GROUNDWATER TECHNOLOGY, INC.

ENVIRONMENTAL PROTECTION
95 MAR 15 PM 1:12

1401 Halyard Drive, Suite 140, West Sacramento, CA 95691, (916) 372-4700
FAX (916) 372-8781

TO: Ms. Eva Chu
Alameda County
Department of Environmental Protection
1131 Parkway Avenue
Alameda, CA 94502

DATE: 3/10/95 JOB NO. 02070 0044
FROM: David N. Little
RE: Former Texaco Service Station No. 618571050
930 Springtown Road
Livermore, California

We are sending via: [ ] AIRBORNE [X] MAIL [ ] FAX

ORIGINALS	COPIES	DATE	DESCRIPTION
1		3/10/95	Start-up Report

Transmitted as checked:

[ ] For Approval [ ] For Your Use [ ] As You Requested
[ ] For Comment [ ] For Resubmittal [X] For Your Records

Remarks: Dear Ms. Chu:

Enclosed is a System Start-up Report for the former Texaco Service Station at 930 Springtown Road in Livermore, California (Application No. 11201). Please contact Brian Garber at our West Sacramento office if you have any questions.

Thank you.

Copies to:

Forwarded by GTI: Ms. Karen Petryna
Texaco Environmental Services
108 Cutting Boulevard
Richmond, CA 94804

Owentran.wk4

GROUNDWATER TECHNOLOGY, INC.

1401 Halyard Drive, Suite 140, West Sacramento, CA 95691, (916) 372-4700

FAX (916) 372-8781

watch for effectiveness after 1 qtr for removal of H-C & vapors

95 MAR 15 PM 1:12

ENVIRONMENTAL PROTECTION

March 10, 1995

Ms. Eva Chu
Alameda County
Department of Environmental Protection
1131 Parkway Avenue
Alameda, CA 94502

Subject: Remediation System Start-up/Air Monitoring and Sampling Report
930 Springtown Boulevard
Livermore, California
GTI Project 02070 0044

Dear Ms. Chu:

On behalf of Texaco Environmental Services, Groundwater Technology, Inc. submits this letter to summarize the initial Soil Vapor Extraction System (SVES) start-up at 930 Springtown Boulevard, Livermore, California. Figure 1 (Attachment 1) shows the site layout and remediation system pipe locations.

The SVES utilizes a vacuum blower rated for maximum flow of 100 cubic feet per minute, a King Buck/Hasstech MMC-5a catalytic oxidizer unit (CATOX), for the destruction of hydrocarbons from vapor processed through the system. Figure 2 shows the layout of the treatment compound. Figure 3 illustrates a typical trench cross section and well box details. Figure 4 shows a piping and instrumentation diagram. The SVES was started on November 29, 1994 and has operated for 31 days as calculated by the total hour meter on the CATOX unit. The site was visited on September 28, November 4, 10, 11, 17, 22, 29, December 7, 16, 23, and 29, 1994, and January 3, 1995. The system operated intermittently through November. Near continuous operation began on November 29, 1994.

The scope of work was designed to determine an acceptable monitoring and sampling frequency based on data collected during a ten-day period of system operation, as well as to determine the efficiency of the remediation system. Air influent and effluent samples were collected on September 28, November 29, December 12, 1994, and January 3, 1995, by Groundwater Technology for laboratory analyses in accordance with a Bay Area Air Quality Management District (BAAQMD) Permit to Operate No. 11201.

SYSTEM START-UP AND AIR MONITORING

Hydrocarbon vapors were monitored at the influent and effluent sampling ports using a flame-ionization detector (FID). A field check list of system operation was completed during each site visit to record total hours of operation, air flow rates, vacuum, and hydrocarbon concentration.

AIR SAMPLING

Air samples were collected by Groundwater Technology on September 28, November 29, December 12, 1994, and January 3, 1995 from the influent and effluent ports on the system. The air samples were collected in 1-liter Tedlar^{R} bags, labeled, placed in an insulated container at ambient temperature to prevent degradation, and delivered under chain-of-custody to B.C. Analytical, a California-certified analytical laboratory in Glendale, California. The air samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons-as-gasoline (TPH-G) by Environmental Protection Agency (EPA) methods 8020/modified 8015.

AIR MONITORING/SAMPLING ANALYTICAL RESULTS

FID readings observed at the influent port of the system ranged from 1,200 parts per million (ppm) on September 28, 1994 to 15 ppm on December 7, 1994. FID measurements from the effluent port did not detect concentrations of hydrocarbons throughout the start-up period. Results of laboratory analyses of the air samples collected from the influent and effluent ports and analyzed for BTEX and TPH-G are presented in Attachment 2, Table 1. Laboratory analytical results indicate that no detectible concentrations of BTEX or TPH-G exited the system after running through the CATOX, and carbon treatment.

Field measurements of air flow rates, applied vacuum pressure, hydrocarbon concentrations and other parameters were recorded on field data sheet (Attachment 3). Laboratory reports and chain-of-custody forms are included in Attachment 4.

Field and analytical data indicate detectable concentrations of petroleum hydrocarbons were entering the system (INF) and concentrations below permitted levels leaving the system (EFF). The

SVES system operated within permit limits. Groundwater Technology recommends that the system be monitored on a weekly basis and sampled on a monthly basis. If you have any questions or comments, please call our West Sacramento office at (916) 372-4700.

Sincerely,
Groundwater Technology, Inc.
Submitted by:

David Little
Staff Geologist

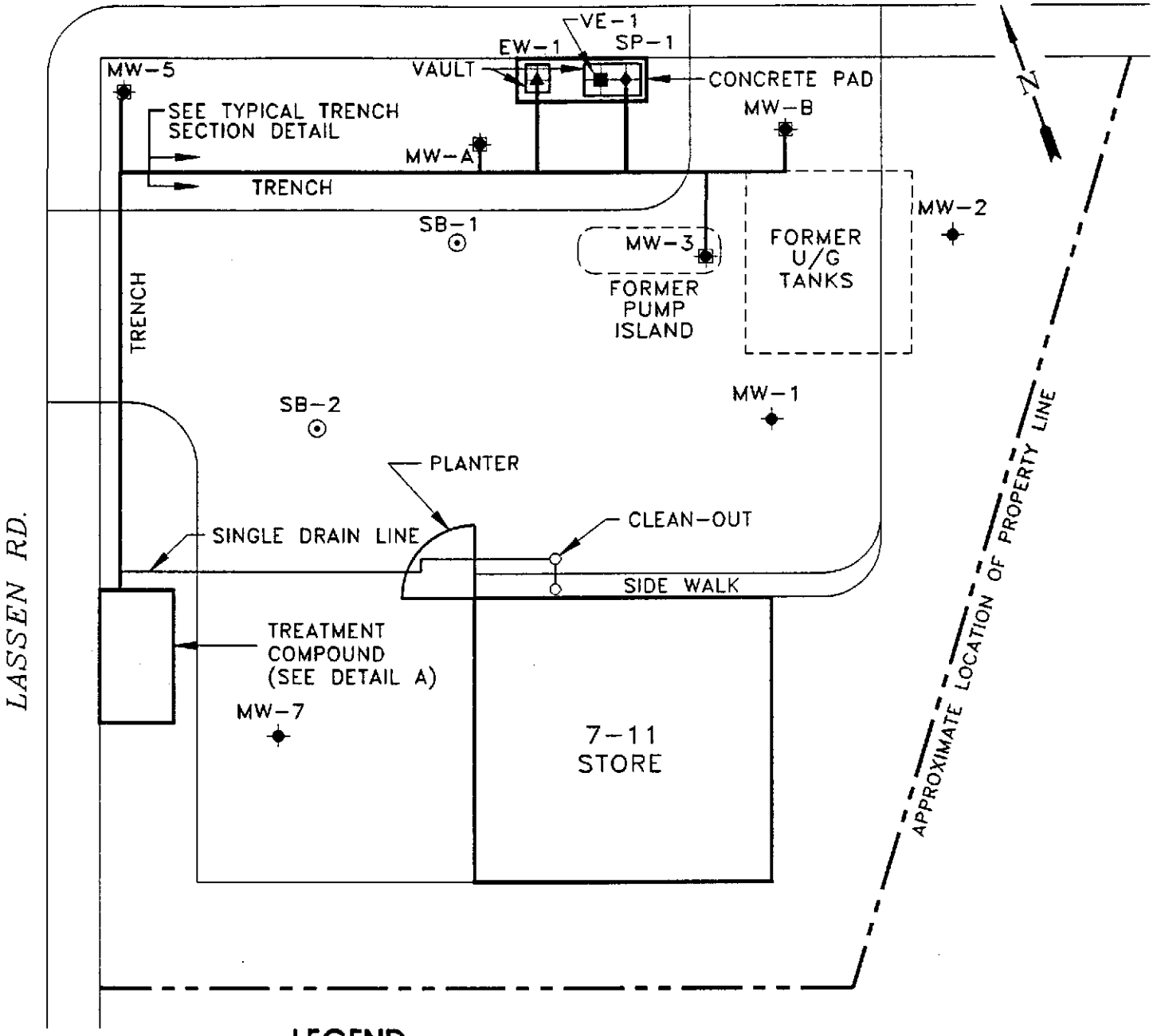
Groundwater Technology, Inc.
Approved by:

Brian Garber
Environmental Geologist
Project Manager

E. K. Simonis, R.G.
Senior Geologist

Attachments
1. Figures
2. Tables
3. Field Data Sheets
4. Laboratory Reports

GROUNDWATER TECHNOLOGY



LEGEND

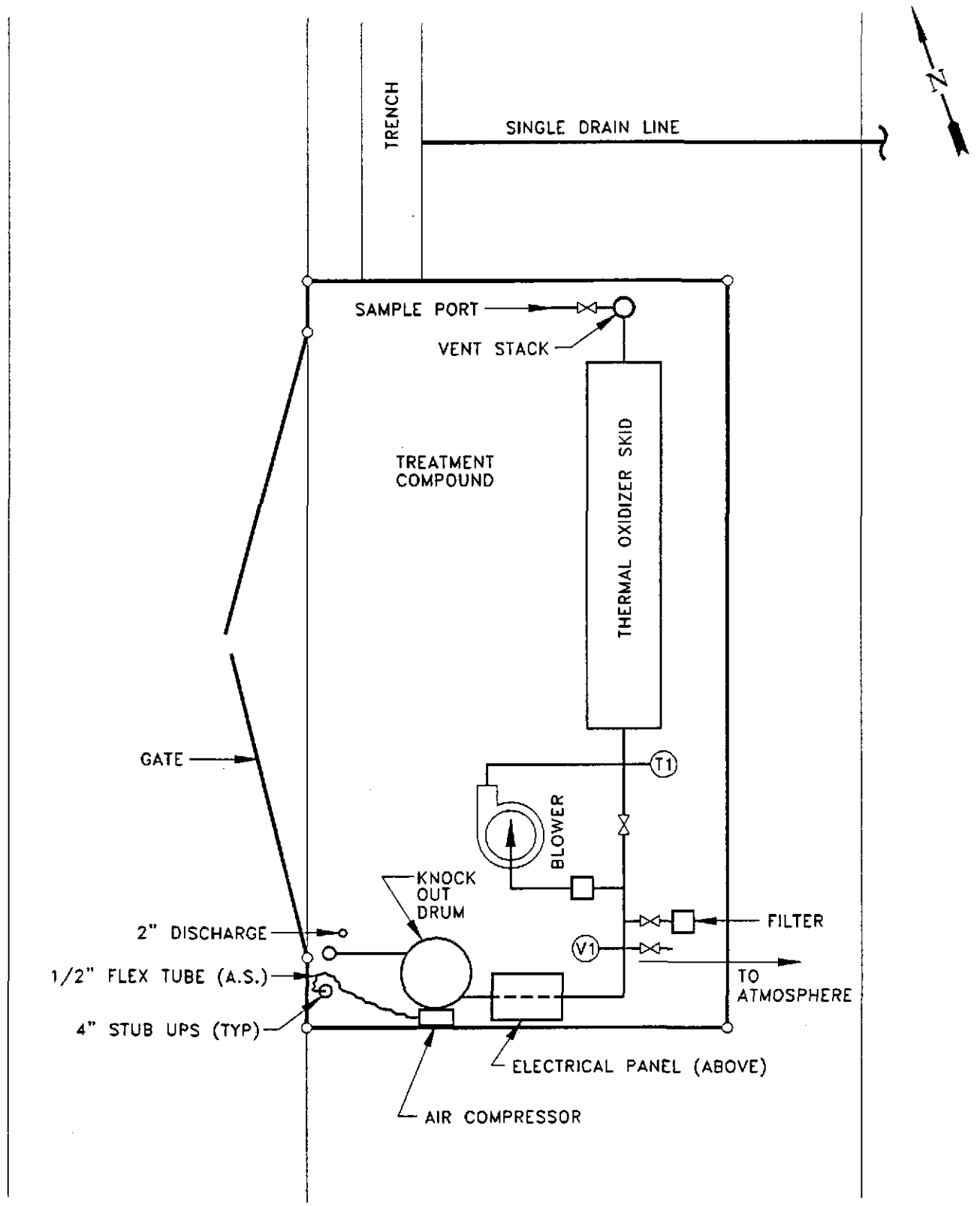
- GROUNDWATER MONITORING WELL
- GROUNDWATER MONITORING WELL CONVERTED TO A VAPOR EXTRACTION WELL
- RECOVERY WELL
- VAPOR EXTRACTION WELL
- SPARGE POINT
- SOIL BORING

