U.S. Army Garrison
Fort Monmouth, New Jersey

Underground Storage Tank Report

Pine Brook Housing – Bldg. 3015

NJDEP UST Registration No. 192486-26

June 2011

UNDERGROUND STORAGE TANK CLOSURE AND REMEDIAL INVESTIGATION REPORT

MAIN POST WEST – BLDG. 3015
NJDEP UST REGISTRATION NO.: 192486-26

JUNE 2011

PREPARED FOR:

U.S. ARMY GARRISON, FORT MONMOUTH, NJ
DIRECTORATE OF PUBLIC WORKS
BUILDING 173
FORT MONMOUTH, NJ 07703

PREPARED BY:

TECOM-VINNELL SERVICES, INC.
P.O. BOX 60
FT. MONMOUTH, NJ 07703

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

FIGURES

TABLES

APPENDICES

EXECUTIVE SUMMARY

On February 9, 2009, one regulated underground storage tank (UST) was closed by removal in accordance with the Directorate of Public Works (DPW) UST Management Plan for the U.S. Army Garrison, Fort Monmouth, New Jersey. The UST was located next to Building 3015 in the Pine Brook Housing area of Fort Monmouth. UST No. 192486-26 was a 10,000-gallon, single-walled steel tank that had been previously abandoned in place in November 1989. The fill port and supply and return lines were not present in the excavation.

The site assessment was performed by TECOM-Vinnell Services (TVS) personnel in accordance with the New Jersey Department of Environmental Protection (NJDEP) *Technical Requirements for Site Remediation* (TRSR) and the NJDEP *Field Sampling Procedures Manual*. Soils surrounding the tanks were screened visually and with a calibrated hand held Mini-Rae Photo-Ionization air monitoring instrument for evidence of contamination. Following removal, the UST was inspected for holes. No holes or evidence of impacted soils were observed after the removal of the tank from the ground. After removing the UST and associated piping, post-excavation soil samples were collected. Samples 3015-A through 3015-H were collected from of eight (8) locations along the sidewalls, remote fill piping run and bottom of the excavation. All samples were analyzed for total petroleum hydrocarbons (TPH). Groundwater was encountered at approximately 5.5 feet below ground surface grade in the excavation.

All sampling was performed by a NJDEP Certified Subsurface Evaluator according to the methods described in the NJDEP *Field Sampling Procedures Manual* (August 2005). Sampling frequency and parameters analyzed complied with the NJDEP document *Technical Requirements for Site Remediation,* 7:26E-3.9 which was the applicable regulation at the date of the closure.

The post-excavation soil samples collected from the UST excavation associated with former UST No. 192486-26 contained TPH concentrations below the NJDEP health based criterion of 4,800 milligrams per kilogram (mg/kg) for total organic contaminants (N.J.A.C. 7:26E). None of the samples collected for post remedial confirmation were in excess of the additional analytical threshold of 1,000 ppm. The soil analytical data confirmed that no release had occurred from the excavated UST.

Based on the post-excavation soil sampling results, soils present is less than the NJDEP Residential Direct Contact Soil Clean up Standard (RDCSCS) for total organic compounds as diesel fuel/#2-home heating oil.

No further action is proposed in regard to the closure and site assessment of USTs No. 192486-26 at Building 3015.

1.0UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No 192486-26, was closed in the area of Bldg. 3015 located in Pine Brook Housing at U.S. Army Garrison, Fort Monmouth, New Jersey on February 9, 2009. Refer to the site location map included as Figure 1. This report presents the results of the implementation of the DPW's UST Management Plan, March, 1996. UST No. 192486-26 was a 10,000-gallon #2 home heating oil tank used for a fuel supply to a boiler plant for the several residential units.

Decommissioning activities for the USTs complied with all applicable federal, state and local laws and ordinances in effect at the date of decommissioning. These laws included, but were not limited to: N.J.A.C. *7:14B-1 et seq., N.J.A.C. 5:23-1 et seq.*, and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. The closure and subsurface evaluation of the UST was conducted by a NJDEP licensed US Army employee.

This UST Closure and Remedial Investigation Report (RIR) has been prepared by TVS to assist the US Army Garrison, Fort Monmouth's Directorate of Public Works (DPW) in complying with the NJDEP - Underground Storage Tanks regulations. The applicable NJDEP regulations at the date of closure were the *Closure of Underground Storage Tank Systems* (N.J.A.C. 7:14B-9 et seq. December 1987 and revisions dated May 19, 2003).

This RIR was prepared using information required by the Technical Requirements for Site Remediation (TRSR). Section 1 of this UST Closure and RIR provides a summary of the UST decommissioning activities. Section 2 of this report describes the site investigation activities. Conclusions and recommendations, including the results of the soil sampling investigation, are presented in Section 3 of this report.

1.2 SITE DESCRIPTION

Building 3015 is located in the Pine Brook Housing area of Fort Monmouth, as shown on Figure 1.. The UST was located to the east of Building 3015. The fill port and appurtenant piping were not encountered in the excavation. These items were removed when the tank was abandoned in place in 1989.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of Bldg. 3015. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Pine Brook Housing area.

Fort Monmouth lies within the Outer Coastal Plain subprovince of the New Jersey section of the Atlantic Coastal Plain physiographic province, which generally consists of a seaward-dipping wedge of unconsolidated sediments including interbedded clay, silt, sand, and gravel.

To the northwest is the boundary between the Outer and Inner Coastal Plains, marked by a line of hills extending southwest, from the Atlantic Highlands overlooking Sandy Hook Bay, to a point southeast of Freehold, New Jersey, and then across the state to the Delaware Bay. These formations of clay, silt, sand, and gravel formations were deposited on Precambrian and lower Paleozoic rocks and typically strike northeast-southwest, with a dip that ranges from 10 – 60 feet per mile. Coastal Plain sediments date from the Cretaceous through the Quaternary Periods and are predominantly derived from deltaic, shallow marine, and continental shelf environments.

The property is located within the outer fringe of the Atlantic Coastal Plain Physiographic Province, of New Jersey, approximately 20 miles south of Raritan Bay. This province is characterized by a wedge-shaped mass of unconsolidated to semi-consolidated marine, marginal marine and non-marine deposits of clay, silt, sand, and gravel. These sediments range in age from Cretaceous to Holocene and lie unconformably on pre-Cretaceous bedrock consisting of metamorphic schists and gneiss, with local occurrences of basalts, sandstone, and shale (Zapecza, 1984). These sediments trend northeast-southwest and dip southeast toward the Atlantic Ocean. These sediments thicken southeastward from the Piedmont-Coastal Plain Province boundary to approximately 4,500 feet near Atlantic City, New Jersey. During the Cretaceous and Tertiary time period, sediments were deposited alternately in flood plains and in marine environments during sea transgression and sea regression periods. The formations record several major transgressive/regressive cycles and contain units that are generally thicker to the southeast and reflect a deeper water environment.

Over 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations).

Regressive upward coarsening deposits, such as Englishtown and Kirkwood Formations and the Cohansey Sand are usually aquifers, while transgressive deposits, such as the Merchantville, Marshalltown, and Navesink Formations, act as confining units. The thicknesses of these units vary greatly, ranging from several feet to several hundred feet, and thicken to the southeast.

The eastern half of the Main Post is underlain by the Red Bank Formation, ranging in thickness from 20-30 feet, while the western half is underlain by the Hornerstown Formation, ranging in thickness from 20-30 feet. The predominant formation underlying the Charles Wood Area is also the Hornerstown, with small areas of Vincentown Formation intruding in the southwest corner. Sand and gravel deposited in recent geologic times lie above these formations. Interbedded sequences of clay serve as semi-confining units for groundwater. The mineralogy ranges from quartz to glauconite.

Udorthents-Urban land is the primary classification of soils on Fort Monmouth, which have been modified by excavating or filling. Soils at the Main Post include Freehold sandy loam, Downer sandy loam, and Kresson loam. Freehold and Downer are somewhat well drained, while Kresson is a poorly drained soil. The Charles Wood Area has sandy loams of the Freehold, Shrewsbury, and Holmdel types. Shrewsbury is a hydric soil; Kresson and Holmdel are hydric due to inclusions of Shrewsbury. Downer is not generally hydric, but can be.

Local Geology

Fort Monmouth lies in the Atlantic and Eastern Gulf Coastal Plain groundwater region and is underlain by underformed, unconsolidated to semi-consolidated sedimentary deposits. The chemistry of the water near the surface is variable with generally low dissolved solids and high iron concentrations. In areas underlain by glauconitic sediments, the water chemistry is dominated by calcium, magnesium, and iron (*e.g.* Red Bank and Tinton sands). The sediments in the vicinity of Fort Monmouth were deposited in fluvial-deltaic to nearshore environments. The water table is generally shallow at the installation; water is typically encountered at depths ranging from 2 to 9 feet below ground surface (bgs) and in certain areas fluctuates with the tidal action in Parkers and Oceanport creeks at the Main Post.

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Main Post area. The Red Bank sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile.

The upper member (Shrewsbury) of the Red Bank sand is a yellowish-gray to reddish brown clayey, medium - to coarse-grained sand that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite.

The Tinton sand conformably overlies the Red Bank Sand and ranges from a clayey medium to very coarse-grained feldspathic quartz and glauconite sand to a glauconitic coarse sand. The color varies from dark yellowish orange or light brown to moderate brown and from light olive to grayish olive. Glauconite may constitute 60 to 80 percent of the sand fraction in the upper part of the unit (Minard, 1969). The upper part of the Tinton is often highly oxidized and iron oxide encrusted (Minard).

Hydrogeology

The water table aquifer in the Pine Brook Housing area is identified as part of the "composite confining units", or minor aquifers. The minor aquifers include the Navesink formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation, and the basal clay of the Kirkwood Formation. The Hornerstown Formation acts as an upper boundary of the Red Bank aquifer, but it might yield enough water within its outcrop to supply individual household needs. The Red Bank outcrops along the northern edges of the Installation, and contains two members, an upper sand member and a lower clayey sand member. The upper sand member functions as the aquifer and is probably present on

some of the surface of the Main Post and at a shallow depth below the Charles Wood Area. The Hornerstown and Red Bank formations overlay the larger Wenonah-Mount Laurel aquifer.

Based on records of wells drilled in the Main Post area, water is typically encountered at depths ranging from 2 to 9 feet below ground surface (bgs). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may yield 2 to 25 gallons per minute (gpm). Some local well owners have reported acidic water that requires treatment to remove iron. Acid sulfate soils are naturally occurring soils, sediments or organic substrates (e.g. peat) that are formed under waterlogged conditions.

Soil and sediment materials rich in iron sulfide tend to be very dark and soft. Iron sulfides can react rapidly when they are disturbed (i.e. exposed to oxygen). Pyrite will tend to occur as more discrete crystals in soil and organic matter matrices and will react more slowly when disturbed. The oxidation of iron sulfide in the potential acid sulfate soil materials (sulfidic material) may result in the formation of actual acid sulfate soil material or sulfuric material. These soils contain iron sulfide minerals (predominantly as the mineral pyrite) or their oxidation products. Soil horizons that contain sulfides are called 'sulfidic materials' (Isbell 1996; Soil Survey Staff 2003) and can be environmentally damaging if exposed to air by disturbance. Exposure results in the oxidation of pyrite.

The area of Bldg. 3015 is located approximately 700 feet south-southeast of Wampum Brook, the nearest water body. Based on the Pine Brook Housing topography, the groundwater flow in the area of Bldg. 3015 is anticipated to be to the northwest.

1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all decommissioning activities. All areas that posed a vapor hazard were monitored by a qualified individual utilizing a calibrated photo-ionization detector (PID) Thermo Instruments Organic Vapor Monitor (OVM) – Model #580-B. The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA. All work areas were properly vented to insure that there were no contaminants present in the breathing zone above permissible exposure limits (PELs).

1.4 REMOVAL OF UNDERGROUND STORAGE TANKS

1.4.1 General Procedures

- All underground utilities were marked out by the respective shops and/or utility contractor prior to excavation activities.

- All activities were carried out with regard to safety and health and the safeguarding of the environment.

- All excavated soils were visually examined and screened with an OVM for evidence of contamination. No impacted soils were encountered during the tank excavations. These soils were used to backfill the excavation upon clearance.

- Surface materials (i.e., asphalt, concrete, etc.) were excavated and staged separately from all soil and recycled in accordance with all applicable regulations and laws.

- A certified Subsurface Evaluator was present during all closure activities.

1.4.2 Underground Storage Tank Excavations

During decommissioning activities, surficial soil was removed to expose the USTs. The tank was previously abandoned in place, the contents were removed, and the interior of the tank was filled with clean fill and the tank hull was backfilled.
After the UST was removed from the excavation, it was staged on polyethylene sheeting, labeled and examined for holes. No holes in the tank were observed during the inspection by the Subsurface Evaluator. Soils surrounding the UST were screened visually and with an Organic Vapor Monitor (OVM) for evidence of petroleum contamination. No soil staining and an odor of fuel were observed. After removal, the tank was transported for storage at the Bldg. 108 pad for subsequent cutting and disposal.

1.5 UNDERGROUND STORAGE TANK DECOMMISSIONING AND DISPOSAL

Subsequent to disposal and prior to cutting, the UST was cleaned first with rubber squeegees and adsorbent material broomed onto the sidewalls and bottom. The top of the tank had been cut open during the decommissioning to allow for the tank interior to be clean and filled with certified clean fill. The adsorbent materials and residual fill were then drummed and subsequently put into Ft. Monmouth's 'Oil Spill Debris' roll-off container for proper disposal. The atmosphere in and around the tank was monitored using an OVM and an Oxygen/Lower Explosive Level (LEL) meter to ensure safe working conditions during cutting and cleaning activities.

The steel tank was cut as to be placed into a 7 cubic yard dump truck and shipped off site to be recycled. Refer to Appendix C for UST disposal certificate.

The Subsurface Evaluator labeled the UST with the following information:

- site of origin
- NJDEP UST Facility ID number
- date of removal
- size of tank
- previous contents of tank

Photographic documentation of the UST closure activities included in Appendix D.

2.0 REMEDIAL INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Remedial Investigation was managed and carried out by U.S. Army Fort Monmouth DPW personnel. All analyses were performed and reported by Fort Monmouth Environmental Testing Laboratory (FMETL), a NJDEP-certified testing laboratory. All sampling was performed by a NJDEP Certified Subsurface Evaluator according to the methods described in the NJDEP Field Sampling Procedures Manual (FSPM, August 2005,). Sampling frequency and parameters analyzed complied with the NJDEP document *Technical Requirements for Site Remediation, 7:26E-3.9 (December 17, 2002 and revisions dated February 3, 2003)* which was the applicable regulation at the date of the closure. All records of the Remedial Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in closure and remedial investigation activities.

- Ft. Monmouth Directorate of Public Works-Environmental Division
  Contact Person: Joe Fallon
  Phone Number: (732) 532-2692

- Subsurface Evaluator: Charles Appleby
  Employer: US Army, CECOM
  Phone Number: (732) 532-6254
  NJDEP License No.: 9974

- Analytical Laboratory: Fort Monmouth Environmental Testing Laboratory
  Contact Person: Jackie Hamer
  Phone Number: (732) 532-4359
  NJDEP Laboratory Certification No.: 13461

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP-certified Subsurface Evaluator using an OVM and visual observations to identify potentially contaminated material. No impacted soils were encountered during the tank removal procedures. Clean overburden soils were stockpiled for later reuse.

2.3 SOIL SAMPLING

On February 9, 2009, post-excavation soil samples 3015-A through 3015-H were collected from of eight (8) locations along the sidewalls, piping run and bottom of the excavation. All samples were analyzed for total petroleum hydrocarbons (TPH). **Location map included as Figure 3.** All samples were analyzed for Total Petroleum Hydrocarbons (TPH) in accordance with the requirements of Technical Requirements for Site Remediation.

