776.7	ug/L	2.44	776.7	ug/L	2.44	0.31%
QC value within limits for Sb 206.836 Recovery = 103.56%								
Se 196.026	3943.9	777.7	ug/L	3.92	777.7	ug/L	3.92	0.50%
QC value within limits for Se 196.026 Recovery = 103.69%								
Sn 189.927	7676.8	782.1	ug/L	4.36	782.1	ug/L	4.36	0.56%
QC value within limits for Sn 189.927 Recovery = 104.28%								
Sr 421.552	963745.8	760.1	ug/L	3.84	760.1	ug/L	3.84	0.51%
QC value within limits for Sr 421.552 Recovery = 101.35%								
Ti 337.279	66211.7	756.3	ug/L	2.13	756.3	ug/L	2.13	0.28%
QC value within limits for Ti 337.279 Recovery = 100.84%								
Tl 190.801	10499.1	804.3	ug/L	2.75	804.3	ug/L	2.75	0.34%
QC value within limits for Tl 190.801 Recovery = 107.24%								
V 292.402	218431.6	788.9	ug/L	6.70	788.9	ug/L	6.70	0.85%
QC value within limits for V 292.402 Recovery = 105.18%								
Zn 206.200	93861.1	803.9	ug/L	6.38	803.9	ug/L	6.38	0.79%
QC value within limits for Zn 206.200 Recovery = 107.18%								

All analyte(s) passed QC.

Sequence No.: 51
Sample ID: CCB 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 06/05/12 7:45:21 PM
Data Type: Reprocessed on 06/06/12 8:09:15 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-40.7	-0.255	ug/L	0.2007	-0.255	ug/L	0.2007	78.61%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	-14.4	-5.400	ug/L	3.7284	-5.400	ug/L	3.7284	69.05%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	-1.6	-0.307	ug/L	2.0223	-0.307	ug/L	2.0223	658.86%
QC value within limits for As 188.979 Recovery = Not calculated								
B	75.2	10.35	ug/L	2.275	10.35	ug/L	2.275	21.97%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	-3.5	-0.018	ug/L	0.0765	-0.018	ug/L	0.0765	430.92%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	-498.5	-0.082	ug/L	0.0317	-0.082	ug/L	0.0317	38.82%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	57.9	2.757	ug/L	2.1504	2.757	ug/L	2.1504	78.00%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	40.8	0.094	ug/L	0.0340	0.094	ug/L	0.0340	36.27%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	-6.2	-0.066	ug/L	0.1711	-0.066	ug/L	0.1711	259.22%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	35.3	0.231	ug/L	0.1618	0.231	ug/L	0.1618	70.00%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	202.2	1.276	ug/L	0.4243	1.276	ug/L	0.4243	33.26%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	134.5	4.099	ug/L	0.2860	4.099	ug/L	0.2860	6.98%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	30.1	7.397	ug/L	38.2009	7.397	ug/L	38.2009	516.45%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	87.6	2.395	ug/L	0.4842	2.395	ug/L	0.4842	20.22%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	-4.7	-0.049	ug/L	0.0682	-0.049	ug/L	0.0682	139.75%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	51.7	1.033	ug/L	0.2065	1.033	ug/L	0.2065	19.98%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	12.6	0.875	ug/L	12.4900	0.875	ug/L	12.4900	>999.9%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	3.5	0.048	ug/L	0.0703	0.048	ug/L	0.0703	146.88%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	9.7	1.208	ug/L	0.9695	1.208	ug/L	0.9695	80.26%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	25.0	1.347	ug/L	0.0824	1.347	ug/L	0.0824	6.11%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	2.5	0.347	ug/L	0.4713	0.347	ug/L	0.4713	135.91%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	-2.0	-0.386	ug/L	1.8257	-0.386	ug/L	1.8257	473.14%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	12.8	1.303	ug/L	0.1632	1.303	ug/L	0.1632	12.53%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	-99.3	-0.078	ug/L	0.0696	-0.078	ug/L	0.0696	88.86%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	12.4	0.141	ug/L	0.1304	0.141	ug/L	0.1304	92.14%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	9.1	0.681	ug/L	0.5968	0.681	ug/L	0.5968	87.59%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	-12.7	-0.027	ug/L	0.0490	-0.027	ug/L	0.0490	181.09%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	439.6	3.742	ug/L	0.1768	3.742	ug/L	0.1768	4.72%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 82
Sample ID: CCB 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 06/05/12 10:16:49 PM
Data Type: Reprocessed on 06/06/12 8:09:47 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	-13.6	-0.085	ug/L	0.1746	-0.085	ug/L	0.1746	204.67%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	-15.0	-5.578	ug/L	5.4781	-5.578	ug/L	5.4781	98.21%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	1.3	0.257	ug/L	0.5443	0.257	ug/L	0.5443	211.51%
QC value within limits for As 188.979 Recovery = Not calculated								
B	7.3	1.033	ug/L	0.7957	1.033	ug/L	0.7957	77.00%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	16.5	0.073	ug/L	0.0175	0.073	ug/L	0.0175	24.02%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	1096.5	0.180	ug/L	0.0303	0.180	ug/L	0.0303	16.83%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	122.6	5.844	ug/L	1.2011	5.844	ug/L	1.2011	20.55%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	9.1	0.020	ug/L	0.0640	0.020	ug/L	0.0640	314.72%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	-0.5	-0.005	ug/L	0.1248	-0.005	ug/L	0.1248	>999.9%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	4.6	0.031	ug/L	0.0932	0.031	ug/L	0.0932	303.18%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	66.2	0.418	ug/L	0.1187	0.418	ug/L	0.1187	28.41%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	333.8	10.15	ug/L	0.539	10.15	ug/L	0.539	5.31%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	-156.9	-38.50	ug/L	18.631	-38.50	ug/L	18.631	48.39%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	45.6	1.256	ug/L	0.1673	1.256	ug/L	0.1673	13.33%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	-10.2	-0.106	ug/L	0.1121	-0.106	ug/L	0.1121	106.20%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	13.8	0.277	ug/L	0.0338	0.277	ug/L	0.0338	12.19%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	97.8	6.906	ug/L	1.8262	6.906	ug/L	1.8262	26.44%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	-19.1	-0.265	ug/L	0.1160	-0.265	ug/L	0.1160	43.78%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	-12.1	-1.505	ug/L	1.7838	-1.505	ug/L	1.7838	118.55%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	14.8	0.796	ug/L	0.3276	0.796	ug/L	0.3276	41.15%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	-5.0	-0.689	ug/L	0.3625	-0.689	ug/L	0.3625	52.59%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	-6.5	-1.279	ug/L	0.8103	-1.279	ug/L	0.8103	63.37%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	11.9	1.207	ug/L	0.1132	1.207	ug/L	0.1132	9.37%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	-205.4	-0.162	ug/L	0.1250	-0.162	ug/L	0.1250	77.09%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	-3.7	-0.043	ug/L	0.4619	-0.043	ug/L	0.4619	>999.9%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	12.1	0.908	ug/L	0.8026	0.908	ug/L	0.8026	88.40%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	75.9	0.271	ug/L	0.1130	0.271	ug/L	0.1130	41.72%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	346.4	2.947	ug/L	0.0677	2.947	ug/L	0.0677	2.30%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 93
Sample ID: CCV2 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 06/05/12 11:04:16 PM
Data Type: Reprocessed on 06/06/12 8:09:59 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	60634.6	380.4	ug/L	5.04	380.4	ug/L	5.04	1.32%
QC value within limits for Ag 338.289 Recovery = 101.45%								
Al 308.215	39528.9	14710	ug/L	182.4	14710	ug/L	182.4	1.24%
QC value within limits for Al 308.215 Recovery = 98.04%								
As 188.979	3919.9	756.3	ug/L	0.33	756.3	ug/L	0.33	0.04%
QC value within limits for As 188.979 Recovery = 100.84%								
B	5158.2	750.1	ug/L	5.26	750.1	ug/L	5.26	0.70%
QC value within limits for B Recovery = 100.02%								
Ba 233.527	171170.0	779.3	ug/L	3.47	779.3	ug/L	3.47	0.45%
QC value within limits for Ba 233.527 Recovery = 103.90%								
Be 313.107	4681419.2	774.0	ug/L	3.92	774.0	ug/L	3.92	0.51%
QC value within limits for Be 313.107 Recovery = 103.20%								
Ca 315.887	778321.2	37080	ug/L	124.6	37080	ug/L	124.6	0.34%
QC value within limits for Ca 315.887 Recovery = 98.89%								
Cd 214.440	343626.4	787.0	ug/L	3.70	787.0	ug/L	3.70	0.47%
QC value within limits for Cd 214.440 Recovery = 104.94%								
Co 228.616	71575.2	786.0	ug/L	3.77	786.0	ug/L	3.77	0.48%
QC value within limits for Co 228.616 Recovery = 104.80%								
Cr 267.716	118962.4	779.9	ug/L	4.37	779.9	ug/L	4.37	0.56%
QC value within limits for Cr 267.716 Recovery = 103.98%								
Cu 327.393	122980.2	778.2	ug/L	4.18	778.2	ug/L	4.18	0.54%
QC value within limits for Cu 327.393 Recovery = 103.77%								
Fe 273.955	513808.3	15590	ug/L	79.0	15590	ug/L	79.0	0.51%
QC value within limits for Fe 273.955 Recovery = 103.94%								
K 766.490	61264.3	15070	ug/L	111.3	15070	ug/L	111.3	0.74%
QC value within limits for K 766.490 Recovery = 100.47%								
Mg 285.213	1389710.1	37920	ug/L	120.3	37920	ug/L	120.3	0.32%
QC value within limits for Mg 285.213 Recovery = 101.13%								
Mn 257.610	71888.3	741.4	ug/L	8.58	741.4	ug/L	8.58	1.16%
QC value within limits for Mn 257.610 Recovery = 98.85%								
Mo 202.031	38502.4	771.0	ug/L	4.82	771.0	ug/L	4.82	0.63%
QC value within limits for Mo 202.031 Recovery = 102.80%								
Na 589.592	269085.9	18880	ug/L	64.3	18880	ug/L	64.3	0.34%
QC value within limits for Na 589.592 Recovery = 100.69%								
Ni 231.604	56847.9	783.0	ug/L	6.18	783.0	ug/L	6.18	0.79%
QC value within limits for Ni 231.604 Recovery = 104.40%								
P 213.617	29765.7	3716	ug/L	36.6	3716	ug/L	36.6	0.99%
QC value within limits for P 213.617 Recovery = 99.10%								
Pb 220.353	14405.2	775.9	ug/L	1.24	775.9	ug/L	1.24	0.16%
QC value within limits for Pb 220.353 Recovery = 103.46%								
Sb 206.836	5521.7	755.1	ug/L	1.86	755.1	ug/L	1.86	0.25%
QC value within limits for Sb 206.836 Recovery = 100.68%								
Se 196.026	3846.2	758.4	ug/L	1.25	758.4	ug/L	1.25	0.16%
QC value within limits for Se 196.026 Recovery = 101.12%								
Sn 189.927	7496.3	763.7	ug/L	2.01	763.7	ug/L	2.01	0.26%
QC value within limits for Sn 189.927 Recovery = 101.83%								
Sr 421.552	952230.1	751.0	ug/L	2.75	751.0	ug/L	2.75	0.37%
QC value within limits for Sr 421.552 Recovery = 100.14%								
Ti 337.279	65100.3	743.6	ug/L	10.67	743.6	ug/L	10.67	1.43%
QC value within limits for Ti 337.279 Recovery = 99.15%								
Tl 190.801	10507.5	804.7	ug/L	2.12	804.7	ug/L	2.12	0.26%
QC value within limits for Tl 190.801 Recovery = 107.30%								
V 292.402	219709.4	793.4	ug/L	3.65	793.4	ug/L	3.65	0.46%
QC value within limits for V 292.402 Recovery = 105.79%								
Zn 206.200	93415.0	800.1	ug/L	4.59	800.1	ug/L	4.59	0.57%
QC value within limits for Zn 206.200 Recovery = 106.68%								

All analyte(s) passed QC.

Sequence No.: 94
Sample ID: CCB 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 06/05/12 11:07:52 PM
Data Type: Reprocessed on 06/06/12 8:10:00 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	-21.2	-0.133	ug/L	0.2037	-0.133	ug/L	0.2037	152.97%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	-20.0	-7.463	ug/L	3.5988	-7.463	ug/L	3.5988	48.22%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	3.0	0.577	ug/L	0.9817	0.577	ug/L	0.9817	170.23%
QC value within limits for As 188.979 Recovery = Not calculated								
B	56.4	7.848	ug/L	2.2298	7.848	ug/L	2.2298	28.41%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	8.7	0.032	ug/L	0.0546	0.032	ug/L	0.0546	169.35%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	1155.3	0.190	ug/L	0.0138	0.190	ug/L	0.0138	7.28%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	134.5	6.410	ug/L	0.6604	6.410	ug/L	0.6604	10.30%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	25.1	0.056	ug/L	0.0337	0.056	ug/L	0.0337	60.47%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	16.9	0.187	ug/L	0.1593	0.187	ug/L	0.1593	85.35%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	-31.9	-0.208	ug/L	0.1156	-0.208	ug/L	0.1156	55.61%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	199.0	1.256	ug/L	0.7918	1.256	ug/L	0.7918	63.06%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	967.7	29.44	ug/L	5.762	29.44	ug/L	5.762	19.57%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	105.9	25.98	ug/L	58.489	25.98	ug/L	58.489	225.17%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	91.6	2.535	ug/L	0.3395	2.535	ug/L	0.3395	13.39%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	51.4	0.531	ug/L	0.0893	0.531	ug/L	0.0893	16.84%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	39.5	0.793	ug/L	0.2742	0.793	ug/L	0.2742	34.58%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	146.9	10.29	ug/L	5.854	10.29	ug/L	5.854	56.87%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	13.7	0.188	ug/L	0.2288	0.188	ug/L	0.2288	121.80%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	-1.2	-0.156	ug/L	1.3369	-0.156	ug/L	1.3369	858.78%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	28.2	1.519	ug/L	0.5854	1.519	ug/L	0.5854	38.54%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	0.1	0.009	ug/L	1.3005	0.009	ug/L	1.3005	>999.9%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	3.7	0.737	ug/L	1.7003	0.737	ug/L	1.7003	230.68%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	5.1	0.517	ug/L	0.3767	0.517	ug/L	0.3767	72.82%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	-46.9	-0.037	ug/L	0.0913	-0.037	ug/L	0.0913	246.47%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	0.8	0.009	ug/L	0.1913	0.009	ug/L	0.1913	>999.9%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	16.4	1.240	ug/L	1.2603	1.240	ug/L	1.2603	101.67%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	134.8	0.481	ug/L	0.3020	0.481	ug/L	0.3020	62.78%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	806.7	6.859	ug/L	0.4297	6.859	ug/L	0.4297	6.27%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 105
Sample ID: CCV1 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 06/05/12 11:55:18 PM
Data Type: Reprocessed on 06/06/12 8:10:11 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	78663.1	493.6	ug/L	5.32	493.6	ug/L	5.32	1.08%
QC value within limits for Ag 338.289 Recovery = 98.71%								
Al 308.215	53357.5	19850	ug/L	91.3	19850	ug/L	91.3	0.46%
QC value within limits for Al 308.215 Recovery = 99.24%								
As 188.979	5061.3	976.5	ug/L	18.19	976.5	ug/L	18.19	1.86%
QC value within limits for As 188.979 Recovery = 97.65%								
B	6937.8	1006	ug/L	10.7	1006	ug/L	10.7	1.07%
QC value within limits for B Recovery = 100.64%								
Ba 233.527	220600.0	1004	ug/L	12.9	1004	ug/L	12.9	1.29%
QC value within limits for Ba 233.527 Recovery = 100.43%								
Be 313.107	6226835.5	1030	ug/L	12.6	1030	ug/L	12.6	1.22%
QC value within limits for Be 313.107 Recovery = 102.96%								
Ca 315.887	1030197.8	49080	ug/L	497.8	49080	ug/L	497.8	1.01%
QC value within limits for Ca 315.887 Recovery = 98.17%								
Cd 214.440	442324.5	1013	ug/L	12.7	1013	ug/L	12.7	1.25%
QC value within limits for Cd 214.440 Recovery = 101.31%								
Co 228.616	92186.8	1012	ug/L	12.4	1012	ug/L	12.4	1.23%
QC value within limits for Co 228.616 Recovery = 101.23%								
Cr 267.716	153480.9	1006	ug/L	13.1	1006	ug/L	13.1	1.30%
QC value within limits for Cr 267.716 Recovery = 100.61%								
Cu 327.393	160221.1	1014	ug/L	12.3	1014	ug/L	12.3	1.21%
QC value within limits for Cu 327.393 Recovery = 101.40%								
Fe 273.955	663725.5	20140	ug/L	266.4	20140	ug/L	266.4	1.32%
QC value within limits for Fe 273.955 Recovery = 100.70%								
K 766.490	81241.1	19990	ug/L	198.5	19990	ug/L	198.5	0.99%
QC value within limits for K 766.490 Recovery = 99.93%								
Mg 285.213	1834935.5	50070	ug/L	456.2	50070	ug/L	456.2	0.91%
QC value within limits for Mg 285.213 Recovery = 100.15%								
Mn 257.610	96546.2	995.7	ug/L	4.63	995.7	ug/L	4.63	0.47%
QC value within limits for Mn 257.610 Recovery = 99.57%								
Mo 202.031	51443.3	1030	ug/L	8.5	1030	ug/L	8.5	0.82%
QC value within limits for Mo 202.031 Recovery = 103.01%								
Na 589.592	355233.1	24920	ug/L	216.5	24920	ug/L	216.5	0.87%
QC value within limits for Na 589.592 Recovery = 99.69%								
Ni 231.604	73376.9	1011	ug/L	10.1	1011	ug/L	10.1	1.00%
QC value within limits for Ni 231.604 Recovery = 101.06%								
P 213.617	39706.0	4957	ug/L	53.6	4957	ug/L	53.6	1.08%
QC value within limits for P 213.617 Recovery = 99.14%								
Pb 220.353	18500.3	996.5	ug/L	12.38	996.5	ug/L	12.38	1.24%
QC value within limits for Pb 220.353 Recovery = 99.65%								
Sb 206.836	7148.1	977.6	ug/L	9.43	977.6	ug/L	9.43	0.96%
QC value within limits for Sb 206.836 Recovery = 97.76%								
Se 196.026	4964.5	978.9	ug/L	9.85	978.9	ug/L	9.85	1.01%
QC value within limits for Se 196.026 Recovery = 97.89%								
Sn 189.927	9554.6	973.4	ug/L	9.32	973.4	ug/L	9.32	0.96%
QC value within limits for Sn 189.927 Recovery = 97.34%								
Sr 421.552	1266631.6	999.0	ug/L	9.42	999.0	ug/L	9.42	0.94%
QC value within limits for Sr 421.552 Recovery = 99.90%								
Ti 337.279	87740.6	1002	ug/L	2.7	1002	ug/L	2.7	0.27%
QC value within limits for Ti 337.279 Recovery = 100.23%								
Tl 190.801	13431.5	1029	ug/L	7.2	1029	ug/L	7.2	0.70%
QC value within limits for Tl 190.801 Recovery = 102.95%								
V 292.402	283869.9	1026	ug/L	13.0	1026	ug/L	13.0	1.26%
QC value within limits for V 292.402 Recovery = 102.56%								
Zn 206.200	119619.8	1025	ug/L	12.1	1025	ug/L	12.1	1.18%
QC value within limits for Zn 206.200 Recovery = 102.46%								

All analyte(s) passed QC.

Sequence No.: 106
Sample ID: CCB 120605EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 06/05/12 11:59:34 PM
Data Type: Reprocessed on 06/06/12 8:10:12 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120605EA I:PB O:EA

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-28.7	-0.180	ug/L	0.1972	-0.180	ug/L	0.1972	109.67%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	-20.3	-7.568	ug/L	2.0435	-7.568	ug/L	2.0435	27.00%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	-1.2	-0.227	ug/L	0.9360	-0.227	ug/L	0.9360	412.74%
QC value within limits for As 188.979 Recovery = Not calculated								
B	29.5	4.165	ug/L	1.4776	4.165	ug/L	1.4776	35.48%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	6.5	0.020	ug/L	0.0351	0.020	ug/L	0.0351	173.37%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	826.8	0.136	ug/L	0.0379	0.136	ug/L	0.0379	27.94%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	156.6	7.459	ug/L	0.4743	7.459	ug/L	0.4743	6.36%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	5.6	0.011	ug/L	0.0177	0.011	ug/L	0.0177	165.21%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	1.3	0.015	ug/L	0.1972	0.015	ug/L	0.1972	>999.9%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	-5.9	-0.038	ug/L	0.2077	-0.038	ug/L	0.2077	543.98%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	89.9	0.568	ug/L	0.3119	0.568	ug/L	0.3119	54.93%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	1146.1	34.91	ug/L	1.634	34.91	ug/L	1.634	4.68%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	105.0	25.77	ug/L	45.517	25.77	ug/L	45.517	176.64%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	65.5	1.828	ug/L	0.4607	1.828	ug/L	0.4607	25.20%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	36.4	0.376	ug/L	0.0729	0.376	ug/L	0.0729	19.39%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	15.6	0.316	ug/L	0.0885	0.316	ug/L	0.0885	28.05%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	257.7	18.08	ug/L	1.625	18.08	ug/L	1.625	8.99%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	16.9	0.232	ug/L	0.2100	0.232	ug/L	0.2100	90.50%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	-6.0	-0.746	ug/L	1.4235	-0.746	ug/L	1.4235	190.81%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	15.2	0.816	ug/L	0.7175	0.816	ug/L	0.7175	87.89%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	0.4	0.049	ug/L	0.1041	0.049	ug/L	0.1041	212.88%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	-4.1	-0.806	ug/L	0.7391	-0.806	ug/L	0.7391	91.66%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	3.6	0.365	ug/L	0.1235	0.365	ug/L	0.1235	33.79%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	-28.1	-0.022	ug/L	0.0148	-0.022	ug/L	0.0148	66.48%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	1.0	0.012	ug/L	0.1695	0.012	ug/L	0.1695	>999.9%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	13.2	0.993	ug/L	0.5599	0.993	ug/L	0.5599	56.37%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	12.7	0.041	ug/L	0.5689	0.041	ug/L	0.5689	>999.9%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	537.0	4.565	ug/L	0.2271	4.565	ug/L	0.2271	4.97%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Element: Hg Seq. No.: 11 Date: 05/30/2012
Sample ID: Sample

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.002	11:35:46

Auto-zero performed.

