U.S. Army Garrison
Fort Monmouth, New Jersey

Underground Storage Tank Closure Report

Main Post – (former)Bldg.1076

NJDEP UST Registration No. 081533-209

January 2007

UNDERGROUND STORAGE TANK REPORT

MAIN POST –(FORMER) BUILDING 1076
NJDEP UST REGISTRATION NO. 081533-209

JANUARY 2007

PROJECT NO.: 05-41615

PREPARED FOR:

U.S. ARMY GARRISON, FORT MONMOUTH, NJ
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NJ 07703

PREPARED BY:

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

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EXECUTIVE SUMMARY

UST Closure

On January 12, 2005, a double wall fiberglass 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 former Building 1076 in the Main Post area of Fort Monmouth. UST No. 81533-209 was a 20,000-gallon No. 2 heating oil tank. The fill port and associated double wall supply/return piping was present in the excavation and also removed. The tank closure was performed by TECOM-Vinnell Services, Inc. (TVS).

Site Assessment

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual (August, 2005)*. Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination. Following removal, the UST was inspected for holes. No holes were found in the UST and no contaminated soils were observed surrounding the tank.

After removing the UST and piping, closure soil samples were collected. Samples 1076A, 1076B, 1076C, 1076D, 1076E, 1076F, 1076G, 1076H, 1076I and 1076J-Duplicate were collected from a total of nine (9) locations along the sidewalls bottom of the excavation. All samples were analyzed for total petroleum hydrocarbons (TPH). Groundwater was encountered at approximately 5.5 feet below surface grade in the excavation.

Findings

All the closure soil samples collected from the UST excavation associated with former UST No. 81533-209 contained no TPH concentrations above the laboratory method detection limits. All samples were Not Detected.

Site Restoration

Following receipt of the closure soil sampling results, the excavation was backfilled to grade with a combination of excavated soil and clean fill. The excavation site was then restored to its original grade with four inches of topsoil and seeded.

Conclusions and Recommendations

Based on the closure soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants are not present in the location of the former UST.

No Further Action is proposed in regard to the closure and site assessment of UST No. 81533-209 at (former) Building 1076.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 081533-209, was closed at (former) Building 1076 of Main Post at U.S. Army Garrison, Fort Monmouth, New Jersey on January 12, 2005. Refer to site location map on Figure 1. This report presents the results of the implementation of the DPW's UST Management Plan, March, 1996. The UST was a 20,000-gallon, double-wall fiberglass tank containing No. 2 heating oil for fuel supply to a boiler plant for the hospital.

Decommissioning activities for UST No. 81533-209 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 TVS employee.

This UST Closure Report has been prepared by TVS to assist the U.S. Army Garrison 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 report was prepared using information required by the *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) (*Technical Requirements*). Section 1 of this UST Closure Report provides a summary of the UST decommissioning activities. Section 2 of this report describes the UST closure and 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 1076, was located in the eastern portion of the Main Post area of Fort Monmouth. UST No. 81533-209 was located on the east side of Building 1076. The fill port, double wall supply/return piping and vent were present in the excavation and also removed. A site map is provided in Figure 1 .

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the former Building 1076 area. 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 Main Post area.

Regional Geology

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The Main Post, Charles Wood and the Evans areas are located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, sand and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapecza, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units which 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). The individual thicknesses for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Local Geology

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 Main Post 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.

Based on records of wells drilled in the Main Post area, water is typically encountered at depths of 2 to 9 feet below ground surface (bgs). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Due to the proximity of the Atlantic Ocean to Fort Monmouth, shallow groundwater may be tidally influenced and may flow toward creeks and brooks as the tide goes out, and away from creeks and brooks as the tide comes in. However, an abundance of clay lenses and sand deposits were noted in borings installed throughout Fort Monmouth. Therefore the direction of shallow groundwater should be determined on a case by case basis.

Shallow groundwater is locally influenced within the Main Post area by the following factors:

- tidal influence (based on proximity to the Atlantic Ocean, rivers and tributaries)
- topography
- nature of the fill material within the Main Post area
- presence of clay and silt lenses in the natural overburden deposits
- local groundwater recharge areas (e.g., streams, lakes)

Due to the fluvial nature of the overburden deposits (e.g., sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. This is consistent with lithologies observed in borings installed within the Main Post area, which primarily consisted of fine-to-medium grained sands, with occasional lenses or laminations of gravel silt and/or clay.

Building 1076 was located approximately 1,650 feet south of Husky Brook, the nearest water body, which flows into Oceanport Creek and then into the Shrewsbury River. Based on the Main Post topography, the groundwater flow in the area of Building 1076 is anticipated to be to the north.

1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all decommissioning activities. All areas which posed a vapor hazard were monitored by a qualified individual utilizing a calibrated photo-ionizer detector : 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 (PEL's).

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- All underground utilities were marked out by the respective shops or utility contractor prior to excavation activities.
- All activities were carried out with great 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. Potentially contaminated soils were identified and logged during closure activities.
- 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 Excavation

During decommissioning activities, surficial soil was removed to expose the UST. The tank was out-of-service due to the scheduled demolition of the building. It was previously emptied of all liquids prior to removal from the ground.

After the UST was removed from the excavation, it was staged on polyethylene sheeting, labeled and examined. No holes were observed in the tank during the inspection by the Subsurface Evaluator. Soils surrounding the UST were screened visually and with an OVA for evidence of contamination. No contamination was observed during the UST removal.

1.5 UNDERGROUND STORAGE TANK DECOMMISSIONING AND DISPOSAL

The UST was purged with air to remove vapors prior to cutting. A 4 foot by 3 foot access hole was made in the UST using a demolition saw. The UST was cleaned first with rubber squeeges and adsorbent material broomed on the sidewalls and bottom. The adsorbent material was 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 tank was then transported by TVS to Recycling Technology Center, Inc., Shafto Rd., Tinton Falls, NJ for disposal in compliance with all applicable regulations and laws. Refer to Appendix B 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

2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Site Investigation was managed and carried out by U.S. Army-DPW personnel. All analyses were performed and reported by Fort Monmouth Environmental Testing Laboratory, 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 (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 Site Assessment Activities.

- Ft. Monmouth Directorate of Public Works-Environmental Division
  Contact Person: Joseph Fallon
  Phone Number: (732) 532-6223

- Subsurface Evaluator: Frank Accorsi
  Employer: TECOM-Vinnell Services, Inc. (TVS)
  Phone Number: (732) 532-5241
  NJDEP License No.: 0010042
  (TVS)NJDEP License No.: US252302

- Analytical Laboratory: Fort Monmouth Environmental Testing Laboratory
  Contact Person: Dan Wright
  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, of which none were found.

2.3 SOIL SAMPLING

On January 12, 2005, closure soil samples 1076A, 1076B, 1076C, 1076D, 1076E, 1076F, 1076G, 1076H, 1076I and 1076J-Duplicate were collected from a total of nine (9) locations along the sidewalls of the UST excavation and along the piping. Groundwater was encountered at approximately 5.5 feet in the excavation. All samples were analyzed for TPH.

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 closure soil samples were collected using properly decontaminated stainless steel trowels. After collection, the samples were immediately placed on ice in a cooler and delivered to Fort Monmouth Environmental Testing Laboratory for analysis.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

Closure soil samples were collected from a total of nine locations on January 12, 2005 to evaluate soil conditions following removal of the UST and piping. All samples were analyzed for TPH. The closure soil sample results were compared to the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided on Table 2. The analytical data package, including associated quality control data, is provided in Appendix C.

Closure soil samples collected on January 12, 2005 from the UST No. 81533-209 excavation contained concentrations of TPH below the laboratory method detection limits. All soil samples were Not Detected.

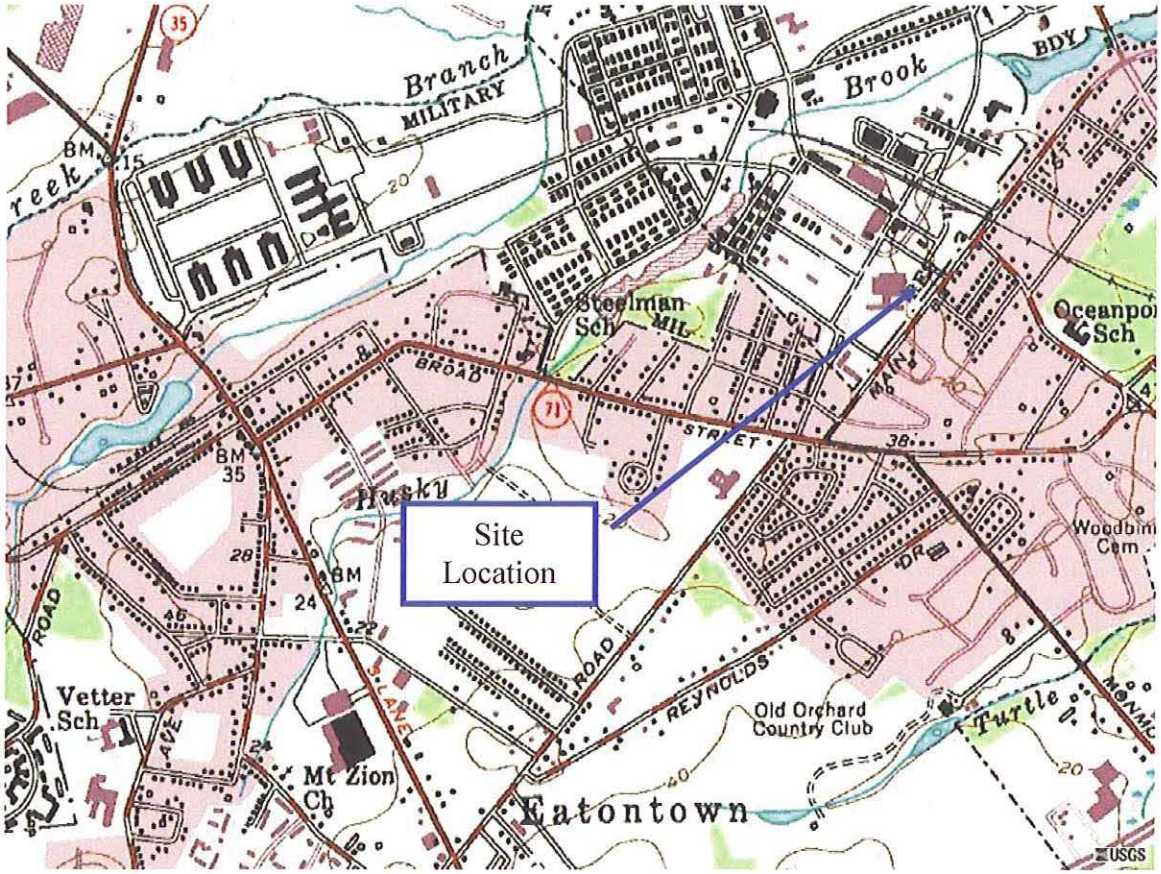
3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all soil samples collected from the UST closure excavation at UST No. 81533-209 were below the NJDEP soil cleanup criteria for total organic contaminants.

Based on the closure soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion for total organic contaminants of 10,000 mg/kg are not present at the location of former UST No. 81533-209.

No Further Action is proposed in regard to the closure and site assessment of UST No. 81533-209 at (former) Building 1076.

FIGURES



SCALE 1:24,000

1 0.5 0 1 MILE

1 0.5 0 1 KILOMETER

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

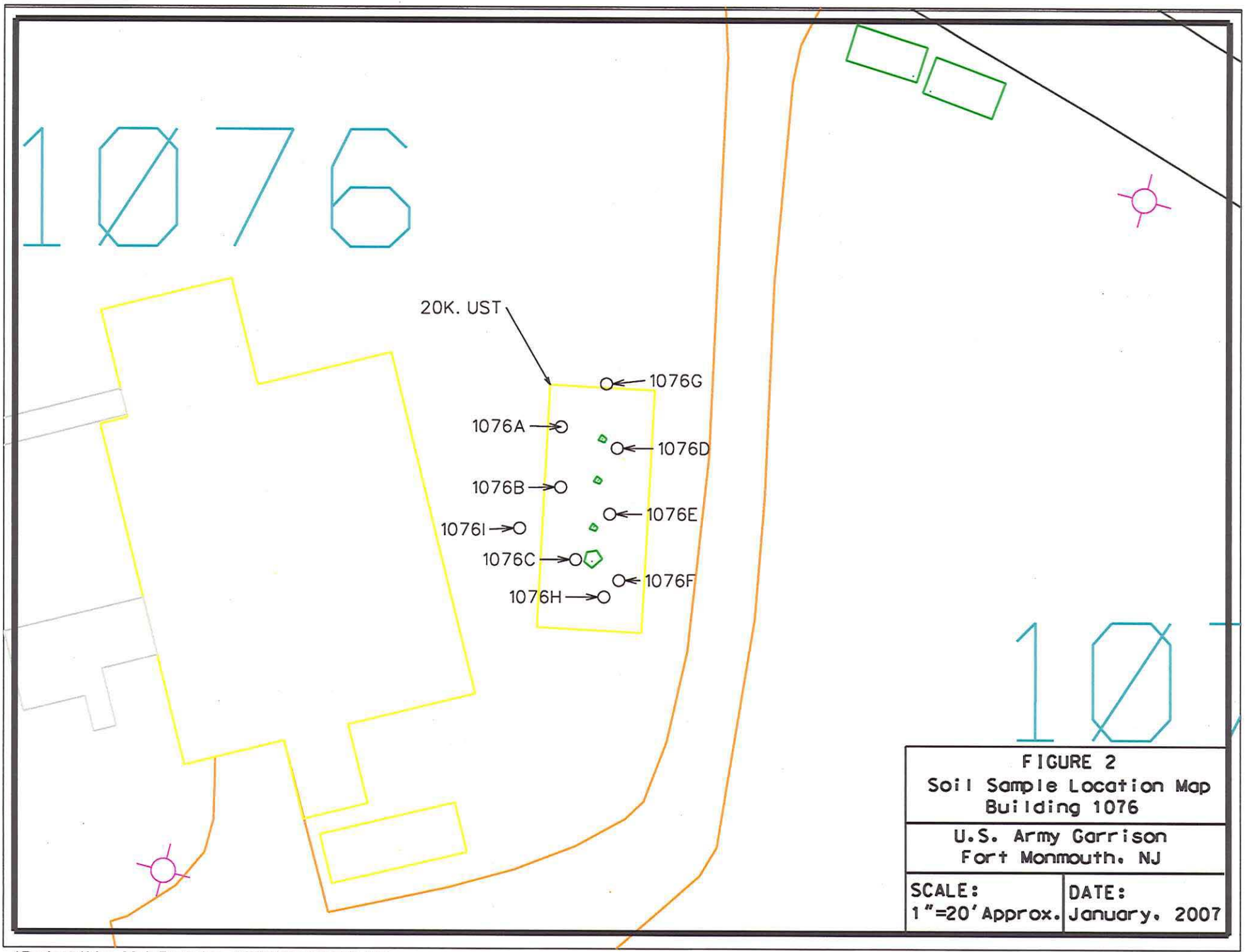
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

N

SOURCE: USGS 7½-MINUTE SERIES (TOPOGRAPHIC)
LONG BRANCH QUADRANGLE, NEW JERSEY, 1981.