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* and the NJDEP *Field Sampling Procedures Manual.* A summary of sampling activities including parameters analyzed is provided on Table 1.
The post-excavation soil samples were collected using stainless steel trowels. After collection, the soil samples were immediately placed on ice in a cooler and delivered to Fort Monmouth Environmental Testing Laboratory (FMETL) for analysis.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

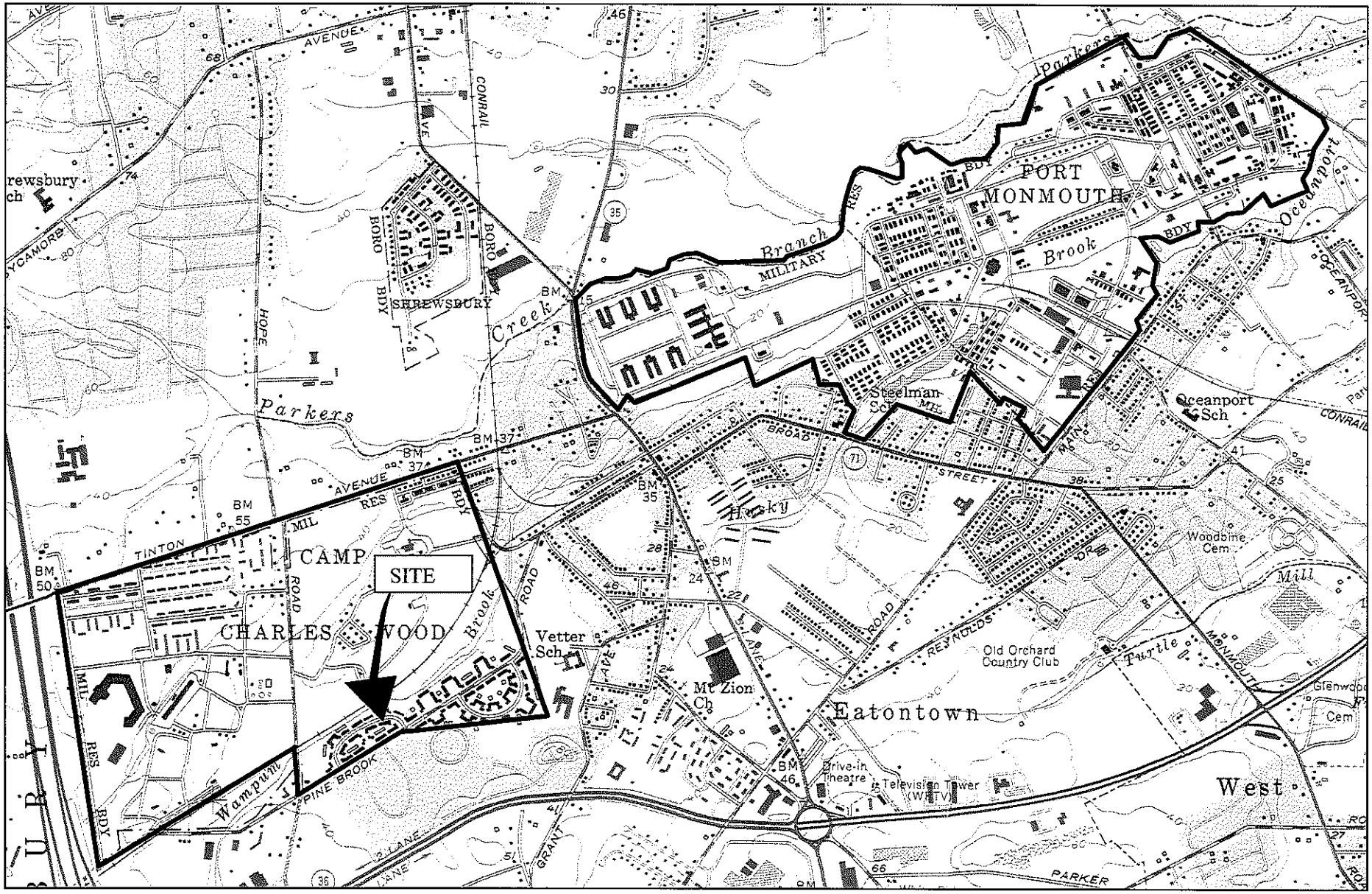
The post-excavation soil sample results were compared to the NJDEP health based criterion of 4,800 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated September 8, 2008). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided on Table2. The soil analytical data package, including associated quality control data, is provided in Appendix E.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at UST No. 192486-26 were below all applicable NJDEP soil cleanup criteria for total organic contaminants and volatile organic compounds.

No further action is proposed in regard to the closure and site assessment of UST 1924886-26 at Building 3015.

FIGURES



NEW JERSEY

QUADRANGLE LOCATION

LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

Mapped, edited and published by the Geological Survey

Figure 1
Site Location Map
Fort Monmouth, New Jersey

U.S. Army Garrison Fort Monmouth Department of Public Works

APPENDIX A

CERTIFICATIONS

Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION: 3015 *NJDEP REG ID:* 192486 - 26

RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): 10000 *CONSTRUCTION:* STEEL

PRODUCT: #2 FUEL OIL *YEAR INSTALLED:* 1975

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: 2/9/2009 *REMOVAL CONTRACTOR:* TVS INC

SRF SEND DATE: YES *TMS:* NONE

DICAR NO. *LEAK DETECT:*

REMEDIATION COMMENTS: 9 February 2009 abandoned UST was removed from ground. Post excavation samples were collected.

REGISTRATION COMMENTS: Tank was abandoned in-place in November 1989. No contamination observed. Residential UST with no DICAR and no contamination; no Closure Report required. SRF and Site Assessment sent to NJDEPE 6/19/90--Removed as per CMD.

SAS DONE: NO *CONSULTANT:*

MWs NEEDED: *MONITORING WELLS:* 0

SUB-SURFACE EVALUATOR: C. Appleby

CURRENT UST STATUS

UST STATUS: REMOVED CLEAN SITE SAS CONT. *CASE STATUS:* Case Open

SUBMITTAL DATE: *APPROVAL DATE:*

Let's protect our earth

Bldg. 3015

For State Use Only	
Date Rec'd.	
Auth	
Routing	
UST NO.	

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625
ATTN: BUST Program
(609) 984-3156

STANDARD REPORTING FORM
for the:
Installation (Abandon) Remove/Sale-Transfer/Substantial Modification
Circle Only One — Use One Form Per Activity

(More than one tank can be listed per tank activity)

Answer questions 1 through 5 and others as applicable.

1. Company name and address: (as it appears on registration questionnaire)

U.S. Army
DEH Bldg. #167
Attn: SELFM-EH
Fort Monmouth, NJ 07703

2. Facility name and location: (if different from above)

U.S. Army Fort Monmouth
Charles Wood East

3. Contact person for this activity:

Mr. Dinkerrai Desai

Telephone Number: (201) 532-1475

4. The identification number of the affected tank as it appears in Question Number 12 on the Registration Questionnaire: Tank Numbers: 25, 26 + 31
Bldgs. 3010, 3015 + 3216

5. Registration Number (if known): UST - 0192486

(OVER)

6. For TRANSFER OF OWNERSHIP:

New Company Name _____

New Facility Name _____

Address _____

_____

New owner/operator (print) _____

Signature _____

7. For ABANDONMENT or REMOVAL:

a. Describe the proposed procedure in detail on an attached sheet.

b. Specify the product last stored in the tank: #2 Home Heating Oil

c. Date abandoned or removed November 1989 for all three U.S.T.'s

d. Is Site Assessment Compliance Statement being completed? (YES) or NO Form MUST be completed and returned within 90 days of tank closure. (per 40 CFR 280.72)

8. For SUBSTANTIAL MODIFICATIONS:

a. Describe the reason for the modification and, in detail, the proposed procedure to be used on an attached sheet.

b. Specify the product presently stored in the tank: _____

c. Specify the product to be stored in the tank: _____

9. For NEW OR REPLACEMENT INSTALLATIONS:

a. Attach the specifications as required by the attached instructions.

b. Specify the product (s) to be stored in the tank: _____

NOTE: All appropriate and applicable permits, licenses and certificates from any local, state and/or federal agency must be obtained separately from this notification as required by the above stated activity.

CERTIFICATION

**** This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that facility. (7:14B-2.3 (a) 1). ****

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment."

Signature: James Ott

Name (print or type): ~~JAMES OTT~~

Title: Deputy Director ~~Dir, Engineering & Housing~~ Date: 6/19/90

Directorate of Engineering and Housing

US Army Fort Monmouth
Charles Wood East
Registration # 0192486
Tank #'s 25,26,& 31
POC: Dinkerrai Desai (201)532-1475

Abandonment Procedure:

The three underground storage tanks were abandoned in place due to being partially buried underneath the buildings foundation.

All remaining product inside the tanks was removed for disposal by L & L Oil Service of Aberdeen, New Jersey. L & L is a licensed hazardous waste transporter and TSDF. (USEPA ID # NJD011427895).

The top of each tank was excavated and cut open across the entire length of the tank. The soil excavated from the top of the tanks was visually inspected and analyzed by using a HNU Model PI-101, photoionizer. No contamination was found.

The inside of each tank was hand cleaned utilizing a biodegradable detergent. The detergent residue was removed by the Waste Oil Company for proper disposal.

After the tanks were clean, a visual inspection was made inside each tank for signs of leakage. No corrosion was found inside any of the tanks.

After the inspection was complete, the tanks were backfilled with sand and the area was regraded with the excavated soil.

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Underground Storage Tanks
CN-029, Trenton, NJ 08625

Auth
Routing
UST NO.

SITE ASSESSMENT COMPLIANCE STATEMENT

Supplement to the New Jersey Standard Reporting Form
(Complete for ALL regulated UST abandonments or removals)

Within ninety (90) days of completing the UST closure of any State or Federally-regulated tank, the owner or operator must submit this completed form to the NJDEP Bureau of Underground Storage Tanks. If the facility is located in one of the counties listed on the back, a copy of this form must also be sent to the Health Agency indicated.

The owner or operator of any Federally-regulated tank must also comply with the following:

40 CFR Part 280.72 Assessing the site at closure or change-in-service

"(a) Before permanent closure or a change-in-service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release."

FACILITY U.S. Army Fort Monmouth Charles Wood East UST # 0192480 Tank #'s 25, 26, +31

Check off the following items as appropriate for the site.

✓ The UST facility is only regulated by State law, therefore a site assessment is not mandatory.

____ The UST facility is regulated by Federal law and a site assessment was conducted.

The results of the site assessment indicate:

✓ There was NO release from the UST system.

____ There was a release from the UST system and it was reported to the DEP Environmental Hotline (609-292-7172).

NOTE: The results of the site assessment are not to be submitted to the DEP or Health Agency unless requested to do so. The results are to be available for inspection at the UST facility.

Questions can be directed to the Bureau at (609) 984-3156.

*** This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that facility (7:14B-2.3 (a) 1). ***

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment.

SACS-2,1/89

James Ott Date 6/17/90
(SIGNATURE)

JAMES OTT
Deputy Director
Dir, Engineering & Housing
(Title)

APPENDIX B

WASTE MANIFEST

No fuel oil was shipped off-site for disposal as a result of the closure of this underground storage tank (UST). The tank was previously abandoned in place and at that time the tank contents were transferred to ASTs and off-road diesel fueled vehicles.

APPENDIX C

UST DISPOSAL CERTIFICATE

BLDG. 3015, 10,000 GAL. STEEL UST

732-747-7784
732-747-7779

Red Bank Recycling Auto Wreckers, Inc.
64 Central Avenue, Red Bank, New Jersey 07701

Date 2/10 20 9

M Centralized Distribution Center

		AMOUNT	CWT	TOTAL
	LIGHT IRON			
✓	NO 1 STEEL			
	NO. 2 STEEL	3240	600	194
	D. M. B.			
	CAST IRON			
	COPPER			
	BRASS			
	ALUMINUM			
	RADIATORS			2-10-09
	BATTERIES			
	18800			
	CARS			
	15560			

I am the owner of said vehicle(s) and I release it to Red Bank Recycling Auto Wreckers, Inc.

Signature of Owner

DIRECTORATE OF PUBLIC WORKS
FORT MONMOUTH, NEW JERSEY 07703

Environmental Branch February 10, 2009

SUBJECT: PWS-007, UST Removal
Contractor: TVS Inc.

RE: Backfilling of excavation,

BUILDING: 3015

CTSC Inc.
Field Supervisor, PWS-007
ATTN: Harold Hornung
Building 166
Fort Monmouth, New Jersey 07703-5000

Dear Mr. Hornung:

The above referenced area has been assessed as described in the NJDEP Regulations. A discharge was not observed. Field observations indicate the petroleum contaminated soils were not encountered and post excavation samples have been taken with regard to the UST (not the piping) in accordance with the NJDEP requirements. Results have not been received. The contractor may proceed with the backfilling of the UST excavation to the ground surface. Stone will be used to backfill to 1 ft above the groundwater table extending 6 feet from the building foundation. The turf restoration of the site will be done later in the spring. Since the foundation has partially collapsed into the excavation, additional stabilization activities are required. Once the UST excavation is backfilled, the piping must be excavated and assessed as per the Tech Regs. The possible remote fill at the curb needs to be excavated and confirmed if it exists.

Regards,

Mr. Charles Appleby
Subsurface Evaluator NJDEP #9974
Environmental Protection Specialist
Directorate of Public Works

CC: UST file copy

US ARMY, SELFM-PW-EV

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 3015 REG.#: 192486 - 26
DATE: 2-10-09 TOA: 10:30 TOD: 10:50
SSE: Frank Bocasi TVS. NJDEP CERT.#: _____
REMOVAL CONTRACTOR: TVS Inc. PWS-007
CLOSURE SUPERVISOR: Frank Bocasi TVS NJDEP CERT.#: _____
WEATHER: Cold overcast ~ 30°F

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Yes
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Yes.
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR)	Yes
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	
A DISCHARGE WAS REPORTED BT THE DPW TO THE NJDEP (1-877-927-6337), CASE# _____ No Discharge observed.	NA
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Nil
GROUNDWATER WAS ENCOUNTERED AT 3.5 FEET BG, A SHEEN (WAS / WAS NOT) OBSERVED ON GW	
IF OVA WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	NO
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	NA
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 2005 August	NA
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq.	NA
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	NA
THE DPW SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1'' ABOVE GROUNDWATER) AND A BACKFILL AUTH. LTR. IS ATTACHED	Yes
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	NA
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	Yes
THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY: (CIRCLE EACH) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, HAZ. WASTE MANIFEST, DAILY UST CLOSURE LOG, SCALED SITE MAP (SAMPLING), SRF-CLOSURE, CHAIN OF CUSTODY, SOIL ANALYTICAL RESULTS, CLEAN FILL TICKETS (IN YDS^3), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS) Email Re: Building Damage.	

CHECK ALL BOXES, LEAVE NO BLANKS

I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 et seq.. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

Subsurface Evaluator (print Name): Charles Apgar Date: 2-10-09.

SIGNATURE: _____

Appleby, Charles M Mr CIV USA AMC

From: Appleby, Charles M Mr CIV USA AMC
Sent: Tuesday, February 10, 2009 11:42 AM
To: Fallon, Joseph M Mr CIV USA IMCOM; Folk, Barbara Mrs CIV USA IMCOM
Cc: Cordts, William R CIV USA IMCOM; Alexoudis, John CIV USA IMCOM; Accorsi, Frank Mr CTR USA; Hornung, Harold CTR USA; Syvarth, Howard M CTR USA; Appleby, Charles M Mr CIV USA AMC; Fang, John C CIV USA IMCOM
Subject: UST Bldg. 3015, removed 2-9-09 building damaged , no discharge observed

Attachments: ust 3015 backfill ltr 2-9-09.pdf

ust 3015 backfill ltr 2-9-09.p...

Barbara / Joe
John Fang and I went to the site and John concluded that the structure needs to be shimmed between the sill plate and brick façade as well as the walls if accessible. The footing separated from the building and resulted in a gap of several inches between the sill plate and wall. Some of the Brickwork fell off the building.
Groundwater is at approx. 3.5 feet and the excavation is about 6.5 ft deep.
No sewer, gas or water utilities were observed to be damaged.

The excavation will be backfilled with stone to 1 ft. above the water table and no less than 6 feet from the perimeter of the footing. The stone will be tamped town to compact. Soil will be used for the remainder.
The gaps will be shimmed and filled. DPW facilities should inspect the area to make sure it is secured as required for rodents etc.. (CC: John A. and Bill C)

Attached is the approved backfill ltr.

Chuck Appleby
Environmental Protection Specialist
IMNE-MON-PWE
173 Riverside Avenue
Fort Monmouth, NJ 07703
Ph. (732) 532-2692 FAX (732) 532-6263
Cell Redacted - Privacy Act
Charles.Appleby@us.army.mil
ONLY PRINT WHEN YOU NEED TO AND RECYCLE

APPENDIX D

PHOTO DOCUMENTATION

Removed and labeled steel USTs

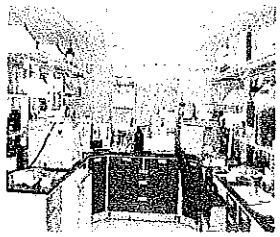
Groundwater in the excavation after the UST has been removed, note remote fill line in rear right of photograph

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732) 532-4359 FAX: (732) 532-6263
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 90-59762

Pinebrook/Bldg. 3015

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
3015-A, North Wall	9004301	Soil	09-Feb-09 13:00	02/09/09
3015-B, South Wall	9004302	Soil	09-Feb-09 13:20	02/09/09
3015-C, East Wall	9004303	Soil	09-Feb-09 13:50	02/09/09
3015-D, West Wall	9004304	Soil	09-Feb-09 14:15	02/09/09
3015-E, Piping	9004305	Soil	09-Feb-09 14:35	02/09/09
3015-Duplicate	9004306	Soil	09-Feb-09 14:35	02/09/09
3015-F, Piping +15 ft	9005001	Soil	12-Feb-09 08:20	02/12/09
3015-G, Remote Fill +15 ft	9005002	Soil	12-Feb-09 08:50	02/12/09
3015-H, Remote Fill +30 ft	9005003	Soil	12-Feb-09 09:05	02/12/09
3015-Duplicate	9005004	Soil	12-Feb-09 08:20	02/12/09

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

Jacqueline Hamer 2/18/09
Jacqueline Hamer/Date
QA/QC Supervisor

CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:jacqueline.hamer@us.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: CHUCK APPLEBY
Phone #: [illegible]
( )DERA ( )OMA (x)Other:________

Project No: 09-59762
Location: BLDG. 3015 HELMS DR (PINEBROOK)

Samplers Name / Company: FRANK ACCORSI / TVS

Comments:

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH *						FID (ppm)	DEPTH (FT)	Remarks / Preservation Method
90043 01	3015-A, NORTH WALL	2-9-09	1300	SOIL	1	X						0	4-4.5	GW@4.5 FT ICE
02	3015-B, SOUTH WALL		1320			X						0	4-4.5	
03	3015-C, EAST WALL		1350			X						0	4-4.5	
04	3015-D, WEST WALL		1415			X						0	4-4.5	
05	3015-E, PIPING		1435			X						0	3.5-4	
06	3015-DUPLICATE		1435			X						0	3.5-4	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	2-9-09 [illegible]	[illegible]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (x)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: (x)Standard 3 wks, ( )Rush __Wk., ( )ASAP Verbal ____Hrs.