Element: Hg Seq. No.: 12 Date: 05/30/2012
Sample ID: Calib. Blank

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			-0.001	11:36:53
2			0.000	11:36:58
3			0.000	11:37:03
Mean:			0.000	
SD :			0.000	
%RSD:			109.30	

Auto-zero performed.

Element: Hg Seq. No.: 13 Date: 05/30/2012
Sample ID: 0.2 05-23-12 NM

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.002	11:38:06
2			0.003	11:38:11
3			0.003	11:38:16
Mean:			0.003	
SD :			0.000	
%RSD:			10.68	

Standard number 1 applied. [0.2]
Correlation Coefficient: 1.0000 Slope: 0.0137

Element: Hg Seq. No.: 14 Date: 05/30/2012
Sample ID: 0.5

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.007	11:39:19
2			0.007	11:39:24
3			0.007	11:39:29
Mean:			0.007	
SD :			0.000	
%RSD:			2.29	

Standard number 2 applied. [0.5]
Correlation Coefficient: 0.9985 Slope: 0.0145
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 15 Date: 05/30/2012
Sample ID: 1.0

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.012	11:41:25
2			0.012	11:41:31
3			0.013	11:41:36
Mean:			0.012	
SD :			0.000	
%RSD:			2.26	

Standard number 3 applied. [1.0]
Correlation Coefficient: 0.9899 Slope: 0.0128
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 16 Date: 05/30/2012
Sample ID: 2.0

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.024	11:43:32
2			0.025	11:43:38
3			0.025	11:43:43
Mean:			0.025	
SD :			0.001	
%RSD:			3.32	

Standard number 4 applied. [2.0]
Correlation Coefficient: 0.9978 Slope: 0.0125
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 17 Date: 05/30/2012
Sample ID: 5.0

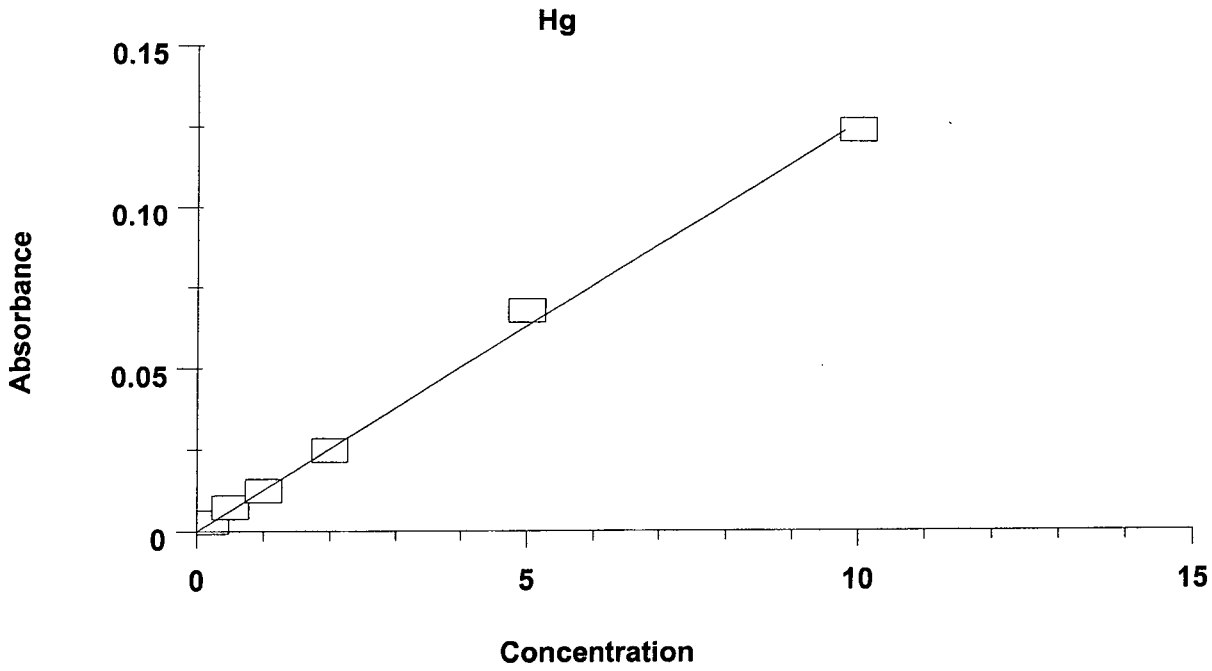
Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.065	11:45:40
2			0.068	11:45:45
3			0.069	11:45:51
Mean:			0.068	
SD :			0.002	
%RSD:			2.83	

Standard number 5 applied. [5.0]
Correlation Coefficient: 0.9988 Slope: 0.0133
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 18 Date: 05/30/2012
Sample ID: 10.0

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.119	11:47:48
2			0.124	11:47:54
3			0.127	11:47:59
Mean:			0.123	
SD :			0.004	
%RSD:			3.15	

Standard number 6 applied. [10.0]
Correlation Coefficient: 0.9987 Slope: 0.0126



Calibration data for Hg

Standard ID	Mean Signal (Absorbance)	Entered Concentration (µg/L)	Calculated Concentration (µg/L)	Standard Deviation	%RSD
Calib. Blank	0.000	----	0.000	0.000380	
0.2 05-23-12 NM	0.003	0.2	0.2176	0.000292	
0.5	0.007	0.5	0.5797	0.000167	2.294822
1.0	0.012	1.0	0.9778	0.000278	2.258169
2.0	0.025	2.0	1.961	0.000818	3.315939
5.0	0.068	5.0	5.373	0.001915	2.834493
10.0	0.123	10.0	9.800	0.003882	3.150795

Correlation Coefficient: 0.99870 Slope: 0.01257

Method Name: Hg-7471 - RJS Element: Hg

Date: 06/01/2012
Results Data Set: 120601A-7471B

Element: Hg Seq. No.: 1 Date: 06/01/2012
Sample ID: Sample

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.002	15:06:47

Auto-zero performed.

Element: Hg Seq. No.: 2 Date: 06/01/2012
Sample ID: Calib Blank

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.000	15:08:00
2			0.000	15:08:05
3			0.000	15:08:10
Mean:			0.000	
SD :			0.000	
%RSD:			97.17	

Auto-zero performed.

Element: Hg Seq. No.: 3 Date: 06/01/2012
Sample ID: 0.2083 06-01-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.005	15:09:13
2			0.004	15:09:18
3			0.005	15:09:23
Mean:			0.005	
SD :			0.000	
%RSD:			5.49	

Standard number 1 applied. [0.208333]
Correlation Coefficient: 1.0000 Slope: 0.0223

Element: Hg Seq. No.: 4 Date: 06/01/2012
Sample ID: 0.520833

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.011	15:10:26
2			0.011	15:10:31
3			0.011	15:10:36
Mean:			0.011	
SD :			0.000	
%RSD:			1.29	

Standard number 2 applied. [0.520833]
Correlation Coefficient: 0.9997 Slope: 0.0217
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 5 Date: 06/01/2012
Sample ID: 1.041667

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.021	15:12:27
2			0.022	15:12:33
3			0.023	15:12:38
Mean:			0.022	
SD :			0.001	
%RSD:			3.66	

Standard number 3 applied. [1.041667]
Correlation Coefficient: 0.9998 Slope: 0.0213
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 6 Date: 06/01/2012
Sample ID: 2.083333

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.040	15:14:29
2			0.041	15:14:35
3			0.042	15:14:40
Mean:			0.041	
SD :			0.001	
%RSD:			2.43	

Standard number 4 applied. [2.083333]
Correlation Coefficient: 0.9981 Slope: 0.0201
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 7 Date: 06/01/2012
Sample ID: 5.208

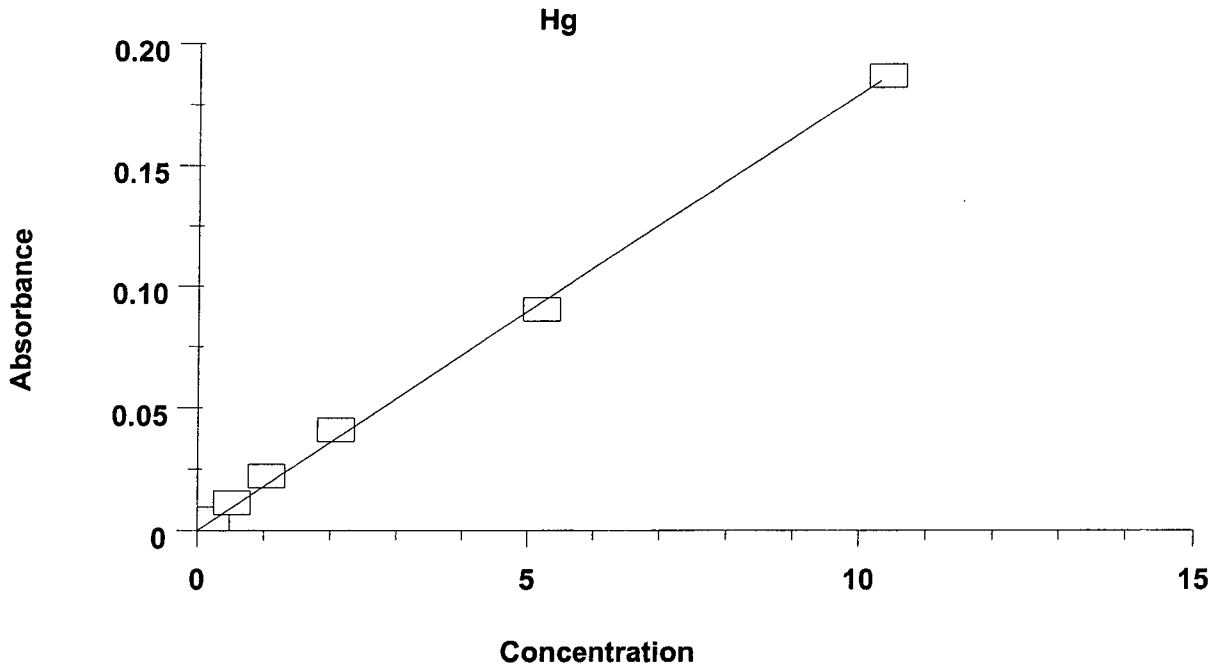
Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.088	15:16:32
2			0.091	15:16:37
3			0.092	15:16:43
Mean:			0.090	
SD :			0.002	
%RSD:			2.56	

Standard number 5 applied. [5.208]
Correlation Coefficient: 0.9964 Slope: 0.0179
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 8 Date: 06/01/2012
Sample ID: 10.417

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.181	15:18:35
2			0.188	15:18:41
3			0.191	15:18:46
Mean:			0.187	
SD :			0.005	
%RSD:			2.68	

The calibration curve may not be linear.
Standard number 6 applied. [10.417]
Correlation Coefficient: 0.9992 Slope: 0.0179



Calibration data for Hg

Standard ID	Mean Signal (Absorbance)	Entered Concentration (µg/L)	Calculated Concentration (µg/L)	Standard Deviation	%RSD
Calib Blank	0.000	----	0.000	0.000228	
0.2083 06-01-12 LO	0.005	0.208333	0.2586	0.000255	5.488708
0.520833	0.011	0.520833	0.6280	0.000146	1.292952
1.041667	0.022	1.041667	1.232	0.000808	3.656281
2.083333	0.041	2.083333	2.284	0.000993	2.425199
5.208	0.090	5.208	5.039	0.002313	2.560230
10.417	0.187	10.417	10.42	0.005001	2.675540

Correlation Coefficient: 0.99924 Slope: 0.01793

METALS

Raw Data

APPL, INC.

Element: Hg Seq. No.: 19 Date: 05/30/2012
Sample ID: ICV 05-23-12 NM

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	3.631	3.631	0.046	11:50:33
2	3.804	3.804	0.048	11:50:38
3	3.830	3.830	0.048	11:50:44
Mean:	3.755	3.755	0.047	
SD :	0.1079	0.1079	0.001	
%RSD:	2.87	2.87	2.87	

QC value within specified limits.
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 20 Date: 05/30/2012
Sample ID: ICB 05-23-12 NM

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	-0.01485	-0.01485	0.000	11:52:39
2	-0.009110	-0.009110	0.000	11:52:44
3	-0.004894	-0.004894	0.000	11:52:50
Mean:	-0.009619	-0.009619	0.000	
SD :	0.004999	0.004999	0.000	
%RSD:	51.97	51.97	51.97	

QC value within specified limits.

Element: Hg Seq. No.: 21 Date: 05/30/2012
Sample ID: CCV 05-23-12 NM

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	5.044	5.044	0.063	11:53:54
2	5.237	5.237	0.066	11:53:59
3	5.401	5.401	0.068	11:54:05
Mean:	5.228	5.228	0.066	
SD :	0.1786	0.1786	0.002	
%RSD:	3.42	3.42	3.42	

QC value within specified limits.
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 22 Date: 05/30/2012
Sample ID: CCB 05-23-12 NM

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.02062	0.02062	0.000	11:56:05
2	-0.003731	-0.003731	0.000	11:56:10
3	-0.002496	-0.002496	0.000	11:56:15
Mean:	0.004797	0.004797	0.000	
SD :	0.01372	0.01372	0.000	
%RSD:	285.9	285.9	285.90	

QC value within specified limits.

Element: Hg Seq. No.: 23 Date: 05/30/2012
Sample ID: 120523A BLK

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	-0.01340	-0.01340	0.000	11:57:19
2	-0.05316	-0.05316	-0.001	11:57:24
3	-0.03375	-0.03375	0.000	11:57:29
Mean:	-0.03344	-0.03344	0.000	
SD :	0.01988	0.01988	0.000	
%RSD:	59.46	59.46	59.46	

Element: Hg Seq. No.: 24 Date: 05/30/2012
Sample ID: 120523A LCS

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	3.517	3.517	0.044	11:58:32
2	3.689	3.689	0.046	11:58:37
3	3.817	3.817	0.048	11:58:42
Mean:	3.675	3.675	0.046	
SD :	0.1505	0.1505	0.002	
%RSD:	4.10	4.10	4.10	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 25 Date: 05/30/2012
Sample ID: AY61140W03

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.03160	0.03160	0.000	12:00:38
2	0.08459	0.08459	0.001	12:00:43
3	0.07943	0.07943	0.001	12:00:48
Mean:	0.06520	0.06520	0.001	
SD :	0.02922	0.02922	0.000	
%RSD:	44.81	44.81	44.81	

Element: Hg Seq. No.: 26 Date: 05/30/2012
Sample ID: AY61205W07

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.1083	0.1083	0.001	12:01:51
2	0.08662	0.08662	0.001	12:01:56
3	0.09731	0.09731	0.001	12:02:01
Mean:	0.09740	0.09740	0.001	
SD :	0.01083	0.01083	0.000	
%RSD:	11.12	11.12	11.12	

Element: Hg Seq. No.: 27 Date: 05/30/2012
Sample ID: AY61205W08 MS

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	3.817	3.817	0.048	12:03:04
2	3.964	3.964	0.050	12:03:09
3	4.066	4.066	0.051	12:03:14
Mean:	3.949	3.949	0.050	
SD :	0.1252	0.1252	0.002	
%RSD:	3.17	3.17	3.17	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 28 Date: 05/30/2012
Sample ID: AY61205W08 MSD

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	3.987	3.987	0.050	12:05:10
2	4.117	4.117	0.052	12:05:16
3	4.219	4.219	0.053	12:05:21
Mean:	4.108	4.108	0.052	
SD :	0.1163	0.1163	0.001	
%RSD:	2.83	2.83	2.83	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 29 Date: 05/30/2012
Sample ID: AY61206W03

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.08771	0.08771	0.001	12:07:19
2	0.06118	0.06118	0.001	12:07:24
3	0.09840	0.09840	0.001	12:07:29
Mean:	0.08243	0.08243	0.001	
SD :	0.01916	0.01916	0.000	
%RSD:	23.25	23.25	23.25	

Element: Hg Seq. No.: 30 Date: 05/30/2012
Sample ID: AY61207W03

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.09135	0.09135	0.001	12:08:32
2	0.05297	0.05297	0.001	12:08:37
3	0.06074	0.06074	0.001	12:08:42
Mean:	0.06835	0.06835	0.001	
SD :	0.02029	0.02029	0.000	
%RSD:	29.68	29.68	29.68	

Element: Hg Seq. No.: 31 Date: 05/30/2012
Sample ID: AY61208W03

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.1231	0.1231	0.002	12:09:45
2	0.09353	0.09353	0.001	12:09:50
3	0.09462	0.09462	0.001	12:09:55
Mean:	0.1038	0.1038	0.001	
SD :	0.01677	0.01677	0.000	
%RSD:	16.17	16.17	16.17	

Element: Hg Seq. No.: 32 Date: 05/30/2012
Sample ID: AY61214W03

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.07652	0.07652	0.001	12:10:58
2	0.08066	0.08066	0.001	12:11:03
3	0.08778	0.08778	0.001	12:11:08
Mean:	0.08165	0.08165	0.001	
SD :	0.005699	0.005699	0.000	
%RSD:	6.98	6.98	6.98	

Element: Hg Seq. No.: 33 Date: 05/30/2012
Sample ID: CCV 05-23-12 NM

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	5.629	5.629	0.071	12:12:11
2	5.819	5.819	0.073	12:12:16
3	5.948	5.948	0.075	12:12:22
Mean:	5.799	5.799	0.073	
SD :	0.1608	0.1608	0.002	
%RSD:	2.77	2.77	2.77	

QC value within specified limits.
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 34 Date: 05/30/2012
Sample ID: CCB 05-23-12 NM

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.04766	0.04766	0.001	12:14:19
2	0.07405	0.07405	0.001	12:14:24
3	0.03101	0.03101	0.000	12:14:29
Mean:	0.05091	0.05091	0.001	
SD :	0.02170	0.02170	0.000	
%RSD:	42.62	42.62	42.62	

QC value within specified limits.

Element: Hg Seq. No.: 35 Date: 05/30/2012
Sample ID: AY61304W07

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.04243	0.04243	0.001	12:15:34
2	0.07128	0.07128	0.001	12:15:39
3	0.06031	0.06031	0.001	12:15:44
Mean:	0.05801	0.05801	0.001	
SD :	0.01457	0.01457	0.000	
%RSD:	25.11	25.11	25.11	

Element: Hg Seq. No.: 36 Date: 05/30/2012
Sample ID: AY61304W08 MS

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	4.020	4.020	0.051	12:16:47
2	4.156	4.156	0.052	12:16:53
3	4.289	4.289	0.054	12:16:58
Mean:	4.155	4.155	0.052	
SD :	0.1345	0.1345	0.002	
%RSD:	3.24	3.24	3.24	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 37 Date: 05/30/2012
Sample ID: AY61304W08 MSD

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	3.994	3.994	0.050	12:18:56
2	4.146	4.146	0.052	12:19:02
3	4.282	4.282	0.054	12:19:07
Mean:	4.141	4.141	0.052	
SD :	0.1440	0.1440	0.002	
%RSD:	3.48	3.48	3.48	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 38 Date: 05/30/2012
Sample ID: AY61306W03

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.09186	0.09186	0.001	12:21:06
2	0.05718	0.05718	0.001	12:21:11
3	0.1016	0.1016	0.001	12:21:16
Mean:	0.08354	0.08354	0.001	
SD :	0.02334	0.02334	0.000	
%RSD:	27.94	27.94	27.94	

Element: Hg Seq. No.: 39 Date: 05/30/2012
Sample ID: AY61308W03

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.04424	0.04424	0.001	12:22:19
2	0.04650	0.04650	0.001	12:22:24
3	0.05442	0.05442	0.001	12:22:29
Mean:	0.04839	0.04839	0.001	
SD :	0.005345	0.005345	0.000	
%RSD:	11.05	11.05	11.05	

Element: Hg Seq. No.: 40 Date: 05/30/2012
Sample ID: AY61344W03

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.05609	0.05609	0.001	12:23:34
2	0.03661	0.03661	0.000	12:23:40
3	0.02927	0.02927	0.000	12:23:45
Mean:	0.04066	0.04066	0.001	
SD :	0.01386	0.01386	0.000	
%RSD:	34.09	34.09	34.09	

Element: Hg Seq. No.: 41 Date: 05/30/2012
Sample ID: CCV 05-23-12 NM

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	5.564	5.564	0.070	12:24:49
2	5.859	5.859	0.074	12:24:55
3	5.999	5.999	0.075	12:25:00
Mean:	5.808	5.808	0.073	
SD :	0.2222	0.2222	0.003	
%RSD:	3.83	3.83	3.83	

QC value within specified limits.
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 42 Date: 05/30/2012
Sample ID: CCB 05-23-12 NM

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.07819	0.07819	0.001	12:26:57
2	0.05457	0.05457	0.001	12:27:02
3	0.07121	0.07121	0.001	12:27:07
Mean:	0.06799	0.06799	0.001	
SD :	0.01214	0.01214	0.000	
%RSD:	17.85	17.85	17.85	

QC value within specified limits.

Element: Hg Seq. No.: 9 Date: 06/01/2012
Sample ID: ICV 06-01-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	4.030	4.030	0.072	15:22:10
2	4.181	4.181	0.075	15:22:15
3	4.238	4.238	0.076	15:22:20
Mean:	4.149	4.149	0.074	
SD :	0.1076	0.1076	0.002	
%RSD:	2.59	2.59	2.59	

QC value within specified limits.
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 10 Date: 06/01/2012
Sample ID: ICB 06-01-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.07785	0.07785	0.001	15:24:11
2	0.05986	0.05986	0.001	15:24:17
3	0.05899	0.05899	0.001	15:24:22
Mean:	0.06556	0.06556	0.001	
SD :	0.01064	0.01064	0.000	
%RSD:	16.23	16.23	16.23	

QC value within specified limits.