FIGURE 1

SITE LOCATION MAP
BUILDING 1076
UST NO. 81533-209
FT. MONMOUTH, NJ



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TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS
FT. MONMOUTH, (FORMER) BUILDING 1076, UST No. 81533-209
12 January 2005

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
1076A	5002001	12-January-05	SOIL	TPH	OQA-QAM-25
1076B	5002002	12-January-05	SOIL	TPH	OQA-QAM-25
1076C	5002003	12-January-05	SOIL	TPH	OQA-QAM-25
1076D	5002004	12-January-05	SOIL	TPH	OQA-QAM-25
1076E	5002005	12-January-05	SOIL	TPH	OQA-QAM-25
1076F	5002006	12-January-05	SOIL	TPH	OQA-QAM-25
1076G	5002007	12-January-05	SOIL	TPH	OQA-QAM-25
1076H	5002008	12-January-05	SOIL	TPH	OQA-QAM-25
1076I	5002009	12-January-05	SOIL	TPH	OQA-QAM-25
1076J (dupl. B)	5002010	12-January-05	SOIL	TPH	OQA-QAM-25
TRIP BLANK	5002011	12-January-05	METHANOL	VOA	SW-846, 8260

ABBREVIATIONS:
TPH = Total Petroleum Hydrocarbons, Method NJDEP OQA-QAM-25
VOA = Volatile Organic Analysis, EPA SW-846 Method 8260

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS
FT. MONMOUTH, (FORMER) BUILDING 1076, UST No. 81533-209
12 January 2005

TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH	MATRIX	TPH RESULTS
			(in feet)		mg/kg
1076A	5002001	Northwest Wall UST 1	5.0 – 5..5	Soil	ND
1076B	5002002	Northwest Wall UST 2	5.0 – 5..5	Soil	ND
1076C	5002003	Northwest Wall UST 3	5.0 – 5..5	Soil	ND
1076D	5002004	Southeast Wall UST 1	5.0 – 5..5	Soil	ND
1076E	5002005	Southeast Wall UST 2	5.0 – 5..5	Soil	ND
1076F	5002006	Southeast Wall UST 3	5.0 – 5..5	Soil	ND
1076G	5002007	Northeast Wall UST 1	5.0 – 5..5	Soil	ND
1076H	5002008	Southwest Wall UST 1	5.0 – 5..5	Soil	ND
1076I	5002009	Piping	2.0 – 2..5	Soil	ND
1076J (dupl. B)	5002010	Duplicate (Northwest Wall UST 2)	5.0 – 5..5	Soil	ND
Trip Blank	5002011	---	---	Methanol	--

ABBREVIATIONS:
mg/kg = Milligrams Per Kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed
*= Further Analyzed for Volatiles

Notes:
Gray shading indicates exceedance of NJDEP
health based criterion of 10,000 ppm total organic contaminants

APPENDIX A

CERTIFICATIONS

Site Remediation Program
UST Site Remedial Investigation Report

A. Facility Name: (former) Building 1076, Boiler Plant

Facility Street Address: Guardrail Ave.

Municipality: Oceanport County: Monmouth

Block: NA Lot(s): NA Telephone Number: 732-532-6223

B. Owner (RP)'s Name: U.S. Army Garrison-Directorate of Public Works

Street Address: 167 Riverside Ave. City: Ft.Monmouth

State: NJ Zip: 07703 Telephone Number: 732-532-6223

C. (Check as appropriate)

☐ Site Investigation Report (SIR) $500 Fee

☐ Remedial Investigation Report (RIR) $1000 Fee

D. (Complete all that apply)

Assigned Case Manager: Greg Zalaskus

UST Registration Number: 81533-209 (7 digits)

- Incident Report Number: _____ (10 or 12 digits)
- Tank Closure Number **C(N)9**____-____ C 9-____ **C9**____-_____(7 characters)

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E . . . . . Yes No

Name: Frank Accorsi Signature: _____ UST Cert. No.: 0010042

Firm: Tecom-Vinnell Services, Inc. Firm's UST Cert. Number: US252302

Firm Address: P.O. Box 60 City: Ft. Monmouth

State: NJ Zip: 07703 Telephone Number: 732-532-5241

(NOTE: Certification numbers required only if work was conducted on **USTs** regulated per N.J.S.A. 5 8: **10A-2 1** et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7: 14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I **am** committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I **am** also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): _____ Title: _____

Signature: _____

Company Name: _____ Date: _____

APPENDIX B

UST DISPOSAL CERTIFICATE

Mazza & Sons

C05-00673

BLDG. 1076, 20,000 GAL.
DBL. WALL FIBERGLASS UST

Origin: FORT MONMOUTH MONMOUTH
DATE IN: 01/13/2005 TIME IN: 14:54:30
DATE OUT: 01/13/2005 TIME OUT: 15:11

INBOUND TICKET Number: 01-000556

SCALE 1 GROSS WT.	35300	LB
SCALE 1 TARE WT.	22500	LB
NET WEIGHT	12800	LB

Qty	Description	Amount
6.40	INCOMING BULKY WAST	550.40
	NET CHARGE AMOUNT:	550.40

X Frank Amorsi

✓

PAID
APR 14 2005
BY:

APPENDIX C

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: BLDG. 1076

Bldg. 1076

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
1076A-NW Wall 1	5002001	Soil	12-Jan-05 13:55	01/13/05
1076B-NW Wall 2	5002002	Soil	12-Jan-05 14:10	01/13/05
1076C-NW Wall 3	5002003	Soil	12-Jan-05 14:30	01/13/05
1076D-SE Wall 1	5002004	Soil	12-Jan-05 13:00	01/13/05
1076E-SE Wall 2	5002005	Soil	12-Jan-05 13:13	01/13/05
1076F-SE Wall 3	5002006	Soil	12-Jan-05 13:30	01/13/05
1076G-NE Wall	5002007	Soil	12-Jan-05 13:42	01/13/05
1076H-SW Wall	5002008	Soil	12-Jan-05 14:44	01/13/05
1076I-Piping	5002009	Soil	12-Jan-05 15:10	01/13/05
1076J-Duplicate	5002010	Soil	12-Jan-05 14:10	01/13/05
Trip Blank	5002011	Methanol	12-Jan-05	01/13/05

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

3-4-05

Daniel Wright/Date
Laboratory Director

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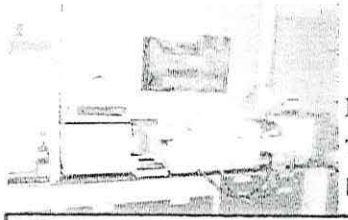
CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: DOUG GUENTHER | Project No: 05-41615
Phone: # X 20986 | Location: BLDG. 1076
( )DERA ( )OMA ( )Other:_____
Samplers Name / Company: FRANK ACCORSI/TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	VO +15*				PID (ppm)	DEPTH (FT.)	VOA #	Comments: Remarks / Preservation Method
05220 01	1076A - NW WALL 1	1-12-05	1355	SOIL	2	X	X				0	5-5.5	4141	ICE
02	1076B - NW WALL 2		1410		2	X	X				0	5-5.5	4142	
03	1076C - NW WALL 3		1430		2	X	X				0	5-5.5	4143	
04	1076D - SE WALL 1		1300		2	X	X				0	5-5.5	4144	
05	1076E - SE WALL 2		1313		2	X	X				0	5-5.5	4145	
06	1076F - SE WALL 3		1330		2	X	X				0	5-5.5	4146	
07	1076G - NE WALL		1342		2	X	X				0	5-5.5	4147	
08	1076H - SW WALL		1444		2	X	X				0	5-5.5	4148	
09	1076I - PIPING		1510		2	X	X				0	2-2.5	4149	
10	1076J - DUPLICATE		1410		2	X	X				0	5-5.5	4150	
11	TRIP BLANK		-	AQ.	1		X				-	-	4151	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	1-13-05 0810				
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: (_)Standard 3 wks, (X)Rush 2 Days, (_)ASAP Verbal ____Hrs.

Remarks: *VO+15 ON 25% > 1,000 PPM TPH, ON HIGHEST, MIN. ONE

print legibly

COC.XLS10/20/2004

US ARMY - FT. MONMOUTH, NJ

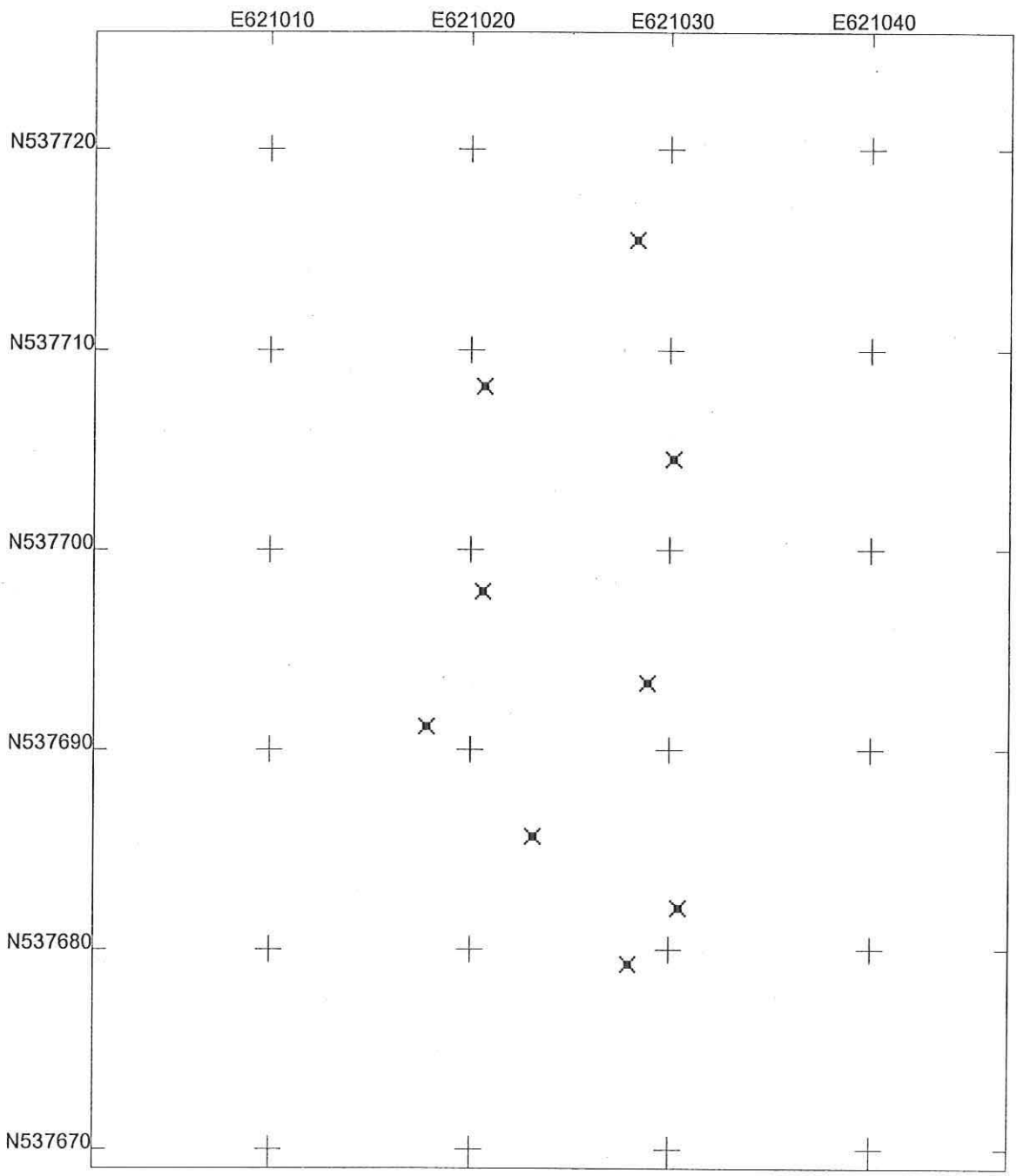
BUILDING 1076 - UST #81533-209
SOIL SAMPLE GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

1076A NW WALL1	537708.23	621020.637
1076B NW WALL 2	537697.966	621020.565
1076C NW WALL 3	537685.682	621023.09
1076D SE WALL 1	537704.588	621030.137
1076E SE WALL 2	537693.397	621028.868
1076F SE WALL 3	537682.113	621030.422
1076G NORTH WALL	537715.536	621028.295
1076H SOUTH WALL	537679.308	621027.897
1076I PIPING	537691.193	621017.779



U.S. Army - Ft. Monmouth Bldg 1076
UST # 81533-209 Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1:100
0 0.002
Miles

B1076.cor
2/28/2005
GPS Pathfinder
Trimble

METHOD SUMMARY

Method Summary

NJDEP Method OQA-QAM-025 10/97
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 auto-sampler 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.

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 50020 **Site:** Bldg. 1076

	Date	Hold Time
Date Sampled	01/12/05	NA
Receipt/Refrigeration	01/13/05	NA
Extractions		
1. TPHC	01/14/05	14 days
Analyses		
1. TPHC	01/19/05	40 days

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: _____ Date: 3-4-05

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 # :**	50020
		Location :	Bldg.1076
		UST Reg. # :	
Analysis :	OQA-QAM-025	**Date Received :**	13-Jan-05
Matrix :	Soil	**Date Extracted :**	14-Jan-05
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	19-Jan-05
Injection Volume :	1uL	**Analyst :**	B.Patel

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL	TPHC Result (mg/kg)
5002001	1076A-NW	1.00	15.07	85.23	107	389	ND
5002002	1076B-NW	1.00	15.02	82.20	111	405	ND
5002003	1076C-NW	1.00	15.03	82.16	111	405	ND
5002004	1076D-SE	1.00	15.01	82.35	111	404	ND
5002005	1076E-SE	1.00	15.05	81.23	112	409	ND
5002006	1076F-SE	1.00	15.03	81.17	113	410	ND
5002007	1076G-NE	1.00	15.08	78.69	116	421	ND
5002008	1076H-SW	1.00	15.03	79.04	116	421	ND
5002009	1076I-Piping	1.00	15.00	89.37	103	373	ND
5002010	1076J-Duplicate	1.00	15.07	80.61	113	412	ND
METHOD BLANK	MB-011405-01	1.00	15.00	100.00	92	333	ND

ND = Not Detected

MDL = Method Detection Limit

RL = Reporting Limits

Note : The TPHC result between the MDL and RL are considered an estimated value

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004

Calibration Files
5 =T017596.D 10 =T017598.D 20 =T017599.D
50 =T017597.D 100 =T017595.D