Remarks: * CONTINGENT BN+25 IF TPH >1,000 PPM ON HIGHEST, MIN. ONE

000002

print legibly

new coc..XLS12/19/2008

SAMPLE RECEIPT FORM

Date Received: 2-9-09 Work Order ID#: 90043

Site/Proj. Name: Bixby 305 Cooler Temp (°C): 4.0°

Received By: J. Clayton Sign: J. Clayton
(Print name)

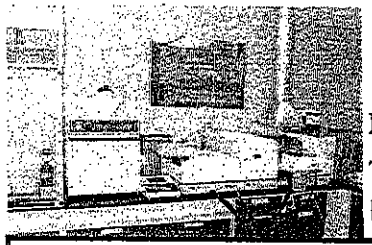
Check the appropriate box

1. Did the samples come in a cooler? ☑ yes ☑ no ☐ n/a
2. Were samples rec'd in good condition? ☑ yes ☐ no
3. Was the chain of custody filled out correctly and legibly? ☑ yes ☐ no
4. Was the chain of custody signed in the appropriate place? ☑ yes ☐ no
5. Did the labels agree with the chain of custody? ☑ yes ☐ no
6. Were the correct containers/preservatives used? ☑ yes ☐ no
7. Was a sufficient amount of sample supplied? ☑ yes ☐ no
8. Were air bubbles present in VOA vials? ☐ yes ☐ no ☑ n/a
9. Were samples received on ice? ☑ yes ☐ no
10. Were analyze-immediately tests perform within 15 minutes ☐ yes ☐ no ☑ n/a

Fill out the following table for each sample bottle

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: _____



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:jacqueline.hamer@us.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: CHUCK APPLEBY
Phone #: 532-6942
( )DERA ( )OMA (X)Other:

Project No: 09-59762
Location: B.3015 HELMS DR. (PINEBROOK

Samplers Name / Company: FRANK ACCORSI / TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: TPH						PID (ppm)	DEPTH (ft)	Comments: Remarks / Preservation Method
90050 01	3015-F, PIPING +15 FT	2-12-09	0920	SOIL	1	X						0	3.5-4	ICE
02	3015-G, REMOTE FILL + 15 FT		0850			X						0	2-2.5	
03	3015-H, REMOTE FILL + 30 FT.		0905			X						0	~~3.5-4~~	2-2.5
04	3015-DUPLICATE		0820			X						0	3.5-4	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	2-12-09 1500				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: (X)Standard 3 wks, ( )Rush __Wk., ( )ASAP Verbal ____Hrs.

Remarks:

print legibly

new coc XLS12/19/2008

0000004

SAMPLE RECEIPT FORM

Date Received: 2-12-09 Work Order ID#: 90050

Site/Proj. Name: Bldg 3015 Cooler Temp (°C): 4.0°C

Received By: J. Venuta Sign:
(Print name)

Check the appropriate box

1. Did the samples come in a cooler? ☑ yes ☐ no ☐ n/a
2. Were samples rec'd in good condition? ☑ yes ☐ no
3. Was the chain of custody filled out correctly and legibly? ☑ yes ☐ no
4. Was the chain of custody signed in the appropriate place? ☑ yes ☐ no
5. Did the labels agree with the chain of custody? ☑ yes ☐ no
6. Were the correct containers/preservatives used? ☑ yes ☐ no
7. Was a sufficient amount of sample supplied? ☑ yes ☐ no
8. Were air bubbles present in VOA vials? ☐ yes ☐ no ☑ n/a
9. Were samples received on ice? ☑ yes ☐ no
10. Were analyze-immediately tests perform within 15 minutes ☐ yes ☐ no ☑ n/a

Fill out the following table for each sample bottle

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: _____

GPS COORDINATES

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 3015 - UST #192486-26

SOIL SAMPLE GPS POSITIONS & COORDINATES

US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
3015A NORTH WALL	532626.035	610990.125
3015B SOUTH WALL	532615.034	610991.392
3015C EAST WALL	532620.396	611000.58
3015D WEST WALL	532618.794	610968.578
3015E PIPING	532615.417	610995.321
3015F PIPING PLUS 15 FT	532606.478	610998.637
3015G REMOTE FILL PLUS 15 FT	532629.712	610967.103
3015H REMOTE FILL PLUS 30 FT	532644.992	610966.411

METHOD SUMMARY

Method Summary

NJDEP Method OQA-QAM-025 Rev. 6
Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

FIELD DUPLICATE IDENTIFICATION

Field Duplicate Identification

Sample ID	Lab ID	Field Duplicate
3015-E, Piping	9004305	9004306
3015-F, Piping +15 ft	9005001	9005004

CONFORMANCE/ NON-CONFORMANCE SUMMARY

TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

		Indicate Yes, No, N/A
1.	Method Detection Limits Provided	yes
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank	No
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)	yes
4.	Duplicate Results Summary Meet Criteria	yes
5.	IR Spectra submitted for standards, blanks and samples	No
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted	yes
7.	Analysis holding time met (If not met, list number of days exceeded for each sample)	yes

Additional comments: _____

Laboratory Manager: Jeremy Dine Harmon Date: 2/11/09

TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Client: U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Project #: 09-59762
Location: Bldg. 3015
ECP:
Work Order:

Analysis: OQA-QAM-025
Matrix: Soil
Inst. ID: GC TPHC INST. #1
Column Type: RTX-5, 0.32mm ID, 30 m
Injection Volum 1 uL
Blank Conc.: 0.00

Date Received: 9-Feb-09
Date Extracted: 10-Feb-09
Extraction Method: Shake
Analysis Complete: 10-Feb-09
Analyst: Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB02100901	MB02100901	1.00	15.00	100.00	23	333	0.00	
LCS02100901	LCS02100901	1.00	15.00	100.00	23	333	1256.75	
9004301	3015-A NORTH WALL	1.00	15.64	78.71	28	406	71.95	J
9004302	3015-B SOUTH WALL	1.00	17.64	77.87	25	364	0.00	
9004303	3015-C EAST WALL	1.00	16.26	82.10	26	375	0.00	
9004304	3015-D WEST WALL	1.00	15.78	82.28	27	385	0.00	
9004305	3015-E PIPING	1.00	16.27	77.71	28	395	27.79	J
9004306	3015 DUPLICATE	1.00	15.75	74.35	30	427	30.06	J

Qualifiers:
MDL = Method Detection Limit

RL = Reporting Limit

E = Exceeds calibration limit

J = Estimated value, concentration is between MDL and RL

D = Concentration from dilution

000015

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Client: U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

Project #: 09-59762
Location: Bldg. 3015
ECP:
Work Order:

Analysis: OQA-QAM-025
Matrix: Soil
Inst. ID: GC TPHC INST. #1
Column Type: RTX-5, 0.32mm ID, 30 m
Injection Volum 1 uL
Blank Conc.: 0.00

Date Received: 12-Feb-09
Date Extracted: 13-Feb-09
Extraction Method: Shake
Analysis Complete: 17-Feb-09
Analyst: Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB02130901	MB02130901	1.00	15.00	100.00	23	333	0.00	
LCS02130901	LCS02130901	1.00	15.00	100.00	23	333	882.57	
9005001	3015-F PIPING	1.00	16.46	78.26	27	388	40.90	J
9005002	3015-G REMOTE PIPING	1.00	15.36	78.44	29	415	34.37	J
9005003	3015-H REMOTE PIPING	1.00	15.85	83.43	26	378	308.02	J
9005004	3015 DUPLICATE	1.00	15.94	78.82	28	398	1418.60	

Qualifiers:
MDL = Method Detection Limit

RL = Reporting Limit

E = Exceeds calibration limit

J = Estimated value, concentration is between MDL and RL

D = Concentration from dilution

Response Factor Report TPHC

Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Tue Feb 10 08:18:04 2009

Calibration Files
5 =T020777.D 10 =T020779.D 20 =T020780.D
50 =T020778.D 100 =T020776.D

		Compound	5	10	20	50	100	Avg		%RSD
1)	T	C8	2.277	2.272	2.105	2.016	2.050	2.144	E4	5.76
2)	T	C10	2.548	2.389	2.155	2.094	2.086	2.254	E4	9.10
3)	T	C12	2.386	2.248	2.056	2.004	2.038	2.146	E4	7.64
4)	T	C14	2.207	1.952	1.864	1.870	1.949	1.968	E4	7.10
5)	T	C16	2.129	1.831	1.784	1.801	1.921	1.893	E4	7.51
6)	T	C18	2.451	2.231	2.068	1.909	1.986	2.129	E4	10.15
7)	T	C20	2.567	2.327	2.170	1.893	2.021	2.196	E4	12.01
8)	T	C22	2.237	2.149	2.040	1.919	2.037	2.076	E4	5.83
9)	T	C24	2.212	2.085	2.002	1.899	2.017	2.043	E4	5.66
10)	T	C26	2.316	1.996	1.955	1.872	2.016	2.031	E4	8.29
11)	T	C28	2.234	1.990	1.952	1.823	1.974	1.995	E4	7.48
12)	T	C30	2.126	1.905	1.845	1.688	1.851	1.883	E4	8.38
13)	T	C32	1.809	1.624	1.612	1.468	1.626	1.628	E4	7.43
14)	T	C34	1.553	1.412	1.420	1.306	1.460	1.430	E4	6.24
15)	T	C36	1.268	1.168	1.196	1.104	1.237	1.195	E4	5.30
16)	T	C38	9.493	9.050	9.403	8.712	9.802	9.292	E3	4.53
17)	T	C40	7.449	7.189	7.497	7.021	7.925	7.416	E3	4.64
18)	T	C42	4.831	5.251	5.913	5.596	6.249	5.568	E3	9.95
19)	T	Phytane	2.451	2.231	2.068	1.909	1.989	2.130	E4	10.12
20)	T	Pristane	2.567	2.327	2.170	2.012	2.120	2.239	E4	9.62
21)	T	TPHC (Manual Integrat	1.226	1.115	1.034	0.955	0.995	1.065	E3	10.12
22)	H	TPHC (Total)	2.028	1.823	1.754	1.656	1.765	1.805	E4	7.67
23)	S	Chlorobenzene (SURR.)	1.770	1.697	1.547	1.503	1.531	1.610	E4	7.28
24)	S	O-Terphenyl (SURR.)	2.671	2.427	2.260	2.141	2.223	2.344	E4	8.96

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\090210\T020938.D Vial: 1
Acq On : 10 Feb 2009 1:34 pm Operator: ROBERTS
Sample : CCV019-50 Inst : TPHC
Misc : TPHC 2/10/08 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Tue Feb 10 08:18:04 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	T	C8	21.438	19.339 E3	9.8	92	-0.07
2	T	C10	22.544	19.516 E3	13.4	93	-0.03
3	T	C12	21.465	19.349 E3	9.9	94	-0.02
4	T	C14	19.684	18.970 E3	3.6	95	-0.02
5	T	C16	18.934	18.805 E3	0.7	95	-0.02
6	T	C18	21.290	19.122 E3	10.2	93	0.01
7	T	C20	21.957	19.542 E3	11.0	94	-0.02
8	T	C22	20.763	19.821 E3	4.5	94	-0.02
9	T	C24	20.430	19.624 E3	3.9	94	-0.02
10	T	C26	20.310	19.378 E3	4.6	94	-0.02
11	T	C28	19.948	18.939 E3	5.1	94	-0.02
12	T	C30	18.829	17.633 E3	6.4	93	-0.02
13	T	C32	16.277	15.340 E3	5.8	93	-0.03
14	T	C34	14.304	13.948 E3	2.5	93	-0.03
15	T	C36	11.947	11.838 E3	0.9	93	-0.05
16	T	C38	9.292	9.493 E3	-2.2	93	-0.07
17	T	C40	7.416	7.832 E3	-5.6	93	-0.11
18	T	C42	5.568	6.502 E3	-16.8	91	-0.17
19	T	Phytane	21.296	19.122 E3	10.2	93	-0.02
20	T	Pristane	22.393	20.235 E3	9.6	93	-0.02
22	H	TPHC (Total)	18.051	16.850 E3	6.7	99	0.00
23	S	Chlorobenzene (SURR.)	16.096	14.350 E3	10.8	91	-0.05
24	S	O-Terphenyl (SURR.)	23.444	21.143 E3	9.8	93	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090210\T020938.D
Acq On : 10 Feb 2009 1:34 pm
Sample : CCV019-50
Misc : TPHC 2/10/08
IntFile : EVENTS.E
Quant Time: Feb 11 8:05 2009 Quant Results File: TPHC019.RES

Vial: 1
Operator: ROBERTS
Inst : TPHC
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.30	717501	44.576 mg/L
Spiked Amount 50.000		Recovery =	89.15%
24) S O-Terphenyl (SURR.)	12.78	1057165	45.094 mg/L
Spiked Amount 50.000		Recovery =	90.19%
Target Compounds			
1) T C8	4.17	966925	45.104 mg/L
2) T C10	7.48	975801	43.284 mg/L
3) T C12	9.13	967446	45.071 mg/L
4) T C14	10.32	948509	48.188 mg/L
5) T C16	11.33	940274	49.660 mg/L
6) T C18	11.82	956084	44.908 mg/L
7) T C20	12.23	977123	44.501 mg/L
8) T C22	13.04	991046	47.732 mg/L
9) T C24	13.79	981176	48.025 mg/L
10) T C26	14.47	968900	47.705 mg/L
11) T C28	15.11	946928	47.471 mg/L
12) T C30	15.71	881666	46.825 mg/L
13) T C32	16.39	766989	47.121 mg/L
14) T C34	17.22	697406	48.756 mg/L
15) T C36	18.33	591919	49.544 mg/L
16) T C38	19.85	474667	51.083 mg/L
17) T C40	22.01	391585	52.800 mg/L
18) T C42	25.08	325117	58.390 mg/L
19) T Phytane	11.82	956084	44.895 mg/L
20) T Pristane	12.28	1011745	45.180 mg/L
22) H TPHC (Total)	12.00	16850447	933.471 mg/L

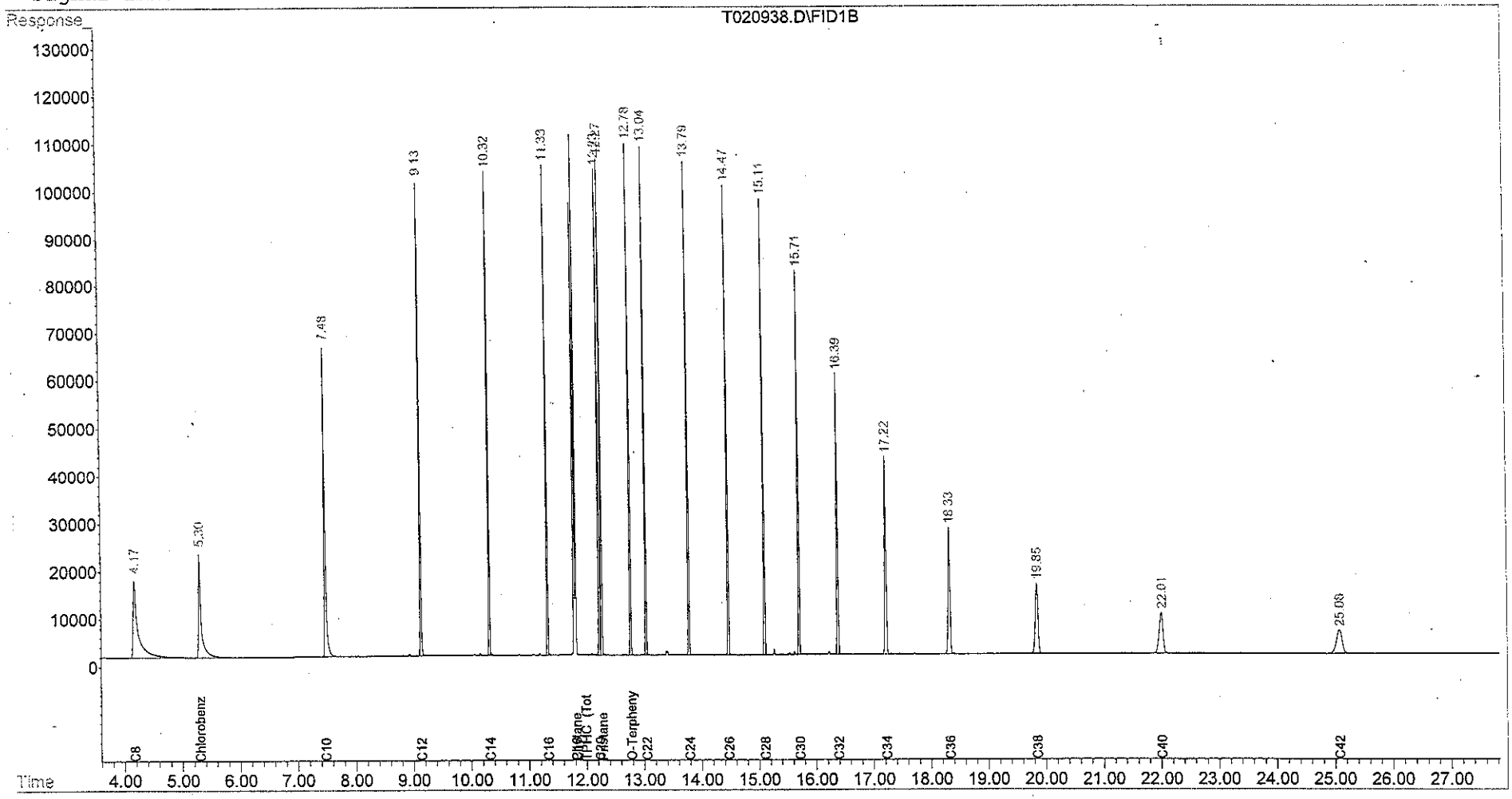
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090210\T020938.D Vial: 1
Acq On : 10 Feb 2009 1:34 pm Operator: ROBERTS
Sample : CCV019-50 Inst : TPHC
Misc : TPHC 2/10/08 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 8:05 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