Element: Hg Seq. No.: 11 Date: 06/01/2012
Sample ID: CCV 06-01-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	4.952	4.952	0.089	15:25:26
2	5.177	5.177	0.093	15:25:31
3	5.235	5.235	0.094	15:25:37
Mean:	5.121	5.121	0.092	
SD :	0.1492	0.1492	0.003	
%RSD:	2.91	2.91	2.91	

QC value within specified limits.
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 12 Date: 06/01/2012
Sample ID: CCB 06-01-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.07285	0.07285	0.001	15:27:28
2	0.05247	0.05247	0.001	15:27:34
3	0.06220	0.06220	0.001	15:27:39
Mean:	0.06251	0.06251	0.001	
SD :	0.01019	0.01019	0.000	
%RSD:	16.31	16.31	16.31	

QC value within specified limits.

Element: Hg Seq. No.: 13 Date: 06/01/2012
Sample ID: 120601A BLK

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.01007	0.06291	0.001	15:28:42
2	0.008240	0.05150	0.001	15:28:47
3	0.009520	0.05950	0.001	15:28:53
Mean:	0.009276	0.05797	0.001	
SD :	0.000937	0.005859	0.000	
%RSD:	10.11	10.11	10.11	

Element: Hg Seq. No.: 14 Date: 06/01/2012
Sample ID: 120601A LCS

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.6026	3.766	0.068	15:29:55
2	0.6258	3.911	0.070	15:30:00
3	0.6399	3.999	0.072	15:30:06
Mean:	0.6228	3.892	0.070	
SD :	0.01882	0.1177	0.002	
%RSD:	3.02	3.02	3.02	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 15 Date: 06/01/2012
Sample ID: AY61901S01

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.03670	0.2294	0.004	15:31:56
2	0.03727	0.2330	0.004	15:32:01
3	0.03731	0.2332	0.004	15:32:06
Mean:	0.03710	0.2319	0.004	
SD :	0.000342	0.002137	0.000	
%RSD:	0.92	0.92	0.92	

Element: Hg Seq. No.: 16 Date: 06/01/2012
Sample ID: AY61901S01 MS

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.6465	4.041	0.072	15:33:09
2	0.6695	4.184	0.075	15:33:14
3	0.6795	4.247	0.076	15:33:20
Mean:	0.6652	4.157	0.075	
SD :	0.01692	0.1057	0.002	
%RSD:	2.54	2.54	2.54	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 17 Date: 06/01/2012
Sample ID: AY61901S01 MSD

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.6417	4.011	0.072	15:35:10
2	0.6635	4.147	0.074	15:35:15
3	0.6721	4.201	0.075	15:35:21
Mean:	0.6591	4.119	0.074	
SD :	0.01565	0.09782	0.002	
%RSD:	2.37	2.37	2.37	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 18 Date: 06/01/2012
Sample ID: AY61136S01

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.02857	0.1845	0.003	15:37:11
2	0.03163	0.2043	0.004	15:37:17
3	0.03022	0.1952	0.004	15:37:22
Mean:	0.03014	0.1947	0.003	
SD :	0.001532	0.009897	0.000	
%RSD:	5.08	5.08	5.08	

Element: Hg Seq. No.: 19 Date: 06/01/2012
Sample ID: AY61137S01

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.02476	0.1625	0.003	15:38:25
2	0.02246	0.1474	0.003	15:38:32
3	0.02422	0.1590	0.003	15:38:37
Mean:	0.02381	0.1563	0.003	
SD :	0.001203	0.007892	0.000	
%RSD:	5.05	5.05	5.05	

Element: Hg Seq. No.: 20 Date: 06/01/2012
Sample ID: AY61137S01 MS

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.6013	3.946	0.071	15:39:40
2	0.6226	4.086	0.073	15:39:45
3	0.6375	4.184	0.075	15:39:51
Mean:	0.6205	4.072	0.073	
SD :	0.01824	0.1197	0.002	
%RSD:	2.94	2.94	2.94	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 21 Date: 06/01/2012
Sample ID: AY61137S01 MSD

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.6003	3.940	0.071	15:41:43
2	0.6263	4.110	0.074	15:41:48
3	0.6332	4.156	0.075	15:41:54
Mean:	0.6199	4.068	0.073	
SD :	0.01734	0.1138	0.002	
%RSD:	2.80	2.80	2.80	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 22 Date: 06/01/2012
Sample ID: AY61138S01

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.03015	0.2042	0.004	15:43:46
2	0.02779	0.1882	0.003	15:43:51
3	0.02935	0.1987	0.004	15:43:56
Mean:	0.02910	0.1970	0.004	
SD :	0.001201	0.008134	0.000	
%RSD:	4.13	4.13	4.13	

Element: Hg Seq. No.: 23 Date: 06/01/2012
Sample ID: CCV 06-01-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	4.677	4.677	0.084	15:44:59
2	4.851	4.851	0.087	15:45:05
3	4.929	4.929	0.088	15:45:10
Mean:	4.819	4.819	0.086	
SD :	0.1290	0.1290	0.002	
%RSD:	2.68	2.68	2.68	

QC value within specified limits.
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 24 Date: 06/01/2012
Sample ID: CCB 06-01-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.08702	0.08702	0.002	15:47:02
2	0.08564	0.08564	0.002	15:47:07
3	0.1109	0.1109	0.002	15:47:12
Mean:	0.09453	0.09453	0.002	
SD :	0.01421	0.01421	0.000	
%RSD:	15.03	15.03	15.03	

QC value within specified limits.

Element: Hg Seq. No.: 25 Date: 06/01/2012
Sample ID: AY61139S01

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.02780	0.1824	0.003	15:48:17
2	0.02541	0.1668	0.003	15:48:22
3	0.02683	0.1760	0.003	15:48:27
Mean:	0.02668	0.1751	0.003	
SD :	0.001199	0.007867	0.000	
%RSD:	4.49	4.49	4.49	

Element: Hg Seq. No.: 26 Date: 06/01/2012
Sample ID: CCV 06-01-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	4.782	4.782	0.086	15:49:30
2	4.965	4.965	0.089	15:49:35
3	5.047	5.047	0.091	15:49:41
Mean:	4.931	4.931	0.088	
SD :	0.1357	0.1357	0.002	
%RSD:	2.75	2.75	2.75	

QC value within specified limits.
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 27 Date: 06/01/2012
Sample ID: CCB 06-01-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.07367	0.07367	0.001	15:51:32
2	0.07606	0.07606	0.001	15:51:38
3	0.06302	0.06302	0.001	15:51:43
Mean:	0.07092	0.07092	0.001	
SD :	0.006944	0.006944	0.000	
%RSD:	9.79	9.79	9.79	

QC value within specified limits.

010 Metals Standards Log Book # 35 Page # 010

RJS 5/16/12

RJS 5/16/12

Hg STANDARD

CPI Lot # 11D140-28885
10ug/ml in 1% HNO3 LOT#L02030
Prep. Date 05/16/12
Exp. Date 06/13/12
By RJS

Manufacturer: J.T. Baker

Hg STOCK ICV

Ultra Scientific Lot #
K00200-26307
10ug/ml in 1% HNO3 LOT#L02030
Prep.Date 05/16/12
Exp. Date 06/13/12
By RJS
Manufacturer: J.T. Baker

BC 5/1
6020/6020
(A)

RJS 5/16/12

RJS 5/16/12

STANNOUS CHLORIDE

125g SnCl2 EMD Lot #B0715439-202
100 mL HCl BDH Lot #4111110
Brought to 500 mL with DI Water
Prep. Date 05/16/12
Exp. Date 05/16/13
By RJS

RJS 5/16/12

Hg WORKING STANDARD

1ml X 10ug/ml Hg STOCK STD. (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
1ml X 10ug/ml Hg STOCK ICV (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
Final concentration is 50 ug/L. Expires...5/16/12.....

BC 5/1

EA 6010B-C
5-16-12
(A)

1%HNO3 / 5%HCl BLK					6010B/6010C ICSA				
AMOUNT	REAGENT	MANUFACTURER	LOT	OPEN DATE	AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
100 mL	HCL	BDH	4111101	04/04/12	1mL	Al	CPI	11J015-30092	05/28/13
20 mL	HNO3	JT BAKER	L02030	04/03/12	1mL	Ca	CPI	11J031-29989	05/14/13
Prepared in 2000 ml DI Water					1mL	Mg	CPI	11K178-30093	05/28/13
STD 1 / LDL 6010B/6010C					1mL	Fe	O2SI	1030787-30616	05/17/13
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE	Prepared in 50 ml 1%HNO3/5%HCl				
0.5 mL	6010 LDL	ABSOLUTE	091409-25205	09/14/12	6010B/6010C ICSAB				
Prepared in 50 ml 1%HNO3/5%HCl					1mL	Al	CPI	11J015-30092	05/28/13
STD 3 / HDL 6010B/6010C					1mL	Ca	CPI	11J031-29989	05/14/13
1ML	CCV-A	ABSOLUTE	012512-30306	01/25/15	1mL	Mg	CPI	11K178-30093	05/28/13
1ML	CCV-B	ABSOLUTE	021312-30338	02/13/15	1mL	Fe	O2SI	1030787-30616	05/17/13
1ML	CCV-C	ABSOLUTE	012512-30307	01/25/15	0.5mL	INT SPECIAL MIX	O2SI	1032370-30265	02/01/13
Prepared in 100 ml 1%HNO3 / 5%HCl					Prepared in 50 ml 1%HNO3/5%HCl				
STD 2 / CCV1 6010B/6010C/6010C					6010B/6010C ICV				
AMOUNT	STD	PREP DATE	EXP DATE		0.5ML	QCS ICV A	CPI	12C184-30611	09/20/13
25mL	STD 3	Today	1 week		0.5ML	QCS ICV B	CPI	12C184-30612	09/20/13
25mL	1%HNO3/5%HCl	Today	1 week		Prepared in 50ml 1%HNO3/5%HCl				
CCV2 6010B/6010C					JCLLCCV				
AMOUNT	STD	PREP DATE	EXP DATE		AMOUNT	STD	PREP DATE	EXP DATE	
15mL	STD 3	Today	1 week		1mL	STD 2	Today	1 week	
25mL	1%HNO3/5%HCl	Today	1 week		19mL	1%HNO3/5%HCl	Today	1 week	

EA 5-16-12

EA 5-17
6010B-C
(A)

EA 5-17-12

Hg WORKING STANDARD

1ml X 10ug/ml Hg STOCK STD. (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
1ml X 10ug/ml Hg STOCK ICV (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
Final concentration is 50 ug/L. Expires...5-17-12.....

EA 5-17-12

016

Metals Standards Log Book # 35 Page # 016

SA 5-22-12
(A)
6010B

1%HNO3 / 5%HCl BLK				
AMT.	REAGENT	MANUFACTURER	LOT	OPEN DATE
100 mL	HCL	BDH	4111101	04/04/12
20 mL	HNO3	JT BAKER	L02030	04/03/12
Prepared in 2000 ml DI Water				

STD 1 / LDL 6010B/6010C				
AMT.	STD	MANUFACTURER	LOT	EXP DATE
0.5 mL	6010 LDL	ABSOLUTE	091409-25205	09/14/12
Prepared in 50 ml 1%HNO3/5%HCl				

STD 3 / HDL 6010B/6010C				
1ML	CCV-A	ABSOLUTE	012512-30306	01/25/15
1ML	CCV-B	ABSOLUTE	021312-30338	02/13/15
1ML	CCV-C	ABSOLUTE	012512-30307	01/25/15
Prepared in 100 ml 1%HNO3 / 5%HCl				

STD 2 / CCV1 6010B/6010C/6010C			
AMT.	STD	PREP DATE	EXP DATE
25mL	STD 3	Today	1 week
25mL	1%HNO3/5%HCl	Today	1 week

CCV2 6010B/6010C			
AMT.	STD	PREP DATE	EXP DATE
15mL	STD 3	Today	1 week
25mL	1%HNO3/5%HCl	Today	1 week

6010B/6010C ICSA				
AMT.	STD	MANUFACTURER	LOT	EXP DATE
1mL	Al	CPI	11J015-30092	05/28/13
1mL	Ca	CPI	11J031-29989	05/14/13
1mL	Mg	CPI	11K178-30093	05/28/13
1mL	Fe	O2SI	1030787-30616	05/17/13
Prepared in 50 ml 1%HNO3/5%HCl				

6010B/6010C ICSAB				
1mL	Al	CPI	11J015-30092	05/28/13
1mL	Ca	CPI	11J031-29989	05/14/13
1mL	Mg	CPI	11K178-30093	05/28/13
1mL	Fe	O2SI	1030787-30616	05/17/13
0.5mL	INT SPECIAL MIX	O2SI	1032370-30265	02/01/13
Prepared in 50 ml 1%HNO3/5%HCl				

6010B/6010C ICV				
0.5ML	QCS ICV A	CPI	12C184-30611	09/20/13
0.5ML	QCS ICV B	CPI	12C184-30612	09/20/13
Prepared in 50ml 1%HNO3/5%HCl				

YITTRIUM INTERNAL STANDARD				
2.0 mL	Yittrium	O2SI	1035051-30566	09/28/13
Prepared in 2000 ml 1%HNO3/5%HCl				

JA 5-22-12

Bc 5/24
6020/602
(A)

Bc 5/23/12
6020/6020A
(A)

BC 5/23/12

ICP-MS STANDARDS 6020/6020A/3015/3051A

Today's Date 05/23/12
Expires: 05/30/12
Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL Di Water
Lot #K23022
20mL HCL / 2000mL Di Water
Lot #K43032
Expires: 05/30/12

Internal Standard Mix: Prep 05/23/2012

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	Env. Express	1036407-28139
50 uL	CCV-B	Env. Express	1036410-28140
50 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 05/23/12

Standard 3 05/30/12

Amount	STD	Manufacturer	Lot #
25 uL	CCV-A	Env. Express	1036407-28139
25 uL	CCV-B	Env. Express	1036410-28140
25 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 05/23/12

Intermediate-Sb 05/30/12
100 uL of Sb STD (CPI 12A011-30298) in 10 mL of 1% HNO3/1.0% HCL
ICV-Sb 05/30/12
100 uL of Intermediate-Sb in 10 mL of 1% HNO3/1.0% HCL

Standard 2 05/30/12
Amount STD
500 uL Standard 4 05/23/12
Prepared in 50 mL of 1% HNO3/1.0% HCL 05/23/12

Standard 1 05/30/12
Amount STD
50 uL Standard 4 05/23/12

Prepared in 50 mL of 1% HNO3/1.0% HCL 05/23/12

ICP-MS ICV 05/30/12
Amount STD
50 uL QCS ICV A CPI 11C174-28548
50 uL QCS ICV B CPI 11C174-28549
Prepared in 50 mL of 1% HNO3/1.0% HCL 05/23/12

ICSA Prep: 05/30/12
1 mL ICSA CPI 11C066-28529
Prepared in 5 mL of 1% HNO3/1.0% HCL 05/23/12

ICSAB Prep: 05/30/12
1mL ICSA CPI 11C066-28529
0.025mL INT O2Si 1023805-28210
Prepared in 5 mL of 1% HNO3/1.0% HCL 05/23/12

ICP-LDR 05/30/12
Amount STD
50 uL CCV-A Env. Express 1036407-28139
50 uL CCV-B Env. Express 1036410-28140
50 uL CCV-C Env. Express 1100309-28141
Prepared in 10 mL of 1% HNO3/1.0% HCL 05/23/12

POS 5/24

SA 5-24-1
6010B-C
(A)

Bc 5/23/12

BC 5/23/12

Internal Standard Concentration

Amt	STD	Element	Vendor	Lot#	Final Conc. In Std	Expires
500uL	1000 ug/mL	Li	CPI	10L079-27839	5000 ug/L	06/10/12
500uL	1000 ug/mL	In	CPI	10J155-28574	5000 ug/L	09/25/12
500uL	1000 ug/mL	Ho	CPI	10A107-28576	5000 ug/L	09/25/12
500uL	1000 ug/mL	Tb	CPI	11B054-28575	5000 ug/L	09/25/12
500uL	1000 ug/mL	Sc	o2si	1024073-28527	5000 ug/L	08/18/12
500uL	1000 ug/mL	Ge	Environmental Express	1116011-29381	5000 ug/L	02/08/13

Prep:	05/23/12	NBS	Prep in -	1%HNO3/1.0%HCL:	Lot #KK23022/43032	in 100mL
Expires:	06/22/12					

POS 5/23/12

POS 5/23/12

Hg WORKING STANDARD

1ml X 10ug/ml Hg STOCK STD. (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
1ml X 10ug/ml Hg STOCK ICV (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
Final concentration is 50 ug/L. Expires.....5/23/12.....

Metals Standards Log Book # 35 Page # 021

RJS 5/30/12

Hg WORKING STANDARD

RJS 5/30/12

1ml X 10ug/ml Hg STOCK STD. (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
1ml X 10ug/ml Hg STOCK ICV (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
Final concentration is 50 ug/L. Expires.....5/30/12.....

BC 5/31/12
6020/6020A
(A)

ICP-MS STANDARDS 6020/6020A/3015/3051A
Today's Date: 05/31/12
Expires: 06/07/12
Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL Di Water
Lot #K23022
20mL HCL / 2000mL Di Water
Lot #K43032
Expires: 06/07/12

Internal Standard Mix: Prep 05/30/2012

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	Env. Express	1036407-28139
50 uL	CCV-B	Env. Express	1036410-28140
50 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 05/31/12

Standard 3 06/07/12

Amount	STD	Manufacturer	Lot #
25 uL	CCV-A	Env. Express	1036407-28139
25 uL	CCV-B	Env. Express	1036410-28140
25 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 05/31/12

Intermediate-Sb 06/07/12
100 uL of Sb STD (CPI 12A011-30298) in 10 mL of 1% HNO3/1.0% HCL
ICV-Sb 06/07/12
100 uL of Intermediate-Sb in 10 mL of 1% HNO3/1.0% HCL

BC 5/31/12

Standard 2 06/07/12

Amount	STD	
500 uL	Standard 4	05/31/12

Prepared in 50 mL of 1% HNO3/1.0% HCL 05/31/12

Standard 1 06/07/12

Amount	STD	
50 uL	Standard 4	05/31/12

Prepared in 50 mL of 1% HNO3/1.0% HCL 05/31/12

ICP-MS ICV 06/07/12

Amount	STD		
50 uL	QCS ICV A	CPI	11C174-28548
50 uL	QCS ICV B	CPI	11C174-28549

Prepared in 50 mL of 1% HNO3/1.0% HCL 05/31/12

ICSA Prep: 06/07/12

1 mL	ICSA	CPI	11C066-28529

Prepared in 5 mL of 1% HNO3/1.0% HCL 05/31/12

ICSAB Prep: 06/07/12

1mL	ICSA	CPI	11C066-28529
0.025mL	INT	O2Si	1023805-28210

Prepared in 5 mL of 1% HNO3/1.0% HCL 05/31/12

ICP-LDR 06/07/12

Amount	STD		
50 uL	CCV-A	Env. Express	1036407-28139
50 uL	CCV-B	Env. Express	1036410-28140
50 uL	CCV-C	Env. Express	1100309-28141

Prepared in 10 mL of 1% HNO3/1.0% HCL 05/31/12

RJS 5/31/12

Hg WORKING STANDARD

RJS 5/31/12

1ml X 10ug/ml Hg STOCK STD. (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
1ml X 10ug/ml Hg STOCK ICV (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
Final concentration is 50 ug/L. Expires.....5/31/12.....

NM 5/31/12 DECOLORIZER
240g OF NACL MALLINCKRODT # J39603-28814
+ 240g NH2OH-HCL EMD # 1711C511
+ 2000mL of DI H2O Exp: 5/31/13

RJS 6/1/12

Hg WORKING STANDARD

RJS 6/1/12

1ml X 10ug/ml Hg STOCK STD. (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
1ml X 10ug/ml Hg STOCK ICV (05/16/12RJS)/200ml 1% HNO3 Lot#L02030
Final concentration is 50 ug/L. Expires.....6/1/12.....

