U.S. Army Garrison
Fort Monmouth, New Jersey

Underground Storage Tank Closure Report

Main Post – Bldg.213
12 & 14 Russel Ave.

NJDEP UST Registration No. 081533-11

February 2007

UNDERGROUND STORAGE TANK REPORT

MAIN POST – 12 & 14 RUSSEL AVE., BUILDING 213
NJDEP UST REGISTRATION NO. 081533-11

FEBRUARY 2007

PROJECT NO.: 01-0001

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 April 30, 2001, a single wall steel 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 near Building 213 in the Main Post area of Fort Monmouth UST No 81533-11 was a 2,000-gallon No 2 heating oil tank The fill port and associated 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* 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 potentially contaminated soils were observed surrounding the tank

After removing the UST closure soil samples were collected Samples 212A, 212B, 212C, 212D 22E and 212F-Duplicate were collected from a total of five (5) locations along the tank centerline bottom of the excavation All samples were analyzed for total petroleum hydrocarbons (TPH) Groundwater was not encountered in the excavation

Findings

The closure soil samples collected from the UST excavation associated with former UST No 81533-11, contained TPH concentrations below the NJDEP health based criterion of 10,000 milligrams per kilogram (mg/kg) for total organic contaminants (N J A C 7 26E and revisions dated February 3, 1994) All samples contained TPH concentrations of Not Detected

Site Restoration

Following receipt of all 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 post-excavation 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 81533-11 at Building 213

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 081533-11, was closed at Building 213 of Main Post at U.S. Army Garrison, Fort Monmouth, New Jersey on April 30, 2001. 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 2,000-gallon, single-walled fiberglass tank containing No. 2 heating oil for residential consumption.

Decommissioning activities for UST No. 81533-11 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 April 20, 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 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 213, Russel Ave., is located in the eastern portion of the Main Post area of Fort Monmouth, as shown on Figure 1. UST No. 81533-11 was located east of Building 213. The fill port and supply/return piping were present in the excavation and also removed. A site map is provided on Figure 2.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the 400 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 212 is located approximately 1 000 feet south of Parkers Creek, the nearest water body, which flows into the Shrewsbury River Based on the Main Post topography the groundwater flow in the area of the Building 213 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 No potentially contaminated soils were identified 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 No fuel was found in the UST it contained a few inches of residual sludge

After the UST was removed from the excavation, it was staged on polyethylene sheeting labeled and examined for holes 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 of which none was observed

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 Marpal Disposal Company, Inc., Lincroft, 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 Remedial 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 (1992) 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) 532-0986

- 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 April 30, 2001, closure soil samples 213-A, 213-B 213-C 213-D, 213-E and 213-F Duplicate were collected from a total of five (5) locations along the tank centerline bottom of the UST excavation and along the piping Groundwater was not encountered 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 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 five locations on April 30, 2001 to evaluate soil conditions following removal of the UST 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 April 30 2001, from the UST 81533-11 excavation contained concentrations of TPH below the NJDEP soil cleanup criteria All soil samples were Not Detected

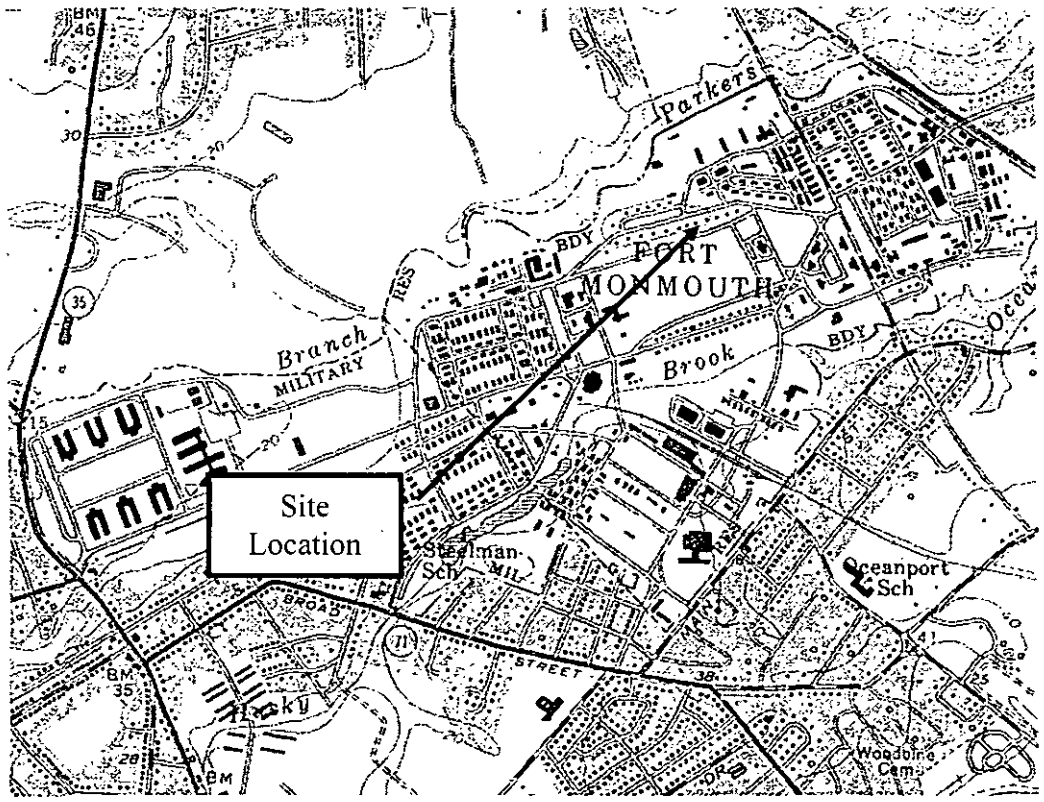
3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all soil samples collected from the UST closure excavation at UST No 81533-11 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 81533-11

No Further Action is proposed in regard to the closure and site assessment of UST No 81533-11 at Building 213

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 213
UST NO. 81533-11
FT. MONMOUTH, NJ

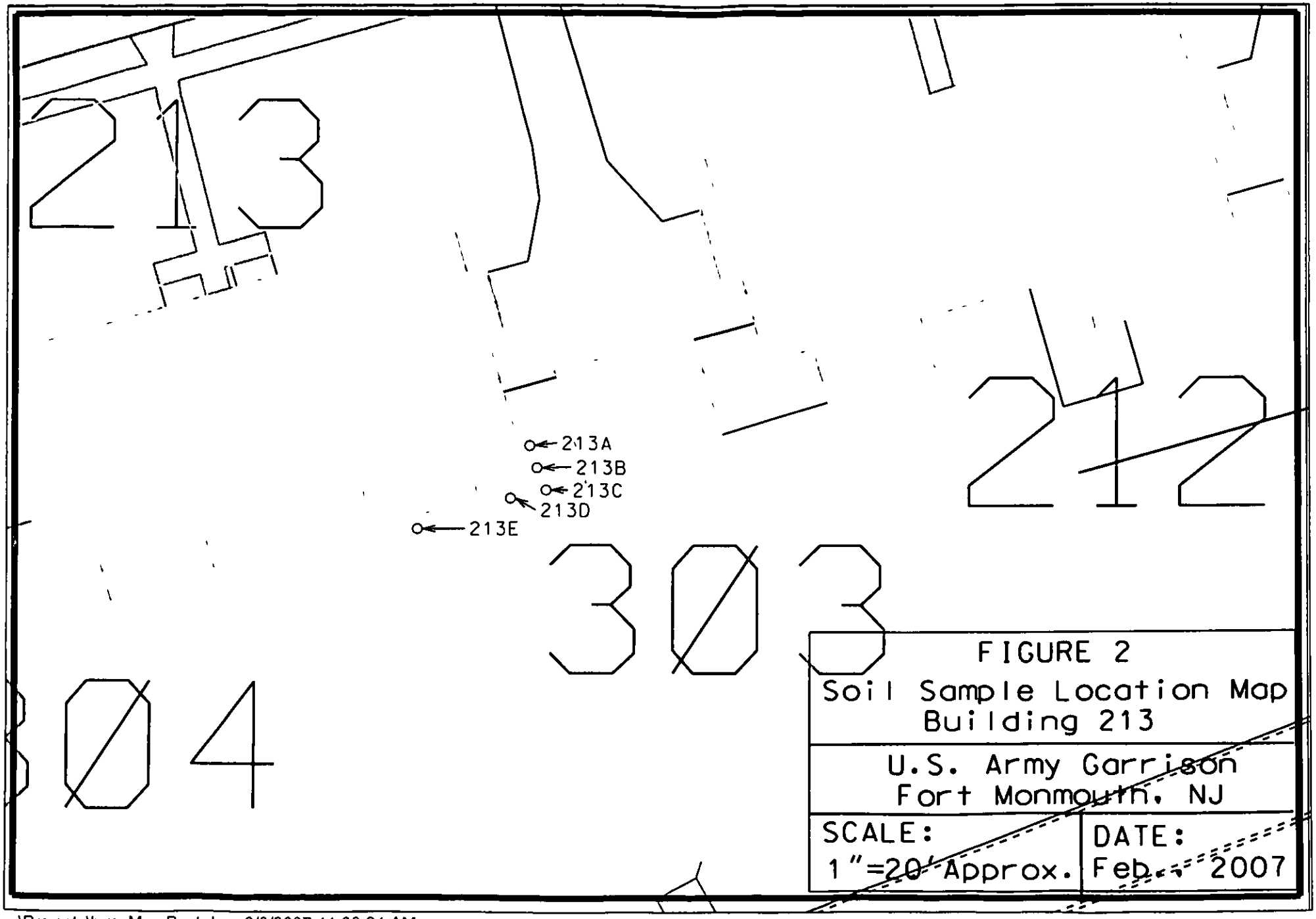


FIGURE 2
Soil Sample Location Map
Building 213

U.S. Army Garrison
Fort Monmouth, NJ

SCALE:
1"=20' Approx.

DATE:
Feb. 2007

\Projects\bim_MainPost.dgn 2/8/2007 11:00:24 AM

TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS
FT. MONMOUTH, BUILDING 213, UST No 81533-11
30 April 2001

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
213-A	16092 01	30-April-01	SOIL	TPH	OQA-QAM-25
213-B	16092 02	30-April-01	SOIL	TPH	OQA-QAM-25
213-C	16092 03	30-April-01	SOIL	TPH	OQA-QAM-25
213-D	16092 04	30-April-01	SOIL	TPH	OQA-QAM-25
213-E	16092 05	30-April-01	SOIL	TPH	OQA-QAM-25
213-F (dupl C)	16092 06	30-April-01	SOIL	TPH	OQA-QAM-25
TRIP BLANK	16092 07	30-April-01	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, BUILDING 213, UST No 81533-11
30 April 2001

TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH	MATRIX	TPH RESULT S
			(in feet)		mg/kg
213-A	16092 01	NORTH END UST	9 0 – 9 5	Soil	ND
213-B	16092 02	CENTER	9 0 – 9 5	Soil	ND
213-C	16092 03	SOUTH END UST	9 0 – 9 5	Soil	ND
213-D	16092 04	PIPING	2 5 – 3 0	Soil	ND
213-E	16092 05	PIPING	2 5 – 3 0	Soil	ND
213-F (dupl C)	16092 06	DUPLICATE (SOUTH END)	9 0 – 9 5	Soil	ND
Trip Blank	16092 07	---	---	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
CERTIFICATION

Site Remediation Program
UST Site Remedial Investigation Report

A. Facility Name Building 213, Fort Monmouth

Facility Street Address Russel Avenue

Municipality Eatontown County Monmouth

Block NA Lot(s) NA Telephone Number (732) 532-6225

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

Street Address 167 Riverside Avenue City Fort Monmouth

State NJ Zip 07703 Telephone Number (732) 532-2577

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 81533-11 (7 digits)

- Incident Report Number NA (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 Frank Accorsi UST Cert No 0010042

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

Firm Address 166 Riverside Avenue City Fort Monmouth

State NJ Zip 07703 Telephone Number (723) 532-2577

(NOTE Certification numbers required only if work was conducted on USTs regulated per N J S A 58 **10A-21** 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-17(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

DEPARTMENT OF THE ARMY
HEADQUARTERS, U S ARMY GARRISON FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5101

REPLY TO
ATTENTION OF

Directorate of Public Works

August 14, 2001

Marpal Disposal Company, Inc
P O Box 188
Lincroft, New Jersey 07738

Re Non-Hazardous Waste Disposal
Contract No DAAB07-96-C-8252
Location Bldg. 166, rear
Roll-off container No 382
Size 30 cubic yards
USTs from Buildings(capacity) 212(2K), 213(2K), 214(2K), 219(2K), 220(2K), 222(2K), 223(2K), 225(2K)

Dear Sir

I certify that the above referenced 30 cubic yard roll-off container provided by Marpal, Inc contains only crushed fiberglass underground storage tanks removed from residential buildings at Fort Monmouth, NJ The tanks contained only No 2 heating oil The tanks were decommissioned in accordance with acceptable industry standards, NJDEP protocol and then crushed No free liquids are present in the container

If you should require any additional information or help at this time, please contact Mr Dinker Desai, Environmental Protection Specialist @ (732) 532-1475.

Sincerely,

Dinker Desai
Environmental Engineer

Attachments None

APPENDIX C
SOIL ANALYTICAL DATA PACKAGE

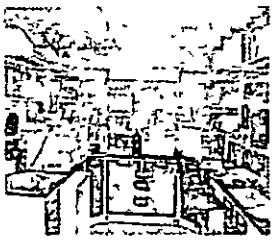
FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE. (732) 532-6224 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 IJO# 01-0001

Bldg. 213

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
213-A North End 9-9 5'	16092 01	Soil	30-Apr-01 14 00	04/30/01
213-B Center 9-9 5'	16092 02	Soil	30-Apr-01 14 30	04/30/01
213-C South End 9-9 5'	16092 03	Soil	30-Apr-01 14 50	04/30/01
213-D Piping 2 5-3'	16092 04	Soil	30-Apr-01 15 10	04/30/01
213-E Piping 2 5-3'	16092 05	Soil	30-Apr-01 15 20	04/30/01
213-F Duplicate 9-9 5'	16092 06	Soil	30-Apr-01 14 50	04/30/01

ANALYSIS
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE
CHAIN OF CUSTODY
RESULTS

5-4-01
Daniel Wright/Date
Laboratory Director

Table of Contents

Method Summary

NJDEP Method OQA-QAM-025-10/97
Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask 15g anhydrous sodium sulfate is added to dry sample Surrogate standard spiking solution is then added to the flask
Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table The agitation rate is set to 400rpm and the sample is shaken for 30 minutes The flask is the removed from the table, and the particulate matter is allowed to settle The extract is transferred to a Teflon capped vial A second 25mL 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 1mL-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 solid, sample weight and concentration

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 (If not met, list the sample and corresponding recovery which falls outside the acceptable range) _____ _____	YES
5	IR Spectra submitted for standards, blanks and samples	NA
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 _____
_____
_____

_____ 5-5-01
Laboratory Manager Date

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 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai
Phone #: X21475
( )DERA (X)OMA UST Assessment

Project No ~~100004~~ 01-0001
Location BLDG 213 (12+14 RUSSEL)
UST# 81533-11

Samplers Name / Company : Frank Accorsi/TVS

Lab Sample I D	Sample Location	Depth	Date	Time	Sample Type	# Bottles	TPHC	% SOLIDS	VOA+10	VOA ID #	PID Reading	* = Samples Kept <4°C / Remarks / Preservation Method
16052-01	213-A, NORTH END	9-9.5	4-30-01	1400	SOIL	2	X	X	X	~~2334~~ 2334	0	ICE
02	213-B, CENTER	9-9.5		1430		2	X	X	X	2335	0	
03	213-C, SOUTH END	9-9.5		1450		2	X	X	X	2336	0	
04	213-D, PIPING	2.5-3		1510		2	X	X	X	2337	0	
05	213-E, PIPING	2.5-3		1520		2	X	X	X	2338	0	
06	213-F, DUPLICATE	9-9.5		1450		2	X	X	X	~~2339~~ 2340	0	
07	TRIP BLANK	—		—	AQ.	1			X	2341	—	