0000020

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\090210\T020949.D
Acq On : 10 Feb 2009 8:22 pm
Sample : CCV019-50
Misc : 3015-C EAST WALL
IntFile : EVENTS.E

Vial: 12
Operator: ROBERTS
Inst : TPHC
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Tue Feb 10 08:18:04 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	T	C8	21.438	23.664 E3	-10.4	112	-0.06
2	T	C10	22.544	24.212 E3	-7.4	115	-0.02
3	T	C12	21.465	24.053 E3	-12.1	117	-0.02
4	T	C14	19.684	23.678 E3	-20.3	119	-0.02
5	T	C16	18.934	23.545 E3	-24.4	119	-0.02
6	T	C18	21.290	23.780 E3	-11.7	116	0.01
7	T	C20	21.957	24.602 E3	-12.0	119	-0.02
8	T	C22	20.763	24.995 E3	-20.4	118	-0.02
9	T	C24	20.430	24.847 E3	-21.6	119	-0.01
10	T	C26	20.310	24.594 E3	-21.1	119	-0.01
11	T	C28	19.948	24.165 E3	-21.1	119	-0.01
12	T	C30	18.829	22.527 E3	-19.6	119	-0.02
13	T	C32	16.277	19.599 E3	-20.4	119	-0.02
14	T	C34	14.304	17.793 E3	-24.4	119	-0.03
15	T	C36	11.947	15.216 E3	-27.4#	120	-0.04
16	T	C38	9.292	12.317 E3	-32.6#	121	-0.06
17	T	C40	7.416	10.449 E3	-40.9#	124	-0.09
18	T	C42	5.568	9.058 E3	-62.7#	127	-0.14
19	T	Phytane	21.296	23.780 E3	-11.7	116	-0.02
20	T	Pristane	22.393	25.215 E3	-12.6	116	-0.02
22	H	TPHC (Total)	18.051	21.296 E3	-18.0	125	0.00
23	S	Chlorobenzene (SURR.)	16.096	17.780 E3	-10.5	113	-0.03
24	S	O-Terphenyl (SURR.)	23.444	26.297 E3	-12.2	116	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090210\T020949.D Vial: 12
Acq On : 10 Feb 2009 8:22 pm Operator: ROBERTS
Sample : CCV019-50 Inst : TPHC
Misc : 3015-C EAST WALL Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 8:05 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.32	889011	55.231 mg/L
Spiked Amount 50.000		Recovery =	110.46%
24) S O-Terphenyl (SURR.)	12.78	1314846	56.086 mg/L
Spiked Amount 50.000		Recovery =	112.17%
Target Compounds			
1) T C8	4.19	1183220	55.193 mg/L
2) T C10	7.48	1210588	53.699 mg/L
3) T C12	9.14	1202629	56.028 mg/L
4) T C14	10.33	1183876	60.145 mg/L
5) T C16	11.33	1177267	62.177 mg/L
6) T C18	11.82	1189023	55.850 mg/L
7) T C20	12.23	1230111	56.023 mg/L
8) T C22	13.05	1249742	60.192 mg/L
9) T C24	13.79	1242373	60.810 mg/L
10) T C26	14.48	1229704	60.546 mg/L
11) T C28	15.11	1208225	60.570 mg/L
12) T C30	15.72	1126370	59.821 mg/L
13) T C32	16.39	979944	60.204 mg/L
14) T C34	17.23	889641	62.195 mg/L
15) T C36	18.34	760793	63.679 mg/L
16) T C38	19.86	615867	66.279 mg/L
17) T C40	22.02	522452	70.446 mg/L
18) T C42	25.11	452919	81.343 mg/L
19) T Phytane	11.82	1189023	55.833 mg/L
20) T Pristane	12.28	1260749	56.300 mg/L
22) H TPHC (Total)	12.00	21295617	1179.722 mg/L

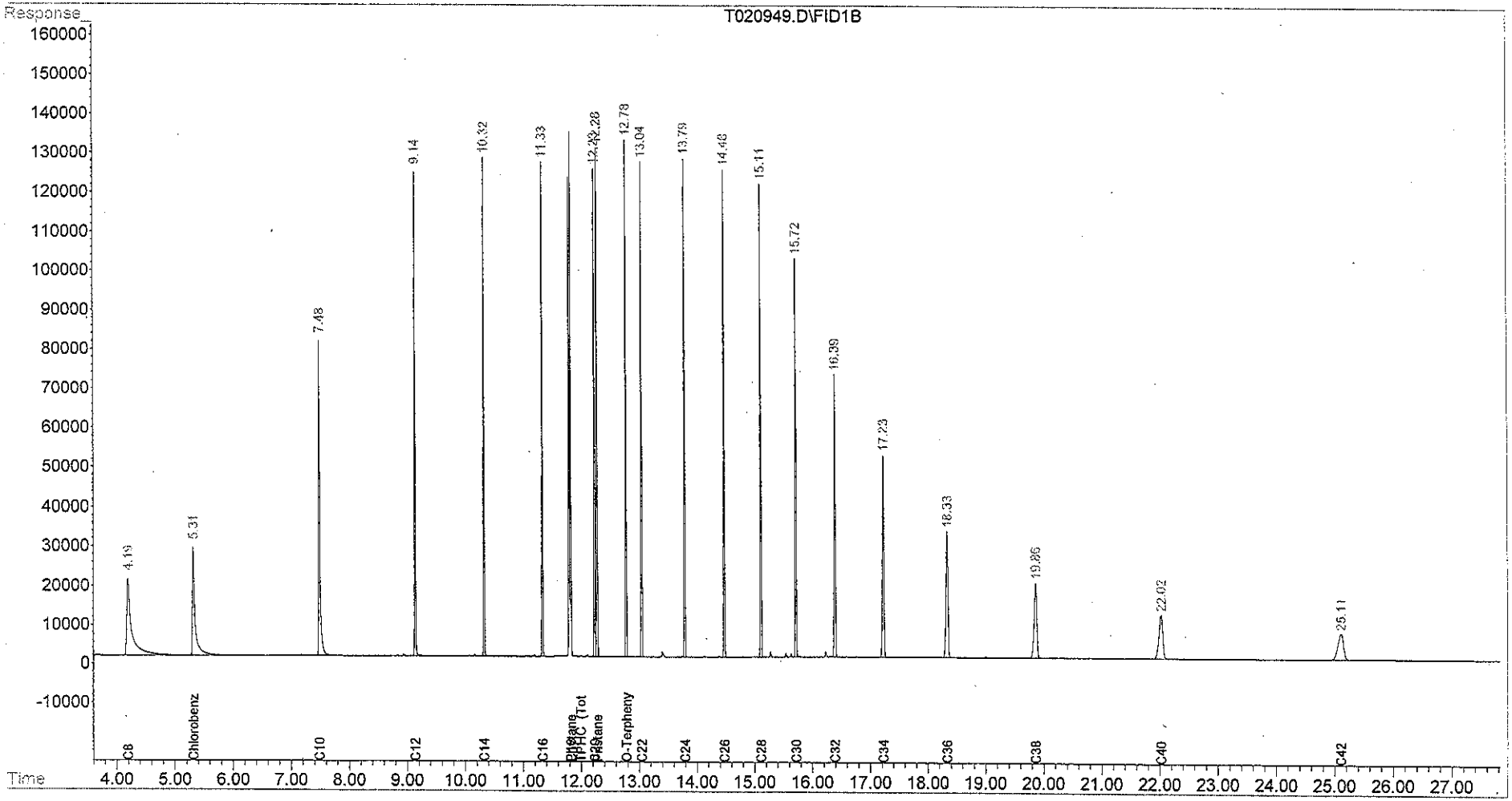
(f)=RT Delta > 1/2 Window (m)=manual int.
T020949.D TPHC019.M Wed Feb 11 08:07:16 2009

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090210\T020949.D Vial: 12
Acq On : 10 Feb 2009 8:22 pm Operator: ROBERTS
Sample : CCV019-50 Inst : TPHC
Misc : 3015-C EAST WALL Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 8:05 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



T020949.D TPHC019.M Wed Feb 11 08:08:01 2009

000023

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\090217\T020959.D Vial: 1
Acq On : 17 Feb 2009 11:17 am Operator: ROBERTS
Sample : CCV019-50 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Fri Feb 13 14:50:27 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	T	C8	21.438	21.570 E3	-0.6	102	-0.07
2	T	C10	22.544	21.907 E3	2.8	104	-0.02
3	T	C12	21.465	21.721 E3	-1.2	106	-0.02
4	T	C14	19.684	21.325 E3	-8.3	107	-0.02
5	T	C16	18.934	21.135 E3	-11.6	107	-0.02
6	T	C18	21.290	21.426 E3	-0.6	104	0.01
7	T	C20	21.957	22.015 E3	-0.3	106	-0.02
8	T	C22	20.763	22.320 E3	-7.5	106	-0.02
9	T	C24	20.430	22.169 E3	-8.5	106	-0.02
10	T	C26	20.310	21.894 E3	-7.8	106	-0.01
11	T	C28	19.948	21.488 E3	-7.7	106	-0.01
12	T	C30	18.829	19.907 E3	-5.7	105	-0.02
13	T	C32	16.277	17.188 E3	-5.6	104	-0.02
14	T	C34	14.304	15.405 E3	-7.7	103	-0.03
15	T	C36	11.947	12.883 E3	-7.8	101	-0.04
16	T	C38	9.292	10.147 E3	-9.2	100	-0.06
17	T	C40	7.416	8.196 E3	-10.5	97	-0.09
18	T	C42	5.568	6.611 E3	-18.7	92	-0.16
19	T	Phytane	21.296	21.426 E3	-0.6	104	-0.02
20	T	Pristane	22.393	22.696 E3	-1.4	105	-0.02
22	H	TPHC (Total)	18.051	18.816 E3	-4.2	111	0.00
23	S	Chlorobenzene (SURR.)	16.096	15.949 E3	0.9	102	-0.05
24	S	O-Terphenyl (SURR.)	23.444	23.735 E3	-1.2	104	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090217\T020959.D Vial: 1
Acq On : 17 Feb 2009 11:17 am Operator: ROBERTS
Sample : CCV019-50 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:27 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
23) S	Chlorobenzene (SURR.)	5.31	797458	49.543 mg/L
Spiked Amount	50.000		Recovery =	99.09%
24) S	O-Terphenyl (SURR.)	12.78	1186729	50.621 mg/L
Spiked Amount	50.000		Recovery =	101.24%
	Target Compounds			
1) T	C8	4.18	1078506	50.309 mg/L
2) T	C10	7.48	1095372	48.588 mg/L
3) T	C12	9.14	1086056	50.597 mg/L
4) T	C14	10.32	1066236	54.169 mg/L
5) T	C16	11.33	1056755	55.812 mg/L
6) T	C18	11.82	1071303	50.320 mg/L
7) T	C20	12.23	1100772	50.133 mg/L
8) T	C22	13.05	1115977	53.750 mg/L
9) T	C24	13.79	1108429	54.254 mg/L
10) T	C26	14.48	1094682	53.898 mg/L
11) T	C28	15.11	1074379	53.860 mg/L
12) T	C30	15.72	995373	52.864 mg/L
13) T	C32	16.39	859390	52.798 mg/L
14) T	C34	17.23	770241	53.848 mg/L
15) T	C36	18.33	644135	53.915 mg/L
16) T	C38	19.86	507345	54.600 mg/L
17) T	C40	22.02	409797	55.256 mg/L
18) T	C42	25.10	330536	59.363 mg/L
19) T	Phytane	11.82	1071303	50.305 mg/L
20) T	Pristane	12.28	1134806	50.676 mg/L
22) H	TPHC (Total)	12.00	18816329	1042.376 mg/L

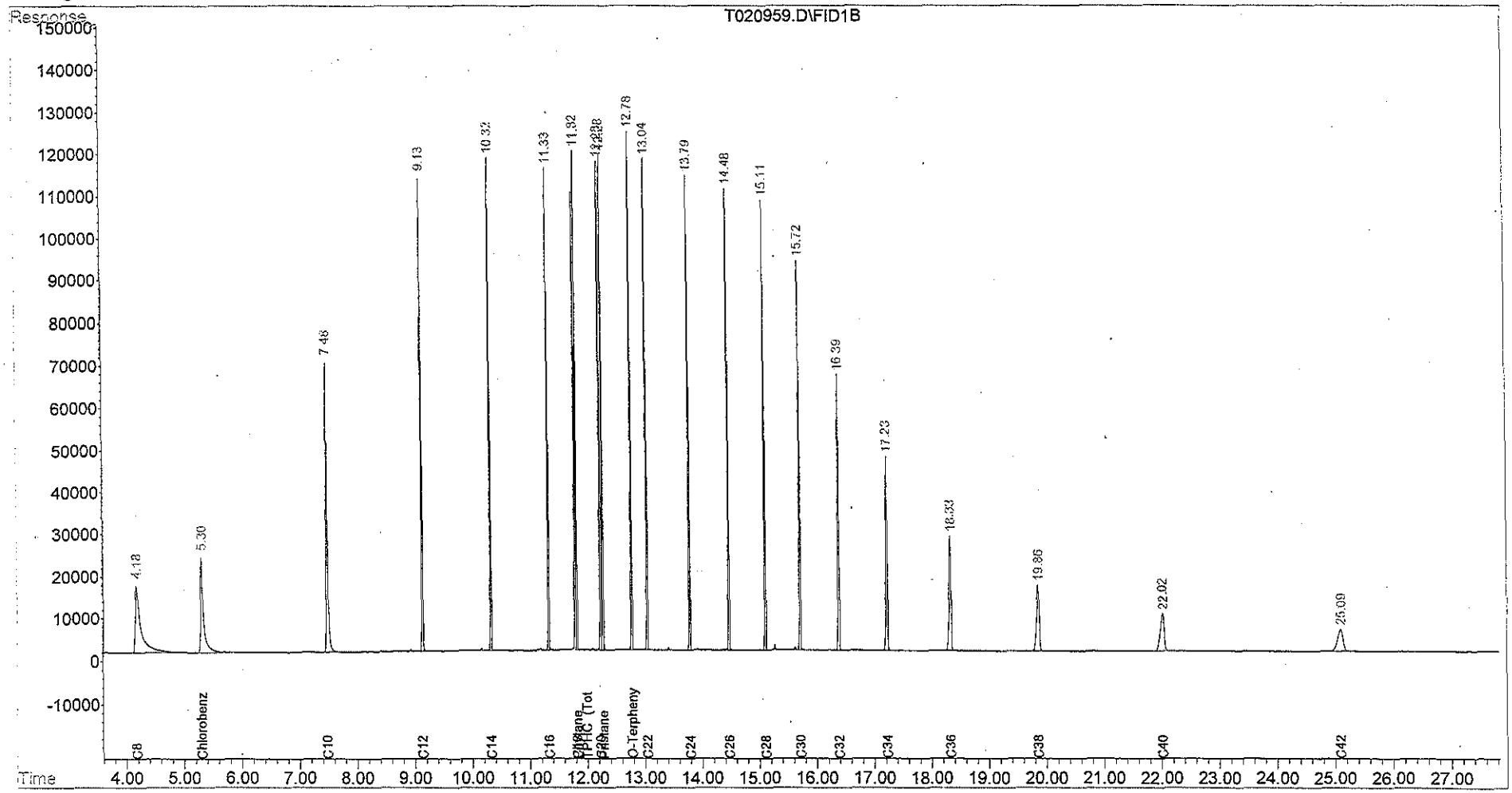
(f)=RT Delta > 1/2 Window (m)=manual int.
T020959.D TPHC019.M Wed Feb 18 08:27:21 2009