GROUNDWATER TECHNOLOGY

0 FEET 30
SCALE

SITE MAP

CLIENT: TEXACO REFINING AND MARKETING INC.	FILE: 1383SM (1:50)	PROJECT NO.:		PM: JC	PE/RG:
	REV.				
LOCATION: 930 SPRINGTOWN BLVD. LIVERMORE, CALIFORNIA	DES.: DL	DET.: JC	DATE: 2/21/95	FIGURE: 1	

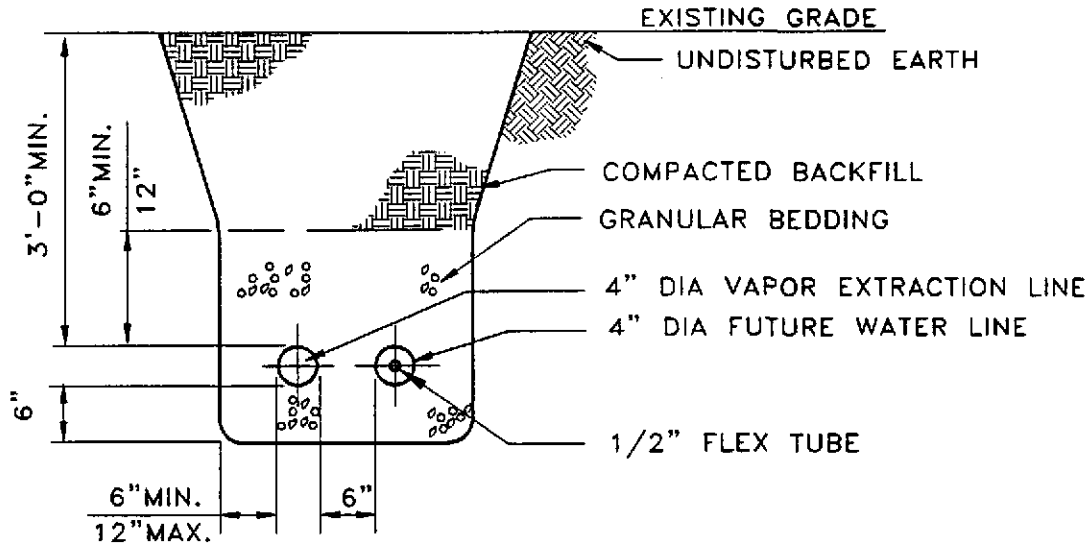


GROUNDWATER TECHNOLOGY

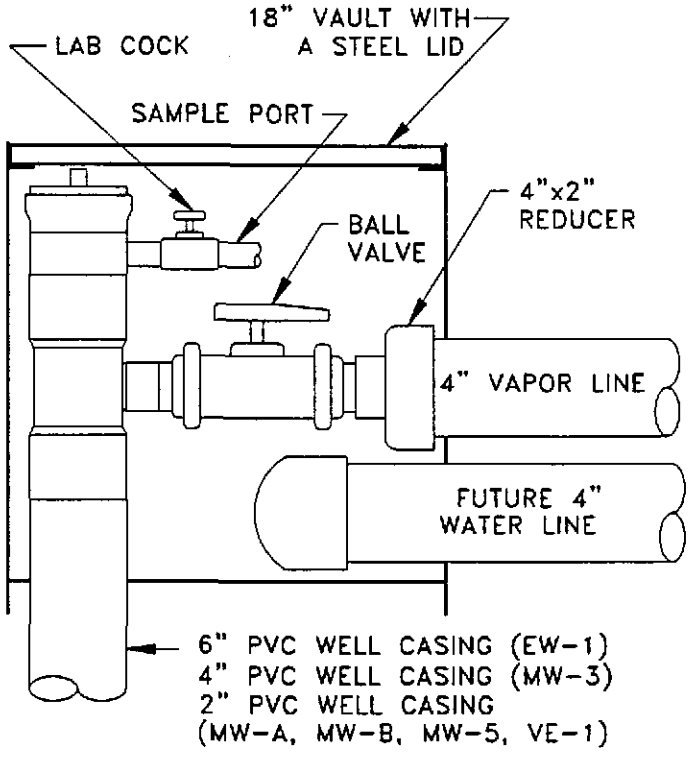
0 FEET 5
APPROX. SCALE

TREATMENT COMPOUND

CLIENT: TEXACO REFINING AND MARKETING INC.	FILE: 1383TCP (1:5)	PROJECT NO.:	PM: BC	PE/RG:
	REV.			
LOCATION: 930 SPRINGTOWN BLVD. LIVERMORE, CALIFORNIA	DES.: DL	DET.: JC	DATE: 2/21/95	FIGURE: 2

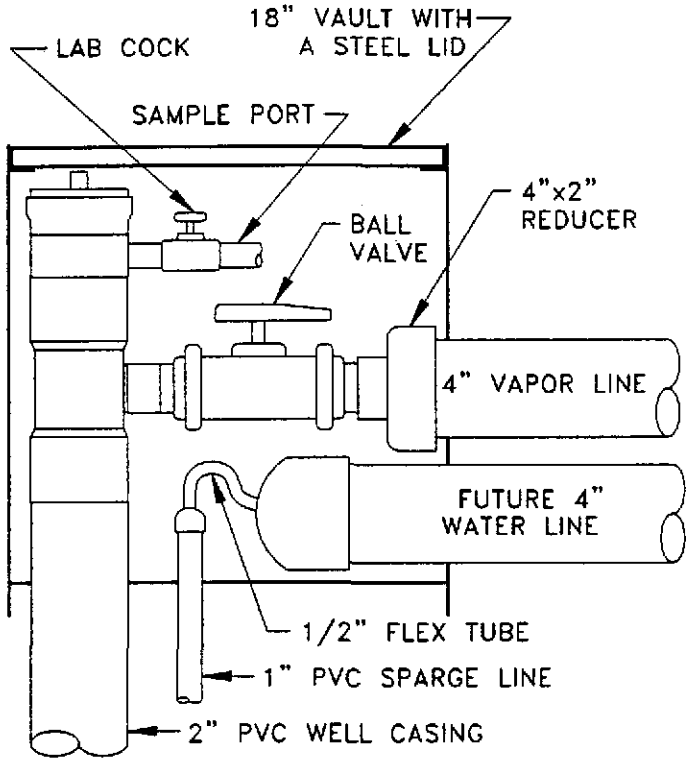


TYPICAL TRENCH SECTION



TYPICAL WELL BOX DETAIL
MW-3, MW-A, MW-B, MW-5, EW-1

NOT TO SCALE



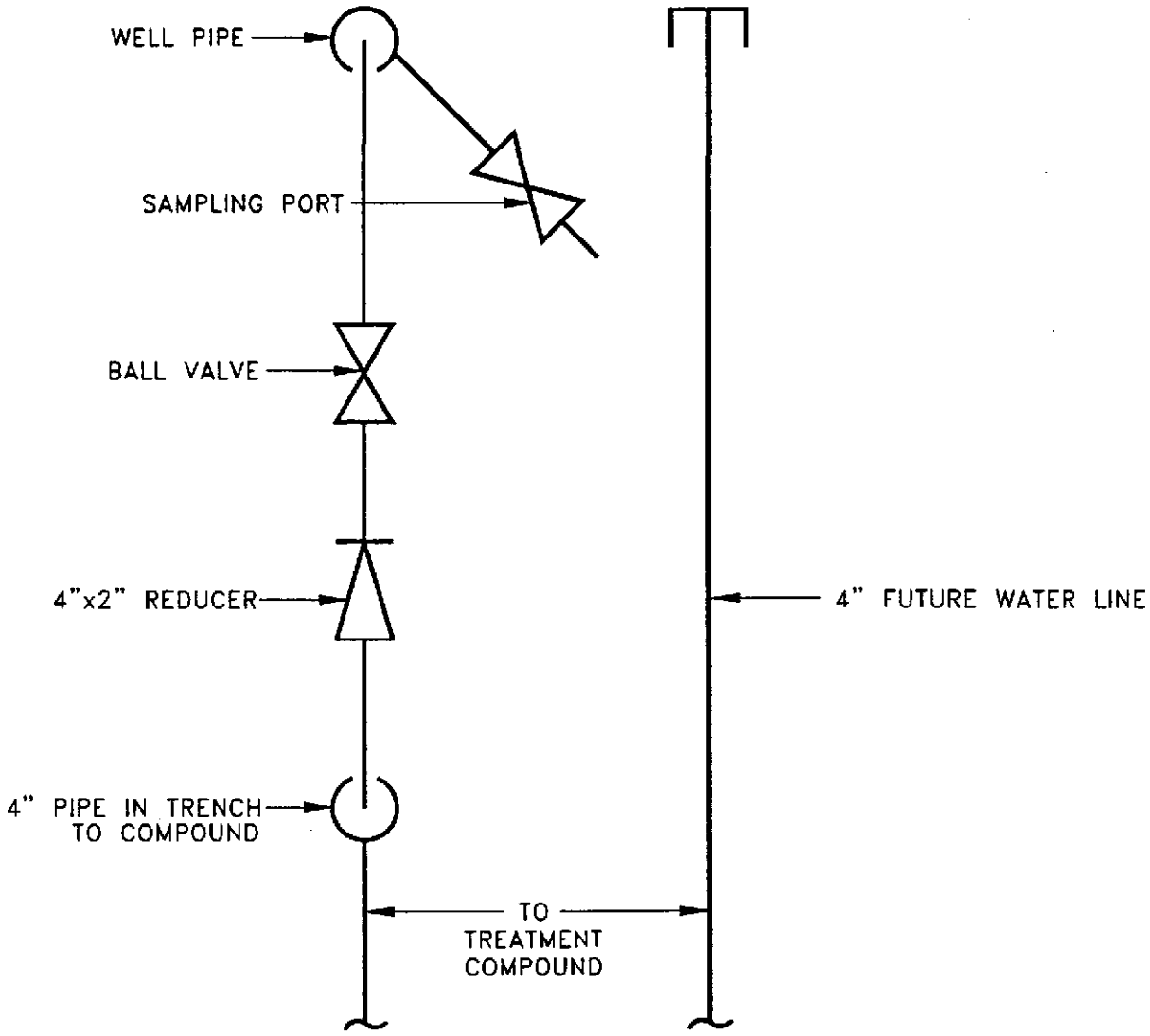
VAPOR EXTRACTION WELL BOX DETAIL
VE-1, SP-1

NOT TO SCALE

GROUNDWATER TECHNOLOGY

WELL BOX DETAILS AND TYPICAL TRENCH SECTION

CLIENT: TEXACO REFINING AND MARKETING INC.	FILE: 1383WC (1:1)	PROJECT NO.:	PM	PE/RG	
	REV.				FIGURE: 3
LOCATION: 930 SPRINGTOWN BLVD. LIVERMORE, CALIFORNIA	DES. DL	DET. JC	DATE: 3/2/95		



GROUNDWATER TECHNOLOGY	NOT TO SCALE	**PIPING AND INSTRUMENTATION DIAGRAM**

CLIENT: TEXACO REFINING AND MARKETING INC.	FILE: 1383PID (1:1)	PROJECT NO.:	PM	PE/RG	
LOCATION: 930 SPRINGTOWN BLVD. LIVERMORE, CALIFORNIA	REV.	DES. DL	DET. JC	DATE: 3/2/95	FIGURE: 4

TABLE 1
SUMMARY OF RECOVERED AND DESTROYED HYDROCARBONS

TEXACO ENVIRONMENTAL SERVICES
930 SPRINGTOWN ROAD
LIVERMORE, CALIFORNIA

				LABORATORY ANALYTICAL DATA			
Date	Time Meter (Hours)	Cumulative Hours	FID Reading (ppmv)	Influent Benzene mg/m3	Influent TPH-G mg/m3	Effluent Benzene mg/m3	Effluent TPH-G mg/m3
09/28/94	-	-	1200	ND	570	ND	ND
11/04/94	526.5	0	65				
11/10/94	572.6	40	-				
11/11/94	572.6	46	35				
11/17/94	642.4	116	0*				
11/22/94	750.0	224	25				
11/29/94	828.4	302	15	ND	19	ND	ND
12/07/94	1092.0	566	20	ND	30	ND	ND
12/16/94	1288.3	762	30				
12/23/94	1337.2	811	25				
12/29/94	1466.4	940	30				
01/03/95	1577.0	1051	30	0.88	50	ND	ND
Total/Avg.	1050.5	1051	-	-	-	-	-

LIVTAB1a.WK4

EXPLANATION

* System offline, left operating on fresh air only since would not reach operating temp.