OVM sn#580U-64455 343 was calibrated with zero air & w/ 245 ppm Isobutylene read 245 ppm 1330 4-30-01 FA (time/date & initial)

Relinquished by (signature)	Date/Time	Received by (signature)	Comments:
Frank Accorsi	4-30-01 1545		VOA+10 ON 25% T 1,000 PPM TPH ON HIGHEST, MIN. ONE
Relinquished by (signature)	Date/Time	Received by (signature)	

Report Type ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time ( )Standard 2 wks, (X)Rush ___ Days, ( )ASAP Verbal ___ Hrs

Remarks
Dedicated Sampling Tools Used
All sample points have been GPS? (X)YES ( )NO ( )NA

print legibly

USTcoc xls3/21/00

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

Client	U S Army	Project #	16092
	DPW SELFM-PW-EV	Location	Bldg 213
	Bldg 173	UST Reg #	81533-11
	Ft Monmouth, NJ 07703		

Analysis	OQA-QAM-025	Date Received	30-Apr-01
Matrix	Soil	Date Extracted	01-May-01
Inst. ID	GC TPHC INST #1	Extraction Method	Shake
Column Type	RTX-5, 0 32mm ID, 30M	Analysis Complete	01-May-01
Injection Volume	1uL	Analyst	B Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1609201	213-A	1 00	15 37	81 91	187	ND
1609202	213-B	1 00	15 07	81 63	191	ND
1609203	213-C	1 00	15 09	85 00	183	ND
1609204	213-D	1 00	15 04	84 84	184	ND
1609205	213-E	1 00	15 30	83 90	183	ND
1609206	213-F	1 00	15 06	82 80	188	ND
METHOD BLANK	MB-1725	1 00	15 00	100 00	157	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001

Calibration Files
100 =T012553 D 50 =T012557 D 20 =T012556 D
10 =T012555 D 5 =T012554 D

	Compound	100	50	20	10	5	Avg	%RSD
1)	tC C8	2 191	2 181	2 146	2 110	1 983	2 122 E4	3 95
2)	tC C10	2 277	2 249	2 152	2 134	2 021	2 167 E4	4 70
3)	TC C12	2 321	2 328	2 344	2 226	2 172	2 278 E4	3 30
4)	tC C14	2 361	2 356	2 370	2 349	2 306	2 349 E4	1 06
5)	tC C16	2 389	2 385	2 402	2 356	2 285	2 364 E4	1 98
6)	tC C18	2 255	2 270	2 272	2 124	1 866	2 157 E4	8 08
7)	tC C20	2 462	2 453	2 441	2 273	2 152	2 356 E4	5 86
8)	tC C22	2 536	2 536	2 585	2 562	2 466	2 537 E4	1 75
9)	tC C24	2 560	2 559	2 587	2 540	2 518	2 553 E4	1 00
10)	tC C26	2 566	2 568	2 578	2 535	2 503	2 550 E4	1 20
11)	tC C28	2 574	2 563	2 561	2 501	2 454	2 531 E4	2 03
12)	tC C30	2 683	2 652	2 624	2 662	2 308	2 586 E4	6 06
13)	tC C32	2 622	2 579	2 562	2 521	2 479	2 553 E4	2 15
14)	tC C34	2 618	2 572	2 567	2 519	2 453	2 546 E4	2 47
15)	tC C36	2 593	2 556	2 556	2 474	2 386	2 513 E4	3 30
16)	tC C38	2 598	2 573	2 547	2 491	2 483	2 538 E4	1 98
17)	tC C40	2 419	2 409	2 392	2 346	2 262	2 365 E4	2 72
18)	tC c42	2 471	2 458	2 441	2 432	2 382	2 437 E4	1 41
19)	TC Pristane	2 506	2 365	2 712	2 789	2 667	2 608 E4	6 54
20)	TC Phytane	2 561	2 573	2 667	2 728	2 842	2 674 E4	4 36
21)	sC o-terphenyl	2 868	2 867	2 910	2 886	2 891	2 885 E4	0 62
22)	tC TPHC - total	2 751	2 810	2 967	3 223	3 880	3 126 E4	14 69

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File C \HPCHEM\1\DATA\010501\T012836 D Vial 1
Acq On 1 May 2001 9 16 am Operator BPatel
Sample Tstd050 Inst GC/MS Ins
Misc 50 ppm std Multiplr 1 00
IntFile TPHCINT E

Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Multiple Level Calibration

Min RRF 0 000 Min Rel Area 50% Max R T Dev 0 50min
Max RRF Dev 15% Max Rel Area 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	21 220	20 369 E3	4 0	93	0 00
2	tC	C10	21 666	20 361 E3	6 0	91	0 00
3	TC	C12	22 781	21 905 E3	3 8	94	0 00
4	tC	C14	23 486	22 517 E3	4 1	96	0 00
5	tC	C16	23 635	22 836 E3	3 4	96	0 00
6	tC	C18	21 574	22 555 E3	-4 5	99	0 00
7	tC	C20	23 563	23 533 E3	0 1	96	0 00
8	tC	C22	25 370	24 380 E3	3 9	96	0 00
9	tC	C24	25 529	24 562 E3	3 8	96	0 00
10	tC	C26	25 501	24 539 E3	3 8	96	0 00
11	tC	C28	25 307	24 585 E3	2 9	96	0 00
12	tC	C30	25 857	25 613 E3	0 9	97	0 00
13	tC	C32	25 526	25 122 E3	1 6	97	0 00
14	tC	C34	25 459	25 357 E3	0 4	99	0 00
15	tC	C36	25 129	25 447 E3	-1 3	100	0 00
16	tC	C38	25 384	25 781 E3	-1 6	100	0 00
17	tC	C40	23 655	24 292 E3	-2 7	101	0 00
18	tC	c42	24 370	24 679 E3	-1 3	100	-0 01
19	TC	Pristane	26 077	24 607 E3	5 6	104	0 00
20	TC	Phytane	26 741	25 011 E3	6 5	97	0 00
21	sC	o-terphenyl	28 847	26 837 E3	7 0	94	0 00
22	tC	TPHC - total	31 263	28 521 E3	8 8	101	0 49

Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012836 D Vial 1
Acq On 1 May 2001 9 16 am Operator BPatel
Sample Tstd050 Inst GC/MS Ins
Misc 50 ppm std Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 9 55 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	1341852	46 517 mg/L
Spiked Amount 10 000 Range 8 - 13		Recovery = 465 17%#	
Target Compounds			
1) tC C8	3 69	1018457	47 996 mg/L
2) tC C10	7 17	1018062	46 989 mg/L
3) TC C12	8 85	1095258	48 078 mg/L
4) tC C14	10 05	1125843	47 937 mg/L
5) tC C16	11 05	1141807	48 309 mg/L
6) tC C18	11 51	1127750	52 274 mg/L m
7) tC C20	11 95	1176632	49 935 mg/L m
8) tC C22	12 77	1218995	48 048 mg/L
9) tC C24	13 51	1228107	48 107 mg/L
10) tC C26	14 20	1226929	48 114 mg/L
11) tC C28	14 84	1229256	48 574 mg/L
12) tC C30	15 43	1280638	49 528 mg/L
13) tC C32	16 05	1256078	49 209 mg/L
14) tC C34	16 80	1267839	49 799 mg/L
15) tC C36	17 77	1272373	50 634 mg/L
16) tC C38	19 11	1289061	50 782 mg/L
17) tC C40	21 00	1214622	51 348 mg/L
18) tC c42	23 68	1233962	50 635 mg/L
19) TC Pristane	11 54	1230332	47 180 mg/L m
20) TC Phytane	12 00	1250542	46 764 mg/L m
22) tC TPHC - total	12 49	28521068	912 290 mg/L m

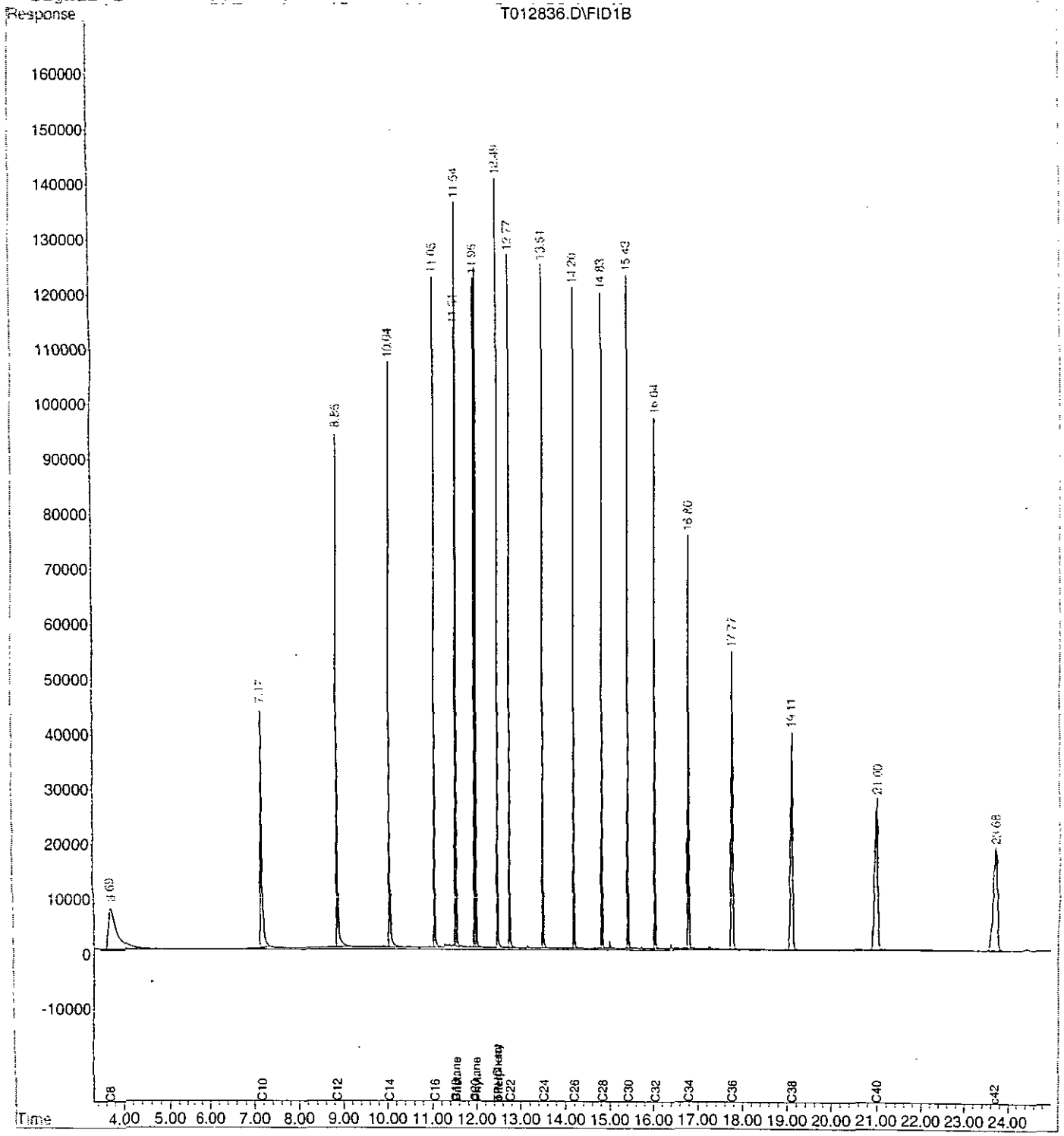
(f)=RT Delta > 1/2 Window (m)=manual int 00000

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010501\T012836.D Vial: 1
Acq On : 1 May 2001 9:16 am Operator: BPatel
Sample : Tstd050 Inst : GC/MS Ins
Misc : 50 ppm std Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 1 9:55 2001 Quant Results File: TPH85.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH85.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Feb 02 11:34:54 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH85.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm



000005

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010501\T012847.D Vial: 12
Acq On : 1 May 2001 3:39 pm Operator: BPatel
Sample : Tstd050 Inst : GC/MS Ins
Misc : 50 PPM STD Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 1 16:14 2001 Quant Results File: TPH85.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH85.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Feb 02 11:34:54 2001
Response via : Initial Calibration
DataAcq Meth : TPH85.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.49	1362899	47.246 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 472.46%#	
Target Compounds			
1) tC C8	3.70	1024722	48.291 mg/L
2) tC C10	7.17	1036003	47.818 mg/L
3) TC C12	8.86	1128911	49.556 mg/L
4) tC C14	10.05	1148599	48.906 mg/L
5) tC C16	11.06	1161395	49.138 mg/L
6) tC C18	11.52	1118365	51.839 mg/L m
7) tC C20	11.95	1185166	50.297 mg/L m
8) tC C22	12.77	1236242	48.728 mg/L
9) tC C24	13.51	1242780	48.682 mg/L
10) tC C26	14.20	1241686	48.692 mg/L
11) tC C28	14.84	1239246	48.968 mg/L
12) tC C30	15.43	1277245	49.397 mg/L
13) tC C32	16.05	1261736	49.430 mg/L
14) tC C34	16.80	1272673	49.989 mg/L
15) tC C36	17.78	1277751	50.848 mg/L
16) tC C38	19.12	1293192	50.945 mg/L
17) tC C40	21.00	1218290	51.503 mg/L
18) tC c42	23.69	1238517	50.822 mg/L
19) TC Pristane	11.54	1257899	48.237 mg/L m
20) TC Phytane	12.00	1271903	47.563 mg/L m
22) tC TPHC - total	12.49	27526999	880.493 mg/L m

000003

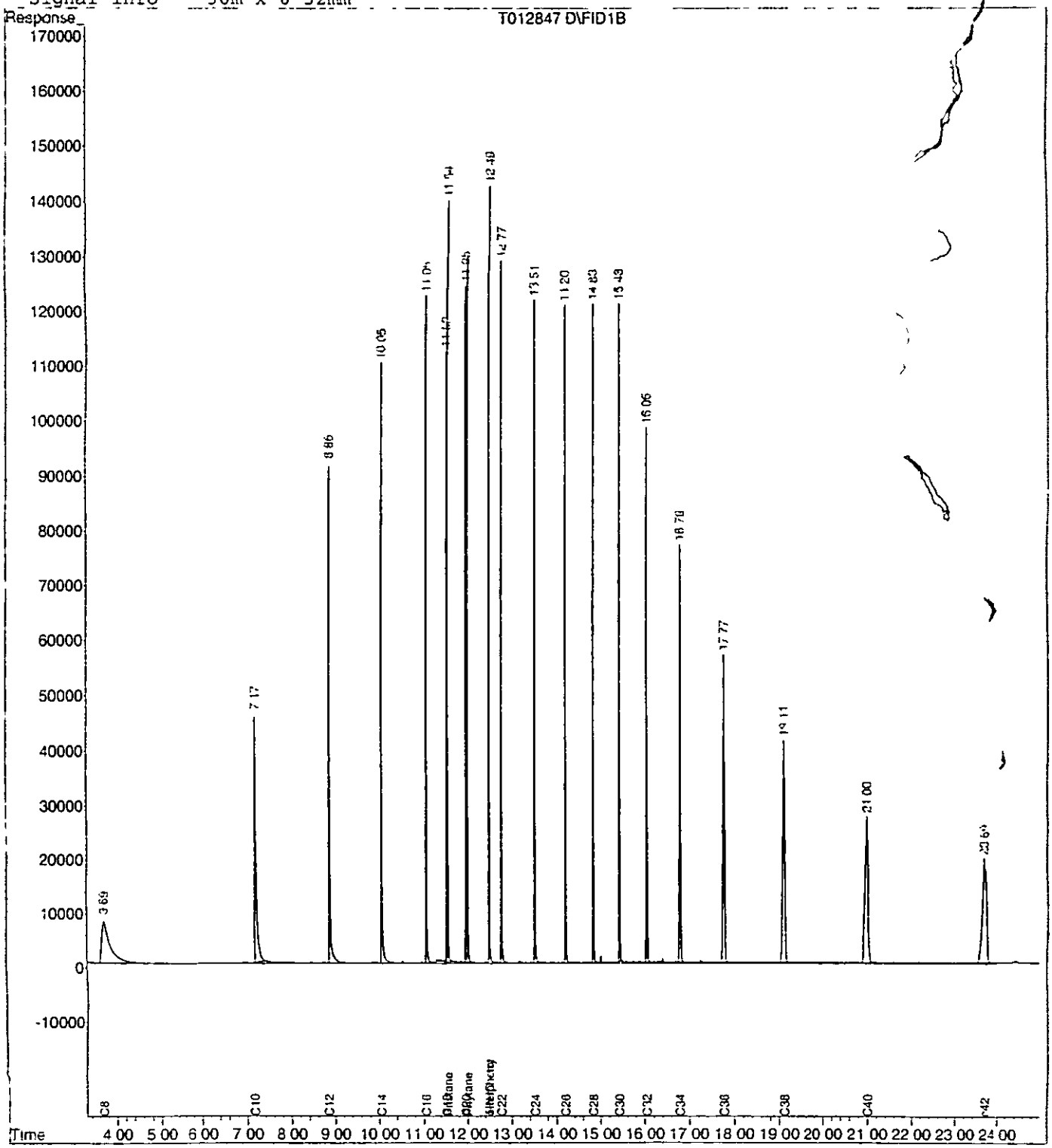
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012847 D	Vial	12
Acq On	1 May 2001 3 39 pm	Operator	BPatel
Sample	Tstd050	Inst	GC/MS Ins
Misc	50 PPM STD	Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 16 14 2001 Quant Results File	TPH85 RES	

