



September 3, 1998

Project No. 95-113.54
95-113.54

Mr. Douglas Herman
Assistant Environmental Scientist
Port of Oakland
530 Water Street
Oakland, CA 94607

Tank Closure Report
Port of Oakland Tank Numbers GF-11 and GF-12
Pacific Dry Dock (Crowley Yard II)
325 Embarcadero Street
Oakland, California

Dear Mr. Herman:

Two underground storage tanks (USTs) were removed on June 30, 1998 from Pacific Dry Dock (Crowley Yard II) located at 325 Embarcadero Street. The USTs were removed by Claus Construction as part of their demolition contract with the Port of Oakland. Innovative Technical Solutions, Inc (ITSI) was contracted by the Port of Oakland to perform compliance sampling during removal of the USTs and to prepare the Tank Closure Report upon completion of the project. Mr. Hernan Gomez of the City of Oakland Fire Services Agency and representatives from the Port of Oakland were on site to witness and document UST removal activities.

Figure 1 shows the approximate location of the site, and Figure 2 shows the site layout and approximate locations of the former USTs. Tank Nos. GF-11 and GF-12 were 5,000-gallon single-walled steel USTs. According to Port of Oakland personnel, the USTs were thought to contain unleaded gasoline. The age of the USTs is unknown. Removal of the USTs was performed according to the Underground Tank Closure Plan prepared by Claus Construction and approved by the City of Oakland Fire Services Agency, Office of Emergency Services, Hazardous Materials Program. A copy of the approved Underground Tank Closure Plan is provided in Attachment A.

UST REMOVAL

On June 30, 1998, Claus Construction exposed the tops of the two USTs. Overlying concrete and soil removed from the UST excavations was temporarily stockpiled adjacent to each UST

excavation and ultimately used as backfill for the UST excavations. Approximately 3,000 gallons of fluid was removed from the USTs and then transported by Ecology Control Industries (ECI) to Evergreen Oil, Inc. in Newark, California for recycling. Based on visual observation, it appeared that the USTs contained used oil instead of unleaded gasoline as previously suspected. Consequently, Port of Oakland personnel requested that soil and water samples be analyzed for waste oil per the "California Regional Water Quality Control Board Recommended Minimum Verification Analyses for Underground Tank Leaks, Table 2". A copy of the Uniform Hazardous Materials Manifest for the fluid removed from the USTs is presented in Attachment B.

As documented in the June 30, 1998 Inspection Report prepared by Mr. Hernan Gomez, the lower explosive limit (LEL) and percent oxygen (O₂) content inside the USTs prior to removal were 0% and 20%, respectively, for both USTs. Following approval by Mr. Gomez, the USTs were removed from the excavations by Claus Construction. Due to the proximity of Tank No. GF-11 to an adjacent concrete structure, two holes had to be cut in the UST in order to secure the crane hooks for removal. ITSI documented the removal activities, and collected soil and water samples from the excavations.

Photograph A (Figure 3) shows Tank No. GF-11 after removal from the excavation. Except for moderate pitting and oxidation, no apparent holes or cracks were observed in Tank No. GF-11. The condition of the pipe connections along the top of the UST could not be determined because of the heavily incrustated soil and oxidation. The exterior of the UST appeared to be covered with an oily product residue.

Photograph B (Figure 3) shows Tank No. GF-12 after removal from the excavation. The condition of the UST was the same as Tank No. GF-11 except that no holes had to be cut into the UST to remove the UST and no oily product residue was visible on the exterior of the UST.

At both UST locations, piping from the USTs extended beneath adjacent buildings. Piping encountered during excavation activities was cut to within 5 feet from the edge of the buildings and removed. One section of cut piping contained two holes, up to 1/2-inch in diameter (Photograph C, Figure 4). It is unknown whether this section of piping was used to carry product. Piping which extended beneath the buildings was left in place. The USTs and associated sections of piping, including product and vent lines, were loaded on to ECI trucks for transportation to the Erickson, Inc. facility in Richmond, California for destruction. Copies of the Uniform Hazardous Waste Manifest and Certificate of Destruction are included in Attachment B.

Dimensions of the excavations from the USTs are shown on Figure 2. The excavation for Tank No. GF-11 was approximately 20 feet long and 8 to 11 feet wide. Groundwater was encountered in the excavation at a depth of 6 feet below ground surface (bgs). Small pools of product floating on the groundwater were observed at the southwest end of the excavation (Photograph D, Figure 5). Apparent product staining was observed in the soil on the southwestern wall of the excavation from approximately 3 feet bgs to groundwater. Soil in the excavation consisted of sand with gravel (fill material).

not uniform?

The excavation for Tank No. GF-12 was approximately 19 feet long and 13 feet wide. Groundwater was encountered in the excavation at a depth of 7 1/2 feet bgs. An oily sheen was observed on the groundwater with droplets of oil floating on the water. Soil in the excavation consisted of sand with gravel (fill material) and appeared discolored approximately 6 feet bgs extending to groundwater. Photograph E (Figure 5) shows the excavation after removal of Tank No. GF-12.

UST EXCAVATION SOIL AND WATER SAMPLING

Four soil samples and 2 water samples were collected from the UST excavations by ITSI personnel on June 30, 1998. The soil samples were collected at the soil-water interface near each end of the USTs with the aid of a backhoe. The locations of the soil samples are shown in Figure 2. The water samples were collected from the water which had accumulated in the UST excavations. The water sample was collected using clean disposable bailers and placed into laboratory provided containers.

Soil samples from the UST excavations were collected from the backhoe bucket. Once the backhoe had obtained the soil from the soil-water interface, the bucket was brought to the surface for sample collection and a 2-inch diameter by 6-inch long clean brass tube was hand driven into the soil in the backhoe bucket. Soil samples were then fitted on each end with a Teflon patch and covered with a plastic friction cap.

Soil and water sample containers were labeled with sample number, date and time of collection, and the samplers' initials. The sample containers were sealed into plastic Zip-lock[®] bags, placed on ice in an insulated cooler, and transported under chain-of-custody procedures to Curtis and Tompkins, Ltd. in Berkeley, California, the Port of Oakland contract laboratory.

Soil and groundwater samples were analyzed for:

- Total Petroleum Hydrocarbons as gasoline (TPHg) by Modified EPA Method 8015.
- Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) by EPA Method 8020A.
- Methyl-tertiary-Butyl-Ether (MTBE) by EPA Method 8020A.
- Total Extractable Petroleum Hydrocarbons quantified as diesel (TPHd) and motor oil (TPHmo) by Modified EPA Method 8015 with Silica Gel Cleanup procedure.
- Oil and Grease (O&G) by SMWW 17 : 5520BF Method.
- Halogenated Volatile Organic Compounds (HVOCS) by EPA Method 8260.
- Semivolatile Organic Compounds (SVOCs) by EPA Method 8270B.
- LUFT Metals (Cd, Cr, Ni, Pb, Zn) by EPA 6010A.

Analytical results for the soil and water samples are presented in Table 1 (Petroleum Hydrocarbons), Table 2 (HVOCS and SVOCs) and Table 3 (Metals), and are summarized below:

Tank No. GF-11**Soil in the excavation (soil samples S-A-7'-N and S-A-7'-S)**

- TPHg was reportedly detected at a concentration of 8.9 mg/kg in soil sample S-A-7'-N (collected from the northern end of the UST excavation) and 7.6 mg/kg in soil sample S-A-7'-S (collected from the southern end of the UST excavation).
- BTEX and MTBE were reportedly not detected.
- TPHd was reportedly detected at a concentration of 2,800 mg/kg at the northern end of the UST excavation and 300 mg/kg at the southern end of the UST excavation.
- TPHmo was reportedly detected at a concentration of 3,100 mg/kg at the northern end of the UST excavation and 590 mg/kg at the southern end of the UST excavation.
- Oil and grease was reportedly detected at a concentration of 650 mg/kg at the northern end of the UST excavation and 130 mg/kg at the southern end of the UST excavation.
- HVOCs reportedly detected were chlorobenzene and 1,4-dichlorobenzene at concentrations of 6.1 and 5.0 µg/kg, respectively, at the southern end of the UST excavation.
- SVOCs were reportedly detected at both ends of the UST excavation with the highest concentrations detected at the northern end. The highest SVOC concentrations reported were acenaphthene at a concentration of 210 µg/kg, fluorene at 240 µg/kg, phenanthrene at 1,300 µg/kg, anthracene at 380 µg/kg, fluoranthene at 1,600 µg/kg, pyrene at 1,700 µg/kg, benzo(a)anthracene at 770 µg/kg, chrysene at 920 µg/kg, benzo(b,k)fluoranthene at 1,200 µg/kg, and benzo(a)pyrene at 540 µg/kg.
- Metal constituents (chromium, lead, nickel and zinc) were reported at less than 10 times the Soluble Threshold Limit Concentrations (STLC) for these constituents.

Groundwater in the excavation (groundwater sample W-TP-A)

- TPHg was reportedly detected at a concentration of 1,000 µg/l.
- Ethylbenzene and xylenes were reportedly detected at concentrations of 1.3 and 0.5 µg/l, respectively.
- MTBE was reportedly detected at a concentration of 3.8 µg/l.
- TPHd was reportedly detected at a concentration of 91,000 µg/l.
- Oil and grease was reportedly not detected.
- HVOCs reportedly detected were chlorobenzene at a concentration of 32 µg/l, 1,4-dichlorobenzene at 8.9 µg/l, and 1,2-dichlorobenzene at 5.5 µg/l.

- SVOCs reportedly detected were phenanthrene at a concentration of 150 µg/l, anthracene at 130 µg/l, fluoranthene at 1,400 µg/l, pyrene at 1,700 µg/l, benzo(a)anthracene at 930 µg/l, chrysene at 880 µg/l, benzo(b,k)fluoranthene at 1,600 µg/l, benzo(a)pyrene at 760 µg/l, indeno(1,2,3-cd)pyrene at 250 µg/l, and benzo(g,h,i)perylene at 260 µg/l.
- Metal constituents (chromium, lead, nickel and zinc) were reportedly detected with chromium, lead and nickel at concentrations in excess of their respective Maximum Contaminant Levels (MCLs).

Tank No. GF-12

Soil in the excavation (soil samples S-B-8'-N and S-B-8'-S)

- TPHg was reportedly not detected in soil sample S-B-8'-N (collected from the northern end of the UST excavation) and 14 mg/kg was detected in soil sample S-B-8'-S (collected from the southern end of the UST excavation).
- BTEX and MTBE were reportedly not detected.
- TPHd was reportedly detected at a concentration of 270 mg/kg at the northern end of the UST excavation and 640 mg/kg at the southern end of the UST excavation.
- TPHmo was reportedly detected at a concentration of 1,400 mg/kg at the northern end of the UST excavation and 740 mg/kg at the southern end of the excavation.
- Oil and grease was reportedly detected at a concentration of 230 mg/kg at the northern end of the UST excavation and 430 mg/kg at the southern end of the UST excavation.
- HVOCs were reportedly not detected.
- SVOCs were reportedly detected at both ends of the UST excavation with the highest concentrations detected at the northern end. The highest SVOC concentrations reported were acenaphthene detected at a concentration of 350 µg/kg, fluorene at 470 µg/kg, phenanthrene at 3,800 µg/kg, anthracene at 1,100 µg/kg, fluoranthene at 6,400 µg/kg, pyrene at 5,000 µg/kg, benzo(a)anthracene at 3,100 µg/kg, chrysene at 3,400 µg/kg, benzo(b,k)fluoranthene at 4,900 µg/kg, benzo(a)pyrene at 1,200 µg/kg, indeno(1,2,3-cd)pyrene at 430 µg/kg, and dibenzo(a,h)anthracene at 410 µg/kg.
- Metal constituents (chromium, lead, nickel and zinc) were reported at less than 10 times the STLC for these constituents.

Groundwater in the excavation (groundwater sample W-TP-B)

- TPHg was reportedly detected at a concentration of 1,000 µg/l.
- BTEX and MTBE were reportedly not detected.
- TPHd was reportedly detected at a concentration of 34,000 µg/l.
- Oil and grease was reportedly detected at a concentration of 56,000 µg/l.

- HVOCs were reportedly not detected.
- SVOCs reportedly detected were fluoranthene at a concentration of 90 µg/l, pyrene at 150 µg/l, benzo(a)anthracene at 59 µg/l, chrysene at 38 µg/l, and benzo(a)pyrene at 51 µg/l.
- Metal constituents (chromium, lead, nickel and zinc) were reportedly detected with chromium and lead at concentrations in excess of their respective MCLs.

STOCKPILE SAMPLING

On June 30, 1998, ITSI collected 2 four-container composite soil samples from the excavated soil temporarily stockpiled onsite. One composite soil sample, designated S-SP1-A,B,C,D, was collected from approximately 15 to 18 cubic yards of soil removed from the excavation of Tank No. GF-11. The second composite soil sample, designated S-SP2-A,B,C,D, was collected from approximately 20 cubic yards of soil removed from the excavation of Tank No. GF-12.

Soil samples were collected by initially clearing away the top 6 to 12 inches of soil using a clean stainless steel trowel and then manually pushing a clean brass sleeve into the soil at each location. Each composite soil sample represented four discrete sample locations. Soil samples were labeled with sample number, date and time of collection, and the samplers' initials. The samples were then sealed into plastic Zip-lock® bags, placed on ice in an insulated cooler, and transported under chain-of-custody procedures to Curtis and Tompkins, Ltd. in Berkeley.

The stockpile soil samples were analyzed according to the previously referenced analytical schedule. Analytical results from the stockpile soil samples are presented in Tables 1, 2 and 3 and are summarized below:

Stockpile at Tank No. GF-11 (S-SP1-A,B,C,D)

- TPHg was reportedly detected at a concentration of 7.1 mg/kg.
- BTEX and MTBE were reportedly not detected.
- TPHd was reportedly detected at a concentration of 620 mg/kg.
- TPHmo was reportedly detected at a concentration of 1,900 mg/kg.
- Oil and grease was reportedly detected at a concentration of 470 mg/kg.
- HVOCs were reportedly not detected.
- SVOCs reportedly detected were phenanthrene at a concentration of 470 µg/kg, fluoranthene at 2,700 µg/kg, pyrene at 3,400 µg/kg, benzo(a)anthracene at 1,900 µg/kg, chrysene at 2,300 µg/kg, benzo(b,k)fluoranthene at 3,700 µg/kg, benzo(a)pyrene at 1,200 µg/kg, and indeno(1,2,3-cd)pyrene at 410 µg/kg.
- Metal constituents (chromium, lead, nickel and zinc) were reported at less than 10 times the STLC for these constituents.

Stockpile at Tank No. GF-12 (S-SP2-A,B,C,D)

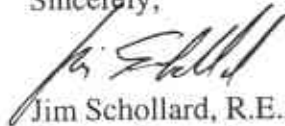
- TPHg was reportedly detected at a concentration of 1.1 mg/kg.
- BTEX and MTBE were reportedly not detected.
- TPHd was reportedly detected at a concentration of 240 mg/kg.
- TPHmo was reportedly detected at a concentration of 910 mg/kg.
- Oil and grease was reportedly detected at a concentration of 180 mg/kg.
- HVOCs were reportedly not detected.
- SVOCs reportedly detected were fluoranthene at a concentration of 460 µg/kg, pyrene at 540 µg/kg, chrysene at 380 µg/kg, and benzo(b,k)fluoranthene at 680 µg/kg.
- Metal constituents (chromium, nickel and zinc) were reported at less than 10 times the STLC for these constituents. Lead was reportedly detected at a concentration of 52 mg/kg, slightly greater than 10 times the STLC of 5 mg/kg.

A copy of the laboratory reports, chromatograms, and chain-of-custody form for the soil and groundwater samples are included in Attachment C.

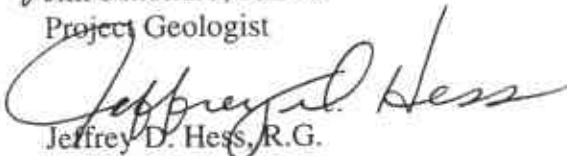
According to Claus Construction, the stockpiled soil and concrete debris was used in backfilling the UST excavations.

Please contact the undersigned if you have any questions or comments.

Sincerely,



Jim Schollard, R.E.A.
Project Geologist



Jeffrey D. Hess, R.G.
Project Director

Attachments

Table 1

**Laboratory Results for Petroleum Hydrocarbons In Soil and Groundwater
 GF-11 and GF-12 Tank Removals
 Pacific Dry Dock (Crowley Yard II)
 325 Embarcadero Street
 Oakland, California**

Sample I.D.	TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)	O & G (mg/kg)
SOIL SAMPLES (in mg/kg)									
S-A-7'-N	8.9 ^{1,3}	<5	<5	<5	<10	<20	2,800 ¹	3,100 ^{1,2}	650
S-A-7'-S	7.6 ^{1,3}	<5	<5	<5	<10	<20	300 ¹	590 ^{1,2}	130
S-B-8'-N	<1	<5	<5	<5	<10	<20	270 ^{1,3}	1,400 ^{1,2}	230
S-B-8'-S	14 ^{1,3}	<5	<5	<5	<10	<20	640 ¹	740 ^{1,2}	430
S-SP1-A,B,C,D	7.1 ^{1,3}	<5	<5	<5	<10	<20	620 ^{1,3}	1,900 ^{1,2}	470
S-SP2-A,B,C,D	1.1 ^{1,3}	<5	<5	<5	<10	<20	240 ¹	910 ^{1,2}	180
GROUNDWATER SAMPLES (in µg/L)									
W-TP-A	1,000 ^{1,3}	<0.5	<0.5	1.3	0.5	3.8	91,000 ^{1,3}	-	<5,000
W-TP-B	1,000 ^{1,3}	<0.5	<0.5	<0.5	<0.5	<2	34,000 ¹	-	56,000

¹Heavier hydrocarbons than indicated standard.

²Lighter hydrocarbons than indicated standard.

³Sample exhibits fuel pattern which does not resemble standard.

Table 2

Laboratory Results for HVOCs and SVOCs In Soil And Groundwater
 GF-11 and GF-12 Tank Removals
 Pacific Dry Dock (Crowley Yard II)
 325 Embarcadero Street
 Oakland, California

Compound	SOIL SAMPLES						GROUNDWATER SAMPLES	
	S-A-7'-N	S-A-7'-S	S-B-8'-N	S-B-8'-S	S-SP1-A,B,C,D	S-SP2-A,B,C,D	W-TP-A	W-TP-B
HALOGENATED VOLATILE ORGANIC COMPOUNDS (HVOCs) (in µg/kg)								
Chlorobenzene	<5	6.1	<5	<5	<5	<5	32	<1
1,4-Dichlorobenzene	<5	5.0	<5	<5	<5	<5	8.9	<1
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5	5.5	<1
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs) (in µg/kg)								
Acenaphthene	210	<330	350	<670	<670	<670	<240	<47
Fluorene	240	<330	470	<670	<670	<670	<240	<47
Phenanthrene	1,300	<330	3,800	1,000	470	<670	150	<47
Anthracene	380	<330	1,100	<670	<670	<670	130	<47
Fluoranthene	1,600	190	6,400	2,400	2,700	460	1,400	90
Pyrene	1,700	320	5,000	2,400	3,400	540	1,700	150
Benzo(a)anthracene	770	<330	3,100	1,400	1,900	<670	930	59
Chrysene	920	<330	3,400	1,600	2,300	380	880	38
Benzo(b,k)fluoranthene	1,200	290	4,900	2,600	3,700	680	1,600	<47
Benzo(a)pyrene	540	<330	1,200	900	1,200	<670	760	51
Indeno(1,2,3-cd)pyrene	<330	<330	430	<670	410	<670	250	<47
Dibenzo(a,h)anthracene	<330	<330	410	<670	<670	<670	<240	<47
Benzo(g,h,i)perylene	<330	<330	<670	<670	<670	<670	260	<47

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Table 3**Laboratory Results for Metals In Soil and Groundwater
GF-11 and GF-12 Tank Removals
Pacific Dry Dock (Crowley Yard II)
325 Embarcadero Street
Oakland, California**

Sample I.D.	Cadmium	Chromium	Lead	Nickel	Zinc
SOIL SAMPLES (in mg/kg)					
S-A-7'-N	<0.097	41	24	36	82
S-A-7'-S	<0.096	24	5.4	17	110
S-B-8'-N	<0.095	26	19	24	93
S-B-8'-S	<0.094	19	33	20	110
S-SP1-A,B,C,D	<0.099	18	11	17	89
S-SP2-A,B,C,D	<0.095	31	52	23	130
GROUNDWATER SAMPLES (in µg/L)					
W-TP-A	<5	570	350	510	2,400
W-TP-B	<5	68	140	54	420

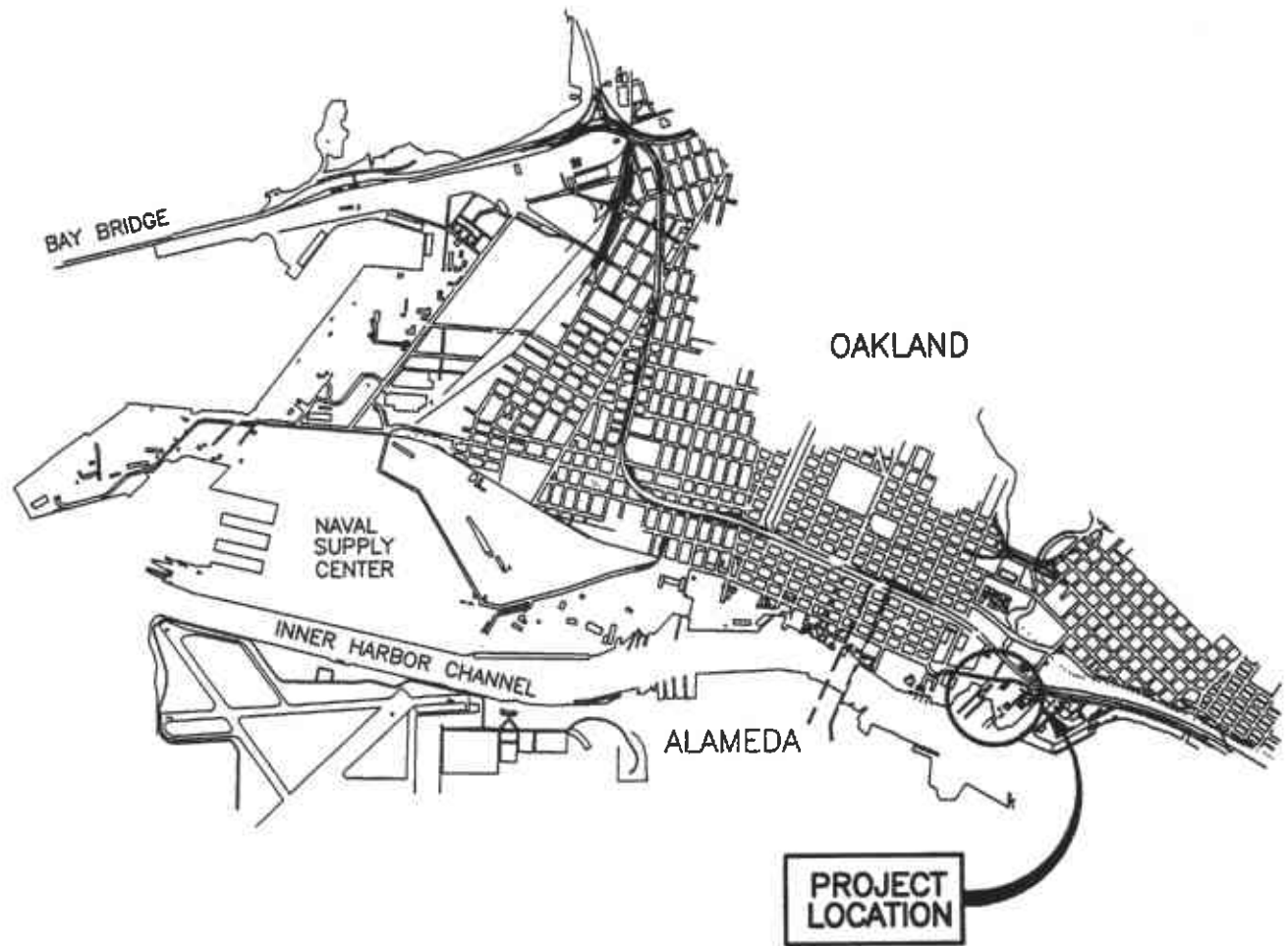


FIGURE 1
SITE LOCATION MAP

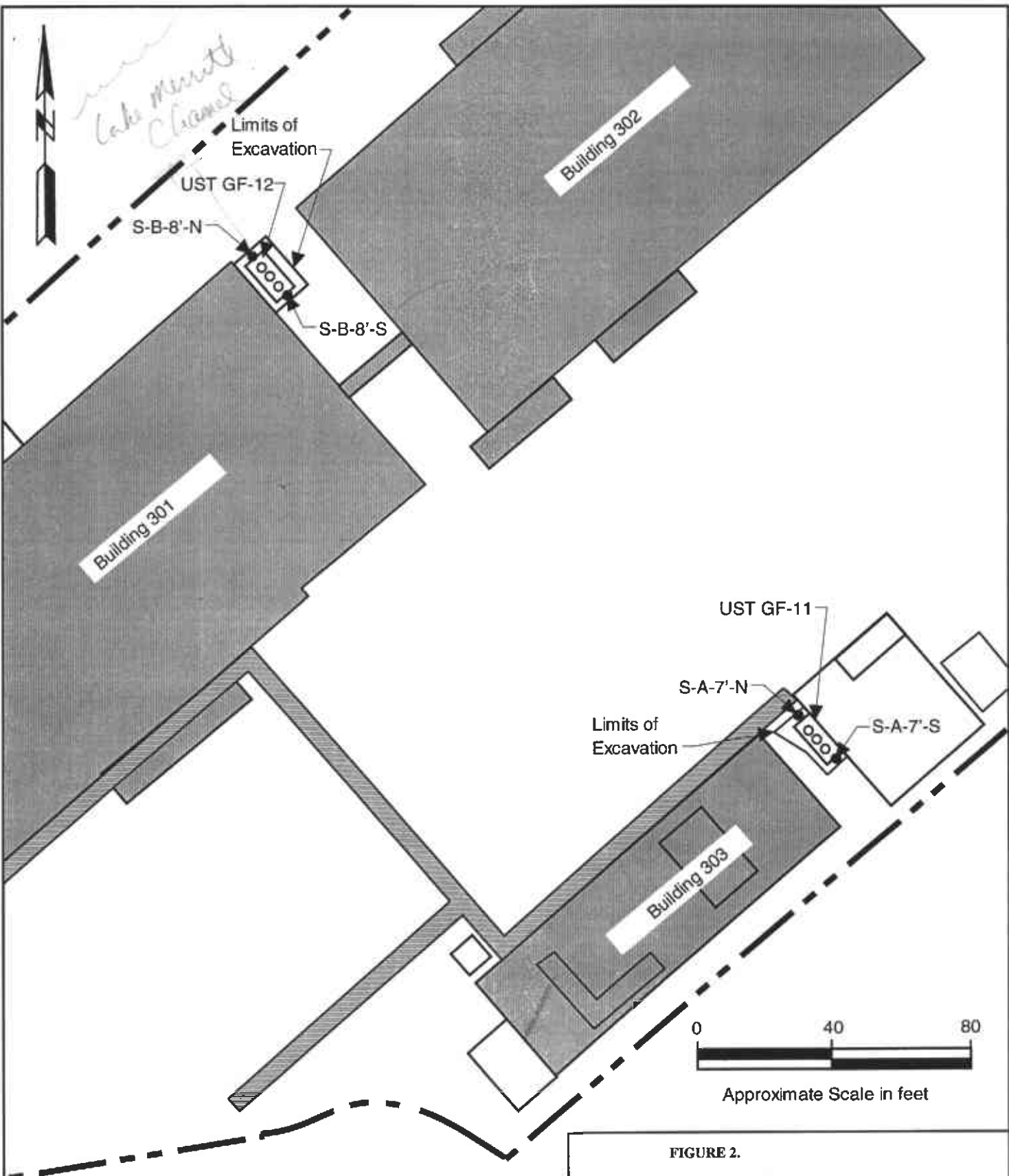
Pacific Drydock
 325 Embarcadero
 Oakland, CA



PORT OF OAKLAND

INNOVATIVE TECHNICAL SOLUTIONS, INC.