GROUNDWATER TECHNOLOGY

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: M Czapka
Site: **Tes/930 Springtown** Scheduled:
Project Mgr: **Brian Garber** Site Mgr:

PREPARATORY COMMENTS

Visit Date: 11/4/94 Arrival Time: 10:32 Departure Time: 11:24

Called Project Manager? YES, (NO.) Time: _____ Who: _____

If You Did Not Call, Why Not? _____

Are You In Possession of a Site Safety Plan? (YES) NO

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Weekly]

1. Take FID readings with and without (inf & eff) carbon tip. Record on log on site.

2. Figure efficency, if less than 90% call PM.

3. Collect tape from chart recorder. Replace tape from chart recorder as needed.

4. ONE TIME ONLY: Adjust chart recorder to slowest usable rate.

5. Check water knock out water level. Notify PM if greater than 50% full as measured from effluent port.

6. Record hours of operation.

7. Record all measurements on log at site and on standard forms.

EQUIPMENT NEEDED: FID, Tedlar bags, Permit expiration date in permit.

Texaco Representative: Karen Petryna

Hours Estimated	2.00	Hours Used	

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Monthly]

Monthly Re-Scheduled to later date

1. Collect samples from influent & effluent and analyze for BTEX/TPH-G

2. Samples will be sent to BC Analytical - (1085 Shary Circle, Concord, (510) 825-3894), under to appropriate COC manifest.

Hours Estimated	.50	Hours Used	

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician:
Site: **Tes/930 Springtown** Scheduled:
Project Mgr: **Brian Garber** Site Mgr:

FINAL CHECKS

SITE SECURITY: well/covers/gates... secure? (Y)/N-If No, Explain (INE)

WASTE COMPLIANCE: # of Drums w/: Water —, Soil —, Empty —, Other —

Drums labeled? (NA)/Y/N-INE, Gen. Date:_____, Label Type:_____

Soil pile? Y/(N) size:_____cu.yds., Visqueen under/over pile? Y/N-INE

CUSTOMER SATISFACTION: Survey left? Y/(N)-INE, Site left clean? Y/N-INE

TECHNICIAN'S COMMENTS

System operating.
Moisture knockout needs lid with openings to check for water buildup. Vapor piping requires 2" shutoff valve.

Total Hours Estimated	2.50	Total Hours Used	
Travel Time Estimated	1.00	Travel Time Used	

Technician

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Springtown, Livermore
Site Address

Sampled By: Mark N Czipka Date: 11/4/94

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational	✓		
2nd Contain. Float Switch Working			✓
Adjust Flow Rate			✓
Filter Checked and Cleaned		✓	
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

CONTROLLER SET POINT 750°F READING 682°F
AMPS 2.1

	N/A	Field Data
~~Effluent Totalizer (gal)~~ Air F. Itr		14" H_2O
~~Effluent Flow Rate (gpm)~~ Blower Vac		68 "H_2O
~~Aeration Pressure (psi)~~ INF Temp		120 °F
~~Bag Filter INFL Pressure (psi)~~ INF		0.9 "H_2O
~~Bag Filter EFFL Pressure (psi)~~ CH1		6.0 CFM
~~Carbon Vessel #1 Pressure (psi)~~ CH3		663 °F
~~Carbon Vessel #2 Pressure (psi)~~ CH4		672 °F
~~Air Compressor Pressure (psi)~~ CH5		656 °F
Hour Meter (hours)		05265

SYSTEM SAMPLING

	Sample Point INF	Sample Point EFF	Sample Point Calculations	Sample Point Efficiency
~~Temperature (F)~~ PID	13.3 ppm	3.4 ppm	3.4 ÷ 13.3 = .255 x 100 = 25.5%	100% - 25.5% = 74.5%
~~pH (units)~~ FID	65 ppm	10.0 ppm		
~~Dissolved O_2 (ppm)~~ FID/w Gel	5 ppm	5 ppm		
~~Electrical Conductivity~~ Mush	60 ppm	5 ppm	5 ÷ 60 = .083 x 100 = 8.3%	100% - 8.3% = 91.7%

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)				
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician:
Site: **Tes/930 Springtown** Scheduled: **11/11/94**
Project Mgr: **Brian Garber** Site Mgr:

PREPARATORY COMMENTS

Visit Date: 11/10/94 Arrival Time: ≈ 15:00 Departure Time: 17:40

Called Project Manager? YES, (NO) Time: _____ Who: _____

If You Did Not Call, Why Not? _____

Are You In Possession of a Site Safety Plan? (YES) NO

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Weekly]

1. Take FID readings with and without (inf & eff) carbon tip. Record on log on site.

2. Figure efficency, if less than 90% call PM.

3. Collect tape from chart recorder. Replace tape from chart recorder as needed.

4. Check water knock out water level. Notify PM if greater than 50% full as measured from effluent port.

5. Record hours of operation.

6. Record all measurements on log at site and on standard forms.

EQUIPMENT NEEDED: FID, Tedlar bags, Permit expiration date in permit.

Texaco Representative: Karen Petryna

Hours Estimated	2.00	Hours Used	

FINAL CHECKS

SITE SECURITY: well/covers/gates... secure? (Y)/N-If No, Explain (INE)

WASTE COMPLIANCE: # of Drums w/: Water —, Soil —, Empty —, Other —

Drums labeled? (NA)/Y/N-INE, Gen. Date:_____, Label Type:_____

Soil pile? Y/(N) size:_____cu.yds., Visqueen under/over pile? Y/N-INE

CUSTOMER SATISFACTION: Survey left? Y/(N)-INE, Site left clean? (Y)/N-INE

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: M Cagle
Site: **Tes/930 Springtown** Scheduled: **11/11/94**
Project Mgr: **Brian Garber** Site Mgr:

TECHNICIAN'S COMMENTS

System Down. System will not restart for longer than a few minutes. Checked electrical voltages at Cat ox and blower, checked blower belts for slippage/breakage, moisture knockout. Adjusted fresh air bleed valve until unit would stay operating. Started reheating unit. Unit would not reach proper operating temperature.

Total Hours Estimated	2.00	Total Hours Used	
Travel Time Estimated	1.00	Travel Time Used	

Technician

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Spring Town
Site Address

Sampled By: Mark Czipka Date: 11/10/94

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational		✓	
2nd Contain. Float Switch Working			✓
Adjust Flow Rate		✓	
Filter Checked and Cleaned		✓	
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

System would not reach proper operating temperature.

	N/A	Field Data
Effluent Totalizer (gal)		
Effluent Flow Rate (gpm)		
Aeration Pressure (psi)		
Bag Filter INFL Pressure (psi)		
Bag Filter EFFL Pressure (psi)		
Carbon Vessel #1 Pressure (psi)		
Carbon Vessel #2 Pressure (psi)		
Air Compressor Pressure (psi)		
Hour Meter (hours)		

SYSTEM SAMPLING

NONE

	Sample Point	Sample Point	Sample Point	Sample Point
Temperature (F)				
pH (units)				
Dissovlved O_2 (ppm)				
Electrical Conductivity				

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)				
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: 20700044.00 Technician: M Czapla
Site: Tes/930 Springtown Scheduled: 11/11/94
Project Mgr: Brian Garber Site Mgr:

PREPARATORY COMMENTS

Visit Date: 11/11/94 Arrival Time: ≈ 9:00 Departure Time: ≈ 11:00

Called Project Manager? YES, (NO) Time: _____ Who: _____

If You Did Not Call, Why Not? _____

Are You In Possession of a Site Safety Plan? (YES) NO

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Weekly]

1. Take FID readings with and without (inf & eff) carbon tip. Record on log on site.

2. Figure efficency, if less than 90% call PM.

3. Collect tape from chart recorder. Replace tape from chart recorder as needed.

4. Check water knock out water level. Notify PM if greater than 50% full as measured from effluent port.

5. Record hours of operation.

6. Record all measurements on log at site and on standard forms.

EQUIPMENT NEEDED: FID, Tedlar bags, Permit expiration date in permit.

Texaco Representative: Karen Petryna

Hours Estimated	2.00	Hours Used	

FINAL CHECKS

SITE SECURITY: well/covers/gates... secure? (Y)/N-If No, Explain (INE)

WASTE COMPLIANCE: # of Drums w/: Water___, Soil___, Empty___, Other___

Drums labeled? (NA)/Y/N-INE, Gen. Date:_____, Label Type:_____

Soil pile? Y/(N) size:_____cu.yds., Visqueen under/over pile? Y/N-INE

CUSTOMER SATISFACTION: Survey left? Y/(N)-INE, Site left clean? (Y)/N-INE

NOV

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: 20700044.00 Technician: MC-246
Site: Tes/930 Springtown Scheduled: 11/11/94
Project Mgr: Brian Garber Site Mgr:

TECHNICIAN'S COMMENTS

0-200 "H_2O Vac. gauge not working - will not go to zero when system is off.

Dwyer Flow Sensor Model DS-200-2 Size 2 Sch 40

Total Hours Estimated	2.00	Total Hours Used	
Travel Time Estimated	1.00	Travel Time Used	

Technician

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Springtown, Livermore
Site Address

Sampled By: Mark N Czipka Date: 11/11/94

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational	✓		
2nd Contain. Float Switch Working			✓
Adjust Flow Rate	✓		
Filter Checked and Cleaned		✓	
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

Controller Setpoint 750°F Reading 581 °F
Amps 2.1

	N/A	Field Data
~~Effluent Totalizer (gal)~~ Air Filter		14 "H_2O
~~Effluent Flow Rate (gpm)~~ Blower Vac		70 "H_2O
~~Aeration Pressure (psi)~~ INF Temp		110 °F
~~Bag Filter INFL Pressure (psi)~~ INF VAC		1.0 "H_2O
~~Bag Filter EFFL Pressure (psi)~~ CH1		11.1 CFM
~~Carbon Vessel #1 Pressure (psi)~~ CH3		567 °F
~~Carbon Vessel #2 Pressure (psi)~~ CH4		567 °F
~~Air Compressor Pressure (psi)~~ CH5		553 °F
Hour Meter (hours)		05726

SYSTEM SAMPLING

	Sample Point INF	Sample Point EFF	Sample Point Calculation	Sample Point Efficiency
~~Temperature (F)~~ FID	35 ppm	7 ppm		
pH (units) FID w/Carbon	4 ppm	4 ppm		
~~Dissolved O_2 (ppm)~~ Alkali	31 ppm	3 ppm	(3÷31)x100 = 9.6%	100% 96% = 90.4%
Electrical Conductivity				

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)				
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: 20700044.00 Technician: M Czyk
Site: Tes/930 Springtown Scheduled: 11/18/94
Project Mgr: Brian Garber Site Mgr:

PREPARATORY COMMENTS

Visit Date: 11/17/94 Arrival Time: 16:50 Departure Time: 16:80

Called Project Manager? YES, (NO) Time: _____ Who: _____

If You Did Not Call, Why Not? After Hours

Are You In Possession of a Site Safety Plan? (YES) NO

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Weekly]

1. Take FID readings with and without (inf & eff) carbon tip. Record on log on site.

2. Figure efficency, if less than 90% call PM.

3. Collect tape from chart recorder. Replace tape from chart recorder as needed.

4. Check water knock out water level. Notify PM if greater than 50% full as measured from effluent port.

5. Record hours of operation.

6. Record all measurements on log at site and on standard forms.

EQUIPMENT NEEDED: FID, Tedlar bags, Permit expiration date in permit.