024

Metals Standards Log Book # 35 Page # 025

QA 6-5-12
6010B-C
(A)

1%HNO3 / 5%HCl BLK				
AMT.	REAGENT	MANUFACTURER	LOT	OPEN DATE
100 mL	HCL	BDH	4111101	04/04/12
20 mL	HNO3	JT BAKER	L02030	04/03/12
Prepared in 2000 ml DI Water				
STD 1 / LDL 6010B/6010C				
AMT.	STD	MANUFACTURER	LOT	EXP DATE
0.5 mL	6010 LDL	ABSOLUTE	091409-25205	09/14/12
Prepared in 50 ml 1%HNO3/5%HCl				
STD 3 / HDL 6010B/6010C				
1ML	CCV-A	ABSOLUTE	012512-30306	42029
1ML	CCV-B	ABSOLUTE	021312-30338	02/13/15
1ML	CCV-C	ABSOLUTE	012512-30307	01/25/15
Prepared in 100 ml 1%HNO3				
STD 2 / CCV1 6010B/6010C/6010C				
AMT.	STD	PREP DATE	EXP DATE	
25mL	STD 3	Today	1 week	
25mL	1%HNO3/5%HCl	Today	1 week	
CCV2 6010B/6010C				
15mL	STD 3	Today	1 week	
25mL	1%HNO3/5%HCl	Today	1 week	
LLCCV5				
AMOUNT	STD	PREP DATE	EXP DATE	
10mL	STD 2	Today	1 week	
Prepared in 50 ml 1%HNO3/5%HCl				

6010B/6010C ICSA				
AMT.	STD	MANUFACTURER	LOT	EXP DATE
1mL	Al	CPI	11J015-30092	05/28/13
1mL	Ca	CPI	11J031-29989	05/14/13
1mL	Mg	CPI	11K178-30093	05/28/13
1mL	Fe	O2SI	1030787-30616	05/17/13
Prepared in 50 ml 1%HNO3/5%HCl				
6010B/6010C ICSAB				
1mL	Al	CPI	11J015-30092	05/28/13
1mL	Ca	CPI	11J031-29989	05/14/13
1mL	Mg	CPI	11K178-30093	05/28/13
1mL	Fe	O2SI	1030787-30616	05/17/13
0.5mL	INT SPECIAL MIX	O2SI	1032370-30265	02/01/13
Prepared in 50 ml 1%HNO3/5%HCl				
6010B/6010C ICV				
0.5ML	QCS ICV A	CPI	12C184-30611	09/20/13
0.5ML	QCS ICV B	CPI	12C184-30612	09/20/13
Prepared in 50ml 1%HNO3/5%HCl				
LLCCV50				
AMOUNT	STD	PREP DATE	EXP DATE	
1mL	STD 2	Today	1 week	
Prepared in 50 ml 1%HNO3/5%HCl				

6-5-12
QA

NBS 06/05/12

NBS
06/05/12
6020/6020A
(A)

ICP-MS STANDARDS 6020/6020A/3015/3051A
Today's Date: 06/05/12
Expires: 06/12/12
Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL Di Water
Lot #K23022
20mL HCL / 2000mL Di Water
Lot #K43032
Expires: 06/12/12

Internal Standard Mix: Prep 06/04/2012

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	Env. Express	1036407-28139
50 uL	CCV-B	Env. Express	1036410-28140
50 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 06/05/12

Standard 3 06/12/12

Amount	STD	Manufacturer	Lot #
25 uL	CCV-A	Env. Express	1036407-28139
25 uL	CCV-B	Env. Express	1036410-28140
25 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 06/05/12

Intermediate-Sb 06/12/12
100 uL of Sb STD (CPI 12A011-30298) in 10 mL of 1% HNO3/1.0% HCL
ICV-Sb 06/12/12
100 uL of Intermediate-Sb in 10 mL of 1% HNO3/1.0% HCL

Standard 2 06/12/12

Amount	STD	
500 uL	Standard 4	06/05/12

Prepared in 50 mL of 1% HNO3/1.0% HCL 06/05/12

Standard 1 06/12/12

Amount	STD	
50 uL	Standard 4	06/05/12

Prepared in 50 mL of 1% HNO3/1.0% HCL 06/05/12

ICP-MS ICV 06/12/12

Amount	STD		
50 uL	QCS ICV A	CPI	11C174-28548
50 uL	QCS ICV B	CPI	11C174-28549

Prepared in 50 mL of 1% HNO3/1.0% HCL 06/05/12

ICSA Prep: 06/12/12

1 mL	ICSA	CPI	11C066-28529

Prepared in 5 mL of 1% HNO3/1.0% HCL 06/05/12

ICSAB Prep: 06/12/12

1mL	ICSA	CPI	11C066-28529
0.025mL	INT	O2Si	1023805-28210

Prepared in 5 mL of 1% HNO3/1.0% HCL 06/05/12

ICP-LDR 06/12/12

Amount	STD		
50 uL	CCV-A	Env. Express	1036407-28139
50 uL	CCV-B	Env. Express	1036410-28140
50 uL	CCV-C	Env. Express	1100309-28141

Prepared in 10 mL of 1% HNO3/1.0% HCL 06/05/12

_M3050LL

Metals Digestion Worksheet

Method Name 3050B Digestion (LOW LEVEL) **Prep Method** M3050LLalt **Set** 120601A **Units** mL

Spikes	
Spiked ID 1	LCSW LOT# 1036660-30924
Spiked ID 2	LCSW LOT# 1036661-30912
Spiked ID 3	
Spiked ID 4	
Spiked By	LO Date: 06/01/12 12:40:00 PM
Witnessed By	NM Date: 06/01/12 12:40:00 PM

Starting Temp:	95 C
Ending Temp:	95 C
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	YES
End Date/Time	06/01/12 15:00

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120601A Blk				10.00g	100mL	06/01/12 12:40	equip: Modblock1
2	120601A LCS		1mL	1+2	10.00g	100mL	06/01/12 12:40	equip: Modblock1
3	AY61125	AY61125S02			9.97g	100mL	06/01/12 12:40	equip: Modblock1
4	AY61126	AY61126S02			9.95g	100mL	06/01/12 12:40	equip: Modblock1
5	AY61126 MS	AY61126S02	4mL	1+2	9.95g	100mL	06/01/12 12:40	equip: Modblock1
6	AY61126 MSD	AY61126S02	4mL	1+2	9.95g	100mL	06/01/12 12:40	equip: Modblock1
7	AY61128	AY61128S02			9.96g	100mL	06/01/12 12:40	equip: Modblock1
8	AY61129	AY61129S01			10.02g	100mL	06/01/12 12:40	equip: Modblock1
9	AY61130	AY61130S02			10.03g	100mL	06/01/12 12:40	equip: Modblock1
10	AY61131	AY61131S02			10.05g	100mL	06/01/12 12:40	equip: Modblock1
11	AY61133	AY61133S02			9.93g	100mL	06/01/12 12:40	equip: Modblock1
12	AY61133 MS	AY61133S02	4mL	1+2	9.93g	100mL	06/01/12 12:40	equip: Modblock1
13	AY61133 MSD	AY61133S02	4mL	1+2	9.93g	100mL	06/01/12 12:40	equip: Modblock1
14	AY61135	AY61135S02			9.96g	100mL	06/01/12 12:40	equip: Modblock1
15	AY61136	AY61136S01			10.06g	100mL	06/01/12 12:40	equip: Modblock1
16	AY61137	AY61137S01			10.05g	100mL	06/01/12 12:40	equip: Modblock1
17	AY61137 MS	AY61137S01	4mL	1+2	10.05g	100mL	06/01/12 12:40	equip: Modblock1
18	AY61137 MSD	AY61137S01	4mL	1+2	1005g	100mL	06/01/12 12:40	equip: Modblock1
19	AY61138	AY61138S01			10.01g	100mL	06/01/12 12:40	equip: Modblock1
20	AY61139	AY61139S01			9.97g	100mL	06/01/12 12:40	equip: Modblock1

Solvent and Lot#
1:1 HNO3 na
HNO3 J.T. L08023 0202
H2O2 EMD na
HCL EMD LOT#051305 0203

Sample COC Transfer	
Sample prep employee Initials	LO
Analyst's initials	SA
Date	6-1-12
Time	15:00
Moved to	Metals

Technician's Initials	
Scanned By	NM
Sample Preparation	NM
Digestion	NM
Bring up to volume	LO
Modified	06/01/12 5:06:06 PM

Reviewed By: SA **Date:** 6-1-12

_M7471

Mercury Digestion Worksheet

Method Name 7471A Mercury Digestion **Prep Method** M7471 **Set** 120601A **Units** mL

Spikes			
Spiked ID 1	Hg WORKING STANDARD PREP 06-01-12		
Spiked ID 2	Hg WORKING ICV PREP 06-01-12		
Spiked ID 3			
Spiked ID 4			
Spiked By	LO	Date:	06/01/12 10:00:00 AM
Witnessed By	NBS	Date:	06/01/12 10:00:00 AM

Starting Temp:	95 C
Ending Temp:	95 C
Temp Type:	Modblock1
End Date/Time	06/01/12 11:45:00 AM

Mercury Calibration

Sample	Spike Amount	Spike ID	Final Volume
0 ppb		1	96 ml
0.2 ppb	0.4 ml	1	96 ml
0.5 ppb	1 ml	1	96 ml
1 ppb	2 ml	1	96 ml
2 ppb	4 ml	1	96 ml
5 ppb	10 ml	1	96 ml
5 ppb	10 ml	1	96 ml
10 ppb	20 ml	1	96 ml
ICV	8 ml	2	96 ml

Start Date/Time of Calibration 06/01/12 10:00

Sufficient Vol for Matrix QC: YES

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120601A Blk				0.60g	96mL	06/01/12 10:00	equip: Modblock1
2	120601A LCS		8mL	1	0.60g	96mL	06/01/12 10:00	equip: Modblock1
3	AY61136	AY61136S01			0.62g	96mL	06/01/12 10:00	equip: Modblock1
4	AY61137	AY61137S01			0.63g	96mL	06/01/12 10:00	equip: Modblock1
5	AY61137 MS	AY61137S01	8mL	1	0.63g	96mL	06/01/12 10:00	equip: Modblock1
6	AY61137 MSD	AY61137S01	8mL	1	0.63g	96mL	06/01/12 10:00	equip: Modblock1
7	AY61138	AY61138S01			0.65g	96mL	06/01/12 10:00	equip: Modblock1
8	AY61139	AY61139S01			0.63g	96mL	06/01/12 10:00	equip: Modblock1
9	AY61901	AY61901S01			0.60g	96mL	06/01/12 10:00	equip: Modblock1 REDIGEST!!!!!!!
10	AY61901 MS	AY61901S01	8mL	1	0.60g	96mL	06/01/12 10:00	equip: Modblock1 REDIGEST!!!!!!!
11	AY61901 MSD	AY61901S01	8mL	1	0.60g	96mL	06/01/12 10:00	equip: Modblock1 REDIGEST!!!!!!!

Solvent and Lot#
AQUAREGIA 05-08-12
KMnO4 05-01-12
DECOLORIZER 05-14-12

Sample COC Transfer	
Sample prep employee Initials	LO
Analyst's initials	EA
Date	6-1-12
Time	11:45
Moved to	Metals

Technician's Initials	
Scanned By	NM
Sample Preparation	NM
Digestion	NM
Bring up to volume	LO
Modified	06/01/12 5:20:35 PM

Reviewed By: EA **Date:** 6-1-12

_M7470

Mercury Digestion Worksheet

Method Name 7470A Mercury Digestion **Prep Method** M7470 **Set** 120523A **Units** mL

Spikes			
Spiked ID 1	Hg WORKING STANDARD prep 5-23-12		
Spiked ID 2	Hg WORKING ICV prep 5-23-12		
Spiked ID 3			
Spiked ID 4			
Spiked By	NM	Date:	05/23/12 9:30:00 AM
Witnessed By	BC	Date:	05/23/12 9:30:00 AM

Starting Temp:	95 c
Ending Temp:	95 c
Temp Type:	Modblock1
End Date/Time	05/23/12 11:30:00 AM

Mercury Calibration

Sample	Spike Amount	Spike ID	Final Volume
0 ppb		1	144.5 ml
0.2 ppb	0.4 ml	1	144.5 ml
0.5 ppb	1 ml	1	144.5 ml
1 ppb	2 ml	1	144.5 ml
2 ppb	4 ml	1	144.5 ml
5 ppb	10 ml	1	144.5 ml
5 ppb	10 ml	1	144.5 ml
10 ppb	20 ml	1	144.5 ml
ICV	8 ml	2	144.5 ml

Start Date/Time of Calibration 05/23/12 9:30

Sufficient Vol for Matrix QC:	Yes

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120523A Blk				50mL	72.25mL	05/23/12 9:30	equip: Modblock1
2	120523A LCS		4mL	1	50mL	72.25mL	05/23/12 9:30	equip: Modblock1
3	AY61140	AY61140W03			50mL	72.25mL	05/23/12 9:30	equip: Modblock1
4	AY61205	AY61205W07			50mL	72.25mL	05/23/12 9:30	equip: Modblock1
5	AY61205 MS	AY61205W08	4mL	1	50mL	72.25mL	05/23/12 9:30	equip: Modblock1
6	AY61205 MSD	AY61205W08	4mL	1	50mL	72.25mL	05/23/12 9:30	equip: Modblock1
7	AY61206	AY61206W03			50mL	72.25mL	05/23/12 9:30	equip: Modblock1
8	AY61207	AY61207W03			50mL	72.25mL	05/23/12 9:30	equip: Modblock1
9	AY61208	AY61208W03			50mL	72.25mL	05/23/12 9:30	equip: Modblock1
10	AY61214	AY61214W03			50mL	72.25mL	05/23/12 9:30	equip: Modblock1
11	AY61304	AY61304W07			50mL	72.25mL	05/23/12 9:30	equip: Modblock1
12	AY61304 MS	AY61304W08	4mL	1	50mL	72.25mL	05/23/12 9:30	equip: Modblock1
13	AY61304 MSD	AY61304W08	4mL	1	50mL	72.25mL	05/23/12 9:30	equip: Modblock1
14	AY61306	AY61306W03			50mL	72.25mL	05/23/12 9:30	equip: Modblock1
15	AY61308	AY61308W03			50mL	72.25mL	05/23/12 9:30	equip: Modblock1
16	AY61344	AY61344W03			50mL	72.25mL	05/23/12 9:30	equip: Modblock1
17	AY61810	AY61810W01			5mL	72.25mL	05/23/12 9:30	equip: Modblock1 DF 10

Solvent and Lot#
HNO3 J.T.B L08023 0195
H2SO4 J.T.B k18F01 0180
KMnO4 5-11-12
K2s2o8 3-23-12
Decolorizer 5-14-12

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	SA
Date	5-23-12
Time	11:30
Moved to	Metals

Technician's Initials	
Scanned By	lo
Sample Preparation	nm
Digestion	nm
Bring up to volume	lo
Modified	05/23/12 9:07:26 AM

Reviewed By: DA **Date:** 5-23-12

_M3010LL

Metals Digestion Worksheet

Method Name 3010A Digestion (LOW LEVEL) **Prep Method** M3010LL **Set** 120529A **Units** mL

Spikes	
Spiked ID 1	LCSW LOT# 1034534-30502
Spiked ID 2	LCSW LOT# 1034538-30504
Spiked ID 3	
Spiked ID 4	
Spiked By	NM Date: 05/29/12 10:00:00 AM
Witnessed By	LO Date: 05/29/12 10:00:00 AM

Starting Temp:	95 c
Ending Temp:	95 c
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	Yes
End Date/Time	05/29/12 16:30

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120529A Blk				100mL	20mL	05/29/12 10:00	equip: Modblock1
2	120529A LCS		1mL	1+2	100mL	20mL	05/29/12 10:00	equip: Modblock1
3	AY61127	AY61127W03			100mL	20mL	05/29/12 10:00	equip: Modblock1
4	AY61132	AY61132W07			100mL	20mL	05/29/12 10:00	equip: Modblock1
5	AY61132 MS	AY61132W08	1mL	1+2	100mL	20mL	05/29/12 10:00	equip: Modblock1
6	AY61132 MSD	AY61132W08	1mL	1+2	100mL	20mL	05/29/12 10:00	equip: Modblock1
7	AY61134	AY61134W03			100mL	20mL	05/29/12 10:00	equip: Modblock1
8	AY61140	AY61140W03			100mL	20mL	05/29/12 10:00	equip: Modblock1
9	AY61304	AY61304W07			100mL	20mL	05/29/12 10:00	equip: Modblock1
10	AY61304 MS	AY61304W09	1mL	1+2	100mL	20mL	05/29/12 10:00	equip: Modblock1
11	AY61304 MSD	AY61304W09	1mL	1+2	100mL	20mL	05/29/12 10:00	equip: Modblock1
12	AY61306	AY61306W03			100mL	20mL	05/29/12 10:00	equip: Modblock1
13	AY61308	AY61308W03			100mL	20mL	05/29/12 10:00	equip: Modblock1
14	AY61731	AY61731W03			100mL	20mL	05/29/12 10:00	equip: Modblock1
15	AY62235	AY62235W08			100mL	20mL	05/29/12 10:00	equip: Modblock1
16	AY62235 MS	AY62235W09	1mL	1+2	100mL	20mL	05/29/12 10:00	equip: Modblock1
17	AY62235 MSD	AY62235W09	1mL	1+2	100mL	20mL	05/29/12 10:00	equip: Modblock1
18	AY62237	AY62237W03			100mL	20mL	05/29/12 10:00	equip: Modblock1
19	AY62239	AY62239W03			100mL	20mL	05/29/12 10:00	equip: Modblock1

Solvent and Lot#
HNO3 J.T.B L08023 0197
1:1 HCL 5-29-12

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	SA
Date	5-29-12
Time	16:30
Moved to	Metals

Technician's Initials	
Scanned By	lo
Sample Preparation	nm
Digestion	nm
Bring up to volume	lo
Modified	05/29/12 9:34:37 AM

Reviewed By: SA **Date:** 5-29-12

Sample_ID	EL	Date	Time	Mean_SA	Units	Batch_ID	Wt	Dilu
Calib. Blank	Hg	05/30/12	11:37:03		µg/L			
0.2 05-23-12 NM	Hg	05/30/12	11:38:16		µg/L			
0.5	Hg	05/30/12	11:39:29		µg/L			
1	Hg	05/30/12	11:41:36		µg/L			
2	Hg	05/30/12	11:43:43		µg/L			
5	Hg	05/30/12	11:45:51		µg/L			
10	Hg	05/30/12	11:47:59		µg/L			
ICV 05-23-12 NM	Hg	05/30/12	11:50:44	3.754938	µg/L			
ICB 05-23-12 NM	Hg	05/30/12	11:52:50	-0.009619	µg/L			
CCV 05-23-12 NM	Hg	05/30/12	11:54:05	5.227648	µg/L			
CCB 05-23-12 NM	Hg	05/30/12	11:56:15	0.004797	µg/L			
120523A BLK	Hg	05/30/12	11:57:29	-0.033437	µg/L	120523A-7470A		
120523A LCS	Hg	05/30/12	11:58:42	3.674737	µg/L	120523A-7470A		
AY61140W03	Hg	05/30/12	12:00:48	0.065202	µg/L	120523A-7470A		
~~AY61205W07~~	~~Hg~~	~~05/30/12~~	~~12:02:01~~	~~0.097404~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~AY61205W08 MS~~	~~Hg~~	~~05/30/12~~	~~12:03:14~~	~~3.948679~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~AY61205W08 MSD~~	~~Hg~~	~~05/30/12~~	~~12:05:21~~	~~4.107869~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~AY61206W03~~	~~Hg~~	~~05/30/12~~	~~12:07:29~~	~~0.08243~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~AY61207W03~~	~~Hg~~	~~05/30/12~~	~~12:08:42~~	~~0.068352~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~AY61208W03~~	~~Hg~~	~~05/30/12~~	~~12:09:55~~	~~0.103752~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~AY61214W03~~	~~Hg~~	~~05/30/12~~	~~12:11:08~~	~~0.081654~~	~~µg/L~~	~~120523A-7470A~~	—	—
CCV 05-23-12 NM	Hg	05/30/12	12:12:22	5.798768	µg/L			
CCB 05-23-12 NM	Hg	05/30/12	12:14:29	0.050907	µg/L			
~~AY61304W07~~	~~Hg~~	~~05/30/12~~	~~12:15:44~~	~~0.058006~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~AY61304W08 MS~~	~~Hg~~	~~05/30/12~~	~~12:16:58~~	~~4.155286~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~AY61304W08 MSD~~	~~Hg~~	~~05/30/12~~	~~12:19:07~~	~~4.140603~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~AY61306W03~~	~~Hg~~	~~05/30/12~~	~~12:21:16~~	~~0.083544~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~AY61308W03~~	~~Hg~~	~~05/30/12~~	~~12:22:29~~	~~0.048387~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~AY61344W03~~	~~Hg~~	~~05/30/12~~	~~12:23:45~~	~~0.040658~~	~~µg/L~~	~~120523A-7470A~~	—	—
~~CCV 05-23-12 NM~~	~~Hg~~	~~05/30/12~~	~~12:25:00~~	~~5.807563~~	~~µg/L~~	—	—	—
~~CCB 05-23-12 NM~~	~~Hg~~	~~05/30/12~~	~~12:27:07~~	~~0.067989~~	~~µg/L~~	—	—	—

R=0.99870

6010 Injection Log

Directory: K:\ICAP PHOEBE\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	30 May 2012	10:52	CalBlk 120530EA I:PB O:EA		120530A6010	1.
2	30 May 2012	10:56	STD 1 120530EA I:PB O:EA		120530A6010	1.
3	30 May 2012	11:00	STD 2 120530EA I:PB O:EA		120530A6010	1.
4	30 May 2012	11:03	STD 3 120530EA I:PB O:EA		120530A6010	1.
5	30 May 2012	11:07	ICV 120530EA I:PB O:EA		120530A6010	1.
6	30 May 2012	11:14	ICB 120530EA I:PB O:EA		120530A6010	1.
8	30 May 2012	11:30	ICSA 120530EA I:PB O:EA		120530A6010	1.
9	30 May 2012	11:33	ICSAB 120530EA I:PB O:EA		120530A6010	1.
10	30 May 2012	11:37	CCV1 120530EA I:PB O:EA		120530A6010	1.
11	30 May 2012	11:44	CCB 120530EA I:PB O:EA		120530A6010	1.
12	30 May 2012	12:19	CCV1 120530EA I:PB O:EA		120530A6010	1.
13	30 May 2012	12:23	CCB 120530EA I:PB O:EA		120530A6010	1.
14	30 May 2012	12:33	120529A-3010LL-BLK		120530A6010	1.
15	30 May 2012	12:37	120529A-3010LL-LCS		120530A6010	1.
16	30 May 2012	12:41	AY61127W03		120530A6010	1.
17	30 May 2012	12:45	AY61132W07		120530A6010	1.
18	30 May 2012	12:49	AY61132W08 MS		120530A6010	1.
19	30 May 2012	12:53	AY61132W08 MSD		120530A6010	1.
20	30 May 2012	12:57	AY61132W07-A		120530A6010	1.
21	30 May 2012	13:01	AY61132W07-1/5		120530A6010	5.
22	30 May 2012	13:05	AY61134W03		120530A6010	1.
23	30 May 2012	13:09	AY61140W03		120530A6010	1.
24	30 May 2012	13:13	CCV2 120530EA I:PB O:EA		120530A6010	1.
25	30 May 2012	13:16	CCB 120530EA I:PB O:EA		120530A6010	1.