Source: Port of Oakland Drawing #344B-1, Demolition Plans



LEGEND

- Soil Samples collected on June 30, 1998
- ▨ Building to be demolished
- ▨ Concrete Trench
- Former 5,000 gallon UST

Source: Port of Oakland Drawing # 3448-7

FIGURE 2.

SITE LAYOUT AND SOIL SAMPLE LOCATIONS UNDERGROUND TANK NOS. GF-11 AND GF-12

Pacific Drydock
325 Embarcadero
Oakland, California



PORT OF OAKLAND

INNOVATIVE TECHNICAL SOLUTIONS, INC.

Photograph A



Photograph B



FIGURE 3

SITE PHOTOGRAPHS

Pacific Drydock
325 Embarcadero St.
Oakland, CA



PORT OF OAKLAND

INNOVATIVE TECHNICAL SOLUTIONS, INC.

Photograph C



FIGURE 4

SITE PHOTOGRAPH

Pacific Drydock
325 Embarcadero St.
Oakland, CA



PORT OF OAKLAND

INNOVATIVE TECHNICAL SOLUTIONS, INC.

Photograph D



Photograph E



FIGURE 5

SITE PHOTOGRAPHS

Pacific Drydock
325 Embarcadero St.
Oakland, CA



PORT OF OAKLAND

INNOVATIVE TECHNICAL SOLUTIONS, INC.

ATTACHMENT A
COPY OF UNDERGROUND TANK CLOSURE PLAN
BY CLAUSS CONSTRUCTION OF LAKESIDE, CALIFORNIA

**City of Oakland, Fire Services Agency, Office of Emergency Services
Hazardous Materials Program
APPLICATION FOR UNDERGROUND TANK REMOVAL**

Project Contact & Phone # Douglas Herman 510-272-1184

Facility Name Crowley Maritime Yard II Phone# —

Address 321 Embarcadero Rd., Oakland 94606

Cross Street

Owner/Operator Port of Oakland Phone # 510-272-1176

Contractor Name Class Construction Phone # 619-390-4940

Contractor Address 5956 Lakeside Blvd
Lakeside, CA 92040 CA License # 630564 Class A, B, C21, A5B

Hazardous Waste Certified:
(Qualifying license category _____) Yes No Workers Comp#

City of Oakland Business Tax License # _____ Permit # _____

Does this site have a leaking UST (or did it have a leaking tank system?) Yes No

UST ID	Tank Size	Material That Was Stored	Proposed Removal Date
<u>GF-12</u>	<u>Unknown</u>	<u>Unleaded Gasoline</u>	<u>April 20, 1998</u>
<u>GF-11</u>	<u>400 gal</u>	<u>Unleaded Gasoline</u>	<u>April 20 1998</u>

APPROVED
 APPROVED WITH CONDITION(S)
 DISAPPROVED

PLAN REVIEWER'S SIGNATURE _____ DATE OF APPROVAL _____

APPLICANT MUST PERFORM ALL WORK IN ACCORDANCE WITH CITY OF OAKLAND ORDINANCES, STATE LAWS, AND RULES AND REGULATIONS OF THE CITY OF OAKLAND FIRE SERVICES AGENCY. OWNER OR LICENSED AGENT'S SIGNATURE CERTIFIES THE FOLLOWING: "I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS INSTALLATION PLAN IS ISSUED, I SHALL NOT EMPLOY ANY PERSON IN SUCH A MANNER AS TO BECOME SUBJECT TO WORKER'S COMPENSATION LAWS OF CALIFORNIA." CONTRACTOR'S HIRING OR SUBCONTRACTING SIGNATURE CERTIFIES THE FOLLOWING: "I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS INSTALLATION PLAN IS ISSUED, I SHALL EMPLOY PERSONS SUBJECT TO WORKER'S COMPENSATION LAWS OF CALIFORNIA."

APPLICANT'S SIGNATURE _____ TITLE: _____ DATE: _____

INDICATE THE RESPONSIBLE PARTY TO BE BILLED FOR ADDITIONAL FSA/OES STAFF TIME EXPENDED BEYOND THE HOURS COVERED BY THE INITIAL DEPOSIT AMOUNT. THE PARTY MUST ACKNOWLEDGE THIS RESPONSIBILITY FOR THE ADDITIONAL BILLING BY SIGNATURE AND DATE BELOW.

NAME Neil Werner, Supervisor

MAILING ADDRESS Part of Oakland, 530 Water St Oakland, CA 94607
STREET CITY, STATE, ZIP

DAY PHONE NUMBER 510 272-1176
area code phone #

SIGNATURE Neil Werner

DATE 3/23/98

CITY OF OAKLAND
Fire Services Agency
Office of Emergency Services
Hazardous Materials Program
505-14th St., Suite 702
Oakland, CA 94612

UNDERGROUND TANK CLOSURE PLAN
(Complete according to instructions)

- 1) Name of Business Port of Oakland
Business Owner or Contact Person (PRINT) Douglas Herman
- 2) Site Address 321 Embarcadero
City Oakland Zip 94606 Phone N/A
- 3) Mailing Address 530 Water Street
City Oakland Zip 94607 Phone 510-272-1184
- 4) Property Owner Port of Oakland
Business Name (if applicable) _____
Address 530 Water Street
City, State Oakland, CA Zip 94607
- 5) Generator name under which tank will be manifested
Port of Oakland
- EPA ID Under which tank will be manifested CAC 001 460 096

c) Tank and Piping Transporter

Name E.C.T. EPA I.D. No. CAD 982030173

c) Hauler License No. 1533 License Exp. Date 3-31-99

Address 255 Parr Blvd.

City Richmond State CA Zip 94801

d) Tank and Piping Disposal Site

Name Erickson Inc EPA I.D. No. CAD 009466392

Address 255 Parr Blvd

City Richmond State CA Zip 94801

11) Sample Collector

Name Jim Schottard / Jeffrey Hess

Company ETSI

Address 1330 Broadway, Suite 1625

City Oakland State CA Zip 94612

Phone 510-286-8888

12) Laboratory

Name Curtis and Thompkins

Address 2323 Fifth St.

City Berkeley State CA Zip 94710

State Certification No. # 1459

13) Have tanks or pipes leaked in the past

Yes No

Unknown

If yes, describe _____

EXCAVATED/STOCKPILED SOIL

Stockpiled Soil volume (estimated) <div style="font-size: 1.5em; font-family: cursive;">40 yd³</div>	Sampling Plan <div style="font-size: 1.2em; font-family: cursive;">One sample for every 20 yd³ maximum</div>
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Stockpiled soil must be placed on beamed plastic and must be completely covered by plastic sheeting

Will the excavated soil be returned to the excavation immediately after tank removal?

yes
 No
 unknown

If yes, explain reasoning _____

If unknown at this point in time, please be aware that excavated soil may not be returned to the excavation without prior approval from Fire Services Agency, Office of Emergency Services. This means that the contractor, consultant, or responsible party must communicate with the Hazardous Materials Inspector **IN ADVANCE** of backfilling operations.

16. Chemical methods and associated detection limits to be used for analyzing samples:

The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed.

See attached Table 2.

17. Submit Site Health and Safety Plan (see Instructions)

Contaminant Sought	EPA or Other Sample Preparation Method Number	EPA or Other Analysis Method Number	Method Detection Limit
Unleaded Fuel	Soil	TPH-G 8015 mod BTEX 8020 MTBE 8020	1.0 PPM 0.5 PPM 0.5 PPM
If water encountered Unleaded Fuel	water	TPH-G 8015 BTEX-602 MTBE-602	< 50 PPB < 0.5 PPB < 0.5 PPB

PROPERTY OWNER OR MOST RECENT TANK OPERATOR (Circle one)

Name of Business Port of Oakland
Name of Individual Neil Werner, Supervisor
Signature Neil Werner Date 3/23/98

General Instructions

- Three (3) copies of this plan plus attachments and permit must be submitted to this Department.
- Any cutting into tanks requires Fire Services Agency approval.
- One complete copy of your approved plan must be at the construction site at all times; a copy of your approved plan must also be sent to the landowner.
- State of California Permit Application Forms A and B are to submit to this office One Form A per site, one Form B for each removed tank.

Line Item Specific Instructions

2. SITE ADDRESS

Address at which closure is taking place.

5. EPA I.D. NO. - under which the tanks will be manifested

EPA I.D. numbers may be obtained from the State Department of Toxic Substances Control, 916/324-1781

6. CONTRACTOR

Prime contractor for the project.

10. STATE REGISTERED HAZARDOUS WASTE TRANSPORTERS/FACILITIES

- a) All residual liquids and sludges are to be removed from tanks before tanks are inerted.
- c) Tanks must be hauled as hazardous waste.
- d) This is the place where tanks will be taken for cleaning.

15) TANK HISTORY AND SAMPLING INFORMATION

Use History - This information is essential and must be accurate. Include tank installation date, products stored in the tank, and the date when the tank was last used.

Material to be sampled - e.g. water, oil, sludge, soil, etc.

Location and depth of samples - e.g. beneath the tank a maximum of two feet below the native soil/backfill interface, side wall at the trig) water mark, etc.

16) CHEMICAL METHODS AND ASSOCIATED DETECTION LIMITS

See attached Table 2.

17) SITE HEALTH AND SAFETY PLAN

A site specific Health and Safety plan must be submitted. We advocate the site health and safety plan include the following items, at a minimum:

- a) The name and responsibilities of the site health and safety officer.
- b) An outline of briefings to be held before work each day to appraise employees of site health and safety hazards;

22) TANK CLOSURE REPORT

The Tank Closure reports: General description of the closure activities, indicate;

- a) Description of tank, fittings and piping conditions. Size and former contents; note any corrosion, pitting, holes;
- b) Description of the excavation itself. Include tank and excavation depth, a log of the stratigraphic units encountered within the excavation, a description of root holes or other potential pathways the depth to any observed ground water, locations of stained or odor-bearing oil, and descriptions of any observed free product or sheen;
- c) Detailed description of sampling methods., i.e. - backhoe bucket, drive sampler, bailer, bottles (s), sleeves;
- d) Description of any remedial measures conducted at the time of tank removal;
- e) To-scale figures showing the excavation size and depth, nearby buildings, sample locations and depths, and tank and piping locations include a copy of the plot plan prepared for the Tank Closure-plan under item #19;
- f) Chain of custody records;
- g) Copies of signed laboratory reports;
- h) Copies of TSDf to Generator Manifests for all hazardous wastes hauled offsite (sludge, Rinsate, tanks and piping, contaminated soil, etc), and
- i) Documentation of the disposal of and volume and final destination all non-manifested contaminated soil disposed offsite.

STATE OF CALIFORNIA
 STATE WATER RESOURCES CONTROL BOARD
UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM A
 COMPLETE THIS FORM FOR EACH FACILITY/SITE



MARK ONLY ONE ITEM

<input type="checkbox"/> 1 NEW PERMIT	<input type="checkbox"/> 3 RENEWAL PERMIT	<input type="checkbox"/> 5 CHANGE OF INFORMATION	<input checked="" type="checkbox"/> 7 PERMANENTLY CLOSED SITE
<input type="checkbox"/> 2 INTERIM PERMIT	<input type="checkbox"/> 4 AMENDED PERMIT	<input type="checkbox"/> 6 TEMPORARY SITE CLOSURE	

I. FACILITY/SITE INFORMATION & ADDRESS - (MUST BE COMPLETED)

DBA OR FACILITY NAME <i>Crowley Maritime</i>		NAME OF OPERATOR <i>Crowley Maritime</i>	
ADDRESS <i>321 Embarcadero</i>		NEAREST CROSS STREET	PARCEL # (OPTIONAL)
CITY NAME <i>Oakland</i>	STATE <i>CA</i>	ZIP CODE <i>94606</i>	SITE PHONE # WITH AREA CODE
<input checked="" type="checkbox"/> BOX TO INDICATE <input type="checkbox"/> CORPORATION <input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP <input checked="" type="checkbox"/> LOCAL AGENCY DISTRICTS <input type="checkbox"/> COUNTY AGENCY* <input type="checkbox"/> STATE AGENCY* <input type="checkbox"/> FEDERAL AGENCY*			
* If owner of UST is a public agency, complete the following: name of supervisor of district, section or office which operates the UST <i>Neil Werner, EMISC Department</i>			
TYPE OF BUSINESS		<input type="checkbox"/> IF INDIAN RESERVATION OR TRUST LANDS	# OF TANKS AT SITE
<input type="checkbox"/> 1 GAS STATION <input type="checkbox"/> 2 DISTRIBUTOR <input type="checkbox"/> 3 FARM <input type="checkbox"/> 4 PROCESSOR <input checked="" type="checkbox"/> 5 OTHER			<i>2</i>
E.P.A. I.D. # (optional)			

EMERGENCY CONTACT PERSON (PRIMARY)

EMERGENCY CONTACT PERSON (SECONDARY) - optional

DAYS: NAME (LAST, FIRST) <i>Werner, Neil</i>	PHONE # WITH AREA CODE <i>510-272-1176</i>	DAYS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE
NIGHTS: NAME (LAST, FIRST) <i>Werner, Neil</i>	PHONE # WITH AREA CODE <i>510-220-7833</i>	NIGHTS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE

II. PROPERTY OWNER INFORMATION - (MUST BE COMPLETED)

NAME <i>Port of Oakland</i>	CARE OF ADDRESS INFORMATION		
MAILING OR STREET ADDRESS <i>530 Water Street</i>	<input checked="" type="checkbox"/> BOX TO INDICATE <input type="checkbox"/> INDIVIDUAL <input checked="" type="checkbox"/> LOCAL AGENCY <input type="checkbox"/> STATE AGENCY <input type="checkbox"/> CORPORATION <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> COUNTY AGENCY <input type="checkbox"/> FEDERAL AGENCY		
CITY NAME <i>Oakland</i>	STATE <i>CA</i>	ZIP CODE <i>94607</i>	PHONE # WITH AREA CODE <i>510-272-1100</i>

III. TANK OWNER INFORMATION - (MUST BE COMPLETED)

NAME OF OWNER <i>Port of Oakland</i>	CARE OF ADDRESS INFORMATION		
MAILING OR STREET ADDRESS <i>530 Water Street</i>	<input checked="" type="checkbox"/> BOX TO INDICATE <input type="checkbox"/> INDIVIDUAL <input checked="" type="checkbox"/> LOCAL AGENCY <input type="checkbox"/> STATE AGENCY <input type="checkbox"/> CORPORATION <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> COUNTY AGENCY <input type="checkbox"/> FEDERAL AGENCY		
CITY NAME <i>Oakland</i>	STATE <i>CA</i>	ZIP CODE <i>94607</i>	PHONE # WITH AREA CODE

IV. BOARD OF EQUALIZATION UST STORAGE FEE ACCOUNT NUMBER - Call (916) 322-9669 if questions arise.

TY(TK) HQ

V. PETROLEUM UST FINANCIAL RESPONSIBILITY - (MUST BE COMPLETED) - IDENTIFY THE METHOD(S) USED

1 SELF-INSURED
 2 GUARANTEE
 3 INSURANCE
 4 SURETY BOND
 5 LETTER OF CREDIT
 6 EXEMPTION
 7 STATE FUND
 8 STATE FUND & CHIEF FINANCIAL OFFICER LETTER
 9 STATE FUND & CERTIFICATE OF DEPOSIT
 10 LOCAL GOVT. MECHANISM
 11 OTHER

VI. LEGAL NOTIFICATION AND BILLING ADDRESS Legal notification and billing will be sent to the tank owner unless box I or II is checked.

CHECK ONE BOX INDICATING WHICH ABOVE ADDRESS SHOULD BE USED FOR LEGAL NOTIFICATIONS AND BILLING:
 I
 II
 III

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNERS NAME (PRINTED & SIGNATURE) <i>Neil Werner</i>	TANK OWNERS TITLE <i>Environmental Supervisor</i>	DATE MONTH/DAY/YEAR <i>11-07-97</i>
--	--	--

LOCAL AGENCY USE ONLY

COUNTY # <input type="text" value="01"/>	JURISDICTION # <input type="text" value="01"/>	FACILITY # <input type="text" value="00000"/>
LOCATION CODE - OPTIONAL	CENSUS TRACT # - OPTIONAL	SUPVISOR - DISTRICT CODE - OPTIONAL

THIS FORM MUST BE ACCOMPANIED BY AT LEAST (1) OR MORE PERMIT APPLICATION - FORM B, UNLESS THIS IS A CHANGE OF SITE INFORMATION ONLY.
 OWNERS MUST FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B



COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM.

MARK ONLY ONE ITEM	<input type="checkbox"/> 1 NEW PERMIT	<input type="checkbox"/> 3 RENEWAL PERMIT	<input type="checkbox"/> 5 CHANGE OF INFORMATION	<input checked="" type="checkbox"/> 7 PERMANENTLY CLOSED ON SITE
	<input type="checkbox"/> 2 INTERIM PERMIT	<input type="checkbox"/> 4 AMENDED PERMIT	<input type="checkbox"/> 6 TEMPORARY TANK CLOSURE	<input type="checkbox"/> 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED: _____

I. TANK DESCRIPTION COMPLETE ALL ITEMS - SPECIFY IF UNKNOWN

A. OWNER'S TANK I.D.# GF-11	B. MANUFACTURED BY: Unknown
C. DATE INSTALLED (MO/DAY/YEAR) Unknown	D. TANK CAPACITY IN GALLONS: 400

II. TANK CONTENTS IF A-1 IS MARKED, COMPLETE ITEM C.

A. <input checked="" type="checkbox"/> 1 MOTOR VEHICLE FUEL	<input type="checkbox"/> 4 OIL	B. <input checked="" type="checkbox"/> 1 PRODUCT	C. <input checked="" type="checkbox"/> 1a REGULAR UNLEADED
<input type="checkbox"/> 2 PETROLEUM	<input type="checkbox"/> 80 EMPTY	<input type="checkbox"/> 2 WASTE	<input type="checkbox"/> 1b PREMIUM UNLEADED
<input type="checkbox"/> 3 CHEMICAL PRODUCT	<input type="checkbox"/> 95 UNKNOWN		<input type="checkbox"/> 1c MIDGRADE UNLEADED
			<input type="checkbox"/> 2 LEADED
			<input type="checkbox"/> 3 DIESEL
			<input type="checkbox"/> 4 GASAHOL
			<input type="checkbox"/> 5 JET FUEL
			<input type="checkbox"/> 6 AVIATION GAS
			<input type="checkbox"/> 7 METHANOL
			<input type="checkbox"/> 8 MBS
			<input type="checkbox"/> 99 OTHER (DESCRIBE IN ITEM D. BELOW)

D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED _____ C. A. S. #: _____

III. TANK CONSTRUCTION MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

A. TYPE OF SYSTEM	<input type="checkbox"/> 1 DOUBLE WALL	<input type="checkbox"/> 3 SINGLE WALL WITH EXTERIOR LINER	<input type="checkbox"/> 5 INTERNAL BLADDER SYSTEM
	<input checked="" type="checkbox"/> 2 SINGLE WALL	<input type="checkbox"/> 4 SINGLE WALL IN A VAULT	<input type="checkbox"/> 95 UNKNOWN
			<input type="checkbox"/> 99 OTHER _____
B. TANK MATERIAL (Primary Tank)	<input checked="" type="checkbox"/> 1 BARE STEEL	<input type="checkbox"/> 2 STAINLESS STEEL	<input type="checkbox"/> 3 FIBERGLASS
	<input type="checkbox"/> 5 CONCRETE	<input type="checkbox"/> 6 POLYVINYL CHLORIDE	<input type="checkbox"/> 7 ALUMINUM
	<input type="checkbox"/> 8 BRONZE	<input type="checkbox"/> 10 GALVANIZED STEEL	<input type="checkbox"/> 95 UNKNOWN
			<input type="checkbox"/> 99 OTHER _____
C. INTERIOR LINING OR COATING	<input type="checkbox"/> 1 RUBBER LINED	<input type="checkbox"/> 2 ALKYD LINING	<input type="checkbox"/> 3 EPOXY LINING
	<input type="checkbox"/> 5 GLASS LINING	<input type="checkbox"/> 6 UNLINED	<input checked="" type="checkbox"/> 95 UNKNOWN
			<input type="checkbox"/> 4 PHENOLIC LINING
			<input type="checkbox"/> 99 OTHER _____
	IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES _____ NO _____		
D. EXTERIOR CORROSION PROTECTION	<input type="checkbox"/> 1 POLYETHYLENE WRAP	<input type="checkbox"/> 2 COATING	<input type="checkbox"/> 3 VINYL WRAP
	<input type="checkbox"/> 5 CATHODIC PROTECTION	<input type="checkbox"/> 91 NONE	<input checked="" type="checkbox"/> 95 UNKNOWN
			<input type="checkbox"/> 4 FIBERGLASS REINFORCED PLASTIC
			<input type="checkbox"/> 99 OTHER _____

E. SPILL AND OVERFILL, etc. SPILL CONTAINMENT INSTALLED (YEAR) _____ OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) _____
DROPTUBE YES _____ NO STRIKER PLATE YES _____ NO DISPENSER CONTAINMENT YES _____ NO

IV. PIPING INFORMATION CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE	A <input checked="" type="radio"/> 1 SUCTION	A U 2 PRESSURE	A U 3 GRAVITY
	A U 4 FLEXIBLE PIPING	A U 99 OTHER	
B. CONSTRUCTION	A U 1 SINGLE WALL	A U 2 DOUBLE WALL	A U 3 LINED TRENCH
	A <input checked="" type="radio"/> 95 UNKNOWN	A U 99 OTHER	
C. MATERIAL AND CORROSION PROTECTION	A U 1 BARE STEEL	A U 2 STAINLESS STEEL	A U 3 POLYVINYL CHLORIDE (PVC)
	A U 5 ALUMINUM	A U 6 CONCRETE	A U 7 STEEL W/ COATING
	A U 9 GALVANIZED STEEL	A U 10 CATHODIC PROTECTION	A <input checked="" type="radio"/> 95 UNKNOWN
			A U 8 100% METHANOL COMPATIBLE WFRP
			A U 99 OTHER _____
D. LEAK DETECTION	<input type="checkbox"/> 1 MECHANICAL LINE LEAK DETECTOR	<input checked="" type="checkbox"/> 2 LINE TIGHTNESS TESTING	<input type="checkbox"/> 3 CONTINUOUS INTERSTITIAL MONITORING
			<input type="checkbox"/> 4 ELECTRONIC LINE LEAK DETECTOR
			<input type="checkbox"/> 5 AUTOMATIC PUMP SHUTDOWN
			<input type="checkbox"/> 99 OTHER _____

V. TANK LEAK DETECTION

<input type="checkbox"/> 1 VISUAL CHECK	<input type="checkbox"/> 2 MANUAL INVENTORY RECONCILIATION	<input type="checkbox"/> 3 VADOZE MONITORING	<input type="checkbox"/> 4 AUTOMATIC TANK GAUGING
<input type="checkbox"/> 7 CONTINUOUS INTERSTITIAL MONITORING	<input type="checkbox"/> 8 SIPR	<input type="checkbox"/> 9 WEEKLY MANUAL TANK GAUGING	<input type="checkbox"/> 10 MONTHLY TANK TESTING
			<input checked="" type="checkbox"/> 95 UNKNOWN
			<input type="checkbox"/> 99 OTHER _____

VI. TANK CLOSURE INFORMATION (PERMANENT CLOSURE IN-PLACE)

1. ESTIMATED DATE LAST USED (MO/DAY/YR) _____	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING _____ GALLONS	3. WAS TANK FILLED WITH INERT MATERIAL? YES <input type="checkbox"/> NO <input type="checkbox"/>
---	--	--

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE) Neil Werner Neil Werner	DATE 11-7-97
--	---------------------

LOCAL AGENCY USE ONLY THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.#	COUNTY #	JURISDICTION #	FACILITY #	TANK #
PERMIT NUMBER	PERMIT APPROVED BY/DATE		PERMIT EXPIRATION DATE	

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED. FORM C MUST BE COMPLETED FOR INSTALLATIONS. THIS FORM SHOULD BE ACCOMPANIED BY A PLOT PLAN. FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B



COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM

MARK ONLY ONE ITEM	<input type="checkbox"/> 1 NEW PERMIT	<input type="checkbox"/> 3 RENEWAL PERMIT	<input type="checkbox"/> 5 CHANGE OF INFORMATION	<input checked="" type="checkbox"/> 7 PERMANENTLY CLOSED ON SITE
	<input type="checkbox"/> 2 INTERIM PERMIT	<input type="checkbox"/> 4 AMENDED PERMIT	<input type="checkbox"/> 6 TEMPORARY TANK CLOSURE	<input type="checkbox"/> 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED: _____

I. TANK DESCRIPTION COMPLETE ALL ITEMS - SPECIFY IF UNKNOWN

A. OWNER'S TANK I.D.# <u>GF 92</u>	B. MANUFACTURED BY: <u>Unknown</u>
C. DATE INSTALLED (MO/DAY/YEAR) <u>Unknown</u>	D. TANK CAPACITY IN GALLONS: <u>Unknown</u>

II. TANK CONTENTS IF A-1 IS MARKED, COMPLETE ITEM C.

A. <input checked="" type="checkbox"/> 1 MOTOR VEHICLE FUEL <input type="checkbox"/> 2 PETROLEUM <input type="checkbox"/> 3 CHEMICAL PRODUCT	B. <input checked="" type="checkbox"/> 1 PRODUCT <input type="checkbox"/> 2 WASTE	C. <input checked="" type="checkbox"/> 1a REGULAR UNLEADED <input type="checkbox"/> 1b PREMIUM UNLEADED <input type="checkbox"/> 1c MIDGRADE UNLEADED <input type="checkbox"/> 2 LEADED <input type="checkbox"/> 3 DIESEL <input type="checkbox"/> 4 GASAHOL <input type="checkbox"/> 5 JET FUEL <input type="checkbox"/> 99 OTHER (DESCRIBE IN ITEM D. BELOW)
D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED _____		C.A.S.#: _____

III. TANK CONSTRUCTION MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

A. TYPE OF SYSTEM <input type="checkbox"/> 1 DOUBLE WALL <input checked="" type="checkbox"/> 2 SINGLE WALL	<input type="checkbox"/> 3 SINGLE WALL WITH EXTERIOR LINER <input type="checkbox"/> 4 SINGLE WALL IN A VAULT	<input type="checkbox"/> 5 INTERNAL BLADDER SYSTEM <input type="checkbox"/> 99 OTHER _____
B. TANK MATERIAL (Primary Tank) <input checked="" type="checkbox"/> 1 BARE STEEL <input type="checkbox"/> 5 CONCRETE <input type="checkbox"/> 9 BRONZE	<input type="checkbox"/> 2 STAINLESS STEEL <input type="checkbox"/> 6 POLYVINYL CHLORIDE <input type="checkbox"/> 10 GALVANIZED STEEL	<input type="checkbox"/> 3 FIBERGLASS <input type="checkbox"/> 7 ALUMINUM <input type="checkbox"/> 95 UNKNOWN <input type="checkbox"/> 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC <input type="checkbox"/> 8 100% METHANOL COMPATIBLE W/FRP <input type="checkbox"/> 99 OTHER _____
C. INTERIOR LINING OR COATING <input type="checkbox"/> 1 RUBBER LINED <input type="checkbox"/> 5 GLASS LINING	<input type="checkbox"/> 2 ALKYD LINING <input type="checkbox"/> 6 UNLINED	<input type="checkbox"/> 3 EPOXY LINING <input checked="" type="checkbox"/> 95 UNKNOWN <input type="checkbox"/> 4 PHENOLIC LINING <input type="checkbox"/> 99 OTHER _____
D. EXTERIOR CORROSION PROTECTION <input type="checkbox"/> 1 POLYETHYLENE WRAP <input type="checkbox"/> 5 CATHODIC PROTECTION		
E. SPILL AND OVERFILL, etc. SPILL CONTAINMENT INSTALLED (YEAR) _____ OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) _____ DROP TUBE YES _____ NO <input checked="" type="checkbox"/> STRIKER PLATE YES _____ NO <input checked="" type="checkbox"/> DISPENSER CONTAINMENT YES _____ NO <input checked="" type="checkbox"/>		

IV. PIPING INFORMATION CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE	A U <input checked="" type="checkbox"/> 1 SUCTION	A U <input type="checkbox"/> 2 PRESSURE	A U <input type="checkbox"/> 3 GRAVITY
B. CONSTRUCTION	A U <input type="checkbox"/> 1 SINGLE WALL	A U <input type="checkbox"/> 2 DOUBLE WALL	A U <input checked="" type="checkbox"/> 95 UNKNOWN
C. MATERIAL AND CORROSION PROTECTION	A U <input type="checkbox"/> 1 BARE STEEL	A U <input type="checkbox"/> 2 STAINLESS STEEL	A U <input checked="" type="checkbox"/> 95 UNKNOWN
D. LEAK DETECTION	<input type="checkbox"/> 1 MECHANICAL LINE LEAK DETECTOR	<input checked="" type="checkbox"/> 2 LINE TIGHTNESS TESTING	<input type="checkbox"/> 3 CONTINUOUS INTERSTITIAL MONITORING

V. TANK LEAK DETECTION

<input type="checkbox"/> 1 VISUAL CHECK	<input type="checkbox"/> 2 MANUAL INVENTORY RECONCILIATION	<input type="checkbox"/> 3 VACUUM MONITORING	<input type="checkbox"/> 4 AUTOMATIC TANK GAGING
<input type="checkbox"/> 7 CONTINUOUS INTERSTITIAL MONITORING	<input type="checkbox"/> 8 SIP	<input type="checkbox"/> 9 WEEKLY SUPPLEMENTAL TANK GAGING	<input checked="" type="checkbox"/> 95 UNKNOWN

VI. TANK CLOSURE INFORMATION (PERMANENT CLOSURE IN-PLACE)

1. ESTIMATED DATE LAST USED (MO/DAY/YR) _____	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING _____ GALLONS	3. WAS TANK FILLED WITH INERT MATERIAL? YES <input type="checkbox"/> NO <input type="checkbox"/>
---	--	--

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE) <u>Neil Werner</u>	DATE: <u>11-07-97</u>
--	-----------------------

LOCAL AGENCY USE ONLY THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.#	COUNTY #	JURISDICTION #	FACILITY #	TANK #
PERMIT NUMBER	PERMIT APPROVED BY/DATE		PERMIT EXPIRATION DATE	

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED. FORM C MUST BE COMPLETED FOR INSTALLATIONS. THIS FORM SHOULD BE ACCOMPANIED BY A PLOT PLAN. FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

97-195

**STATE
COMPENSATION
INSURANCE
FUND**

P.O. BOX 420807, SAN FRANCISCO, CA 94142-0807

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

FEBRUARY 25, 1998

POLICY NUMBER: 046-98 UNIT 0004800
CERTIFICATE EXPIRES: 1-1-99

PORT OF OAKLAND
530 WATER ST
OAKLAND CA 94607

JOB: DEMOLITION BUILDING G301,
G302, G303 & G305

This is to certify that we have issued a valid Workers' Compensation insurance policy in a form approved by the California Insurance Commissioner to the employer named below for the policy period indicated.