		Compound	5	10	20	50	100	Avg		%RSD
1)	T	C8	2.385	2.323	2.254	2.409	2.449	2.364	E4	3.24
2)	T	C10	2.291	2.339	2.364	2.510	2.578	2.416	E4	5.04
3)	T	C12	2.221	2.291	2.328	2.496	2.590	2.385	E4	6.41
4)	T	C14	2.262	2.338	2.372	2.558	2.658	2.438	E4	6.74
5)	T	C16	2.330	2.412	2.448	2.633	2.744	2.514	E4	6.77
6)	T	C18	2.229	2.312	2.350	2.544	2.671	2.421	E4	7.48
7)	T	C20	2.301	2.390	2.423	2.614	2.731	2.492	E4	7.06
8)	T	C22	2.375	2.459	2.489	2.686	2.804	2.562	E4	6.90
9)	T	C24	2.408	2.485	2.519	2.716	2.832	2.592	E4	6.79
10)	T	C26	2.547	2.573	2.561	2.757	2.866	2.661	E4	5.39
11)	T	C28	2.460	2.536	2.565	2.771	2.890	2.644	E4	6.77
12)	T	C30	2.460	2.535	2.587	2.815	2.947	2.669	E4	7.65
13)	T	C32	2.419	2.507	2.552	2.787	2.927	2.638	E4	8.01
14)	T	C34	2.609	2.582	2.564	2.792	2.916	2.693	E4	5.74
15)	T	C36	2.535	2.672	2.633	2.837	2.977	2.731	E4	6.43
16)	T	C38	2.432	2.550	2.555	2.785	2.883	2.641	E4	7.05
17)	T	C40	2.370	2.466	2.528	2.757	2.823	2.589	E4	7.47
18)	T	C42	2.223	2.306	2.385	2.614	2.598	2.425	E4	7.22
19)	T	Pristane	2.363	2.428	2.445	2.618	2.708	2.512	E4	5.73
20)	T	Phytane	2.387	2.462	2.502	2.684	2.778	2.563	E4	6.34
21)	T	TPHC (Manual Integrat	3.351	3.072	2.895	3.018	3.078	3.083	E4	5.41
22)	H	TPHC (Total)	2.572	2.546	2.520	2.707	2.796	2.628	E4	4.50
23)	S	Chlorobenzene (SURR.)	1.577	1.657	1.695	1.849	1.897	1.735	E4	7.73
24)	S	O-Terphenyl (SURR.)	2.610	2.701	2.729	2.941	3.068	2.810	E4	6.71

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\050118\T017679.D Vial: 76
Acq On : 18 Jan 2005 7:58 am Operator: PSkelton
Sample : Tstd050 Inst : GC/MS Ins
Misc : TP011805.01 Multiplr: 1.00
IntFile : EVENTSBP.E

Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
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	23.639	22.373 E3	5.4	93	-0.01
2	T	C10	24.161	23.083 E3	4.5	92	0.00
3	T	C12	23.852	22.704 E3	4.8	91	0.00
4	T	C14	24.378	23.048 E3	5.5	90	0.00
5	T	C16	25.135	23.553 E3	6.3	89	0.00
6	T	C18	24.211	22.772 E3	5.9	90	0.00
7	T	C20	24.918	23.349 E3	6.3	89	0.00
8	T	C22	25.625	23.821 E3	7.0	89	0.00
9	T	C24	25.921	24.069 E3	7.1	89	0.00
10	T	C26	26.608	24.257 E3	8.8	88	0.00
11	T	C28	26.443	24.257 E3	8.3	88	0.00
12	T	C30	26.688	24.762 E3	7.2	88	-0.01
13	T	C32	26.384	24.286 E3	8.0	87	-0.01
14	T	C34	26.926	23.912 E3	11.2	86	-0.02
15	T	C36	27.308	24.254 E3	11.2	85	-0.02
16	T	C38	26.411	23.644 E3	10.5	85	-0.03
17	T	C40	25.890	23.253 E3	10.2	84	-0.04
18	T	C42	24.252	22.252 E3	8.2	85	-0.06
19	T	Pristane	25.124	23.541 E3	6.3	90	0.00
20	T	Phytane	25.625	24.024 E3	6.2	90	0.00
21	T	TPHC (Manual Integration)	30.828	26.695 E3	13.4	88	0.96#
22	H	TPHC (Total)	26.281	23.860 E3	9.2	88	0.00
23	S	Chlorobenzene (SURR.)	17.349	17.227 E3	0.7	93	-0.01
24	S	O-Terphenyl (SURR.)	28.097	26.220 E3	6.7	89	0.00

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

000014

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017679.D Vial: 76
Acq On : 18 Jan 2005 7:58 am Operator: PSkelton
Sample : Tstd050 Inst : GC/MS Ins
Misc : TP011805.01 Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 8:38 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.71	861350	46.381 mg/L
Spiked Amount 10.000		Recovery =	463.81%
24) S O-Terphenyl (SURR.)	13.00	1311019	43.902 mg/L
Spiked Amount 10.000		Recovery =	439.02%
Target Compounds			
1) T C8	4.76	1118657	47.323 mg/L
2) T C10	7.74	1154133	47.768 mg/L
3) T C12	9.36	1135215	47.595 mg/L
4) T C14	10.54	1152392	47.271 mg/L
5) T C16	11.54	1177672	46.854 mg/L
6) T C18	12.00	1138604	47.028 mg/L
7) T C20	12.44	1167431	46.851 mg/L
8) T C22	13.25	1191036	46.480 mg/L
9) T C24	14.00	1203437	46.427 mg/L
10) T C26	14.68	1212838	45.582 mg/L
11) T C28	15.31	1212825	45.866 mg/L
12) T C30	15.94	1238112	46.392 mg/L
13) T C32	16.67	1214276	46.023 mg/L
14) T C34	17.57	1195615	44.404 mg/L
15) T C36	18.79	1212694	44.408 mg/L
16) T C38	20.47	1182216	44.762 mg/L
17) T C40	22.86	1162662	44.908 mg/L
18) T C42	26.27	1112620	45.877 mg/L
19) T Pristane	12.03	1177068	46.851 mg/L
20) T Phytane	12.49	1201199	46.876 mg/L
21) T TPHC (Manual Integration)	13.00	26695107	865.926 mg/L m
22) H TPHC (Total)	12.00	23859561	907.857 mg/L

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

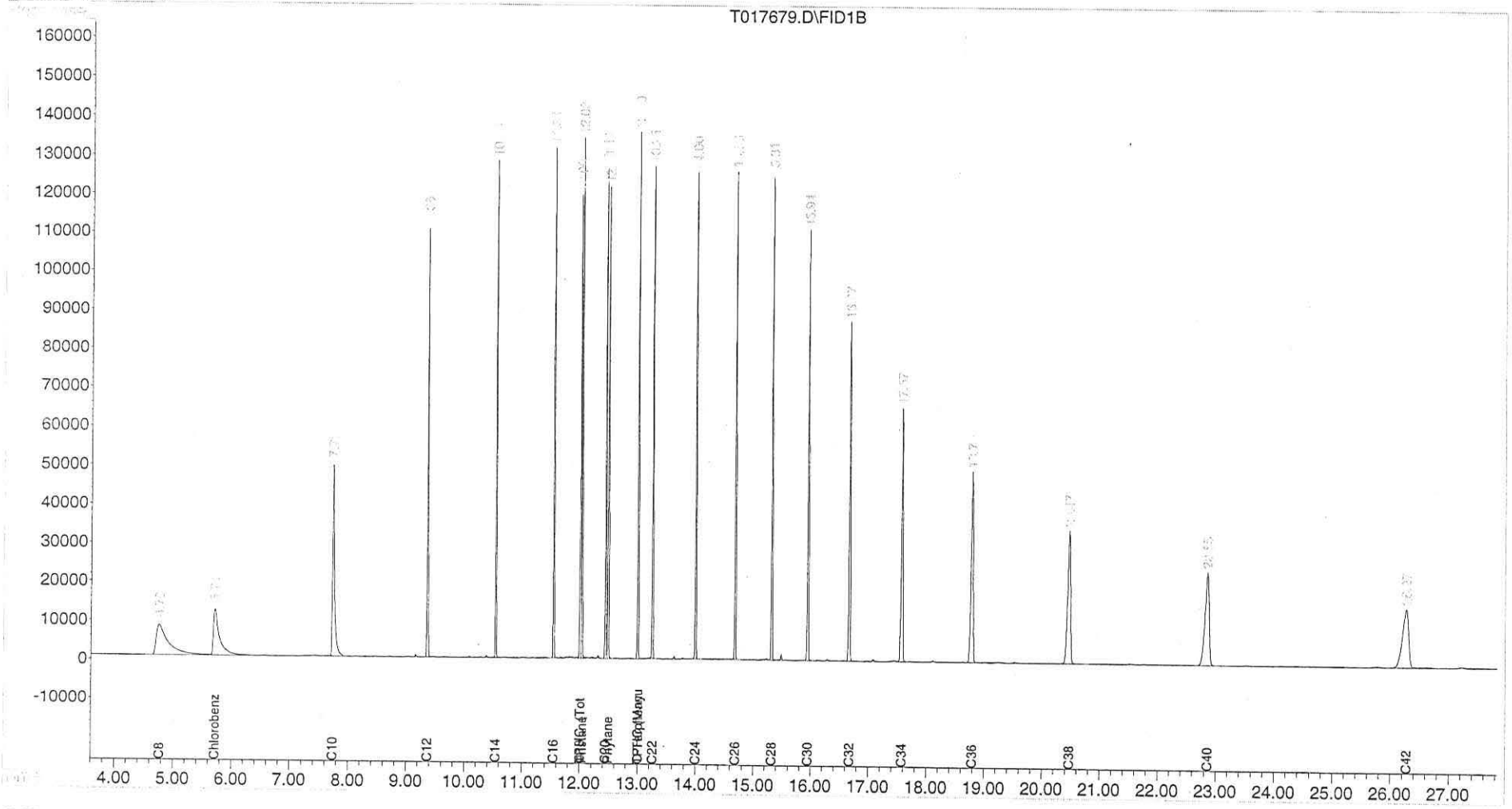
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017679.D
Acq On : 18 Jan 2005 7:58 am
Sample : Tstd050
Misc : TP011805.01
IntFile : EVENTSBP.E
Quant Time: Jan 18 8:38 2005 Quant Results File: TPHC002.RES

Vial: 76
Operator: PSkelton
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\050118\T017690.D Vial: 11
Acq On : 18 Jan 2005 2:34 pm Operator: PSkelton
Sample : Tstd050 Inst : GC/MS Ins
Misc : TP011805.01 Multiplr: 1.00
IntFile : EVENTSBP.E

Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
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	23.639	26.342 E3	-11.4	109	-0.01
2	T	C10	24.161	27.708 E3	-14.7	110	0.00
3	T	C12	23.852	27.568 E3	-15.6	110	0.00
4	T	C14	24.378	28.034 E3	-15.0	110	0.00
5	T	C16	25.135	28.720 E3	-14.3	109	0.00
6	T	C18	24.211	27.775 E3	-14.7	109	0.00
7	T	C20	24.918	28.504 E3	-14.4	109	0.00
8	T	C22	25.625	29.290 E3	-14.3	109	0.00
9	T	C24	25.921	29.690 E3	-14.5	109	0.00
10	T	C26	26.608	29.993 E3	-12.7	109	0.00
11	T	C28	26.443	29.950 E3	-13.3	108	0.00
12	T	C30	26.688	30.407 E3	-13.9	108	0.00
13	T	C32	26.384	30.039 E3	-13.9	108	0.00
14	T	C34	26.926	29.829 E3	-10.8	107	-0.01
15	T	C36	27.308	30.417 E3	-11.4	107	-0.01
16	T	C38	26.411	29.864 E3	-13.1	107	-0.02
17	T	C40	25.890	29.597 E3	-14.3	107	-0.02
18	T	C42	24.252	27.757 E3	-14.5	106	-0.03
19	T	Pristane	25.124	28.576 E3	-13.7	109	0.00
20	T	Phytane	25.625	29.240 E3	-14.1	109	0.00
21	T	TPHC (Manual Integration)	30.828	32.578 E3	-5.7	108	0.00
22	H	TPHC (Total)	26.281	29.322 E3	-11.6	108	0.00
23	S	Chlorobenzene (SURR.)	17.349	20.502 E3	-18.2	111	0.00
24	S	O-Terphenyl (SURR.)	28.097	32.117 E3	-14.3	109	0.00

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

000017

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017690.D Vial: 11
Acq On : 18 Jan 2005 2:34 pm Operator: PSkelton
Sample : Tstd050 Inst : GC/MS Ins
Misc : TP011805.01 Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 15:04 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
23)	S Chlorobenzene (SURR.)	5.72	1025092	54.900	mg/L	
Spiked Amount	10.000	Recovery =	549.00%			
24)	S O-Terphenyl (SURR.)	13.00	1605841	53.409	mg/L	
Spiked Amount	10.000	Recovery =	534.09%			
	Target Compounds					
1)	T C8	4.76	1317121	55.719	mg/L	
2)	T C10	7.74	1385398	57.340	mg/L	
3)	T C12	9.36	1378391	57.790	mg/L	
4)	T C14	10.54	1401705	57.498	mg/L	
5)	T C16	11.55	1435987	57.131	mg/L	
6)	T C18	12.01	1388752	57.360	mg/L	
7)	T C20	12.44	1425198	57.196	mg/L	
8)	T C22	13.26	1464520	57.153	mg/L	
9)	T C24	14.00	1484503	57.270	mg/L	
10)	T C26	14.68	1499657	56.361	mg/L	
11)	T C28	15.32	1497506	56.632	mg/L	
12)	T C30	15.95	1520337	56.967	mg/L	
13)	T C32	16.67	1501929	56.926	mg/L	
14)	T C34	17.58	1491449	55.391	mg/L	
15)	T C36	18.80	1520836	55.692	mg/L	
16)	T C38	20.48	1493223	56.538	mg/L	
17)	T C40	22.88	1479828	57.159	mg/L	
18)	T C42	26.30	1387865	57.226	mg/L	
19)	T Pristane	12.04	1428824	56.872	mg/L	
20)	T Phytane	12.49	1462020	57.054	mg/L	
21)	T TPHC (Manual Integration)	12.04	32578410	1056.766	mg/L	m
22)	H TPHC (Total)	12.00	29322483	1115.721	mg/L	