Sample_ID	EL	Date	Time	Mean_SA	Units	Batch_ID	Wt	Dilu
Calib Blank	Hg	06/01/12	15:08:10		µg/L			
0.2083 06-01-12 LO	Hg	06/01/12	15:09:23		µg/L			
0.520833	Hg	06/01/12	15:10:36		µg/L			
1.041667	Hg	06/01/12	15:12:38		µg/L			
2.083333	Hg	06/01/12	15:14:40		µg/L			
5.208	Hg	06/01/12	15:16:43		µg/L			
10.417	Hg	06/01/12	15:18:46		µg/L			
ICV 06-01-12 LO	Hg	06/01/12	15:22:20	4.149267	µg/L			
ICB 06-01-12 LO	Hg	06/01/12	15:24:22	0.065565	µg/L			
CCV 06-01-12 LO	Hg	06/01/12	15:25:37	5.121406	µg/L			
CCB 06-01-12 LO	Hg	06/01/12	15:27:39	0.062507	µg/L			
120601A BLK	Hg	06/01/12	15:28:53	0.009276	mg/kg	120601A-7471B	0.6	
120601A LCS	Hg	06/01/12	15:30:06	0.622783	mg/kg	120601A-7471B	0.6	
~~AY61901S01~~	~~Hg~~	~~06/01/12~~	~~15:32:06~~	~~0.037097~~	~~mg/kg~~	~~120601A-7471B~~	~~0.6~~	—
~~AY61901S01 MS~~	~~Hg~~	~~06/01/12~~	~~15:33:20~~	~~0.665155~~	~~mg/kg~~	~~120601A-7471B~~	~~0.6~~	—
~~AY61901S01 MSD~~	~~Hg~~	~~06/01/12~~	~~15:35:21~~	~~0.659113~~	~~mg/kg~~	~~120601A-7471B~~	~~0.6~~	—
AY61136S01	Hg	06/01/12	15:37:22	0.03014	mg/kg	120601A-7471B	0.62	
AY61137S01	Hg	06/01/12	15:38:37	0.023815	mg/kg	120601A-7471B	0.63	
AY61137S01 MS	Hg	06/01/12	15:39:51	0.620477	mg/kg	120601A-7471B	0.63	
AY61137S01 MSD	Hg	06/01/12	15:41:54	0.619944	mg/kg	120601A-7471B	0.63	
AY61138S01	Hg	06/01/12	15:43:56	0.029098	mg/kg	120601A-7471B	0.65	
CCV 06-01-12 LO	Hg	06/01/12	15:45:10	4.818943	µg/L			
CCB 06-01-12 LO	Hg	06/01/12	15:47:12	0.094525	µg/L			
AY61139S01	Hg	06/01/12	15:48:27	0.026677	mg/kg	120601A-7471B	0.63	
CCV 06-01-12 LO	Hg	06/01/12	15:49:41	4.931422	µg/L			
CCB 06-01-12 LO	Hg	06/01/12	15:51:43	0.070915	µg/L			

R=0.99924

6010 Injection Log

Directory: K:\ICAP PHOEBE\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	05 Jun 2012	15:10	CalBlk 120605EA I:PB O:EA		120605B6010	1.
2	05 Jun 2012	15:15	STD 1 120605EA I:PB O:EA		120605B6010	1.
3	05 Jun 2012	15:19	STD 2 120605EA I:PB O:EA		120605B6010	1.
4	05 Jun 2012	15:22	STD 3 120605EA I:PB O:EA		120605B6010	1.
5	05 Jun 2012	15:28	ICV 120605EA I:PB O:EA		120605B6010	1.
6	05 Jun 2012	15:32	ICB 120605EA I:PB O:EA		120605B6010	1.
8	05 Jun 2012	15:40	ICSA 120605EA I:PB O:EA		120605B6010	1.
9	05 Jun 2012	15:46	ICSAB 120605EA I:PB O:EA		120605B6010	1.
10	05 Jun 2012	15:50	CCV1 120605EA I:PB O:EA		120605B6010	1.
11	05 Jun 2012	15:54	CCB 120605EA I:PB O:EA		120605B6010	1.
14	05 Jun 2012	16:43	CCV1 120605EA I:PB O:EA		120605B6010	1.
15	05 Jun 2012	16:47	CCB 120605EA I:PB O:EA		120605B6010	1.
16	05 Jun 2012	16:51	120601A-3050LL-BLK		120605B6010	1.
17	05 Jun 2012	17:09	120601A-3050LL-LCS		120605B6010	1.
18	05 Jun 2012	17:14	AY61125S02-1/5		120605B6010	5.
19	05 Jun 2012	17:19	AY61126S02-1/5		120605B6010	5.
20	05 Jun 2012	17:24	AY61126S02 MS-1/5		120605B6010	5.
21	05 Jun 2012	17:28	AY61126S02 MSD-1/5		120605B6010	5.
22	05 Jun 2012	17:32	AY61128S02-1/5		120605B6010	5.
23	05 Jun 2012	17:37	AY61129S01-1/5		120605B6010	5.
24	05 Jun 2012	17:42	AY61130S02-1/5		120605B6010	5.
25	05 Jun 2012	17:47	AY61131S02-1/5		120605B6010	5.
26	05 Jun 2012	17:54	CCV2 120605EA I:PB O:EA		120605B6010	1.
27	05 Jun 2012	17:58	CCB 120605EA I:PB O:EA		120605B6010	1.
28	05 Jun 2012	18:02	AY61133S02-1/5		120605B6010	5.
29	05 Jun 2012	18:06	AY61133S02 MS-1/5		120605B6010	5.
30	05 Jun 2012	18:08	AY61133S02 MSD-1/5		120605B6010	5.
31	05 Jun 2012	18:13	AY61133S02-1/-5-A		120605B6010	5.
32	05 Jun 2012	18:17	AY61133S02-1/25		120605B6010	25.
33	05 Jun 2012	18:22	AY61135S02-1/5		120605B6010	5.
34	05 Jun 2012	18:26	AY61136S01-1/5		120605B6010	5.
35	05 Jun 2012	18:32	AY61137S01-1/5		120605B6010	5.
36	05 Jun 2012	18:37	AY61137S01 MS-1/5		120605B6010	5.
37	05 Jun 2012	18:41	AY61137S01 MSD-1/5		120605B6010	5.
38	05 Jun 2012	18:45	CCV1 120605EA I:PB O:EA		120605B6010	1.
39	05 Jun 2012	18:49	CCB 120605EA I:PB O:EA		120605B6010	1.
44	05 Jun 2012	19:10	AY61138S01-1/5		120605B6010	5.
45	05 Jun 2012	19:15	AY61139S01-1/5		120605B6010	5.
50	05 Jun 2012	19:41	CCV2 120605EA I:PB O:EA		120605B6010	1.
51	05 Jun 2012	19:45	CCB 120605EA I:PB O:EA		120605B6010	1.
81	05 Jun 2012	22:12	CCV1 120605EA I:PB O:EA		120605B6010	1.
82	05 Jun 2012	22:16	CCB 120605EA I:PB O:EA		120605B6010	1.
83	05 Jun 2012	22:21	AY61125S02		120605B6010	1.

84	05 Jun 2012	22:25	AY61126S02	120605B6010	1.
85	05 Jun 2012	22:29	AY61126S02 MS	120605B6010	1.
86	05 Jun 2012	22:34	AY61126S02 MSD	120605B6010	1.
87	05 Jun 2012	22:38	AY61128S02	120605B6010	1.
88	05 Jun 2012	22:42	AY61129S01	120605B6010	1.
89	05 Jun 2012	22:47	AY61130S02	120605B6010	1.
90	05 Jun 2012	22:51	AY61131S02	120605B6010	1.
91	05 Jun 2012	22:55	AY61133S02	120605B6010	1.
92	05 Jun 2012	22:59	AY61133S02 MS	120605B6010	1.
93	05 Jun 2012	23:04	CCV2 120605EA I:PB O:EA	120605B6010	1.
94	05 Jun 2012	23:07	CCB 120605EA I:PB O:EA	120605B6010	1.
95	05 Jun 2012	23:12	AY61133S02 MSD	120605B6010	1.
96	05 Jun 2012	23:16	AY61133S02--A	120605B6010	1.
97	05 Jun 2012	23:20	AY61135S02	120605B6010	1.
98	05 Jun 2012	23:25	AY61136S01	120605B6010	1.
99	05 Jun 2012	23:29	AY61137S01	120605B6010	1.
100	05 Jun 2012	23:33	AY61137S01 MS	120605B6010	1.
101	05 Jun 2012	23:38	AY61137S01 MSD	120605B6010	1.
103	05 Jun 2012	23:46	AY61138S01	120605B6010	1.
104	05 Jun 2012	23:51	AY61139S01	120605B6010	1.
105	05 Jun 2012	23:55	CCV1 120605EA I:PB O:EA	120605B6010	1.
106	05 Jun 2012	23:59	CCB 120605EA I:PB O:EA	120605B6010	1.

Inorganic

APPL, INC.

Inorganic

Sample & QC Data

APPL, INC.

Wet Lab Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

Sample ID: WVMA-MRS01-SS-04-01

Sample Collection Date: 05/10/12

APPL ID: AY61125

ARF: 67746

Method	Analyte	Result	RL	MDL	Units	Prep Date	Analysis Date
EPA 9045D	PH	5.1@24.4C	NA		pH Units	05/14/12	05/14/12

Printed: 06/04/12 10:30:29 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

Sample ID: WVMA-MRS01-SS-04-02

Sample Collection Date: 05/10/12

APPL ID: AY61126

ARF: 67746

Method	Analyte	Result	RL	MDL	Units	Prep Date	Analysis Date
EPA 9045D	PH	4.4@24.3C	NA		pH Units	05/14/12	05/14/12

Printed: 06/04/12 10:30:29 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

Sample ID: WVMA-MRS01-AMB-SD-02

Sample Collection Date: 05/10/12

APPL ID: AY61128

ARF: 67746

Method	Analyte	Result	RL	MDL	Units	Prep Date	Analysis Date
EPA 9045D	PH	5.5@24.5C	NA		pH Units	05/14/12	05/14/12

Printed: 06/04/12 10:30:29 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

Sample ID: WVMA-MRS01-AMB-SS-04-04

Sample Collection Date: 05/10/12

APPL ID: AY61129

ARF: 67746

Method	Analyte	Result	RL	MDL	Units	Prep Date	Analysis Date
EPA 9045D	PH	5.1@24.5C	NA		pH Units	05/14/12	05/14/12

Printed: 06/04/12 10:30:29 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

Sample ID: WVMA-MRS01-SS-04-03

Sample Collection Date: 05/10/12

APPL ID: AY61130

ARF: 67746

Method	Analyte	Result	RL	MDL	Units	Prep Date	Analysis Date
EPA 9045D	PH	4.6@24.5C	NA		pH Units	05/14/12	05/14/12

Printed: 06/04/12 10:30:29 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

Sample ID: WVMA-MRS01-SS-04-05

Sample Collection Date: 05/10/12

APPL ID: AY61131

ARF: 67746

Method	Analyte	Result	RL	MDL	Units	Prep Date	Analysis Date
EPA 9045D	PH	4.6@24.2C	NA		pH Units	05/14/12	05/14/12

Printed: 06/04/12 10:30:29 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

Sample ID: WVMA-MRS01-SD-01

Sample Collection Date: 05/11/12

APPL ID: AY61133

ARF: 67746

Method	Analyte	Result	RL	MDL	Units	Prep Date	Analysis Date
EPA 9045D	PH	5.1@24.3C	NA		pH Units	05/14/12	05/14/12

Printed: 06/04/12 10:30:29 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

Sample ID: WVMA-MRS01-SD-03

Sample Collection Date: 05/11/12

APPL ID: AY61135

ARF: 67746

Method	Analyte	Result	RL	MDL	Units	Prep Date	Analysis Date
EPA 9045D	PH	5.2@24.7C	NA		pH Units	05/14/12	05/14/12

Printed: 06/04/12 10:30:29 AM

APPL-F1-SC-NoMC-REG MDLs

WETLAB

Sample/Sample Duplicate Results

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

Sample ID: AY61126
Client ID: WVMA-MRS01-SS-04-02

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

ARF: 67746

Method	Analyte	Sample ID	Sample Result	Sample Dup Result	RPD	RPD Max	MDL	PQL	Units	Sample Extract Date	Sample Analysis Date	Sample Dup Extract Date	Sample Dup Analysis Date
EPA 9045D	PH	AY61126	4.4@24.3C	4.5@24.2C	2.2	20		NA	pH Units	05/14/12	05/14/12	05/14/12	05/14/12

Printed: 06/04/12 10:30:19 AM

Dup-SCII (NoMC)

Inorganic

Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Eco & Associates, Inc.
ARF No: 67746 SDG: 67746
Initial Calibration Source: BDH
Continuing Calibration Source: BDH
Analysis Date: 05/14/12

Analyte	Calibration Verification									M
	True CCV1	Found 13:21	%R(1)	True CCV1	Found 13:53	%R(1)	True	Found	%R(1)	
pH	7	7.04	101	7	7.04	101				

(1) Control Limits: 99-101

ILM02.0

Inorganic

Raw Data

APPL, INC.

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Result	Temp	Unit	Batch	Initials
CCV 120514	2012-05-14 13:53:47 UTC-7	pH meas 2011	7.04 7.03	24.2	pH Units		mar
AY61135S01	2012-05-14 13:47:58 UTC-7	pH meas 2011	5.24 5.25	24.7	pH Units	120514A	mar
AY61133S01	2012-05-14 13:45:18 UTC-7	pH meas 2011	5.10 5.12	24.3	pH Units	120514A	mar
AY61131S01	2012-05-14 13:42:36 UTC-7	pH meas 2011	4.60 4.59	24.2	pH Units	120514A	mar
AY61130S01	2012-05-14 13:39:41 UTC-7	pH meas 2011	4.59 4.62	24.5	pH Units	120514A	mar
AY61129S01	2012-05-14 13:36:31 UTC-7	pH meas 2011	5.11 5.13	24.5	pH Units	120514A	mar
AY61128S01	2012-05-14 13:33:18 UTC-7	pH meas 2011	5.48 5.52	24.5	pH Units	120514A	mar
AY61126S01 DUP	2012-05-14 13:30:42 UTC-7	pH meas 2011	4.46 4.49	24.2	pH Units	120514A	mar
AY61126S01	2012-05-14 13:27:58 UTC-7	pH meas 2011	4.40 4.42	24.3	pH Units	120514A	mar
AY61125S01	2012-05-14 13:24:28 UTC-7	pH meas 2011	5.11 5.15	24.4	pH Units	120514A	mar
CCV 120514	2012-05-14 13:21:58 UTC-7	pH meas 2011	7.04 7.02	23.6	pH Units		mar

Wetlab Results

ARF: 67746

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

Attn: Mohammad Estiri

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
APPL ID: AY61125	-Client Sample ID: WVMA-MRS01-SS-04-01		-Sample Collection Date: 05/10/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	34.1	2.0	%	05/25/12	05/25/12
APPL ID: AY61126	-Client Sample ID: WVMA-MRS01-SS-04-02		-Sample Collection Date: 05/10/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	30.9	2.0	%	05/25/12	05/25/12
APPL ID: AY61128	-Client Sample ID: WVMA-MRS01-AMB-SD-02		-Sample Collection Date: 05/10/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	59.6	2.0	%	05/25/12	05/25/12
APPL ID: AY61129	-Client Sample ID: WVMA-MRS01-AMB-SS-04-04		-Sample Collection Date: 05/10/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	31.7	2.0	%	05/25/12	05/25/12
APPL ID: AY61130	-Client Sample ID: WVMA-MRS01-SS-04-03		-Sample Collection Date: 05/10/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	27.8	2.0	%	05/25/12	05/25/12
APPL ID: AY61131	-Client Sample ID: WVMA-MRS01-SS-04-05		-Sample Collection Date: 05/10/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	29.7	2.0	%	05/25/12	05/25/12
APPL ID: AY61133	-Client Sample ID: WVMA-MRS01-SD-01		-Sample Collection Date: 05/11/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	33.4	2.0	%	05/25/12	05/25/12
APPL ID: AY61135	-Client Sample ID: WVMA-MRS01-SD-03		-Sample Collection Date: 05/11/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	29.7	2.0	%	05/25/12	05/25/12
APPL ID: AY61136	-Client Sample ID: WVMA-MRS02-SS-24-01		-Sample Collection Date: 05/11/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	26.5	2.0	%	05/25/12	05/25/12
APPL ID: AY61137	-Client Sample ID: WVMA-MRS02-SS-24-02		-Sample Collection Date: 05/11/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	22.8	2.0	%	05/25/12	05/25/12
APPL ID: AY61138	-Client Sample ID: WVMA-MRS02-AMB-SS-24-03		-Sample Collection Date: 05/11/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	27.2	2.0	%	05/25/12	05/25/12
APPL ID: AY61139	-Client Sample ID: WVMA-MRS02-SS-24-04		-Sample Collection Date: 05/11/12		Project: 748073 WVMA-MRS01	
CLP MOIST	MOISTURE	24.8	2.0	%	05/25/12	05/25/12

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WETLAB

Sample/Sample Duplicate Results

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

Sample ID: AY61126
Client ID: WVMA-MRS01-SS-04-02

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Method	Analyte	Sample ID	Sample Result	Sample Dup Result	RPD	RPD Max	PQL	Units	Sample Extract Date	Sample Analysis Date	Sample Dup Extract Date	Sample Dup Analysis Date
CLP MOIS	MOISTURE	AY61126	30.9	30.0	3.0	20	2.0	%	05/25/12	05/25/12	05/25/12	05/25/12

Printed: 06/01/12 11:53:36 AM

WETLAB

Sample/Sample Duplicate Results

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

Sample ID: AY61133
Client ID: WVMA-MRS01-SD-01

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Method	Analyte	Sample ID	Sample Result	Sample Dup Result	RPD	RPD Max	PQL	Units	Sample Extract Date	Sample Analysis Date	Sample Dup Extract Date	Sample Dup Analysis Date
CLP MOIS	MOISTURE	AY61133	33.4	36.3	8.3	20	2.0	%	05/25/12	05/25/12	05/25/12	05/25/12

Printed: 06/01/12 11:53:36 AM

WETLAB

Sample/Sample Duplicate Results

Eco & Associates, Inc.
1855 W. Katella Ave., Suite 340
Orange, CA 92867

Sample ID: AY61137
Client ID: WVMA-MRS02-SS-24-02

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Attn: Mohammad Estiri

Project: 748073 WVMA-MRS01 & MRS02

ARF: 67746

Method	Analyte	Sample ID	Sample Result	Sample Dup Result	RPD	RPD Max	PQL	Units	Sample Extract Date	Sample Analysis Date	Sample Dup Extract Date	Sample Dup Analysis Date
CLP MOIS	MOISTURE	AY61137	22.8	22.6	0.9	20	2.0	%	05/25/12	05/25/12	05/25/12	05/25/12

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% Moisture

Batch: QCG 120525-M004214

Method: CLP 4.0

Date: 05/25/12 09:23

Sample	Container	Pan (g)	Pan+Wet (g)	Pan+Dry 1 (g)	Pan+Dry 2 (g)	Moisture (%)	Comments
AY61131	s02	0.8415 05/25/12 09:23	8.6925 05/25/12 09:24	6.3566 05/25/12 14:39	6.3578 05/25/12 15:44	29.738	AY61131S02
AY61130	s01	0.8372 05/25/12 09:22	7.0680 05/25/12 09:23	5.3367 05/25/12 14:39	5.3375 05/25/12 15:44	27.773	AY61130S01
AY61129	s02	0.8378 05/25/12 09:21	7.8679 05/25/12 09:22	5.6413 05/25/12 14:39	5.6427 05/25/12 15:44	31.652	AY61129S02
AY61128	s01	0.8314 05/25/12 09:20	7.6912 05/25/12 09:21	3.5992 05/25/12 14:39	3.5999 05/25/12 15:43	59.642	AY61128S01
AY61126D	s06	0.8358 05/25/12 09:19	6.8472 05/25/12 09:20	5.0410 05/25/12 14:39	5.0423 05/25/12 15:43	30.025	AY61126S06
AY61126	s06	0.8361 05/25/12 09:18	7.1510 05/25/12 09:18	5.1985 05/25/12 14:38	5.1995 05/25/12 15:43	30.903	AY61126S06
AY61125	s01	0.8316 05/25/12 09:17	6.9716 05/25/12 09:17	4.8770 05/25/12 14:38	4.8779 05/25/12 15:43	34.099	AY61125S01

Date/Time InOven@104°C	Date/Time OutOven@104°C	Date/Time InOven@104°C	Date/Time OutOven@104°C
05/25/12 9:24:00 AM	05/25/12 2:38:00 PM	05/25/12 2:39:00 PM	05/25/12 3:43:00 PM

% Moisture

Batch: QCG 120525-M004215

Method: CLP 4.0

Date: 05/25/12 09:28

Sample	Container	Pan (g)	Pan+Wet (g)	Pan+Dry 1 (g)	Pan+Dry 2 (g)	Moisture (%)	Comments
AY61136	s01	0.8419 05/25/12 09:28	7.9913 05/25/12 09:28	6.0930 05/25/12 14:41	6.0933 05/25/12 15:45	26.548	AY61136S01
AY61135	s02	0.8375 05/25/12 09:27	8.6097 05/25/12 09:28	6.3029 05/25/12 14:41	6.3026 05/25/12 15:45	29.684	AY61135S02
AY61133D	s01	0.8394 05/25/12 09:25	7.1043 05/25/12 09:26	4.8287 05/25/12 14:41	4.8290 05/25/12 15:45	36.318	AY61133S01
AY61133	s01	0.8351 05/25/12 09:24	7.1734 05/25/12 09:25	5.0557 05/25/12 14:40	5.0553 05/25/12 15:45	33.417	AY61133S01

Date/Time InOven@104°C	Date/Time OutOven@104°C	Date/Time InOven@104°C	Date/Time OutOven@104°C
05/25/12 9:28:00 AM	05/25/12 2:40:00 PM	05/25/12 2:41:00 PM	05/25/12 3:45:00 PM

% Moisture

Batch: QCG 120525-M004216

Method: CLP 4.0

Date: 05/25/12 09:31

Sample	Container	Pan (g)	Pan+Wet (g)	Pan+Dry 1 (g)	Pan+Dry 2 (g)	Moisture (%)	Comments
AY61139	s01	0.8443 05/25/12 09:31	7.4975 05/25/12 09:32	5.8504 05/25/12 14:42	5.8500 05/25/12 15:47	24.763	AY61139S01
AY61138	s02	0.8385 05/25/12 09:30	7.7551 05/25/12 09:31	5.8784 05/25/12 14:42	5.8769 05/25/12 15:46	27.155	AY61138S02
AY61137D	s06	0.8345 05/25/12 09:29	7.3752 05/25/12 09:30	5.8996 05/25/12 14:42	5.8984 05/25/12 15:46	22.579	AY61137S06
AY61137	s06	0.8366 05/25/12 09:29	7.7364 05/25/12 09:29	6.1635 05/25/12 14:42	6.1623 05/25/12 15:46	22.814	AY61137S06