This policy is not subject to cancellation by the Fund except upon ten days' advance written notice to the employer.

We will also give you TEN days' advance notice should this policy be cancelled prior to its normal expiration.

This certificate of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

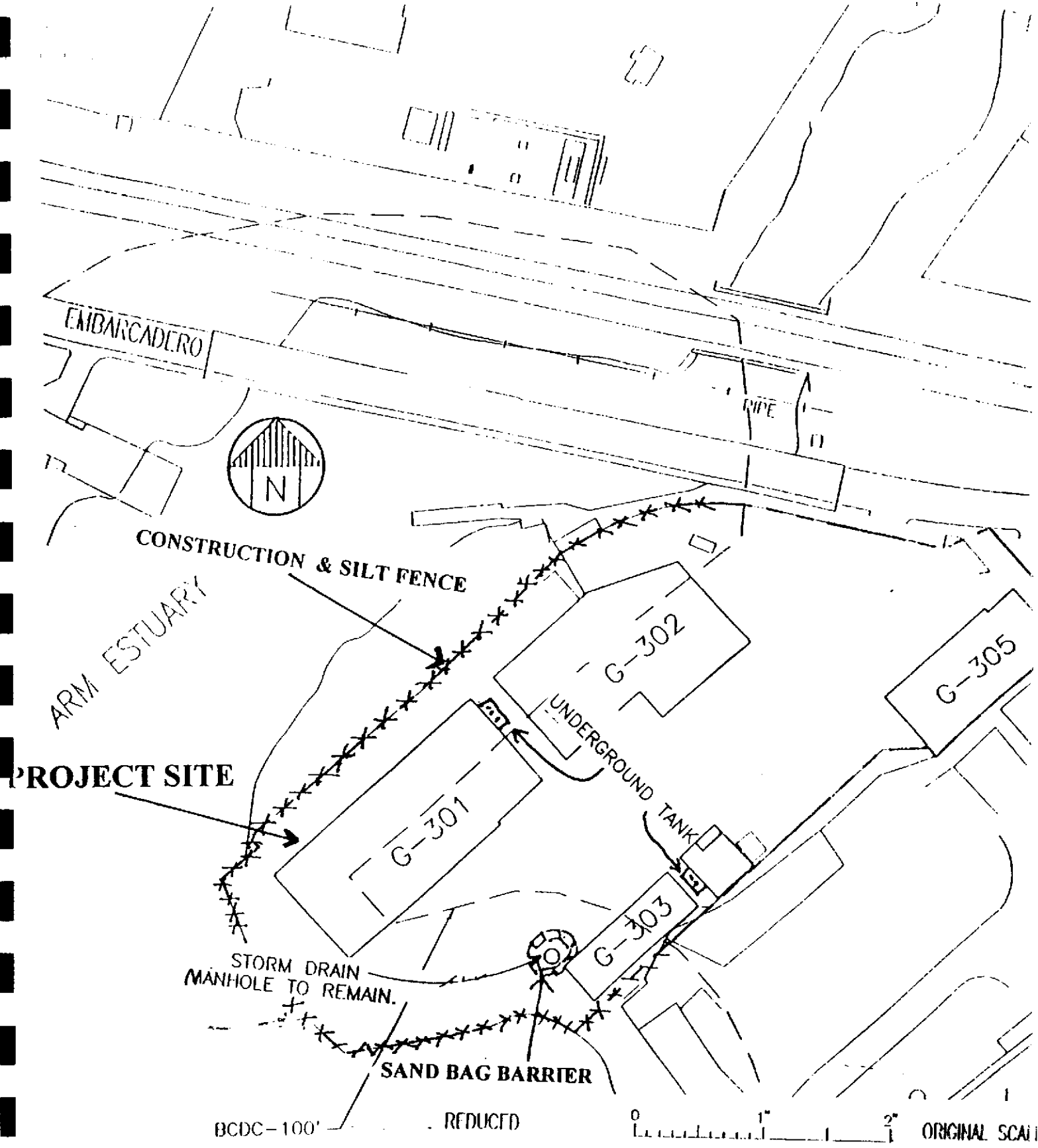
Tom Hansen
AUTHORIZED REPRESENTATIVE

K. Bollier
PRESIDENT

EMPLOYER'S LIABILITY LIMIT INCLUDING DEFENSE COSTS: \$1,000,000 PER OCCURRENCE.

EMPLOYER

CLAUSS CONSTRUCTION
0936 WINTER GARDEN BL
LAKEVIEW CA 92040 R



PROJECT SITE

BCDC-100' . REDUCED 0 1" 2' ORIGINAL SCALE

INNER HARBOR

DEMOLITION OF BUILDINGS
G-301, G-302, G-303, AND G-305

TITLE SHEET & LOCATION PLAN

DATE: 10-30-97

SCALE: 1"=100'

SHEET: 1 OF 6 SHEETS

AA--344R

C 17439
ENGINEER IN CHARGE
C 24933
ENGINEER IN CHARGE
C 47557
ENGINEER IN CHARGE

ATTACHMENT B

**COPIES OF UNIFORM HAZARDOUS WASTE MANIFESTS FOR USTS AND
FLUID REMOVED FROM USTS,
AND CERTIFICATE OF DESTRUCTION FOR USTS**

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. CA C10101460096		Manifest Document No. 93489		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address PORT OF OAKLAND 580 773 THIRD ST, OAKLAND, CA 94607				A. State Manifest Document Number 93489019									
4. Generator's Phone (510) 272-1585				B. State Generator ID									
5. Transporter 1 Company Name ECOLOGY CONTROL INDUSTRIES		6. US EPA ID Number CAD982030173		C. Transporter ID									
7. Transporter 2 Company Name				8. US EPA ID Number		D. State Transporter ID (510) 235-1393							
9. Designated Facility Name and Site Address EVERGREEN OIL INC 6880 SMITH AVE NEWARK, CA 94560				10. US EPA ID Number CAD98088741B		E. State Facility ID (510) 795-4401							
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number) Non-RCRA hazardous waste liquid USED OIL				12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste Number			
				No.		Type						State	
						001 TT		03000 G				EPA/Other	
												State	
												EPA/Other	
16. Additional Descriptions for Materials Listed Above USED OIL/WATER MIXTURE				K. Handling Codes for Wastes Listed Above									
Demo of G301, G302, etc - CLAUS				a.		b.		c.		d.			
15. Special Handling Instructions and Additional Information Wear appropriate protective clothing when handling. 24 Hour Emergency Telephone Number: 272-1473 24 Hour Emergency Contact: Hopz Semarak													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
17. Transporter 1 Acknowledgement of Receipt of Materials				Printed/Typed Name Paul C. Stewart				Signature <i>Paul C. Stewart</i>		Month Day Year 06/30/98			
18. Transporter 2 Acknowledgement of Receipt of Materials				Printed/Typed Name Doug Biggs				Signature <i>Doug Biggs</i>		Month Day Year 06/30/98			
19. Discrepancy Indication Space				Printed/Typed Name John Stewart				Signature <i>John Stewart</i>		Month Day Year 06/30/98			
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name Jeff Damberg				Signature <i>Jeff Damberg</i>				Month Day Year 06/30/98					

DO NOT WRITE BELOW THIS LINE.

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER, 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. CA000146009639431		Manifest Document No. 1 of 1		2. Page 1 1 of 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address PORT OF OAKLAND 773 3rd St OAKLAND CA 94607						A. State Manifest Document Number 98234431							
4. Generator's Phone 510 272-1585						B. State Generator's ID							
5. Transporter 1 Company Name ECOLOGY CONTROL INDUSTRIES				6. US EPA ID Number CAD982030173		C. State Transporter's ID							
7. Transporter 2 Company Name						D. Transporter's Phone (510) 235-1393							
9. Designated Facility Name and Site Address ERICKSON INC. 255 PARR BLVD RICHMOND, CA 94801						E. State Facility's ID CAD009466392							
10. US EPA ID Number CAD009466392						F. Facility's Phone 510-235-1393							
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)					12. Containers		13. Total Quantity		14. Unit Wt/Vol				
WASTE EMPTY STORAGE TANK Non-RCRA hazardous waste solid & piping					No. 002 Type TP		Quantity 161000		Waste Number P				
b.													
c.													
6301, 302 Demo - CLAUS													
15. Additional Descriptions for Materials Listed Above QTY: 2 EMPTY STORAGE TANK(S) # 23107 23108 TANK(S) HAVE BEEN INERTED WITH 15 LBS DRY ICE PER 1000 GALLONS CAPACITY						16. Handling Codes for Wastes Listed Above a. 01							
17. Special Handling Instructions and Additional Information Wear appropriate protective clothing when handling. SITE LOCATION: 24 Hour Emergency Telephone Number: x 272-1585 24 Hour Emergency Contact: x HOPE SAMBARI													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name John Stewart				Signature <i>John Stewart</i>				Month 06		Day 30		Year 98	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Fred Toensmeyer				Signature <i>Fred Toensmeyer</i>				Month 06		Day 30		Year 98	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name				Signature				Month		Day		Year	
19. Discrepancy Indication Space													
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name DAVID SATO													
Signature <i>DAVE SATO</i>				Month 07		Day 01		Year 98					

DO NOT WRITE BELOW THIS LINE.

DAY OR NIGHT
TELEPHONE
(510) 235-1393

CERTIFICATE CERTIFIED SERVICES COMPANY

255 Parr Boulevard • Richmond, California 94801

NO. 26554

CUSTOMER
JOB NO. 972634
CLAUSS CONST.

FOR: ERICKSON, INC. TANK NO. 23107

LOCATION: RICHMOND, CA DATE: 7/18/98 TIME: 10:45:29

TEST METHOD VISUAL GASTECH/1314 SMPN LAST PRODUCT UO

This is to certify that I have personally determined that this tank is in accordance with the American Petroleum Institute and have found the condition to be in accordance with its assigned designation. This certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.

TANK SIZE 5,000 GALLON TANK CONDITION SAFE FOR FIRE

REMARKS: OXYGEN 20.9% LOWER EXPLOSIVE LIMIT LESS THAN 0.1% ERICKSON, INC. HERBY CERTIFIES THAT THE ABOVE NUMBERED TANK HAS BEEN CUT OPEN, PROCESSED, AND THEREFORE DESTROYED AT OUR PERMITTED HAZARDOUS WASTE FACILITY.
ERICKSON, INC. HAS THE APROPRIATE PERMITS FOR, AND HAS ACCEPTED THE TANK SHIPPED TO US FOR PROCESSING.

In the event of any physical or atmospheric changes affecting the gas-free conditions of the above tanks, or if in any doubt, immediately stop all hot work and contact the undersigned. This permit is valid for 24 hours if no physical or atmospheric changes occur.

STANDARD SAFETY DESIGNATION

SAFE FOR MEN: Means that in the compartment or space so designated (a) The oxygen content of the atmosphere is at least 19.5 percent by volume; and that (b) Toxic materials in the atmosphere are within permissible concentrations; and (c) In the judgment of the Inspector, the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Inspector's certificate.

SAFE FOR FIRE: Means that in the compartment so designated (a) The concentration of flammable materials in the atmosphere is below 10 percent of the lower explosive limit; and that (b) In the judgment of the Inspector, the residues are not capable of producing a higher concentration that permitted under existing atmospheric conditions in the presence of fire and while maintained as directed on the Inspector's certificate, and further, (c) All adjacent spaces have either been cleaned sufficiently to prevent the spread of fire, are satisfactorily inerted, or in the case of fuel tanks, have been treated as deemed necessary by the Inspector.

The undersigned representative acknowledges receipt of this certificate and understands the conditions and limitations under which it was issued.

Lance Allen
REPRESENTATIVE

TITLE

Dave Jato
INSPECTOR

DAY OR NIGHT
TELEPHONE
(510) 235-1393

CERTIFICATE CERTIFIED SERVICES COMPANY

255 Parr Boulevard • Richmond, California 94801

NO. 26556

CUSTOMER
JOB NO. 972634
CLAUSS CONST.

FOR: ERICKSON, INC. TANK NO. 23108

LOCATION: RICHMOND, CA DATE: 7/18/98 TIME: 10:51:30

TEST METHOD VISUAL GASTECH/1314 SMPN LAST PRODUCT UO

This is to certify that I have personally determined that this tank is in accordance with the American Petroleum Institute and have found the condition to be in accordance with its assigned designation. This certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.

TANK SIZE 5,000 GALLON TANK CONDITION SAFE FOR FIRE

REMARKS: OXYGEN 20.9% LOWER EXPLOSIVE LIMIT LESS THAN 0.1% ERICKSON, INC. HERBY CERTIFIES THAT THE
ABOVE NUMBERED TANK HAS BEEN CUT OPEN, PROCESSED, AND THEREFORE DESTROYED AT OUR
PERMITTED HAZARDOUS WASTE FACILITY.
ERICKSON, INC. HAS THE APROPRIATE PERMITS FOR, AND HAS ACCEPTED THE TANK SHIPPED TO US
FOR PROCESSING.

In the event of any physical or atmospheric changes affecting the gas-free conditions of the above tanks, or if in any doubt, immediately stop all hot work and contact the undersigned. This permit is valid for 24 hours if no physical or atmospheric changes occur.

STANDARD SAFETY DESIGNATION

SAFE FOR MEN: Means that in the compartment or space so designated (a) The oxygen content of the atmosphere is at least 19.5 percent by volume; and that (b) Toxic materials in the atmosphere are within permissible concentrations; and (c) In the judgment of the Inspector, the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Inspector's certificate.

SAFE FOR FIRE: Means that in the compartment so designated (a) The concentration of flammable materials in the atmosphere is below 10 percent of the lower explosive limit; and that (b) In the judgment of the Inspector, the residues are not capable of producing a higher concentration that permitted under existing atmospheric conditions in the presence of fire and while maintained as directed on the Inspector's certificate, and further, (c) All adjacent spaces have either been cleaned sufficiently to prevent the spread of fire, are satisfactorily inerted, or in the case of fuel tanks, have been treated as deemed necessary by the Inspector.

The undersigned representative acknowledges receipt of this certificate and understands the conditions and limitations under which it was issued.

Patricia Collins
REPRESENTATIVE

TITLE

Dave Jato
INSPECTOR

ATTACHMENT C
COPIES OF LABORATORY REPORTS,
CHROMATOGRAMS AND CHAIN-OF-CUSTODY FORM



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Innovative Technical Solutions, Inc.
2855 Mitchell Dr.
Suite 118
Walnut Creek, CA 94598

Date: 20-JUL-98
Lab Job Number: 134353
Project ID: 95-113.54
Location: P.O.O. Crowley Yard II

Reviewed by:

Damara Moore

Reviewed by:

[Signature]

This package may be reproduced only in its entirety.

Laboratory Number: **134353**
Client: **Innovative Technical Solutions, Inc.**
Location: **P.O.O Crowley Yard II**
Project #: **95-113.54**

Receipt Date: **07/01/98**

Case Narrative

This hardcopy data package contains sample results and batch QC for nine samples which were received from the above referenced project on July 1, 1998. The samples were received cold and intact.

TEH-Diesel by EPA 8015 modified: All samples were treated with silica gel prior to analysis. The MS/MSD recoveries are not meaningful because the concentration of extractable hydrocarbons detected in the spiked sample is much greater than the spiking levels. The LCS and RPD pass QC limits, and the matrix spike sample was not from this data set. No other analytical problems were encountered.

Purgeable Halocarbons by EPA 8260: The pyrene recovery for the matrix spike sample, performed on S-A-7'-N (134353-002), was below QC limits. This appears to be due to sample heterogeneity. The matrix spike duplicate was over the linear-range of the instrument. The LCS recovery for this compound was within QC limits. No other problems were encountered.



TEH-Tot Ext Hydrocarbons

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8015M
Project#: 95-113.54 Prep Method: CA LUFT
Location: P.O.O. Crowley Yard II

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
134353-002	S-A-7'-N	41975	06/30/98	07/13/98	07/18/98	
134353-003	S-A-7'-S	41975	06/30/98	07/13/98	07/16/98	
134353-004	S-B-8'-S	41975	06/30/98	07/13/98	07/16/98	
134353-005	S-B-8'-N	41975	06/30/98	07/13/98	07/16/98	

Matrix: Soil

Analyte	Units	134353-002	134353-003	134353-004	134353-005
Diln Fac:		10	4	5	10
Diesel C12-C22	mg/Kg	2800 H	300 H	640 H	270 YH
Motor Oil C22-C50	mg/Kg	3100 LH	590 LH	740 LH	1400 LH
Surrogate					
Hexacosane	%REC	DO	121	108	DO

DO: Surrogate diluted out

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

L: Lighter hydrocarbons than indicated standard



TEH-Tot Ext Hydrocarbons

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8015M
Project#: 95-113.54 Prep Method: CA LUFT
Location: P.O.O. Crowley Yard II

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
134353-006	S-SP1-A,B,C,D	41975	06/30/98	07/13/98	07/16/98	
134353-007	S-SP2-A,B,C,D	41975	06/30/98	07/13/98	07/16/98	

Matrix: Soil

Analyte	Units	134353-006	134353-007
Diln Fac:		5	5
Diesel C12-C22	mg/Kg	620 YH	240 H
Motor Oil C22-C50	mg/Kg	1900 LH	910 LH
Surrogate			
Hexacosane	%REC	135	114

- Y: Sample exhibits fuel pattern which does not resemble standard
- H: Heavier hydrocarbons than indicated standard
- L: Lighter hydrocarbons than indicated standard

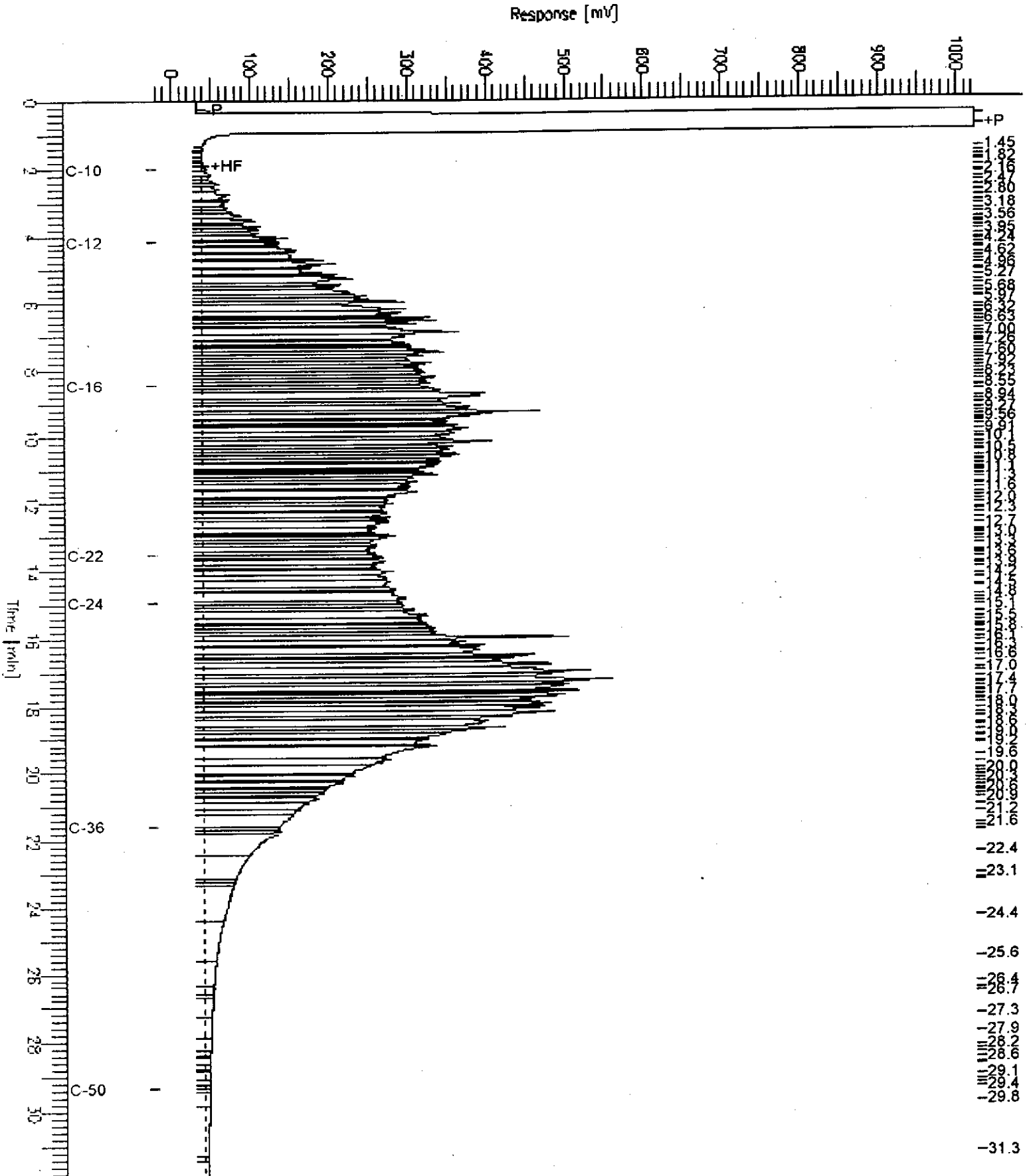
Chromatogram

Sample Name : 134353-002,41975
FileName : C:\GC11\CHA\198A038.RAW
Method : ATEH180.MTH
Start Time : 0.00 min
Scale Factor : 0.0

End Time : 31.90 min
Plot Offset : -20 mV

Sample #: 41975
Date : 7/20/98 02:16 PM
Time of Injection: 7/18/98 06:43 PM
Low Point : -20.05 mV
Plot Scale: 1044.0 mV
High Point : 1024.00 mV

Page 1 of 1



Chromatogram

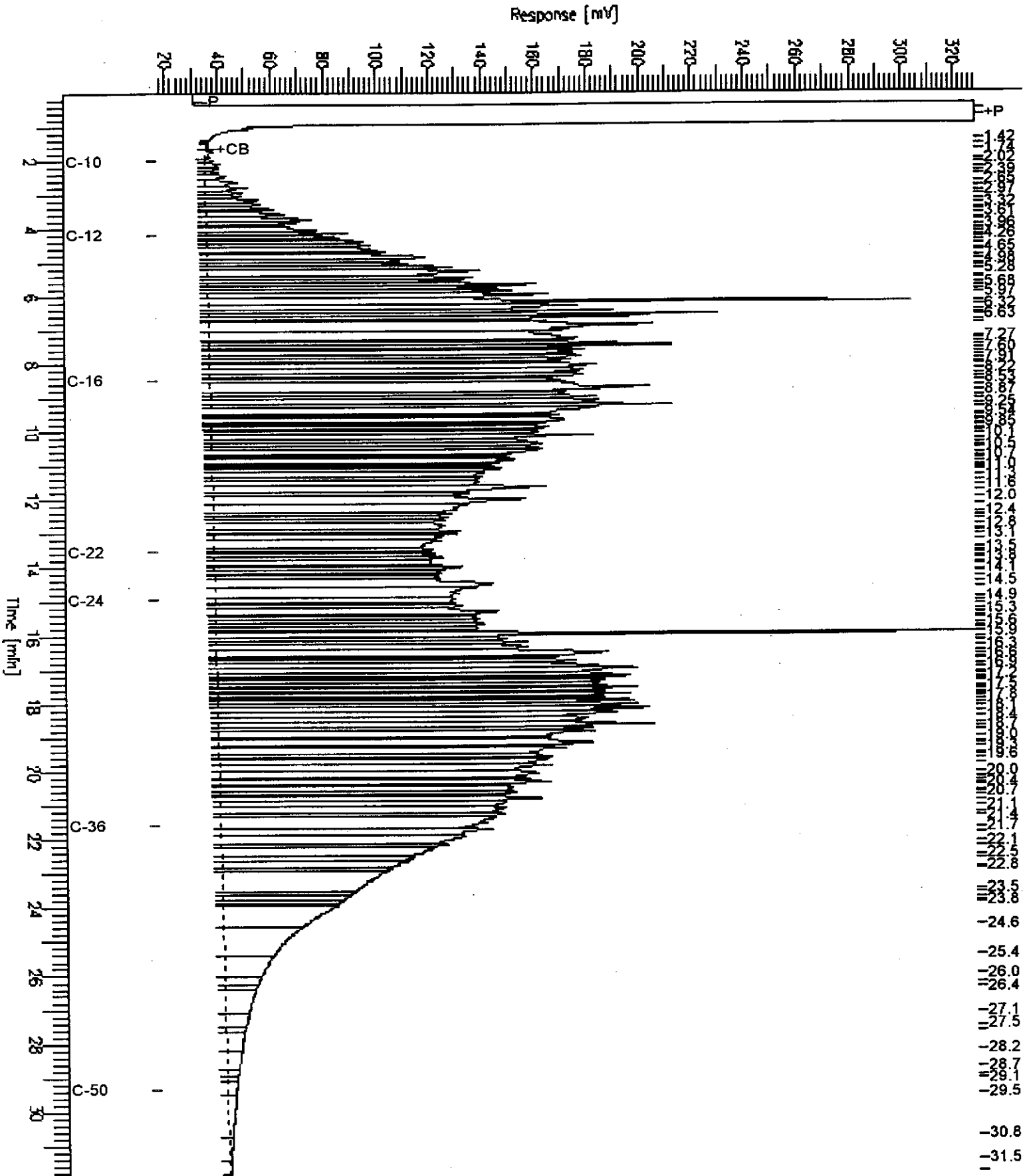
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FileName : D:\GC11\CHA\195A071.RAW
Method : ATEH180.MTH
Start Time : 0.01 min
Scale Factor : 0.0