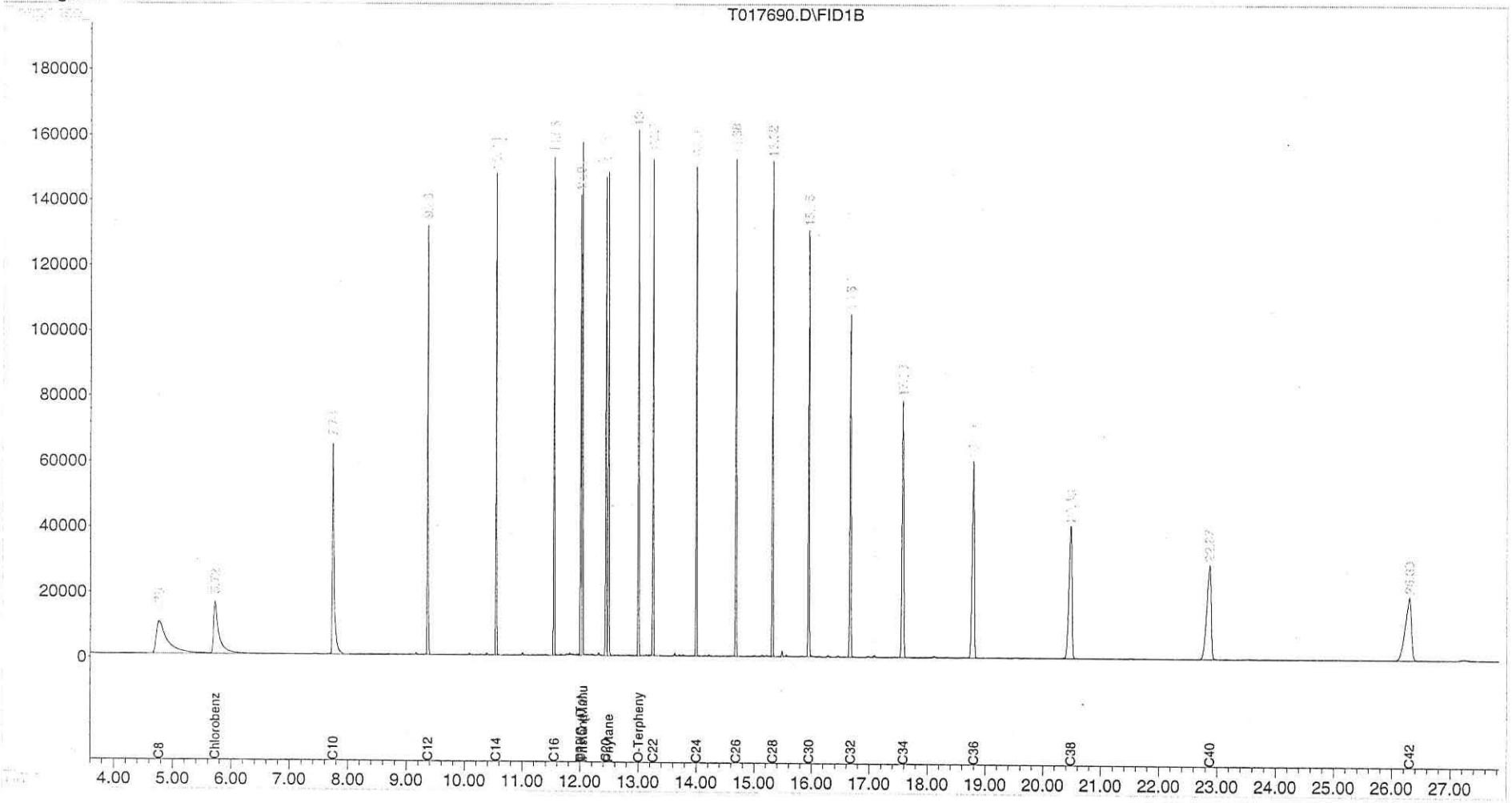
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017690.D Vial: 11
Acq On : 18 Jan 2005 2:34 pm Operator: PSkelton
Sample : Tstd050 Inst : GC/MS Ins
Misc : TP011805.01 Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 15:04 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\050118\T017695.D Vial: 16
Acq On : 18 Jan 2005 5:35 pm Operator: PSkelton
Sample : Tstd050 Inst : GC/MS Ins
Misc : TP011805.01 Multiplr: 1.00
IntFile : EVENTSBP.E

Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
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	23.639	23.166 E3	2.0	96	0.00
2	T	C10	24.161	24.102 E3	0.2	96	0.00
3	T	C12	23.852	23.860 E3	-0.0	96	0.00
4	T	C14	24.378	24.208 E3	0.7	95	0.00
5	T	C16	25.135	24.783 E3	1.4	94	0.00
6	T	C18	24.211	23.950 E3	1.1	94	0.00
7	T	C20	24.918	24.593 E3	1.3	94	0.00
8	T	C22	25.625	25.259 E3	1.4	94	0.00
9	T	C24	25.921	25.566 E3	1.4	94	0.00
10	T	C26	26.608	25.772 E3	3.1	93	0.00
11	T	C28	26.443	25.697 E3	2.8	93	0.00
12	T	C30	26.688	26.055 E3	2.4	93	-0.01
13	T	C32	26.384	25.704 E3	2.6	92	-0.01
14	T	C34	26.926	25.465 E3	5.4	91	-0.02
15	T	C36	27.308	25.906 E3	5.1	91	-0.02
16	T	C38	26.411	25.449 E3	3.6	91	-0.03
17	T	C40	25.890	25.296 E3	2.3	92	-0.04
18	T	C42	24.252	23.832 E3	1.7	91	-0.07
19	T	Pristane	25.124	24.677 E3	1.8	94	0.00
20	T	Phytane	25.625	25.235 E3	1.5	94	0.00
21	T	TPHC (Manual Integration)	30.828	28.337 E3	8.1	94	0.96#
22	H	TPHC (Total)	26.281	25.235 E3	4.0	93	0.00
23	S	Chlorobenzene (SURR.)	17.349	17.796 E3	-2.6	96	0.00
24	S	O-Terphenyl (SURR.)	28.097	27.613 E3	1.7	94	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
T017695.D TPHC002.M Wed Jan 19 08:33:20 2005

000020

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017695.D Vial: 16
Acq On : 18 Jan 2005 5:35 pm Operator: PSkelton
Sample : Tstd050 Inst : GC/MS Ins
Misc : TP011805.01 Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 19 8:26 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
23) S	Chlorobenzene (SURR.)	5.72	889801	47.861 mg/L
Spiked Amount	10.000	Recovery	=	478.61%
24) S	O-Terphenyl (SURR.)	13.00	1380641	46.147 mg/L
Spiked Amount	10.000	Recovery	=	461.47%
	Target Compounds			
1) T	C8	4.76	1158292	49.000 mg/L
2) T	C10	7.74	1205125	49.879 mg/L
3) T	C12	9.36	1192982	50.017 mg/L
4) T	C14	10.54	1210395	49.651 mg/L
5) T	C16	11.54	1239138	49.299 mg/L
6) T	C18	12.00	1197521	49.462 mg/L
7) T	C20	12.44	1229643	49.348 mg/L
8) T	C22	13.25	1262974	49.287 mg/L
9) T	C24	14.00	1278303	49.315 mg/L
10) T	C26	14.68	1288588	48.429 mg/L
11) T	C28	15.31	1284826	48.589 mg/L
12) T	C30	15.94	1302738	48.813 mg/L
13) T	C32	16.67	1285195	48.711 mg/L
14) T	C34	17.57	1273270	47.288 mg/L
15) T	C36	18.79	1295314	47.434 mg/L
16) T	C38	20.47	1272436	48.178 mg/L
17) T	C40	22.86	1264801	48.854 mg/L
18) T	C42	26.26	1191623	49.135 mg/L
19) T	Pristane	12.03	1233857	49.112 mg/L
20) T	Phytane	12.49	1261757	49.239 mg/L
21) T	TPHC (Manual Integration)	13.00	28337386	919.197 mg/L m
22) H	TPHC (Total)	12.00	25235057	960.194 mg/L

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

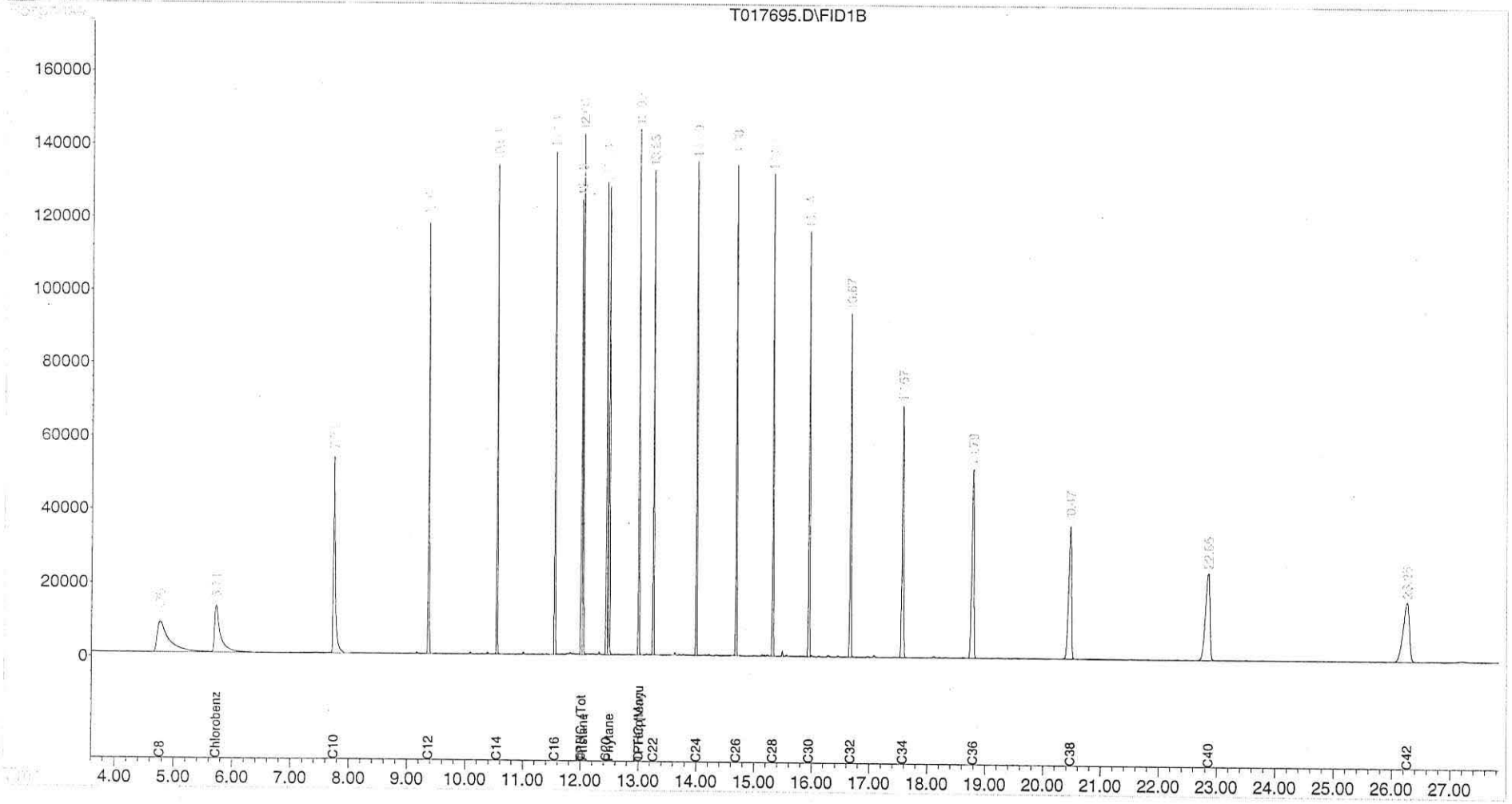
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017695.D
Acq On : 18 Jan 2005 5:35 pm
Sample : Tstd050
Misc : TP011805.01
IntFile : EVENTSBP.E
Quant Time: Jan 19 8:26 2005 Quant Results File: TPHC002.RES

Vial: 16
Operator: PSkelton
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



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

Client :	U.S. Army	**Project # :**	50020
	DPW. SELFM-PW-EV	**Location :**	Bldg.1076
	Bldg. 173	**UST Reg. # :**	
	Ft. Monmouth, NJ 07703		
Analysis:	OQA-QAM-025	**Date Received :**	13-Jan-05
Matrix:	Soil	**Date Extracted :**	14-Jan-05
Inst. ID.	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	19-Jan-05
Injection Volume :	1uL	**Analyst :**	B.Patel

Lab ID	Surrogate Added (ppm)	Chlorobenzene Recovered (ppm)	Chlorobenzene % Recovery	O-Terphenyl Recovered (ppm)	O-Terphenyl % Recovery
5002001	10	10.59	105.9	11.35	113.5
5002002	10	11.17	111.7	11.68	116.8
5002003	10	11.49	114.9	11.65	116.5
5002004	10	10.94	109.4	11.34	113.4
5002005	10	10.94	109.4	11.69	116.9
5002006	10	10.93	109.3	11.73	117.3
5002007	10	10.35	103.5	11.15	111.5
5002008	10	9.35	93.5	10.16	101.6
5002009	10	9.62	96.2	9.97	99.7
5002010	10	9.83	98.3	10.39	103.9
METHOD BLANK	10	10.90	109.0	10.89	108.9

SURROGATE STANDARDS		Lower Control Limits	Upper Control Limits
Chlorobenzene	*QC Limits*	60	130
O-Terphenyl	*QC Limits*	62	133

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 :** **UST Reg. # :**	50020 Bldg.1076
Analysis:	OQA-QAM-025	**Date Received :**	13-Jan-05
Matrix:	Soil	**Date Extracted :**	14-Jan-05
Inst. ID.	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	19-Jan-05
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
5002001MS	1000	5.42	883.43	87.80	55 - 129
5002001MSD	1000	5.42	1037.10	103.17	55 - 129
			RPD	16.09	20.00

NC = Not Calculated due to values are over the calibration range.

Quality Control Check 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 :** **UST Reg. # :**	50020 Bldg.1076
Analysis:	OQA-QAM-025	**Date Received :**	13-Jan-05
Matrix:	Soil	**Date Extracted :**	14-Jan-05
Inst. ID.	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	19-Jan-05
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-011405-01	14-Jan-05	1000	1037.25	103.73	55 - 129

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017681.D Vial: 2
Acq On : 18 Jan 2005 9:10 am Operator: PSkelton
Sample : MB-011405-01 Inst : GC/MS Ins
Misc : Soil Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 9:43 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
23) S Chlorobenzene (SURR.)	5.72	179327	10.899	mg/L	
Spiked Amount 10.000	Recovery =		108.99%		
24) S O-Terphenyl (SURR.)	12.99	287292	10.891	mg/L	
Spiked Amount 10.000	Recovery =		108.91%		
Target Compounds					
1) T C8	0.00	0	N.D.	mg/L	
2) T C10	7.69	3803	0.157	mg/L	
3) T C12	9.50	661	0.028	mg/L	
4) T C14	10.38	160	0.007	mg/L	
5) T C16	11.59	398	0.016	mg/L	
6) T C18	11.81	4018	0.166	mg/L	
7) T C20	12.51	3182	0.128	mg/L	
8) T C22	13.13	2866	0.112	mg/L	
9) T C24	14.22	2553	0.098	mg/L	
10) T C26	14.69	2130	0.080	mg/L	
11) T C28	15.33	712	0.027	mg/L	
12) T C30	15.98	4148	0.155	mg/L	
13) T C32	16.45	3712	0.141	mg/L	
14) T C34	17.58	3531	0.131	mg/L	
15) T C36	18.64	13945	0.511	mg/L	
16) T C38	20.34	2771	0.105	mg/L	
17) T C40	22.96	11438	0.442	mg/L	
18) T C42	0.00	0	N.D.	mg/L	
19) T Pristane	11.81	4018	0.160	mg/L	
20) T Phytane	12.51	3182	0.124	mg/L	
21) T TPHC (Manual Integration)	0.00	0	N.D.	mg/L	d
22) H TPHC (Total)	12.00	183775	6.993	mg/L	