Date/Time InOven@104°C	Date/Time OutOven@104°C	Date/Time InOven@104°C	Date/Time OutOven@104°C
05/25/12 9:32:00 AM	05/25/12 2:42:00 PM	05/25/12 2:43:00 PM	05/25/12 3:46:00 PM

Date	Initials	Balance	Weight	Reading	Lower Limit	Upper Limit	Comments / Is the Bubble Centered?
5-23-12	CK	Mettler AT200	0.5g	0.5000 g	0.4995	0.5005	Yes
		Mettler AT200	1g	1.0000 g	0.9990	1.0010	
		Mettler AT200	20g	20.0005 g	19.9800	20.0200	
		Mettler AT200	50g	50.0012 g	49.9500	50.0500	
		Mettler AT200	100g	100.0022 g	99.9000	100.1000	
		Mettler AT200	150g	150.0034 g	149.8500	150.1500	
		OHAUS ARC120	0.1g	0.10 g	0.08	0.12	
		OHAUS ARC120	0.5g	0.50 g	0.48	0.52	
		OHAUS ARC120	1g	1.00 g	0.98	1.02	
		OHAUS ARC120	100g	100.00 g	98.00	102.00	
		OHAUS ARC120	1kg	1000.03 g	980.00	1020.00	
		OHAUS ARC120	2kg	2000.00 g	1960.00	2040.00	
5-24-12	CK	Mettler AT200	0.5g	0.5000 g	0.4995	0.5005	Yes
		Mettler AT200	1g	1.0000 g	0.9990	1.0010	
		Mettler AT200	20g	20.0006 g	19.9800	20.0200	
		Mettler AT200	50g	50.0012 g	49.9500	50.0500	
		Mettler AT200	100g	100.0025 g	99.9000	100.1000	
		Mettler AT200	150g	150.0038 g	149.8500	150.1500	
		OHAUS ARC120	0.1g	0.10 g	0.08	0.12	
		OHAUS ARC120	0.5g	0.50 g	0.48	0.52	
		OHAUS ARC120	1g	1.00 g	0.98	1.02	
		OHAUS ARC120	100g	100.00 g	98.00	102.00	
		OHAUS ARC120	1kg	1000.01 g	980.00	1020.00	
		OHAUS ARC120	2kg	2000.00 g	1960.00	2040.00	
5-25-12	CK	Mettler AT200	0.5g	0.5000 g	0.4995	0.5005	Yes
		Mettler AT200	1g	1.0000 g	0.9990	1.0010	
		Mettler AT200	20g	20.0006 g	19.9800	20.0200	
		Mettler AT200	50g	50.0017 g	49.9500	50.0500	
		Mettler AT200	100g	100.0030 g	99.9000	100.1000	
		Mettler AT200	150g	150.0043 g	149.8500	150.1500	
		OHAUS ARC120	0.1g	0.10 g	0.08	0.12	
		OHAUS ARC120	0.5g	0.50 g	0.48	0.52	
		OHAUS ARC120	1g	1.00 g	0.98	1.02	
		OHAUS ARC120	100g	100.00 g	98.00	102.00	
		OHAUS ARC120	1kg	1000.00 g	980.00	1020.00	
		OHAUS ARC120	2kg	2000.00 g	1960.00	2040.00	
5-29-12	CK	Mettler AT200	0.5g	0.5000 g	0.4995	0.5005	Yes
		Mettler AT200	1g	1.0000 g	0.9990	1.0010	
		Mettler AT200	20g	20.0006 g	19.9800	20.0200	
		Mettler AT200	50g	50.0012 g	49.9500	50.0500	
		Mettler AT200	100g	100.0024 g	99.9000	100.1000	
		Mettler AT200	150g	150.0036 g	149.8500	150.1500	
		OHAUS ARC120	0.1g	0.10 g	0.08	0.12	
		OHAUS ARC120	0.5g	0.50 g	0.48	0.52	
		OHAUS ARC120	1g	1.00 g	0.98	1.02	
		OHAUS ARC120	100g	100.00 g	98.00	102.00	
		OHAUS ARC120	1kg	1000.01 g	980.00	1020.00	
		OHAUS ARC120	2kg	2000.01 g	1960.00	2040.00	

APPENDIX G

ANALYTICAL DATA QA/QC REPORT

DATA VALIDATION SUMMARY REPORT

for samples collected from the

DAILY INFILTRATION CAMP (MRS01)

West Virginia

Data Validation by: Tammy Chang

Date: June 18, 2012

Parsons - Austin

INTRODUCTION

The following data validation summary report covers soil, sediment and surface water samples and field quality control (QC) samples collected from Daily Infiltration Camp (MRS01), West Virginia on May 10 and 11, 2012. Samples were logged in under the following Sample Delivery Group (SDG):

67746

For MRS01, all soil and sediment samples were analyzed for explosives, metals, and pH. Surface water samples were analyzed for explosives and metals. Metals included aluminum, antimony, barium, chromium, copper, lead, magnesium, and zinc. QC samples included one field duplicate (FD) and one pair of matrix spike/matrix spike duplicate (MS/MSD) for each matrix. The following table details the field sample identification and requested parameters.

All samples were collected by Parsons and Eco & Associates, Inc. and were shipped to Agriculture and Priority Pollutants Laboratories, Inc. (APPL) in four coolers. These coolers were received by the laboratory at a temperature of 4.0°C which were all within the 2-6°C range recommended by the PSAP

All samples were prepared and analyzed following the procedures outlined in the Project Sampling and Analysis Plan and Addendum (PSAP) for the Southeast Region and the site specific Sampling and Analysis Plan.

All APPL method detection limits (MDLs) and practical quantitation limits (PQLs) were below the lowest associated action level for all target analytes.

SAMPLE IDs AND REQUESTED PARAMETERS

Sample ID	Matrix	Explosives & Metals	pH	Comments
WVMA-MRS01-SS-04-01	S	X	X	
WVMA-MRS01-SS-04-02	S	X	X	MS/MSD
WVMA-MRS01-AMB-SW-02	SW	X		ambient sample
WVMA-MRS01-AMB-SD-02	SD	X	X	ambient sample
WVMA-MRS01-AMB-SS-04-04	S	X	X	ambient sample
WVMA-MRS01-SS-04-03	S	X	X	
WVMA-MRS01-SS-04-05	S	X	X	FD of WVMA-MRS01-SS-04-03

Sample ID	Matrix	Explosives & Metals	pH	Comments
WVMA-MRS01-SW-01	SW	X		MS/MSD
WVMA-MRS01-SD-01	SD	X	X	MS/MSD
WVMA-MRS01-SW-03	SW	X		FD of WVMA-MRS01-SW-01
WVMA-MRS01-SD-03	SD	X	X	FD of WVMA-MRS01-SD-01

S = Soil; SW = surface water; SD = sediment;

EXTRACTION, ANALYTICAL, AND REPORTING DETAILS

PARAMETER	MATRIX	EXTRACTION METHOD	ANALYTICAL METHOD	UNITS	DRY WT. VS. WET WT
Explosives	S/SD	8330B	8330B	mg/kg	Dry Wt.
Explosives	W	3535	8330B	µg/L	NA
Metals	S/SD	3050B	6010B	mg/kg	Dry Wt.
Metals	W	3010A	6010B	µg/L	NA
pH	S/SD	NA	9045D	NA	NA

See the end of this report for detailed description of the sample preparation procedures.

EVALUATION CRITERIA

The data submitted by the laboratory has been reviewed and verified following the guidelines outlined in the Project Work Plan, site specific Sampling and Analysis Plan, and PSAP. Information reviewed in the data packages included sample results; field and laboratory quality control results; calibrations; case narratives; raw data; cooler receipt forms, and chain-of-custody (COC) forms. The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the Work Plan were met.

Due to the flagging requirements of the electronic data deliverable (EDD) software, Automatic Data Review (ADR), the following rules were applied for flagging the data:

If an analyte was detected in the method blank, the associated sample concentrations were examined. If the analyte was detected in a sample at a concentration similar to that found in the blank (five times the blank concentration for most analytes, or ten times the blank concentration for common laboratory contaminants), the PQL for that analyte was raised to the detected level and the result was flagged “U” for that particular sample.

Approval was also received from a USACE chemist for laboratory to use the historically developed control limits to evaluate accuracy for explosives. The approved accuracy and precision criteria for explosives are as follows:

Analyte	Accuracy Criteria for Soil & Sediment	Accuracy Criteria for Water	Maximum RPD (%)
HMX	75-125%	80-115%	30
RDX	70-135%	50-160%	30
1,3,5-Trinitrobenzene	75-125%	65-140%	30

1,3-Dinitrobenzene	80-125%	45-160%	30
Nitrobenzene	75-125%	50-140%	30
Tetryl	10-150%	20-175%	30
Nitroglycerin	68-131%	71-126%	30
2,4,6-Trinitrotoluene	55-140%	50-145%	30
4-Amino-2,6-dinitrotoluene	80-125%	55-155%	30
2-Amino-4,6-dinitrotoluene	80-125%	50-155%	30
2,4-Dinitrotoluene	80-125%	60-135%	30
2,6-Dinitrotoluene	80-120%	60-135%	30
3-Nitrotoluene	75-120%	50-130%	30
PETN	69-132%	65-115%	30
2-Nitrotoluene	80-125%	45-135%	30
4-Nitrotoluene	75-125%	50-130%	30
1,2-Dinitrobenzene (Surrogate)	70-130%	70-130%	NA

For metals, the accuracy criteria for the laboratory control sample (LCS), MS, and MSD are 80-120%.

The precision requirement for parent and FD is relative percent difference (%RPD) ≤70% for soil and sediment and ≤40% for surface water.

EXPLOSIVES

General

The explosives portion of this SDG consisted of five (5) soil samples, three (3) sediment samples, and three (3) surface water samples. These samples were collected on May 10 and 11, 2012 and were analyzed for the full list of explosives as specified in the Work Plan.

The explosives analyses were performed according to the United States Environmental Protection Agency (USEPA) SW846 Method 8330B. These samples were analyzed following the procedures outlined in the laboratory Standard Operation Procedure (SOP) which was approved by USACE. All samples were prepared and analyzed within the holding time required by the method.

The explosives samples were extracted in three analytical batches (#120516W for surface water and #120524S and #120525S for sediment and soil). Samples were analyzed under two sets of single initial calibration (ICAL). Sample analyses were performed undiluted.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the three LCSs, three sets of MS/MSD, and the surrogate spikes.

All LCSs and surrogate spike recoveries were within acceptance criteria.

The only non-compliant MS/MSD result is 4-Amino-2,6-dinitrotoluene which was recovered at 78% in the MS and MSD of the soil pair and is 2% less than the lower control limit of 80%. The "J" flag applied by the lab to the parent sample result of WVMA-MRS01-SS-04-02 was removed by Parsons' data validator.

Precision

Precision was evaluated based on the %RPD of MS/MSD results and parent/FD results.

All %RPDs of the three pair of MS/MSD were compliant.

None of the target explosives were detected in all three pairs of parent and FD samples.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during sample preparation and sample analysis.

All samples in this SDG were analyzed following the COC and the analytical procedures described in the Work Plan. All samples were prepared and analyzed within the holding time required by the method and the Work Plan.

- All initial calibration criteria were met.
- All secondary source verification criteria were met.
- All initial calibration verification (ICV) criteria were met.
- All continuing calibration verification (CCV) criteria were met.
- The limits of detection (LODs) were verified quarterly according to the DoD Quality System Manual (QSM) version 4.2 requirements.
- All sample-specific MDL and PQL values were below the lowest associated action level as listed in the PSAP for this site with one exception. The PQL for 1,3-dinitrobenzene exceeded the lowest action level of 0.073 mg/kg at 0.40 mg/kg. However, the MDL for this compound was well below the action level at 0.003 mg/kg.

There were three method blanks associated with the explosives analyses in this SDG. All target explosives were non-detect in both method blanks.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All explosives results for the samples in this SDG were considered usable. The completeness for the explosives portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

METALS

General

The metals portion of this SDG consisted of five (5) soil, three (3) sediment, and three (3) surface water samples. All samples were collected on May 10 and 11, 2012. These samples were analyzed for aluminum, antimony, barium, chromium, copper, lead, magnesium, and zinc.

The metals analyses were performed using USEPA SW846 Method 6010B. All samples were analyzed following the procedures outlined in the Work Plan. All samples were prepared and analyzed within the holding time required by the method and the Work Plan.

All samples were digested in two batches (#120601A1 for soil and sediment, #120529A for surface water) and were analyzed under two sets of ICAL. All analyses were performed undiluted.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the two LCSs and three pairs of MS/MSDs.

All LCS recoveries were within acceptance criteria.

For the water pair, the only non-compliant %R in the MS/MSD analyses was zinc with an MS %R of 74.8% which was lower than the lower control limit of 80%. "J" flag was applied zinc in the parent sample.

For soil and sediment, results of MS/MSD analyses are listed below:

WVMA-MRS01-SD-01

Metals	MS, %R	MSD, %R	Criteria, %R
Aluminum	2700	3200	
Antimony	32	61	
Barium	280	280	
Chromium	(119)	123	80-120
Copper	(82)	124	
Lead	123	(108)	

Magnesium	(120)	(116)	
Zinc	133	133	

( ) indicates the %R was compliant.

It should be noted that the concentration of aluminum, barium, and magnesium were significantly greater than the spiked amount. "J" flags were applied to all parent sample results except magnesium.

WVMA-MRS01-SS-04-02

Metals	MS, %R	MSD, %R	Criteria, %R
Aluminum	0	0	
Antimony	48	46	
Barium	0	36	
Chromium	50	52	
Copper	46	46	80-120
Lead	46	(80)	
Magnesium	60	50	
Zinc	35	29	

( ) indicates the %R was compliant.

It should be noted that the concentration of aluminum, barium, and magnesium were significantly greater than the spiked amount. "J" flags were applied to all parent sample results.

Precision

Precision was evaluated based on the RPD of MS/MSD results and parent/FD results.

The %RPDs of all three pairs of MS/MSD were compliant.

WVMA-MRS01-SW-01

Metals	Parent, µg/L	FD, µg/L	%RPD	Criteria, %RPD
Aluminum	130	140	7.4	
Barium	23	23	0	≤40
Magnesium	1200	1200	0	

WVMA-MRS01-SD-01

Metals	Parent, mg/Kg	FD, mg/Kg	%RPD	Criteria, %RPD
Aluminum	8100	12000	39	
Barium	120	140	15	≤70
Chromium	12	21	55	
Copper	18	19	5.4	
Lead	13	17	27	
Magnesium	1500	2100	33	

Zinc	53	74	33	

WVMA-MRS01-SS-04-03

Metals	Parent, mg/Kg	FD, mg/Kg	%RPD	Criteria, %RPD
Aluminum	13000	12000	8.0	
Barium	120	110	8.7	
Chromium	15	16	6.5	
Copper	28	17	49	≤70
Lead	17	17	0	
Magnesium	1700	1600	6.1	
Zinc	54	54	0	

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating preservation and holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

All samples were analyzed following the COC and the analytical procedures described in the Work Plan. All samples were prepared and analyzed within the holding times required by the method.

- All instrument initial calibration criteria were met.
- All metals met criteria in the low-level check standards.
- All second source criteria were met. The ICV samples were prepared using a secondary source.
- All CCV criteria were met.
- All interference check (ICSA/ICSAB) criteria were met.
- For the water batch, the dilution test (DT) was applicable for magnesium only. The DT was performed with sample WVMA-MRS01-SW-01.

WVMA-MRS01-SW-01

Metals	%D	Criteria, %D
Magnesium	5.5	≤10

- The post digestion spike (PDS) was performed with sample WVMA-MRS01-SW-01:

WVMA-MRS01-SW-01

Metals	%D	Criteria, %D
Aluminum	90	75-125
Antimony	98	
Barium	96	
Chromium	103	
Copper	99	
Lead	99	
Magnesium	98	
Zinc	85	

- The soil/sediment DT was performed on sample WVMA-MRS01-SD-01. The DT was only applicable for aluminum, barium, chromium, copper, magnesium and lead, since no other metals were detected in the parent sample at a concentration of 50 times the MDL or greater. All metals except copper met criteria in the DT, as follow:

Metal	%D	Criteria
Aluminum	2.2	%D ≤ 10
Barium	5.6	
Chromium	0.96	
Copper	**33**	
Magnesium	0.16	
Lead	0.92	

- The post digestion spike (PDS) was performed on the same sample as the DT. The PDS was applicable for antimony, copper, and zinc only. All three metals met criteria in the PDS, as follows:

Metal	%R	Criteria
Antimony	80	75 – 125%
Copper	95	
Zinc	94	

- The LODs were verified quarterly according to the DoD QSM version 4.2 requirements.
- All sample-specific MDL and PQL values were below the lowest associated action level as listed in the PSAP for this site.
- There were two method blanks and several calibration blanks associated with the metals analyses in this SDG. All blanks were compliant.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All metal results for all samples in this SDG were considered usable. Therefore, the completeness for the metal portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

pH

General

The pH portion of this SDG consisted of five (5) soil and there (3) sediment samples. All samples were collected on May 10 and 11, 2012 and were tested for pH.

The pH analyses were performed using USEPA SW846 Method 9045D. All samples were analyzed following the procedures outlined in the Work Plan. All samples were tested on the same day when samples were delivered to the lab.

Accuracy

The pH meter was calibrated with pH 7.00 buffer standard solution.

Precision

Precision was evaluated based on parent and lab duplicate (LD) pH readings. Lab performed the lab duplicate with the soil sample WVMA-MRS01-SS-04-02. The lab control limit is %RPD ≤ 3%.

Parent Sample ID	pH, parent	pH, LD
WVMA-MRS01-SS-04-02	4.4	4.5

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan; and
- Evaluating preservation and holding times.

All soil and sediment samples in this SDG were analyzed following the COC and the analytical procedures described in the Work Plan. All calibration criteria were met.

- All calibration verification criteria were met.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All pH result for the soil and sediment samples in this SDG was considered usable. The completeness for the pH portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

COMPARABILITY

All data was generated using contract-specific standard methods and reported with known data quality, type of analysis, units, etc.

DATA USABILITY

The purpose of this data validation report is to ensure the integrity and reliability of analytical laboratory data. The data quality is evaluated based on precision, accuracy, representativeness, comparability, and completeness (PARCC) characteristics of the data. The laboratory quality control samples and evaluated criteria included lab duplicate, method blanks, laboratory control spike samples, and surrogates. The validated data indicated that the laboratory correctly performed the analyses. Based on the data quality assessment, none of the data were qualified as rejected.

All calculations were spot checked and verified. All data in this SDG are considered usable for the purposes of this project. All sample MDLs and PQLs met the requirements listed in the approved site specific Sampling and Analysis Plan except as previously noted in this report.

APPL Inc Non- Incremental Sampling Procedures for Soil

Sample Drying to a Constant Weight:

Place approximately 20-30 grams of the sample into a labeled plastic weigh boat (or tray). Dry soil samples at room temperature (or less) to a "constant weight" as described below:

Record the date / time and the weight of the tray plus sample in a laboratory log book. Leave soil samples overnight to dry on shelves in a dark room.

The following morning weigh the tray containing the sample and record the weight, date and time, and place the trays back in the rack. After one hour record the weight, date and time again.

If the weight is consistent with the previous weighing (within +/- 3%), then this step is complete. If the weight is still not constant, continue drying and subsequent weighing until a constant weight is achieved before proceeding to the next step.

SAMPLE SIEVING AND GRINDING

Crush the dried soil in the weigh boat using a mortar and pestle. Pass the sample through a #30 mesh screen sieve and into a clean, labeled weigh boat in order to eliminate rocks and sticks. Wash the sieve in between each sample with soap and water and rinse with acetone.

SAMPLE WEIGHING

Weigh 10 grams of sample from the weigh boat into a labeled and tared 4oz. glass jar. Record the weight to the nearest 0.01 grams on the extraction sheet.

One method blank and one LCS are prepared with every analytical batch of 20 samples, using clean commercial sand. The LCS is spiked after sieving and grinding. The blank and LCS are taken through the exact same procedures as field samples.

Matrix Spike / Matrix Spike Duplicates are included for every analytical batch of 20 samples, based on the client's project requirements.

SAMPLE EXTRACTION

Add the appropriate amount of the 8330 Soil Surrogate (See SOP HPL002 Standard and Spike Prep) for the Blank, the LCS, MSD/MSD and field samples.

Add the appropriate amount of the 8330 Spike Mix (See SOP HPL002 Standard and Spike Prep) for the LCS and MSD/MSD.

Add 20mL Acetonitrile to each jar containing the spiked /surrogated soil. Place jars on a mechanical shaker for at least 18 hours.

Allow the extracts to settle for 30 minutes and remove approximately 8mL of the extract and place in a labeled 8mL amber screw-cap vial. Centrifuge the vials for approximately 10 minutes. Store extracted samples in a refrigerator between 2°C and 6°C.

Using a digital auto pipettor, remove 0.4mL of the final extract and combine with 0.4mL of DI water in an injection vial. Store under refrigeration until analysis.