End Time : 31.91 min
Plot Offset : 16 mV

Sample #: 41975
Date : 7/17/98 12:26 PM
Time of Injection: 7/16/98 09:31 PM
Low Point : 16.40 mV
Plot Scale : 312.1 mV

Page 1 of 1

High Point : 328.54 mV

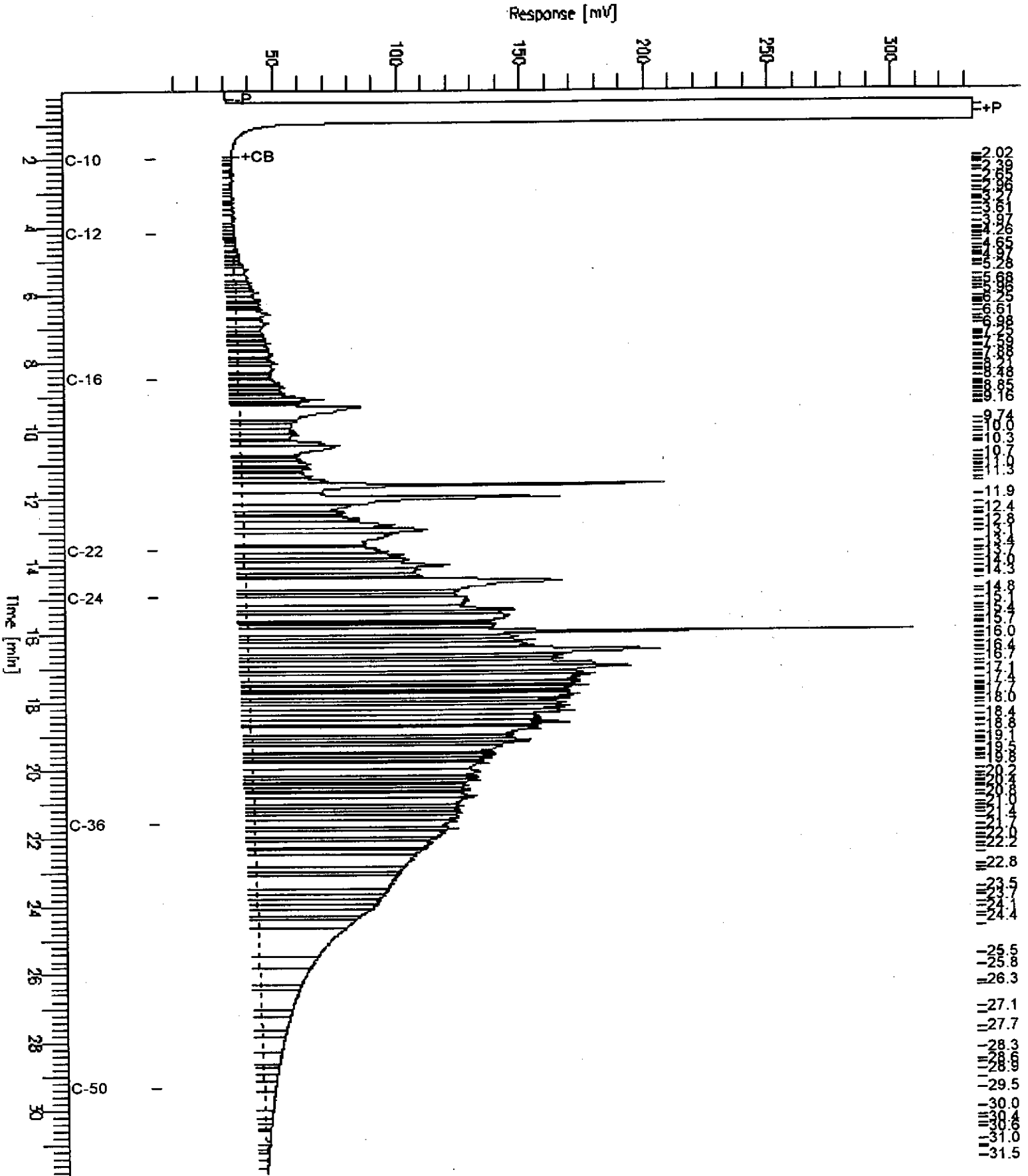


Chromatogram

Sample Name : 134353-005,41975
FileName : D:\GC11\CHA\195A072.RAW
Method : ATEH180.MTH
Start Time : 0.01 min
Scale Factor : 0.0

End Time : 31.91 min
Plot Offset : 3 mV

Sample #: 41975
Date : 7/17/98 12:28 PM
Time of Injection: 7/16/98 10:12 PM
Low Point : 2.51 mV
High Point : 333.59 mV
Plot Scale: 331.1 mV



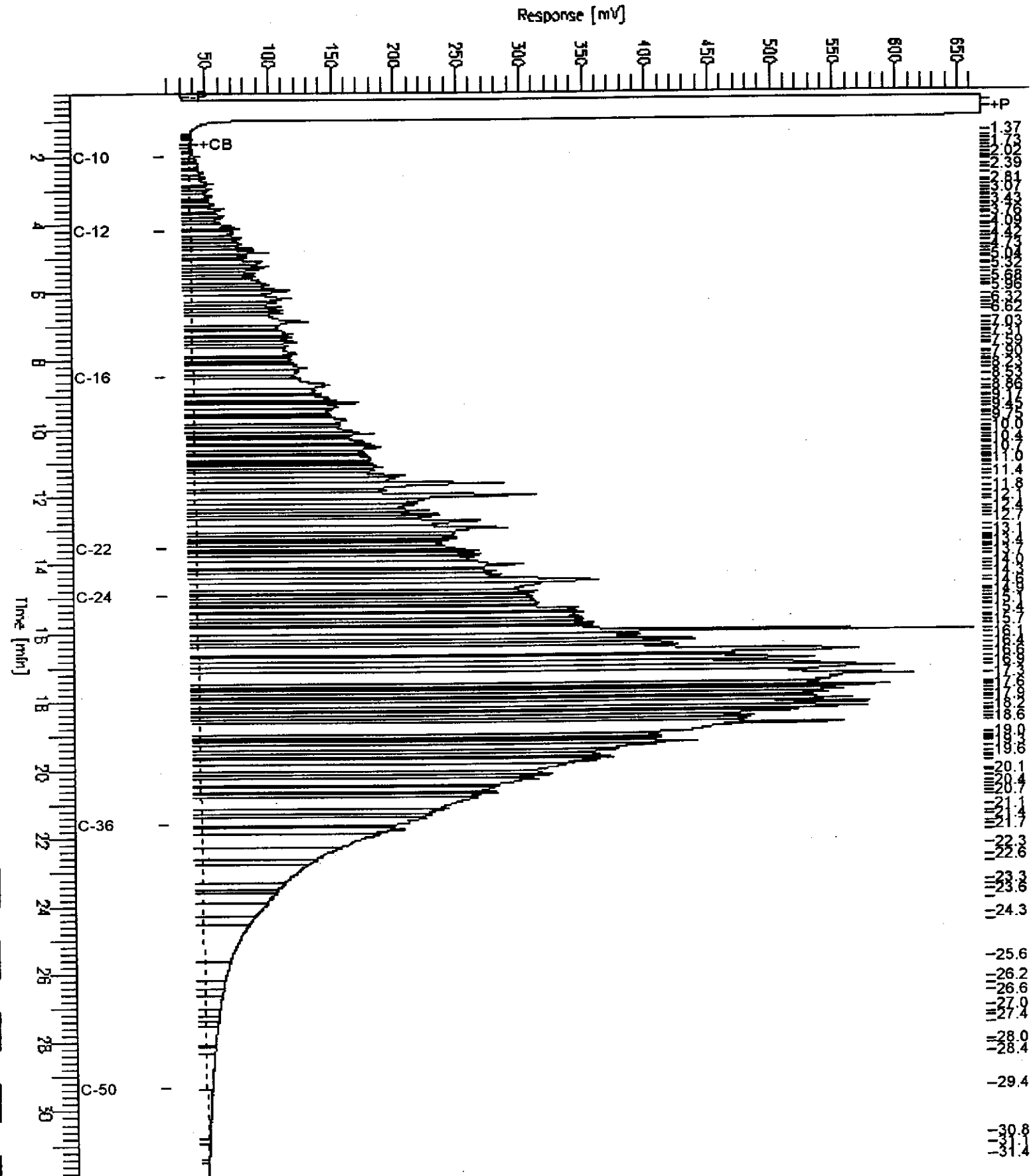
Chromatogram

Sample Name : 134353-006,41975
FileName : D:\GC11\CHA\195A073.RAW
Method : ATEH180.MTH
Start Time : 0.17 min
Scale Factor: 0.0

End Time : 31.91 min
Plot Offset: 17 mV

Sample #: 41975
Date : 7/17/98 12:29 PM
Time of Injection: 7/16/98 10:52 PM
Low Point : 16.76 mV
Plot Scale: 652.5 mV

Page 1 of 1

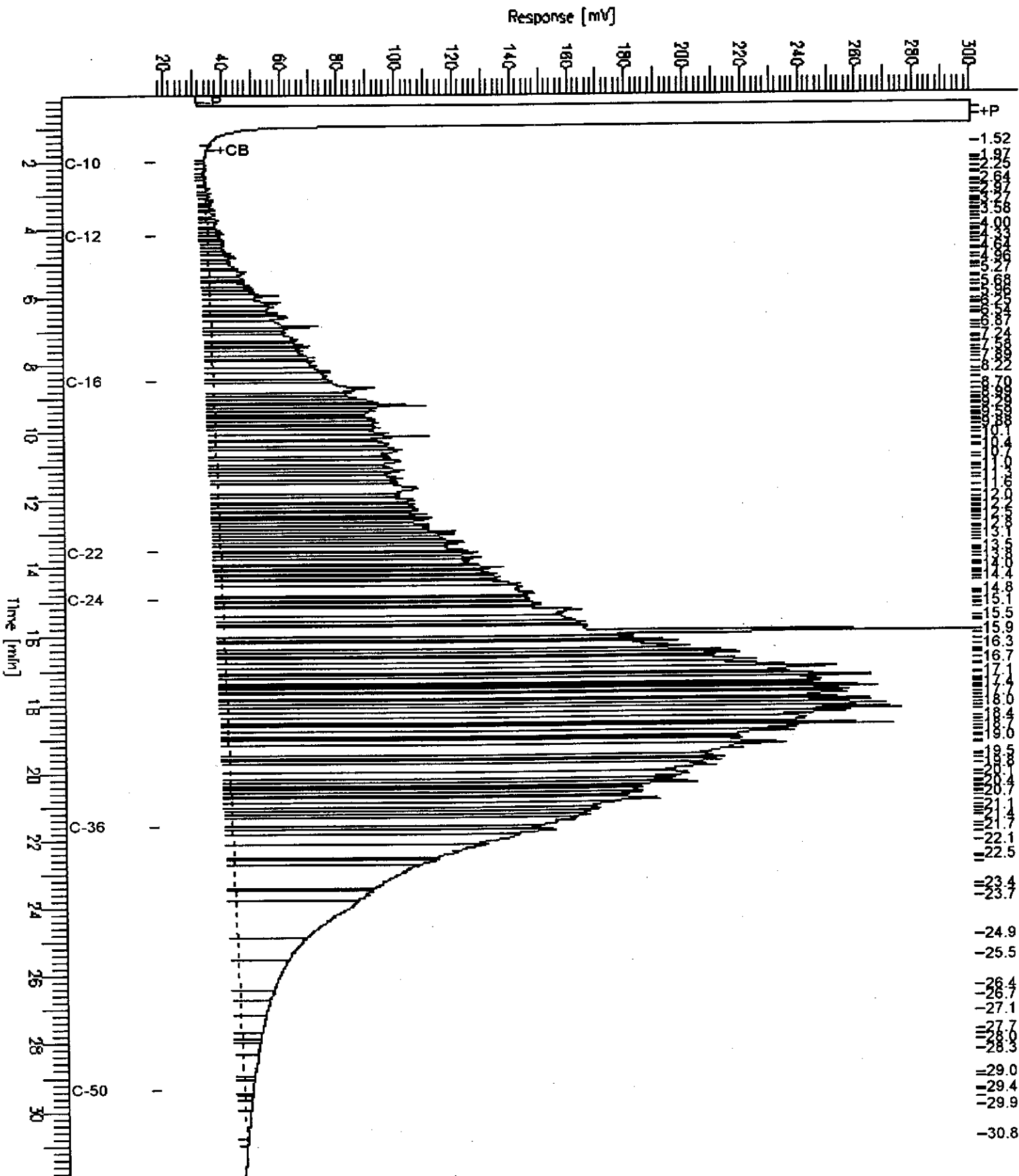


Chromatogram

Sample Name : 134353-007,41975
FileName : D:\GC11\CHA\195A074.RAW
Method : ATEH180.MTH
Start Time : 0.07 min
Scale Factor: 0.0

End Time : 31.91 min
Plot Offset: 17 mV

Sample #: 41975
Date : 7/17/98 12:30 PM
Time of Injection: 7/16/98 11:33 PM
Low Point : 16.91 mV
Plot Scale: 283.7 mV



Lab #: 134353

BATCH QC REPORT



TEH-Tot Ext Hydrocarbons

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8015M
Project#: 95-113.54 Prep Method: CA LUFT
Location: P.O.O. Crowley Yard II

METHOD BLANK

Matrix: Soil Prep Date: 07/13/98
Batch#: 41975 Analysis Date: 07/16/98
Units: mg/Kg
Diln Fac: 1

MB Lab ID: QC74750

Analyte	Result
Diesel C12-C22	<1.0
Motor Oil C22-C50	<5.0

Surrogate	%Rec	Recovery Limits
Hexacosane	103	48-142

Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

Field ID: S-B-8'-N Sampled: 06/30/98
Lab ID: 134353-005 Received: 06/30/98
Matrix: Soil Extracted: 07/03/98
Batch#: 41802 Analyzed: 07/03/98
Units: ug/Kg
Diln Fac: 1

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	97	75-130
Toluene-d8	96	89-110
Bromofluorobenzene	109	83-117

Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

Field ID: S-SP1-A,B,C,D Sampled: 06/30/98
Lab ID: 134353-006 Received: 06/30/98
Matrix: Soil Extracted: 07/04/98
Batch#: 41802 Analyzed: 07/04/98
Units: ug/Kg
Diln Fac: 1

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	102	75-130
Toluene-d8	97	89-110
Bromofluorobenzene	108	83-117

Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

Field ID: S-SP2-A,B,C,D Sampled: 06/30/98
Lab ID: 134353-007 Received: 06/30/98
Matrix: Soil Extracted: 07/04/98
Batch#: 41802 Analyzed: 07/04/98
Units: ug/Kg
Diln Fac: 1

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	102	75-130
Toluene-d8	98	89-110
Bromofluorobenzene	105	83-117

Lab #: 134353

BATCH QC REPORT



TEH-Tot Ext Hydrocarbons

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8015M
Project#: 95-113.54 Prep Method: CA LUFT
Location: P.O.O. Crowley Yard II

LABORATORY CONTROL SAMPLE

Matrix: Soil Prep Date: 07/13/98
Batch#: 41975 Analysis Date: 07/16/98
Units: mg/Kg
Diln Fac: 1

LCS Lab ID: QC74751

Analyte	Result	Spike Added	%Rec #	Limits
Diesel C12-C22	50.2	49.5	101	49-108
Surrogate	%Rec	Limits		
Hexacosane	118	48-142		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits

Lab #: 134353

BATCH QC REPORT



TEH-Tot Ext Hydrocarbons

Client: Innovative Technical Solutions, Inc.
Project#: 95-113.54
Location: P.O.O. Crowley Yard II

Analysis Method: EPA 8015M
Prep Method: CA LUFT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 134443-004
Matrix: Soil
Batch#: 41975
Units: mg/Kg dry weight
Diln Fac: 50

Sample Date: 07/08/98
Received Date: 07/09/98
Prep Date: 07/13/98
Analysis Date: 07/14/98
Moisture: 13%

MS Lab ID: QC74752

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Diesel C12-C22	56.9	7345	7398	93	34-121
Surrogate	%Rec	Limits			
Hexacosane	DO*	48-142			

MSD Lab ID: QC74753

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	56.9	7193	-266 *	34-121	3	36
Surrogate	%Rec	Limits				
Hexacosane	DO*	48-142				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 1 out of 2 outside limits

DO: Surrogate diluted out



TEH-Tot Ext Hydrocarbons

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8015M
Project#: 95-113.54 Prep Method: EPA 3520
Location: P.O.O. Crowley Yard II

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
134353-008	W-TP-A	41865	06/30/98	07/07/98	07/10/98	
134353-009	W-TP-B	41865	06/30/98	07/07/98	07/10/98	

Matrix: Water

Analyte	Units	134353-008	134353-009
Diln Fac:		10	4
Diesel C12-C22	ug/L	91000 YH	34000 H
Surrogate			
Hexacosane	%REC	DO	78

DO: Surrogate diluted out

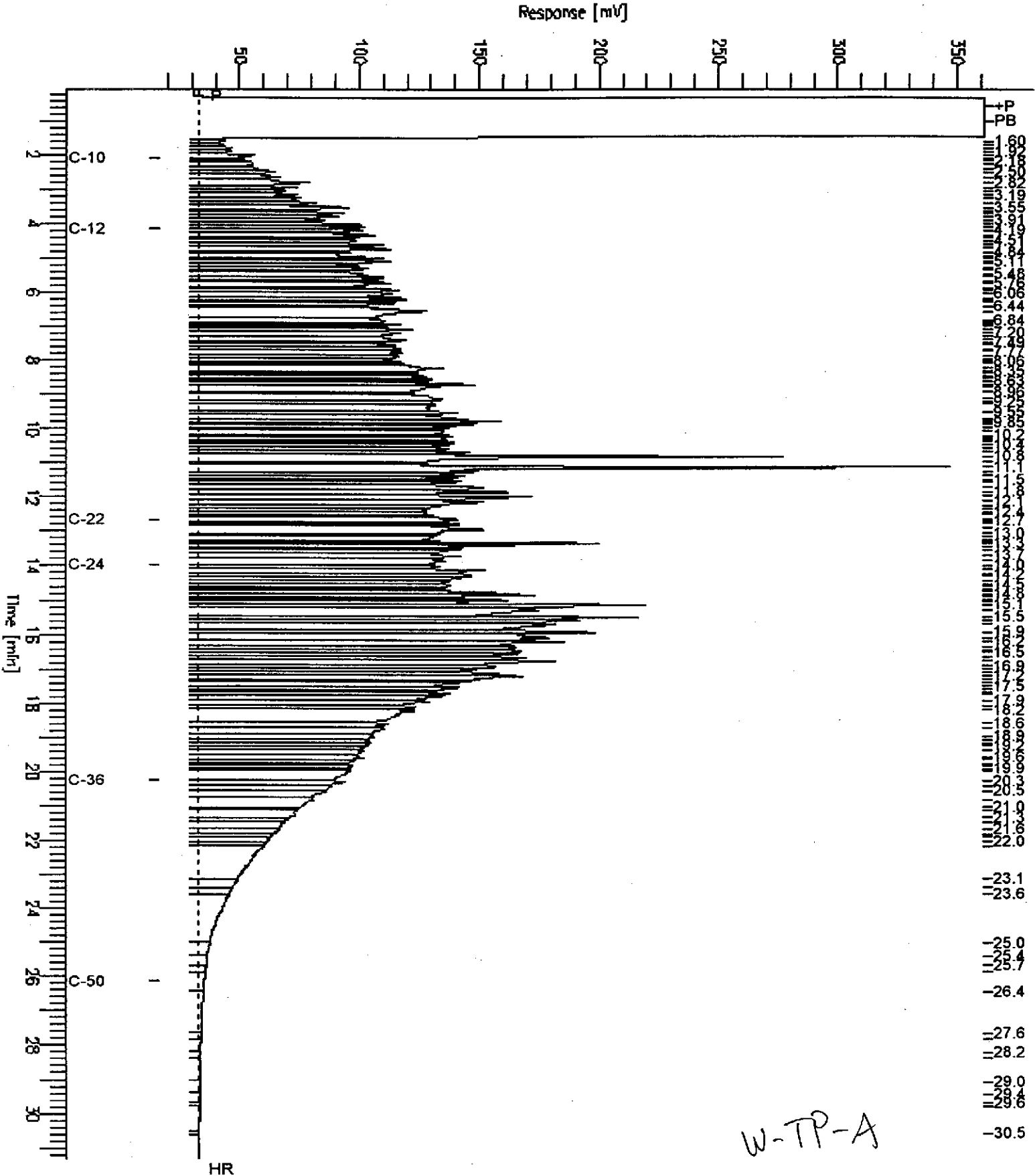
Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

GC15 Channel B TEH

Sample Name : 134353-008,41865
 FileName : C:\GC15\CHB\189B065.RAW
 Method : B180TEH.MTH
 Start Time : 0.07 min
 Scale Factor: 0.0

Sample #: 41865
 Date : 7/13/98 10:37 AM
 Time of Injection: 7/10/98 07:11 PM
 Low Point : 16.43 mV
 High Point : 361.70 mV
 Plot Scale: 345.3 mV



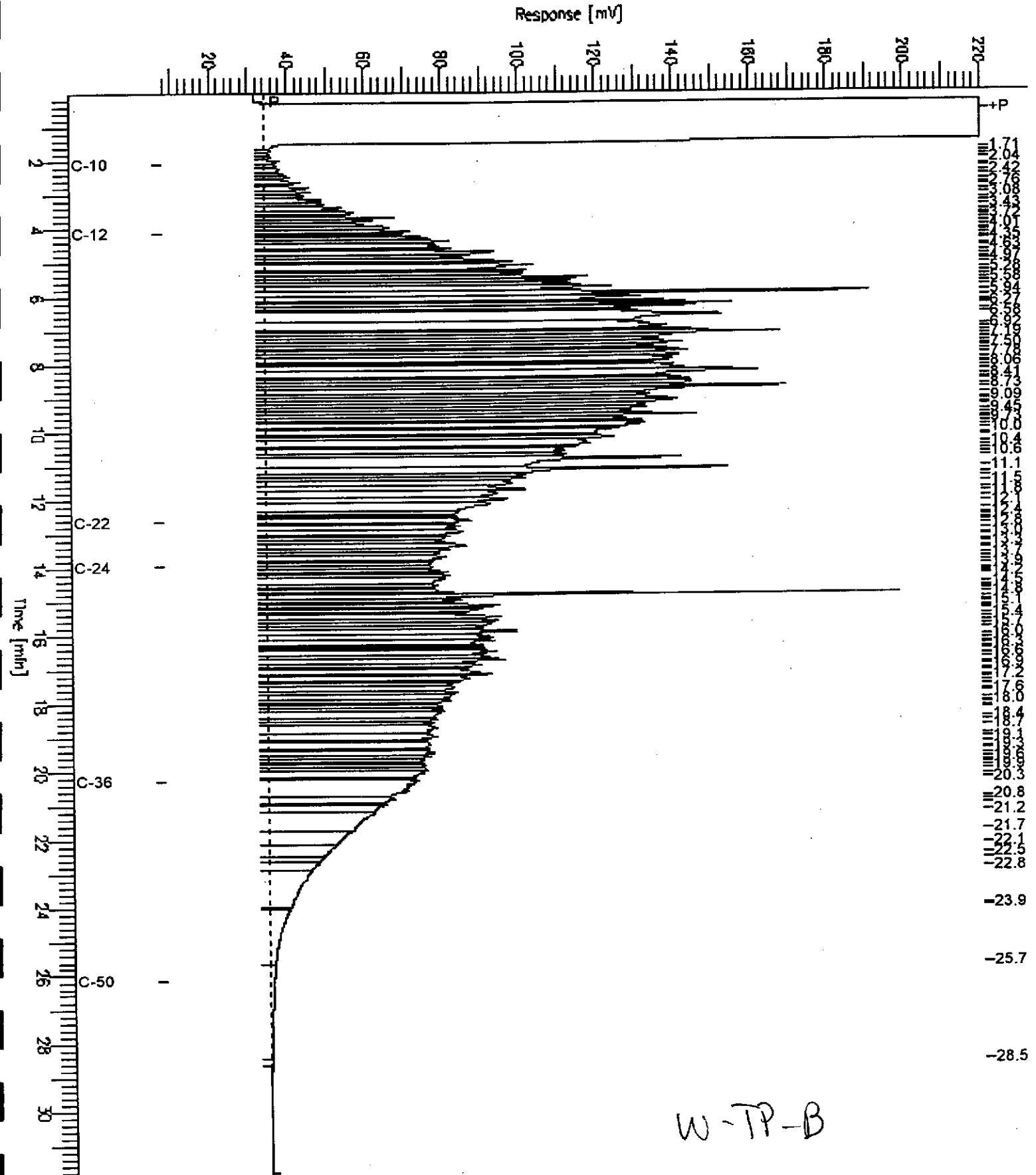
GC15 Channel B TEH

Sample Name : 134353-009,41865
FileName : C:\GC15\CHBA\189B066.RAW
Method : B180TEH.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 31.91 min
Plot Offset: 8 mV

Sample #: 41865
Date : 7/13/98 10:47 AM
Time of Injection: 7/10/98 07:54 PM
Low Point : 7.52 mV
Plot Scale: 212.7 mV

Page 1 of 1



Lab #: 134353

BATCH QC REPORT



Curtis & Tompkins, Ltd.
page 1 of 1

TEH-Tot Ext Hydrocarbons

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8015M
Project#: 95-113.54 Prep Method: EPA 3520
Location: P.O.O. Crowley Yard II

METHOD BLANK

Matrix: Water Prep Date: 07/07/98
Batch#: 41865 Analysis Date: 07/09/98
Units: ug/L
Diln Fac: 1

MB Lab ID: QC74321

Analyte	Result	
Diesel C12-C22	<50.	
Surrogate	%Rec	Recovery Limits
Hexacosane	90	53-136

Lab #: 134353

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Innovative Technical Solutions, Inc.	Analysis Method: EPA 8015M
Project#: 95-113.54	Prep Method: EPA 3520
Location: P.O.O. Crowley Yard II	

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water	Prep Date: 07/07/98
Batch#: 41865	Analysis Date: 07/09/98
Units: ug/L	
Diln Fac: 1	

BS Lab ID: QC74322

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	1761	71	58-110
Surrogate	%Rec	Limits		
Hexacosane	95	53-136		

BSD Lab ID: QC74323

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	1691	68	58-110	4	21
Surrogate	%Rec	Limits				
Hexacosane	88	53-136				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

Field ID: TRIP BLANK Sampled: 06/30/98
Lab ID: 134353-001 Received: 06/30/98
Matrix: Water Extracted: 07/07/98
Batch#: 41842 Analyzed: 07/07/98
Units: ug/L
Diln Fac: 1