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



060013

Evaluate Continuing Calibration Report

Data File C \HPCHEM\1\DATA\010501\T012847 D Vial 12
Acq On 1 May 2001 3 39 pm Operator BPatel
Sample Tstd050 Inst GC/MS Ins
Misc 50 PPM STD Multiplr 1 00
IntFile TPHCINT E

Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Multiple Level Calibration

Min RRF 0 000 Min Rel Area 50% Max R T Dev 0 50min
Max RRF Dev 15% Max Rel Area 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	21 220	20 494 E3	3 4	94	0 00
2	tC	C10	21 666	20 720 E3	4 4	92	0 00
3	TC	C12	22 781	22 578 E3	0 9	97	0 00
4	tC	C14	23 486	22 972 E3	2 2	97	0 00
5	tC	C16	23 635	23 228 E3	1 7	97	0 00
6	tC	C18	21 574	22 367 E3	-3 7	99	0 00
7	tC	C20	23 563	23 703 E3	-0 6	97	0 00
8	tC	C22	25 370	24 725 E3	2 5	97	0 00
9	tC	C24	25 529	24 856 E3	2 6	97	0 00
10	tC	C26	25 501	24 834 E3	2 6	97	0 00
11	tC	C28	25 307	24 785 E3	2 1	97	0 00
12	tC	C30	25 857	25 545 E3	1 2	96	0 00
13	tC	C32	25 526	25 235 E3	1 1	98	0 00
14	tC	C34	25 459	25 453 E3	0 0	99	0 00
15	tC	C36	25 129	25 555 E3	-1 7	100	0 00
16	tC	C38	25 384	25 864 E3	-1 9	101	0 00
17	tC	C40	23 655	24 366 E3	-3 0	101	0 00
18	tC	c42	24 370	24 770 E3	-1 6	101	0 00
19	TC	Pristane	26 077	25 158 E3	3 5	106	0 00
20	TC	Phytane	26 741	25 438 E3	4 9	99	0 00
21	sC	o-terphenyl	28 847	27 258 E3	5 5	95	0 00
22	tC	TPHC - total	31 263	27 527 E3	12 0	98	0 49

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

Client	U S Army	Project # .	16092
	DPW SELFM-PW-EV	Location	Bldg 213
	Bldg 173	UST Reg # :	81533-11
	Ft Monmouth, NJ 07703		
Analysis	OQA-QAM-025	Date Received	30-Apr-01
Matrix.	Soil	Date Extracted	1-May-01
Inst. ID.	GC TPHC INST #1	Extraction Method	Shake
Column Type .	RTX-5, 0 32mm ID, 30M	Analysis Complete	1-May-01
Injection Volume	1uL	Analyst	B Patel

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1609201			10 00	9 53	95.33
1609202			10 00	9 50	95 01
1609203			10 00	8 85	88.47
1609204			10 00	8 88	88 82
1609205			10 00	9 57	95 66
1609206			10 00	9 67	96.72
METHOD BLANK	MB-1725		10 00	9 50	94.96

Surrogate Added o-Terphenyl

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

Client	U S Army	**Project #**	16092
	DPW SELFM-PW-EV	**Location**	Bldg 213
	Bldg 173	**UST Reg #.**	81533-11
	Ft Monmouth, NJ 07703		
Analysis	OQA-QAM-025	**Date Received**	30-Apr-01
Matrix:	Soil	**Date Extracted**	1-May-01
Inst. ID	GC TPHC INST #1	**Extraction Method**	Shake
Column Type	RTX-5, 0 32mm ID, 30M	**Analysis Complete**	1-May-01
Injection Volume	1uL	**Analyst ·**	B Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
MS-1727	1000	0 00	846 60	84 66	75-125
MSD-1728	1000	0 00	831 06	83 11	75-125
			RPD	1.85	20 00

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

Client	U S Army	Project #	16092
	DPW SELFM-PW-EV	Location	Bldg 213
	Bldg 173	UST Reg. #	81533-11
	Ft Monmouth, NJ 07703		
Analysis:	OQA-QAM-025	Date Received ·	30-Apr-01
Matrix.	Soil	Date Extracted	1-May-01
Inst. ID.	GC TPHC INST #1	Extraction Method	Shake
Column Type	RTX-5, 0 32mm ID, 30M	Analysis Complete	1-May-01
Injection Volume	1uL	Analyst	B Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-1726	01-May-01	1000	878 50	87 85	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010501\T012843.D Vial: 8
Acq On : 1 May 2001 1:23 pm Operator: BPatel
Sample : MB-1725 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 1 14:17 2001 Quant Results File: TPH85.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH85.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Feb 02 11:34:54 2001
Response via : Initial Calibration
DataAcq Meth : TPH85.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.49	273922	9.496 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	94.96%#
Target Compounds			

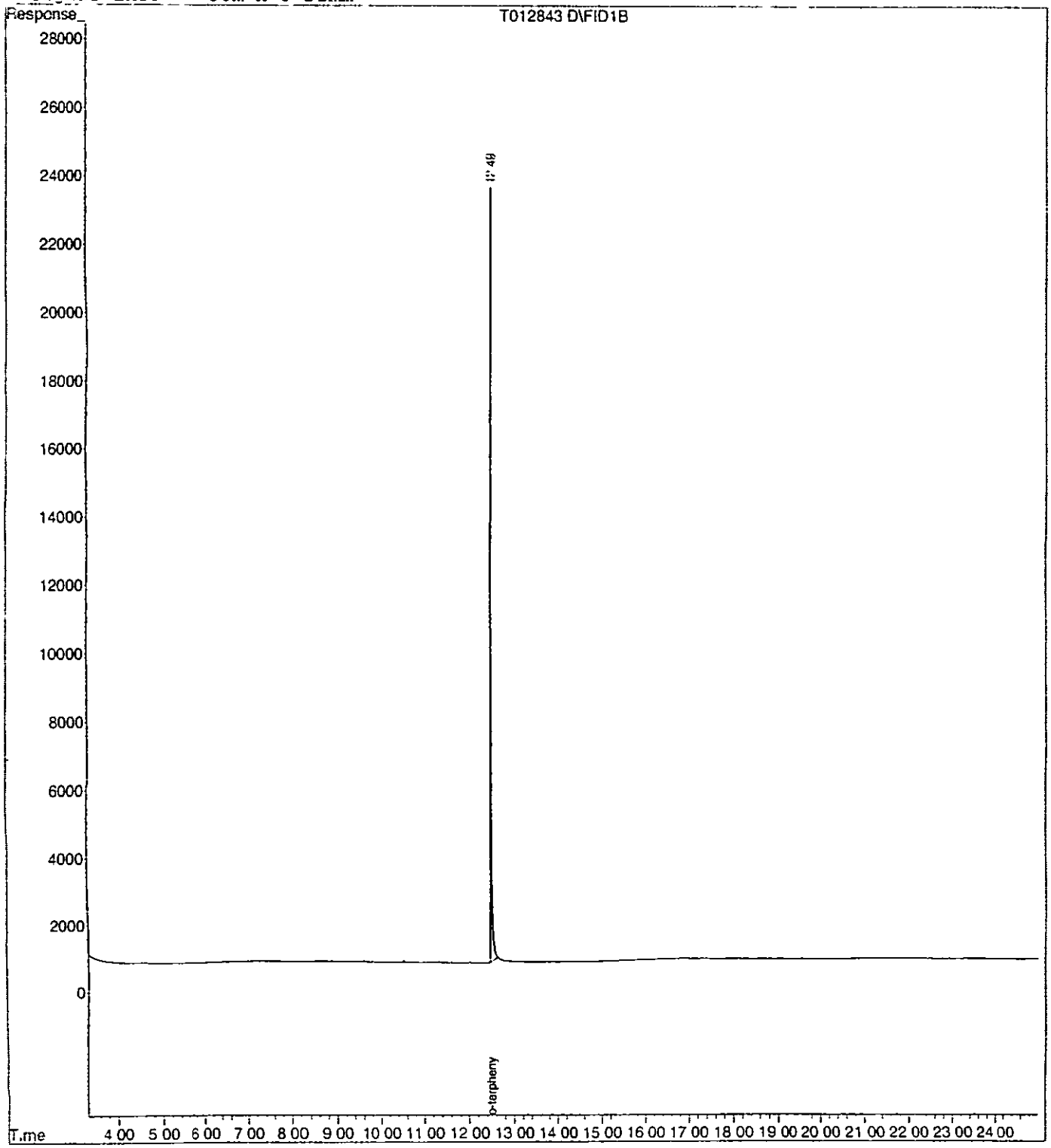
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012843 D	Vial	8
Acq On	1 May 2001 1 23 pm	Operator	BPatel
Sample	MB-1725	Inst	GC/MS Ins
Misc		Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 14 17 2001 Quant Results File TPH85 RES		

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010501\T012837.D Vial: 2
Acq On : 1 May 2001 9:50 am Operator: BPatel
Sample : 1609201s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 1 13:13 2001 Quant Results File: TPH85.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH85.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Feb 02 11:34:54 2001
Response via : Initial Calibration
DataAcq Meth : TPH85.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.49	274994	9.533 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	95.33%#
Target Compounds			

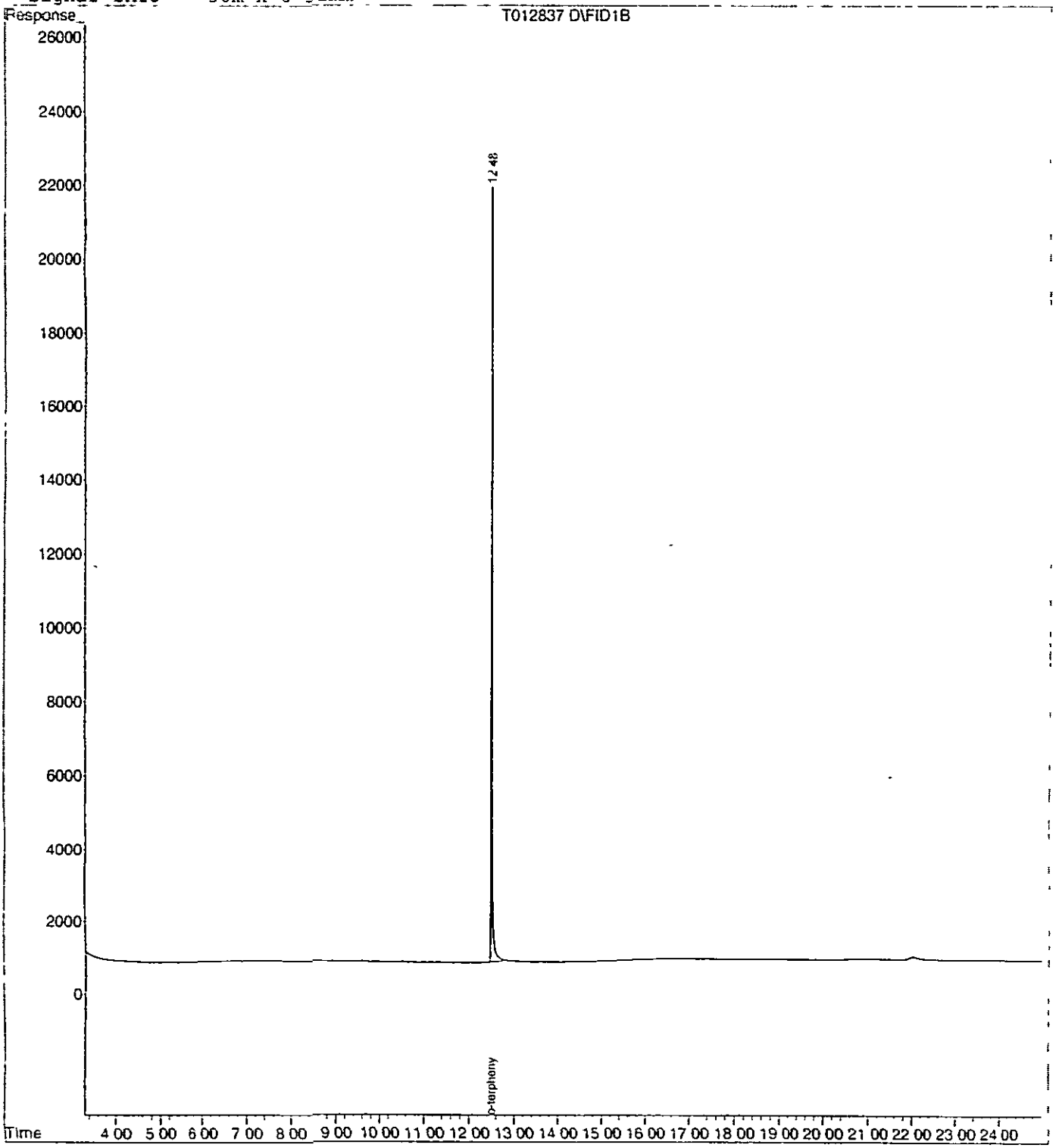
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012837 D	Vial	2
Acq On	1 May 2001 9 50 am	Operator	BPatel
Sample	1609201s	Inst	GC/MS Ins
Misc		Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 13 13 2001 Quant Results File	TPH85 RES	

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012838 D Vial 3
Acq On 1 May 2001 10 24 am Operator BPatel
Sample 1609202s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 13 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	274062	9 501 mg/L
Spiked Amount 10 000	Range 8 - 13	Recovery =	95 01%#
Target Compounds			