APPENDIX H

GEOGRAPHIC INFORMATION SYSTEMS DATA

THE ATTACHED CD ROM INCLUDES THE ENTIRE GEOGRAPHICAL INFORMATION SYSTEMS LAYER

APPENDIX I

GEOPHYSICAL DATA

THERE WAS NO GEOPHYSICAL INVESTIGATION FOR THIS SI EVALUATION

APPENDIX J

CONCEPTUAL SITE MODEL

CONCEPTUAL SITE MODEL – MUNITIONS AND EXPLOSIVES OF CONCERN

DAILEY INFILTRATION CAMP MRS, RANDOLPH COUNTY, WEST VIRGINIA

Subsite / Range	Acreage	Suspect Past DoD Activities	Potential MEC / Munitions Debris Present	MEC / Munitions Debris Found Since Closure	Previous Investigation / Clearance Actions	Post-DoD Land Use and Current Land Use	Potential Receptors	Potential Source and Receptor Interaction	SI Field Sampling / Qualitative Reconnaissance
DAILEY INFILTRATION CAMP	200	Small arms range (and potential grenade range)	Charge, demolition, block, ¼ lb, ½ lb, 1 lb Firing device, demolition, pull, M1 Cap, blasting, non-electric, M7 Fuse, blasting, time, M700 General small arms ammunition: Cartridge, .22 caliber Cartridge, .30 caliber (includes carbine) Cartridge, .38 caliber Cartridge, .45 caliber	No MEC or munitions debris were found during 2007 PA field visit. No MEC or munitions debris were found during the 2012 SI site visit.	2009 PA 2010 INPR May 2012 SI site visits. No documentation of site clearance was found for this site.	Owned by the U.S. Department of Agriculture and one private landowner, managed by the U.S. Forest Service as the Monongahela National Forest.	Commercial/Industrial workers (U.S. Forest Service employees), Recreational users (e.g., hikers and nearby residents), site visitors.	YES: Presence of potentially hazardous MEC is confirmed or suspected and site is accessible to receptors.	Approximately 4 miles of QR CRREL 7-point wheel soil sampling: 4 surface soil samples: WVMA-MRS01-SS-04-01 WVMA-MRS01-SS-04-02 WVMA-MRS01-SS-04-03 WVMA-MRS01-AMB-SS-04-04 Grab Samples: 2 surface water samples: WVMA-MRS01-SW-01 WVMA-MRS01-AMB-SW-02 2 sediment samples: WVMA-MRS01-SD-01 WVMA-MRS01-AMB-SD-02 Associated QC samples: WVMA-MRS01-SS-04-05 WVMA-MRS01-SW-03 WVMA-MRS01-SD-03

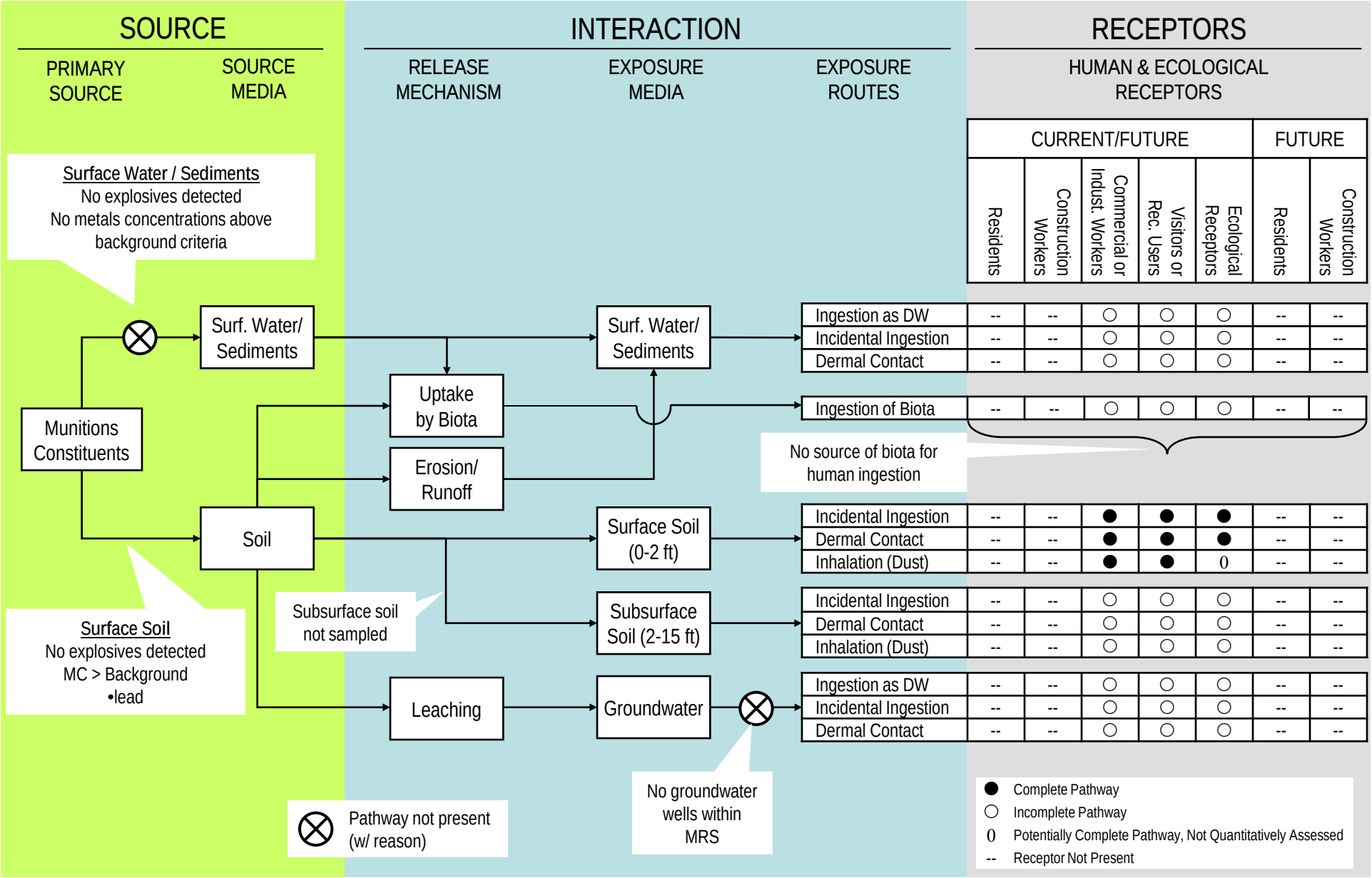
Source:
PA (2009)
INPR (2010)
SI (2012)

CRREL = Cold Regions Research and Engineering Laboratory
DoD = Department of Defense
MEC = munitions and explosives of concern
MRS = Munitions Response Site
PA = Preliminary Assessment
QR = qualitative reconnaissance
SD = sediment
SI = Site Investigation
SS = surface soil
SW = surface water

CONCEPTUAL SITE EXPOSURE MODEL

MRS Name: WEST VIRGINIA MANEUVER AREA: Dailey Infiltration Camp MRS

Created/Revised By: Emily Baxter, PARSONS ***Last Revision Date:*** July 9, 2013



APPENDIX K

MUNITIONS RESPONSE SITE PRIORITIZATION PROTOCOL EVALUATION

Table A
MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from DoD databases, such as RMIS. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the MRS summary, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non-munitions related contaminants found at the MRS (e.g., benzene, trichloroethylene), and any potentially exposed human and ecological receptors. Include a map of the MRS, if one is available.

Munitions Response Site Name: Dailey Infiltration Camp

Component: U.S. Army Corps of Engineers (FUDS)

Installation/Property Name: WV Maneuver Area/Dolly Sods

Location (City, County, State): East Dailey, Randolph County, West Virginia

Site Name (RMIS ID)/Project Name (Project No.): Proj. No. G03WV001305/FFID WV39799F346000

Date Information Entered/Updated: 12 June 2013

Point of Contact (Name/Phone): Mr. Richard Meadows (304) 543-2755

Project Phase (check only one):

❑ PA	☑ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	☑ Sediment (human receptor)
☑ Surface soil	☑ Surface Water (ecological receptor)
☑ Sediment (ecological receptor)	☑ Surface Water (human receptor)

MRS Summary:

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM (by type of munition, if known) or munitions constituents (by type, if known) known or suspected to be present):
The Dailey Infiltration Camp MRS is located in Randolph County, West Virginia. The site is located approximately 7 miles south of the southwest corner of the WVMA FUDS, near the town of Dailey, West Virginia (2013 SI Report Figure 1.1). The total FUDS acreage is 2,180,367 acres including the 200-acre Dailey Infiltration Camp MRS. The infiltration camp was built by the 150th Engineering Combat Battalion and consisted of an obstacle course, small arms firing range and possible grenade range (although grenade use has never been confirmed) from 1943-1944 (2013 SI Report Section 2.3). The range is currently much the same as it was at the time of range operation, except for significant tree and underbrush growth; berms and foxholes are still visible. Based on historical information contained in the PA, the potential munitions used at the MRS include small arms ammunition (.22, .30, .38, and .45 caliber), ¼ lb, ½ lb, and 1 lb demolition blocks, electric and non-electric blasting caps, and blasting fuses (2013 SI Report Section 2.3).
Description of Pathways for Human and Ecological Receptors:
Exposure pathways for human and ecological receptors consist of direct contact with or ingestion of affected media and are considered complete. However, groundwater exposure pathways are considered incomplete due to a lack of groundwater wells within the MRS.
Description of Receptors (Human and Ecological): Human receptors include hunters and visitors in the area and local residents. Ecological receptors would include species expected to live in hilly, wooded areas of the Monongahela National Forest such as deer, rabbits, grouse, etc.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the score(s) that correspond with **all** munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ All UXO that are considered likely to function upon any interaction with exposed persons [e.g., submunitions, 40mm high-explosive (HE) grenades, white phosphorus (WP) munitions, high-explosive antitank (HEAT) munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions]. ◆ All hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ All UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ All DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ All UXO containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades). ◆ All DMM containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ All DMM containing a high explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ All UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor), that are deteriorated. ◆ Bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ All DMM containing a pyrotechnic fillers (i.e., red phosphorous), other than white phosphorous filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ All UXO that are practice munitions that are not associated with a sensitive fuze. ◆ All DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ All UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ All used munitions or DMM that are categorized as small arms ammunition [Physical evidence or historical evidence that no other types of munitions (e.g., grenades, subcaliber training rockets, demolition charges) were used or are present on the MRS is required for selection of this category.].	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	20

DIRECTIONS: Document any MRS-specific data used in selecting the ***Munitions Type*** classifications in the space provided.

Based on historical information, the potential munitions used at the site include small arms ammunition (.22, .30, .38, and .45 caliber), ¼ lb, ½ lb, and 1 lb demolition blocks, electric and non-electric blasting caps, and blasting fuses (2013 SI Report, Section 2.3 and Table 2.2).

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the score(s) that correspond with **all** sources of explosive hazard known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include: impact or target areas, associated buffer and safety zones, firing points, and live-fire maneuver areas.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used [There must be evidence that no other types of munitions (e.g., grenades) were used or are present to place an MRS into this category.].	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	10

DIRECTIONS: Document any MRS-specific data used in selecting the ***Source of Hazard*** classifications in the space provided.

The Dailey Infiltration Camp was used as a small arms range (and possible grenade range, although never confirmed) and obstacle course training facility during the operational period of the WVMA (2013 SI Report Section 2.3).

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the score(s) that correspond with **all** locations where munitions are located or suspected of being found at the MRS.

Note: The terms *surface, subsurface, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS ◆ Historical evidence (e.g., a confirmed incident report or accident report) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris, such fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability [There must be evidence that no other types of munitions (e.g., grenades) were used or are present at the MRS to place an MRS into this category.].	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	5

DIRECTIONS: Document any MRS-specific data used in selecting the ***Location of Munitions*** classifications in the space provided.

The former Dailey Infiltration Camp was used for small arms and obstacle course training (and possibly hand grenade training, although never confirmed). The historical photograph in the 2009 PA that shows troops crawling between puffs of smoke could indicate the use of simulated or smoke rounds at the MRS. However, the craters observed by the 2012 SVT indicate that demolition charges, firing devices, blasting caps, or blasting fuses may also have been used at the MRS (2013 SI Report, Subsection 6.1.4).

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to any explosive materiel. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	10

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ease of Access*** classification in the space provided.

The 2012 SVT encountered some barriers (fences and a locked gate) to control access to the Dailey Infiltration Camp MRS; however, these barrier are not monitored and are not used to prevent pedestrians from accessing the MRS and the National Forest (2013 SI Report, Subsection 6.1.4).

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the rule is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	5

DIRECTIONS: Document any MRS-specific data used in selecting the ***Status of Property*** classification in the space provided.

The land is currently owned by the USDA and managed by the USFS as part of the MNF (2013 SI Report, Subsection 2.4.1).

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications of population density and their descriptions. Determine the population density per square mile in the vicinity of the MRS and circle the score that corresponds with the associated population density.

Note: If an MRS is located in more than one county, use the largest population density value among the counties. If the MRS is within or borders a city or town, use the population density for the city or town, rather than that of the county.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	1

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Density*** classification in the space provided.

The 2010 U.S. census lists the population density of Randolph County at approximately 27 persons per square mile (2013 SI Report Subsection 2.2.5).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the population near the hazard. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the associated population near the known or suspected hazard.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	5

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Near Hazard*** classification in the space provided.

The SVT observed numerous inhabited structures within 2 miles of the MRS, mainly located within and surrounding the town of Dailey (2013 SI Report Subsection 2.2.5).

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures near the hazard and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the score(s) that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	5

DIRECTIONS: Document any MRS-specific data used in selecting the ***Types of Activities/Structures*** classifications in the space provided.

The SVT did not identify any inhabited structures within the MRS. However, the team observed numerous inhabited structures within two miles of the MRS, consisting of commercial buildings along Highway 219/250 and residential and agricultural buildings in and around the towns of Dailey and East Dailey (2013 SI Report Subsection 2.2.4).

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resource classifications at the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	3

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ecological and/or Cultural Resources*** classification in the space provided.

The MRS is located on property that is within the Monongahela National Forest and ecological resources are present. The Forest Service stated that no cultural resources other than U.S. Army use are present at the MRS (2013 SI Report Section 3.2).

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	20	30
Source of Hazard	Table 2	10	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	5	20
Ease of Access	Table 4	10	
Status of Property	Table 5	5	
Receptor Factor Data Elements			
Population Density	Table 6	1	14
Population Near Hazard	Table 7	5	
Types of Activities/ Structures	Table 8	5	
Ecological and /or Cultural Resources	Table 9	3	
EHE MODULE TOTAL			**64**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	D

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the score(s) that correspond to **all** CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, explosive configuration either UXO or damaged DMM	The CWM known or suspected of being present at the MRS is: ◆ Explosively configured CWM that are UXO (i.e., CWM/UXO). ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged, or nonexplosively configured CWM/DMM, or CWM not configured as a munition, that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS is: ◆ Nonexplosively configured CWM/DMM. ◆ Bulk CWM/DMM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS is CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ Only CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	0

DIRECTIONS: Document any MRS-specific data used in selecting the ***CWM Configuration*** classifications in the space provided.

Based on historical information, the potential munitions used at the site include small arms ammunition (.22, .30, .38, and .45 caliber), ¼ lb, ½ lb, and 1 lb demolition blocks, electric and non-electric blasting caps, and blasting fuses (Table 2.2). There is no evidence of CWM use; therefore, tables 12-19 are omitted.

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	0	0
Sources of CWM	Table 12		
Accessibility Factor Data Elements			
Location of CWM	Table 13		
Ease of Access	Table 14		
Status of Property	Table 15		
Receptor Factor Data Elements			
Population Density	Table 16		
Population Near Hazard	Table 17		
Types of Activities/ Structures	Table 18		
Ecological and /or Cultural Resources	Table 19		
CHE MODULE TOTAL			0

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (μg/L)	Comparison Value (μg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☐

Table 21 Comments: There are no known groundwater wells within the MRS. Therefore, the groundwater exposure pathway is incomplete at this MRS (2013 SI Report Subsection 5.2.2).

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (μg/L)	Comparison Value (μg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

Table 22 Comments: The maximum detected concentrations of metals (aluminum, antimony, barium, copper, lead, and magnesium) were detected below background concentrations. Therefore, surface water exposure pathways are incomplete for all receptors (2013 SI Report Section 5.3.3.5).

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

Table 23 Comments: All eight metals (aluminum, antimony, barium, chromium, copper, lead, magnesium, and zinc) were detected in the sediment samples collected from the MRS; however, the maximum detected concentrations of the metals did not exceed the selected background concentrations. Therefore, sediment exposure pathways are incomplete for all receptors (2013 SI Report, Section 5.3.3.5).

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (μg/L)	Comparison Value (μg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

Table 24 Comments: The maximum detected concentrations of metals (aluminum, antimony, barium, copper, lead, and magnesium) were detected below background concentrations. Therefore, surface water exposure pathways are incomplete for all receptors (2013 SI Report Section 5.3.3.5).

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

Table 25 Comments: All eight metals (aluminum, antimony, barium, chromium, copper, lead, magnesium, and zinc) were detected in the sediment samples collected from the MRS; however, the maximum detected concentrations of the metals did not exceed the selected background concentrations. Therefore, sediment exposure pathways are incomplete for all receptors (2013 SI Report, Section 5.3.3.5).

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio
Lead	99	400	0.25
CHF Scale	**CHF Value**	**Sum the Ratios**	**0.25**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		L

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	M

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	H

No Known or Suspected Surface Soil MC Hazard ❑

Table 26 Comments: The surface soil exposure pathway is considered complete for all receptors at the MRS. Lead was detected at levels exceeding its respective background concentration (2012 SI Report, Subchapter 5.3.5).

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28

Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value	Three-Letter Combination (Hs-Ms-Ls)	Media Rating (A-G)
Groundwater (Table 21)					
Surface Water/Human Endpoint (Table 22)					
Sediment/Human Endpoint (Table 23)					
Surface Water/Ecological Endpoint (Table 24)					
Sediment/Ecological Endpoint (Table 25)					
Surface Soil (Table 26)	L	M	H	HML	D

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	*No Longer Required*

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	C
HML	D
MMM	D
HLL	E
MML	E
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		*No Longer Required*	
No Known or Suspected Explosive Hazard		*No Known or Suspected CWM Hazard*		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				*5*	

APPENDIX L

REFERENCE COPIES

NOTE:

Selected pages from reference documents have been included in the hard copy of the Site Inspection Report. An electronic version containing full documents is on the CD-ROM included with this report.

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
P.O. BOX 59
LOUISVILLE, KY 40201-0059

http://www.lrl.usace.army.mil/

CELRL-ED-E

DEC 1 2010

MEMORANDUM FOR Commander, Great Lakes and Ohio River Division, ATTN: CELRD-PDM/Patty Bertsch, 550 Main Street, Rm. 10032, Cincinnati, Ohio 45202-3222

SUBJECT: Defense Environmental Restoration Program – Formerly Used Defense Sites (DERP-FUDS) Inventory Project Report (INPR) for Property No. G03WV0013, WV Maneuver Area/Dolly Sods, Davis, West Virginia

1. Reference ER 200-3-1, Environmental Quality, Formerly Used Defense Sites (FUDS) Program Policy, Department of the Army, U.S. Army Corps of Engineers, Washington, D.C., 20314, 10 May 2004.

2. This memorandum transmits the INPR for the subject DERP-FUDS property. This INPR requests after-the-fact approval for one existing Military Munitions Response Program (MMRP) project and proposes seven new MMRP projects.

3. Office of Counsel, Real Estate, and the Environmental and Munitions Center of Expertise (EM CX) have reviewed this INPR and concur that the property was formerly used by the Department of Defense (DoD) and that the projects described in paragraph 5 below are appropriate.

4. A Property Survey Summary Sheet including property maps and photographs is included at Enclosure 1. The revised FDE, dated 7 January 1992, is included at Enclosure 2. The property had an original FDE, dated 21 May 1990, but was subsequently revised to clarify the eligibility of Blackbird Knob. The revised FDE indicates a Property Number of G03WV0065 which is a duplicate of G03WV0013. The INPR checklist is included at Enclosure 3. The Executive Summary of the WV Maneuver Area/Dolly Sods Preliminary Assessment is included at Enclosure 4.

5. The following is a summary of the existing and proposed projects at the subject property:

a. **G03WV001304 (MMRP)** – *Dolly Sods Removal.* This existing MMRP project was approved on 25 May 1990 to address munitions-related contamination at an area of the property known as the Dolly Sods Region. While it was approved as MMRP project G03WV006500, all funding has been recorded under MMRP project G03WV001304. Consequently, this INPR seeks after-the-fact approval of this on-going MMRP project. The Dolly Sods Region consists of approximately 18,000 acres located in the northwest portion of the WV Maneuver Area/Dolly Sods property. Project 04 has transitioned to the Long-Term Management (LTM) phase. An Archives Search Report (ASR), Engineering Evaluation and Cost Analysis (EE/CA), Remedial Investigation/Feasibility Study (RI/FS), and a Munitions and Explosives of Concern (MEC)

FORMER WV MANEUVER AREA/DOLLY SODS
GRANT, PRESTON, PENDLETON, TUCKER AND RANDOLPH COUNTIES, WEST VIRGINIA
FUDS Property Number G03WV0013

PRELIMINARY ASSESSMENT

VOLUME I
REPORT AND APPENDICES A - K

Final Version

Prepared by
U.S. Army Corps of Engineers
Huntington, WV District
502 8th Street
Huntington, WV 25701-2070

February 2009

From:	Johnson, Lauren
To:	ssaunders@ecoinc.info
Subject:	FW: Monongahela NF maneuver area sites
Date:	Wednesday, July 27, 2011 2:46:49 PM

From: Johnson, Lauren
Sent: Monday, July 25, 2011 2:31 PM
To: 'Carlos Hernandez'; 'Opjit Ghuman'
Cc: Kelley, Laura; Cosyleon, Gabriel
Subject: FW: Monongahela NF maneuver area sites

Carlos and Opjit,

This is an email from Eric Sandeno with the Forest Service regarding three of the MRSs, and whether they have any archeological information on these sites.

Lauren.

Hi Lauren

I reviewed three locations with our Forest Archaeologist (Dailey Infiltration Site, Jenningston Training Area, Fore Knobs).

Dailey Infiltration Site - other than US Army use, no other Cultural Resource issues have been indicated at this location. It had a full Cultural Resource survey completed in 1989.

Jenninston Training Area - Based on our discussion on Thursday, much of the area was removed from study, other than the cave/sinkhole area. The Archeologist has been to this site and has no concerns for cultural resources. Our Cave and Karst Manager has the exact location and will provide me information, which I will forward to you.

Fore Knobs - As this is basically an extension of the Dolly Sods site, he has reviewed the location for cultural resource issues and has none.

If you have any questions, please let me know.