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090217\T020959.D Vial: 1
Acq On : 17 Feb 2009 11:17 am Operator: ROBERTS
Sample : CCV019-50 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:27 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\090217\T020968.D Vial: 10
Acq On : 17 Feb 2009 5:02 pm Operator: ROBERTS
Sample : CCV019-50 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Fri Feb 13 14:50:27 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%	Dev(min)
1	T	C8	21.438	23.932	E3	-11.6	113	-0.07
2	T	C10	22.544	24.380	E3	-8.1	116	-0.02
3	T	C12	21.465	24.283	E3	-13.1	118	-0.02
4	T	C14	19.684	23.848	E3	-21.2	120	-0.02
5	T	C16	18.934	23.675	E3	-25.0#	120	-0.02
6	T	C18	21.290	23.870	E3	-12.1	116	0.01
7	T	C20	21.957	24.694	E3	-12.5	119	-0.02
8	T	C22	20.763	25.071	E3	-20.7	119	-0.02
9	T	C24	20.430	24.941	E3	-22.1	120	-0.02
10	T	C26	20.310	24.792	E3	-22.1	120	-0.02
11	T	C28	19.948	24.382	E3	-22.2	121	-0.02
12	T	C30	18.829	22.684	E3	-20.5	120	-0.02
13	T	C32	16.277	19.611	E3	-20.5	119	-0.02
14	T	C34	14.304	17.580	E3	-22.9	118	-0.03
15	T	C36	11.947	14.875	E3	-24.5	117	-0.04
16	T	C38	9.292	11.958	E3	-28.7#	118	-0.07
17	T	C40	7.416	10.036	E3	-35.3#	119	-0.10
18	T	C42	5.568	8.748	E3	-57.1#	122	-0.16
19	T	Phytane	21.296	23.870	E3	-12.1	116	-0.02
20	T	Pristane	22.393	25.293	E3	-13.0	117	-0.02
22	H	TPHC (Total)	18.051	21.293	E3	-18.0	125	0.00
23	S	Chlorobenzene (SURR.)	16.096	17.707	E3	-10.0	113	-0.04
24	S	O-Terphenyl (SURR.)	23.444	26.454	E3	-12.8	116	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090217\T020968.D Vial: 10
Acq On : 17 Feb 2009 5:02 pm Operator: ROBERTS
Sample : CCV019-50 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:28 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.31	885372	55.005 mg/L
Spiked Amount 50.000		Recovery =	110.01%
24) S O-Terphenyl (SURR.)	12.78	1322707	56.421 mg/L
Spiked Amount 50.000		Recovery =	112.84%
Target Compounds			
1) T C8	4.18	1196581	55.816 mg/L
2) T C10	7.48	1219019	54.073 mg/L
3) T C12	9.13	1214161	56.565 mg/L
4) T C14	10.32	1192413	60.579 mg/L
5) T C16	11.33	1183737	62.519 mg/L
6) T C18	11.82	1193492	56.060 mg/L
7) T C20	12.23	1234696	56.232 mg/L
8) T C22	13.04	1253556	60.376 mg/L
9) T C24	13.79	1247062	61.039 mg/L
10) T C26	14.47	1239618	61.035 mg/L
11) T C28	15.11	1219098	61.115 mg/L
12) T C30	15.72	1134205	60.237 mg/L
13) T C32	16.39	980542	60.241 mg/L
14) T C34	17.23	878996	61.451 mg/L
15) T C36	18.33	743761	62.253 mg/L
16) T C38	19.86	597897	64.345 mg/L
17) T C40	22.01	501796	67.661 mg/L
18) T C42	25.09	437401	78.556 mg/L
19) T Phytane	11.82	1193492	56.043 mg/L
20) T Pristane	12.28	1264633	56.473 mg/L
22) H TPHC (Total)	12.00	21293406	1179.600 mg/L

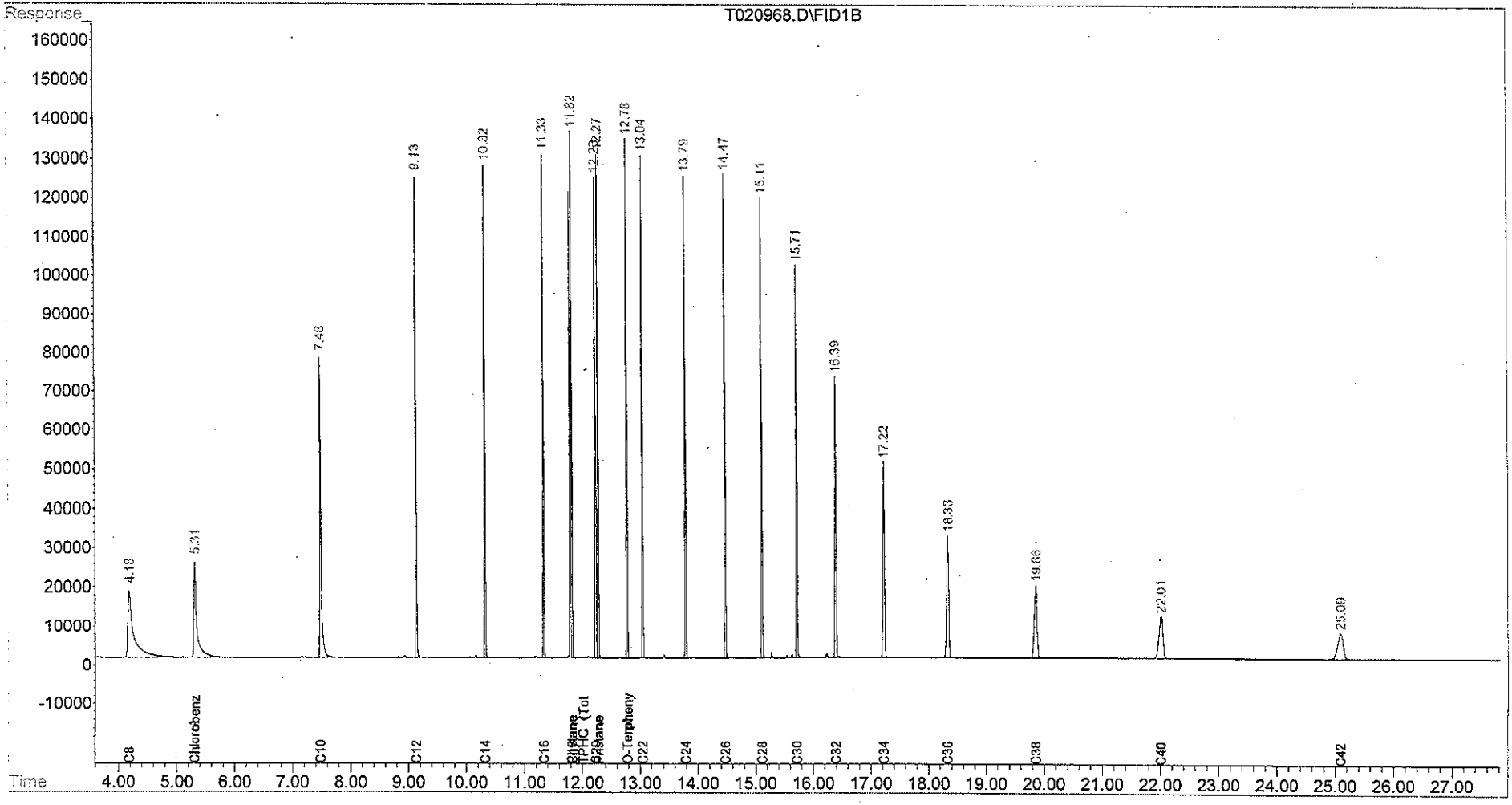
(f)=RT Delta > 1/2 Window (m)=manual int.
T020968.D TPHC019.M Wed Feb 18 08:29:12 2009

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090217\T020968.D Vial: 10
Acq On : 17 Feb 2009 5:02 pm Operator: ROBERTS
Sample : CCV019-50 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:28 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



620000

Surrogate Recovery Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Client:	U.S. Army DPW. SELFM-PW-EV Bldg. 173 Ft. Monmouth, NJ 07703	**Project #:** **Location:** **ECP:** **Work Order:**	09-59762 Bldg. 3015
Analysis:	OQA-QAM-025	**Date Received:**	9-Feb-09
Matrix:	Soil	**Date Extracted:**	10-Feb-09
Inst. ID:	GC TPHC INST. #1	**Extraction Method:**	Shake
Column Type:	RTX-5, 0.32mm ID, 30 m	**Analysis Complete:**	10-Feb-09
Injection Volume:	1 uL	**Analyst:**	Robert Szot

Lab ID	Surrogate spiked (ppm)	Dilution Factor	Chlorobenzene recovered (ppm)	% Recovery	o-Terphenyl recovered (ppm)	% Recovery
MB02100901	10.00	1.00	10.778	107.78	11.104	111.04
LCS02100901	10.00	1.00	11.604	116.04	11.407	114.07
9004301	10.00	1.00	10.100	101.00	11.048	110.48
9004302	10.00	1.00	10.782	107.82	11.989	119.89
9004303	10.00	1.00	9.522	95.22	10.268	102.68
9004304	10.00	1.00	10.473	104.73	11.304	113.04
9004305	10.00	1.00	11.007	110.07	11.870	118.70
9004306	10.00	1.00	11.929	119.29	12.997	129.97
9004303MS	10.00	1.00	10.212	102.12	11.426	114.26
9004303MSD	10.00	1.00	10.069	100.69	11.537	115.37

Surrogate Recovery Limits

Surrogate		Lower Control Limit %	Upper Control Limit %
Chlorobenzene		*60*	*130*
o-Terphenyl		*62*	*133*

000030

Surrogate Recovery Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Client:	U.S. Army DPW. SELFM-PW-EV Bldg. 173 Ft. Monmouth, NJ 07703	**Project #:** **Location:** **ECP:** **Work Order:**	09-59762 Bldg. 3015
Analysis:	OQA-QAM-025	**Date Received:**	12-Feb-09
Matrix:	Soil	**Date Extracted:**	13-Feb-09
Inst. ID:	GC TPHC INST. #1	**Extraction Method:**	Shake
Column Type:	RTX-5, 0.32mm ID, 30 m	**Analysis Complete:**	17-Feb-09
Injection Volume:	1 uL	**Analyst:**	Robert Szot

Lab ID	Surrogate spiked (ppm)	Dilution Factor	Chlorobenzene recovered (ppm)	% Recovery	o-Terphenyl recovered (ppm)	% Recovery
MB02130901	10.00	1.00	9.548	95.48	10.091	100.91
LCS02130901	10.00	1.00	8.287	82.87	8.457	84.57
9005001	10.00	1.00	8.647	86.47	9.820	98.20
9005002	10.00	1.00	10.672	106.72	12.003	120.03
9005003	10.00	1.00	8.604	86.04	9.548	95.48
9005004	10.00	1.00	9.602	96.02	10.529	105.29
9005002MS	10.00	1.00	8.070	80.70	9.371	93.71
9005002MSD	10.00	1.00	8.568	85.68	9.876	98.76

Surrogate Recovery Limits

Surrogate		Lower Control Limit %	Upper Control Limit %
Chlorobenzene		*60*	*130*
o-Terphenyl		*62*	*133*

Matrix Spike/Matrix Spike Duplicate Recovery Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Client:	U.S. Army DPW. SELFM-PW-EV Bldg. 173 Ft. Monmouth, NJ 07703	**Project #:** **Location:** **ECP:** **Work Order:**	09-59762 Bldg. 3015
Analysis:	OQA-QAM-025	**Date Received:**	9-Feb-09
Matrix:	Soil	**Date Extracted:**	10-Feb-09
Inst. ID:	GC TPHC INST. #1	**Extraction Method:**	Shake
Column Type:	RTX-5, 0.32mm ID, 30 m	**Analysis Complete:**	10-Feb-09
Injection Volume:	1 uL	**Analyst:**	Robert Szot

Lab ID	Spike Amount (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits (%)
9004303MS	1000.00	0.00	1285.19	128.52	55 -129
9004303MSD	1000.00	0.00	1282.46	128.25	55 -129
			RPD	**0.21**	**20**

Matrix Spike/Matrix Spike Duplicate Recovery Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Client:	U.S. Army DPW. SELFM-PW-EV Bldg. 173 Ft. Monmouth, NJ 07703	**Project #:** **Location:** **ECP:** **Work Order:**	09-59762 Bldg. 3015
Analysis:	OQA-QAM-025	**Date Received:**	12-Feb-09
Matrix:	Soil	**Date Extracted:**	13-Feb-09
Inst. ID:	GC TPHC INST. #1	**Extraction Method:**	Shake
Column Type:	RTX-5, 0.32mm ID, 30 m	**Analysis Complete:**	17-Feb-09
Injection Volume:	1 uL	**Analyst:**	Robert Szot

Lab ID	Spike Amount (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits (%)
9005002MS	1000.00	356.46	990.13	72.99	55 -129
9005002MSD	1000.00	356.46	1069.31	78.83	55 -129
			RPD	**7.69**	**20**

Laboratory Control Standard Summary
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Client:	U.S. Army DPW. SELFM-PW-EV Bldg. 173 Ft. Monmouth, NJ 07703	**Project #:** **Location:** **ECP:** **Work Order:**	09-59762 Bldg. 3015
Analysis:	OQA-QAM-025	**Date Received:**	9-Feb-09
Matrix:	Soil	**Date Extracted:**	10-Feb-09
Inst. ID:	GC TPHC INST. #1	**Extraction Method:**	Shake
Column Type:	RTX-5, 0.32mm ID, 30 m	**Analysis Complete:**	10-Feb-09
Injection Volume:	1 uL	**Analyst:**	Robert Szot

Lab ID	Date Extracted	Spike Amount (ppm)	Amount Recovered (ppm)	Percent Recovery	QC Limits (%)
LCS02100901	10-Feb-09	1000.00	1256.75	125.67	55 - 129

Laboratory Control Standard Summary
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Client:	U.S. Army DPW. SELFM-PW-EV Bldg. 173 Ft. Monmouth, NJ 07703	**Project #:** **Location:** **ECP:** **Work Order:**	09-59762 Bldg. 3015
Analysis:	OQA-QAM-025	**Date Received:**	12-Feb-09
Matrix:	Soil	**Date Extracted:**	13-Feb-09
Inst. ID:	GC TPHC INST. #1	**Extraction Method:**	Shake
Column Type:	RTX-5, 0.32mm ID, 30 m	**Analysis Complete:**	17-Feb-09
Injection Volume:	1 uL	**Analyst:**	Robert Szot

Lab ID	Date Extracted	Spike Amount (ppm)	Amount Recovered (ppm)	Percent Recovery	QC Limits (%)
LCS02130901	13-Feb-09	1000.00	882.57	88.26	55 - 129

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090210\T020939.D Vial: 2
Acq On : 10 Feb 2009 2:10 pm Operator: ROBERTS
Sample : MB02100901 Inst : TPHC
Misc : TPHC 2/10/08 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 10 15:46 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.31	173493	10.778	mg/L
Spiked Amount 10.000		Recovery =	107.78%	
24) S O-Terphenyl (SURR.)	12.77	260310	11.104	mg/L
Spiked Amount 10.000		Recovery =	111.04%	
Target Compounds				

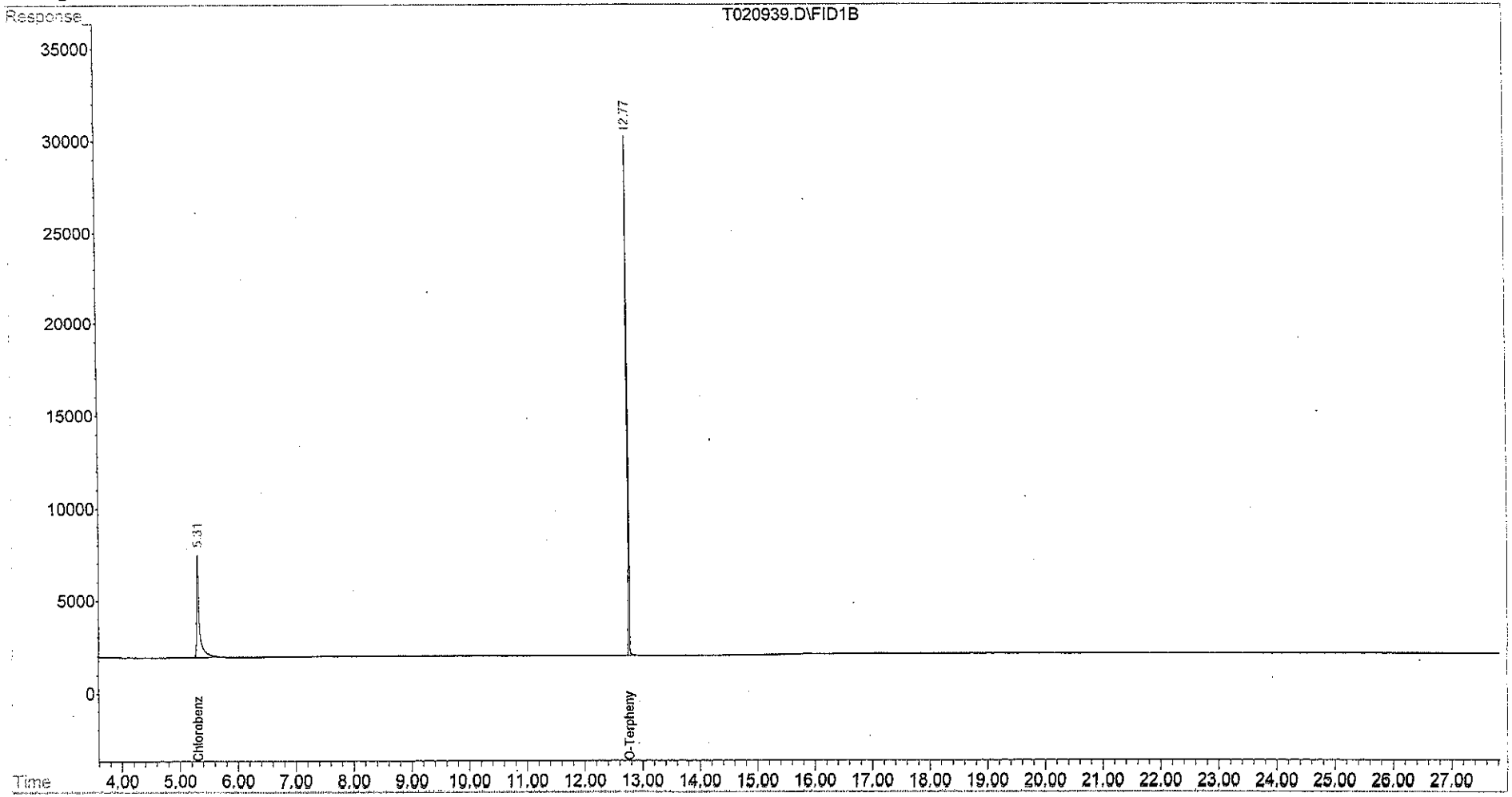
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090210\T020939.D Vial: 2
Acq On : 10 Feb 2009 2:10 pm Operator: ROBERTS
Sample : MB02100901 Inst : TPHC
Misc : TPHC 2/10/08 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 10 15:46 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