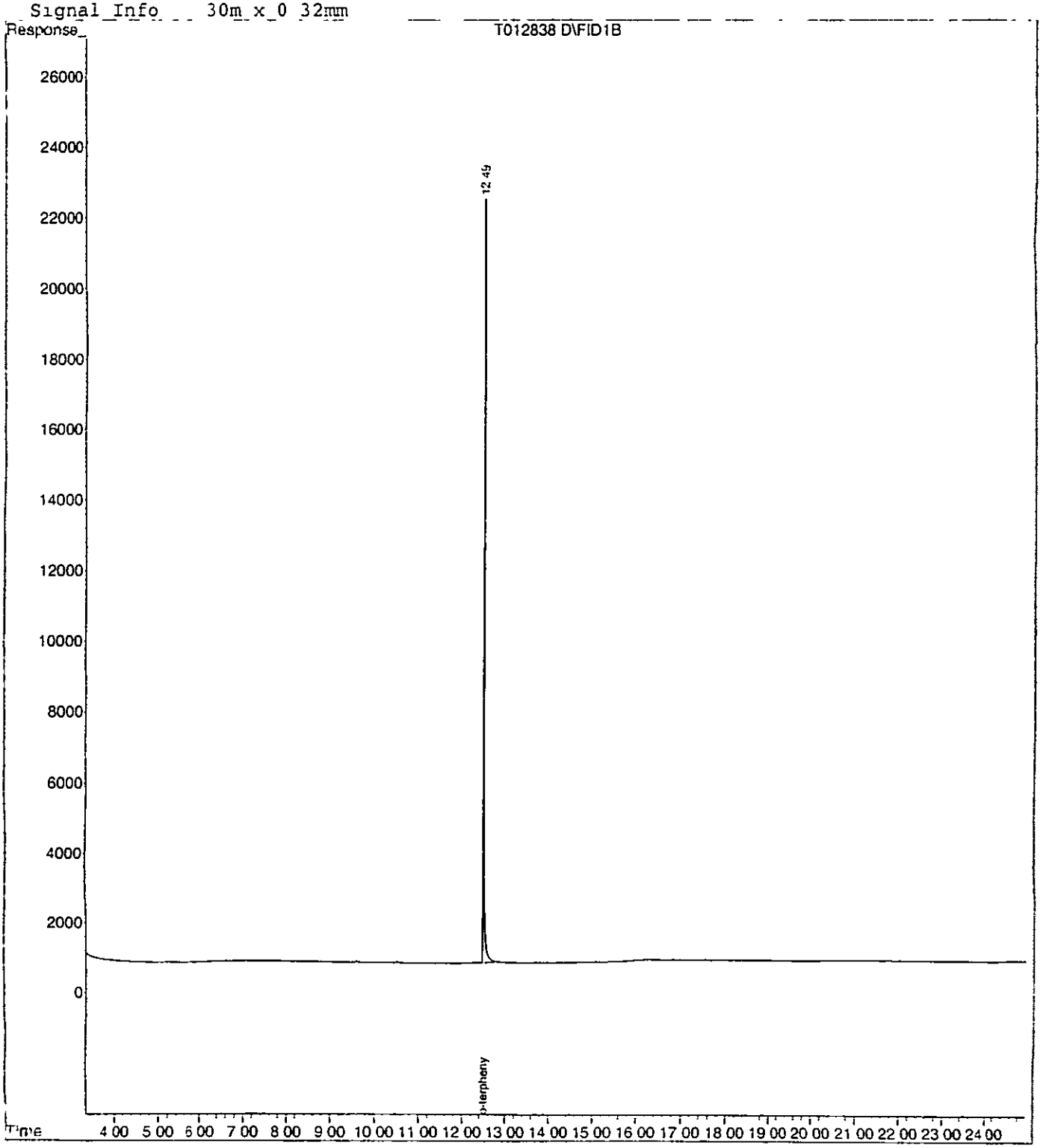
(f)=RT Delta > 1/2 Window (m)=manual int

Quantitation Report

Data File C \HPCHEM\1\DATA\010501\T012838 D Vial 3
Acq On 1 May 2001 10 24 am Operator BPatel
Sample 1609202s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 13 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Multiple Level Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm



Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012839 D Vial 4
Acq On 1 May 2001 10 58 am Operator BPatel
Sample 1609203s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 13 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	255201	8 847 mg/L
Spiked Amount 10 000	Range 8 - 13	Recovery =	88 47%#
Target Compounds			

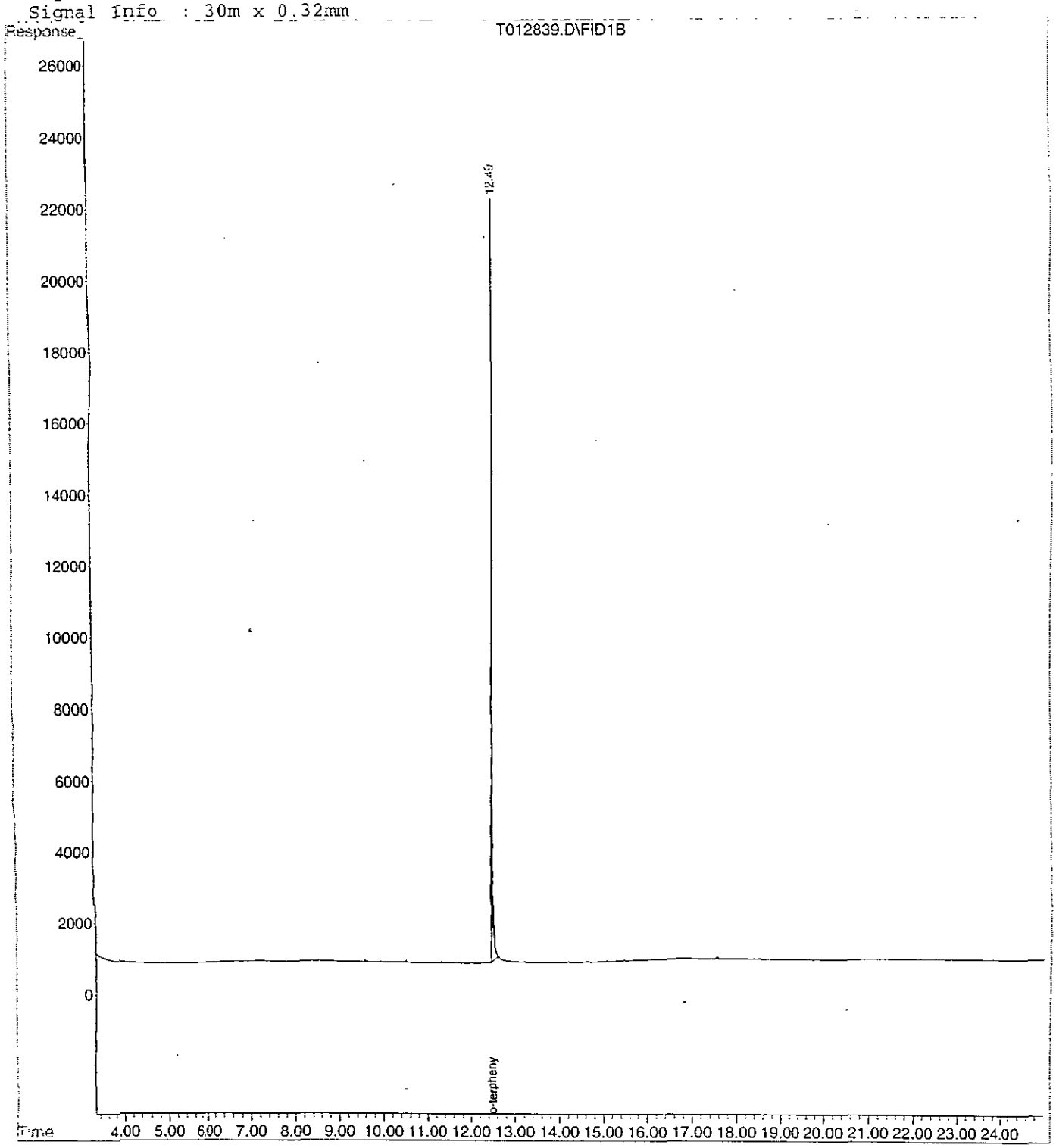
(f)=RT Delta > 1/2 Window (m)=manual int
T012839 D TPH85 M Tue May 01 14 46 30 2001 030602i

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010501\T012839.D Vial: 4
Acq On : 1 May 2001 10:58 am Operator: BPatel
Sample : 1609203s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 1 13:13 2001 Quant Results File: TPH85.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH85.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Feb 02 11:34:54 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH85.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm



Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012840 D Vial 5
Acq On 1 May 2001 11 32 am Operator BPatel
Sample 1609204s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 14 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	256213	8 882 mg/L
Spiked Amount 10 000 Range 8 - 13	Recovery =	88 82%#	
Target Compounds			

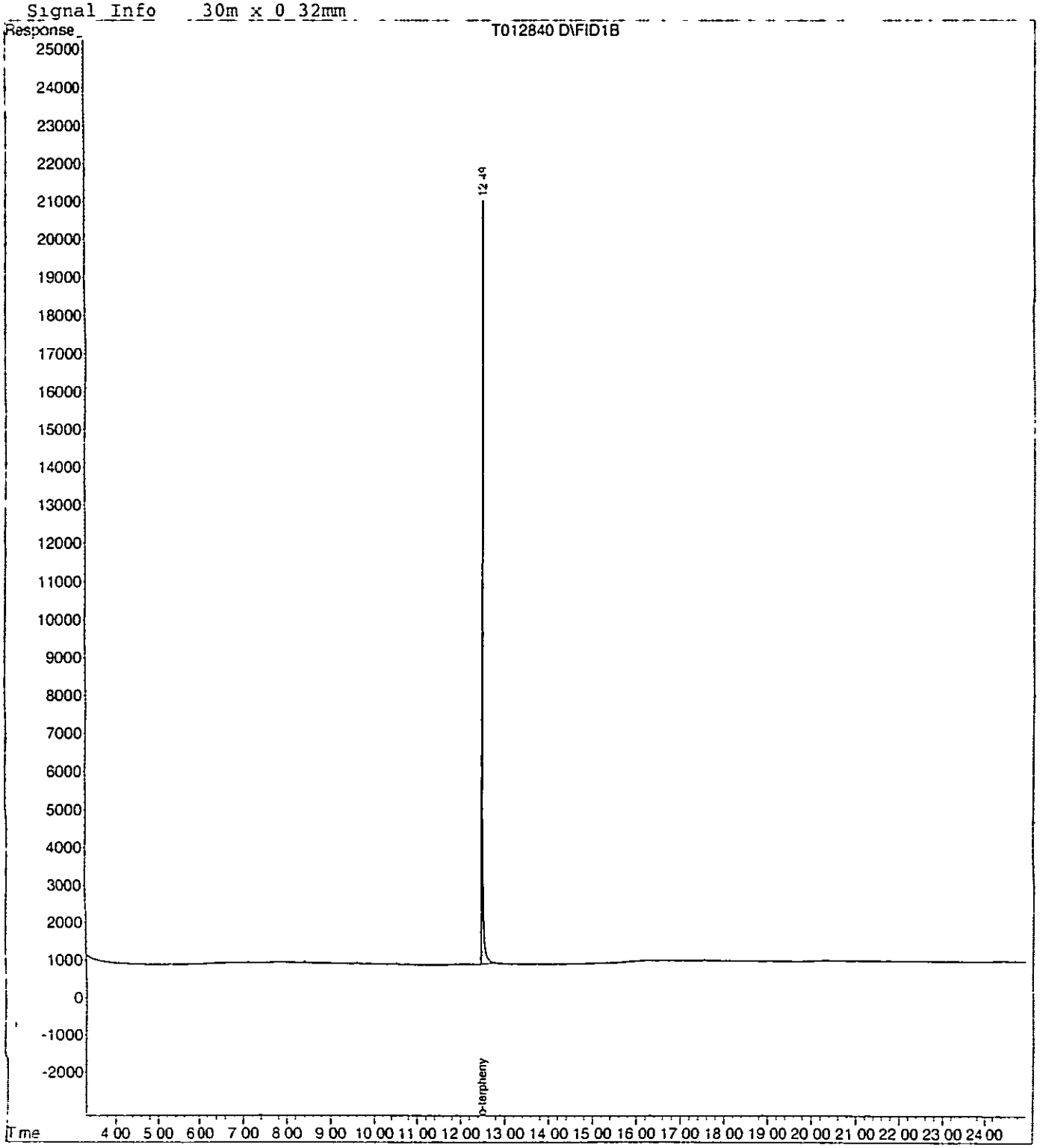
(f)=RT Delta > 1/2 Window (m)=manual int 000023
T012840 D TPH85 M Tue May 01 14 46 35 2001 Page 1

Quantitation Report

Data File C \HPCHEM\1\DATA\010501\T012840 D Vial 5
Acq On 1 May 2001 11 32 am Operator BPatel
Sample 1609204s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 14 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Multiple Level Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm



Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012841 D Vial 6
Acq On 1 May 2001 12 16 pm Operator BPatel
Sample 1609205s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 14 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	275935	9 566 mg/L
Spiked Amount 10 000	Range 8 - 13	Recovery =	95 66%#
Target Compounds			

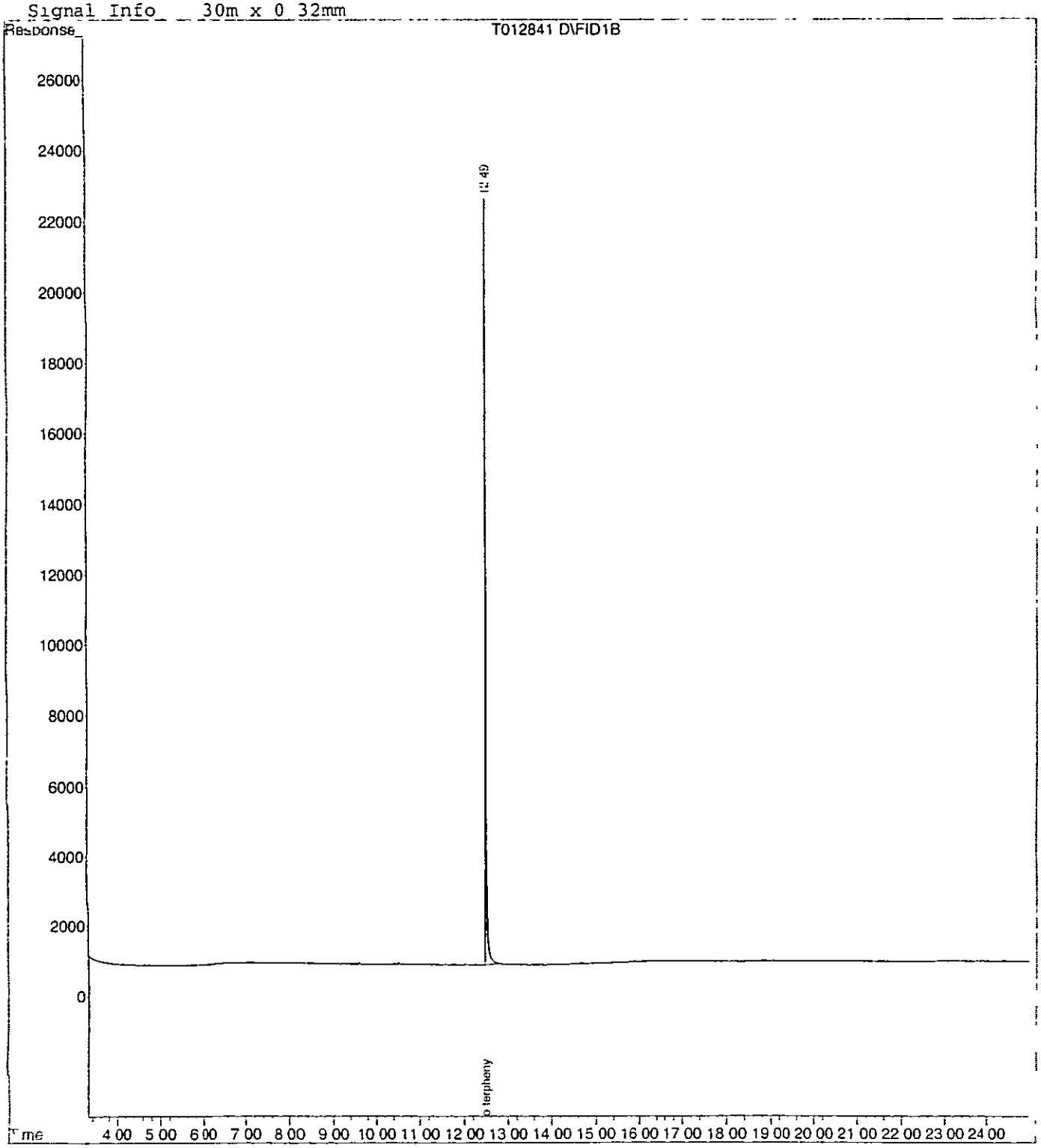
(f)=RT Delta > 1/2 Window (m)=manual int
T012841 D TPH85 M Tue May 01 14 46 40 2001 088025 Page 1