ERIC SANDENO
Recreation/Wilderness Program Manager
Monongahela National Forest
200 Sycamore Street
Elkins, West Virginia 26241
Region 9 Recreation Accessibility Coordinator
304-636-1800, ext 280

MRS01 Daily
Beverly, WV 26253

Inquiry Number: 3360517.1w
July 10, 2012

EDR DataMap™ Well Search Report

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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GEOCHECK VERSION 2.1
SUMMARY

FEDERAL DATABASE WELL INFORMATION

MAP ID	WELL ID
2	USGS2246585
3	USGS2246584
4	USGS2246581
4	USGS2246582
5	USGS2246579
6	USGS2246574
7	USGS2246575
8	USGS2246571
9	USGS2246572
10	USGS2246568
11	USGS2246790
12	USGS2246787
13	USGS2246788
14	USGS2246784
15	USGS2246783
16	USGS2246780
17	USGS2246781
18	USGS2246775
19	USGS2246769
20	USGS2246767
21	USGS2246762
22	USGS2246752
23	USGS2246750
24	USGS2246749
25	USGS2246747
25	USGS2246746
25	USGS2246745
27	USGS2246744
28	USGS2246743

STATE WATER WELL INFORMATION

MAP ID	WELL ID
NO WELLS FOUND	

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID
1	WVOG80000062967
2	WVOG80000060084
3	WVOG80000065408
4	WVOG80000002663
5	WVOG80000002662
6	WVOG80000002664
7	WVOG80000100861
8	WVOG80000052875
9	WVOG80000090082
10	WVOG80000033502

GEOCHECK VERSION 2.1
SUMMARY

PUBLIC WATER SUPPLY SYSTEM INFORMATION

Map ID: 1
PWS ID: WV3304202
PWS Name: COMMUNITY OF BEVERLY
PO BOX 279
BEVERLY, WV 26253
PWS currently has or had major violation(s) or enforcement:

PUBLIC WATER SUPPLY SYSTEM INFORMATION

Map ID: 26
PWS ID: WV3304211
PWS Name: HUTTONSVILLE PSD
PO BOX 277
PO BOX 277
MILL CREEK, WV 26280
PWS currently has or had major violation(s) or enforcement:

Map ID: 29
PWS ID: WV3304209
PWS Name: COMMUNITY OF MILL CREEK
PO BOX 128
PO BOX 128
MILL CREEK, WV 26280
PWS currently has or had major violation(s) or enforcement:

USGS TOPOGRAPHIC MAP(S)

38079-F7 WILDELL, WV
38079-F8 MILL CREEK, WV
38079-G7 BEVERLY EAST, WV
38079-G8 BEVERLY WEST, WV

AREA RADON INFORMATION

EPA Region 3 Statistical Summary Readings for Zip Code: 26253

Number of sites tested: 28.

Maximum Radon Level: 10.0 pCi/L.
Minimum Radon Level: 0.4 pCi/L.

pCi/L <4	pCi/L 4-10	pCi/L 10-20	pCi/L 20-50	pCi/L 50-100	pCi/L >100
21 (75.00%)	5 (17.86%)	2 (7.14%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

EPA Region 3 Statistical Summary Readings for Zip Code: 26278

Number of sites tested: 6.

Maximum Radon Level: 4.1 pCi/L.
Minimum Radon Level: 0.4 pCi/L.

pCi/L <4	pCi/L 4-10	pCi/L 10-20	pCi/L 20-50	pCi/L 50-100	pCi/L >100
4 (66.67%)	2 (33.33%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

GEOCHECK VERSION 2.1
SUMMARY

AREA RADON INFORMATION

EPA Region 3 Statistical Summary Readings for Zip Code: 26293

Number of sites tested: 15.

Maximum Radon Level: 2.0 pCi/L.
Minimum Radon Level: 0.8 pCi/L.

pCi/L <4	pCi/L 4-10	pCi/L 10-20	pCi/L 20-50	pCi/L 50-100	pCi/L >100
15 (100.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

EPA Region 3 Statistical Summary Readings for Zip Code: 26280

Number of sites tested: 12.

Maximum Radon Level: 3.9 pCi/L.
Minimum Radon Level: 0.6 pCi/L.

pCi/L <4	pCi/L 4-10	pCi/L 10-20	pCi/L 20-50	pCi/L 50-100	pCi/L >100
12 (100.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

Federal Area Radon Information for RANDOLPH COUNTY, WV

Number of sites tested: 16

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	2.013 pCi/L	94%	6%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	3.525 pCi/L	75%	25%	0%

Received
Sep 2, 2011
sc

WEST VIRGINIA
Division of Culture and History

The Culture Center
1900 Kanawha Blvd., E.
Charleston, WV 25305-0300
Randall Reid-Smith, Commissioner
Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562
EEO/AA Employer

August 29, 2011

Mr. Gabriel Cosyleon
Senior Scientist
Parsons
1700 Broadway
Suite 900
Denver, CO 80290

RE: Army National Guard Munitions Response Sites – Proposed Site Inspections
FR#: 11-990-Multi

Dear Mr. Cosyleon:

We have reviewed the information submitted for the above referenced project. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

According to the submitted information, Parsons is performing site inspections (SI) for the Department of Defense (DoD) under the US Army Corps of Engineers (COE) for the Formerly Used Defense Sites (FUDS) Military Munitions Response Program (MMRP). The sites are part of the former West Virginia Maneuver Area/Dolly Sods FUDS. The Munitions Response Sites (MRS) include: MRS01 – Dailey Infiltration Camp; MRS02 – WV Maneuver Area Ammunition Depot; MRS03 – Jenningston Training Area; MRS04 - Fore Knobs/Bear Rocks Firing Range; MRS05 – Beardon Know Firing Range; MRS06 – Brown/Cabin Mountain Firing Ranges; and MRS07 – Buena Small Arms Firing Ranges.

A search of our records indicates that archaeological resources have been recorded across the landscape within the general vicinity of the proposed project areas. However, it is our understanding that the project consists of taking samples from the ground that are a half-inch in diameter and zero to two inches in depth. It is also our understanding that no construction, auguring or trenching is proposed for this project, which will result in minimal or no new disturbance. As a result, we are of the opinion that the proposed project will have no adverse effect to any archaeological resources that are eligible for or listed in the National Register of Historic Places. No further consultation is necessary.

We appreciate the opportunity to be of service. *If you have any questions regarding our comments or the Section 106 Process, please contact Lora A. Lamarre-DeMott, Senior Archaeologist, at 304-558-0220*

Sincerely,

Susan M. Pierce

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/LAL

PROPERTY VISIT PHOTOGRAPHS

Former West Virginia Maneuver Area Preliminary Assessment (G03WV001304)
US Army Corps of Engineers, Huntington District, Environmental and Remediation Section

Photographer:
Nick McHenry

Photo Number:
M9

Direction:
South

Comments:
View of former location of a refrigerator building that housed the main Quarter Master supply point during the WVMA.

Date:
September 12, 2007

Photographer:
Nick McHenry

Photo Number:
M10

Direction:
West

Comments:
View of residences located to the west of the former Dailey Infiltration Camp.

Date:
September 12, 2007

PROPERTY VISIT PHOTOGRAPHS

Former West Virginia Maneuver Area Preliminary Assessment (G03WV001304)
US Army Corps of Engineers, Huntington District, Environmental and Remediation Section

Photographer:
Nick McHenry

Photo Number:
M11

Direction:
East

Comments:
View of a berm located at the Dailey Infiltration Camp.

Date:
September 12, 2007

Photographer:
Nick McHenry

Photo Number:
M12

Direction:
Southeast

Comments:
View of a berm that is located within the Dailey Infiltration Camp.

Date:
September 12, 2007

PROPERTY VISIT PHOTOGRAPHS

Former West Virginia Maneuver Area Preliminary Assessment (G03WV001304)
US Army Corps of Engineers, Huntington District, Environmental and Remediation Section

Photographer:
Nick McHenry

Photo Number:
M13

Direction:

Comments:
View of mounded "foxhole" located at the Dailey Infiltration Camp.

Date:
September 12, 2007

Photographer:
Nick McHenry

Photo Number:
M14

Direction:

Comments:
View of mounded "foxhole" located at the Dailey Infiltration Camp.

Date:
September 12, 2007

PROPERTY VISIT PHOTOGRAPHS

Former West Virginia Maneuver Area Preliminary Assessment (G03WV001304)
US Army Corps of Engineers, Huntington District, Environmental and Remediation Section

Photographer:
Nick McHenry

Photo Number:
M15

Direction:
West

Comments:
View of trench located at the Dailey Infiltration Camp.

Date:
September 12, 2007

Photographer:
Nick McHenry

Photo Number:
M16

Direction:
West

Comments:
View of mounded "foxhole" located at the Dailey Infiltration Camp.

Date:
September 12, 2007

PROPERTY VISIT PHOTOGRAPHS

Former West Virginia Maneuver Area Preliminary Assessment (G03WV001304)
US Army Corps of Engineers, Huntington District, Environmental and Remediation Section

Photographer:
Nick McHenry

Photo Number:
M17

Direction:
Unknown

Comments:
View of metal at the Dailey Infiltration Camp that had been shot.

Date:
September 12, 2007

Photographer:
Nick McHenry

Photo Number:
M18

Direction:
Unknown

Comments:
View of terracotta pipe found at the Dailey Infiltration Camp.

Date:
September 12, 2007

PROPERTY VISIT PHOTOGRAPHS

Former West Virginia Maneuver Area Preliminary Assessment (G03WV001304)
US Army Corps of Engineers, Huntington District, Environmental and Remediation Section

Photographer:
Nick McHenry

Photo Number:
M19

Direction:
Northeast

Comments:
View of mounded "foxhole" located at the Dailey Infiltration Camp.

Date:
September 12, 2007

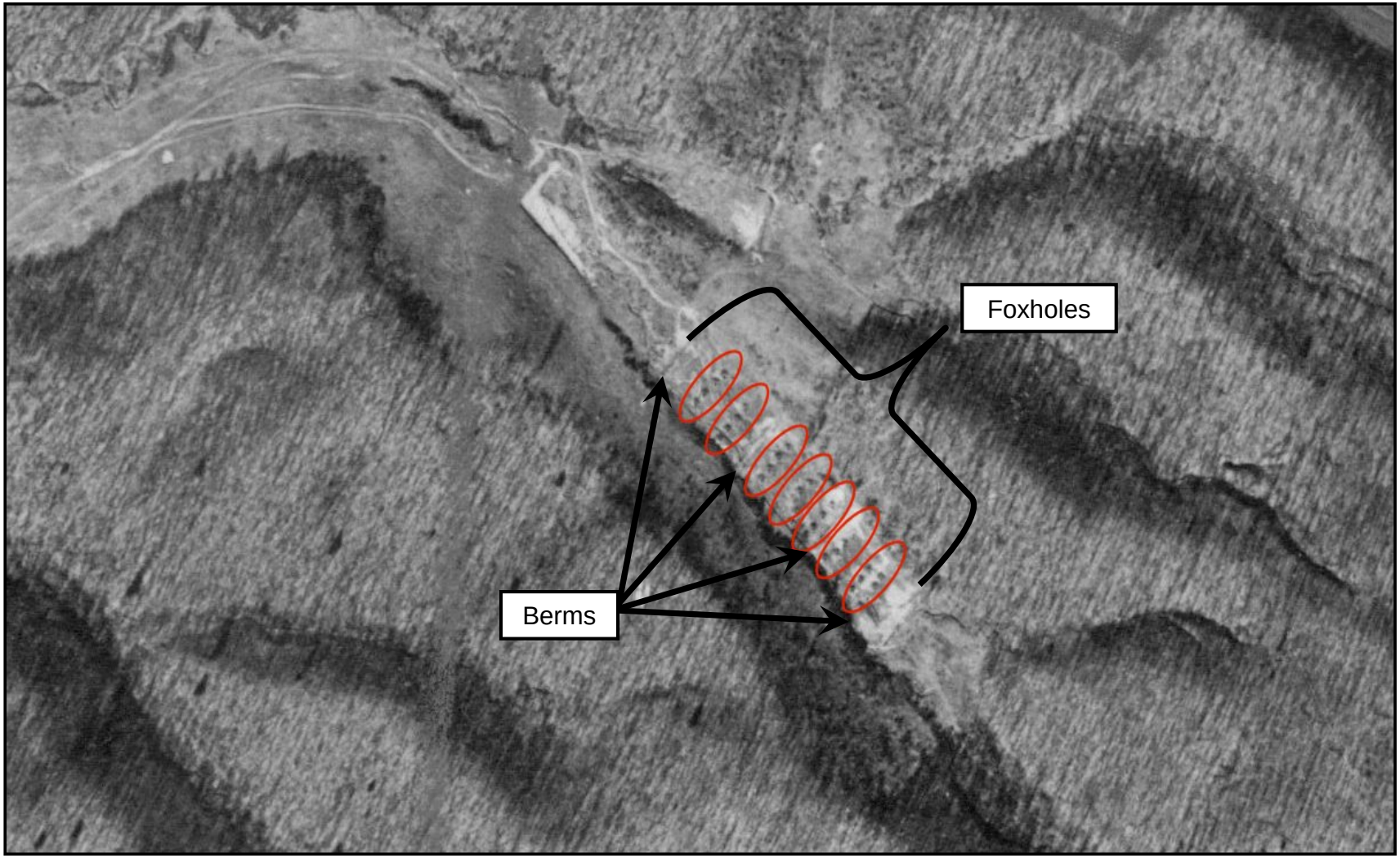
Photographer:
Nick McHenry

Photo Number:
M20

Direction:
North

Comments:
View of area where the 150th Engineering Combat Force had an encampment in Kerens, WV.

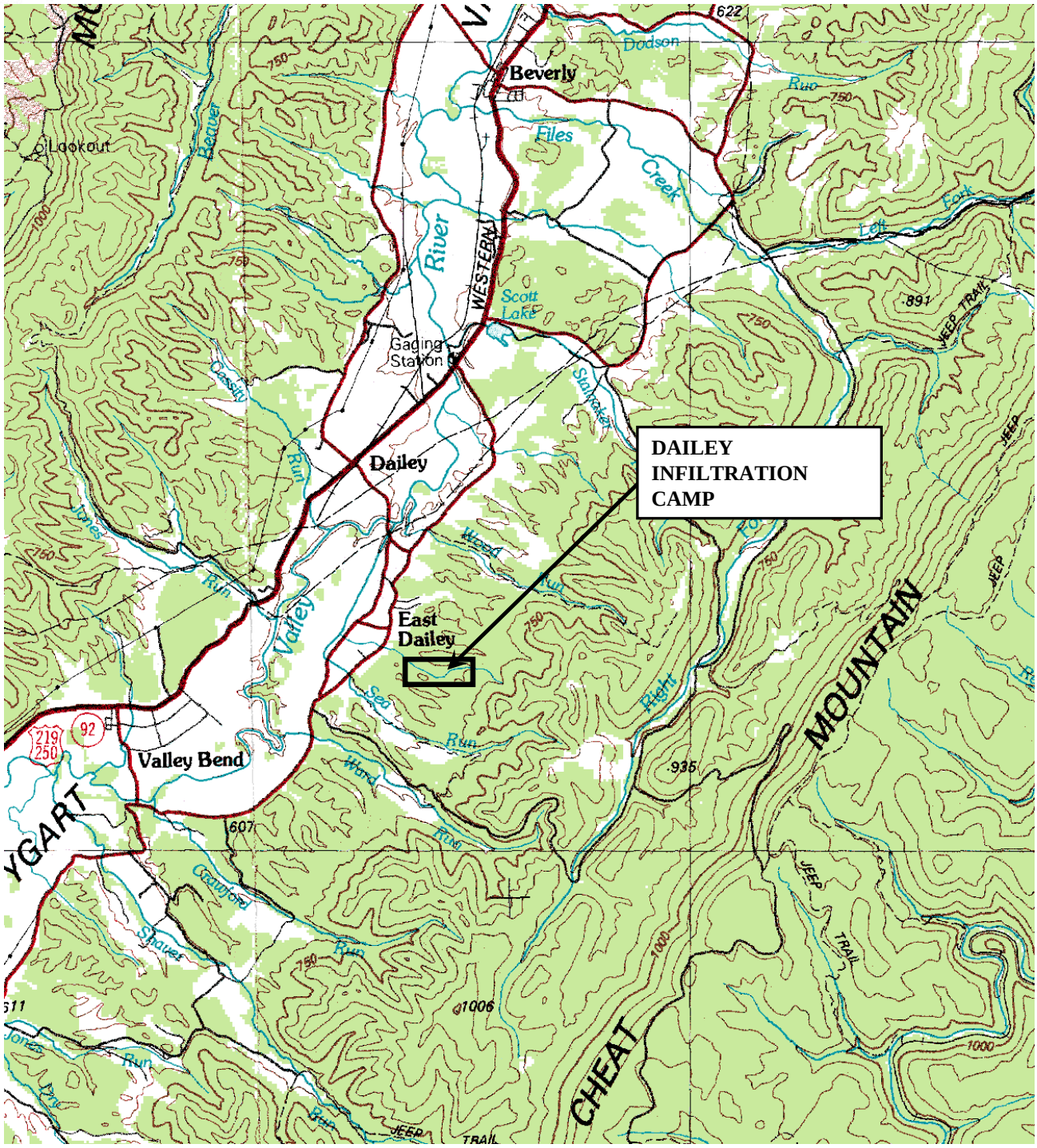
Date:
September 12, 2007



US Army Corps of Engineers®

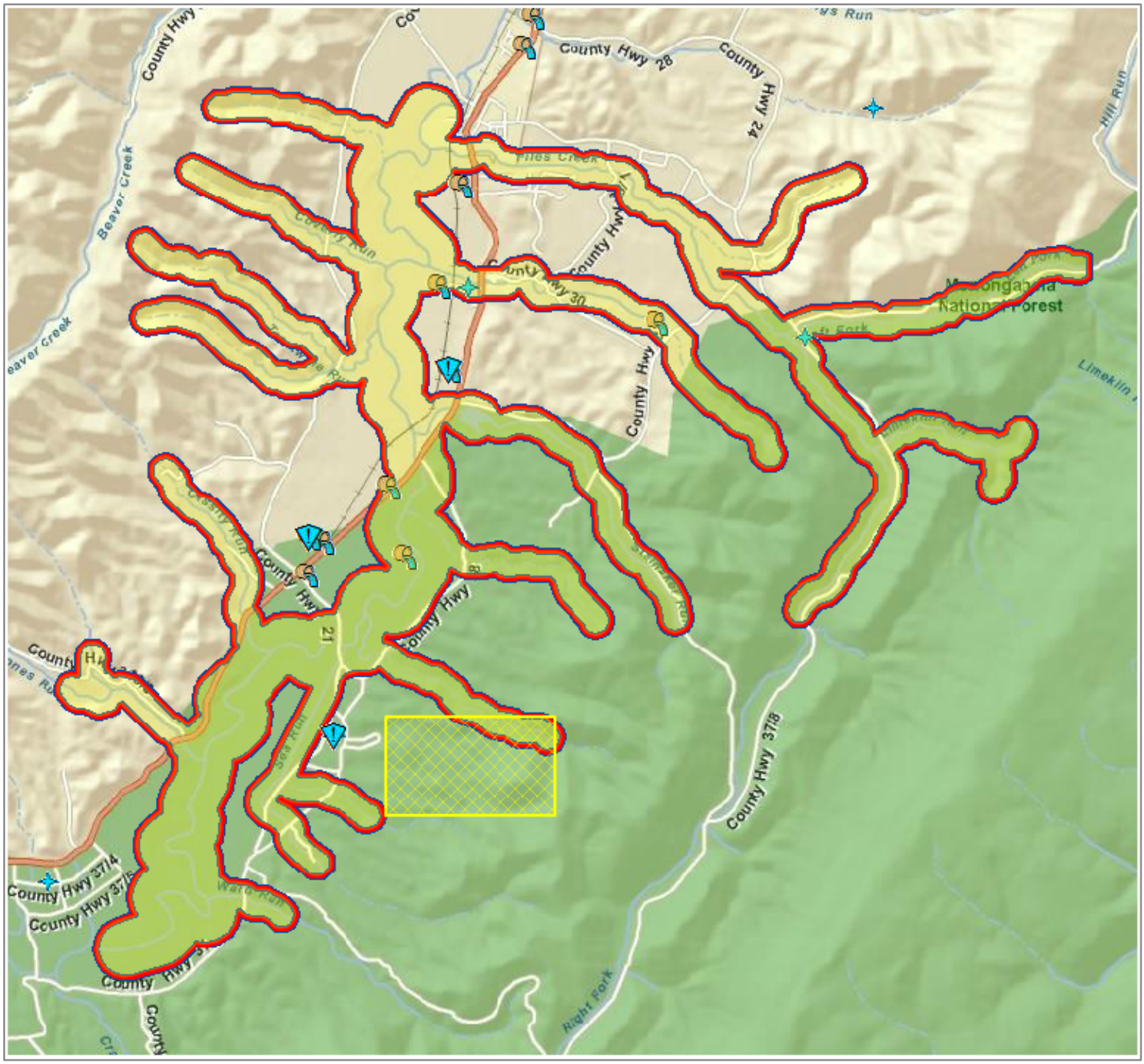
U. S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
ENVIRONMENTAL & REMEDIATION SECTION

Infiltration Camp (Dailey)
Plate 12
Former West Virginia Maneuver Area
Preliminary Assessment



US Army Corps of Engineers	U. S. ARMY CORPS OF ENGINEERS HUNTINGTON DISTRICT ENVIRONMENTAL & REMEDIATION SECTION	Dailey Infiltration Camp Proposed Project Location Plate 34 Former WVMA Impact Area Preliminary Assessment

MRS01 Dailey Infiltration Camp



N

4 km

2 mi

Map Created by WV GIS Technical Center on Wed Aug 22 2012

User Comments:

Note: Approximate location of MRS is shown by cross-hatched area.

Protection Areas

- Zone of Critical Concern
- Wellhead Protection Areas
- Secondary Wellhead Protection Areas

EPA Layers

- NPDES
- EPA Super Fund
- RCRA
- Toxic Release Inventory

DEP Layers

- Marcellus Wells - Permitted
- Marcellus Wells - Completed
- Marcellus Wells - Cancelled
- Abandoned Mine Site
- Solid Waste Facility
- Coal Dam
- Coal Permit Boundary
- DEP Oil & Gas Wells

Disclaimer:

This map is provided as a public service by the West Virginia Bureau for Public Health. The Bureau makes NO representation regarding completeness or accuracy of the data hereon. Efforts are made to verify and update the data used to generate this map. However, with data sets of this size and nature, eliminating all errors is difficult. Thus, the user assumes total responsibility for verification.

West Virginia Department of Health & Human Resources