Texaco Representative: Karen Petryna

Hours Estimated	2.00	Hours Used	

FINAL CHECKS

SITE SECURITY: well/covers/(gates)... secure? (Y)/N-If No, Explain (INE)

WASTE COMPLIANCE: # of Drums w/: Water—, Soil—, Empty—, Other—

Drums labeled? (NA)/Y/N-INE, Gen. Date:_____, Label Type:_____

Soil pile? Y/(N) size:_____cu.yds., Visqueen under/over pile? Y/N-INE

CUSTOMER SATISFACTION: Survey left? Y/(N)-INE, Site left clean? Y/N-INE

SITE VISIT FORM

Groundwater Technology, Inc. - Concord, California

Project: 20700044.00
Site: Tes/930 Springtown
Project Mgr: Brian Garber
Technician: M C[illegible]
Scheduled: 11/18/94
Site Mgr:

TECHNICIAN'S COMMENTS

System down - blower not running. Inspected moisture knockout and electrical breakers. Chart recorder shows system went off line on 11/14/94. Could not get system to operating temperature - left unit operating/heating on fresh air only.

Total Hours Estimated	2.00	Total Hours Used	
Travel Time Estimated	1.00	Travel Time Used	

[signature]
Technician

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Spring Town, Livermore
Site Address

Sampled By: Mark Czipka

Date: 11/17/94

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational		✓	
2nd Contain. Float Switch Working			✓
Adjust Flow Rate		✓	
Filter Checked and Cleaned		✓	
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

	N/A	Field Data
Effluent Totalizer (gal) Air Filter		14" H_2O
Effluent Flow Rate (gpm) Blower Vac		80 " H_2O
Aeration Pressure (psi) INF Temp		60°F
Bag Filter INFL Pressure (psi) INF Vac		1.5 " H_2O
Bag Filter EFFL Pressure (psi) CH1		430°F
Carbon Vessel #1 Pressure (psi) CH3		432°F
Carbon Vessel #2 Pressure (psi) CH4		425°F
Air Compressor Pressure (psi) CH5		—
Hour Meter (hours)		06424

SYSTEM SAMPLING

	Sample Point INF	Sample Point EFF	Sample Point Calculations	Sample Point Efficiency
~~Temperature (F)~~ F10	Ø Fresh air	Ø Fresh air		
~~pH (units)~~ F10 w/Carbon	—	—		
~~Dissolved O_2 (ppm)~~ Hi pickup	—	—	—	—
Electrical Conductivity				

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)				
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Spring Town, Livermore
Site Address

Sampled By: Mark Czipka Date: 11/18/94

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational	✓		
2nd Contain. Float Switch Working			✓
Adjust Flow Rate	✓		
Filter Checked and Cleaned	✓		
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

	N/A	Field Data
Effluent Totalizer (gal) Air Filter		14" H_2O
Effluent Flow Rate (gpm) Blower Vac		82" H_2O
Aeration Pressure (psi) INF Temp		100 °F
Bag Filter INFL Pressure (psi) MW Vac		1.25 " H_2O
Bag Filter EFFL Pressure (psi) CH1		600 °F
Carbon Vessel #1 Pressure (psi) CH3		602 °F
Carbon Vessel #2 Pressure (psi) CH4		598 °F
Air Compressor Pressure (psi) CH5		— — —
Hour Meter (hours)		Not Recorded

SYSTEM SAMPLING

	Sample Point INF	Sample Point EFF	Sample Point Calculations	Sample Point Efficiency
~~Temperature (F)~~ FID	15	4		
~~pH (units)~~ FID w/Carbon	2	2		
~~Dissolved O_2 (ppm)~~ Adjusted	13	2	(2÷13) x 100 = 15.4%	100%-15.4% = 84.6%
Electrical Conductivity				

Collected Tedlar bag samples to double check FID readings with a second FID.

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)				
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: M Czipk.
Site: **Tes/930 Springtown** Scheduled: **11/25/94**
Project Mgr: **Brian Garber** Site Mgr:

PREPARATORY COMMENTS

Visit Date: 11/22/94 Arrival Time: 15:55 Departure Time: 16:46

Called Project Manager? (YES), NO. Time: _____ Who: Brian Garber - left MS

If You Did Not Call, Why Not? _____

Are You In Possession of a Site Safety Plan? (YES) NO

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Weekly]

1. Take FID readings with and without (inf & eff) carbon tip. Record on log on site.

2. Figure efficency, if less than 90% call PM.

3. Collect tape from chart recorder. Replace tape from chart recorder as needed.

4. Check water knock out water level. Notify PM if greater than 50% full as measured from effluent port.

5. Record hours of operation.

6. Record all measurements on log at site and on standard forms.

EQUIPMENT NEEDED: FID, Tedlar bags, Permit expiration date in permit.

Texaco Representative: Karen Petryna

Hours Estimated	2.00	Hours Used	

FINAL CHECKS

SITE SECURITY: well/covers/gates... secure? (Y)/N-If No, Explain (INE)

WASTE COMPLIANCE: # of Drums w/: Water—, Soil—, Empty—, Other—

Drums labeled? (NA)/Y/N-INE, Gen. Date:_____, Label Type:_____

Soil pile? Y(N) size:_____cu.yds., Visqueen under/over pile? Y/N-INE

CUSTOMER SATISFACTION: Survey left? Y/(N)-INE, Site left clean? (Y)/N-INE

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: MCzyk
Site: **Tes/930 Springtown** Scheduled: **11/25/94**
Project Mgr: **Brian Garber** Site Mgr:

TECHNICIAN'S COMMENTS

Unit working for first time from visit to visit. Not making efficiency requirement but possibly below lbs/day. Called PM but could not contact. Left unit operating.

Total Hours Estimated	2.00	Total Hours Used	
Travel Time Estimated	1.00	Travel Time Used	

Technician

FIELD NOTES

Project: TES/ 930 Springtown Date: 11/22/94 Project No.: 020700044, 051005

Name(s): Mark Czipko Did you call in? (Yes) No

Arrival Time: 15:55 Departure Time: 16:46 Who did you call? Brian Gerber - 14 Mg.

Weather Notations: (SUN) CLOUDY RAIN SNOW Temperature: 60's °F

PURPOSE OF VISIT

	BAIL SEPARATE-PHASE	✓	MONITOR VAPORS		INSTALL SYSTEM
	SAMPLE A/S INF EFF		SAMPLE CARBON	OTHER:	
✓	SYSTEM CHECK		EQUIPMENT REPAIR		

DRUM INVENTORY

	WATER		CARBON	TOTAL OPEN TOP	Ø
	SOIL		EMPTY	TOTAL BUNG TOP	Ø

SAMPLE INFORMATION

SAMPLED: YES ✓ NO LABORATORY: B C Analytical

WATER SOIL AIR OTHER

REMEDIATION SYSTEM

FLOW TOTALIZER: 1) N/A 2) ↓

FLOW RATE:

% LEL:

AIR VELOCITY: Differential Pressure 1.0

FID ~~PID~~ INF: 25 w/Carbon 2 Adjusted 23 ppm

FID ~~PID~~ EFF: 7 w/Carbon 2 Adjusted 5 ppm

DESCRIPTION OF ACTIVITIES ON SITE AND NOTES

Note: System is operating from one unit to the next for the first time. Unit is not making permitted efficiency of 90% however concentrations are so low as to possibly waive the efficiency if the lbs/day maximum is met. Called PM but could not contact - left system operating.

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Springtown, Livermore
Site Address

Sampled By: Mark Czipka

Date: 11/22/94

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational	✓		
2nd Contain. Float Switch Working			✓
Adjust Flow Rate		✓	
Filter Checked and Cleaned		✓	
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

	N/A	Field Data
~~Effluent Totalizer (gal)~~ Air Filter		14 " H_2O
~~Effluent Flow Rate (gpm)~~ Blower Vac		84 " H_2O
~~Aeration Pressure (psi)~~ INF Temp		100 °F
~~Bag Filter INFL Pressure (psi)~~ INF Vac		1.0 " H_2O
~~Bag Filter EFFL Pressure (psi)~~ CH 1		610 °F
~~Carbon Vessel #1 Pressure (psi)~~	CH3	613 °F
~~Carbon Vessel #2 Pressure (psi)~~	CH4	601 °F
~~Air Compressor Pressure (psi)~~	CH5	---
Hour Meter (hours)		07500

SYSTEM SAMPLING

	Sample Point INF	Sample Point EFF	Sample Point Calculations	Sample Point Efficiency
~~Temperature (F)~~ FID	25	7.0		
~~pH (units)~~ FID w/Carbon	2.0	2.0		
~~Dissolved O_2 (ppm)~~ Adjusted	23	5	(5÷23) x100 = 21.7%	100% - 21.7% = 78.3%
Electrical Conductivity				

Called PM to determine if below permit lbs/day requirement.

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)				
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

GTI 06/94 O&MFORM.WK3

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: M Czipka
Site: **Tes/930 Springtown** Scheduled: **12/02/94**
Project Mgr: **Brian Garber** Site Mgr:

PREPARATORY COMMENTS

Visit Date: 11/29/94 Arrival Time: 11:45 Departure Time: 14:35

Called Project Manager? YES, (NO) Time: _____ Who: _____

If You Did Not Call, Why Not? _____

Are You In Possession of a Site Safety Plan? (YES) NO

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Weekly]

1. Take FID readings with and without (inf & eff) carbon tip. Record on log on site.

2. Figure efficency, if less than 90% call PM.

3. Collect tape from chart recorder. Replace tape from chart recorder as needed.

4. Check water knock out water level. Notify PM if greater than 50% full as measured from effluent port.

5. Record hours of operation.

6. Record all measurements on log at site and on standard forms.

EQUIPMENT NEEDED: FID, Tedlar bags, Permit expiration date in permit.

Texaco Representative: Karen Petryna

Hours Estimated	2.00	Hours Used	

FINAL CHECKS

SITE SECURITY: well/covers/gates... secure? (Y)/N-If No, Explain (INE)

WASTE COMPLIANCE: # of Drums w/: Water—, Soil—, Empty—, Other—

Drums labeled? (NA)/Y/N-INE, Gen. Date:—, Label Type:—

Soil pile? Y/(N) size:_____cu.yds., Visqueen under/over pile? Y/N-INE

CUSTOMER SATISFACTION: Survey left? Y/(N)-INE, Site left clean? (Y)/N-INE

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: M Czipka
Site: **Tes/930 Springtown** Scheduled: **12/02/94**
Project Mgr: **Brian Garber** Site Mgr:

TECHNICIAN'S COMMENTS

System not operating. Restarted System

Total Hours Estimated	**2.00**	Total Hours Used	
Travel Time Estimated	**1.00**	Travel Time Used	

Technician

FIELD NOTES

Project: TES/930 Springtown Date: 11/29/94 Project No.: 020700044.051005

Name(s) Mark N Ciphe Did you call in? Yes (No)

Arrival Time: 11:45 Departure Time: Who did you call?

Weather Notations: (SUN) CLOUDY RAIN SNOW Temperature: 60's °F

PURPOSE OF VISIT

	BAIL SEPARATE-PHASE	✓	MONITOR VAPORS		INSTALL SYSTEM
	SAMPLE A/S INF EFF		SAMPLE CARBON	OTHER:	
✓	SYSTEM CHECK		EQUIPMENT REPAIR		

DRUM INVENTORY

	WATER		CARBON	TOTAL OPEN TOP	
	SOIL		EMPTY	TOTAL BUNG TOP	

SAMPLE INFORMATION

SAMPLED: YES NO LABORATORY: B C Analytical

WATER SOIL AIR OTHER

REMEDIATION SYSTEM

FLOW TOTALIZER: 1) N/A 2)

FLOW RATE:

% LEL:

AIR VELOCITY:

~~PID INF:~~ 12

~~PID EFF:~~ 5

DESCRIPTION OF ACTIVITIES ON SITE AND NOTES

System not operating - restarted.