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012841 D	Vial	6
Acq On	1 May 2001 12 16 pm	Operator	BPatel
Sample	1609205s	Inst	GC/MS Ins
Misc		Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 13 14 2001 Quant Results File	TPH85 RES	

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012842 D Vial 7
Acq On 1 May 2001 12 50 pm Operator BPatel
Sample 1609206s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 54 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	279020	9 672 mg/L
Spiked Amount 10 000	Range 8 - 13	Recovery =	96 72%#
Target Compounds			

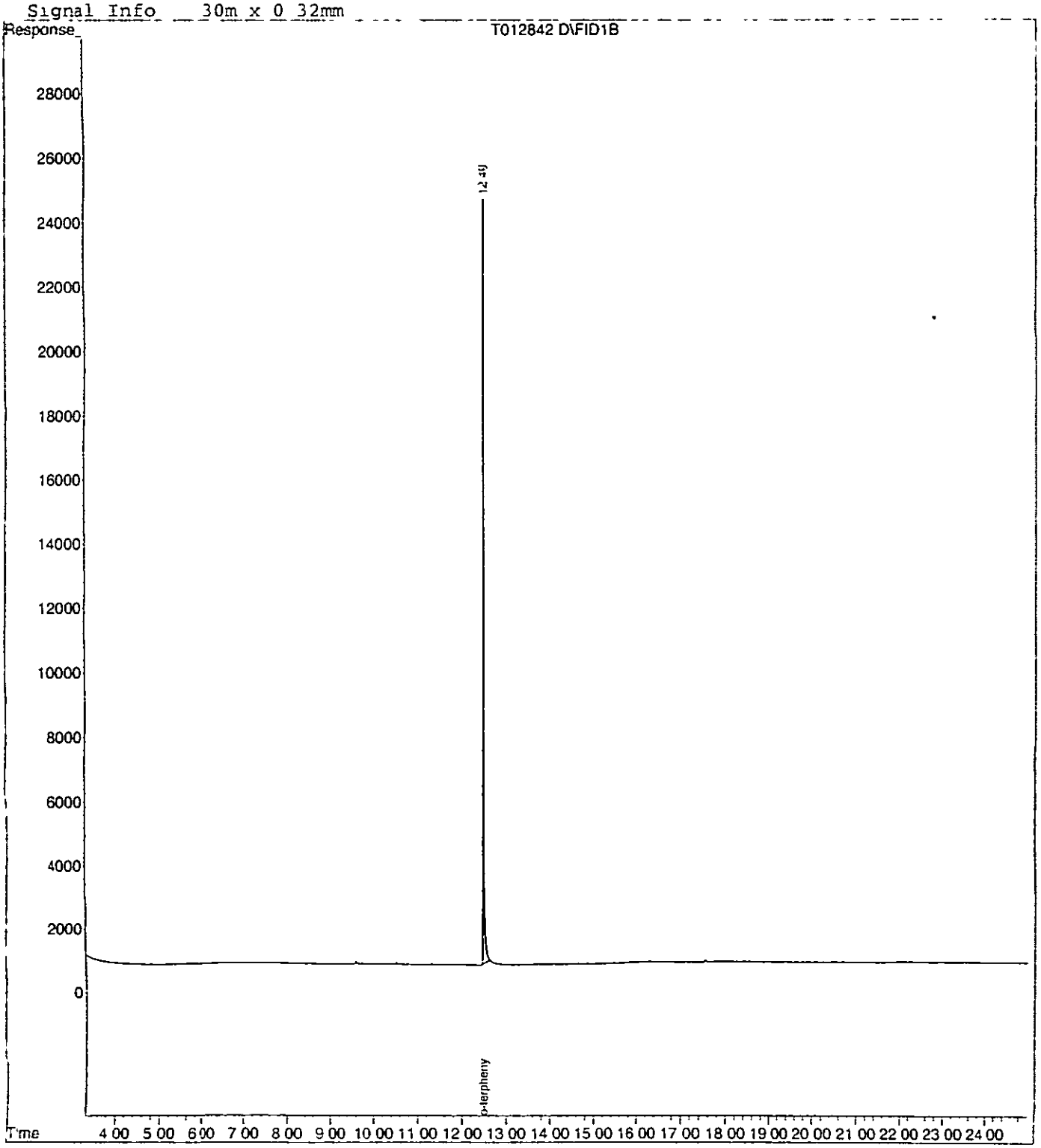
(f)=RT Delta > 1/2 Window (m)=manual int

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012842 D	Vial	7
Acq On	1 May 2001 12 50 pm	Operator	BPatel
Sample	1609206s	Inst	GC/MS Ins
Misc		Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 13 54 2001 Quant Results File TPH85 RES		

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



000023

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 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 5/5/01

Laboratory Certification #13461

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

F 4 NMOUTH ENVIRONMEN
T G LABORATORY
DI [illegible] PUBLIC WORKS
PRO [illegible]
WOT [illegible]
CERT [illegible]

Laboratory Authentication Statement

ANALYTICAL DATA REPOR
For Monmouth Environmental La[illegible]

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

[illegible]

Daniel K Wright
Laboratory Manager

FORT MONMOUTH ENVIRO[illegible]
TPHC, [illegible]

ENCLOSURE
CHAIN OF CUSTODY
RESULTS

[illegible]

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732) 532-6224 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: IJO# 01-0001

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
213-A North End 9-9 5'	16092 01	Soil	30-Apr-01 14:00	04/30/01
213-B Center 9-9 5'	16092.02	Soil	30-Apr-01 14:30	04/30/01
213-C South End 9-9 5'	16092 03	Soil	30-Apr-01 14.50	04/30/01
213-D Piping 2 5-3'	16092 04	Soil	30-Apr-01 15:10	04/30/01
213-E Piping 2 5-3'	16092 05	Soil	30-Apr-01 15:20	04/30/01
213-F Duplicate 9-9 5'	16092.06	Soil	30-Apr-01 14 50	04/30/01

FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

5-4-01

Daniel Wright/Date
Laboratory Director

FORT MONMOUTH ENVIRONMENTAL
TESTING LABORATORY

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ENCLOSURE
CHAIN OF CUSTODY
RESULTS

Method Summary

NJDEP Method OQA-QAM-025-10/97
Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask 15g anhydrous sodium sulfate is added to dry sample Surrogate standard spiking solution is then added to the flask

Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table The agitation rate is set to 400rpm and the sample is shaken for 30 minutes The flask is the removed from the table and the particulate matter is allowed to settle The extract is transferred to a Teflon capped vial A second 25mL 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 1mL-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 solid, sample weight and concentration

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 (If not met, list the sample and corresponding recovery which falls outside the acceptable range)	yes
5	IR Spectra submitted for standards, blanks and samples	NA
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 5-8-01

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 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai

Phone #: X21475

( )DERA (X)OMA UST Assessment

Project No ~~100004~~ 01-0001

Location BLDG. 213 (12HIA RUSSEL)

UST# 81533-11

Samplers Name / Company : Frank Accorsi/TVS

Lab Sample I D	Sample Location	Depth	Date	Time	Sample Type	# Bottles	TPHC	% SOLIDS	VOA+10	VOA ID #	PID Reading	Remarks / Preservation Method
10092.01	213-A, NORTH END	9-9.5	4-30-01	1400	SOIL	2	X	X	X	2334	0	ICE
02	213-B, CENTER	9-9.5		1430		2	X	X	X	2335	0	
03	213-C, SOUTH END	9-9.5		1450		2	X	X	X	2336	0	
04	213-D, PIPING	2.5-3		1510		2	X	X	X	2337	0	
05	213-E, PIPING	2.5-3		1520		2	X	X	X	2338	0	
06	213-F, DUPLICATE	8.9-9.5		1450		2	X	X	X	~~2339~~ 2340	0	
07	TRIP BLANK	—		—	AQ.	1			X	2340	—	

Analysis Parameters

* = Samples Kept <4°C

OVM sn#580U-64455 343 was calibrated with zero air & w/ 245 ppm Isobutylene read 245 ppm 1330 4-30-01 FA (time/date & initial)

Relinquished by (signature)	Date/Time	Received by (signature)
Frank Accorsi	4-30-01 1545	
Relinquished by (signature)	Date/Time	Received by (signature)

Comments: VOA+10 ON 25% OF 1,000 PPM TPH ON HIGHEST, MIN. ONE

Report Type ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD

Turnaround time ( )Standard 2 wks, (X)Rush 1 Days, ( )ASAP Verbal ___ Hrs

Remarks: Dedicated Sampling Tools Used

All sample points have been GPS? (X)YES ( )NO ( )NA

print legibly

USTcoc xls3/21/00

• CO•

SAMPLE RECEIPT FORM

Date Received: 4-30-01 Lab Project ID#: 16092

Site/Project Name: Bldg 213 Cooler Temp (°C): 4.0°C

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

Check the appropriate box

1. Did the samples come in a cooler? ☑ yes ☐ no ☐ n/a
2. Was the chain of custody filled out correctly and legibly? ☑ yes ☐ no
3. Was the chain of custody signed in the appropriate place? ☑ yes ☐ no
4. Did the labels agree with the chain of custody? ☑ yes ☐ no
5. Were the correct containers/preservatives used? ☑ yes ☐ no
6. Was a sufficient amount of sample supplied? ☑ yes ☐ no
7. Were air bubbles present in VOA vials? ☐ yes ☐ no ☑ n/a
8. Were samples received on ice? ☑ yes ☐ no

Fill out the following table for each sample bottle

Sample ID	pH	Preservative	Sample ID	pH	Preservative

Comments: _____

00

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

Client	U S Army	Project #	16092
	DPW SELFM-PW-EV	Location	Bldg 213
	Bldg 173	UST Reg #	81533-11
	Ft Monmouth, NJ 07703		

Analysis	OQA-QAM-025	Date Received	30-Apr-01
Matrix	Soil	Date Extracted	01-May-01
Inst ID	GC TPHC INST #1	Extraction Method	Shake
Column Type	RTX-5, 0 32mm ID, 30M	Analysis Complete	01-May-01
Injection Volume	1uL	Analyst :	B Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1609201	213-A	1 00	15 37	81 91	187	ND
1609202	213-B	1 00	15 07	81 63	191	ND
1609203	213-C	1.00	15 09	85 00	183	ND
1609204	213-D	1 00	15 04	84 84	184	ND
1609205	213-E	1 00	15 30	83 90	183	ND
1609206	213-F	1 00	15 06	82 80	188	ND
METHOD BLANK	MB-1725	1 00	15 00	100 00	157	ND

ND = Not Detected

MDL = Method Detection Limit

00000

Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001

Calibration Files
100 =T012553 D 50 =T012557 D 20 =T012556 D
10 =T012555 D 5 =T012554 D

		Compound	100	50	20	10	5	Avg	%RSD
1)	tC	C8	2 191	2 181	2 146	2 110	1 983	2 122 E4	3 95
2)	tC	C10	2 277	2 249	2 152	2 134	2 021	2 167 E4	4 70
3)	TC	C12	2 321	2 328	2 344	2 226	2 172	2 278 E4	3 30
4)	tC	C14	2 361	2 356	2 370	2 349	2 306	2 349 E4	1 06
5)	tC	C16	2 389	2 385	2 402	2 356	2 285	2 364 E4	1 98
6)	tC	C18	2 255	2 270	2 272	2 124	1 866	2 157 E4	8 08
7)	tC	C20	2 462	2 453	2 441	2 273	2 152	2 356 E4	5 86
8)	tC	C22	2 536	2 536	2 585	2 562	2 466	2 537 E4	1 75
9)	tC	C24	2 560	2 559	2 587	2 540	2 518	2 553 E4	1 00
10)	tC	C26	2 566	2 568	2 578	2 535	2 503	2 550 E4	1 20
11)	tC	C28	2 574	2 563	2 561	2 501	2 454	2 531 E4	2 03
12)	tC	C30	2 683	2 652	2 624	2 662	2 308	2 586 E4	6 06
13)	tC	C32	2 622	2 579	2 562	2 521	2 479	2 553 E4	2 15
14)	tC	C34	2 618	2 572	2 567	2 519	2 453	2 546 E4	2 47
15)	tC	C36	2 593	2 556	2 556	2 474	2 386	2 513 E4	3 30
16)	tC	C38	2 598	2 573	2 547	2 491	2 483	2 538 E4	1 98
17)	tC	C40	2 419	2 409	2 392	2 346	2 262	2 365 E4	2 72
18)	tC	c42	2 471	2 458	2 441	2 432	2 382	2 437 E4	1 41
19)	TC	Pristane	2 506	2 365	2 712	2 789	2 667	2 608 E4	6 54
20)	TC	Phytane	2 561	2 573	2 667	2 728	2 842	2 674 E4	4 36
21)	sC	o-terphenyl	2 868	2 867	2 910	2 886	2 891	2 885 E4	0 62
22)	tC	TPHC - total	2 751	2 810	2 967	3 223	3 880	3 126 E4	14 69

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File C \HPCHEM\1\DATA\010501\T012836 D Vial 1
Acq On 1 May 2001 9 16 am Operator BPatel
Sample Tstd050 Inst GC/MS Ins
Misc 50 ppm std Multiplr 1 00
IntFile TPHCINT E

Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Multiple Level Calibration

Min RRF 0 000 Min Rel Area 50% Max R T Dev 0 50min
Max RRF Dev 15% Max Rel Area 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	21 220	20 369 E3	4 0	93	0 00
2	tC	C10	21 666	20 361 E3	6 0	91	0 00
3	TC	C12	22 781	21 905 E3	3 8	94	0 00
4	tC	C14	23 486	22 517 E3	4 1	96	0 00
5	tC	C16	23 635	22 836 E3	3 4	96	0 00
6	tC	C18	21 574	22 555 E3	-4 5	99	0 00
7	tC	C20	23 563	23 533 E3	0 1	96	0 00
8	tC	C22	25 370	24 380 E3	3 9	96	0 00
9	tC	C24	25 529	24 562 E3	3 8	96	0 00
10	tC	C26	25 501	24 539 E3	3 8	96	0 00
11	tC	C28	25 307	24 585 E3	2 9	96	0 00
12	tC	C30	25 857	25 613 E3	0 9	97	0 00
13	tC	C32	25 526	25 122 E3	1 6	97	0 00
14	tC	C34	25 459	25 357 E3	0 4	99	0 00
15	tC	C36	25 129	25 447 E3	-1 3	100	0 00
16	tC	C38	25 384	25 781 E3	-1 6	100	0 00
17	tC	C40	23 655	24 292 E3	-2 7	101	0 00
18	tC	c42	24 370	24 679 E3	-1 3	100	-0 01
19	TC	Pristane	26 077	24 607 E3	5 6	104	0 00
20	TC	Phytane	26 741	25 011 E3	6 5	97	0 00
21	sC	o-terphenyl	28 847	26 837 E3	7 0	94	0 00
22	tC	TPHC - total	31 263	28 521 E3	8 8	101	0 49

Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012836 D Vial 1
Acq On 1 May 2001 9 16 am Operator BPatel
Sample Tstd050 Inst GC/MS Ins
Misc 50 ppm std Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 9 55 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	1341852	46 517 mg/L
Spiked Amount 10 000 Range 8 - 13		Recovery = 465 17%#	
Target Compounds			
1) tC C8	3 69	1018457	47 996 mg/L
2) tC C10	7 17	1018062	46 989 mg/L
3) TC C12	8 85	1095258	48 078 mg/L
4) tC C14	10 05	1125843	47 937 mg/L
5) tC C16	11 05	1141807	48 309 mg/L
6) tC C18	11 51	1127750	52 274 mg/L m
7) tC C20	11 95	1176632	49 935 mg/L m
8) tC C22	12 77	1218995	48 048 mg/L
9) tC C24	13 51	1228107	48 107 mg/L
10) tC C26	14 20	1226929	48 114 mg/L
11) tC C28	14 84	1229256	48 574 mg/L
12) tC C30	15 43	1280638	49 528 mg/L
13) tC C32	16 05	1256078	49 209 mg/L
14) tC C34	16 80	1267839	49 799 mg/L
15) tC C36	17 77	1272373	50 634 mg/L
16) tC C38	19 11	1289061	50 782 mg/L
17) tC C40	21 00	1214622	51 348 mg/L
18) tC c42	23 68	1233962	50 635 mg/L
19) TC Pristane	11 54	1230332	47 180 mg/L m
20) TC Phytane	12 00	1250542	46 764 mg/L m
22) tC TPHC - total	12 49	28521068	912 290 mg/L m

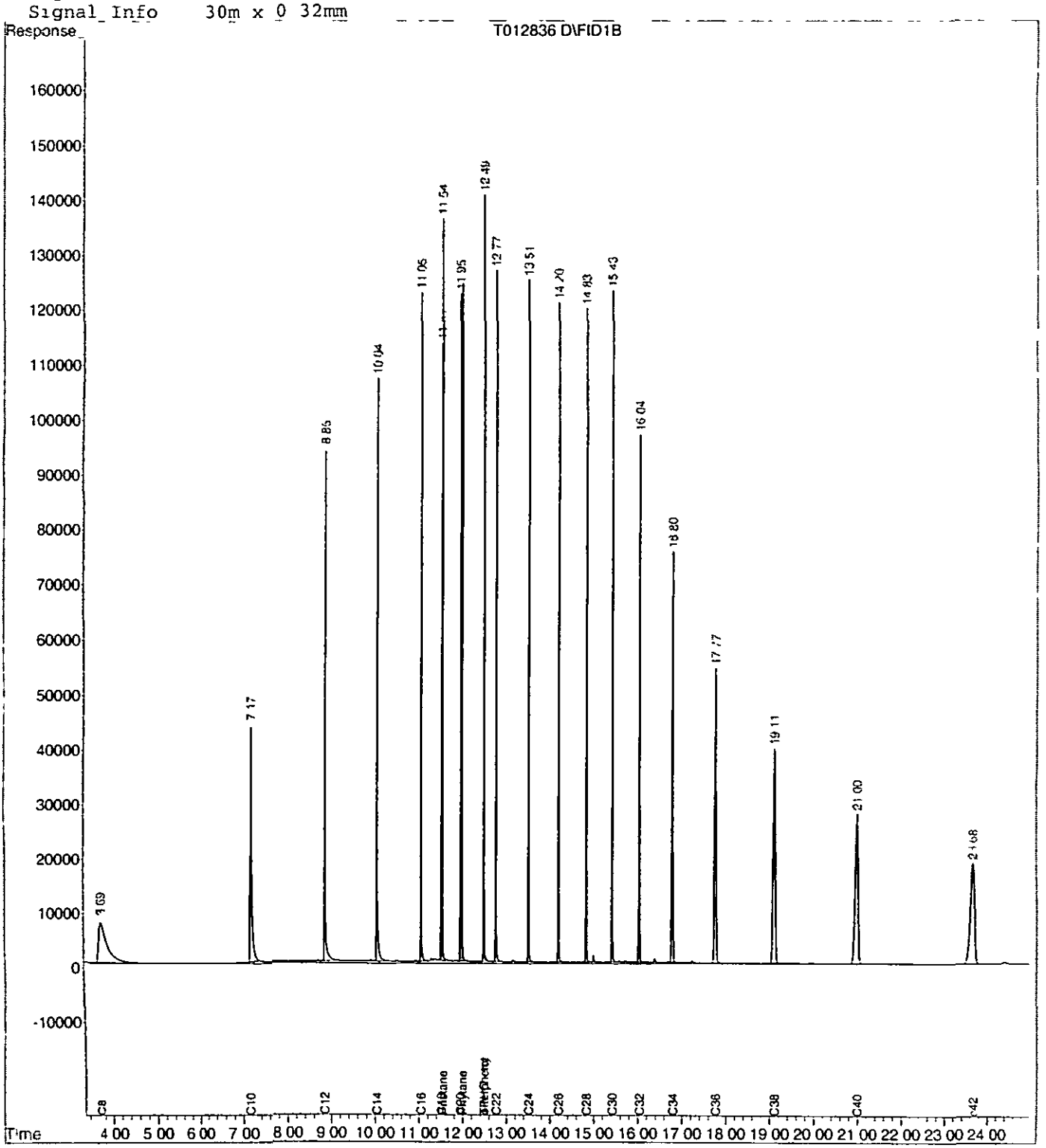
(f)=RT Delta > 1/2 Window (m)=manual int 00000

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012836 D	Vial	1
Acq On	1 May 2001 9 16 am	Operator	BPatel
Sample	Tstd050	Inst	GC/MS Ins
Misc	50 ppm std	Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 9 55 2001 Quant Results File TPH85 RES		

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012847 D Vial 12
Acq On 1 May 2001 3 39 pm Operator BPatel
Sample Tstd050 Inst GC/MS Ins
Misc 50 PPM STD Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 16 14 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

	Compound	R T	Response	Conc Units
	System Monitoring Compounds			
21)	sC o-terphenyl	12 49	1362899	47 246 mg/L
Spiked Amount	10 000 Range	8 - 13	Recovery =	472 46%#
	Target Compounds			
1)	tC C8	3 70	1024722	48 291 mg/L
2)	tC C10	7 17	1036003	47 818 mg/L
3)	TC C12	8 86	1128911	49 556 mg/L
4)	tC C14	10 05	1148599	48 906 mg/L
5)	tC C16	11 06	1161395	49 138 mg/L
6)	tC C18	11 52	1118365	51 839 mg/L m
7)	tC C20	11 95	1185166	50 297 mg/L m
8)	tC C22	12 77	1236242	48 728 mg/L
9)	tC C24	13 51	1242780	48 682 mg/L
10)	tC C26	14 20	1241686	48 692 mg/L
11)	tC C28	14 84	1239246	48 968 mg/L
12)	tC C30	15 43	1277245	49 397 mg/L
13)	tC C32	16 05	1261736	49 430 mg/L
14)	tC C34	16 80	1272673	49 989 mg/L
15)	tC C36	17 78	1277751	50 848 mg/L
16)	tC C38	19 12	1293192	50 945 mg/L
17)	tC C40	21 00	1218290	51 503 mg/L
18)	tC c42	23 69	1238517	50 822 mg/L
19)	TC Pristane	11 54	1257899	48 237 mg/L m
20)	TC Phytane	12 00	1271903	47 563 mg/L m
22)	tC TPHC - total	12 49	27526999	880 493 mg/L m

000003

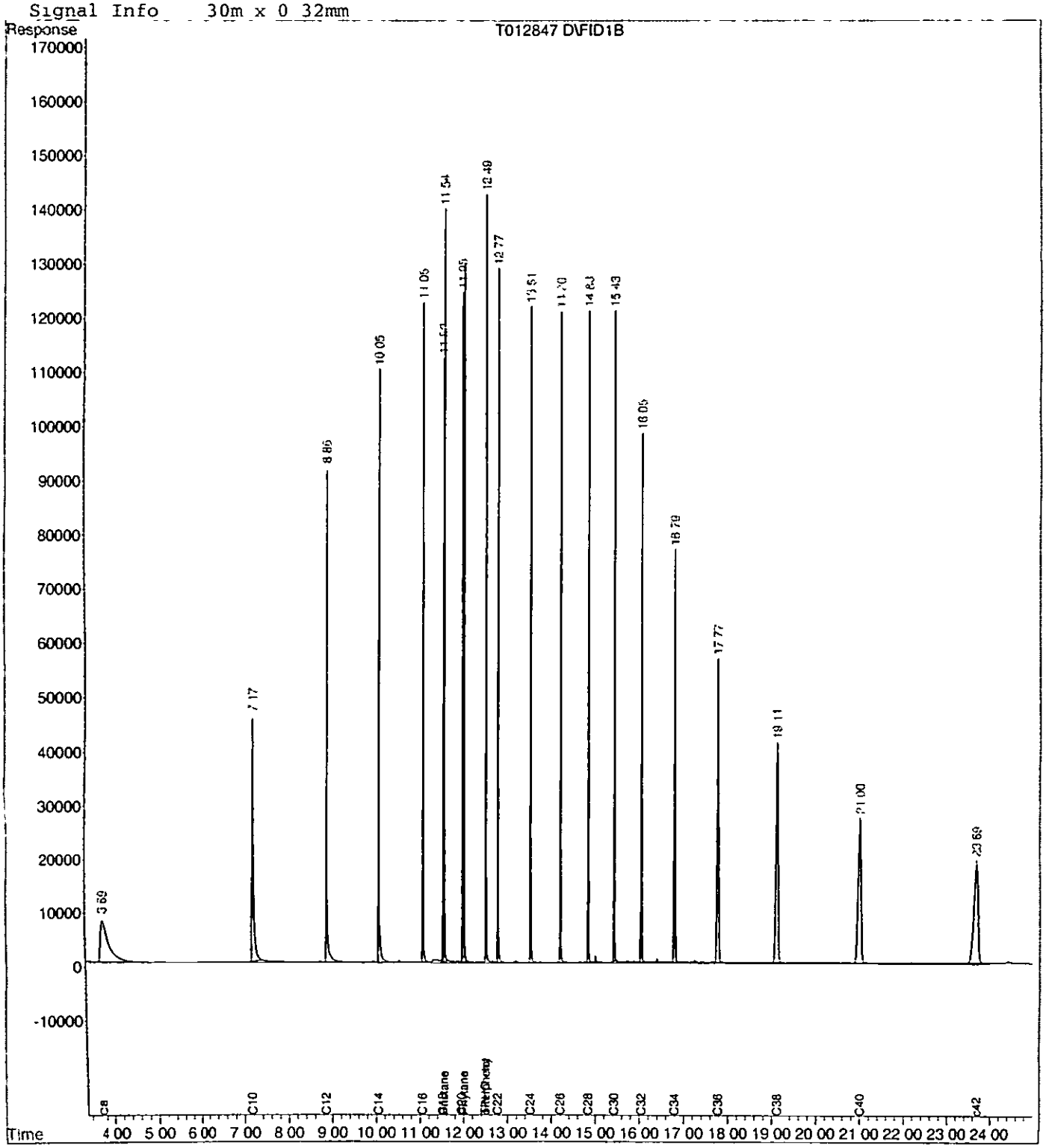
(f)=RT Delta > 1/2 Window (m)=manual int

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012847 D	Vial	12
Acq On	1 May 2001 3 39 pm	Operator	BPatel
Sample	Tstd050	Inst	GC/MS Ins
Misc	50 PPM STD	Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 16 14 2001 Quant Results File TPH85 RES		

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



060013

Evaluate Continuing Calibration Report

Data File	C \HPCHEM\1\DATA\010501\T012847 D	Vial	12
Acq On	1 May 2001 3 39 pm	Operator	BPatel
Sample	Tstd050	Inst	GC/MS Ins
Misc	50 PPM STD	Multiplr	1 00
IntFile	TPHCINT E		

Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration

Min RRF 0 000 Min Rel Area 50% Max R T Dev 0 50min
Max RRF Dev 15% Max Rel Area 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	21 220	20 494 E3	3 4	94	0 00
2	tC	C10	21 666	20 720 E3	4 4	92	0 00
3	TC	C12	22 781	22 578 E3	0 9	97	0 00
4	tC	C14	23 486	22 972 E3	2 2	97	0 00
5	tC	C16	23 635	23 228 E3	1 7	97	0 00
6	tC	C18	21 574	22 367 E3	-3 7	99	0 00
7	tC	C20	23 563	23 703 E3	-0 6	97	0 00
8	tC	C22	25 370	24 725 E3	2 5	97	0 00
9	tC	C24	25 529	24 856 E3	2 6	97	0 00
10	tC	C26	25 501	24 834 E3	2 6	97	0 00
11	tC	C28	25 307	24 785 E3	2 1	97	0 00
12	tC	C30	25 857	25 545 E3	1 2	96	0 00
13	tC	C32	25 526	25 235 E3	1 1	98	0 00
14	tC	C34	25 459	25 453 E3	0 0	99	0 00
15	tC	C36	25 129	25 555 E3	-1 7	100	0 00
16	tC	C38	25 384	25 864 E3	-1 9	101	0 00
17	tC	C40	23 655	24 366 E3	-3 0	101	0 00
18	tC	c42	24 370	24 770 E3	-1 6	101	0 00
19	TC	Pristane	26 077	25 158 E3	3 5	106	0 00
20	TC	Phytane	26 741	25 438 E3	4 9	99	0 00
21	sC	o-terphenyl	28 847	27 258 E3	5 5	95	0 00
22	tC	TPHC - total	31 263	27 527 E3	12 0	98	0 49

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

Client	U S Army	Project #	16092
	DPW SELFM-PW-EV	Location .	Bldg 213
	Bldg 173	UST Reg #	81533-11
	Ft Monmouth, NJ 07703		

Analysis	OQA-QAM-025	Date Received	30-Apr-01
Matrix:	Soil	Date Extracted ·	1-May-01
Inst. ID.	GC TPHC INST #1	Extraction Method	Shake
Column Type	RTX-5, 0 32mm ID, 30M	Analysis Complete ·	1-May-01
Injection Volume	1uL	Analyst	B Patel

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1609201			10 00	9 53	95.33
1609202			10 00	9 50	95.01
1609203			10 00	8 85	88 47
1609204			10 00	8 88	88 82
1609205			10 00	9 57	95 66
1609206			10 00	9 67	96.72
METHOD BLANK	MB-1725		10 00	9 50	94.96

Surrogate Added o-Terphenyl

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

Client	U S Army	**Project #**	16092
	DPW SELFM-PW-EV	**Location**	Bldg 213
	Bldg 173	**UST Reg #.**	81533-11
	Ft Monmouth, NJ 07703		
Analysis.	OQA-QAM-025	**Date Received**	30-Apr-01
Matrix:	Soil	**Date Extracted**	1-May-01
Inst. ID	GC TPHC INST #1	**Extraction Method**	Shake
Column Type	RTX-5, 0 32mm ID, 30M	**Analysis Complete**	1-May-01
Injection Volume :	1uL	**Analyst**	B Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
MS-1727	1000	0 00	846 60	84 66	75-125
MSD-1728	1000	0 00	831 06	83 11	75-125
			RPD	1 85	20 00

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

Client	U S Army	Project # :	16092
	DPW SELFM-PW-EV	Location :	Bldg 213
	Bldg 173	UST Reg #	81533-11
	Ft Monmouth, NJ 07703		
Analysis:	OQA-QAM-025	Date Received	30-Apr-01
Matrix:	Soil	Date Extracted	1-May-01
Inst. ID.	GC TPHC INST #1	Extraction Method :	Shake
Column Type	RTX-5, 0 32mm ID, 30M	Analysis Complete .	1-May-01
Injection Volume	1uL	Analyst	B Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-1726	01-May-01	1000	878 50	87 85	75-125

Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012843 D Vial 8
Acq On 1 May 2001 1 23 pm Operator BPatel
Sample MB-1725 Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 14 17 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	273922	9 496 mg/L
Spiked Amount 10 000	Range 8 - 13	Recovery =	94 96%#
Target Compounds			