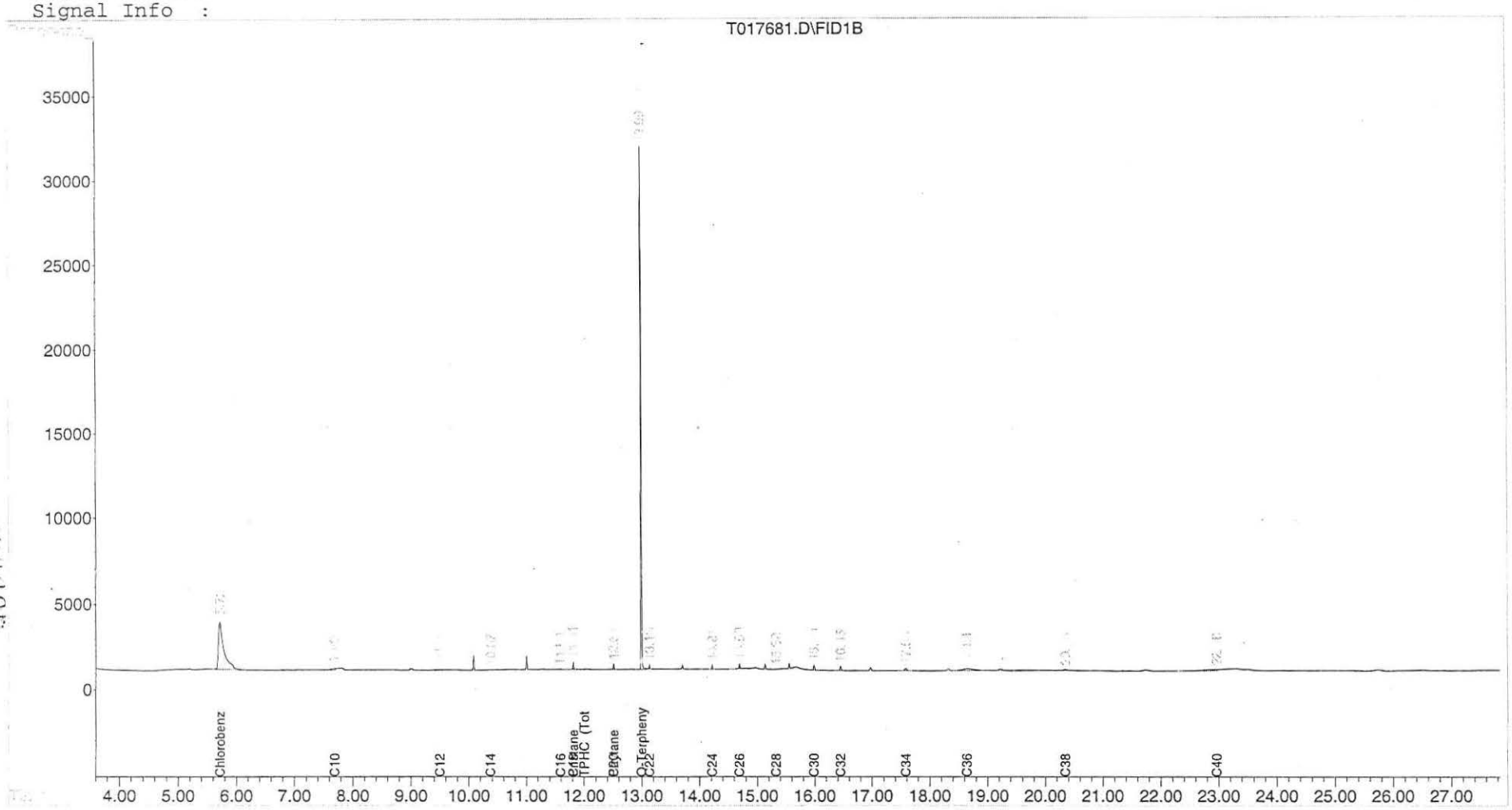
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017681.D Vial: 2
Acq On : 18 Jan 2005 9:10 am Operator: PSkelton
Sample : MB-011405-01 Inst : GC/MS Ins
Misc : Soil Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 9:43 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017682.D Vial: 3
Acq On : 18 Jan 2005 9:46 am Operator: PSkelton
Sample : 5002001s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 13:17 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
23)	S Chlorobenzene (SURR.)	5.72	173302	10.585	mg/L	
Spiked Amount	10.000	Recovery	=	105.85%		
24)	S O-Terphenyl (SURR.)	12.99	301515	11.350	mg/L	
Spiked Amount	10.000	Recovery	=	113.50%		
	Target Compounds					
1)	T C8	0.00	0	N.D.	mg/L	
2)	T C10	7.69	3636	0.150	mg/L	
3)	T C12	9.39	506	0.021	mg/L	
4)	T C14	0.00	0	N.D.	mg/L	
5)	T C16	11.59	416	0.017	mg/L	
6)	T C18	11.81	4433	0.183	mg/L	
7)	T C20	12.51	3342	0.134	mg/L	
8)	T C22	13.13	3002	0.117	mg/L	
9)	T C24	14.21	2913	0.112	mg/L	
10)	T C26	14.69	3975	0.149	mg/L	
11)	T C28	15.33	329	0.012	mg/L	
12)	T C30	15.98	4929	0.185	mg/L	
13)	T C32	16.45	4901	0.186	mg/L	
14)	T C34	17.58	4405	0.164	mg/L	
15)	T C36	18.90	200	0.007	mg/L	
16)	T C38	20.34	3554	0.135	mg/L	
17)	T C40	22.92	7609	0.294	mg/L	
18)	T C42	0.00	0	N.D.	mg/L	
19)	T Pristane	11.81	4433	0.176	mg/L	
20)	T Phytane	12.51	3342	0.130	mg/L	
21)	T TPHC (Manual Integration)	0.00	0	N.D.	mg/L	d
22)	H TPHC (Total)	12.00	142424	5.419	mg/L	

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

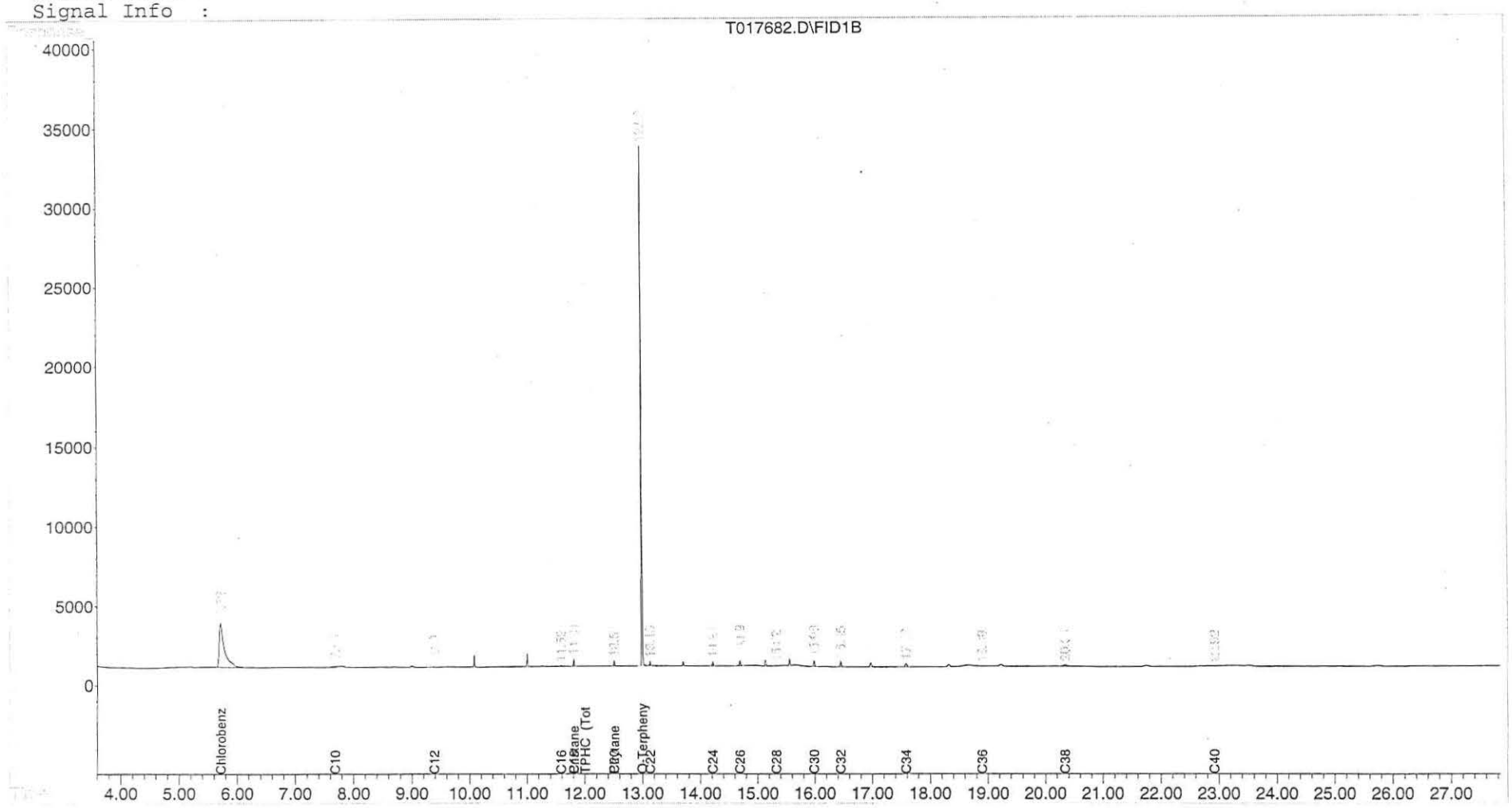
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017682.D
Acq On : 18 Jan 2005 9:46 am
Sample : 5002001s
Misc :
IntFile : EVENTSBP.E
Quant Time: Jan 18 13:17 2005 Quant Results File: TPHC002.RES

Vial: 3
Operator: PSkelton
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017685.D Vial: 6
Acq On : 18 Jan 2005 11:34 am Operator: PSkelton
Sample : 5002002s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 13:19 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.72	184559	11.171 mg/L m
Spiked Amount 10.000	Recovery	=	111.71%
24) S O-Terphenyl (SURR.)	13.00	311638	11.676 mg/L
Spiked Amount 10.000	Recovery	=	116.76%
Target Compounds			
1) T C8	0.00	0	N.D. mg/L
2) T C10	7.76	2873	0.119 mg/L
3) T C12	9.38	716	0.030 mg/L
4) T C14	0.00	0	N.D. mg/L
5) T C16	11.81f	1796	0.071 mg/L
6) T C18	11.81	1796	0.074 mg/L
7) T C20	12.51	1327	0.053 mg/L
8) T C22	13.13	1324	0.052 mg/L
9) T C24	14.22	1187	0.046 mg/L
10) T C26	14.69	1388	0.052 mg/L
11) T C28	15.13	1612	0.061 mg/L
12) T C30	15.99	1952	0.073 mg/L
13) T C32	16.45	1859	0.070 mg/L
14) T C34	17.59	1614	0.060 mg/L
15) T C36	18.67	5779	0.212 mg/L
16) T C38	20.35	1405	0.053 mg/L
17) T C40	23.34f	5137	0.198 mg/L
18) T C42	0.00	0	N.D. mg/L
19) T Pristane	11.81	1796	0.071 mg/L
20) T Phytane	12.51	1327	0.052 mg/L
21) T TPHC (Manual Integration)	0.00	0	N.D. mg/L d
22) H TPHC (Total)	12.00	85375	3.249 mg/L

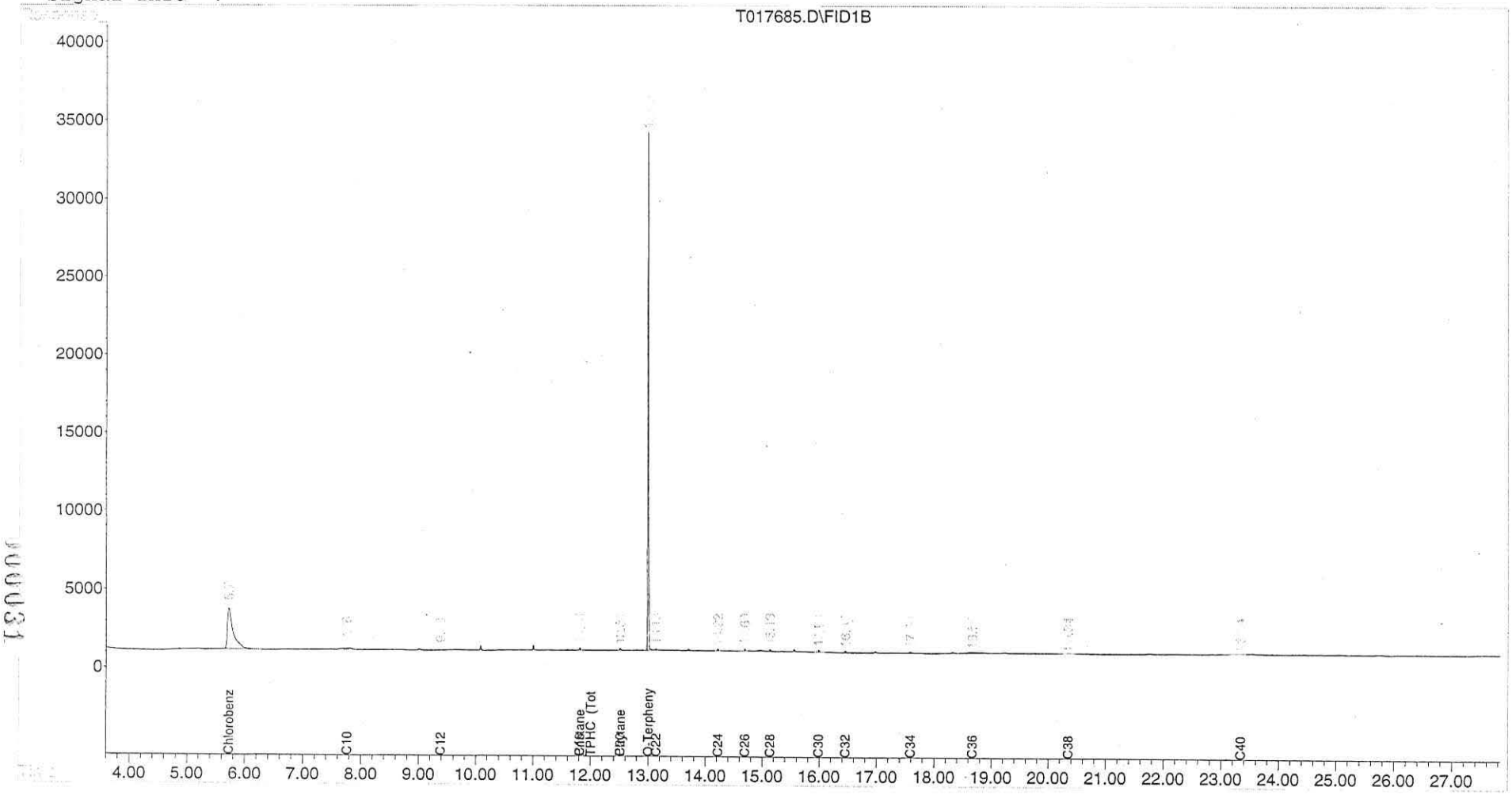
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017685.D Vial: 6
Acq On : 18 Jan 2005 11:34 am Operator: PSkelton
Sample : 5002002s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 13:19 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017686.D Vial: 7
Acq On : 18 Jan 2005 12:10 pm Operator: PSkelton
Sample : 5002003s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 13:19 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.72	190728	11.492 mg/L
Spiked Amount 10.000	Recovery	=	114.92%
24) S O-Terphenyl (SURR.)	13.00	310953	11.654 mg/L
Spiked Amount 10.000	Recovery	=	116.54%
Target Compounds			
1) T C8	4.85	398	0.017 mg/L
2) T C10	7.69	2962	0.123 mg/L
3) T C12	0.00	0	N.D. mg/L
4) T C14	0.00	0	N.D. mg/L
5) T C16	11.81f	1382	0.055 mg/L
6) T C18	11.81	1382	0.057 mg/L
7) T C20	12.51	1021	0.041 mg/L
8) T C22	13.13	979	0.038 mg/L
9) T C24	14.22	852	0.033 mg/L
10) T C26	14.69	1041	0.039 mg/L
11) T C28	15.13	1035	0.039 mg/L
12) T C30	15.98	1255	0.047 mg/L
13) T C32	16.45	1349	0.051 mg/L
14) T C34	17.59	1119	0.042 mg/L
15) T C36	18.79	353	0.013 mg/L
16) T C38	0.00	0	N.D. mg/L
17) T C40	23.30f	2441	0.094 mg/L
18) T C42	0.00	0	N.D. mg/L
19) T Pristane	11.81	1382	0.055 mg/L
20) T Phytane	12.51	1021	0.040 mg/L
21) T TPHC (Manual Integration)	0.00	0	N.D. mg/L d
22) H TPHC (Total)	12.00	41017	1.561 mg/L