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Vinyl Chloride	ND	2.0
Bromomethane	ND	2.0
Chloroethane	ND	2.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	1.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	ND	1.0
Bromoform	ND	2.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	100	85-121
Toluene-d8	99	92-110
Bromofluorobenzene	100	84-115

**Halogenated Volatile Organics
EPA 8010 Analyte List**

Client: Innovative Technical Solutions, Inc.	Analysis Method: EPA 8260
Project#: 95-113.54	Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II	

Field ID: S-A-7'-N	Sampled: 06/30/98
Lab ID: 134353-002	Received: 06/30/98
Matrix: Soil	Extracted: 07/04/98
Batch#: 41802	Analyzed: 07/04/98
Units: ug/Kg	
Diln Fac: 1	

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	99	75-130
Toluene-d8	98	89-110
Bromofluorobenzene	110	83-117

Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

Field ID: S-A-7'-S Sampled: 06/30/98
Lab ID: 134353-003 Received: 06/30/98
Matrix: Soil Extracted: 07/03/98
Batch#: 41802 Analyzed: 07/03/98
Units: ug/Kg
Diln Fac: 1

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	6.1	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	5.0	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	102	75-130
Toluene-d8	96	89-110
Bromofluorobenzene	108	83-117

Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

Field ID: S-SP2-A,B,C,D Sampled: 06/30/98
Lab ID: 134353-007 Received: 06/30/98
Matrix: Soil Extracted: 07/04/98
Batch#: 41802 Analyzed: 07/04/98
Units: ug/Kg
Diln Fac: 1

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	102	75-130
Toluene-d8	98	89-110
Bromofluorobenzene	105	83-117

Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

Field ID: W-TP-A Sampled: 06/30/98
Lab ID: 134353-008 Received: 06/30/98
Matrix: Water Extracted: 07/08/98
Batch#: 41873 Analyzed: 07/08/98
Units: ug/L
Diln Fac: 1

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Vinyl Chloride	ND	2.0
Bromomethane	ND	2.0
Chloroethane	ND	2.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	1.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	32	1.0
Bromoform	ND	2.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	8.9	1.0
1,2-Dichlorobenzene	5.5	1.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	102	85-121
Toluene-d8	97	92-110
Bromofluorobenzene	96	84-115

Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

Field ID: W-TP-B Sampled: 06/30/98
Lab ID: 134353-009 Received: 06/30/98
Matrix: Water Extracted: 07/08/98
Batch#: 41873 Analyzed: 07/08/98
Units: ug/L
Diln Fac: 1

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Vinyl Chloride	ND	2.0
Bromomethane	ND	2.0
Chloroethane	ND	2.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	1.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	ND	1.0
Bromoform	ND	2.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	100	85-121
Toluene-d8	98	92-110
Bromofluorobenzene	97	84-115

Lab #: 134353

BATCH QC REPORT

Curtis & Tompkins, Ltd.
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 Halogenated Volatile Organics
 EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc.	Analysis Method: EPA 8260
Project#: 95-113.54	Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II	

METHOD BLANK

Matrix: Water	Prep Date: 07/08/98
Batch#: 41873	Analysis Date: 07/08/98
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC74353

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Vinyl Chloride	ND	2.0
Bromomethane	ND	2.0
Chloroethane	ND	2.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	1.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	ND	1.0
Bromoform	ND	2.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	100	85-121
Toluene-d8	98	92-110
Bromofluorobenzene	97	84-115

Lab #: 134353

BATCH QC REPORT

Curtis & Tompkins, Ltd.
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 Halogenated Volatile Organics
 EPA 8010 Analyte List

 Client: Innovative Technical Solutions, Inc.
 Project#: 95-113.54
 Location: P.O.O. Crowley Yard II

 Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

 Matrix: Water
 Batch#: 41873
 Units: ug/L
 Diln Fac: 1

 Prep Date: 07/08/98
 Analysis Date: 07/08/98

MB Lab ID: QC74354

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Vinyl Chloride	ND	2.0
Bromomethane	ND	2.0
Chloroethane	ND	2.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	1.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	ND	1.0
Bromoform	ND	2.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	96	85-121
Toluene-d8	99	92-110
Bromofluorobenzene	100	84-115



Lab #: 134353

BATCH QC REPORT

Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc.
Project#: 95-113.54
Location: P.O.O. Crowley Yard II

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 41842
Units: ug/L
Diln Fac: 1

Prep Date: 07/07/98
Analysis Date: 07/07/98

MB Lab ID: QC74237

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Vinyl Chloride	ND	2.0
Bromomethane	ND	2.0
Chloroethane	ND	2.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	1.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	ND	1.0
Bromoform	ND	2.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	100	85-121
Toluene-d8	100	92-110
Bromofluorobenzene	98	84-115

Lab #: 134353

BATCH QC REPORT

Curtis & Tompkins, Ltd.
Page 1 of 1
 Halogenated Volatile Organics
 EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc.	Analysis Method: EPA 8260
Project#: 95-113.54	Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II	

METHOD BLANK

Matrix: Water	Prep Date: 07/07/98
Batch#: 41842	Analysis Date: 07/07/98
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC74236

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Vinyl Chloride	ND	2.0
Bromomethane	ND	2.0
Chloroethane	ND	2.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	1.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	ND	1.0
Bromoform	ND	2.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	100	85-121
Toluene-d8	99	92-110
Bromofluorobenzene	99	84-115

Lab #: 134353

BATCH QC REPORT

Curtis & Tompkins, Ltd.
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 Halogenated Volatile Organics
 EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc.	Analysis Method: EPA 8260
Project#: 95-113.54	Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II	

METHOD BLANK

Matrix: Soil	Prep Date: 07/03/98
Batch#: 41802	Analysis Date: 07/03/98
Units: ug/Kg	
Diln Fac: 1	

MB Lab ID: QC74066

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	101	75-130
Toluene-d8	96	89-110
Bromofluorobenzene	110	83-117

Lab #: 134353

BATCH QC REPORT

Curtis & Tompkins, Ltd.
Page 1 of 1
 Halogenated Volatile Organics
 EPA 8010 Analyte List

Client: Innovative Technical Solutions, Inc.	Analysis Method: EPA 8260
Project#: 95-113.54	Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II	

METHOD BLANK

Matrix: Soil	Prep Date: 07/04/98
Batch#: 41802	Analysis Date: 07/04/98
Units: ug/Kg	
Diln Fac: 1	

MB Lab ID: QC74067

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	103	75-130
Toluene-d8	95	89-110
Bromofluorobenzene	111	83-117

Lab #: 134353

BATCH QC REPORT



Halogenated Volatile Organics

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

LABORATORY CONTROL SAMPLE

Matrix: Water Prep Date: 07/07/98
Batch#: 41842 Analysis Date: 07/07/98
Units: ug/L
Diln Fac: 1

LCS Lab ID: QC74242

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	48.19	50	96	69-137
Trichloroethene	47.97	50	96	83-116
Chlorobenzene	48.11	50	96	87-117
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	98	85-121		
Toluene-d8	99	92-110		
Bromofluorobenzene	101	84-115		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits

Lab #: 134353

BATCH QC REPORT



Halogenated Volatile Organics

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

LABORATORY CONTROL SAMPLE

Matrix: Soil Prep Date: 07/03/98
Batch#: 41802 Analysis Date: 07/03/98
Units: ug/Kg
Diln Fac: 1

LCS Lab ID: QC74065

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	40.21	50	80	60-156
Trichloroethene	50.4	50	101	80-130
Chlorobenzene	48.91	50	98	88-124
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	96	75-130		
Toluene-d8	97	89-110		
Bromofluorobenzene	105	83-117		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits



Halogenated Volatile Organics

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
 Project#: 95-113.54 Prep Method: EPA 5030
 Location: P.O.O. Crowley Yard II

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water Prep Date: 07/08/98
 Batch#: 41873 Analysis Date: 07/08/98
 Units: ug/L
 Diln Fac: 1

BS Lab ID: QC74351

Analyte	Spike Added	BS	%Rec #	Limits
1,1-Dichloroethene	50	46.78	94	69-137
Trichloroethene	50	47.43	95	83-116
Chlorobenzene	50	47.91	96	87-117
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	98	85-121		
Toluene-d8	98	92-110		
Bromofluorobenzene	96	84-115		

BSD Lab ID: QC74352

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	44.99	90	69-137	4	14
Trichloroethene	50	46.43	93	83-116	2	10
Chlorobenzene	50	46.78	94	87-117	2	10
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	97	85-121				
Toluene-d8	99	92-110				
Bromofluorobenzene	97	84-115				

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits
 RPD: 0 out of 3 outside limits
 Spike Recovery: 0 out of 6 outside limits



Halogenated Volatile Organics

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8260
 Project#: 95-113.54 Prep Method: EPA 5030
 Location: P.O.O. Crowley Yard II

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ Sample Date: 07/01/98
 Lab ID: 134365-003 Received Date: 07/02/98
 Matrix: Water Prep Date: 07/07/98
 Batch#: 41842 Analysis Date: 07/07/98
 Units: ug/L
 Diln Fac: 1

MS Lab ID: QC74263

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<1	45.97	92	63-126
Trichloroethene	50	<1	45.88	92	69-117
Chlorobenzene	50	<1	45.78	92	79-115
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	99	85-121			
Toluene-d8	99	92-110			
Bromofluorobenzene	97	84-115			

MSD Lab ID: QC74264

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	44.44	89	63-126	3	10
Trichloroethene	50	44.9	90	69-117	2	10
Chlorobenzene	50	44.62	89	79-115	3	10
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	99	85-121				
Toluene-d8	99	92-110				
Bromofluorobenzene	97	84-115				

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits
 RPD: 0 out of 3 outside limits
 Spike Recovery: 0 out of 6 outside limits

Lab #: 134353

BATCH QC REPORT



Halogenated Volatile Organics

Client: Innovative Technical Solutions, Inc.	Analysis Method: EPA 8260
Project#: 95-113.54	Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II	

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: S-B-8'-N	Sample Date: 06/30/98
Lab ID: 134353-005	Received Date: 06/30/98
Matrix: Soil	Prep Date: 07/04/98
Batch#: 41802	Analysis Date: 07/04/98
Units: ug/Kg	
Diln Fac: 1	

MS Lab ID: QC74081

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<5	36.95	74	33-153
Trichloroethene	50	<5	33.72	67	38-144
Chlorobenzene	50	<5	25.78	52	39-127
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	99	75-130			
Toluene-d8	95	89-110			
Bromofluorobenzene	109	83-117			

MSD Lab ID: QC74082

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	37.57	75	33-153	2	27
Trichloroethene	50	44.43	89	38-144	27	29
Chlorobenzene	50	34.84	70	39-127	30 *	27
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	103	75-130				
Toluene-d8	100	89-110				
Bromofluorobenzene	106	83-117				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 3 outside limits

Spike Recovery: 0 out of 6 outside limits



TVH-Total Volatile Hydrocarbons

Client: Innovative Technical Solutions, Inc.	Analysis Method: EPA 8015M
Project#: 95-113.54	Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
134353-001	TRIP BLANK	41871	06/30/98	07/08/98	07/08/98	
134353-008	W-TP-A	41871	06/30/98	07/09/98	07/09/98	
134353-009	W-TP-B	41871	06/30/98	07/09/98	07/09/98	

Matrix: Water

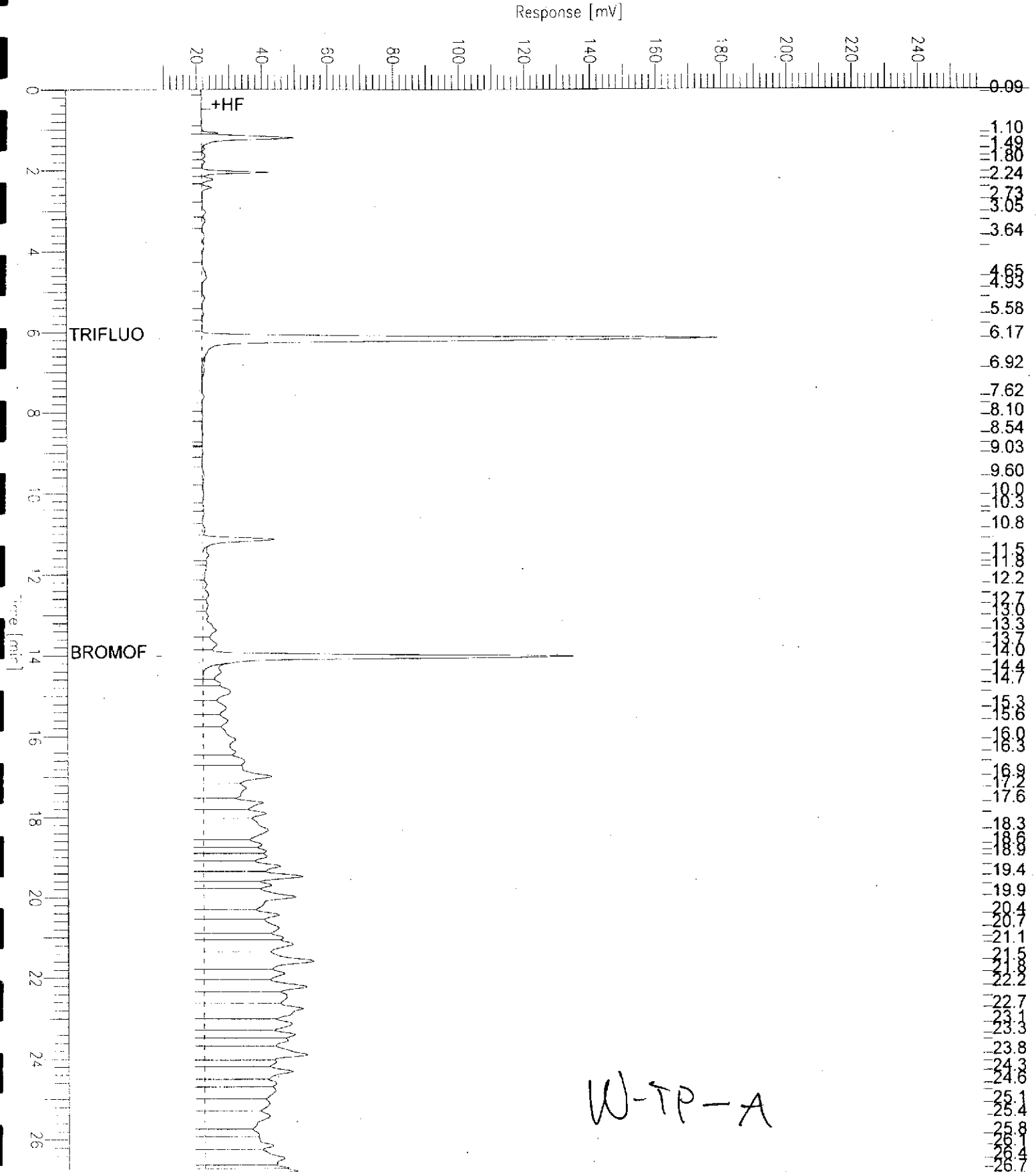
Analyte	Units	134353-001	134353-008	134353-009
Diln Fac:		1	1	1
Gasoline C7-C12	ug/L	<50	1000 YH	1000 YH
Surrogate				
Trifluorotoluene	%REC	112	110	111
Bromofluorobenzene	%REC	102	117	114

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard

GC05 'H' File TVH

Sample Name : S_134353-008_41871,
 FileName : G:\GC05\DATA\189G031.RAW
 Method :
 Start Time : 0.00 min End Time : 26.80 min
 Scale Factor: -1.0 Plot Offset: 9 mV

Sample #:
 Date : 7/9/98 01:28 PM Page 1 of 1
 Time of Injection: 7/9/98 03:55 AM
 Low Point : 8.91 mV High Point : 258.91 mV
 Plot Scale: 250.0 mV



GC05 'H' File TVH

Sample Name : S,134353-009,41871,

Sample #:

Page 1 of 1

FileName : G:\GC05\DATA\189G032.RAW

Date : 7/9/98 01:30 PM

Method :

Time of Injection: 7/9/98 04:32 AM

Start Time : 0.00 min

End Time : 26.80 min

Low Point : 8.98 mV

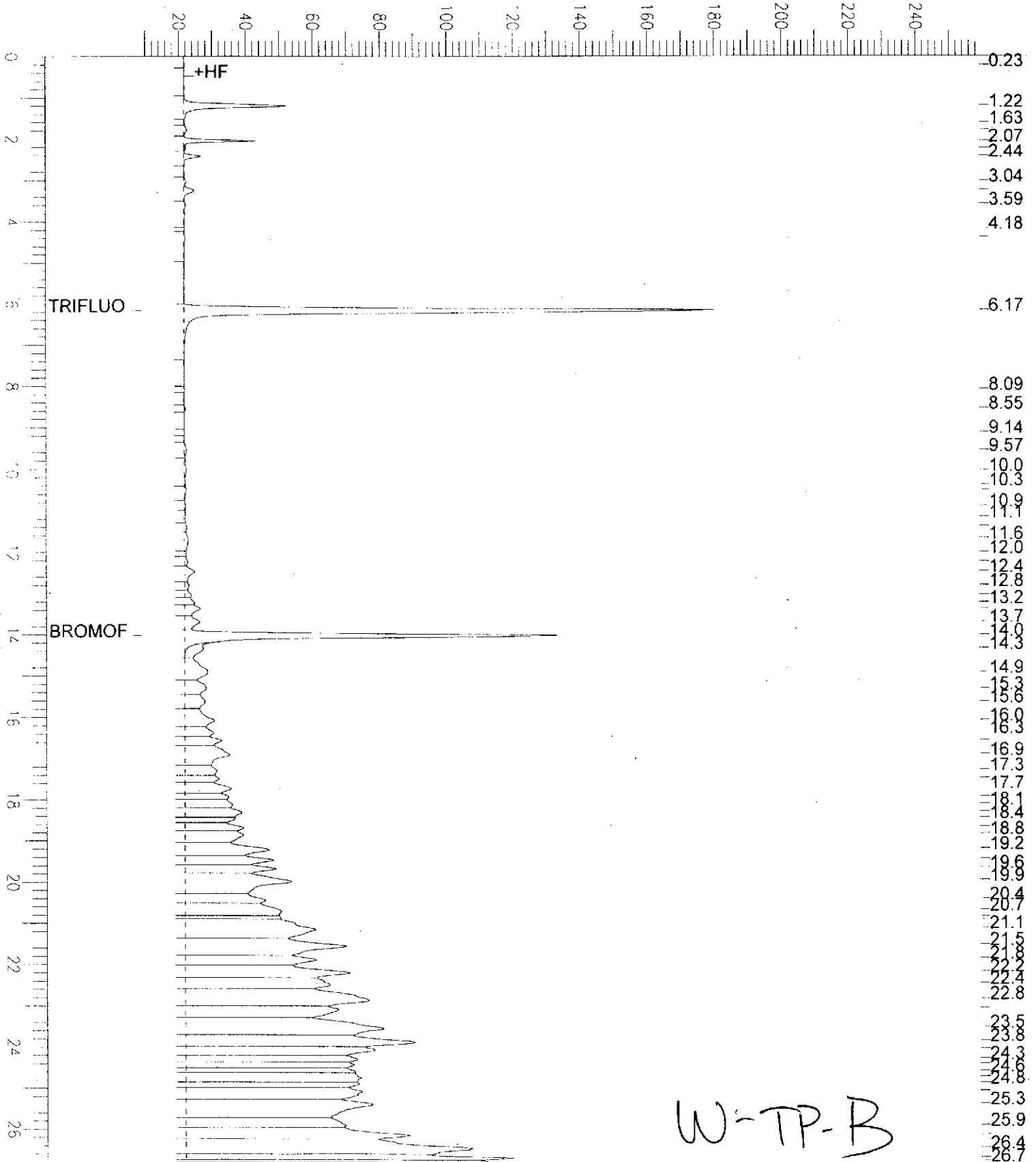
High Point : 258.98 mV

Scale Factor: -1.0

Plot Offset: 9 mV

Plot Scale: 250.0 mV

Response [mV]



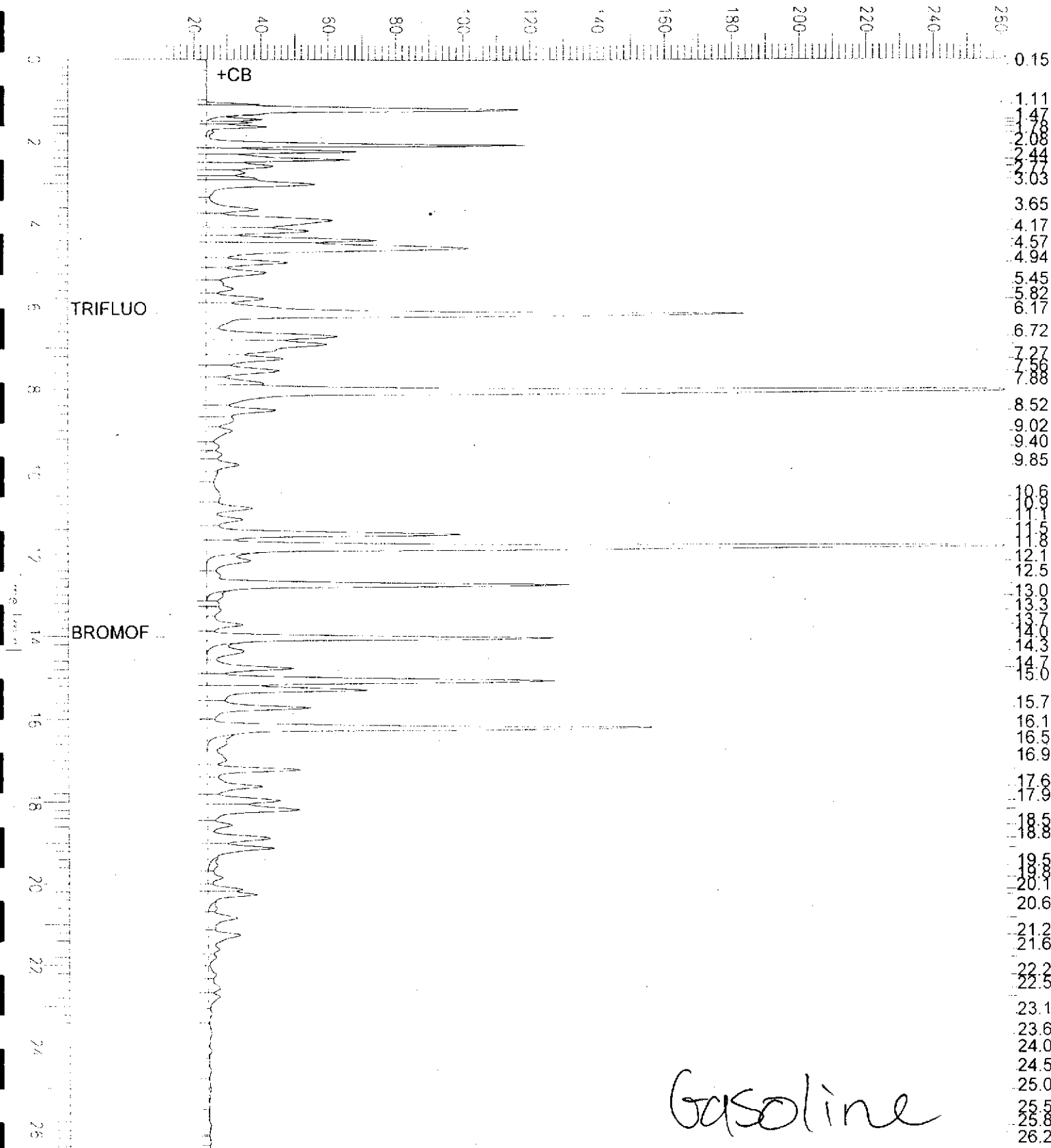
GC05 'H' File TVH

Sample Name : CCV/LCS, QC74341, 98WS5958, 41871,
 FileName : G:\GC05\DATA\189G001.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor: -1.0

End Time : 26.80 min
 Plot Offset: 11 mV

Sample #: GAS
 Date : 7/8/98 09:35 AM
 Time of Injection: 7/8/98 09:08 AM
 Low Point : 11.21 mV
 High Point : 261.21 mV
 Plot Scale: 250.0 mV

Response [mV]



Gasoline

Lab #: 134353

BATCH QC REPORT



Curtis & Tompkins, Ltd.
Page 1 of 1

BTXE

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8020A
 Project#: 95-113.54 Prep Method: EPA 5030
 Location: P.O.O. Crowley Yard II

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water Prep Date: 07/08/98
 Batch#: 41871 Analysis Date: 07/08/98
 Units: ug/L
 Diln Fac: 1

BS Lab ID: QC74343

Analyte	Spike Added	BS	%Rec #	Limits
MTBE	20	19.53	98	65-135
Benzene	20	16.47	82	69-109
Toluene	20	18.59	93	72-116
Ethylbenzene	20	17.89	89	67-120
m,p-Xylenes	40	37.82	95	69-117
o-Xylene	20	18.86	94	75-122
Surrogate			%Rec	Limits
Trifluorotoluene			82	53-124
Bromofluorobenzene			81	41-142

BSD Lab ID: QC74344

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
MTBE	20	18.94	95	65-135	3	20
Benzene	20	17.28	86	69-109	5	11
Toluene	20	18.9	95	72-116	2	11
Ethylbenzene	20	18.44	92	67-120	3	12
m,p-Xylenes	40	38.89	97	69-117	3	11
o-Xylene	20	19.4	97	75-122	3	12
Surrogate			%Rec	Limits		
Trifluorotoluene			81	53-124		
Bromofluorobenzene			80	41-142		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits

Spike Recovery: 0 out of 12 outside limits



TVH-Total Volatile Hydrocarbons

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8015M
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
134353-002	S-A-7'-N	41926	06/30/98	07/11/98	07/11/98	
134353-003	S-A-7'-S	41926	06/30/98	07/11/98	07/11/98	
134353-004	S-B-8'-S	41926	06/30/98	07/11/98	07/11/98	
134353-005	S-B-8'-N	41926	06/30/98	07/11/98	07/11/98	

Matrix: Soil

Analyte	Units	134353-002	134353-003	134353-004	134353-005
Diln Fac:		1	1	1	1
Gasoline C7-C12	mg/Kg	8.9YH	7.6YH	14 YH	<1
Surrogate					
Trifluorotoluene	%REC	77	80	78	80
Bromofluorobenzene	%REC	107	113	130	109

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

To: **Jim Schollard**
From: **Anna Pajarillo**
Date: 03-Sept-98

This memo is to note the revisions Curtis & Tompkins has made to our report #134353. We have revised this report to include MTBE on the BTXE final report forms. Also included in this package is the Oil & Grease hardcopies. Per our conversation on August 26th, the Oil & Grease reports were not included in the hardcopy that was mailed to you. I hope that you have everything you need. I apologize for the inconvenience.

Please call me if you have any questions regarding this matter.

Anna Pajarillo
510-486-0925 x103.

HPLC (8310 -
8270) lower dL than 8270
Same analytes.