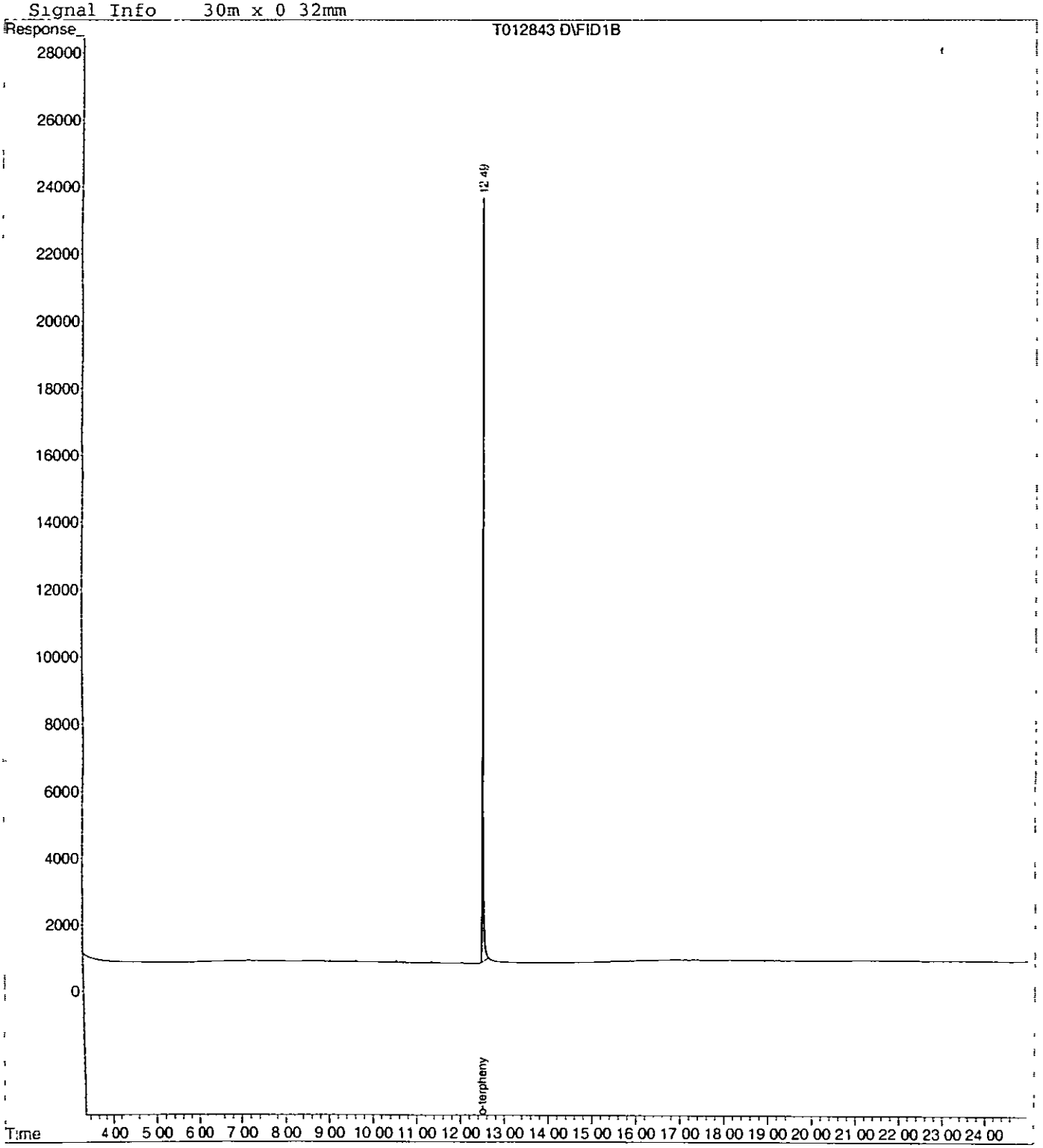
(f)=RT Delta > 1/2 Window (m)=manual int
T012843 D TPH85 M Tue May 01 14 46 50 2001

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012843 D	Vial	8
Acq On	1 May 2001 1 23 pm	Operator	BPatel
Sample	MB-1725	Inst	GC/MS Ins
Misc		Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 14 17 2001 Quant Results File TPH85 RES		

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012837 D Vial 2
Acq On 1 May 2001 9 50 am Operator BPatel
Sample 1609201s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 13 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	274994	9 533 mg/L
Spiked Amount 10 000 Range 8 - 13 Recovery = 95 33%#			
Target Compounds			

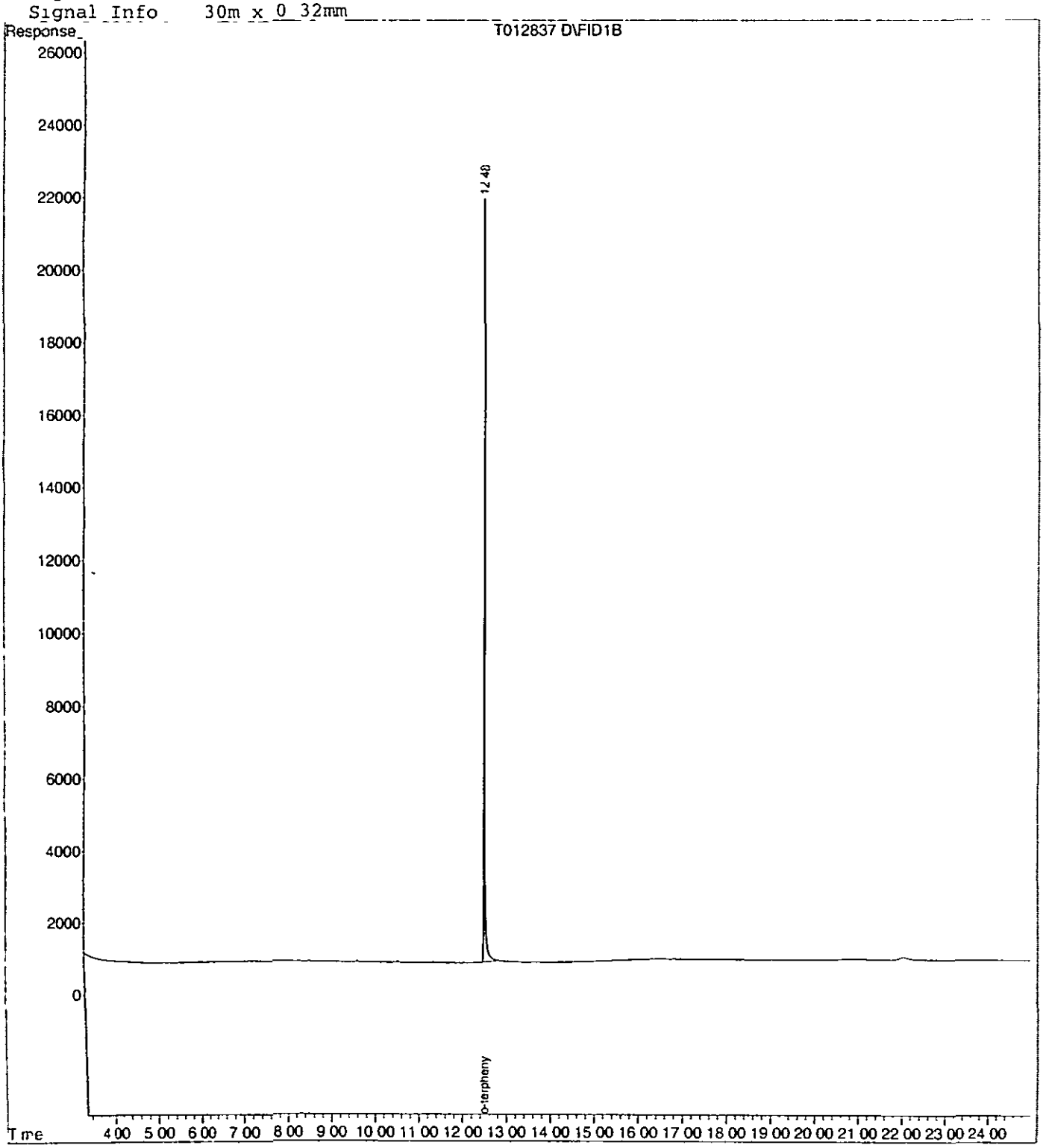
(f)=RT Delta > 1/2 Window (m)=manual int
T012837 D TPH85 M Tue May 01 14 46 20 2001

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012837 D	Vial	2
Acq On	1 May 2001 9 50 am	Operator	BPatel
Sample	1609201s	Inst	GC/MS Ins
Misc		Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 13 13 2001 Quant Results File TPH85 RES		

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012838 D Vial 3
Acq On 1 May 2001 10 24 am Operator BPatel
Sample 1609202s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 13 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	274062	9 501 mg/L
Spiked Amount 10 000 Range 8 - 13	Recovery =	95 01%#	
Target Compounds			

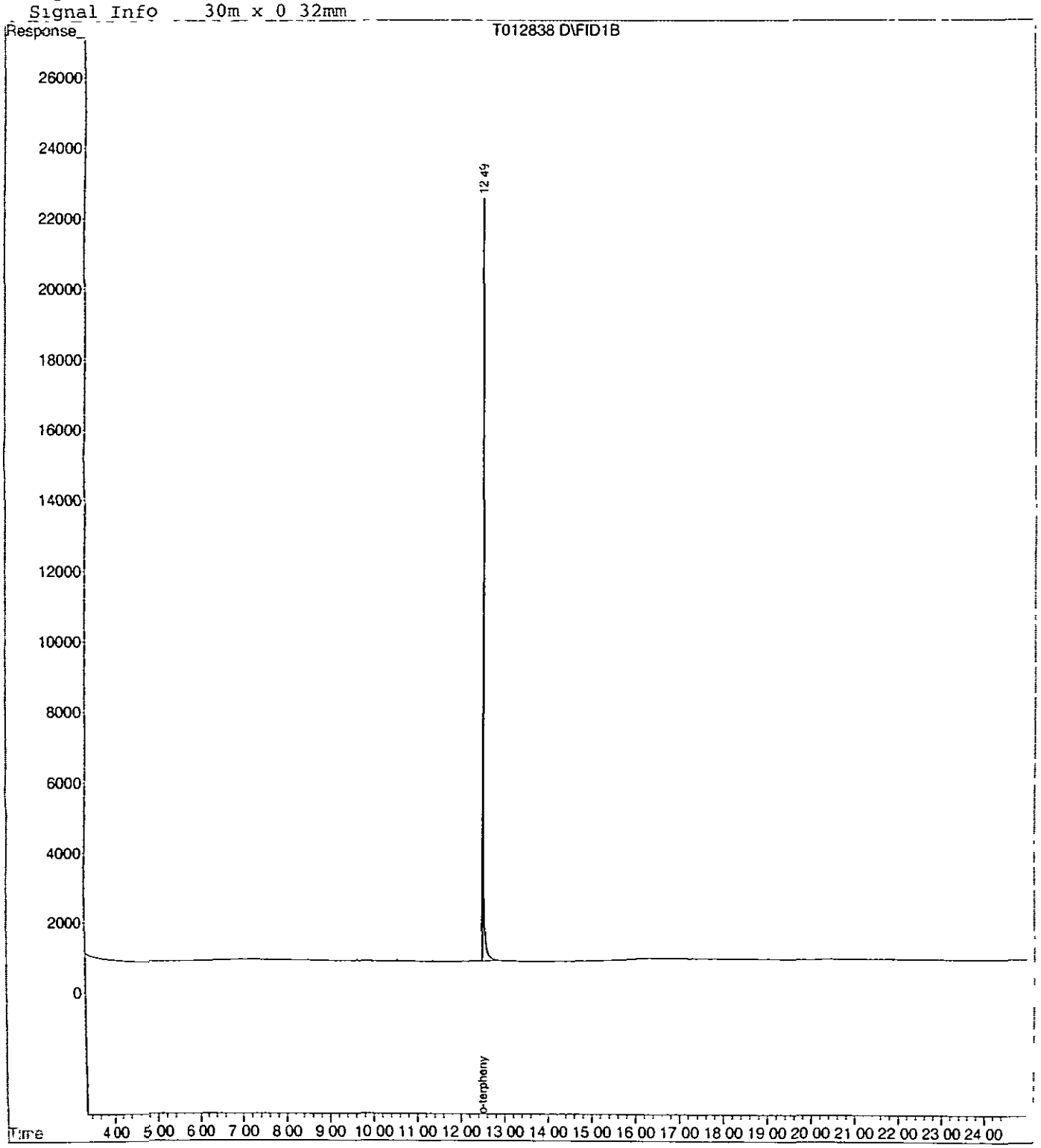
(f)=RT Delta > 1/2 Window (m)=manual int
T012838 D TPH85 M Tue May 01 14 46 25 2001

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012838 D	Vial	3
Acq On	1 May 2001 10 24 am	Operator	BPatel
Sample	1609202s	Inst	GC/MS Ins
Misc		Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 13 13 2001 Quant Results File TPH85 RES		

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012839 D Vial 4
Acq On 1 May 2001 10 58 am Operator BPatel
Sample 1609203s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 13 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	255201	8 847 mg/L
Spiked Amount 10 000 Range 8 - 13	Recovery =	88 47%#	
Target Compounds			

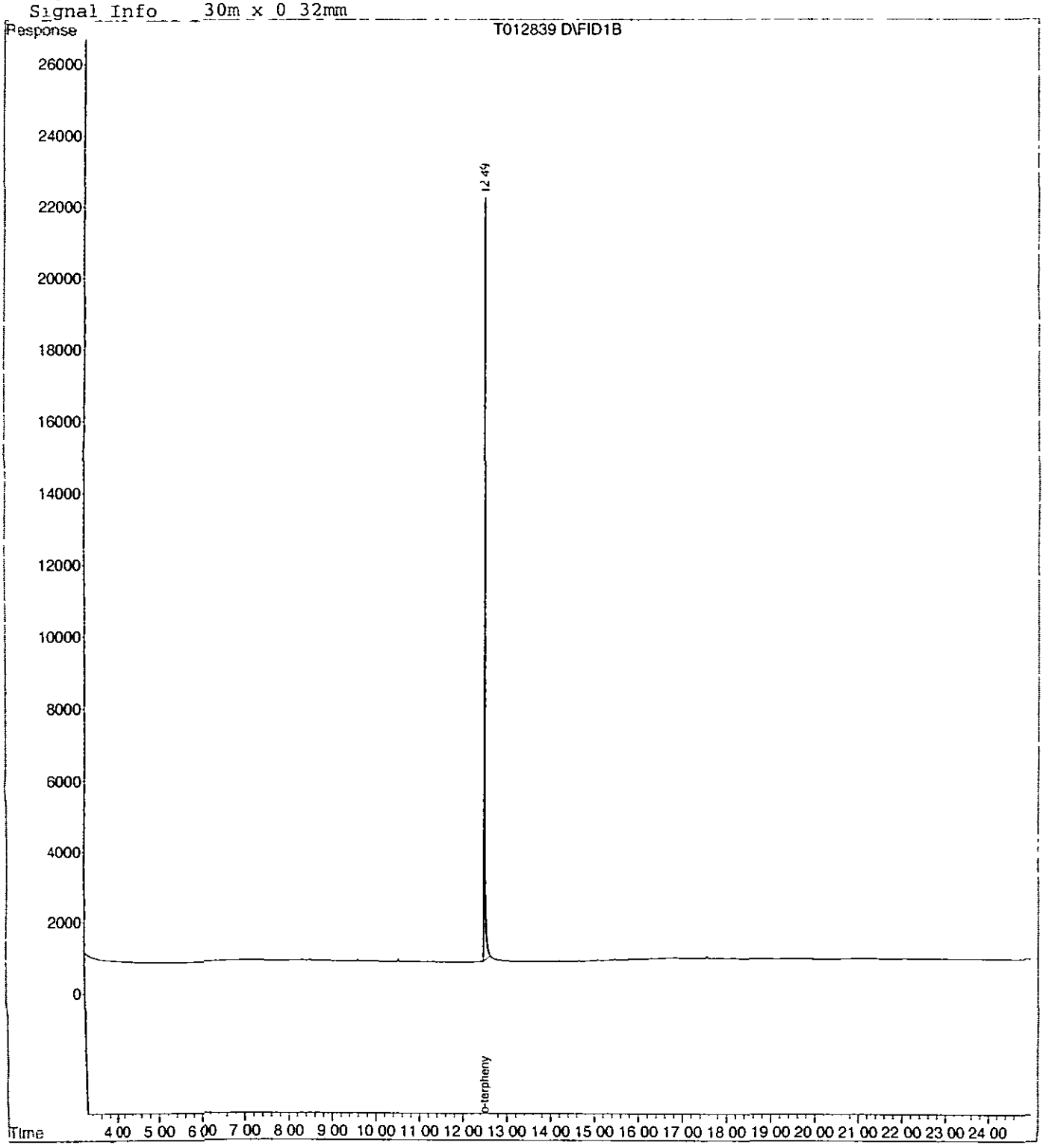
(f)=RT Delta > 1/2 Window (m)=manual int
T012839 D TPH85 M Tue May 01 14 46 30 2001