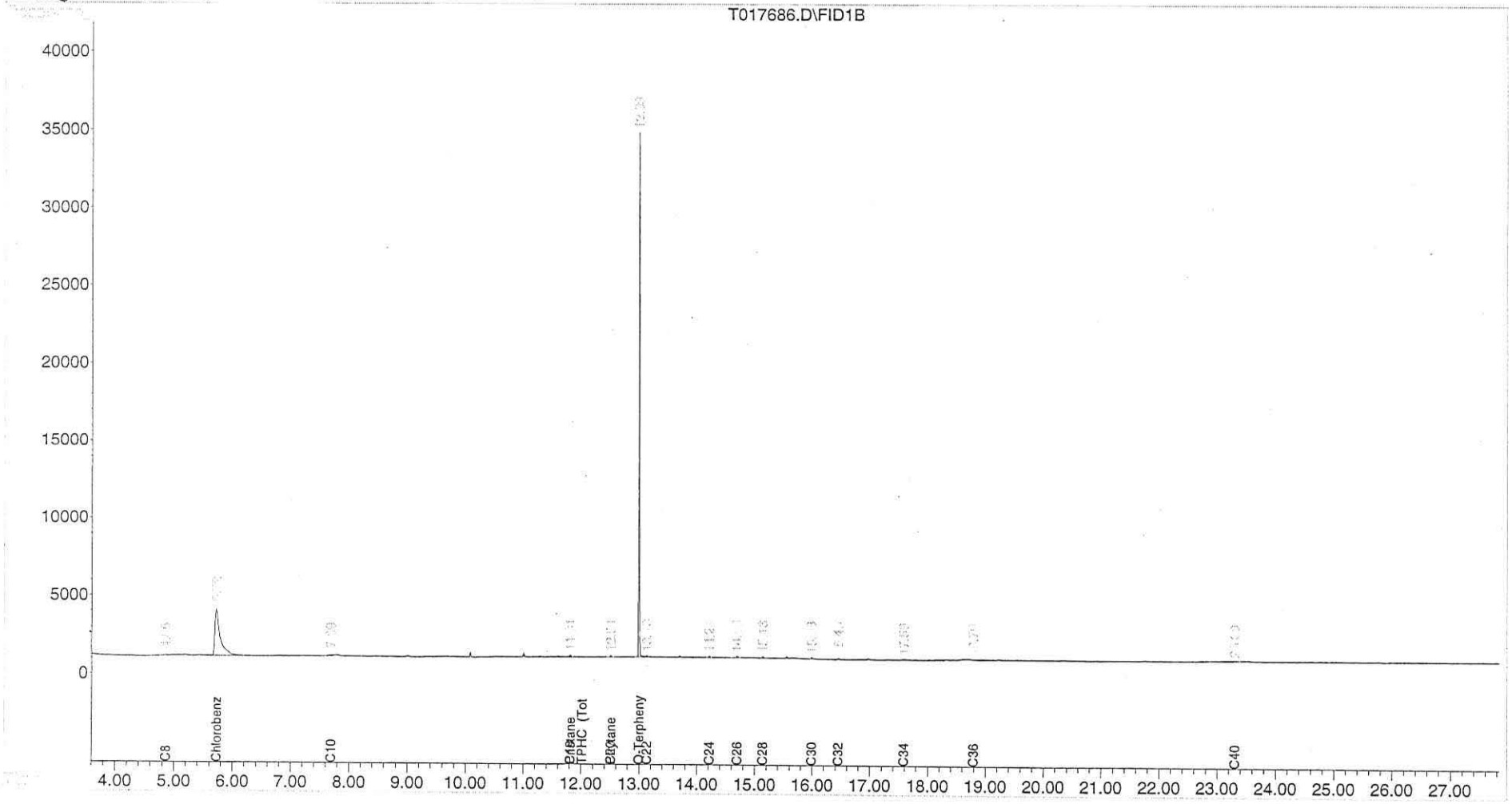
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017686.D Vial: 7
Acq On : 18 Jan 2005 12:10 pm Operator: PSkelton
Sample : 5002003s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 13:19 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017687.D Vial: 8
Acq On : 18 Jan 2005 12:46 pm Operator: PSkelton
Sample : 5002004s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 13:20 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.72	180109	10.940 mg/L
Spiked Amount 10.000	Recovery	=	109.40%
24) S O-Terphenyl (SURR.)	12.99	301328	11.344 mg/L
Spiked Amount 10.000	Recovery	=	113.44%
Target Compounds			
1) T C8	0.00	0	N.D. mg/L
2) T C10	7.77	2531	0.105 mg/L
3) T C12	0.00	0	N.D. mg/L
4) T C14	0.00	0	N.D. mg/L
5) T C16	11.81f	664	0.026 mg/L
6) T C18	11.81	664	0.027 mg/L
7) T C20	12.51	686	0.028 mg/L
8) T C22	13.13	421	0.016 mg/L
9) T C24	14.22	350	0.014 mg/L
10) T C26	14.69	1584	0.060 mg/L
11) T C28	15.13	472	0.018 mg/L
12) T C30	15.98	592	0.022 mg/L
13) T C32	16.45	615	0.023 mg/L
14) T C34	0.00	0	N.D. mg/L
15) T C36	18.63	3352	0.123 mg/L
16) T C38	0.00	0	N.D. mg/L
17) T C40	23.29f	5396	0.208 mg/L
18) T C42	0.00	0	N.D. mg/L
19) T Pristane	11.81	664	0.026 mg/L
20) T Phytane	12.51	686	0.027 mg/L
21) T TPHC (Manual Integration)	0.00	0	N.D. mg/L d
22) H TPHC (Total)	12.00	31204	1.187 mg/L

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

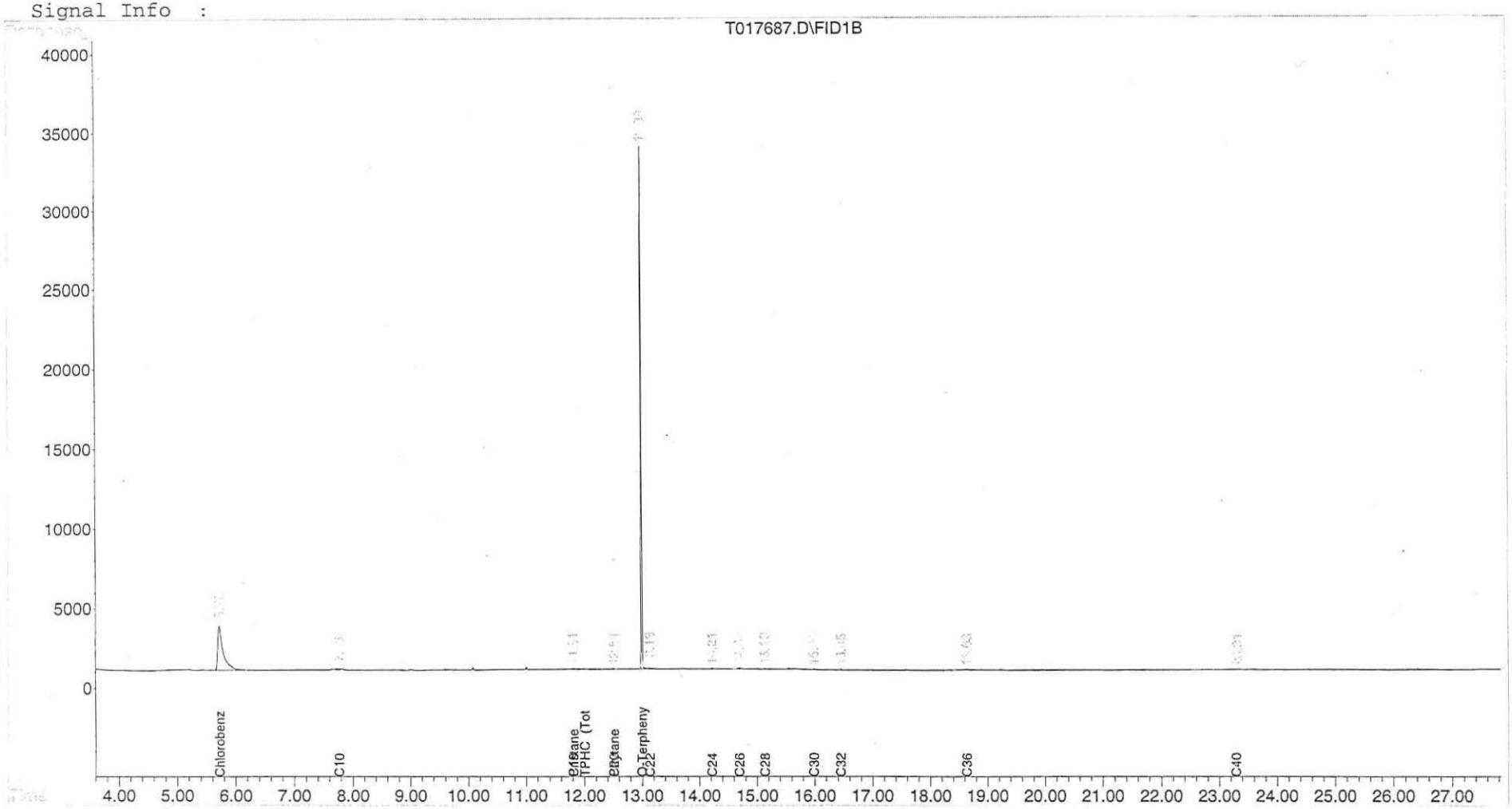
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017687.D
Acq On : 18 Jan 2005 12:46 pm
Sample : 5002004s
Misc :
IntFile : EVENTSBP.E
Quant Time: Jan 18 13:20 2005 Quant Results File: TPHC002.RES

Vial: 8
Operator: PSkelton
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017688.D Vial: 9
Acq On : 18 Jan 2005 1:23 pm Operator: PSkelton
Sample : 5002005s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 13:51 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.72	180071	10.938 mg/L
Spiked Amount 10.000	Recovery	=	109.38%
24) S O-Terphenyl (SURR.)	13.00	312139	11.693 mg/L
Spiked Amount 10.000	Recovery	=	116.93%
Target Compounds			
1) T C8	0.00	0	N.D. mg/L
2) T C10	7.69	1188	0.049 mg/L
3) T C12	0.00	0	N.D. mg/L
4) T C14	0.00	0	N.D. mg/L
5) T C16	11.59	343	0.014 mg/L
6) T C18	11.81	3297	0.136 mg/L
7) T C20	12.51	2463	0.099 mg/L
8) T C22	13.19	414	0.016 mg/L
9) T C24	14.22	1937	0.075 mg/L
10) T C26	14.69	2386	0.090 mg/L
11) T C28	15.13	2624	0.099 mg/L
12) T C30	15.99	3152	0.118 mg/L
13) T C32	16.45	3021	0.114 mg/L
14) T C34	17.59	2712	0.101 mg/L
15) T C36	18.66	1270	0.046 mg/L
16) T C38	20.35	2191	0.083 mg/L
17) T C40	0.00	0	N.D. mg/L
18) T C42	0.00	0	N.D. mg/L
19) T Pristane	11.81	3297	0.131 mg/L
20) T Phytane	12.51	2463	0.096 mg/L
21) T TPHC (Manual Integration)	0.00	0	N.D. mg/L d
22) H TPHC (Total)	12.00	57636	2.193 mg/L