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Springtown Livermore
Site Address

Sampled By: Mark Czipka

Date: 11/29/94

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational		✓	
2nd Contain. Float Switch Working			✓
Adjust Flow Rate	✓		
Filter Checked ~~and Cleaned~~	✓		
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

	N/A	Field Data
Effluent Totalizer (gal) Air Filter		12 " H_2O
Effluent Flow Rate (gpm) Blower Vac		86 " H_2O
Aeration Pressure (psi) INF Temp		100 °F
Bag Filter INFL Pressure (psi) INF Vac		0.75
Bag Filter EFFL Pressure (psi) CH1		599
Carbon Vessel #1 Pressure (psi) CH3		605
Carbon Vessel #2 Pressure (psi) CH4		579
Air Compressor Pressure (psi) CH5		—
Hour Meter (hours)		08284

SYSTEM SAMPLING

	Sample Point INF (ppm)	Sample Point EFF (ppm)	Sample Point Calculation	Sample Point Efficiency %
~~Temperature (F)~~ FID	15	8		
pH (units) FID w/ Carbon	3	3		
Dissolved O_2 (ppm) Adjust	12	5	5/12 X100 = 41.6 100-41.6 =	58.4%
Electrical Conductivity				

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)				
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

TES/ 930 Springtown, Livermore

CHAIN OF CUSTODY RECORD

BCA Log Number _____

Client name: Ground Water Technology, Inc.	Project or PO#: 020-7000044. 05005
Address: 1401 Halyard Suite 140	Phone #: (916) 372-4700
City, State, Zip: West Sacramento, CA	Report attention: Brian Gerber

Analyses required: BTEX, TPH as Gas; Hazardous sample Special handling required

Pg 1 of 1

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by: Mark Czipka / Sample description	Number of containers	BTEX, TPH as Gas	Hazardous sample Special handling required	Remarks
	11/29/94	13:26	GT	INF	1	X		
	1	15:30	GT	EFF	1	X		

	Signature	Print Name	Company	Date	Time
Relinquished by	MCK	Mark A. Czipka	Ground Water Technology, Inc.	11/30/94	8:35
Received by	Jan Winter	Jan Winter	BCAL	11/30/94	2:35
Relinquished by					
Received by					
Relinquished by					
Received by Laboratory					

B C ANALYTICAL

☒ 1085 Shary Circle, Concord, CA 94518 (510) 825-3894

☐ 801 Western Avenue, Glendale, CA 91201 (818) 247-5737

☐ 1200 Gene Autry Way, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements: _____

*KEY: AG—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil PE—Petroleum

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: 20700044.00 Technician: M Czipka
Site: Tes/930 Springtown Scheduled: 12/09/94
Project Mgr: Brian Garber Site Mgr:

PREPARATORY COMMENTS

Visit Date: 12/7/94 Arrival Time: 13:35 Departure Time: 13:50

Called Project Manager? YES, (NO) Time: _____ Who: _____

If You Did Not Call, Why Not? _____

Are You In Possession of a Site Safety Plan? (YES) NO

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Weekly]

SYSTEM STATUS = Vapor I (inactive) (+) (site up) - (site down)

1. Take FID readings with and without (inf & eff) carbon tip. Record on log on site.

2. Figure efficency, if less than 90% call PM.

3. Collect tape from chart recorder. Replace tape from chart recorder as needed.

4. Check water knock out water level. Notify PM if greater than 50% full as measured from effluent port.

5. Record hours of operation.

6. Record all measurements on log at site and on standard forms.

EQUIPMENT NEEDED: FID, Tedlar bags, Permit expiration date in permit.

Texaco Representative: Karen Petryna

Hours Estimated	2.00	Hours Used	

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Monthly]

1. Collect samples from influent & effluent and analyze for BTEX/TPH-G

2. Samples will be sent to BC Analytical - (1085 Shary Circle, Concord, (510) 825-3894), under to appropriate COC manifest.

Hours Estimated	.50	Hours Used	

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: M Czipko
Site: **Tes/930 Springtown** Scheduled: **12/09/94**
Project Mgr: **Brian Garber** Site Mgr:

FINAL CHECKS

SITE SECURITY: well/covers/gates... secure? (Y)/N-If No, Explain (INE)

WASTE COMPLIANCE: # of Drums w/: Water —, Soil —, Empty —, Other —

Drums labeled? (NA)/Y/N-INE, Gen. Date:_____, Label Type:_____

Soil pile? Y/(N) size:_____cu.yds., Visqueen under/over pile? Y/N-INE

CUSTOMER SATISFACTION: Survey left? Y/(N)-INE, Site left clean? Y/N-INE

TECHNICIAN'S COMMENTS

System operating - increased set point from 650°F to 675°F
moisture knockat empty as always

Total Hours Estimated	2.50	Total Hours Used	
Travel Time Estimated	1.00	Travel Time Used	

Technician

FIELD NOTES

Project: TES/930 Springtown, Livermore Date: 12/7/94 Project No.: 020700044. 051005

Name(s) Mark Czipko Did you call in? Yes (NO)

Arrival Time: 13:35 Departure Time: 13:50 Who did you call?

Weather Notations: (SUN) CLOUDY RAIN SNOW Temperature: 60s °F

PURPOSE OF VISIT

	BAIL SEPARATE-PHASE	✓	MONITOR VAPORS		INSTALL SYSTEM
✓	SAMPLE INF EFF		SAMPLE CARBON	OTHER:	
✓	SYSTEM CHECK		EQUIPMENT REPAIR		

DRUM INVENTORY

	WATER		CARBON	TOTAL OPEN TOP	ø
	SOIL		EMPTY	TOTAL BUNG TOP	ø

SAMPLE INFORMATION

SAMPLED: ✓ YES NO LABORATORY: B C Analytical

WATER SOIL ✓ AIR OTHER

REMEDIATION SYSTEM

FLOW TOTALIZER: 1) N/A 2)

FLOW RATE:

% LEL:

AIR VELOCITY:

FID ~~PID~~ INF: 20/2/ 18 ppm

~~PID~~ EFF: 4/2/ 2 ppm

DESCRIPTION OF ACTIVITIES ON SITE AND NOTES

System operating. Increased setpoint from 650°F to 675°F

Moisture knockout empty as usual.

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Springtown, Livermore
Site Address

Sampled By: Mark Czipko Date: 12/7/94

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational	✓		
2nd Contain. Float Switch Working			✓
Adjust Flow Rate		✓	
Filter Checked and Cleaned		✓	
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

	N/A	Field Data
Effluent Totalizer (gal) Air Filter		13 "H_2O
Effluent Flow Rate (gpm) Blower Vac		104 "H_2O
Aeration Pressure (psi) INF Temp		104 °F
Bag Filter INFL Pressure (psi) INF Vac		0.75 "H_2O
Bag Filter EFFL Pressure (psi) CH1		612
Carbon Vessel #1 Pressure (psi)	CH2	614
Carbon Vessel #2 Pressure (psi)	CH4	608
Air Compressor Pressure (psi)	CH5	—
Hour Meter (hours)		10920

SYSTEM SAMPLING

	Sample Point INF (ppm)	Sample Point EFF (ppm)	Sample Point Calculation	Sample Point Efficiency
~~Temperature (F)~~ FID	20	4		
~~pH (units)~~ FID w/ Carbon	2	2		
~~Dissolved O_2 (ppm)~~ Mpule	18	2	2/18 x 100 = 11% 100 - 11 = 89	89%
Electrical Conductivity				

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)	N/A			
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

IES / 930 Springtown, Livermore

CHAIN OF CUSTODY RECORD

BCA Log Number _____

Client name	Project or PO#
GroundWater Technology Inc.	020700044. 051005
Address 1401 Halyard Suite 140	**Phone #** (916) 372-4700
City, State, Zip West Sacramento, CA	**Report attention** Brian Gaiber

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by: Mark Czipo — Sample description	Number of containers	Analyses required: BTEX, TPH as Gas	Hazardous sample Special handling required	Remarks
	12/7/04	13:50	OT	INF	1	X		Pg 1 of 1
	1	13:52	OT	EFF	1	X		

	Signature	Print Name	Company	Date	Time
Relinquished by	MCzipo	Mark N Czipo	Ground Water Technology, Inc.	12/7/04	14:47
Received by	Jan Winter	Jan Winter	GTI	12/7/04	14:47
Relinquished by					
Received by					
Relinquished by					
Received by Laboratory					

B C ANALYTICAL

☒ 1085 Shary Circle, Concord, CA 94518 (510) 825-3864

☐ 801 Western Avenue, Glendale, CA 91201 (818) 247-5737

☐ 1200 Gene Autry Way, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements: _____

*KEY: AG—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil PE—Petroleum

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: M Czipka
Site: **Tes/930 Springtown** Scheduled: **12/16/94**
Project Mgr: **Brian Garber** Site Mgr:

PREPARATORY COMMENTS

Visit Date: 12/16/94 Arrival Time: 14:40 Departure Time: 16:10

Called Project Manager? YES, (NO). Time: _____ Who: _____

If You Did Not Call, Why Not? _____

Are You In Possession of a Site Safety Plan? (YES) NO

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Weekly]

SYSTEM STATUS = Vapor I (inactive) (+) (site up) - (site down)

1. Take FID readings with and without (inf & eff) carbon tip. Record on log on site.

2. Figure efficency, if less than 90% call PM.

3. Collect tape from chart recorder. Replace tape from chart recorder as needed.

4. Check water knock out water level. Notify PM if greater than 50% full as measured from effluent port.

5. Record hours of operation.

6. Record all measurements on log at site and on standard forms.

EQUIPMENT NEEDED: FID, Tedlar bags, Permit expiration date in permit.

Texaco Representative: Karen Petryna

Hours Estimated	2.00	Hours Used	

FINAL CHECKS

SITE SECURITY: well/covers/(gates)... secure? (Y)/N-If No, Explain (INE)

WASTE COMPLIANCE: # of Drums w/: Water—, Soil—, Empty—, Other—

Drums labeled? (NA)/Y/N-INE, Gen. Date:—, Label Type:—

Soil pile? Y/(N) size:_____cu.yds., Visqueen under/over pile? Y/N-INE

CUSTOMER SATISFACTION: Survey left? Y/(N)-INE, Site left clean? (Y)/N-INE

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: M Czipka
Site: **Tes/930 Springtown** Scheduled: **12/16/94**
Project Mgr: **Brian Garber** Site Mgr:

TECHNICIAN'S COMMENTS

System Operating.
Changed Chart Paper.
Checked moisture knockout and air sparge pump.
inspected vapor wells. Inspected flow sensor / pitot tube
setup.

Total Hours Estimated	2.00	Total Hours Used	
Travel Time Estimated	1.00	Travel Time Used	

Technician

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Springtown, Livermore
Site Address

Sampled By: Mark Czipka

Date: 12/16/94

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational	✓		
2nd Contain. Float Switch Working			✓
Adjust Flow Rate		✓	
Filter Checked and Cleaned	✓		
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

	N/A	Field Data
Effluent Totalizer (gal) Air Filter		14 "H_2O
Effluent Flow Rate (gpm) Blower Vac		122
Aeration Pressure (psi) INF Temp		100 °F
Bag Filter INFL Pressure (psi) INF Vac		0.8 "H_2O
Bag Filter EFFL Pressure (psi) CH		-11-
Carbon Vessel #1 Pressure (psi)	CH3	640°F
Carbon Vessel #2 Pressure (psi)	CH4	646°F
Air Compressor Pressure (psi)	CH5	631°F
Hour Meter (hours)		12883

SYSTEM SAMPLING

	Sample Point INF ppm	Sample Point EFF (ppm)	Sample Point Calculation	Sample Point Efficiency
~~Temperature (F)~~ FID	30	4		
~~pH (units)~~ FID w/ Carbon	3	3		
~~Dissolved O_2 (ppm)~~ Methane	27	1	1/27 X100 = 3.7%	100% - 3.7% = 96.3%
Electrical Conductivity				

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)	N/A			
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: M Czipko
Site: **Tes/930 Springtown** Scheduled: **12/23/94**
Project Mgr: **Brian Garber** Site Mgr:

PREPARATORY COMMENTS

Visit Date: 12/23/94 Arrival Time: 11:36 Departure Time: 11:55

Called Project Manager? YES, (NO) Time: _____ Who: _____

If You Did Not Call, Why Not? _____

Are You In Possession of a Site Safety Plan? (YES) NO

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Weekly]

SYSTEM STATUS = Vapor I (inactive) (+) (site up) - (site down)

1. Take FID readings with and without (inf & eff) carbon tip. Record on log on site.

2. Figure efficency, if less than 90% call PM.

3. Collect tape from chart recorder. Replace tape from chart recorder as needed.

4. Check water knock out water level. Notify PM if greater than 50% full as measured from effluent port.

5. Record hours of operation.

6. Record all measurements on log at site and on standard forms.

EQUIPMENT NEEDED: FID, Tedlar bags, Permit expiration date in permit.