BTXE

Client: Innovative Technical Solutions, Inc.
 Project#: 95-113.54
 Location: P.O.O. Crowley Yard II

Analysis Method: EPA 8020A
 Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
134353-002	S-A-7'-N	41926	06/30/98	07/11/98	07/11/98	
134353-003	S-A-7'-S	41926	06/30/98	07/11/98	07/11/98	
134353-004	S-B-8'-S	41926	06/30/98	07/11/98	07/11/98	
134353-005	S-B-8'-N	41926	06/30/98	07/11/98	07/11/98	

Matrix: Soil

Analyte	Units	134353-002	134353-003	134353-004	134353-005
Diln Fac:		1	1	1	1
MTBE	ug/Kg	<20	<20	<20	<20
Benzene	ug/Kg	<5	<5	<5	<5
Toluene	ug/Kg	<5	<5	<5	<5
Ethylbenzene	ug/Kg	<5	<5	<5	<5
m,p-Xylenes	ug/Kg	<5	<5	<5	<5
o-Xylene	ug/Kg	<5	<5	<5	<5
Surrogate					
Trifluorotoluene	%REC	77	82	79	81
Bromofluorobenzene	%REC	108	117	114	117



TVH-Total Volatile Hydrocarbons

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8015M
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
134353-006	S-SP1-A,B,C,D	41926	06/30/98	07/11/98	07/11/98	
134353-007	S-SP2-A,B,C,D	41926	06/30/98	07/11/98	07/11/98	

Matrix: Soil

Analyte	Units	134353-006	134353-007
Diln Fac:		1	1
Gasoline C7-C12	mg/Kg	7.1YH	1.1YH
Surrogate			
Trifluorotoluene	%REC	80	81
Bromofluorobenzene	%REC	116	114

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard



BTXE

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8020A
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
134353-006	S-SP1-A,B,C,D	41926	06/30/98	07/11/98	07/11/98	
134353-007	S-SP2-A,B,C,D	41926	06/30/98	07/11/98	07/11/98	

Matrix: Soil

Analyte	Units	134353-006	134353-007
Diln Fac:		1	1
MTBE	ug/Kg	<20	<20
Benzene	ug/Kg	<5	<5
Toluene	ug/Kg	<5	<5
Ethylbenzene	ug/Kg	<5	<5
m,p-Xylenes	ug/Kg	<5	<5
o-Xylene	ug/Kg	<5	<5
Surrogate			
Trifluorotoluene	%REC	81	82
Bromofluorobenzene	%REC	117	119

GC19 TVH 'X' Data File (FID)

Sample Name : S_134353-002_41926

Sample #:

Page 1 of 1

FileName : C:\GC19_BAK\DATA\191X034.raw

Date : 7/13/98 12:21 PM

Method : TVHBTXE

Time of Injection: 7/11/98 11:49 AM

Start Time : 0.00 min

End Time : 26.80 min

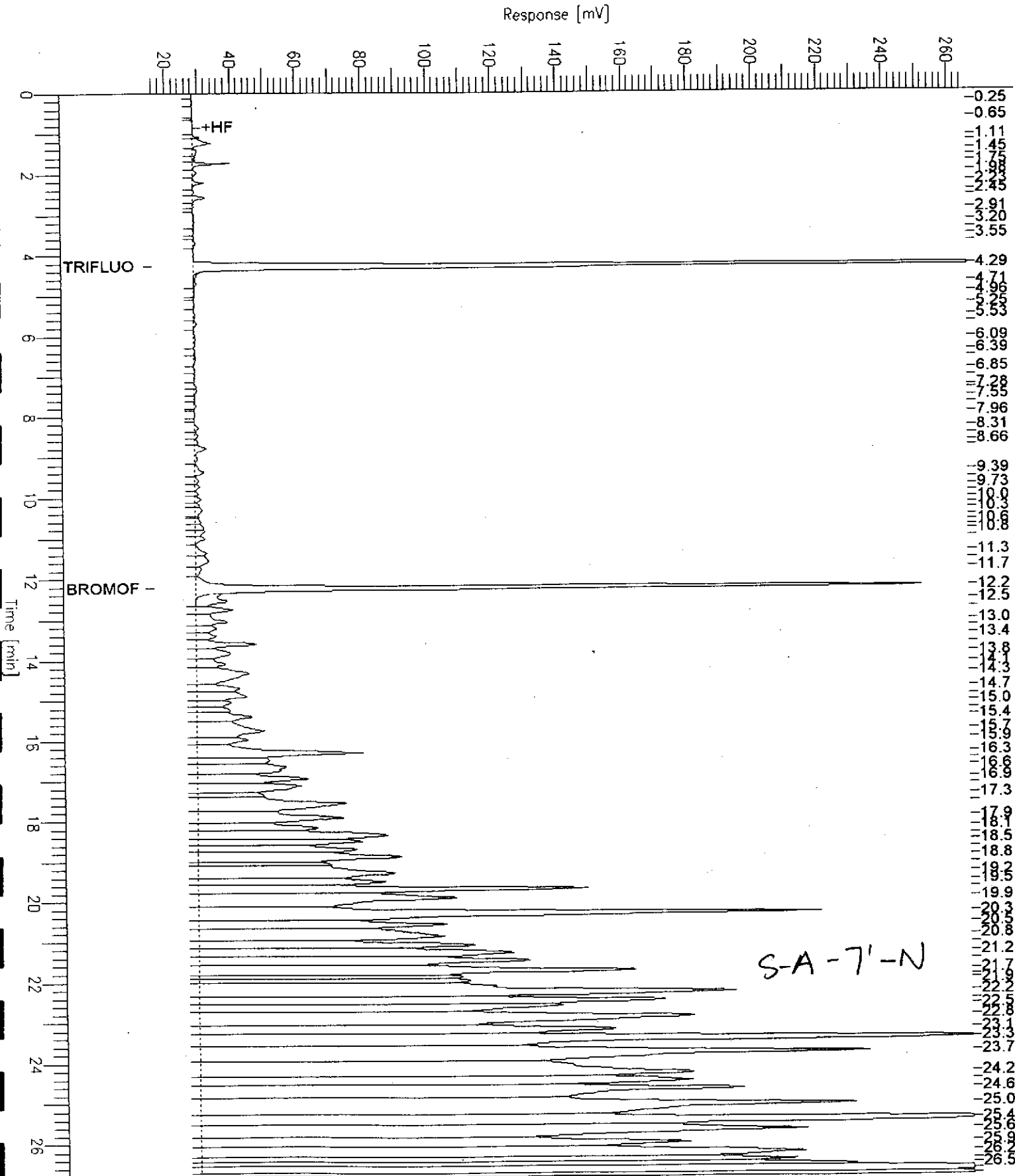
Low Point : 15.92 mV

High Point : 265.92 mV

Scale Factor: -1.0

Plot Offset: 16 mV

Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : S,134353-003,41926

Sample #:

Page 1 of 1

FileName : C:\GC19_BAK\DATA\191X027.raw

Date : 7/13/98 12:21 PM

Method : TVHBTXE

Time of Injection: 7/11/98 07:13 AM

Start Time : 0.00 min

End Time : 26.80 min

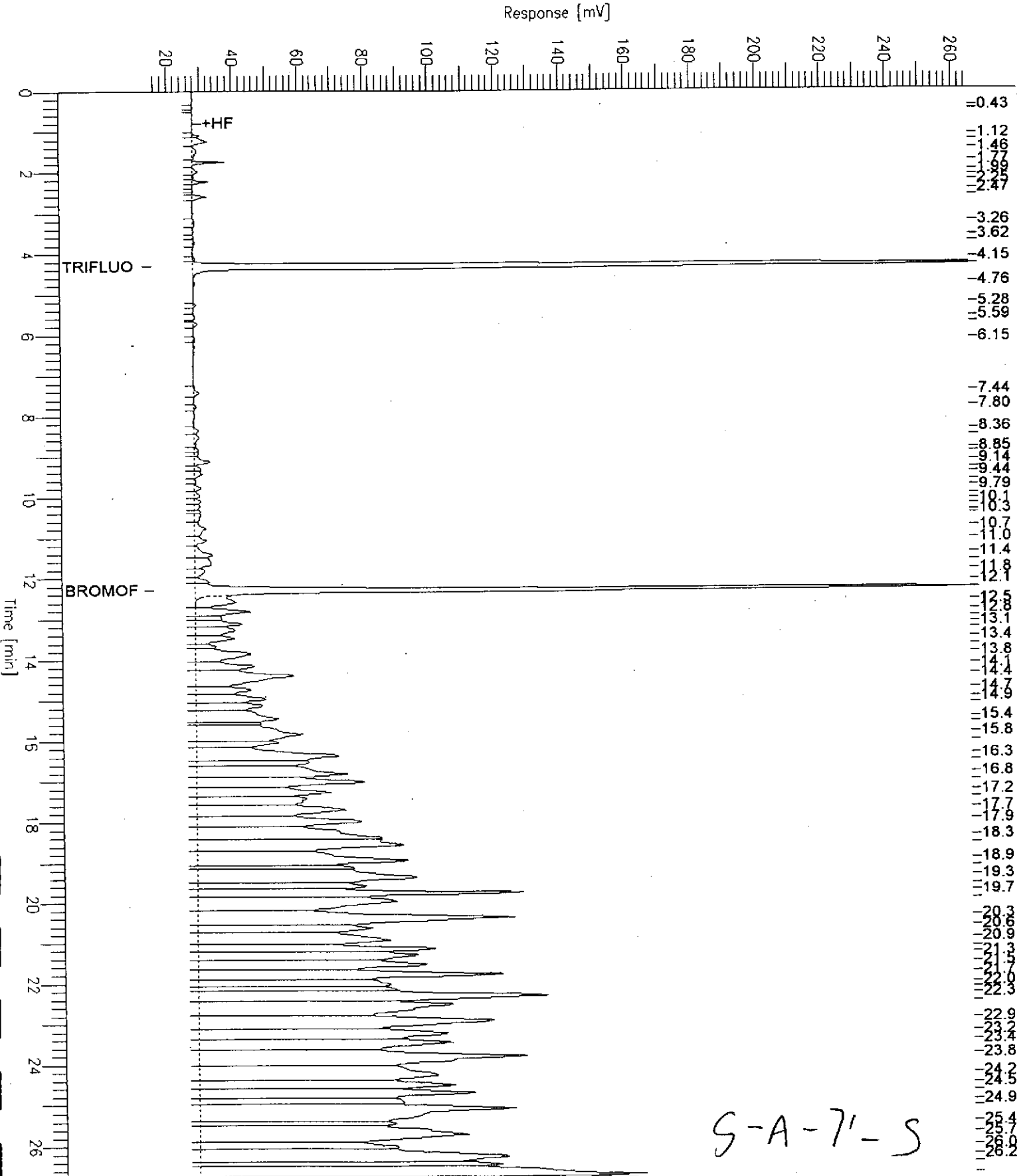
Low Point : 15.17 mV

High Point : 265.17 mV

Scale Factor: -1.0

Plot Offset: 15 mV

Plot Scale: 250.0 mV



S-A-71-S

GC19 TVH 'X' Data File (FID)

Sample Name : S_134353-004_41926

Sample #:

Page 1 of 1

FileName : C:\GC19_BAK\DATA\191X026.raw

Date : 7/13/98 12:21 PM

Method : TVHBTXE

Time of Injection: 7/11/98 06:33 AM

Start Time : 0.00 min

End Time : 26.80 min

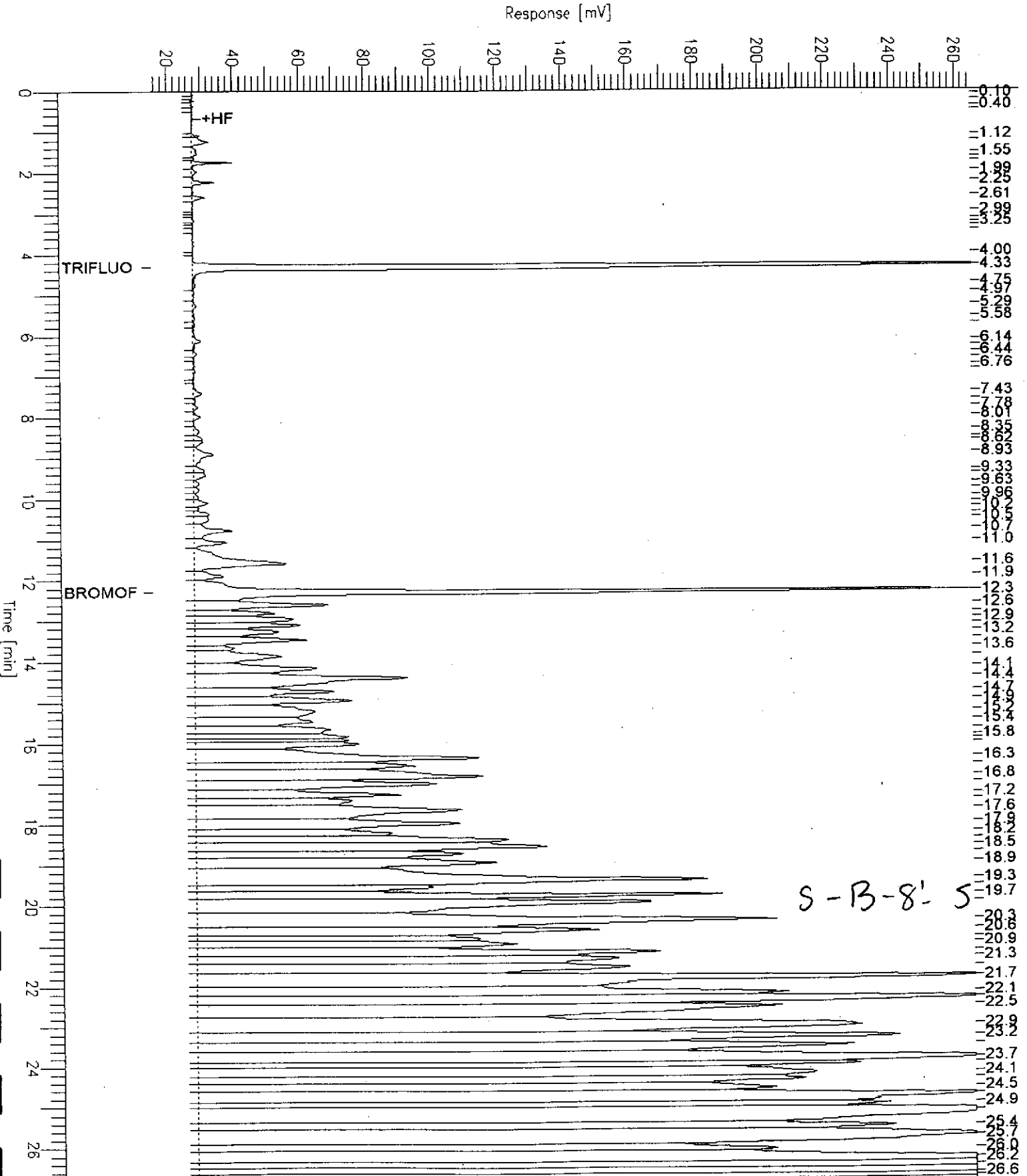
Low Point : 14.97 mV

High Point : 264.97 mV

Scale Factor: -1.0

Plot Offset: 15 mV

Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : S_134353-006_41926

Sample #:

Page 1 of 1

FileName : C:\GC19_BAK\DATA\191X036.raw

Date : 7/13/98 12:21 PM

Method : TVHBTXE

Time of Injection: 7/11/98 01:08 PM

Start Time : 0.00 min

End Time : 26.80 min

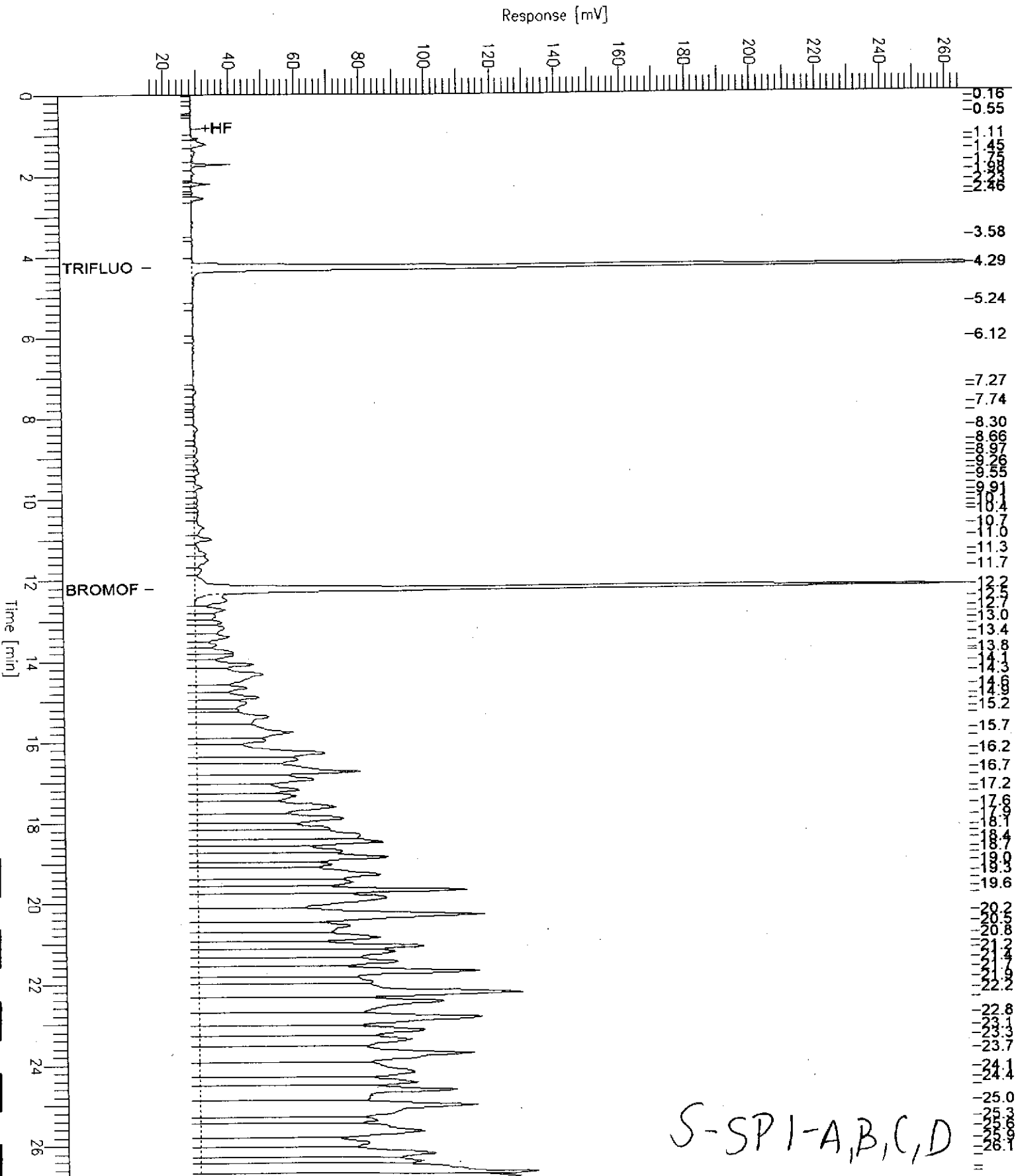
Low Point : 15.82 mV

High Point : 265.82 mV

Scale Factor : -1.0

Plot Offset : 16 mV

Plot Scale : 250.0 mV

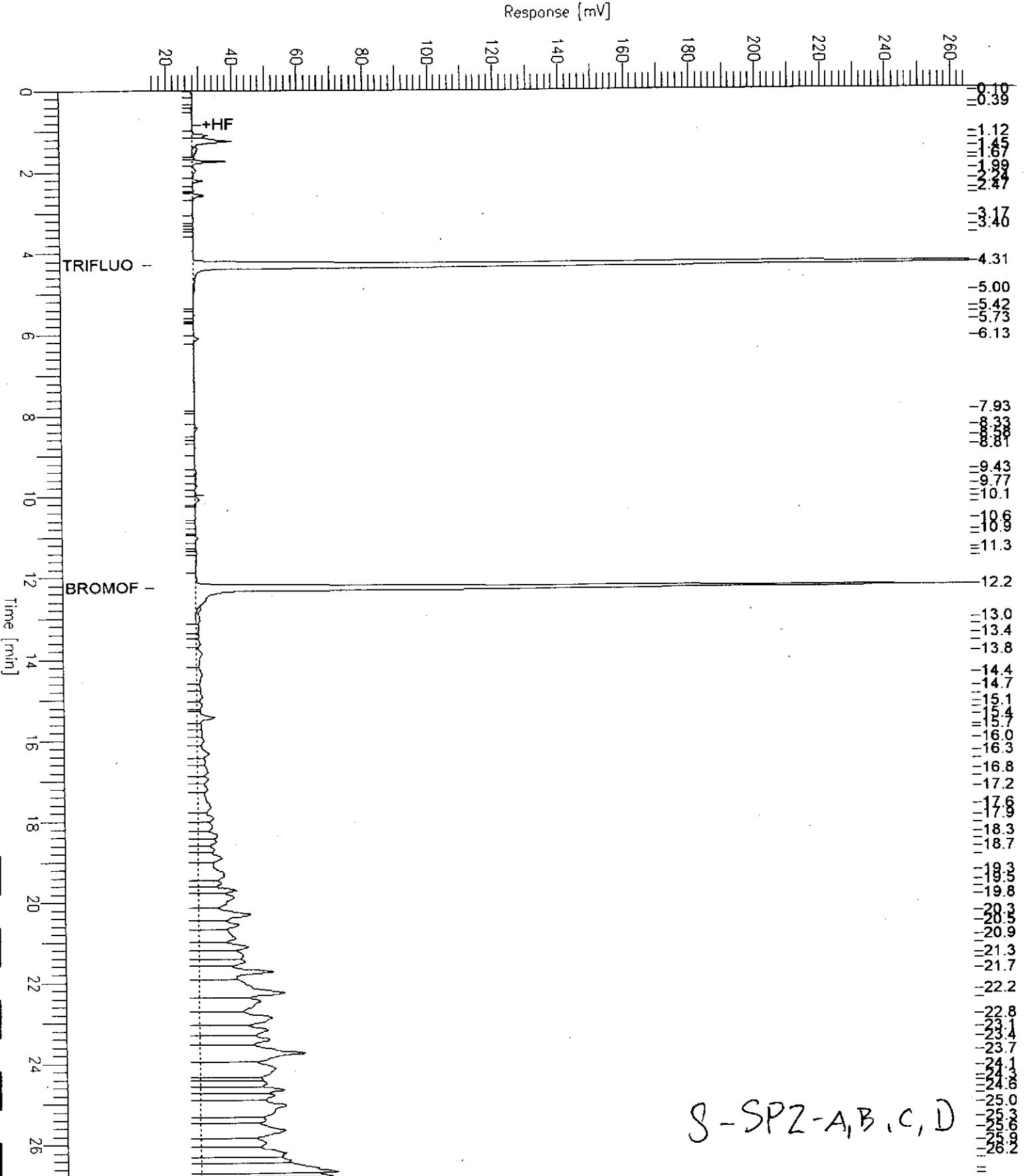


S-SPI-A,B,C,D

GC19 TVH 'X' Data File (FID)

Sample Name : S_134353-007_41926
 FileName : C:\GC19_BAK\DATA\191X032.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor: -1.0

Sample #:
 Date : 7/13/98 12:21 PM
 Time of Injection: 7/11/98 10:30 AM
 Low Point : 15.39 mV
 Plot Scale: 250.0 mV



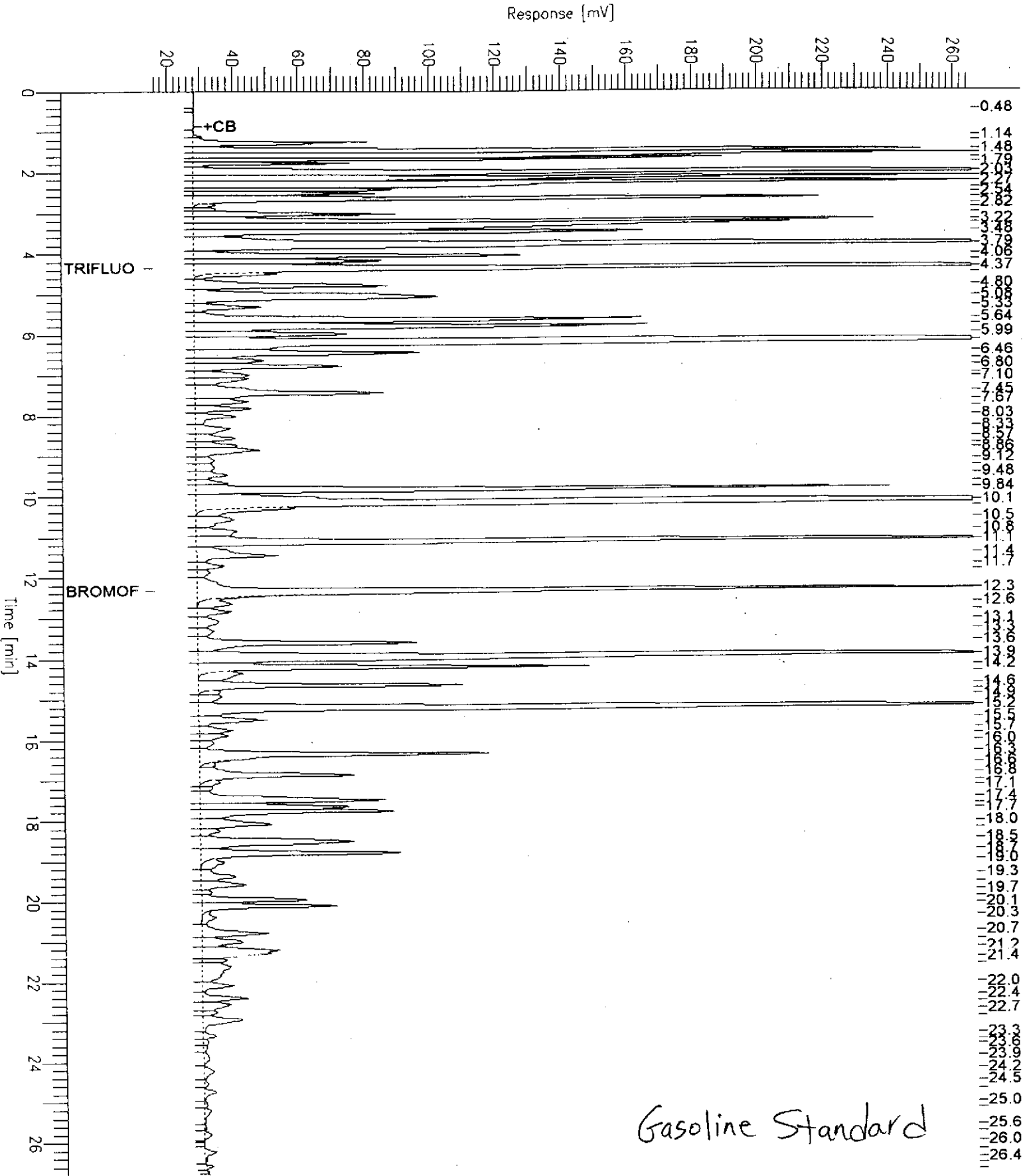
S-SPZ-A, B, C, D

GC19 TVH 'X' Data File (FID)

Sample Name : CCV/LCS, QC?, 98WS6074, 2,
 FileName : C:\GC19 BAK\DATA\191X001.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor : -1.0

End Time : 26.80 min
 Plot Offset : 16 mV

Sample #: GAS
 Date : 7/10/98 09:38 AM
 Time of Injection: 7/10/98 09:11 AM
 Low Point : 15.60 mV
 Plot Scale: 250.0 mV
 High Point : 265.60 mV



Lab #: 134353

BATCH QC REPORT



Curtis & Tompkins, Ltd.
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TVH-Total Volatile Hydrocarbons

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8015M
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

METHOD BLANK

Matrix: Soil Prep Date: 07/10/98
Batch#: 41926 Analysis Date: 07/10/98
Units: mg/Kg
Diln Fac: 1

MB Lab ID: QC74566

Analyte	Result		
Gasoline C7-C12	<1.0		
Surrogate	%Rec	Recovery Limits	
Trifluorotoluene	79	53-157	
Bromofluorobenzene	107	53-157	

Lab #: 134353

BATCH QC REPORT



BTXE

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8020A
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

METHOD BLANK

Matrix: Soil Prep Date: 07/10/98
Batch#: 41926 Analysis Date: 07/10/98
Units: ug/Kg
Diln Fac: 1

MB Lab ID: QC74566

Analyte	Result
MTBE	<20
Benzene	<5.0
Toluene	<5.0
Ethylbenzene	<5.0
m,p-Xylenes	<5.0
o-Xylene	<5.0

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	80	53-126
Bromofluorobenzene	114	35-144

Lab #: 134353

BATCH QC REPORT



Curtis & Tompkins, Ltd.
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TVH-Total Volatile Hydrocarbons