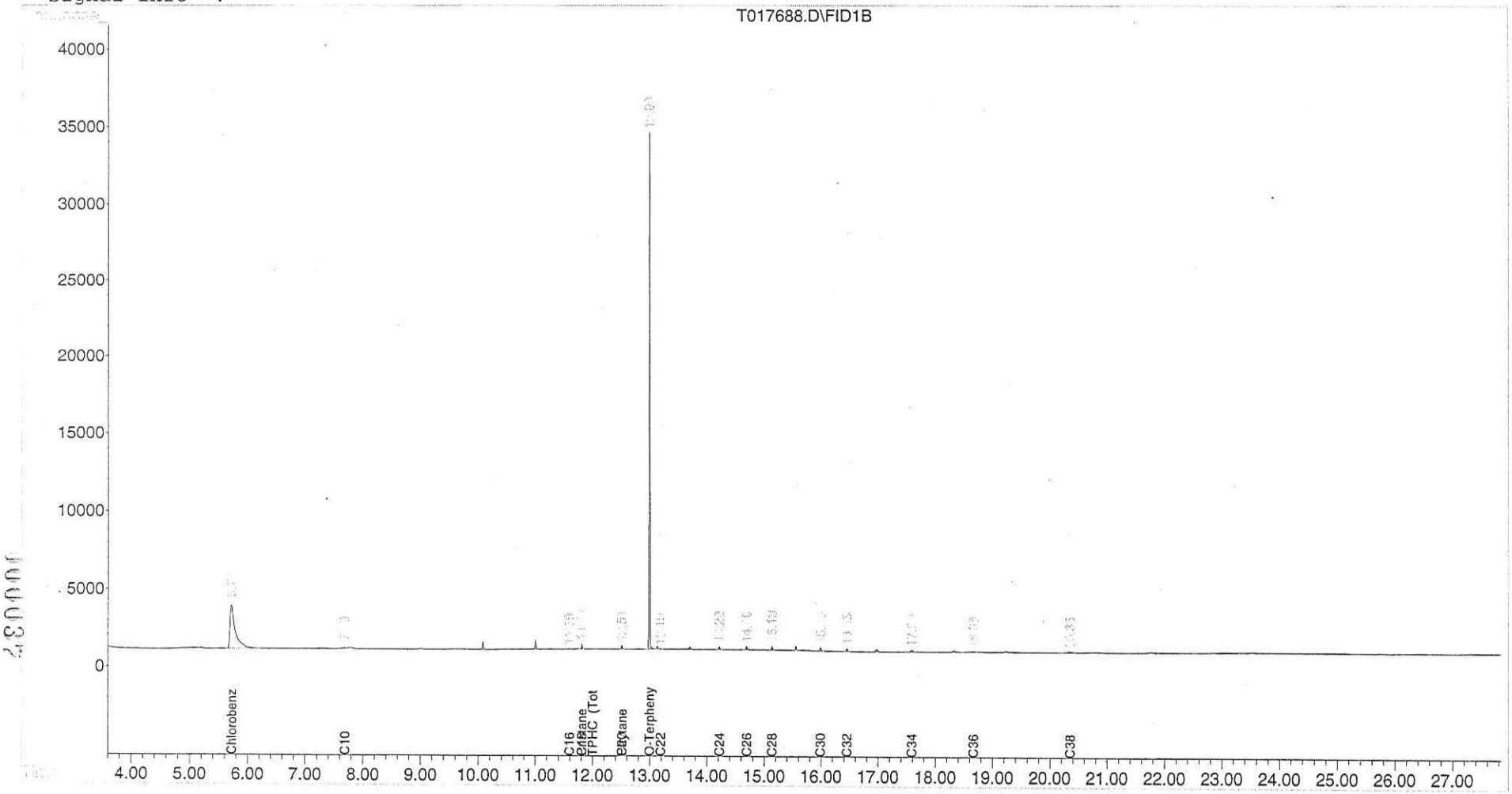
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017688.D Vial: 9
Acq On : 18 Jan 2005 1:23 pm Operator: PSkelton
Sample : 5002005s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 13:51 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017689.D Vial: 10
Acq On : 18 Jan 2005 1:59 pm Operator: PSkelton
Sample : 5002006s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 14:26 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.72	179921	10.930 mg/L
Spiked Amount 10.000	Recovery	=	109.30%
24) S O-Terphenyl (SURR.)	12.99	313153	11.725 mg/L
Spiked Amount 10.000	Recovery	=	117.25%
Target Compounds			
1) T C8	0.00	0	N.D. mg/L
2) T C10	7.69	3170	0.131 mg/L
3) T C12	0.00	0	N.D. mg/L
4) T C14	0.00	0	N.D. mg/L
5) T C16	11.59	431	0.017 mg/L
6) T C18	11.81	3512	0.145 mg/L
7) T C20	12.51	2814	0.113 mg/L
8) T C22	13.19	329	0.013 mg/L
9) T C24	14.22	2244	0.087 mg/L
10) T C26	14.69	2674	0.100 mg/L
11) T C28	15.13	2976	0.113 mg/L
12) T C30	15.98	3431	0.129 mg/L
13) T C32	16.45	3152	0.119 mg/L
14) T C34	17.59	2852	0.106 mg/L
15) T C36	18.68	916	0.034 mg/L
16) T C38	20.34	2193	0.083 mg/L
17) T C40	0.00	0	N.D. mg/L
18) T C42	0.00	0	N.D. mg/L
19) T Pristane	11.81	3512	0.140 mg/L
20) T Phytane	12.51	2814	0.110 mg/L
21) T TPHC (Manual Integration)	11.81	3512	0.114 mg/L
22) H TPHC (Total)	12.00	75055	2.856 mg/L

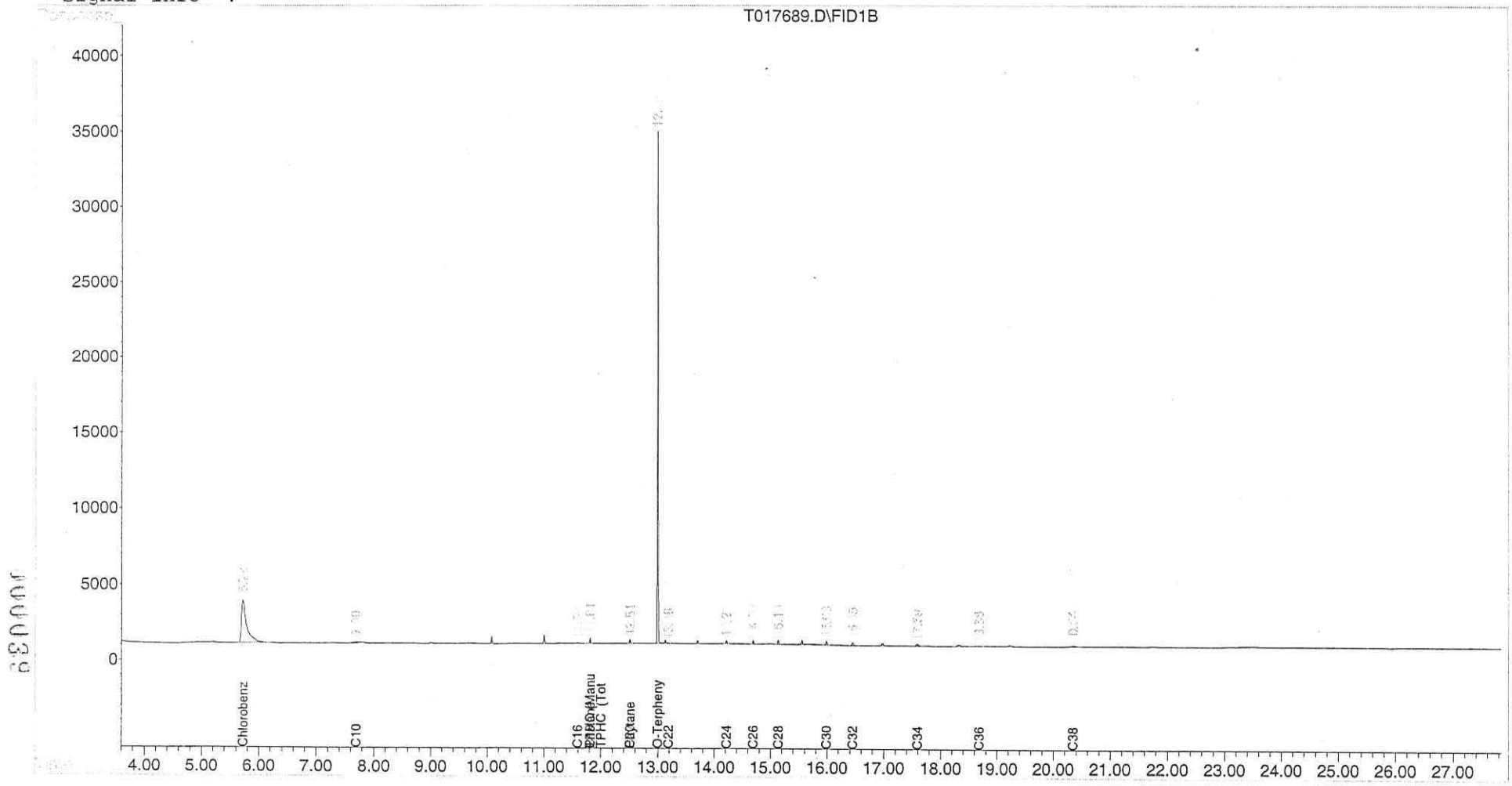
(f)=RT Delta > 1/2 Window (m)=manual int. 000039
T017689.D TPHC002.M Wed Jan 19 08:29:27 2005

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017689.D Vial: 10
Acq On : 18 Jan 2005 1:59 pm Operator: PSkelton
Sample : 5002006s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 18 14:26 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017691.D Vial: 12
Acq On : 18 Jan 2005 3:11 pm Operator: PSkelton
Sample : 5002007s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 19 8:25 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.72	168690	10.345 mg/L
Spiked Amount 10.000	Recovery	=	103.45%
24) S O-Terphenyl (SURR.)	13.00	295166	11.145 mg/L
Spiked Amount 10.000	Recovery	=	111.45%
Target Compounds			
1) T C8	0.00	0	N.D. mg/L
2) T C10	7.77	4924	0.204 mg/L
3) T C12	9.38	269	0.011 mg/L
4) T C14	10.50	2252	0.092 mg/L
5) T C16	11.81f	1338	0.053 mg/L
6) T C18	11.81	1338	0.055 mg/L
7) T C20	12.51	1759	0.071 mg/L
8) T C22	13.13	615	0.024 mg/L
9) T C24	14.22	825	0.032 mg/L
10) T C26	14.69	659	0.025 mg/L
11) T C28	15.14	679	0.026 mg/L
12) T C30	15.99	1083	0.041 mg/L
13) T C32	16.45	874	0.033 mg/L
14) T C34	17.59	3712	0.138 mg/L
15) T C36	18.69	4323	0.158 mg/L
16) T C38	0.00	0	N.D. mg/L
17) T C40	0.00	0	N.D. mg/L
18) T C42	0.00	0	N.D. mg/L
19) T Pristane	11.81	1338	0.053 mg/L
20) T Phytane	12.51	1759	0.069 mg/L
21) T TPHC (Manual Integration)	0.00	0	N.D. mg/L d
22) H TPHC (Total)	12.00	47953	1.825 mg/L

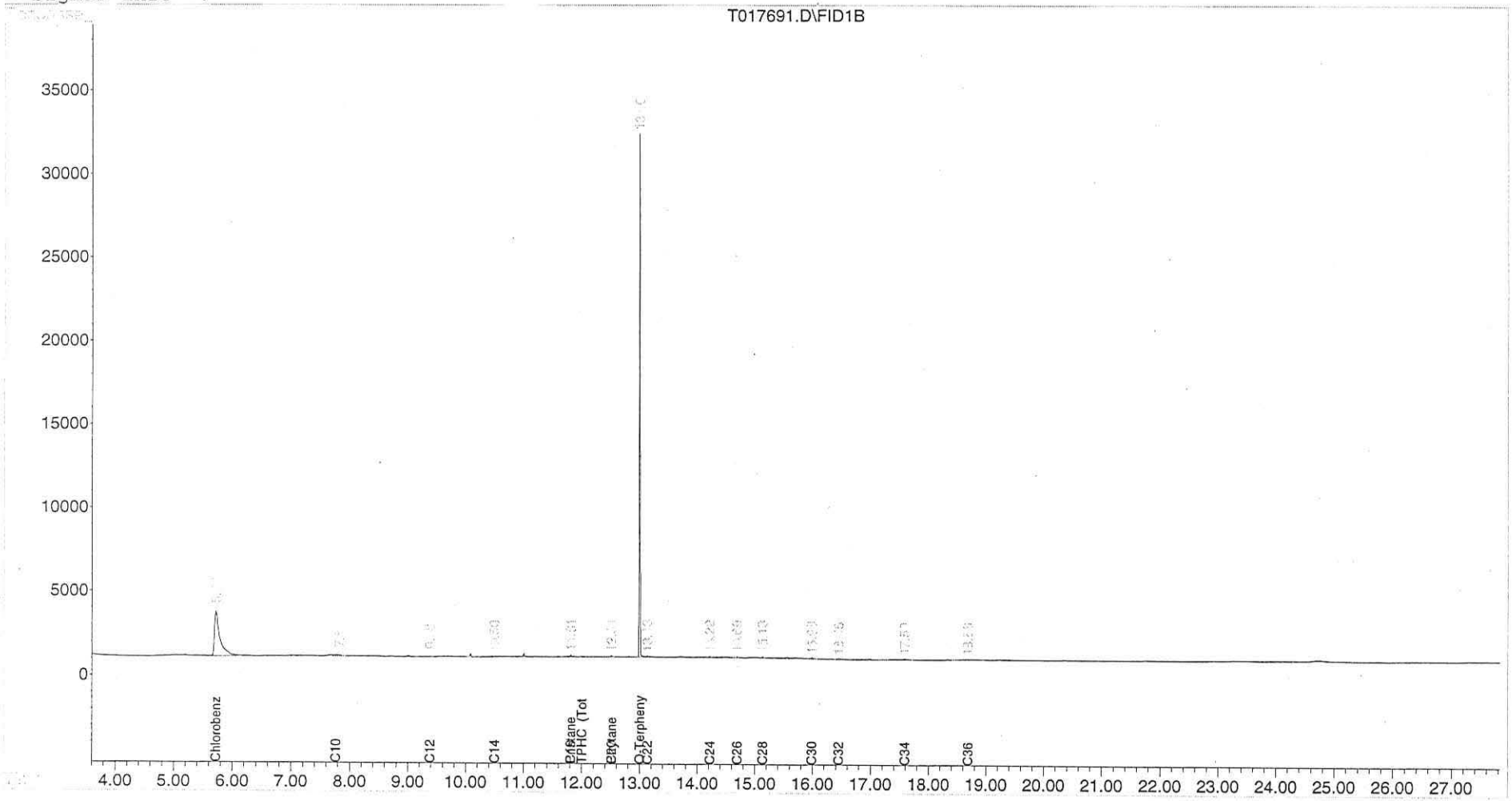
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017691.D Vial: 12
Acq On : 18 Jan 2005 3:11 pm Operator: PSkelton
Sample : 5002007s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 19 8:25 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017692.D Vial: 13
Acq On : 18 Jan 2005 3:47 pm Operator: PSkelton
Sample : 5002008s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 19 8:25 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
23) S Chlorobenzene (SURR.)	5.72	149491	9.347 mg/L
Spiked Amount 10.000	Recovery =		93.47%
24) S O-Terphenyl (SURR.)	12.99	264505	10.157 mg/L
Spiked Amount 10.000	Recovery =		101.57%
Target Compounds			
1) T C8	0.00	0	N.D. mg/L
2) T C10	7.80	4849	0.201 mg/L
3) T C12	0.00	0	N.D. mg/L
4) T C14	10.50	408	0.017 mg/L
5) T C16	11.81f	1060	0.042 mg/L
6) T C18	11.81	1060	0.044 mg/L
7) T C20	12.51	849	0.034 mg/L
8) T C22	13.13	781	0.030 mg/L
9) T C24	14.22	801	0.031 mg/L
10) T C26	14.69	981	0.037 mg/L
11) T C28	15.13	1096	0.041 mg/L
12) T C30	15.98	1096	0.041 mg/L
13) T C32	16.45	1257	0.048 mg/L
14) T C34	17.59	1037	0.039 mg/L
15) T C36	0.00	0	N.D. mg/L
16) T C38	0.00	0	N.D. mg/L
17) T C40	0.00	0	N.D. mg/L
18) T C42	0.00	0	N.D. mg/L
19) T Pristane	11.81	1060	0.042 mg/L
20) T Phytane	12.51	849	0.033 mg/L
21) T TPHC (Manual Integration)	0.00	0	N.D. mg/L d
22) H TPHC (Total)	12.00	29519	1.123 mg/L