Texaco Representative: Karen Petryna

Hours Estimated	2.00	Hours Used	

FINAL CHECKS

SITE SECURITY: well/covers/gates.. secure? (Y)/N-If No, Explain (INE)

WASTE COMPLIANCE: # of Drums w/: Water___, Soil___, Empty___, Other___

Drums labeled? (NA)/Y/N-INE, Gen. Date:_____, Label Type:_____

Soil pile? Y/(N) size:_____cu.yds., Visqueen under/over pile? Y/N-INE

CUSTOMER SATISFACTION: Survey left? Y/(N)-INE, Site left clean? Y/N-INE

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician:
Site: **Tes/930 Springtown** Scheduled: **12/23/94**
Project Mgr: **Brian Garber** Site Mgr:

TECHNICIAN'S COMMENTS

System Operating.
Checked moisture knockout and air spage pump—
no maint. required.

Total Hours Estimated	2.00	Total Hours Used	
Travel Time Estimated	1.00	Travel Time Used	

Technician

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Springtown, Livermore
Site Address

Sampled By: Mark Czipka Date: 12/16/94

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational	✓		
2nd Contain. Float Switch Working			✓
Adjust Flow Rate		✓	
Filter Checked ~~and Cleaned~~	✓		
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

	N/A	Field Data
Effluent Totalizer (gal) Air Filter		11.5 "H_2O
Effluent Flow Rate (gpm) Blower Vac		144 "H_2O
Aeration Pressure (psi) INF Temp		96°F
Bag Filter INFL Pressure (psi) INF VAC		0.8 "H_2O
Bag Filter EFFL Pressure (psi) CH 1		—
Carbon Vessel #1 Pressure (psi) CH3		632°F
Carbon Vessel #2 Pressure (psi) CH4		637°F
Air Compressor Pressure (psi) CH5		622°F
Hour Meter (hours)		13372

SYSTEM SAMPLING

	Sample Point INF (ppm)	Sample Point EFF (ppm)	Sample Point Calculation	Sample Point Efficiency
~~Temperature (F)~~ FID	25	3		
~~pH (units)~~ FID w/Carbon	2	2		
~~Dissolved O_2 (ppm)~~ Adjusted	23	1	1/23 × 100% = 4.3%	100 − 4.3 = 95.7%
Electrical Conductivity				

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)	N/A	—	—	—
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: Mark Czipka
Site: **Tes/930 Springtown** Scheduled: **12/30/94**
Project Mgr: **Brian Garber** Site Mgr:

PREPARATORY COMMENTS

Visit Date: 12/29/94 Arrival Time: 10:44 Departure Time: 11:00

Called Project Manager? YES, (NO) Time: _____ Who: _____

If You Did Not Call, Why Not? Not in office

Are You In Possession of a Site Safety Plan? (YES) NO

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Weekly]

SYSTEM STATUS = Vapor I (inactive) + (site up) - (site down)

1. Take FID readings with and without (inf & eff) carbon tip. Record on log on site.

2. Calculate efficency, if less than 90% call PM.

3. Collect tape from chart recorder. Replace tape from chart recorder as needed.

4. Check water knock out water level. Notify PM if greater than 50% full as measured from effluent port.

5. Record hours of operation.

6. Record all measurements on log at site and on standard forms.

EQUIPMENT NEEDED: FID, Tedlar bags, Permit expiration date in permit.

Texaco Representative: Karen Petryna (510) 236-9139

Hours Estimated	2.00	Hours Used	

FINAL CHECKS

SITE SECURITY: well/covers/gates... secure? Y/N-If No, Explain (INE)

WASTE COMPLIANCE: # of Drums w/: Water___, Soil___, Empty___, Other___

Drums labeled? NA/Y/N-INE, Gen. Date:_____, Label Type:_____

Soil pile? Y/N size:_____cu.yds., Visqueen under/over pile? Y/N-INE

CUSTOMER SATISFACTION: Survey left? Y/N-INE, Site left clean? Y/N-INE

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: Mark Czipka
Site: **Tes/930 Springtown** Scheduled: **12/30/94**
Project Mgr: **Brian Garber** Site Mgr:

TECHNICIAN'S COMMENTS

System operating,
cleaned compound.

Total Hours Estimated	**2.00**	Total Hours Used	
Travel Time Estimated	**1.00**	Travel Time Used	

Technician

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Springtown Blvd, Livermore
Site Address

Sampled By: Mark N Czipka Date: 12/29/94

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational	✓		
2nd Contain. Float Switch Working			✓
Adjust Flow Rate		✓	
Filter Checked ~~and Cleaned~~	✓		
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

	N/A	Field Data
Effluent Totalizer (gal) Air Filter		13" H_2O
Effluent Flow Rate (gpm) Blower Vac		146" H_2O
Aeration Pressure (psi) INF Temp		96°F
Bag Filter INFL Pressure (psi) INF Vac		0.8" H_2O
Bag Filter EFFL Pressure (psi) CH 1		
Carbon Vessel #1 Pressure (psi) CH3		629°F
Carbon Vessel #2 Pressure (psi) CH4		635°F
Air Compressor Pressure (psi)	CH5	620°F
Hour Meter (hours)		14664

SYSTEM SAMPLING

	Sample Point INF (ppm)	Sample Point EFF (ppm)	Sample Point Calculation	Sample Point Efficiency
~~Temperature (F)~~ FID	30	6		
~~pH (units)~~ FID w/Carbon	2	2		
~~Dissolved O_2 (ppm)~~ Alpha	28	4	4/28 × 100 = 14.3%	100% − 14.3% = 85.7%
Electrical Conductivity				

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)	N/A			
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: M Czapka
Site: **Tes/930 Springtown** Scheduled: **1/06/95**
Project Mgr: **Brian Garber** Site Mgr:

PREPARATORY COMMENTS

Visit Date: 1/3/95 Arrival Time: 13:10 Departure Time: 14:00

Called Project Manager? YES, (NO) Time: _____ Who: _____

If You Did Not Call, Why Not? no need

Are You In Possession of a Site Safety Plan? (YES) NO

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Weekly]

SYSTEM STATUS = Vapor I (inactive) (+) (site up) - (site down)

1. Take FID readings with and without (inf & eff) carbon tip. Record on log on site.

2. Calculate efficency, if less than 90% call PM.

3. Collect tape from chart recorder. Replace tape from chart recorder as needed.

4. Check water knock out water level. Notify PM if greater than 50% full as measured from effluent port.

5. Record hours of operation.

6. Record all measurements on log at site and on standard forms.

EQUIPMENT NEEDED: FID, Tedlar bags, Permit expiration date in permit.

Texaco Representative: Karen Petryna (510) 236-9139

Hours Estimated	2.00	Hours Used	

O&M SYSTEM MAINTENANCE - Task Nr: 051005 [Monthly]

1. Collect samples from influent & effluent and analyze for BTEX/TPH-G

2. Samples will be sent to BC Analytical - (1085 Shary Circle, Concord, (510) 825-3894), under to appropriate COC manifest.

Hours Estimated	.50	Hours Used	

RECEIVED
JAN 1 1 1995

SITE VISIT FORM
Groundwater Technology, Inc. - Concord, California

Project: **20700044.00** Technician: M Czipka
Site: **Tes/930 Springtown** Scheduled: **1/06/95**
Project Mgr: **Brian Garber** Site Mgr:

FINAL CHECKS

SITE SECURITY: well/covers/gates... secure? Y/N-If No, Explain (INE)

WASTE COMPLIANCE: # of Drums w/: Water___, Soil___, Empty___, Other___

Drums labeled? NA/Y/N-INE, Gen. Date:_____, Label Type:_____

Soil pile? Y/N size:_____cu.yds., Visqueen under/over pile? Y/N-INE

CUSTOMER SATISFACTION: Survey left? Y/N-INE, Site left clean? Y/N-INE

TECHNICIAN'S COMMENTS

Total Hours Estimated	2.50	Total Hours Used	
Travel Time Estimated	1.00	Travel Time Used	

Technician

SITE VISITATION FORM
FOR
WASTEWATER DISCHARGE SAMPLING
SYSTEM OPERATION AND MAINTENANCE

930 Springtown, Livermore
Site Address

Sampled By: Mark N Czipka

Date: 11/3/95

SYSTEM CHECK / READINGS

If Applicable	Yes	No	N/A
Is System Operational	✓		
2nd Contain. Float Switch Working			✓
Adjust Flow Rate		✓	
Filter Checked ~~and Cleaned~~	✓		
Strainer Checked and Cleaned			✓
Check/Add Water Conditioner			✓
Calibrate LEL			✓

Air Sparge Pump Operating
Moisture Knockat empty

	N/A	Field Data
Effluent Totalizer (gal) Air Filtr		12 "H_2O
Effluent Flow Rate (gpm) Blower Vac		150 "H_2O
Aeration Pressure (psi) INF Temp		104 °F
Bag Filter INFL Pressure (psi) INF VAC		0.8 "H_2O
Bag Filter EFFL Pressure (psi) CH 1		—
Carbon Vessel #1 Pressure (psi) CH3		655 °F
Carbon Vessel #2 Pressure (psi) CH4		662 °F
Air Compressor Pressure (psi) CH5		645 °F
Hour Meter (hours)		15770

SYSTEM SAMPLING

	Sample Point INF (ppm)	Sample Point EFF (ppm)	Sample Point Calculation	Sample Point Efficiency
~~Temperature (F)~~ FID	30	2		
~~pH (units)~~ FID w/Carbon	1	1		
~~Dissovived O_2 (ppm)~~ Oxygen	29	1	1/29 x 100 = 3.4%	100%-3.4% = 96.6%
~~Electrical Conductivity~~	Sampled	Sampled		

WELL READINGS

	Well #	Well #	Well #	Well #
Flow Totalizer (gpm)	N/A			
Flow Rate (gpm)				
Hour Meter (hours)				
DTW from TOC (ft)				

TES/930 Springtown, Livermore

CHAIN OF CUSTODY RECORD

BCA Log Number ______

Client name	GroundWater Technology, Inc
Project or PO#	020700044.051005
Address	1401 Halyard Suite 140
Phone #	(916) 372-4700
City, State, Zip	West Sacramento, CA
Report attention	Brian Garber
Sampled by	Mark Czipka

Analyses required

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sample description	Number of containers		BTEX, TPH as Gas						Hazardous sample Special handling required	Remarks (Pg 1 of 1)
	1/3/95	13:35	OT	INF	1		X							1 Liter Tedlar Bag
	↓	13:36	OT	EFF	1		X							" " "

	Signature	Print Name	Company	Date	Time
Relinquished by	MNC	Mark N. Czipka	GroundWater Technology, Inc.	1/3/95	14:44
Received by	Jan Waters	Jan Waters	BCA	1/3/95	14:44
Relinquished by					
Received by					
Relinquished by					
Received by Laboratory					

B C ANALYTICAL

☑ 1085 Shary Circle, Concord, CA 94518 (510) 825-3894
☐ 801 Western Avenue, Glendale, CA 91201 (818) 247-5737
☐ 1200 Gene Autry Way, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements: ______

*KEY: AG—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil PE—Petroleum

B C Analytical

801 Western Avenue
Glendale, CA 91201
818/247-5737
Fax: 818/247-9797

ANALYTICAL REPORT

LOG NO: G95-01-026

Received: 03 JAN 95

Mailed: JAN 17 1995

Mr. Brian Garber
Groundwater Technology, Inc.
1401 Halyard Drive, Suite 140
West Sacramento, California 95691