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8015M
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

LABORATORY CONTROL SAMPLE

Matrix: Soil Prep Date: 07/10/98
Batch#: 41926 Analysis Date: 07/10/98
Units: mg/Kg
Diln Fac: 1

LCS Lab ID: QC74564

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	9.93	10	99	78-120
Surrogate	%Rec	Limits		
Trifluorotoluene	83	53-157		
Bromofluorobenzene	133	53-157		

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Lab #: 134353

BATCH QC REPORT



Curtis & Tompkins, Ltd.
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BTXE

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8020A
Project#: 95-113.54 Prep Method: EPA 5030
Location: P.O.O. Crowley Yard II

LABORATORY CONTROL SAMPLE

Matrix: Soil Prep Date: 07/10/98
Batch#: 41926 Analysis Date: 07/10/98
Units: ug/Kg
Diln Fac: 1

LCS Lab ID: QC74565

Analyte	Result	Spike Added	%Rec #	Limits
MTBE	94.69	100	95	65-135
Benzene	90.63	100	91	69-118
Toluene	100.8	100	101	73-118
Ethylbenzene	97.78	100	98	68-124
m,p-Xylenes	207.2	200	104	67-124
o-Xylene	97.69	100	98	73-127
Surrogate	%Rec	Limits		
Trifluorotoluene	79	53-126		
Bromofluorobenzene	115	35-144		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 6 outside limits

Lab #: 134353

BATCH QC REPORT



Curtis & Tompkins, Ltd.
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TVH-Total Volatile Hydrocarbons

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8015M
 Project#: 95-113.54 Prep Method: EPA 5030
 Location: P.O.O. Crowley Yard II

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ Sample Date: 07/01/98
 Lab ID: 134398-001 Received Date: 07/06/98
 Matrix: Soil Prep Date: 07/11/98
 Batch#: 41926 Analysis Date: 07/11/98
 Units: mg/Kg
 Diln Fac: 1

MS Lab ID: QC74567

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline C7-C12	10	<1	9.99	100	38-132
Surrogate	%Rec	Limits			
Trifluorotoluene	88	53-157			
Bromofluorobenzene	137	53-157			

MSD Lab ID: QC74568

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline C7-C12	10	9.88	99	38-132	1	26
Surrogate	%Rec	Limits				
Trifluorotoluene	90	53-157				
Bromofluorobenzene	141	53-157				

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits
 RPD: 0 out of 1 outside limits
 Spike Recovery: 0 out of 2 outside limits



Semivolatile Organics by GC/MS

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8270B
Project#: 95-113.54 Prep Method: EPA 3550
Location: P.O.O. Crowley Yard II Cleanup Method: EPA 3640

Field ID: S-A-7'-N Sampled: 06/30/98
Lab ID: 134353-002 Received: 06/30/98
Matrix: Soil Extracted: 07/07/98
Batch#: 41860 Analyzed: 07/09/98
Units: ug/Kg
Diln Fac: 1

Analyte	Result	Reporting Limit
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl alcohol	ND	330
2-Methylphenol	ND	330
3,4-Methylphenol	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
2,4-Dichlorophenol	ND	330
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
Pentachlorophenol	ND	1700
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
bis(2-Chloroethyl) ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
bis(2-Chloroisopropyl) ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
bis(2-Chloroethoxy) methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	1700
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330



Semivolatile Organics by GC/MS

Field ID: S-A-7'-N	Sampled: 06/30/98
Lab ID: 134353-002	Received: 06/30/98
Matrix: Soil	Extracted: 07/07/98
Batch#: 41860	Analyzed: 07/09/98
Units: ug/Kg	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	210 J	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	240 J	330
4-Nitroaniline	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	1300	330
Anthracene	380	330
Di-n-butylphthalate	ND	330
Fluoranthene	1600	330
Benzidine	ND	330
Pyrene	1700	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	770	330
Chrysene	920	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b,k)fluoranthene	1200	330
Benzo(a)pyrene	540	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	54	25-120
Phenol-d5	58	29-118
2,4,6-Tribromophenol	60	13-112
Nitrobenzene-d5	49	32-117
2-Fluorobiphenyl	54	38-121
Terphenyl-d14	71	29-143

J: Estimated Value



Semivolatiles Organics by GC/MS

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8270B
Project#: 95-113.54 Prep Method: EPA 3550
Location: P.O.O. Crowley Yard II Cleanup Method: EPA 3640

Field ID: S-A-7'-S Sampled: 06/30/98
Lab ID: 134353-003 Received: 06/30/98
Matrix: Soil Extracted: 07/07/98
Batch#: 41860 Analyzed: 07/09/98
Units: ug/Kg
Diln Fac: 1

Analyte	Result	Reporting Limit
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl alcohol	ND	330
2-Methylphenol	ND	330
3,4-Methylphenol	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
2,4-Dichlorophenol	ND	330
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
Pentachlorophenol	ND	1700
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
bis(2-Chloroethyl) ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
bis(2-Chloroisopropyl) ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
bis(2-Chloroethoxy) methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	1700
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330



Semi-volatile Organics by GC/MS

Field ID: S-A-7'-S	Sampled: 06/30/98
Lab ID: 134353-003	Received: 06/30/98
Matrix: Soil	Extracted: 07/07/98
Batch#: 41860	Analyzed: 07/09/98
Units: ug/Kg	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	ND	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	ND	330
4-Nitroaniline	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	190 J	330
Benzidine	ND	330
Pyrene	320 J	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b,k)fluoranthene	290 J	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	60	25-120
Phenol-d5	58	29-118
2,4,6-Tribromophenol	64	13-112
Nitrobenzene-d5	50	32-117
2-Fluorobiphenyl	50	38-121
Terphenyl-d14	63	29-143

J: Estimated Value



Semivolatiles Organics by GC/MS

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8270B
Project#: 95-113.54 Prep Method: EPA 3550
Location: P.O.O. Crowley Yard II Cleanup Method: EPA 3640

Field ID: S-B-8'-S Sampled: 06/30/98
Lab ID: 134353-004 Received: 06/30/98
Matrix: Soil Extracted: 07/07/98
Batch#: 41860 Analyzed: 07/09/98
Units: ug/Kg
Diln Fac: 2

Analyte	Result	Reporting Limit
Phenol	ND	670
2-Chlorophenol	ND	670
Benzyl alcohol	ND	670
2-Methylphenol	ND	670
3,4-Methylphenol	ND	670
2-Nitrophenol	ND	3300
2,4-Dimethylphenol	ND	670
Benzoic acid	ND	3300
2,4-Dichlorophenol	ND	670
4-Chloro-3-methylphenol	ND	670
2,4,6-Trichlorophenol	ND	670
2,4,5-Trichlorophenol	ND	670
2,4-Dinitrophenol	ND	3300
4-Nitrophenol	ND	3300
4,6-Dinitro-2-methylphenol	ND	3300
Pentachlorophenol	ND	3300
N-Nitrosodimethylamine	ND	670
Aniline	ND	670
bis(2-Chloroethyl) ether	ND	670
1,3-Dichlorobenzene	ND	670
1,4-Dichlorobenzene	ND	670
1,2-Dichlorobenzene	ND	670
bis(2-Chloroisopropyl) ether	ND	670
N-Nitroso-di-n-propylamine	ND	670
Hexachloroethane	ND	670
Nitrobenzene	ND	670
Isophorone	ND	670
bis(2-Chloroethoxy) methane	ND	670
1,2,4-Trichlorobenzene	ND	670
Naphthalene	ND	670
4-Chloroaniline	ND	670
Hexachlorobutadiene	ND	670
2-Methylnaphthalene	ND	670
Hexachlorocyclopentadiene	ND	3300
2-Chloronaphthalene	ND	670
2-Nitroaniline	ND	3300
Dimethylphthalate	ND	670
Acenaphthylene	ND	670



Semivolatile Organics by GC/MS

Field ID: S-B-8'-S	Sampled: 06/30/98
Lab ID: 134353-004	Received: 06/30/98
Matrix: Soil	Extracted: 07/07/98
Batch#: 41860	Analyzed: 07/09/98
Units: ug/Kg	
Diln Fac: 2	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	670
3-Nitroaniline	ND	3300
Acenaphthene	ND	670
Dibenzofuran	ND	670
2,4-Dinitrotoluene	ND	670
Diethylphthalate	ND	670
4-Chlorophenyl-phenylether	ND	670
Fluorene	ND	670
4-Nitroaniline	ND	3300
N-Nitrosodiphenylamine	ND	670
Azobenzene	ND	670
4-Bromophenyl-phenylether	ND	670
Hexachlorobenzene	ND	670
Phenanthrene	1000	670
Anthracene	ND	670
Di-n-butylphthalate	ND	670
Fluoranthene	2400	670
Benzidine	ND	670
Pyrene	2400	670
Butylbenzylphthalate	ND	670
3,3'-Dichlorobenzidine	ND	3300
Benzo(a)anthracene	1400	670
Chrysene	1600	670
bis(2-Ethylhexyl)phthalate	ND	670
Di-n-octylphthalate	ND	670
Benzo(b,k)fluoranthene	2600	670
Benzo(a)pyrene	900	670
Indeno(1,2,3-cd)pyrene	ND	670
Dibenz(a,h)anthracene	ND	670
Benzo(g,h,i)perylene	ND	670

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	65	25-120
Phenol-d5	63	29-118
2,4,6-Tribromophenol	68	13-112
Nitrobenzene-d5	57	32-117
2-Fluorobiphenyl	55	38-121
Terphenyl-d14	72	29-143



Semivolatile Organics by GC/MS

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8270B
Project#: 95-113.54 Prep Method: EPA 3550
Location: P.O.O. Crowley Yard II Cleanup Method: EPA 3640

Field ID: S-B-8'-N Sampled: 06/30/98
Lab ID: 134353-005 Received: 06/30/98
Matrix: Soil Extracted: 07/07/98
Batch#: 41860 Analyzed: 07/09/98
Units: ug/Kg
Diln Fac: 2

Analyte	Result	Reporting Limit
Phenol	ND	670
2-Chlorophenol	ND	670
Benzyl alcohol	ND	670
2-Methylphenol	ND	670
3,4-Methylphenol	ND	670
2-Nitrophenol	ND	3300
2,4-Dimethylphenol	ND	670
Benzoic acid	ND	3300
2,4-Dichlorophenol	ND	670
4-Chloro-3-methylphenol	ND	670
2,4,6-Trichlorophenol	ND	670
2,4,5-Trichlorophenol	ND	670
2,4-Dinitrophenol	ND	3300
4-Nitrophenol	ND	3300
4,6-Dinitro-2-methylphenol	ND	3300
Pentachlorophenol	ND	3300
N-Nitrosodimethylamine	ND	670
Aniline	ND	670
bis(2-Chloroethyl) ether	ND	670
1,3-Dichlorobenzene	ND	670
1,4-Dichlorobenzene	ND	670
1,2-Dichlorobenzene	ND	670
bis(2-Chloroisopropyl) ether	ND	670
N-Nitroso-di-n-propylamine	ND	670
Hexachloroethane	ND	670
Nitrobenzene	ND	670
Isophorone	ND	670
bis(2-Chloroethoxy) methane	ND	670
1,2,4-Trichlorobenzene	ND	670
Naphthalene	ND	670
4-Chloroaniline	ND	670
Hexachlorobutadiene	ND	670
2-Methylnaphthalene	ND	670
Hexachlorocyclopentadiene	ND	3300
2-Chloronaphthalene	ND	670
2-Nitroaniline	ND	3300
Dimethylphthalate	ND	670
Acenaphthylene	ND	670



Semivolatile Organics by GC/MS

Field ID: S-B-8'-N	Sampled: 06/30/98
Lab ID: 134353-005	Received: 06/30/98
Matrix: Soil	Extracted: 07/07/98
Batch#: 41860	Analyzed: 07/09/98
Units: ug/Kg	
Diln Fac: 2	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	670
3-Nitroaniline	ND	3300
Acenaphthene	350 J	670
Dibenzofuran	ND	670
2,4-Dinitrotoluene	ND	670
Diethylphthalate	ND	670
4-Chlorophenyl-phenylether	ND	670
Fluorene	470 J	670
4-Nitroaniline	ND	3300
N-Nitrosodiphenylamine	ND	670
Azobenzene	ND	670
4-Bromophenyl-phenylether	ND	670
Hexachlorobenzene	ND	670
Phenanthrene	3800	670
Anthracene	1100	670
Di-n-butylphthalate	ND	670
Fluoranthene	6400	670
Benzidine	ND	670
Pyrene	5000	670
Butylbenzylphthalate	ND	670
3,3'-Dichlorobenzidine	ND	3300
Benzo (a) anthracene	3100	670
Chrysene	3400	670
bis(2-Ethylhexyl)phthalate	ND	670
Di-n-octylphthalate	ND	670
Benzo (b, k) fluoranthene	4900	670
Benzo (a) pyrene	1200	670
Indeno (1, 2, 3-cd) pyrene	430 J	670
Dibenz (a, h) anthracene	410 J	670
Benzo (g, h, i) perylene	ND	670

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	64	25-120
Phenol-d5	63	29-118
2,4,6-Tribromophenol	64	13-112
Nitrobenzene-d5	58	32-117
2-Fluorobiphenyl	59	38-121
Terphenyl-d14	74	29-143

J: Estimated Value



Semivolatile Organics by GC/MS

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8270B
Project#: 95-113.54 Prep Method: EPA 3550
Location: P.O.O. Crowley Yard II Cleanup Method: EPA 3640

Field ID: S-SP1-A,B,C,D Sampled: 06/30/98
Lab ID: 134353-006 Received: 06/30/98
Matrix: Soil Extracted: 07/07/98
Batch#: 41860 Analyzed: 07/09/98
Units: ug/Kg
Diln Fac: 2

Analyte	Result	Reporting Limit
Phenol	ND	670
2-Chlorophenol	ND	670
Benzyl alcohol	ND	670
2-Methylphenol	ND	670
3,4-Methylphenol	ND	670
2-Nitrophenol	ND	3300
2,4-Dimethylphenol	ND	670
Benzoic acid	ND	3300
2,4-Dichlorophenol	ND	670
4-Chloro-3-methylphenol	ND	670
2,4,6-Trichlorophenol	ND	670
2,4,5-Trichlorophenol	ND	670
2,4-Dinitrophenol	ND	3300
4-Nitrophenol	ND	3300
4,6-Dinitro-2-methylphenol	ND	3300
Pentachlorophenol	ND	3300
N-Nitrosodimethylamine	ND	670
Aniline	ND	670
bis(2-Chloroethyl) ether	ND	670
1,3-Dichlorobenzene	ND	670
1,4-Dichlorobenzene	ND	670
1,2-Dichlorobenzene	ND	670
bis(2-Chloroisopropyl) ether	ND	670
N-Nitroso-di-n-propylamine	ND	670
Hexachloroethane	ND	670
Nitrobenzene	ND	670
Isophorone	ND	670
bis(2-Chloroethoxy) methane	ND	670
1,2,4-Trichlorobenzene	ND	670
Naphthalene	ND	670
4-Chloroaniline	ND	670
Hexachlorobutadiene	ND	670
2-Methylnaphthalene	ND	670
Hexachlorocyclopentadiene	ND	3300
2-Chloronaphthalene	ND	670
2-Nitroaniline	ND	3300
Dimethylphthalate	ND	670
Acenaphthylene	ND	670



Semivolatile Organics by GC/MS

Field ID: S-SP1-A,B,C,D
Lab ID: 134353-006
Matrix: Soil
Batch#: 41860
Units: ug/Kg
Diln Fac: 2

Sampled: 06/30/98
Received: 06/30/98
Extracted: 07/07/98
Analyzed: 07/09/98

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	670
3-Nitroaniline	ND	3300
Acenaphthene	ND	670
Dibenzofuran	ND	670
2,4-Dinitrotoluene	ND	670
Diethylphthalate	ND	670
4-Chlorophenyl-phenylether	ND	670
Fluorene	ND	670
4-Nitroaniline	ND	3300
N-Nitrosodiphenylamine	ND	670
Azobenzene	ND	670
4-Bromophenyl-phenylether	ND	670
Hexachlorobenzene	ND	670
Phenanthrene	470 J	670
Anthracene	ND	670
Di-n-butylphthalate	ND	670
Fluoranthene	2700	670
Benzidine	ND	670
Pyrene	3400	670
Butylbenzylphthalate	ND	670
3,3'-Dichlorobenzidine	ND	3300
Benzo(a)anthracene	1900	670
Chrysene	2300	670
bis(2-Ethylhexyl)phthalate	ND	670
Di-n-octylphthalate	ND	670
Benzo(b,k)fluoranthene	3700	670
Benzo(a)pyrene	1200	670
Indeno(1,2,3-cd)pyrene	410 J	670
Dibenz(a,h)anthracene	ND	670
Benzo(g,h,i)perylene	ND	670

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	63	25-120
Phenol-d5	65	29-118
2,4,6-Tribromophenol	71	13-112
Nitrobenzene-d5	48	32-117
2-Fluorobiphenyl	52	38-121
Terphenyl-d14	74	29-143

J: Estimated Value



Semivolatile Organics by GC/MS

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8270B
Project#: 95-113.54 Prep Method: EPA 3550
Location: P.O.O. Crowley Yard II Cleanup Method: EPA 3640

Field ID: S-SP2-A,B,C,D Sampled: 06/30/98
Lab ID: 134353-007 Received: 06/30/98
Matrix: Soil Extracted: 07/07/98
Batch#: 41860 Analyzed: 07/10/98
Units: ug/Kg
Diln Fac: 2

Analyte	Result	Reporting Limit
Phenol	ND	670
2-Chlorophenol	ND	670
Benzyl alcohol	ND	670
2-Methylphenol	ND	670
3,4-Methylphenol	ND	670
2-Nitrophenol	ND	3300
2,4-Dimethylphenol	ND	670
Benzoic acid	ND	3300
2,4-Dichlorophenol	ND	670
4-Chloro-3-methylphenol	ND	670
2,4,6-Trichlorophenol	ND	670
2,4,5-Trichlorophenol	ND	670
2,4-Dinitrophenol	ND	3300
4-Nitrophenol	ND	3300
4,6-Dinitro-2-methylphenol	ND	3300
Pentachlorophenol	ND	3300
N-Nitrosodimethylamine	ND	670
Aniline	ND	670
bis(2-Chloroethyl) ether	ND	670
1,3-Dichlorobenzene	ND	670
1,4-Dichlorobenzene	ND	670
1,2-Dichlorobenzene	ND	670
bis(2-Chloroisopropyl) ether	ND	670
N-Nitroso-di-n-propylamine	ND	670
Hexachloroethane	ND	670
Nitrobenzene	ND	670
Isophorone	ND	670
bis(2-Chloroethoxy) methane	ND	670
1,2,4-Trichlorobenzene	ND	670
Naphthalene	ND	670
4-Chloroaniline	ND	670
Hexachlorobutadiene	ND	670
2-Methylnaphthalene	ND	670
Hexachlorocyclopentadiene	ND	3300
2-Chloronaphthalene	ND	670
2-Nitroaniline	ND	3300
Dimethylphthalate	ND	670
Acenaphthylene	ND	670



Semivolatile Organics by GC/MS

Field ID: S-SP2-A,B,C,D	Sampled: 06/30/98
Lab ID: 134353-007	Received: 06/30/98
Matrix: Soil	Extracted: 07/07/98
Batch#: 41860	Analyzed: 07/10/98
Units: ug/Kg	
Diln Fac: 2	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	670
3-Nitroaniline	ND	3300
Acenaphthene	ND	670
Dibenzofuran	ND	670
2,4-Dinitrotoluene	ND	670
Diethylphthalate	ND	670
4-Chlorophenyl-phenylether	ND	670
Fluorene	ND	670
4-Nitroaniline	ND	3300
N-Nitrosodiphenylamine	ND	670
Azobenzene	ND	670
4-Bromophenyl-phenylether	ND	670
Hexachlorobenzene	ND	670
Phenanthrene	ND	670
Anthracene	ND	670
Di-n-butylphthalate	ND	670
Fluoranthene	460 J	670
Benzidine	ND	670
Pyrene	540 J	670
Butylbenzylphthalate	ND	670
3,3'-Dichlorobenzidine	ND	3300
Benzo (a) anthracene	ND	670
Chrysene	380 J	670
bis (2-Ethylhexyl) phthalate	ND	670
Di-n-octylphthalate	ND	670
Benzo (b, k) fluoranthene	680	670
Benzo (a) pyrene	ND	670
Indeno (1, 2, 3-cd) pyrene	ND	670
Dibenz (a, h) anthracene	ND	670
Benzo (g, h, i) perylene	ND	670

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	65	25-120
Phenol-d5	62	29-118
2,4,6-Tribromophenol	72	13-112
Nitrobenzene-d5	57	32-117
2-Fluorobiphenyl	58	38-121
Terphenyl-d14	79	29-143

J: Estimated Value



Semivolatile Organics by GC/MS

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8270B
Project#: 95-113.54 Prep Method: EPA 3520
Location: P.O.O. Crowley Yard II

Field ID: W-TP-A Sampled: 06/30/98
Lab ID: 134353-008 Received: 06/30/98
Matrix: Water Extracted: 07/01/98
Batch#: 41782 Analyzed: 07/06/98
Units: ug/L
Diln Fac: 5

Analyte	Result	Reporting Limit
Phenol	ND	240
2-Chlorophenol	ND	240
Benzyl alcohol	ND	240
2-Methylphenol	ND	240
3,4-Methylphenol	ND	240
2-Nitrophenol	ND	1200
2,4-Dimethylphenol	ND	240
Benzoic acid	ND	1200
2,4-Dichlorophenol	ND	240
4-Chloro-3-methylphenol	ND	240
2,4,6-Trichlorophenol	ND	240
2,4,5-Trichlorophenol	ND	240
2,4-Dinitrophenol	ND	1200
4-Nitrophenol	ND	1200
4,6-Dinitro-2-methylphenol	ND	1200
Pentachlorophenol	ND	240
N-Nitrosodimethylamine	ND	240
Aniline	ND	240
bis(2-Chloroethyl) ether	ND	240
1,3-Dichlorobenzene	ND	240
1,4-Dichlorobenzene	ND	240
1,2-Dichlorobenzene	ND	240
bis(2-Chloroisopropyl) ether	ND	240
N-Nitroso-di-n-propylamine	ND	240
Hexachloroethane	ND	240
Nitrobenzene	ND	240
Isophorone	ND	240
bis(2-Chloroethoxy) methane	ND	240
1,2,4-Trichlorobenzene	ND	240
Naphthalene	ND	240
4-Chloroaniline	ND	240
Hexachlorobutadiene	ND	240
2-Methylnaphthalene	ND	240
Hexachlorocyclopentadiene	ND	1200
2-Chloronaphthalene	ND	240
2-Nitroaniline	ND	1200
Dimethylphthalate	ND	240
Acenaphthylene	ND	240



Semivolatile Organics by GC/MS

Field ID: W-TP-A	Sampled: 06/30/98
Lab ID: 134353-008	Received: 06/30/98
Matrix: Water	Extracted: 07/01/98
Batch#: 41782	Analyzed: 07/06/98
Units: ug/L	
Diln Fac: 5	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	240
3-Nitroaniline	ND	1200
Acenaphthene	ND	240
Dibenzofuran	ND	240
2,4-Dinitrotoluene	ND	240
Diethylphthalate	ND	240
4-Chlorophenyl-phenylether	ND	240
Fluorene	ND	240
4-Nitroaniline	ND	1200
N-Nitrosodiphenylamine	ND	240
Azobenzene	ND	240
4-Bromophenyl-phenylether	ND	240
Hexachlorobenzene	ND	240
Phenanthrene	150 J	240
Anthracene	130 J	240
Di-n-butylphthalate	ND	240
Fluoranthene	1400	240
Pyrene	1700	240
Butylbenzylphthalate	ND	240
3,3'-Dichlorobenzidine	ND	1200
Benzo(a)anthracene	930	240
Chrysene	880	240
bis(2-Ethylhexyl)phthalate	ND	240
Di-n-octylphthalate	ND	240
Benzo(b,k)fluoranthene	1600	240
Benzo(a)pyrene	760	240
Indeno(1,2,3-cd)pyrene	250	240
Dibenz(a,h)anthracene	ND	240
Benzo(g,h,i)perylene	260	240

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	DO*	17-107
Phenol-d5	DO*	18-115
2,4,6-Tribromophenol	DO*	14-121
Nitrobenzene-d5	DO*	36-115
2-Fluorobiphenyl	DO*	36-113
Terphenyl-d14	DO*	17-115

J: Estimated Value

* Values outside of QC limits

DO: Surrogate diluted out



Semivolatile Organics by GC/MS

Client: Innovative Technical Solutions, Inc.
Project#: 95-113.54
Location: P.O.O. Crowley Yard II

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: W-TP-B
Lab ID: 134353-009
Matrix: Water
Batch#: 41782
Units: ug/L
Diln Fac: 1

Sampled: 06/30/98
Received: 06/30/98
Extracted: 07/01/98
Analyzed: 07/06/98

Analyte	Result	Reporting Limit
Phenol	ND	47
2-Chlorophenol	ND	47
Benzyl alcohol	ND	47
2-Methylphenol	ND	47
3,4-Methylphenol	ND	47
2-Nitrophenol	ND	240
2,4-Dimethylphenol	ND	47
Benzoic acid	ND	240
2,4-Dichlorophenol	ND	47
4-Chloro-3-methylphenol	ND	47
2,4,6-Trichlorophenol	ND	47
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	240
4-Nitrophenol	ND	240
4,6-Dinitro-2-methylphenol	ND	240
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	47
Aniline	ND	47
bis(2-Chloroethyl) ether	ND	47
1,3-Dichlorobenzene	ND	47
1,4-Dichlorobenzene	ND	47
1,2-Dichlorobenzene	ND	47
bis(2-Chloroisopropyl) ether	ND	47
N-Nitroso-di-n-propylamine	ND	47
Hexachloroethane	ND	47
Nitrobenzene	ND	47
Isophorone	ND	47
bis(2-Chloroethoxy)methane	ND	47
1,2,4-Trichlorobenzene	ND	47
Naphthalene	ND	47
4-Chloroaniline	ND	47
Hexachlorobutadiene	ND	47
2-Methylnaphthalene	ND	47
Hexachlorocyclopentadiene	ND	240
2-Chloronaphthalene	ND	47
2-Nitroaniline	ND	240
Dimethylphthalate	ND	47
Acenaphthylene	ND	47



Semivolatile Organics by GC/MS

Field ID: W-TP-B	Sampled: 06/30/98
Lab ID: 134353-009	Received: 06/30/98
Matrix: Water	Extracted: 07/01/98
Batch#: 41782	Analyzed: 07/06/98
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	47
3-Nitroaniline	ND	240
Acenaphthene	ND	47
Dibenzofuran	ND	47
2,4-Dinitrotoluene	ND	47
Diethylphthalate	ND	47
4-Chlorophenyl-phenylether	ND	47
Fluorene	ND	47
4-Nitroaniline	ND	240
N-Nitrosodiphenylamine	ND	47
Azobenzene	ND	47
4-Bromophenyl-phenylether	ND	47
Hexachlorobenzene	ND	47
Phenanthrene	ND	47
Anthracene	ND	47
Di-n-butylphthalate	ND	47
Fluoranthene	90	47
Pyrene	150	47
Butylbenzylphthalate	ND	47
3,3'-Dichlorobenzidine	ND	240
Benzo(a)anthracene	59	47
Chrysene	38 J	47
bis(2-Ethylhexyl)phthalate	ND	47
Di-n-octylphthalate	ND	47
Benzo(b,k)fluoranthene	ND	47
Benzo(a)pyrene	51	47
Indeno(1,2,3-cd)pyrene	ND	47
Dibenz(a,h)anthracene	ND	47
Benzo(g,h,i)perylene	ND	47

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	90	17-107
Phenol-d5	96	18-115
2,4,6-Tribromophenol	73	14-121
Nitrobenzene-d5	98	36-115
2-Fluorobiphenyl	91	36-113
Terphenyl-d14	51	17-115