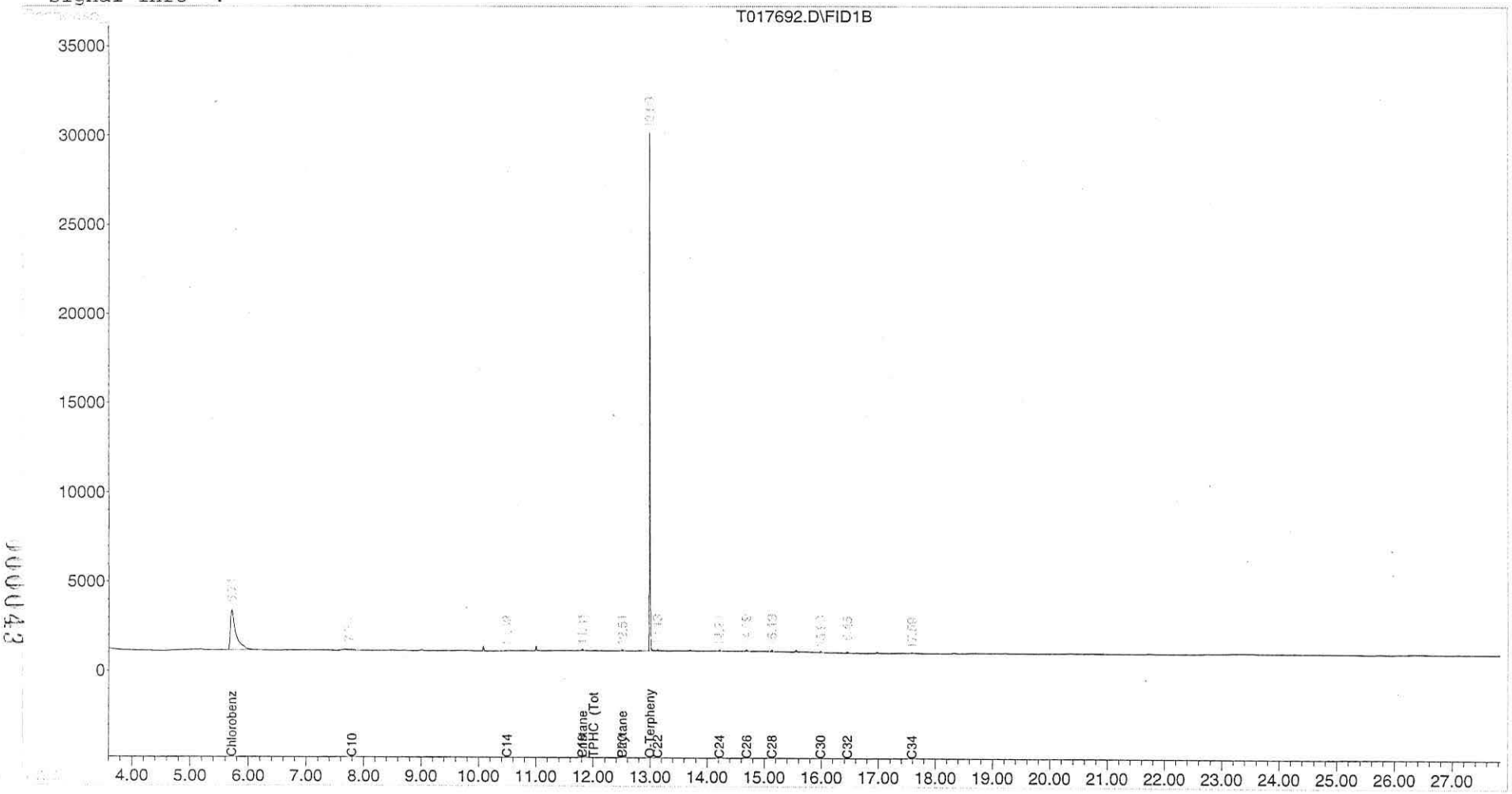
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017692.D Vial: 13
Acq On : 18 Jan 2005 3:47 pm Operator: PSkelton
Sample : 5002008s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 19 8:25 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017693.D Vial: 14
Acq On : 18 Jan 2005 4:23 pm Operator: PSkelton
Sample : 5002009s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 19 8:25 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.72	154669	9.616	mg/L
Spiked Amount 10.000	Recovery =		96.16%	
24) S O-Terphenyl (SURR.)	12.99	258623	9.967	mg/L
Spiked Amount 10.000	Recovery =		99.67%	
Target Compounds				
1) T C8	0.00	0	N.D.	mg/L
2) T C10	7.76	2295	0.095	mg/L
3) T C12	0.00	0	N.D.	mg/L
4) T C14	0.00	0	N.D.	mg/L
5) T C16	11.81f	2480	0.099	mg/L
6) T C18	11.81	2480	0.102	mg/L
7) T C20	12.51	1767	0.071	mg/L
8) T C22	13.13	1436	0.056	mg/L
9) T C24	14.22	1156	0.045	mg/L
10) T C26	14.69	1376	0.052	mg/L
11) T C28	15.13	1466	0.055	mg/L
12) T C30	15.98	1870	0.070	mg/L
13) T C32	16.45	1628	0.062	mg/L
14) T C34	17.58	1520	0.056	mg/L
15) T C36	19.22f	1146	0.042	mg/L
16) T C38	20.34	1410	0.053	mg/L
17) T C40	0.00	0	N.D.	mg/L
18) T C42	0.00	0	N.D.	mg/L
19) T Pristane	11.81	2480	0.099	mg/L
20) T Phytane	12.51	1767	0.069	mg/L
21) T TPHC (Manual Integration)	0.00	0	N.D.	mg/L d
22) H TPHC (Total)	12.00	39684	1.510	mg/L

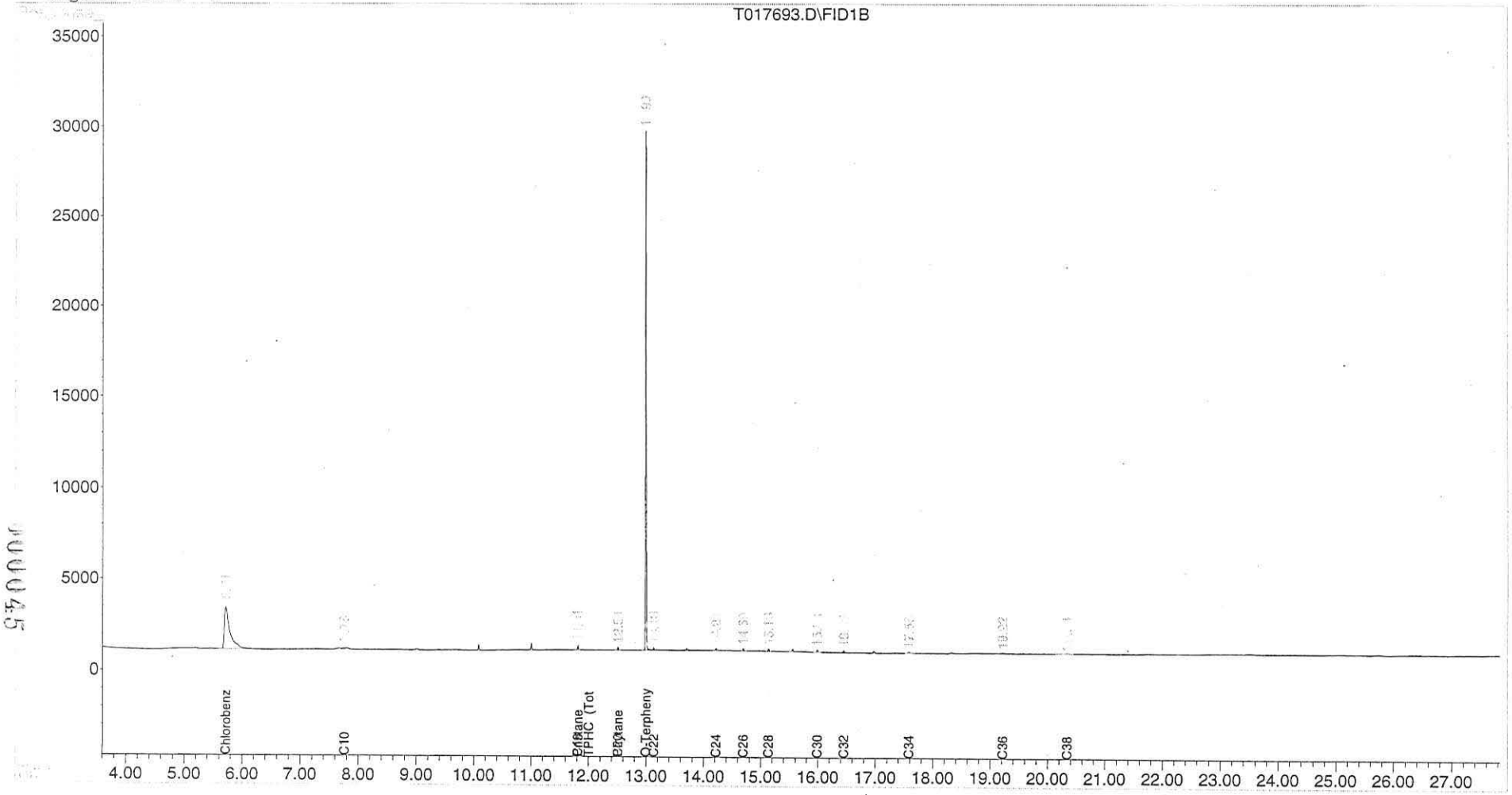
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017693.D Vial: 14
Acq On : 18 Jan 2005 4:23 pm Operator: PSkelton
Sample : 5002009s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 19 8:25 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017694.D Vial: 15
Acq On : 18 Jan 2005 5:00 pm Operator: PSkelton
Sample : 5002010s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 19 8:26 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Initial Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
23) S Chlorobenzene (SURR.)	5.72	158789	9.830	mg/L
Spiked Amount 10.000	Recovery =		98.30%	
24) S O-Terphenyl (SURR.)	13.00	271733	10.390	mg/L
Spiked Amount 10.000	Recovery =		103.90%	
Target Compounds				
1) T C8	0.00	0	N.D.	mg/L
2) T C10	7.76	307	0.013	mg/L
3) T C12	0.00	0	N.D.	mg/L
4) T C14	0.00	0	N.D.	mg/L
5) T C16	11.59	294	0.012	mg/L
6) T C18	11.81	2859	0.118	mg/L
7) T C20	12.51	2244	0.090	mg/L
8) T C22	13.25	522	0.020	mg/L
9) T C24	13.99	285	0.011	mg/L
10) T C26	14.69	2254	0.085	mg/L
11) T C28	15.13	2532	0.096	mg/L
12) T C30	15.99	2791	0.105	mg/L
13) T C32	16.45	2716	0.103	mg/L
14) T C34	17.59	2590	0.096	mg/L
15) T C36	18.69	1477	0.054	mg/L
16) T C38	20.35	1649	0.062	mg/L
17) T C40	0.00	0	N.D.	mg/L
18) T C42	0.00	0	N.D.	mg/L
19) T Pristane	11.81	2859	0.114	mg/L
20) T Phytane	12.51	2244	0.088	mg/L
21) T TPHC (Manual Integration)	0.00	0	N.D.	mg/L d
22) H TPHC (Total)	12.00	51740	1.969	mg/L

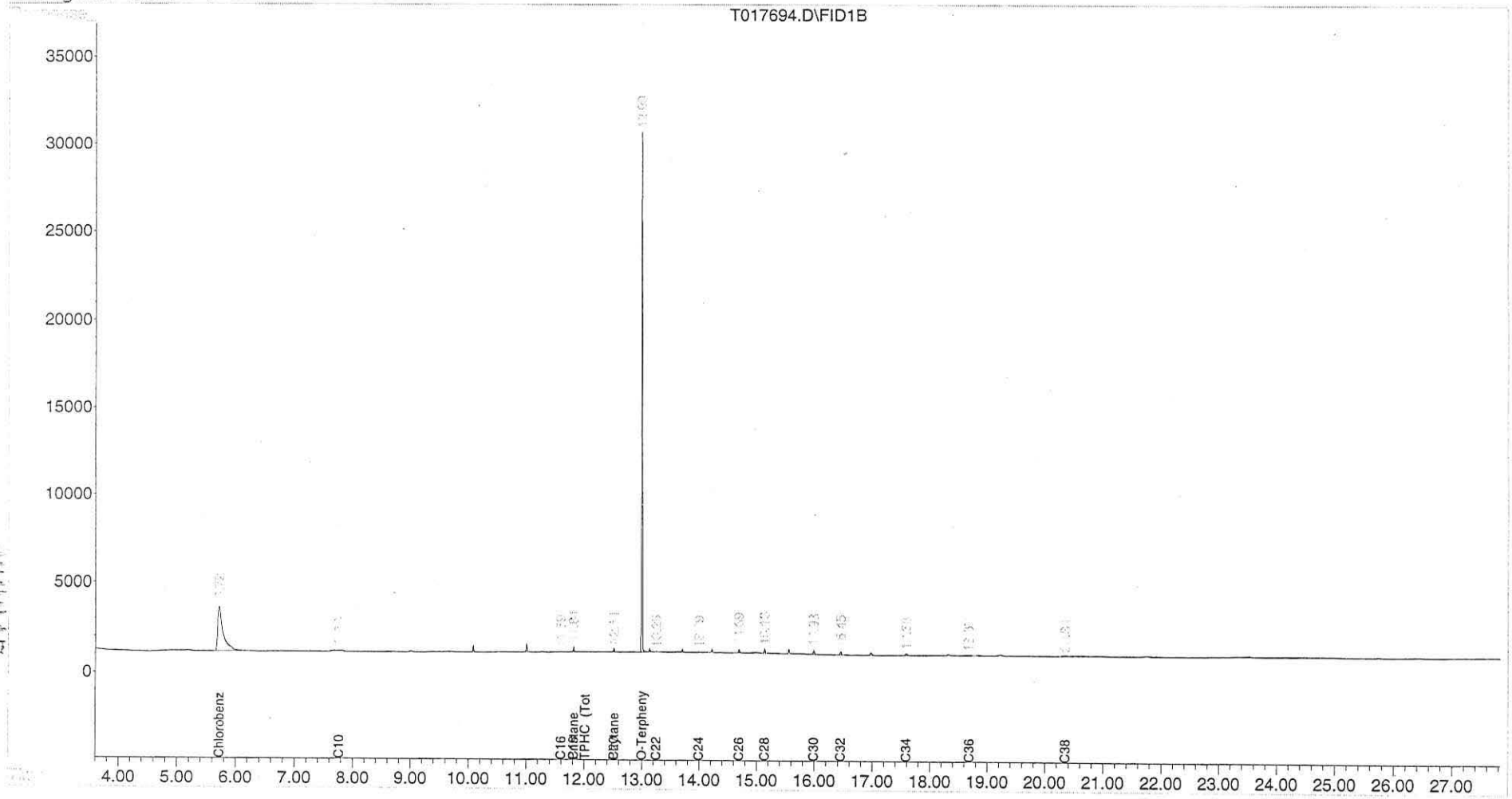
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\050118\T017694.D Vial: 15
Acq On : 18 Jan 2005 5:00 pm Operator: PSkelton
Sample : 5002010s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : EVENTSBP.E
Quant Time: Jan 19 8:26 2005 Quant Results File: TPHC002.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC002.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed Dec 15 12:51:02 2004
Response via : Multiple Level Calibration
DataAcq Meth : TPHC002.M

Volume Inj. :
Signal Phase :
Signal Info :



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: ____/____/____

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.

Daniel K. Wright
Laboratory Manager