000037

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090217\T020960.D Vial: 2
Acq On : 17 Feb 2009 12:16 pm Operator: ROBERTS
Sample : MB02130901 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:02 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.31	153691	9.548	mg/L
Spiked Amount 10.000	Recovery =		95.48%	
24) S O-Terphenyl (SURR.)	12.77	236558	10.091	mg/L
Spiked Amount 10.000	Recovery =		100.91%	
Target Compounds				

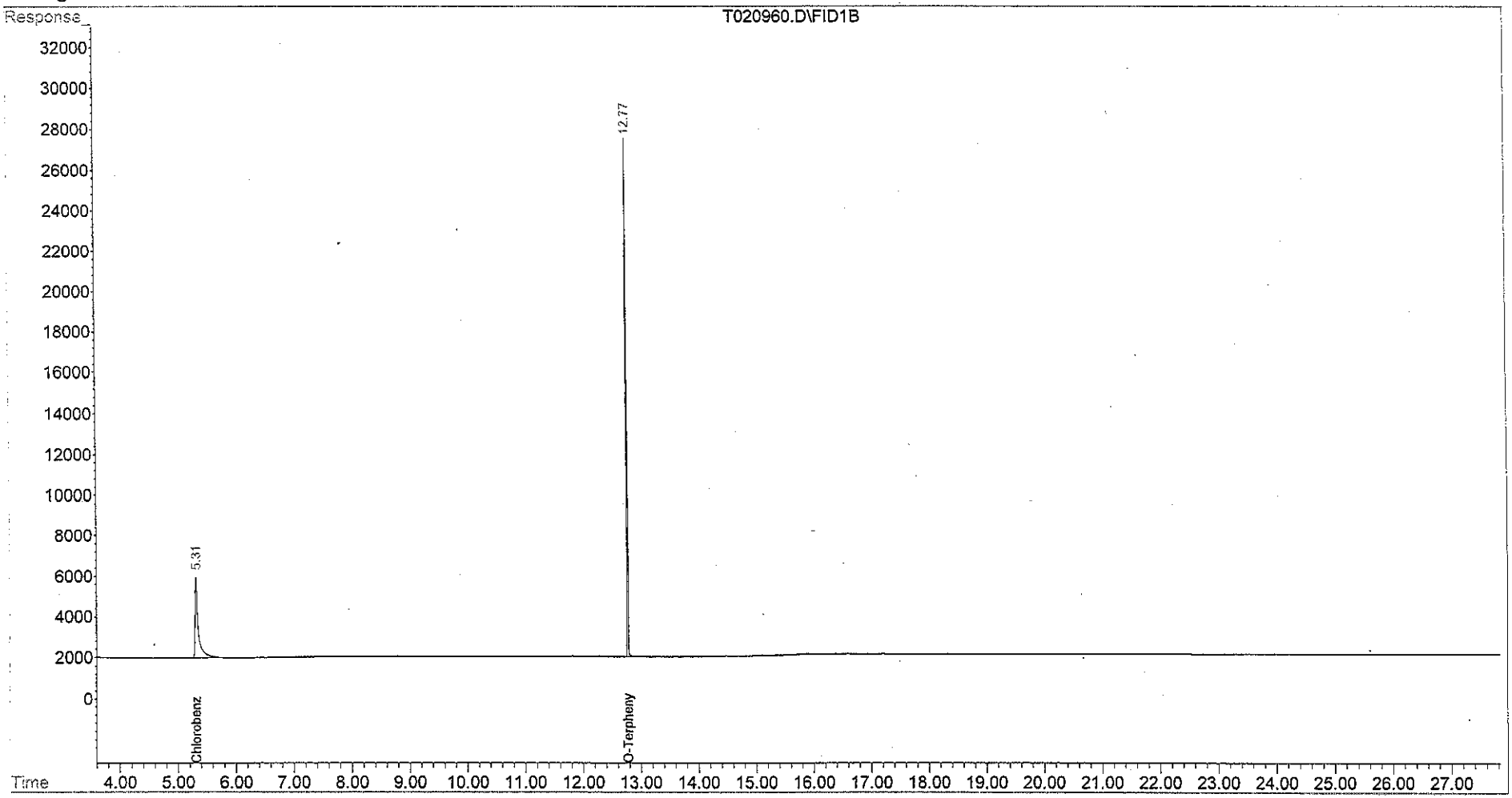
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090217\T020960.D Vial: 2
Acq On : 17 Feb 2009 12:16 pm Operator: ROBERTS
Sample : MB02130901 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:02 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



000039

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090210\T020941.D Vial: 4
Acq On : 10 Feb 2009 3:24 pm Operator: ROBERTS
Sample : 9003401 Inst : TPHC
Misc : 3015-A NORTH WALL Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 10 15:52 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.31	162578	10.100	mg/L
Spiked Amount 10.000	Recovery =		101.00%	
24) S O-Terphenyl (SURR.)	12.77	259002	11.048	mg/L
Spiked Amount 10.000	Recovery =		110.48%	
Target Compounds				
22) H TPHC (Total)	12.00	319758	17.714	mg/L

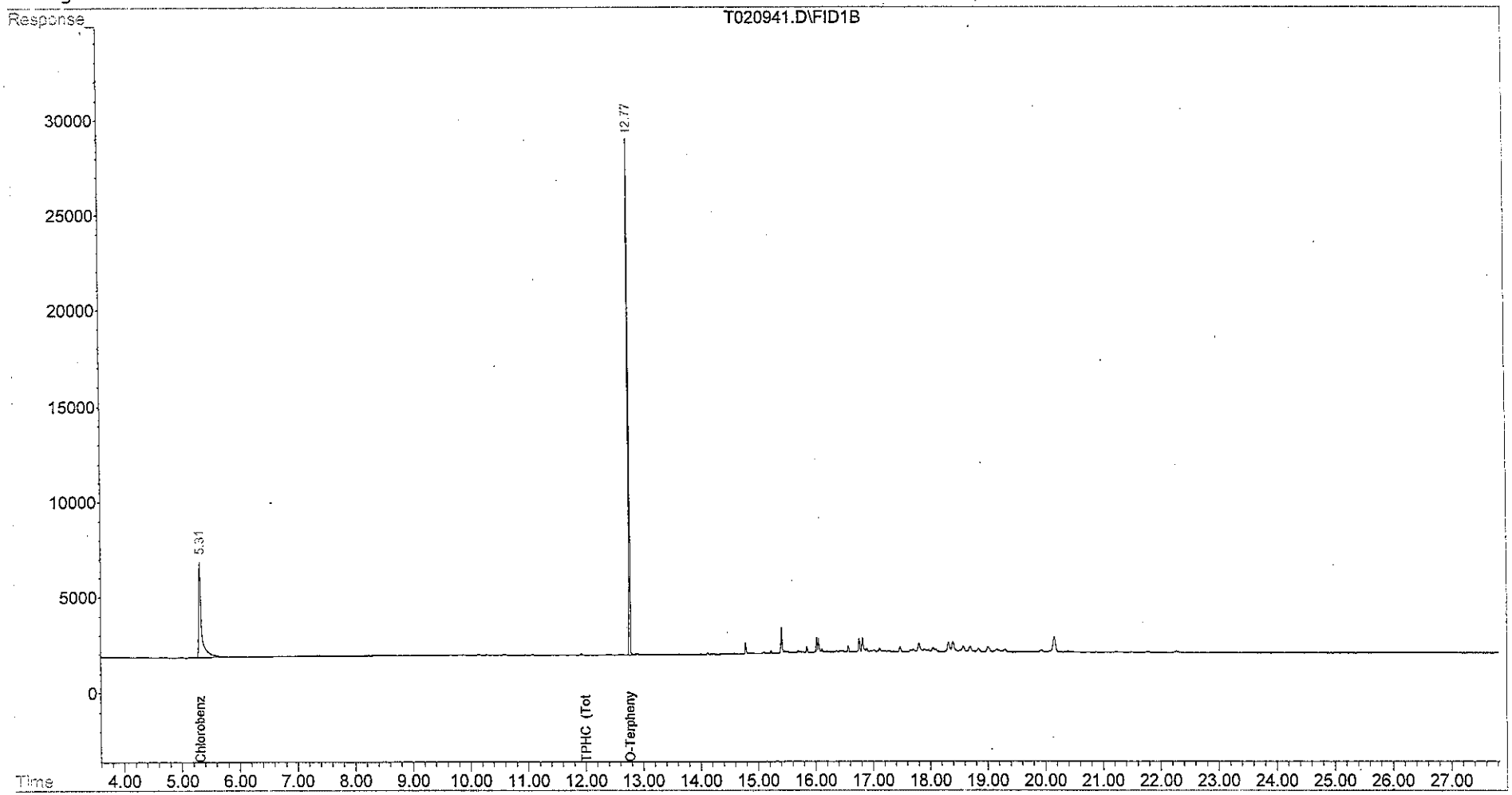
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090210\T020941.D Vial: 4
Acq On : 10 Feb 2009 3:24 pm Operator: ROBERTS
Sample : 9003401 Inst : TPHC
Misc : 3015-A NORTH WALL Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 10 15:52 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



000041

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090210\T020942.D Vial: 5
Acq On : 10 Feb 2009 4:01 pm Operator: ROBERTS
Sample : 9003402 Inst : TPHC
Misc : 3015-B SOUTH WALL Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 7:45 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.31	173556	10.782	mg/L
Spiked Amount 10.000	Recovery =		107.82%	
24) S O-Terphenyl (SURR.)	12.77	281064	11.989	mg/L
Spiked Amount 10.000	Recovery =		119.89%	
Target Compounds				

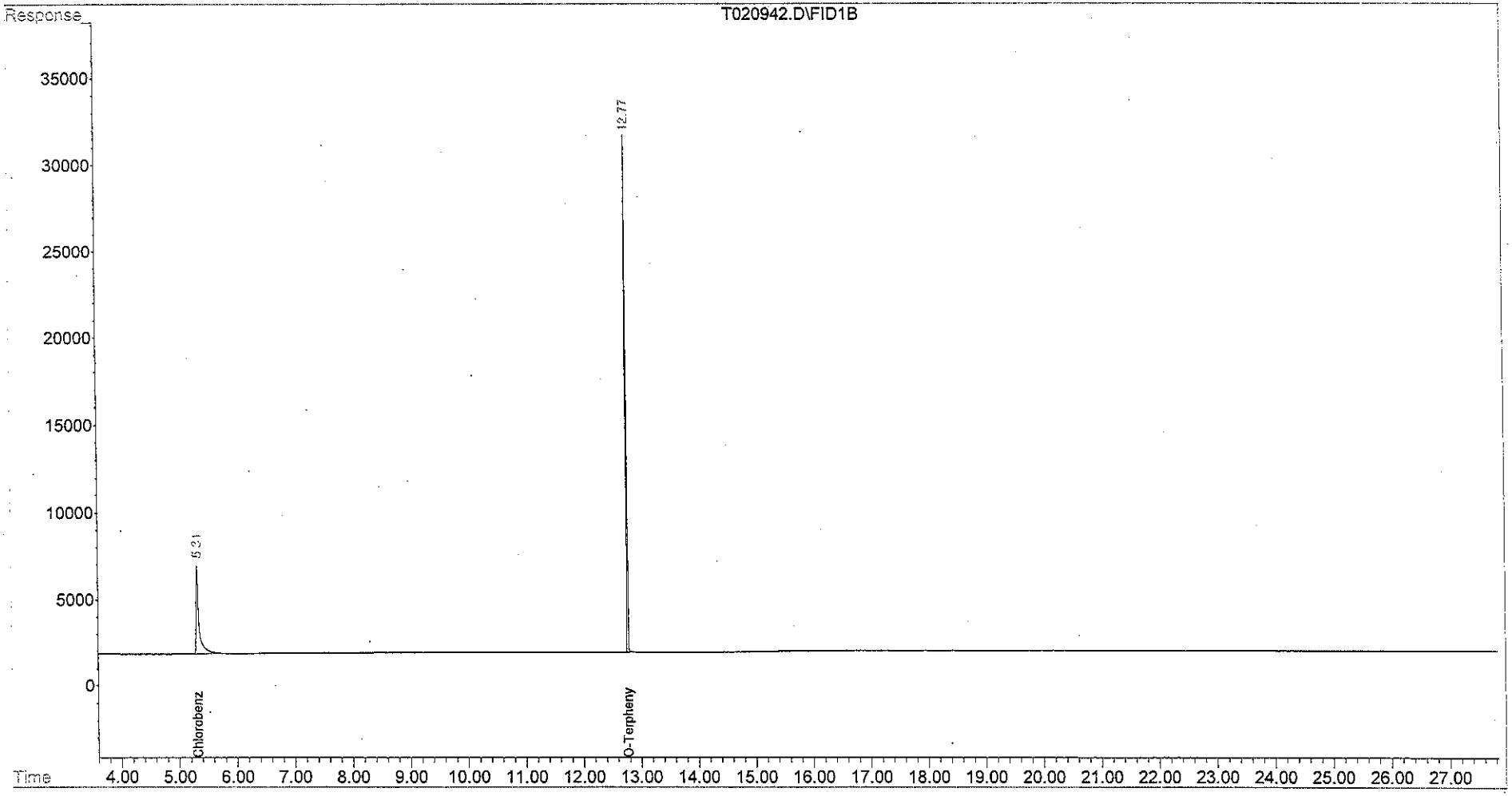
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090210\T020942.D Vial: 5
Acq On : 10 Feb 2009 4:01 pm Operator: ROBERTS
Sample : 9003402 Inst : TPHC
Misc : 3015-B SOUTH WALL Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 7:45 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



000043

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090210\T020943.D Vial: 6
Acq On : 10 Feb 2009 4:38 pm Operator: ROBERTS
Sample : 9003403 Inst : TPHC
Misc : 3015-C EAST WALL Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 7:45 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.31	153271	9.522	mg/L
Spiked Amount 10.000	Recovery	=	95.22%	
24) S O-Terphenyl (SURR.)	12.77	240726	10.268	mg/L
Spiked Amount 10.000	Recovery	=	102.68%	
Target Compounds				