Purchase Order: 94-1446346+4370

Requisition: 618571050
Project: FKEP1012L

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)							
		Date Analyzed Date	Dilution Factor Times	TPH-g mg/M3	Benzene mg/M3	Toluene mg/M3	Ethyl- Benzene mg/M3	Total Xylenes Isomers mg/M3	
RDL									
1*Inf	01/03/95	01/06/95	1	50	0.88	0.95	0.39	1.0	
2*Eff	01/03/95	01/06/95	1	<10	<0.2	<0.2	<0.3	<0.5	

Karen Petryna
930 Springtown, Livermore
Alameda County

Mark A. Valentini, PhD, Laboratory Director

AMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE..... ANALYZED	METHOD.....	EQUIP.	BATCH..	ID.NO
501026*1	Inf	GAS.BTX.TESNC	01.06.95	8015M.TX	516-24	957142	8523
501026*2	Eff	GAS.BTX.TESNC	01.06.95	8015M.TX	516-24	957142	8523

**

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

ORDER QC REPORT FOR G9501026

ATE REPORTED : 01/16/95

LABORATORY CONTROL STANDARDS
FOR BATCHES WHICH INCLUDE THIS ORDER

ARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
. TPH-gas/BTEX (CADHS/80 C5011195*1						
Date Analyzed	01.06.95	957142	01/06/95	01/06/95	Date	N/A
Benzene	01.06.95	957142	6.48	6.40	mg/M3	101
Toluene	01.06.95	957142	7.25	6.44	mg/M3	113
Ethylbenzene	01.06.95	957142	5.94	6.33	mg/M3	94
Total Xylene Isomers	01.06.95	957142	12.0	13.0	mg/M3	92
. TPH-gas/BTEX (CADHS/80 C5011199*1						
Date Analyzed	01.06.95	957142	01/06/95	01/06/95	Date	N/A
Benzene	01.06.95	957142	6.30	6.40	mg/M3	98
Toluene	01.06.95	957142	7.10	6.44	mg/M3	110
Ethylbenzene	01.06.95	957142	5.88	6.33	mg/M3	93
Total Xylene Isomers	01.06.95	957142	11.9	13.0	mg/M3	92

BC ANALYTICAL

ORDER QC REPORT FOR G9501026

ATE REPORTED : 01/16/95

ADDITIONAL LCS PRECISION (DUPLICATES)
BATCH QC REPORT

ARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
. TPH-gas/BTEX (CADHS/80							
Date Analyzed		01.06.95	957142	01/06/95	01/06/95	Date	N/A
Benzene		01.06.95	957142	6.48	6.30	mg/M3	3
Toluene		01.06.95	957142	7.25	7.10	mg/M3	2
Ethylbenzene		01.06.95	957142	5.94	5.88	mg/M3	1
Total Xylene Isomers		01.06.95	957142	12.0	11.9	mg/M3	1

BC ANALYTICAL

ORDER QC REPORT FOR G9501026

ATE REPORTED : 01/16/95

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)
FOR BATCHES WHICH INCLUDE THIS ORDER

ARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
. TPH-gas/BTEX (CADHS/80 B501606*1						
Date Analyzed	01.06.95	957142	01/06/95	NA	Date	8015M.TX
Benzene	01.06.95	957142	0.031	NA	mg/M3	8015M.TX
Toluene	01.06.95	957142	0.14	NA	mg/M3	8015M.TX
Ethylbenzene	01.06.95	957142	0.24	NA	mg/M3	8015M.TX
Total Xylene Isomers	01.06.95	957142	0.055	NA	mg/M3	8015M.TX
TPH (as Gasoline)	01.06.95	957142	5.2	NA	mg/M3	8015M.TX

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 15:00:00 16 JAN 1995 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9501026*1							
8015M.TX	a,a,a-Trifluorotoluene	957142	01/06/95	53.5	50.0	107	
9501026*2							
8015M.TX	a,a,a-Trifluorotoluene	957142	01/06/95	56.8	50.0	114	

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 15:00:01 16 JAN 1995 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
3501606*1*MB							
8015M.TX	a,a,a-Trifluorotoluene	957142	01/06/95	56.5	50.0	113	
C5011195*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	957142	01/06/95	54.0	50.0	108	
C5011195*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	957142	01/06/95	50.0	50.0	100	
C5011199*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	957142	01/06/95	52.2	50.0	104	
C5011199*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	957142	01/06/95	50.0	50.0	100	

TES/930 Springstown, Livermore

CHAIN OF CUSTODY RECORD

BCA Log Number G9501026

Client name: GroundWater Technology Inc

Project or PO#: 020700044 .051005

Address: 1401 Halyard Suite 140

Phone #: (916) 372-4700

City, State, Zip: West Sacramento, CA

Report attention: Brian Garber

Sampled by: Mark Czipka

Analyses required: BTEX, TPH as Gas; Hazardous sample Special handling required

Pg 1 of 1

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sample description	Number of containers	BTEX, TPH as Gas						Hazardous sample Special handling required	Remarks
	1/3/95	13:35	OT	INF	1	X							1 Liter Tedlar Bag
	↓	13:36	OT	EFF	1	X							" " "
													[illegible]
													Livermore
													6185710GC
													Alameda Co
													[illegible]
													[illegible]

	Signature	Print Name	Company	Date	Time
Relinquished by	[signature]	Mark N. Czipka	GroundWater Technology, Inc.	1/3/95	14:44
Received by	[signature]	Jan Winter	BCA	1/3/95	14:44
Relinquished by					
Received by					
Relinquished by					
Received by Laboratory					

B C ANALYTICAL

☑ 1085 Shary Circle, Concord, CA 94518 (510) 825-3894
☐ 801 Western Avenue, Glendale, CA 91201 (818) 247-5737
☐ 1200 Gene Autry Way, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements: ____

*KEY: AG—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil PE—Petroleum

B C Analytical

801 Western Avenue
Glendale, CA 91201
818/247-5737
Fax: 818/247-9797

ANALYTICAL REPORT

LOG NO: G94-12-110

Received: 07 DEC 94

Mailed: DEC 15

Mr. Brian Garber
Groundwater Technology, Inc.
1401 Halyard Drive, Suite 140
West Sacramento, California 95691

Purchase Order: 94-1446346+4370

Requisition: 618571050
Project: FKEP1012L

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)							
		Date Analyzed Date	Dilution Factor Times	TPH-g mg/M3	Benzene mg/M3	Toluene mg/M3	Ethyl- Benzene mg/M3	Total Xylenes Isomers mg/M3	
RDL			1						
1*INF	12/07/94	12/08/94	1	30	<0.2	0.26	<0.3	<0.4	
2*EFF	12/07/94	12/08/94	1	<10	<0.2	<0.2	<0.3	<0.4	

Karen Petryna
930 Springtown, Livermore
Alameda County

Mark A. Valentini, PhD, Laboratory Director

: ORDER PLACED FOR CLIENT: Groundwater Technology, Inc. 9412110 :
: BC ANALYTICAL : GLEN LAB : 12:46:24 14 DEC 1994 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE..... ANALYZED	METHOD.....	EQUIP.	BATCH..	ID.NO
9412110*1	INF	GAS.BTX.TESNC	12.08.94	8015M.TX	516-24	947121	8523
9412110*2	EFF	GAS.BTX.TESNC	12.08.94	8015M.TX	516-24	947121	8523

***

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

ORDER QC REPORT FOR G9412110

DATE REPORTED : 12/14/94

LABORATORY CONTROL STANDARDS
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
1. TPH-gas/BTEX (CADHS/80 C4121339*1						
Date Analyzed	12.08.94	947121	12/08/94	12/08/94	Date	N/A
Benzene	12.08.94	947121	5.44	6.40	mg/M3	85
Toluene	12.08.94	947121	6.33	6.44	mg/M3	98
Ethylbenzene	12.08.94	947121	5.53	6.33	mg/M3	87
Total Xylene Isomers	12.08.94	947121	11.5	13.0	mg/M3	88
2. TPH-gas/BTEX (CADHS/80 C4121340*1						
Date Analyzed	12.08.94	947121	12/08/94	12/08/94	Date	N/A
Benzene	12.08.94	947121	5.03	6.40	mg/M3	79
Toluene	12.08.94	947121	5.86	6.44	mg/M3	91
Ethylbenzene	12.08.94	947121	5.12	6.33	mg/M3	81
Total Xylene Isomers	12.08.94	947121	10.6	13.0	mg/M3	82 Q

BC ANALYTICAL

ORDER QC REPORT FOR G9412110

DATE REPORTED : 12/14/94

ADDITIONAL LCS PRECISION (DUPLICATES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
1. TPH-gas/BTEX (CADHS/80							
Date Analyzed		12.08.94	947121	12/08/94	12/08/94	Date	N/A
Benzene		12.08.94	947121	5.44	5.03	mg/M3	8
Toluene		12.08.94	947121	6.33	5.86	mg/M3	8
Ethylbenzene		12.08.94	947121	5.53	5.12	mg/M3	8
Total Xylene Isomers		12.08.94	947121	11.5	10.6	mg/M3	8

BC ANALYTICAL

ORDER QC REPORT FOR G9412110

DATE REPORTED : 12/14/94

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
1. TPH-gas/BTEX (CADHS/80 B412692*1						
Date Analyzed	12.08.94	947121	12/08/94	NA	Date	8015M.TX
Benzene	12.08.94	947121	0	NA	mg/M3	8015M.TX
Toluene	12.08.94	947121	0.066	NA	mg/M3	8015M.TX
Ethylbenzene	12.08.94	947121	0.029	NA	mg/M3	8015M.TX
Total Xylene Isomers	12.08.94	947121	0.11	NA	mg/M3	8015M.TX
TPH (as Gasoline)	12.08.94	947121	2.3	NA	mg/M3	8015M.TX

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9412110*1							
8015M.TX	a,a,a-Trifluorotoluene	947121	12/08/94	56.7	50.0	113	
9412110*2							
8015M.TX	a,a,a-Trifluorotoluene	947121	12/08/94	53.2	50.0	106	

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 12:46:52 14 DEC 1994 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
B412692*1*MB							
8015M.TX	a,a,a-Trifluorotoluene	947121	12/08/94	62.0	50.0	124	
C4121339*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	947121	12/08/94	52.9	50.0	106	
C4121339*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	947121	12/08/94	50.0	50.0	100	
C4121340*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	947121	12/08/94	56.4	50.0	113	
C4121340*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	947121	12/08/94	50.0	50.0	100	

CHAIN OF CUSTODY RECORD

BCA Log Number 9412-110

Client name	Project or PO#
GroundWater Technology Inc.	070700044. 05100
Address	**Phone #**
1401 Halyard Suite 140	(916) 372-4200
City, State, Zip	**Report attention**
West Sacramento, CA	Brian Garber

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by / Sample description	Number of containers	Analyses required: BTEX, TPH as Gas	Hazardous sample Special handling required	Remarks
	12/7/94	13:50	GT	Mark Czipku INF	1	X		1's 1 of 1
	1	13:52	GT	EFF	1	X		

	Signature	Print Name	Company	Date	Time
Relinquished by	MCzK	Mark N Czyk	Ground Water Technology, Inc.	12/7/94	14:47
Received by	Jan Winter	Jan Winter	BCA	12/7/94	14:47
Relinquished by					
Received by					
Relinquished by					
Received by Laboratory					

B C ANALYTICAL
1085 Shary Circle, Concord, CA 94518 (510) 825-3864
801 Western Avenue, Glendale, CA 91201 (818) 247-5737
1200 Gene Autry Way, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements: _____

*KEY: AG—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil PE—Petroleum

B C Analytical

801 Western Avenue
Glendale, CA 91201
818/247-5737
Fax: 818/247-9797

ANALYTICAL REPORT

LOG NO: G94-11-503

Received: 30 NOV 94

Mailed: DEC 15

Mr. Brian Garber
Groundwater Technology, Inc.
1401 Halyard Drive, Suite 140
West Sacramento, California 95691

Purchase Order: 94-1446346+4370

Requisition: 618571050
Project: FKEP1012L

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)							
		Date Analyzed Date	Dilution Factor Times	TPH-g mg/M3	Benzene mg/M3	Toluene mg/M3	Ethyl-Benzene mg/M3	Total Xylenes Isomers mg/M3	
RDL									
1*INF	11/29/94	12/02/94	1	19	<0.2	0.30	0.35	0.68	
2*EFF	11/29/94	12/02/94	1	<10	<0.2	<0.2	<0.3	<0.5	