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012839 D	Vial	4
Acq On	1 May 2001 10 58 am	Operator	BPatel
Sample	1609203s	Inst	GC/MS Ins
Misc		Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 13 13 2001 Quant Results File TPH85 RES		

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012840 D Vial 5
Acq On 1 May 2001 11 32 am Operator BPatel
Sample 1609204s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 14 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	256213	8 882 mg/L
Spiked Amount 10 000 Range 8 - 13	Recovery =	88 82%#	
Target Compounds			

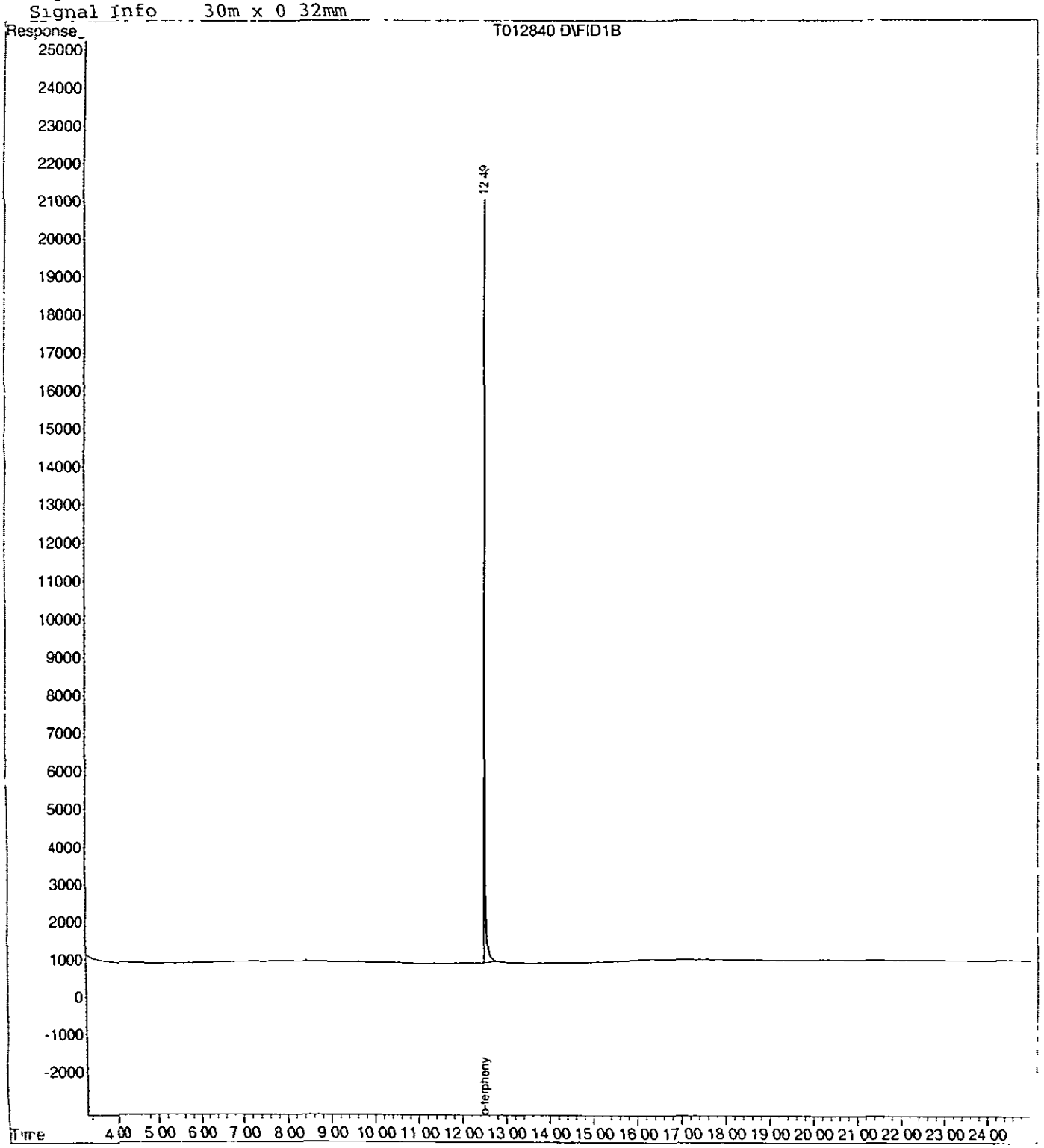
(f)=RT Delta > 1/2 Window (m)=manual int 008023
T012840 D TPH85 M Tue May 01 14 46 35 2001 Page 1

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012840 D	Vial	5
Acq On	1 May 2001 11 32 am	Operator	BPatel
Sample	1609204s	Inst	GC/MS Ins
Misc		Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 13 14 2001 Quant Results File TPH85 RES		

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



Data File C \HPCHEM\1\DATA\010501\T012841 D Vial 6
Acq On 1 May 2001 12 16 pm Operator BPatel
Sample 1609205s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 14 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	275935	9 566 mg/L
Spiked Amount 10 000 Range 8 - 13	Recovery =	95 66%#	
Target Compounds			

00

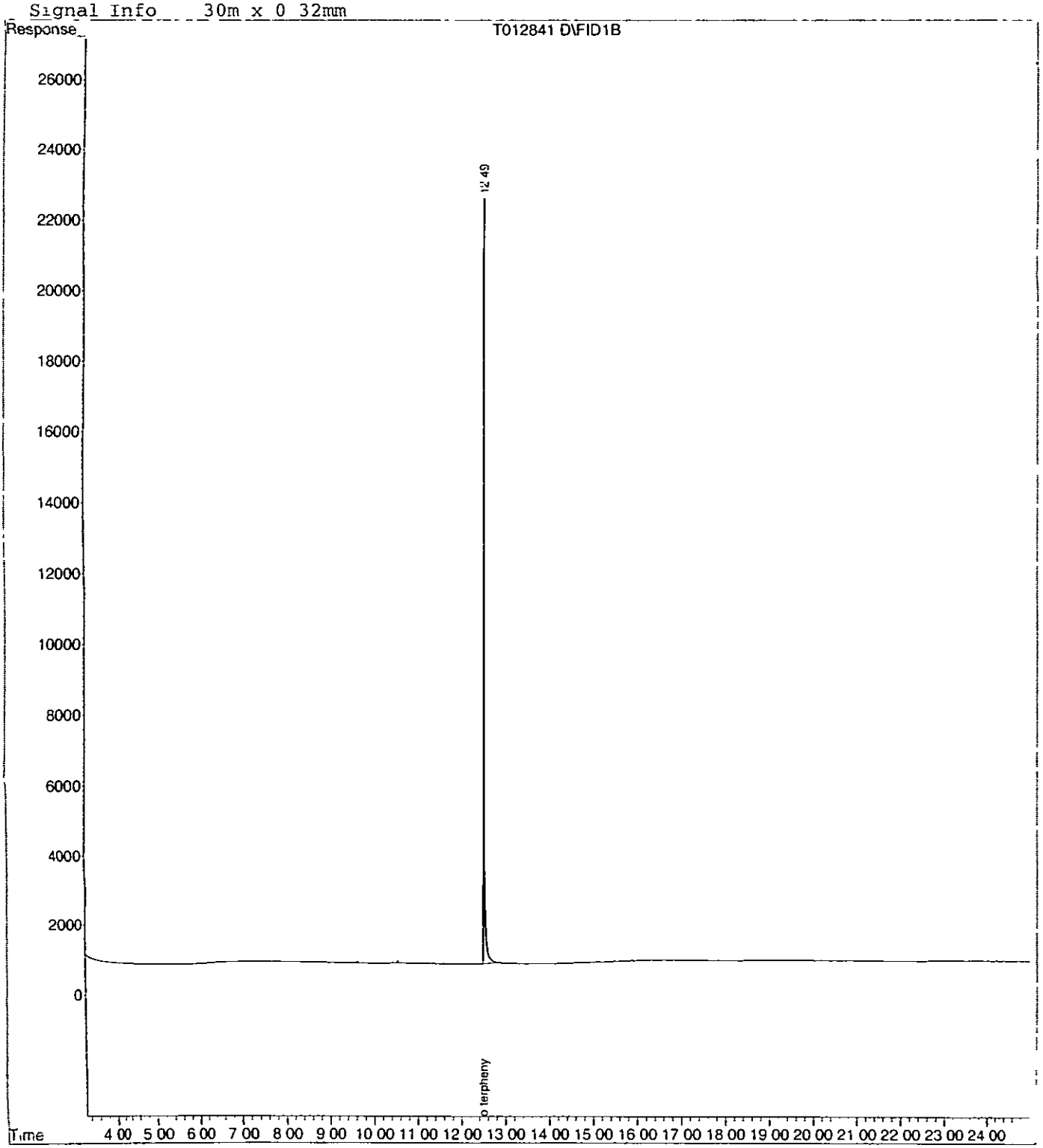
Quantitation Report

Data File C \HPCHEM\1\DATA\010501\T012841 D
Acq On 1 May 2001 12 16 pm
Sample 1609205s
Misc
IntFile TPHCINT E
Quant Time May 1 13 14 2001 Quant Results File TPH85 RES

Vial 6
Operator BPatel
Inst GC/MS Ins
Multiplr 1 00

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Multiple Level Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm



Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\010501\T012842 D Vial 7
Acq On 1 May 2001 12 50 pm Operator BPatel
Sample 1609206s Inst GC/MS Ins
Misc Multiplr 1 00
IntFile TPHCINT E
Quant Time May 1 13 54 2001 Quant Results File TPH85 RES

Quant Method C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title TPHC Calibration 06/05/97 21 peaks
Last Update Fri Feb 02 11 34 54 2001
Response via Initial Calibration
DataAcq Meth TPH85 M

Volume Inj 1 ul
Signal Phase HP-5
Signal Info 30m x 0 32mm

Compound	R T	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12 49	279020	9 672 mg/L
Spiked Amount 10 000 Range 8 - 13	Recovery =	96 72%#	
Target Compounds			

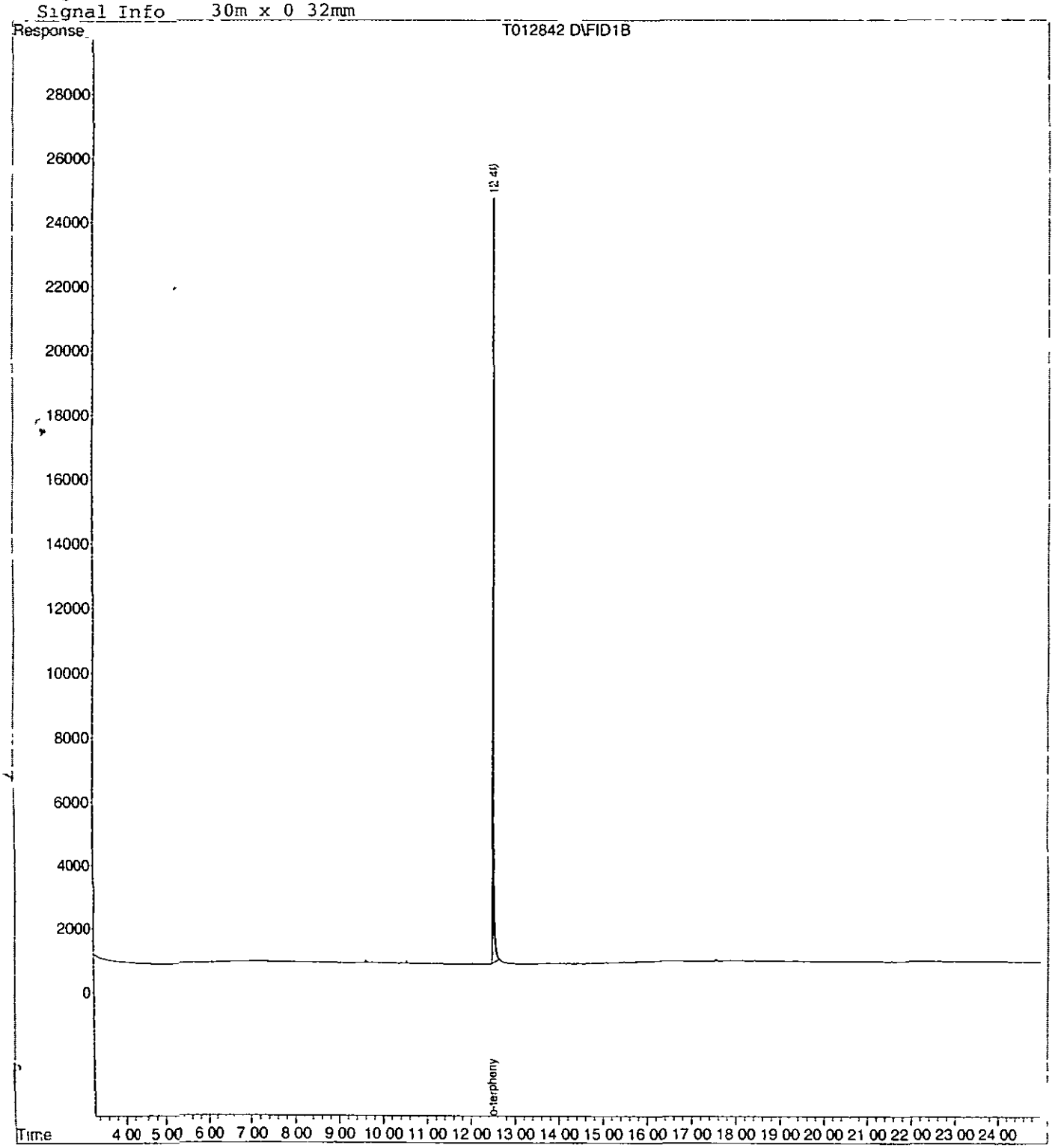
(f)=RT Delta > 1/2 Window (m)=manual int
T012842 D TP-85 M Tue May 01 14 46 45 2001

Quantitation Report

Data File	C \HPCHEM\1\DATA\010501\T012842 D	Vial	7
Acq On	1 May 2001 12 50 pm	Operator	BPatel
Sample	1609206s	Inst	GC/MS Ins
Misc		Multiplr	1 00
IntFile	TPHCINT E		
Quant Time	May 1 13 54 2001 Quant Results File TPH85 RES		

Quant Method	C \HPCHEM\1\METHODS\TPH85 M (Chemstation Integrator)
Title	TPHC Calibration 06/05/97 21 peaks
Last Update	Fri Feb 02 11 34 54 2001
Response via	Multiple Level Calibration
DataAcq Meth	TPH85 M

Volume Inj	1 ul
Signal Phase	HP-5
Signal Info	30m x 0 32mm



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 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 5/8/01

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