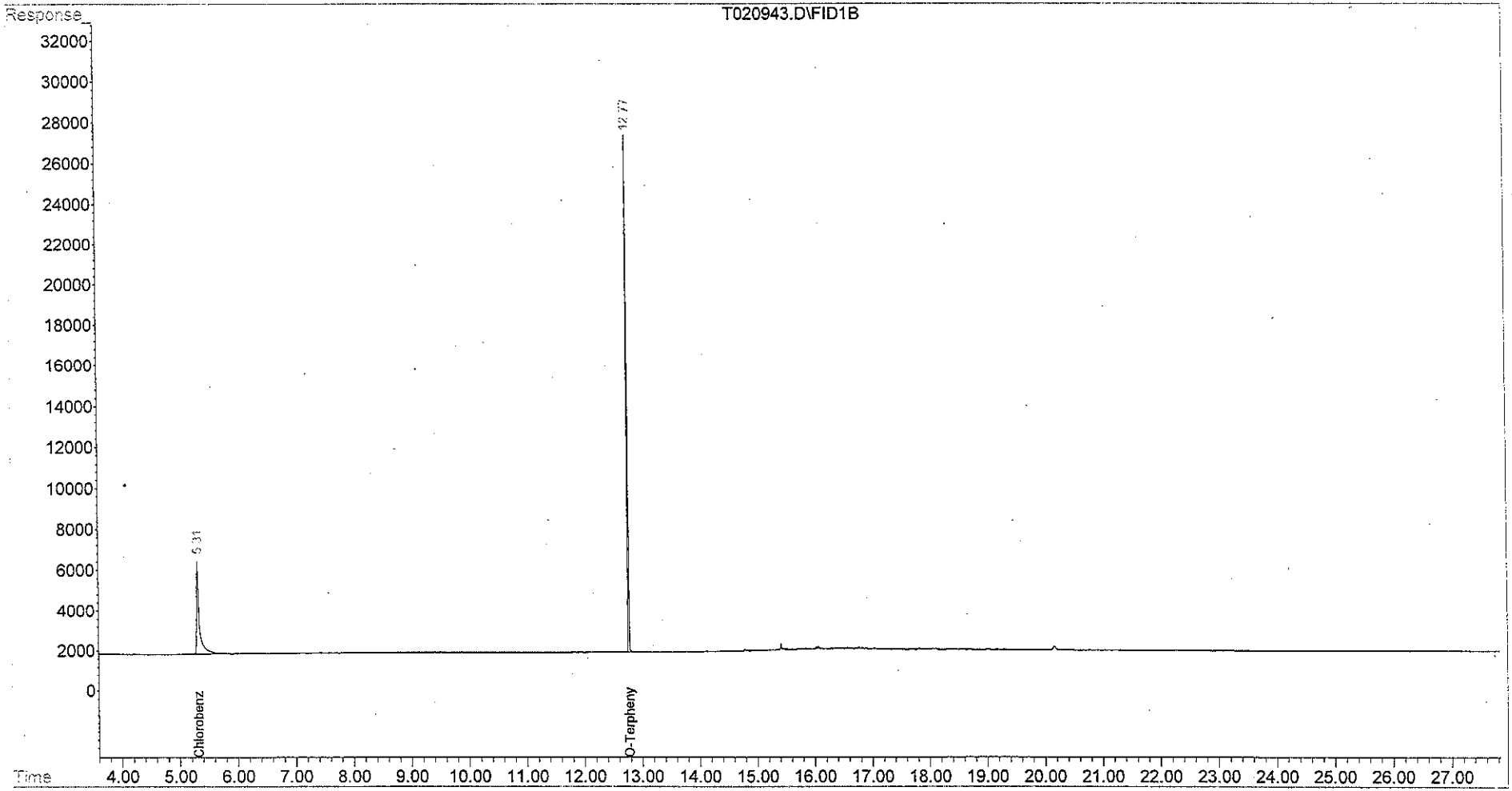
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090210\T020943.D Vial: 6
Acq On : 10 Feb 2009 4:38 pm Operator: ROBERTS
Sample : 9003403 Inst : TPHC
Misc : 3015-C EAST WALL Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 7:45 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



000045

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090210\T020944.D
Acq On : 10 Feb 2009 5:15 pm
Sample : 9003404
Misc : 3015-D WEST WALL
IntFile : EVENTS.E
Quant Time: Feb 11 7:45 2009 Quant Results File: TPHC019.RES

Vial: 7
Operator: ROBERTS
Inst : TPHC
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.31	168583	10.473 mg/L
Spiked Amount 10.000	Recovery	=	104.73%
24) S O-Terphenyl (SURR.)	12.77	264999	11.304 mg/L
Spiked Amount 10.000	Recovery	=	113.04%
Target Compounds			

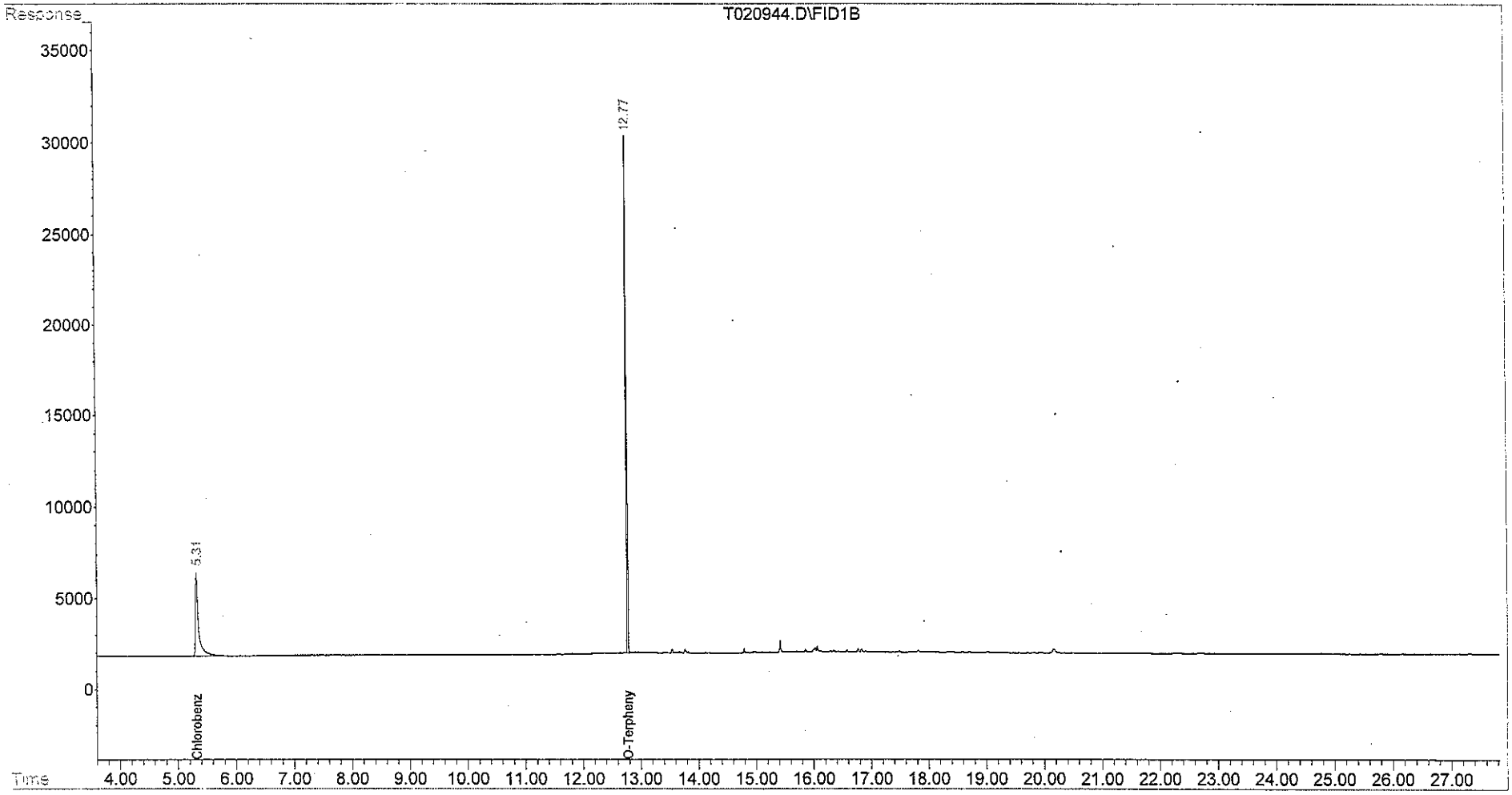
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090210\T020944.D Vial: 7
Acq On : 10 Feb 2009 5:15 pm Operator: ROBERTS
Sample : 9003404 Inst : TPHC
Misc : 3015-D WEST WALL Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 7:45 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



000047

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090210\T020945.D Vial: 8
Acq On : 10 Feb 2009 5:53 pm Operator: ROBERTS
Sample : 9003405 Inst : TPHC
Misc : 3015-E PIPING Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 7:45 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.31	177172	11.007	mg/L
Spiked Amount 10.000	Recovery =		110.07%	
24) S O-Terphenyl (SURR.)	12.77	278272	11.870	mg/L
Spiked Amount 10.000	Recovery =		118.70%	
Target Compounds				
22) H TPHC (Total)	12.00	126873	7.028	mg/L

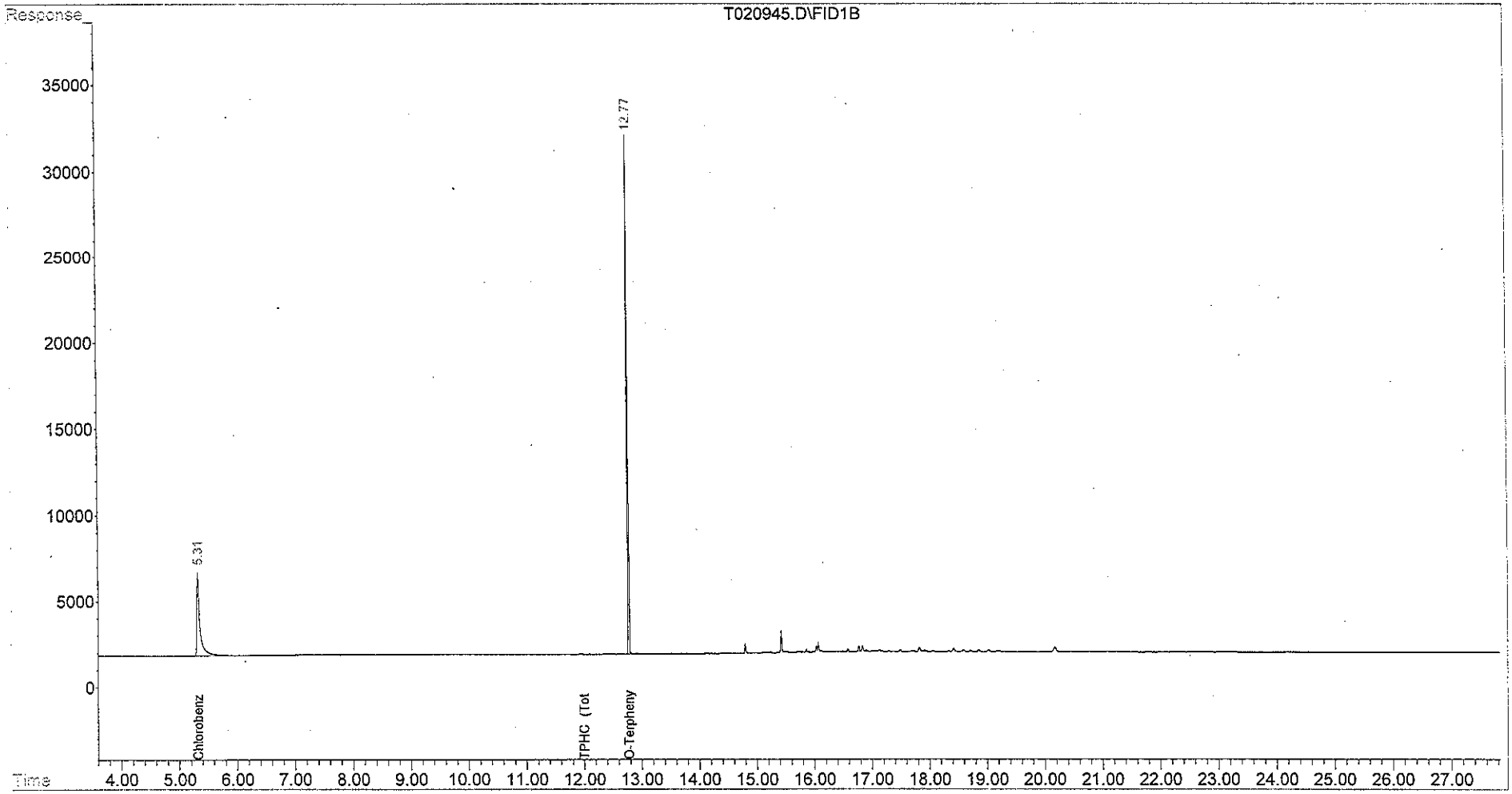
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090210\T020945.D Vial: 8
Acq On : 10 Feb 2009 5:53 pm Operator: ROBERTS
Sample : 9003405 Inst : TPHC
Misc : 3015-E PIPING Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 7:45 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



000049

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090210\T020946.D Vial: 9
Acq On : 10 Feb 2009 6:30 pm Operator: ROBERTS
Sample : 9003406 Inst : TPHC
Misc : 3015 DUPLICATE Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 7:46 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.31	192016	11.929	mg/L
Spiked Amount 10.000	Recovery =		119.29%	
24) S O-Terphenyl (SURR.)	12.77	304236	12.977	mg/L
Spiked Amount 10.000	Recovery =		129.77%	
Target Compounds				
22) H TPHC (Total)	12.00	127099	7.041	mg/L

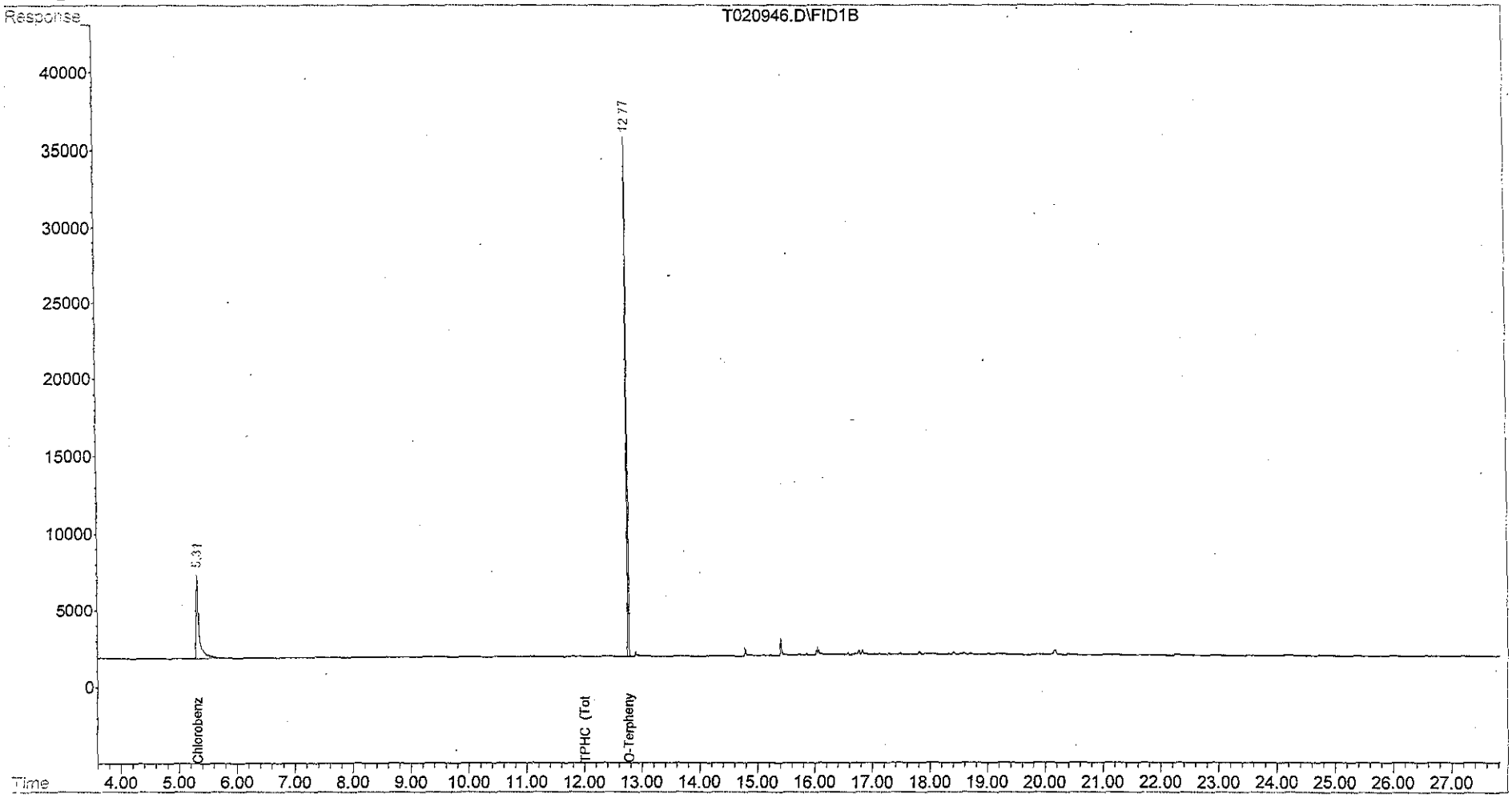
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090210\T020946.D Vial: 9
Acq On : 10 Feb 2009 6:30 pm Operator: ROBERTS
Sample : 9003406 Inst : TPHC
Misc : 3015 DUPLICATE Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 11 7:46 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090217\T020962.D Vial: 4
Acq On : 17 Feb 2009 1:27 pm Operator: ROBERTS
Sample : 9005001 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:02 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.30	139189	8.647	mg/L
Spiked Amount 10.000	Recovery =		86.47%	
24) S O-Terphenyl (SURR.)	12.77	230215	9.820	mg/L
Spiked Amount 10.000	Recovery =		98.20%	
Target Compounds				
22) H TPHC (Total)	12.00	190193	10.536	mg/L