J: Estimated Value



Lab #: 134353

BATCH QC REPORT

Client: Innovative Technical Solutions, Inc.		Analysis Method: EPA 8270B	
Project#: 95-113.54		Prep Method: EPA 3550	
Location: P.O.O. Crowley Yard II		Cleanup Method: EPA 3640	
METHOD BLANK			
Matrix: Soil		Prep Date: 07/07/98	
Batch#: 41860		Analysis Date: 07/09/98	
Units: ug/Kg			
Diln Fac: 1			

MB Lab ID: QC74310

Analyte	Result	Reporting Limit
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl alcohol	ND	330
2-Methylphenol	ND	330
3,4-Methylphenol	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
2,4-Dichlorophenol	ND	330
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
Pentachlorophenol	ND	1700
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
bis(2-Chloroethyl) ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
bis(2-Chloroisopropyl) ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
bis(2-Chloroethoxy) methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	1700
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700



Lab #: 134353

BATCH QC REPORT

Client: Innovative Technical Solutions, Inc.			Analysis Method: EPA 8270B		
Project#: 95-113.54			Prep Method: EPA 3550		
Location: P.O.O. Crowley Yard II			Cleanup Method: EPA 3640		
METHOD BLANK					
Matrix: Soil		Prep Date: 07/07/98			
Batch#: 41860		Analysis Date: 07/09/98			
Units: ug/Kg					
Diln Fac: 1					

MB Lab ID: QC74310

Analyte	Result	Reporting Limit
Acenaphthene	ND	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	ND	330
4-Nitroaniline	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Benzidine	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b,k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330
Surrogate	%Rec	Recovery Limits
2-Fluorophenol	56	25-120
Phenol-d5	58	29-118
2,4,6-Tribromophenol	54	13-112
Nitrobenzene-d5	46	32-117
2-Fluorobiphenyl	43	38-121
Terphenyl-d14	53	29-143

Lab #: 134353

BATCH QC REPORT

Curtis & Tompkins, Ltd.
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EPA 8270 Semi-Volatile Organics

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8270B
 Project#: 95-113.54 Prep Method: EPA 3520
 Location: P.O.O. Crowley Yard II

METHOD BLANK

Matrix: Water Prep Date: 07/01/98
 Batch#: 41782 Analysis Date: 07/06/98
 Units: ug/L
 Diln Fac: 1

MB Lab ID: QC73995

Analyte	Result	Reporting Limit
Phenol	ND	10
2-Chlorophenol	ND	10
Benzyl alcohol	ND	10
2-Methylphenol	ND	10
3,4-Methylphenol	ND	10
2-Nitrophenol	ND	50
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
2,4-Dichlorophenol	ND	10
4-Chloro-3-methylphenol	ND	10
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50
4,6-Dinitro-2-methylphenol	ND	50
Pentachlorophenol	ND	10
N-Nitrosodimethylamine	ND	10
Aniline	ND	10
bis(2-Chloroethyl) ether	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
1,2-Dichlorobenzene	ND	10
bis(2-Chloroisopropyl) ether	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
bis(2-Chloroethoxy)methane	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	50
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	50

Lab #: 134353

BATCH QC REPORT

Curtis & Tompkins, Ltd.
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EPA 8270 Semi-Volatile Organics

Client: Innovative Technical Solutions, Inc. Analysis Method: EPA 8270B
 Project#: 95-113.54 Prep Method: EPA 3520
 Location: P.O.O. Crowley Yard II

METHOD BLANK

Matrix: Water Prep Date: 07/01/98
 Batch#: 41782 Analysis Date: 07/06/98
 Units: ug/L
 Diln Fac: 1

MB Lab ID: QC73995

Analyte	Result	Reporting Limit
Acenaphthene	ND	10
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
4-Chlorophenyl-phenylether	ND	10
Fluorene	ND	10
4-Nitroaniline	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	50
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b,k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10
Surrogate	%Rec	Recovery Limits
2-Fluorophenol	63	17-107
Phenol-d5	68	18-115
2,4,6-Tribromophenol	60	14-121
Nitrobenzene-d5	71	36-115
2-Fluorobiphenyl	70	36-113
Terphenyl-d14	66	17-115

Lab #: 134353

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Innovative Technical Solutions, Inc.	Analysis Method: EPA 8270B
Project#: 95-113.54	Prep Method: EPA 3550
Location: P.O.O. Crowley Yard II	Cleanup Method: EPA 3640

LABORATORY CONTROL SAMPLE

Matrix: Soil	Prep Date: 07/07/98
Batch#: 41860	Analysis Date: 07/09/98
Units: ug/Kg	
Diln Fac: 1	

LCS Lab ID: QC74311

Analyte	Result	Spike Added	%Rec #	Limits
Phenol	2086	3333	63	31-124
2-Chlorophenol	1764	3333	53	35-127
4-Chloro-3-methylphenol	1943	3333	58	32-124
4-Nitrophenol	1947	3333	58	21-109
Pentachlorophenol	1744	3333	52	14-110
1,4-Dichlorobenzene	865.7	1667	52	29-118
N-Nitroso-di-n-propylamine	923.4	1667	55	18-112
1,2,4-Trichlorobenzene	888.2	1667	53	27-117
Acenaphthene	788.1	1667	47	26-127
2,4-Dinitrotoluene	823.6	1667	49	25-114
Pyrene	664	1667	40	23-125
Surrogate	%Rec	Limits		
2-Fluorophenol	65	25-120		
Phenol-d5	65	29-118		
2,4,6-Tribromophenol	65	13-112		
Nitrobenzene-d5	52	32-117		
2-Fluorobiphenyl	49	38-121		
Terphenyl-d14	49	29-143		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 11 outside limits

Lab #: 134353

BATCH QC REPORT



Curtis & Tompkins Ltd.
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EPA 8270 Semi-Volatile Organics			
Client: Innovative Technical Solutions, Inc.	Analysis Method: EPA 8270B		
Project#: 95-113.54	Prep Method: EPA 3520		
Location: P.O.O. Crowley Yard II			
BLANK SPIKE/BLANK SPIKE DUPLICATE			
Matrix: Water	Prep Date: 07/01/98		
Batch#: 41782	Analysis Date: 07/06/98		
Units: ug/L			
Diln Fac: 1			

BS Lab ID: QC73996

Analyte	Spike Added	BS	%Rec #	Limits
Phenol	100	55.71	56	45-110
2-Chlorophenol	100	52.78	53	50-110
4-Chloro-3-methylphenol	100	58.13	58	48-110
4-Nitrophenol	100	56.04	56	30-110
Pentachlorophenol	100	58.11	58	10-110
1,4-Dichlorobenzene	50	23.25	46	38-110
N-Nitroso-di-n-propylamine	50	30.3	61	29-110
1,2,4-Trichlorobenzene	50	25.39	51	41-110
Acenaphthene	50	28.91	58	50-110
2,4-Dinitrotoluene	50	27.76	56	40-110
Pyrene	50	26.35	53	43-110
Surrogate	%Rec	Limits		
2-Fluorophenol	52	17-107		
Phenol-d5	60	18-115		
2,4,6-Tribromophenol	58	14-121		
Nitrobenzene-d5	63	36-115		
2-Fluorobiphenyl	63	36-113		
Terphenyl-d14	59	17-115		

BSD Lab ID: QC73997

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Phenol	100	59.15	59	45-110	6	23
2-Chlorophenol	100	55.79	56	50-110	6	23
4-Chloro-3-methylphenol	100	62.88	63	48-110	8	20
4-Nitrophenol	100	64.37	64	30-110	14	26
Pentachlorophenol	100	66.55	67	10-110	14	44
1,4-Dichlorobenzene	50	23.58	47	38-110	1	21
N-Nitroso-di-n-propylamine	50	33.39	67	29-110	10	22
1,2,4-Trichlorobenzene	50	26.64	53	41-110	5	21
Acenaphthene	50	31.5	63	50-110	9	18
2,4-Dinitrotoluene	50	31.16	62	40-110	12	19
Pyrene	50	28.55	57	43-110	8	19
Surrogate	%Rec	Limits				
2-Fluorophenol	53	17-107				
Phenol-d5	62	18-115				
2,4,6-Tribromophenol	61	14-121				
Nitrobenzene-d5	66	36-115				
2-Fluorobiphenyl	66	36-113				
Terphenyl-d14	63	17-115				

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits
 RPD: 0 out of 11 outside limits
 Spike Recovery: 0 out of 22 outside limits

Lab #: 134353

BATCH QC REPORT

Curtis & Tompkins, Ltd.
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EPA 8270 Semi-Volatile Organics

Client: Innovative Technical Solutions, Inc.	Analysis Method: EPA 8270B
Project#: 95-113.54	Prep Method: EPA 3550
Location: P.O.O. Crowley Yard II	Cleanup Method: EPA 3640

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: S-A-7'-N	Sample Date: 06/30/98
Lab ID: 134353-002	Received Date: 06/30/98
Matrix: Soil	Prep Date: 07/07/98
Batch#: 41860	Analysis Date: 07/09/98
Units: ug/Kg	
Diln Fac: 1	

MS Lab ID: QC74312

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Phenol	3333	<333.3	1887	57	43-115
2-Chlorophenol	3333	<333.3	1685	51	45-117
4-Chloro-3-methylphenol	3333	<333.3	2034	61	44-113
4-Nitrophenol	3333	<1667	2530	76	29-110
Pentachlorophenol	3333	<1667	1787	54	10-110
1,4-Dichlorobenzene	1667	<333.3	883.8	53	21-114
N-Nitroso-di-n-propylamine	1667	<333.3	862.6	52	30-105
1,2,4-Trichlorobenzene	1667	<333.3	1094	66	28-115
Acenaphthene	1667	205.1	1016	49	34-128
2,4-Dinitrotoluene	1667	<333.3	889.5	53	17-112
Pyrene	1667	1727	1544	-10 *	21-152
Surrogate	%Rec	Limits			
2-Fluorophenol	60	25-120			
Phenol-d5	61	29-118			
2,4,6-Tribromophenol	67	13-112			
Nitrobenzene-d5	58	32-117			
2-Fluorobiphenyl	55	38-121			
Terphenyl-d14	72	29-143			

MSD Lab ID: QC74313

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Phenol	3333	1709	51	43-115	10	40
2-Chlorophenol	3333	1488	45	45-117	12	43
4-Chloro-3-methylphenol	3333	1926	58	44-113	5	39
4-Nitrophenol	3333	2215	66	29-110	13	50
Pentachlorophenol	3333	1259	38	10-110	35	50
1,4-Dichlorobenzene	1667	739.5	44	21-114	18	43
N-Nitroso-di-n-propylamine	1667	792.3	48	30-105	8	43
1,2,4-Trichlorobenzene	1667	965.2	58	28-115	13	38
Acenaphthene	1667	1004	48	34-128	1	43
2,4-Dinitrotoluene	1667	850.1	51	17-112	5	46
Pyrene	1667	>LR	NM	21-152	50	50
Surrogate	%Rec	Limits				
2-Fluorophenol	51	25-120				
Phenol-d5	54	29-118				
2,4,6-Tribromophenol	60	13-112				
Nitrobenzene-d5	52	32-117				
2-Fluorobiphenyl	52	38-121				
Terphenyl-d14	78	29-143				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 1 out of 22 outside limits

NM: Not meaningful

LR: Over linear range

DO: Surrogate diluted out

CLIENT: Innovative Technical Solutions, Inc.
 PROJECT ID: 95-113.54
 LOCATION: P.O.O. Crowley Yard II
 MATRIX: Soil

DATE REPORTED: 07/16/98

Metals Analytical Report

Cadmium

Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
S-A-7'-N	134353-002	06/30/98	06/30/98	ND	0.097	1	41834	EPA 6010A	07/08/98
S-A-7'-S	134353-003	06/30/98	06/30/98	ND	0.096	1	41834	EPA 6010A	07/08/98
S-B-8'-S	134353-004	06/30/98	06/30/98	ND	0.094	1	41834	EPA 6010A	07/08/98
S-B-8'-N	134353-005	06/30/98	06/30/98	ND	0.095	1	41834	EPA 6010A	07/08/98
S-SP1-A,B,C,D	134353-006	06/30/98	06/30/98	ND	0.099	1	41834	EPA 6010A	07/08/98
S-SP2-A,B,C,D	134353-007	06/30/98	06/30/98	ND	0.095	1	41834	EPA 6010A	07/08/98

ND = Not detected at or above reporting limit



Curtis & Tompkins, Ltd.

CLIENT: Innovative Technical Solutions, Inc.
PROJECT ID: 95-113.54
LOCATION: P.O.O. Crowley Yard II
MATRIX: Soil

DATE REPORTED: 07/16/98

Metals Analytical Report

Chromium (total)

Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
S-A-7'-N	134353-002	06/30/98	06/30/98	41	0.48	1	41834	EPA 6010A	07/08/98
S-A-7'-S	134353-003	06/30/98	06/30/98	24	0.48	1	41834	EPA 6010A	07/08/98
S-B-8'-S	134353-004	06/30/98	06/30/98	19	0.47	1	41834	EPA 6010A	07/08/98
S-B-8'-N	134353-005	06/30/98	06/30/98	26	0.48	1	41834	EPA 6010A	07/08/98
S-SP1-A, B, C, D	134353-006	06/30/98	06/30/98	18	0.49	1	41834	EPA 6010A	07/08/98
S-SP2-A, B, C, D	134353-007	06/30/98	06/30/98	31	0.47	1	41834	EPA 6010A	07/08/98



Curtis & Tompkins, Ltd.

CLIENT: Innovative Technical Solutions, Inc.
 PROJECT ID: 95-113.54
 LOCATION: P.O.O. Crowley Yard II
 MATRIX: Soil

DATE REPORTED: 07/16/98

Metals Analytical Report

Lead

Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
S-A-7'-N	134353-002	06/30/98	06/30/98	24	0.14	1	41834	EPA 6010A	07/08/98
S-A-7'-S	134353-003	06/30/98	06/30/98	5.4	0.14	1	41834	EPA 6010A	07/08/98
S-B-8'-S	134353-004	06/30/98	06/30/98	33	0.14	1	41834	EPA 6010A	07/08/98
S-B-8'-N	134353-005	06/30/98	06/30/98	19	0.14	1	41834	EPA 6010A	07/08/98
S-SP1-A,B,C,D	134353-006	06/30/98	06/30/98	11	0.15	1	41834	EPA 6010A	07/08/98
S-SP2-A,B,C,D	134353-007	06/30/98	06/30/98	52	0.14	1	41834	EPA 6010A	07/08/98



Curtis & Tompkins, Ltd.

CLIENT: Innovative Technical Solutions, Inc.
PROJECT ID: 95-113.54
LOCATION: P.O.O. Crowley Yard II
MATRIX: Soil

DATE REPORTED: 07/16/98

Metals Analytical Report

Nickel

Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
S-A-7'-N	134353-002	06/30/98	06/30/98	36	0.97	1	41834	EPA 6010A	07/08/98
S-A-7'-S	134353-003	06/30/98	06/30/98	17	0.96	1	41834	EPA 6010A	07/08/98
S-B-8'-S	134353-004	06/30/98	06/30/98	20	0.94	1	41834	EPA 6010A	07/08/98
S-B-8'-N	134353-005	06/30/98	06/30/98	24	0.95	1	41834	EPA 6010A	07/08/98
S-SP1-A, B, C, D	134353-006	06/30/98	06/30/98	17	0.99	1	41834	EPA 6010A	07/08/98
S-SP2-A, B, C, D	134353-007	06/30/98	06/30/98	23	0.95	1	41834	EPA 6010A	07/08/98



Curtis & Tompkins, Ltd.

CLIENT: Innovative Technical Solutions, Inc.
 PROJECT ID: 95-113.54
 LOCATION: P.O.O. Crowley Yard II
 MATRIX: Soil

DATE REPORTED: 07/16/98

Metals Analytical Report

Zinc

Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
S-A-7'-N	134353-002	06/30/98	06/30/98	82	0.97	1	41834	EPA 6010A	07/08/98
S-A-7'-S	134353-003	06/30/98	06/30/98	110	0.96	1	41834	EPA 6010A	07/08/98
S-B-8'-S	134353-004	06/30/98	06/30/98	110	0.94	1	41834	EPA 6010A	07/08/98
S-B-8'-N	134353-005	06/30/98	06/30/98	93	0.95	1	41834	EPA 6010A	07/08/98
S-SP1-A,B,C,D	134353-006	06/30/98	06/30/98	89	0.99	1	41834	EPA 6010A	07/08/98
S-SP2-A,B,C,D	134353-007	06/30/98	06/30/98	130	0.95	1	41834	EPA 6010A	07/08/98



Curtis & Tompkins, Ltd.



Curtis & Tompkins, Ltd.

SAMPLE ID: W-TP-A
LAB ID: 134353-008
CLIENT: Innovative Technical Solutions, Inc.
PROJECT ID: 95-113.54
LOCATION: P.O.O. Crowley Yard II
MATRIX: Water

DATE SAMPLED: 06/30/98
DATE RECEIVED: 06/30/98
DATE REPORTED: 07/16/98

Metals Analytical Report

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Cadmium	ND	5.0	1	41835	EPA 6010A	07/08/98
Chromium (total)	570	10	1	41835	EPA 6010A	07/08/98
Lead	350	3.0	1	41835	EPA 6010A	07/08/98
Nickel	510	20	1	41835	EPA 6010A	07/08/98
Zinc	2400	20	1	41835	EPA 6010A	07/08/98

ND = Not detected at or above reporting limit



Curtis & Tompkins, Ltd.

SAMPLE ID: W-TP-B
LAB ID: 134353-009
CLIENT: Innovative Technical Solutions, Inc.
PROJECT ID: 95-113.54
LOCATION: P.O.O. Crowley Yard II
MATRIX: Water

DATE SAMPLED: 06/30/98
DATE RECEIVED: 06/30/98
DATE REPORTED: 07/16/98

Metals Analytical Report

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Cadmium	ND	5.0	1	41835	EPA 6010A	07/08/98
Chromium (total)	68	10	1	41835	EPA 6010A	07/08/98
Lead	140	3.0	1	41835	EPA 6010A	07/08/98
Nickel	54	20	1	41835	EPA 6010A	07/08/98
Zinc	420	20	1	41835	EPA 6010A	07/08/98

ND = Not detected at or above reporting limit

CLIENT: Innovative Technical Solutions, Inc.
JOB NUMBER: 134353


DATE REPORTED: 07/16/98

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Units	Limit	IDF	QC Batch	Method	Analysis Date
Cadmium	ND	0.1	mg/Kg	1	41834	EPA 6010A	07/08/98
Cadmium	ND	5	ug/L	1	41835	EPA 6010A	07/08/98
Chromium (total)	ND	0.5	mg/Kg	1	41834	EPA 6010A	07/08/98
Chromium (total)	ND	10	ug/L	1	41835	EPA 6010A	07/08/98
Lead	ND	0.15	mg/Kg	1	41834	EPA 6010A	07/08/98
Lead	ND	3	ug/L	1	41835	EPA 6010A	07/08/98
Nickel	ND	1	mg/Kg	1	41834	EPA 6010A	07/08/98
Nickel	ND	20	ug/L	1	41835	EPA 6010A	07/08/98
Zinc	ND	1	mg/Kg	1	41834	EPA 6010A	07/08/98
Zinc	ND	20	ug/L	1	41835	EPA 6010A	07/08/98

ND = Not Detected at or above reporting limit

CLIENT: Innovative Technical Solutions, Inc.
JOB NUMBER: 134353

 Curtis & Tompkins, Ltd.
DATE REPORTED: 08/10/98

BATCH QC REPORT
LABORATORY CONTROL SAMPLE

Compound	Spike Amt	Result	Units	% Rec.	QC Batch	Method	Analysis Date
Cadmium	2.5	2.455	mg/Kg	98	41834	EPA 6010A	07/08/98
Cadmium	50	54.9	ug/L	110	41835	EPA 6010A	07/08/98
Chromium (total)	10	9.65	mg/Kg	97	41834	EPA 6010A	07/08/98
Chromium (total)	200	209	ug/L	105	41835	EPA 6010A	07/08/98
Lead	25	23.2	mg/Kg	93	41834	EPA 6010A	07/08/98
Lead	500	528	ug/L	106	41835	EPA 6010A	07/08/98
Nickel	25	23.95	mg/Kg	96	41834	EPA 6010A	07/08/98
Nickel	500	538	ug/L	108	41835	EPA 6010A	07/08/98
Zinc	25	25.85	mg/Kg	103	41834	EPA 6010A	07/08/98
Zinc	500	543	ug/L	109	41835	EPA 6010A	07/08/98



Hydrocarbon Oil & Grease

Client: Innovative Technical Solutions, Inc.
Project #: 95-113.54
Location : P.O.O. Crowley Yard II

Analysis Method: SMWW 17:5520EF
Prep Method: SMWW 17:5520EF

Sample #	Client ID	Batch#	Sampled	Analyzed	Moisture
134353-002	S-A-7'-N	41888	30-JUN-98	08-JUL-98	-
134353-003	S-A-7'-S	41888	30-JUN-98	08-JUL-98	-
134353-004	S-B-8'-S	41888	30-JUN-98	08-JUL-98	-
134353-005	S-B-8'-N	41888	30-JUN-98	08-JUL-98	-
134353-006	S-SP1-A,B,C,D	41888	30-JUN-98	08-JUL-98	-
134353-007	S-SP2-A,B,C,D	41888	30-JUN-98	08-JUL-98	-
QC74403	Method Blank	41888	-	08-JUL-98	-

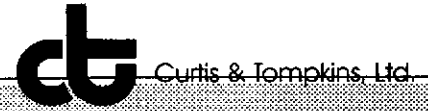
Analyte: Total Oil & Grease

Matrix: Soil

Units: mg/Kg

Sample #	Client ID	Result	Reporting Limit	Dilution Factor
134353-002	S-A-7'-N	650	50	1
134353-003	S-A-7'-S	130	50	1
134353-004	S-B-8'-S	430	50	1
134353-005	S-B-8'-N	230	50	1
134353-006	S-SP1-A,B,C,D	470	50	1
134353-007	S-SP2-A,B,C,D	180	50	1
QC74403	Method Blank	ND	50	1

ND = None Detected at or above Reporting Limit



Hydrocarbon Oil & Grease

Client: Innovative Technical Solutions, Inc.
Project #: 95-113.54
Location : P.O.O. Crowley Yard II

Analysis Method: SMWW 17:5520EF
Prep Method: SMWW 17:5520EF

Sample #	Client ID	Batch#	Sampled	Analyzed	Moisture
QC74404	Blank Spike	41888	-	08-JUL-98	-
QC74405	BSD of QC74404	41888	-	08-JUL-98	-

Analyte: Total Oil & Grease

Matrix: Soil

Units: mg/Kg

Sample #	Sample Type	Spike Amt.	Result	%Rec	Limits	%RPD	Limit
QC74404	Blank Spike	159.9	143.6	90	80-120		
QC74405	BSD of QC74404	139.7	124.5	89	80-120	1	20



Hydrocarbon Oil & Grease

Client: Innovative Technical Solutions, Inc.
Project #: 95-113.54
Location : P.O.O. Crowley Yard II

Analysis Method: SMWW 17:5520BF
Prep Method: SMWW 17:5520BF

Sample #	Client ID	Batch#	Sampled	Analyzed	Moisture
134353-008	W-TP-A	41849	30-JUN-98	07-JUL-98	-
134353-009	W-TP-B	41849	30-JUN-98	07-JUL-98	-
QC74260	Method Blank	41849	-	07-JUL-98	-

Analyte: Total Oil & Grease

Matrix: Water

Units: mg/L

Sample #	Client ID	Result	Reporting Limit	Dilution Factor
134353-008	W-TP-A	ND	5.0	1
134353-009	W-TP-B	56	5.0	1
QC74260	Method Blank	ND	5.0	1

ND = None Detected at or above Reporting Limit



Hydrocarbon Oil & Grease

Client: Innovative Technical Solutions, Inc.
Project #: 95-113.54
Location : P.O.O. Crowley Yard II

Analysis Method: SMWW 17:5520BF
Prep Method: SMWW 17:5520BF

Sample #	Client ID	Batch#	Sampled	Analyzed	Moisture
QC74261	Blank Spike	41849	-	07-JUL-98	-
QC74262	BSD of QC74261	41849	-	07-JUL-98	-

Analyte: Total Oil & Grease

Matrix: Water

Units: mg/L

Sample #	Sample Type	Spike Amt.	Result	%Rec	Limits	%RPD	Limit
QC74261	Blank Spike	189.7	153.4	81	80-120		
QC74262	BSD of QC74261	207.4	174.0	84	80-120	4	20



1330 Broadway, Suite 1125
 Oakland, California 94612
 (510) 286-8888 (Tel), (510) 286-8889 (Fax)

134353

PROJECT NAME: Port of Oakland - Crowley Yard II / Pacific Drydock
 PROJECT NUMBER: 95-113.54
 SITE LOCATION: 325 Embarcadero Rd., Oakland CA.

DATE: 6/30/98
 PAGE: 1 of 1

CHAIN OF CUSTODY

SAMPLE I.D.	SAMPLE DEPTH	DATE	TIME	NUMBER OF CONTAINERS	TYPE OF CONTAINERS	SAMPLE MATRIX	ANALYSIS										SPECIAL INSTRUCTIONS/COMMENTS							
							TPH as Gas/BTEX - 8015/8020 <i>w/MTBE</i>	TPH as Diesel - 8015	TPH as Diesel - 8015 (w/ Silica Gel Cleanup)	TEPH - 8015	TEPH-8015 (w/ Silica Gel Cleanup)	TRPH - 418.1	Oil and Grease - 5520	Purgeable Halocarbons - 601/6020 <i>602</i>	VOCs - 624/8240	SVOCs - 625/8270		LUFT Metals (Cd, Cr, Ni, Pb, Zn)	CAM 17 Metals					
-1 Trip Blank	—	Lab Provided	—	1	Voa	W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
-2 S-A-7'-N	7'	6/30/98	1725	1	BRASS SKEWE	S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
-3 S-A-7'-S	7'		1725	1		S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
-4 S-B-8'-S	8'		1735	1		S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
-5 S-B-8'-N	8'		1740	1		S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
-6 S-SP1-ABCD	~1'		1440	4		S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
-7 S-SP2-ABCD	~1'		1830	4		S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
85 W-TP-A	—		1600	6	Voa 1 EA + Solid Ph	W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Visible Hydrocarbons Present (oil droplets)		
↓	—		↓	5		W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
95 W-TP-B	—		1800	6	Voa 1 EA + Solid Ph	W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
↓	—		↓	5		W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
TOTAL NUMBER OF CONTAINERS							35	TOTAL TESTS							27	8	8	9	8	8	NOT USED (55) 6/30/98			

Curtis & Tompkins
 Berkeley, CA

SAMPLED BY: Jim Schollard / ITSI SIGNATURE: [Signature]
 SPECIAL INSTRUCTIONS/COMMENTS: Please Provide Chromats; Standard T.A.T.

RELINQUISHED BY: <u>Jim Schollard / ITSI</u> Printed Name: _____ Signature: _____ Company: <u>ITSI</u> Date and Time: <u>7/1/98 11:46</u>	RELINQUISHED BY: _____ Printed Name: _____ Signature: _____ Company: _____ Date and Time: _____	RELINQUISHED BY: _____ Printed Name: _____ Signature: _____ Company: _____ Date and Time: _____
RECEIVED BY: <u>Jose Delgado</u> Printed Name: _____ Signature: _____ Company: <u>CEIT</u> Date and Time: <u>7/1/98 11:46</u>	RECEIVED BY: _____ Printed Name: _____ Signature: _____ Company: _____ Date and Time: _____	RECEIVED BY: _____ Printed Name: _____ Signature: _____ Company: _____ Date and Time: _____

SEND-RESULTS TO: Jim Schollard / Jeff Hess at ITSI, Walnut Creek; Fax to Jeff Hess