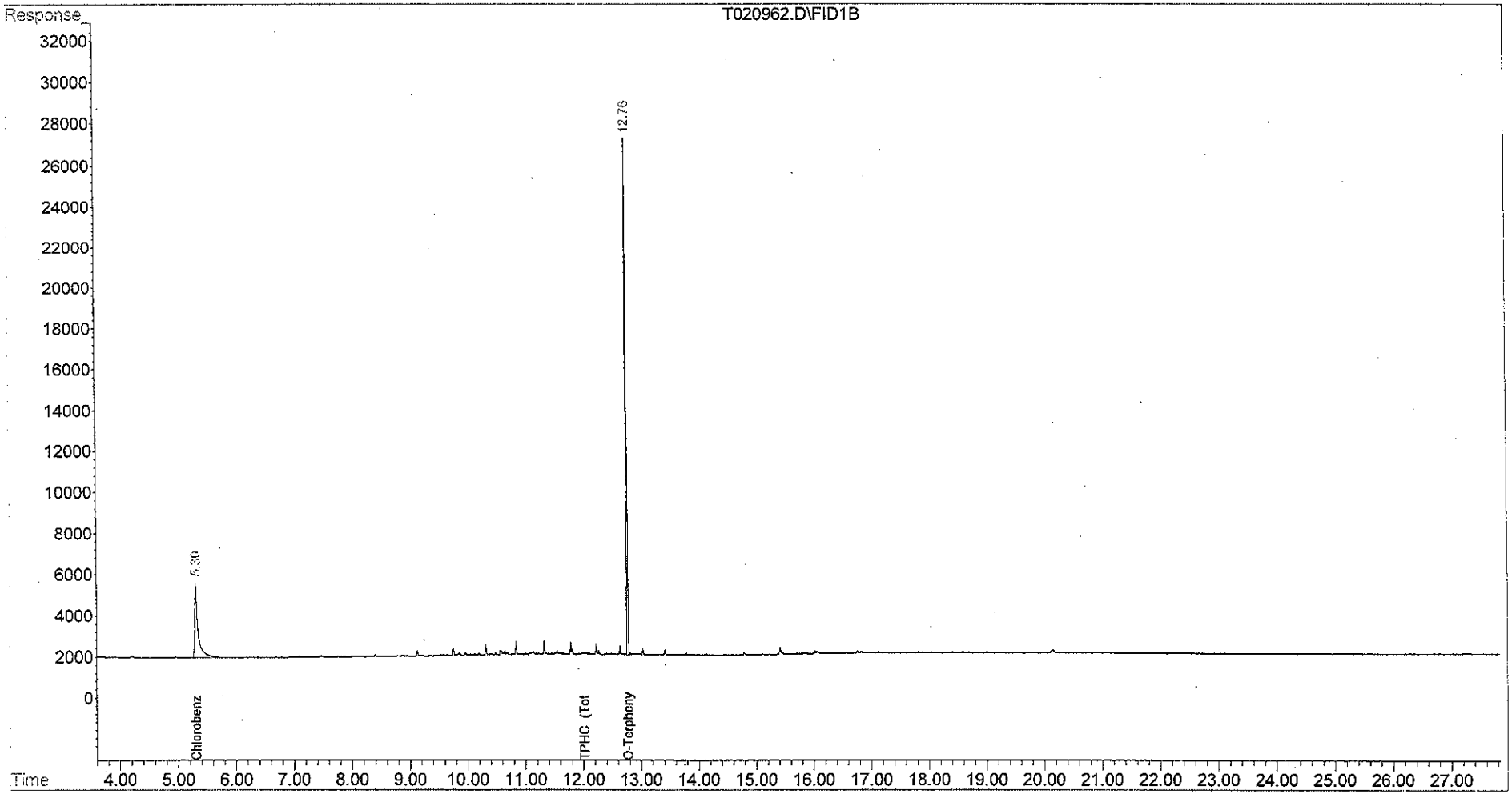
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090217\T020962.D Vial: 4
Acq On : 17 Feb 2009 1:27 pm Operator: ROBERTS
Sample : 9005001 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:02 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



000053

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090217\T020964.D Vial: 6
Acq On : 17 Feb 2009 2:39 pm Operator: ROBERTS
Sample : 9005002 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:03 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.30	138487	8.604	mg/L
Spiked Amount 10.000	Recovery =		86.04%	
24) S O-Terphenyl (SURR.)	12.76	223834	9.548	mg/L
Spiked Amount 10.000	Recovery =		95.48%	
Target Compounds				
22) H TPHC (Total)	12.00	149517	8.283	mg/L

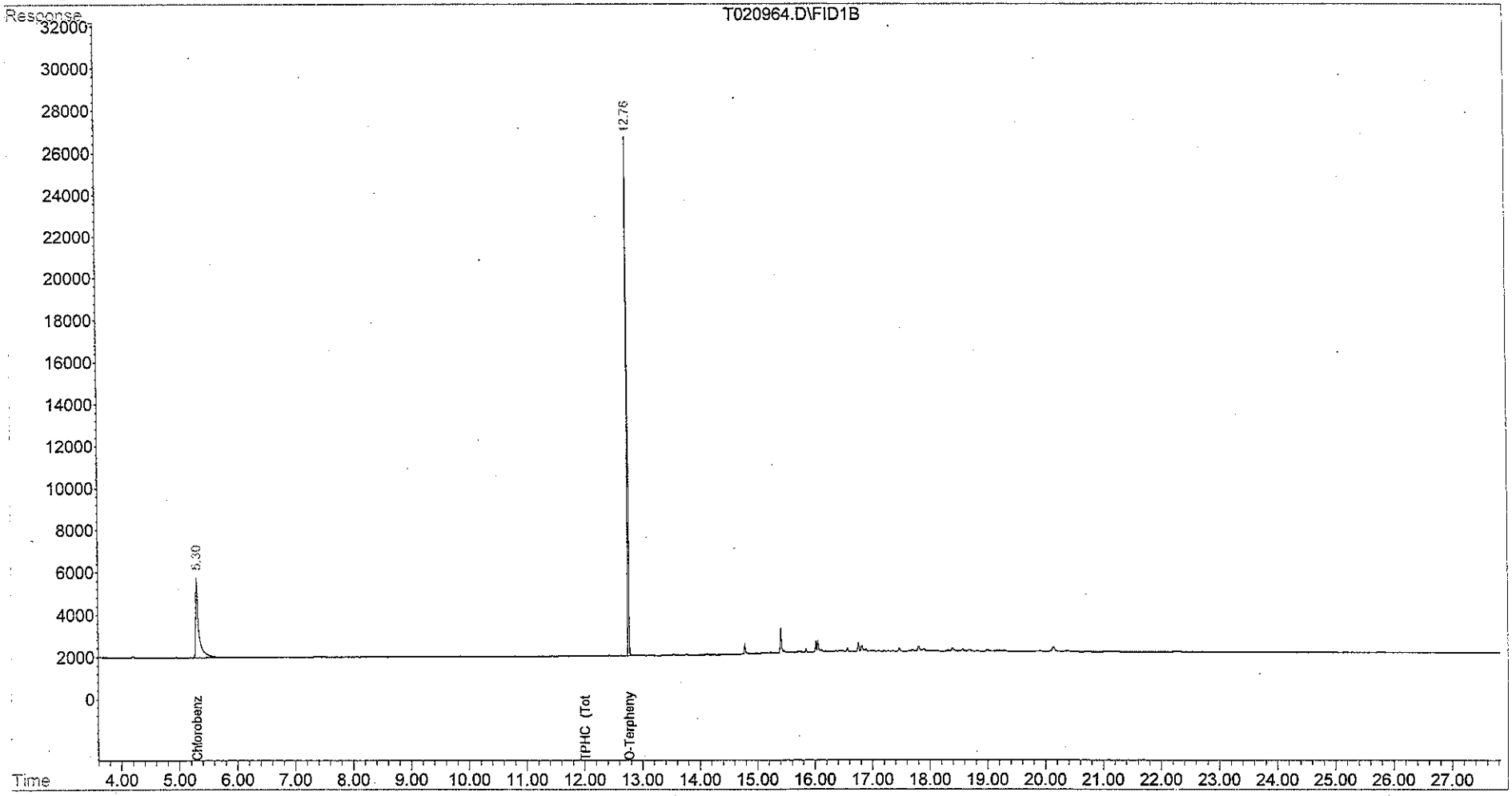
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090217\T020964.D Vial: 6
Acq On : 17 Feb 2009 2:39 pm Operator: ROBERTS
Sample : 9005002 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:03 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



000055

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090217\T020965.D Vial: 7
Acq On : 17 Feb 2009 3:15 pm Operator: ROBERTS
Sample : 9005003 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:03 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
23) S Chlorobenzene (SURR.)	5.30	154557	9.602	mg/L	
Spiked Amount 10.000	Recovery =		96.02%		
24) S O-Terphenyl (SURR.)	12.76	246848	10.529	mg/L	m
Spiked Amount 10.000	Recovery =		105.29%		
Target Compounds					
22) H TPHC (Total)	12.00	1470508	81.462	mg/L	

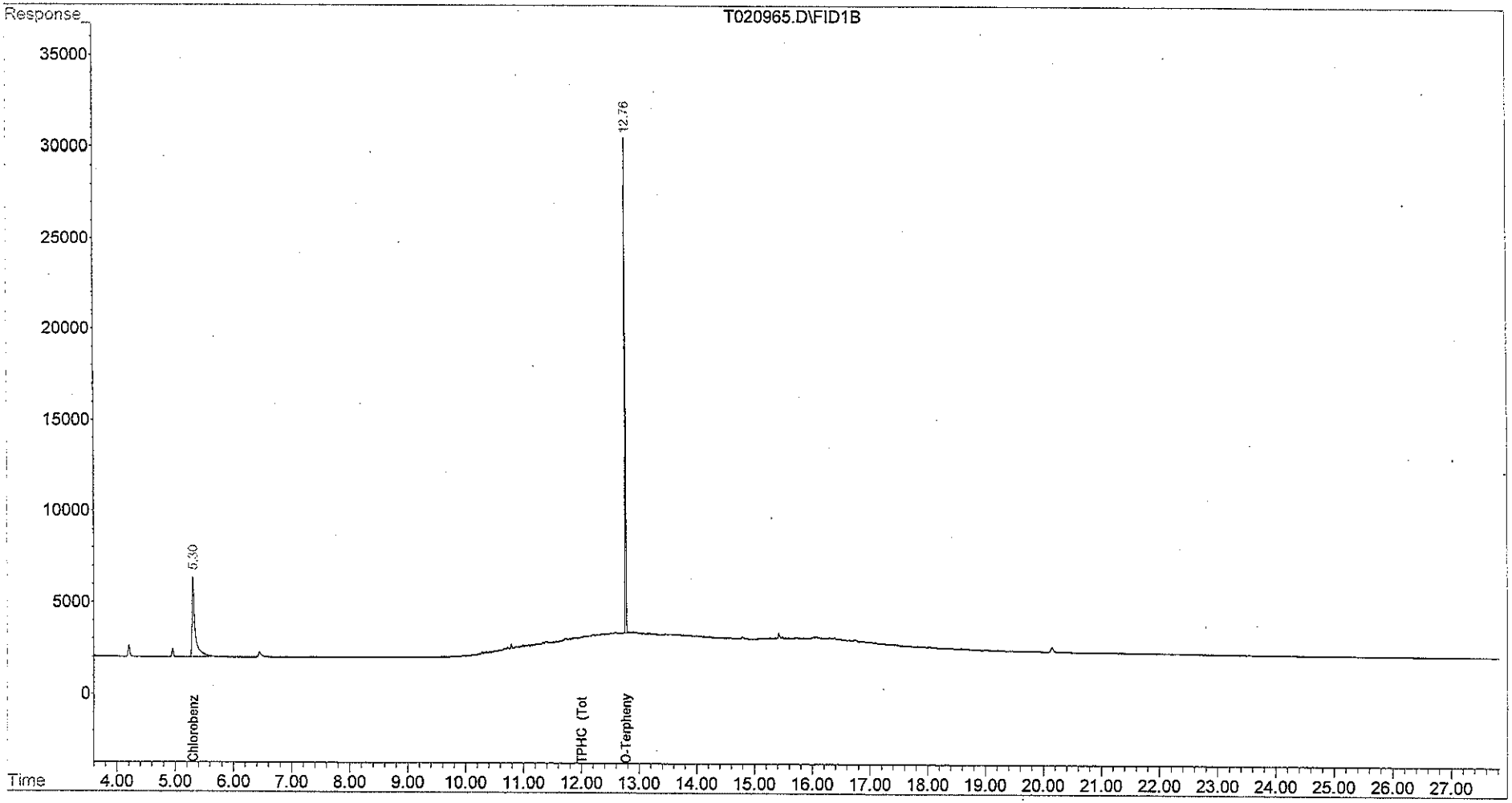
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090217\T020965.D Vial: 7
Acq On : 17 Feb 2009 3:15 pm Operator: ROBERTS
Sample : 9005003 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:03 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



000057

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090217\T020963.D Vial: 5
Acq On : 17 Feb 2009 2:03 pm Operator: ROBERTS
Sample : 9005004 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:03 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.31	171777	10.672	mg/L
Spiked Amount 10.000	Recovery = 106.72%			
24) S O-Terphenyl (SURR.)	12.76	281388	12.003	mg/L m
Spiked Amount 10.000	Recovery = 120.03%			
Target Compounds				
22) H TPHC (Total)	12.00	6434633	356.462	mg/L

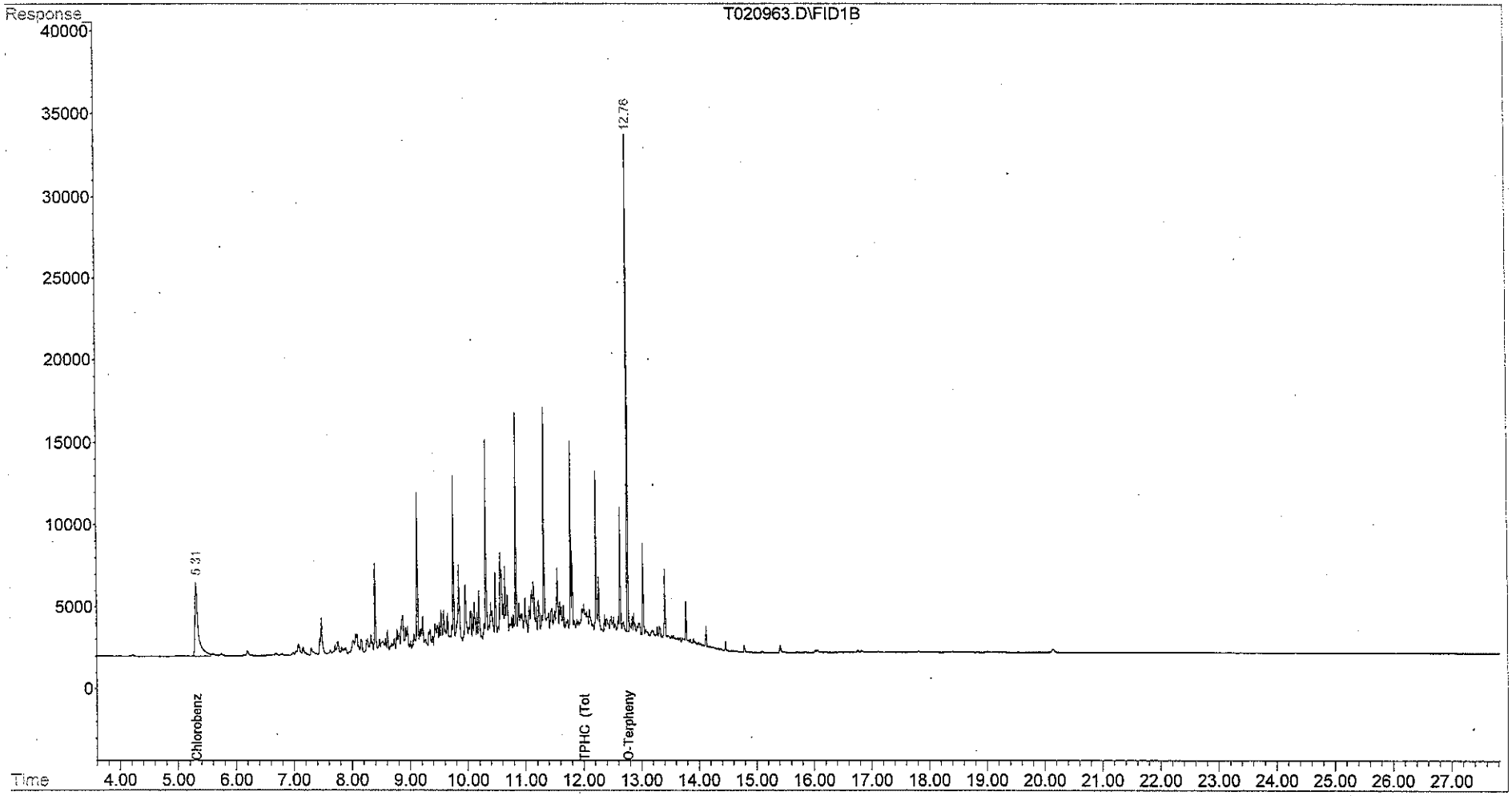
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090217\T020963.D Vial: 5
Acq On : 17 Feb 2009 2:03 pm Operator: ROBERTS
Sample : 9005004 Inst : TPHC
Misc : TPHC 2/17/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 18 8:03 2009 Quant Results File: TPHC019.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC019.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Jan 14 13:35:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC019.M

Volume Inj. :
Signal Phase :
Signal Info :



000059

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1.	Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted.	✓
2.	Table of Contents submitted.	✓
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.	✓
4.	Document paginated and legible.	✓
5.	Chain of Custody submitted.	✓
6.	Samples submitted to lab within 48 hours of sample collection.	✓
7.	Methodology Summary submitted.	✓
8.	Laboratory Chronicle and Holding Time Check submitted.	✓
9.	Results submitted on a dry weight basis.	✓
10.	Method Detection Limits submitted.	✓
11.	Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.	✓

Laboratory Manager or Environmental Consultant's Signature _____

Date: 2/11/09

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Jacqueline Hamer
QA/QC Supervisor