Karen Petryna
930 Springtown, Livermore
Alameda County

Mark A. Valentini, PhD, Laboratory Director

: ORDER PLACED FOR CLIENT: Groundwater Technology, Inc. 9411503 :
: BC ANALYTICAL : GLEN LAB : 11:46:23 13 DEC 1994 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE..... ANALYZED	METHOD.....	EQUIP.	BATCH..	ID.NO
9411503*1	INF	GAS.BTX.TESNC	12.02.94	8015M.TX	516-24	947114	8523
9411503*2	EFF	GAS.BTX.TESNC	12.02.94	8015M.TX	516-24	947114	8523

***

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

ORDER QC REPORT FOR G9411503

DATE REPORTED : 12/13/94

LABORATORY CONTROL STANDARDS
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
1. TPH-gas/BTEX (CADHS/80 C412974*1						
Date Analyzed	12.02.94	947114	12/02/94	12/03/94	Date	N/A
Benzene	12.02.94	947114	5.01	6.40	mg/M3	78
Toluene	12.02.94	947114	5.86	6.44	mg/M3	91
Ethylbenzene	12.02.94	947114	5.17	6.33	mg/M3	82
Total Xylene Isomers	12.02.94	947114	10.9	13.0	mg/M3	84
2. TPH-gas/BTEX (CADHS/80 C4121174*1						
Date Analyzed	12.02.94	947114	12/02/94	12/02/94	Date	N/A
Benzene	12.02.94	947114	4.92	6.40	mg/M3	77
Toluene	12.02.94	947114	5.71	6.44	mg/M3	89
Ethylbenzene	12.02.94	947114	4.99	6.33	mg/M3	79
Total Xylene Isomers	12.02.94	947114	10.4	13.0	mg/M3	80 Q

BC ANALYTICAL

ORDER QC REPORT FOR G9411503

DATE REPORTED : 12/13/94

ADDITIONAL LCS PRECISION (DUPLICATES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
1. TPH-gas/BTEX (CADHS/80							
Date Analyzed		12.02.94	947114	12/02/94	12/02/94	Date	N/A
Benzene		12.02.94	947114	5.01	4.92	mg/M3	2
Toluene		12.02.94	947114	5.86	5.71	mg/M3	3
Ethylbenzene		12.02.94	947114	5.17	4.99	mg/M3	4
Total Xylene Isomers		12.02.94	947114	10.9	10.4	mg/M3	5

BC ANALYTICAL

ORDER QC REPORT FOR G9411503

DATE REPORTED : 12/13/94

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
1. TPH-gas/BTEX (CADHS/80 B412496*1						
Date Analyzed	12.02.94	947114	12/02/94	NA	Date	8015M.TX
Benzene	12.02.94	947114	0	NA	mg/M3	8015M.TX
Toluene	12.02.94	947114	0.11	NA	mg/M3	8015M.TX
Ethylbenzene	12.02.94	947114	0	NA	mg/M3	8015M.TX
Total Xylene Isomers	12.02.94	947114	0.080	NA	mg/M3	8015M.TX
TPH (as Gasoline)	12.02.94	947114	2.0	NA	mg/M3	8015M.TX

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 15:27:07 13 DEC 1994 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9411503*1							
8015M.TX	a,a,a-Trifluorotoluene	947114	12/02/94	65.9	50.0	132	
9411503*2							
8015M.TX	a,a,a-Trifluorotoluene	947114	12/02/94	59.8	50.0	120	

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 15:27:09 13 DEC 1994 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
B412496*1*MB							
8015M.TX	a,a,a-Trifluorotoluene	947114	12/02/94	62.5	50.0	125	
C4121174*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	947114	12/02/94	59.6	50.0	119	
C4121174*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	947114	12/02/94	50.0	50.0	100	
C412974*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	947114	12/02/94	61.3	50.0	123	
C412974*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	947114	12/02/94	50.0	50.0	100	

CHAIN OF CUSTODY RECORD

BCA Log Number _____

Client name: Ground Water Technology, Inc.	Project or PO#: 030700044. 05005
Address: 1401 Halyard Suite 140	Phone #: (916) 372-4700
City, State, Zip: West Sacramento, CA	Report attention: Brian Gerber

Analyses required: BTEX, TPH as Gas; Hazardous sample Special handling required

Pg 1 of 1

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by: Mark Czipka — Sample description	Number of containers	BTEX, TPH as Gas	Hazardous sample Special handling required	Remarks
	11/29/44	13:26	GT	INF	1	X		
	〃	13:30	GT	EFF	1	X		

	Signature	Print Name	Company	Date	Time
Relinquished by	MCK	Mark A. Czipka	Ground Water Technology, Inc.	11/30/44	8:35
Received by	Jan Winter	Jan Winter	BCA	11/30/44	8:35
Relinquished by					
Received by					
Relinquished by					
Received by Laboratory					

B C ANALYTICAL

1085 Shary Circle, Concord, CA 94518 (510) 825-3894
801 Western Avenue, Glendale, CA 91201 (818) 247-5737
1200 Gene Autry Way, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements: _____

*KEY: AG—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil PE—Petroleum

B C Analytical

801 Western Avenue
Glendale, CA 91201
818/247-5737
Fax: 818/247-9797

ANALYTICAL REPORT

LOG NO: G94-09-375

Received: 28 SEP 94
Mailed : 05 OCT 94

Mr. Brian Garber
Groundwater Technology, Inc.
1401 Halyard Drive, Suite 140
West Sacramento, California 95691

Purchase Order: 94-1446346+4370

Requisition: 618571050
Project: FKEP1012L

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)							
		Date Analyzed Date	Dilution Factor Times 1	TPH-g mg/M3	Benzene mg/M3	Toluene mg/M3	Ethyl- Benzene mg/M3	Total Xylenes Isomers mg/M3	
RDL									
1*Inf-1	09/28/94	09/30/94	1	570	<0.2	<0.2	<0.3	<0.2	
2*Eff-1	09/28/94	09/30/94	1	<10	<0.2	<0.2	<0.3	<0.2	

Karen Petryna
930 Springtown Boulevard, Livermore
Alameda County
Amended Report: The TPH gasoline result was incorrectly reported for sample Inf-1. The result has been amended.
M. Adriance 10/6/94

Mark A. Valentini, PhD, Laboratory Director

: ORDER PLACED FOR CLIENT: Groundwater Technology, Inc. 9409375 :
: BC ANALYTICAL : GLEN LAB : 16:34:50 04 OCT 1994 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE..... ANALYZED	METHOD.....	EQUIP.	BATCH..	ID.NO
9409375*1	Inf-1	GAS.BTX.TESNC	09.30.94	8015M.TX	516-24	947065	8523
9409375*2	Eff-1	GAS.BTX.TESNC	09.30.94	8015M.TX	516-24	947065	8523

***

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

ORDER QC REPORT FOR G9409375

DATE REPORTED : 10/04/94

LABORATORY CONTROL STANDARDS
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
1. TPH-gas/BTEX (CADHS/80 C410229*1						
Date Analyzed	09.30.94	947065	09/30/94	09/30/94	Date	N/A
Benzene	09.30.94	947065	5.43	6.40	mg/M3	85
Toluene	09.30.94	947065	6.34	6.44	mg/M3	98
Ethylbenzene	09.30.94	947065	4.92	6.33	mg/M3	78 Q
Total Xylene Isomers	09.30.94	947065	3.49	4.12	mg/M3	85
a,a,a-Trifluorotoluene Reported	09.30.94	947065	53.1	50.0	mg/M3	106
a,a,a-Trifluorotoluene Theoretic	09.30.94	947065	50.0	50.0	mg/M3	100
2. TPH-gas/BTEX (CADHS/80 C410230*1						
Date Analyzed	09.30.94	947065	09/30/94	09/30/94	Date	N/A
Benzene	09.30.94	947065	6.26	6.40	mg/M3	98
Toluene	09.30.94	947065	7.29	6.44	mg/M3	113
Ethylbenzene	09.30.94	947065	5.96	6.33	mg/M3	94
Total Xylene Isomers	09.30.94	947065	3.92	4.12	mg/M3	95
a,a,a-Trifluorotoluene Reported	09.30.94	947065	63.1	50.0	mg/M3	126 Q
a,a,a-Trifluorotoluene Theoretic	09.30.94	947065	50.0	50.0	mg/M3	100

BC ANALYTICAL

ORDER QC REPORT FOR G9409375

DATE REPORTED : 10/04/94

ADDITIONAL LCS PRECISION (DUPLICATES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
1. TPH-gas/BTEX (CADHS/80							
Date Analyzed		09.30.94	947065	09/30/94	09/30/94	Date	N/A
Benzene		09.30.94	947065	5.43	6.26	mg/M3	14
Toluene		09.30.94	947065	6.34	7.29	mg/M3	14
Ethylbenzene		09.30.94	947065	4.92	5.96	mg/M3	19
Total Xylene Isomers		09.30.94	947065	3.49	3.92	mg/M3	12
a,a,a-Trifluorotoluene	Reported	09.30.94	947065	53.1	63.1	mg/M3	17
a,a,a-Trifluorotoluene	Theoretic	09.30.94	947065	50.0	50.0	mg/M3	0

BC ANALYTICAL

ORDER QC REPORT FOR G9409375

DATE REPORTED : 10/04/94

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
1. TPH-gas/BTEX (CADHS/80 B410188*1						
Date Analyzed	09.30.94	947065	09/30/94	NA	Date	8015M.TX
Benzene	09.30.94	947065	0	NA	mg/M3	8015M.TX
Toluene	09.30.94	947065	0	NA	mg/M3	8015M.TX
Ethylbenzene	09.30.94	947065	0	NA	mg/M3	8015M.TX
Total Xylene Isomers	09.30.94	947065	0	NA	mg/M3	8015M.TX
TPH (as Gasoline)	09.30.94	947065	0	NA	mg/M3	8015M.TX
a,a,a-Trifluorotoluene Reported	09.30.94	947065	54.4	NA	mg/M3	8015M.TX
a,a,a-Trifluorotoluene Theoretic	09.30.94	947065	50.0	NA	mg/M3	8015M.TX

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 16:35:22 04 OCT 1994 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9409375*1							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	59.5	50.0	119	
9409375*2							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	55.5	50.0	111	

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 16:35:26 04 OCT 1994 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
B410188*1*MB							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	54.4	50.0	109	
C410229*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	53.1	50.0	106	
C410229*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	50.0	50.0	100	
C410230*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	63.1	50.0	126	Q
C410230*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	50.0	50.0	100	

CHAIN OF CUSTODY RECORD

BCA Log Number 6494-09-375

Client name	Project or PO#
ES / Groundwater Technology	02070-0044
Address	**Phone #**
1304 Holyard Drive Suite 140	(916) 372-4700
City, State, Zip	**Report attention**
Sacramento, CA. 95691	Karen Petryna / Brian Garber

Sampled by: Jeff Auchterlonie

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sample description	Number of containers	BTEX	TPH Gasoline	Hazardous sample Special handling required	Remarks
	9-28-94	3:05		BInf-1 Air Sample Influent	1	✓	✓		Site Address:
	9-28-94	3:10		Efl-1 Air Sample Effluent	1	✓	✓		930 Springtown Blvd Livermore

	Signature	Print Name	Company	Date	Time
Relinquished by		Jeff Auchterlonie	Groundwater Technology	9-28-94	4:10
Received by		Mona Advance	BC Analytical	9-28-94	4:13
Relinquished by					
Received by					
Relinquished by					
Received by Laboratory					

B C ANALYTICAL

1095 Shary Circle, Concord, CA 94518 (510) 825-3894
1801 Western Avenue, Glendale, CA 91201 (818) 247-5737
1200 Gene Autry Way, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements: _____

*KEY: AG—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil PE—Petroleum

B C Analytical

801 Western Avenue
Glendale, CA 91201
818/247-5737
Fax: 818/247-9797

ANALYTICAL REPORT

LOG NO: G94-09-375

Received: 28 SEP 94

Mailed: OCT 5 1994

Mr. Brian Garber
Groundwater Technology, Inc.
1401 Halyard Drive, Suite 140
West Sacramento, California 95691

Purchase Order: 94-1446346+4370

Requisition: 618571050
Project: FKEP1012L

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)							
		Date Analyzed Date	Dilution Factor Times 1	TPH-g mg/M3	Benzene mg/M3	Toluene mg/M3	Ethyl-Benzene mg/M3	Total Xylenes Isomers mg/M3	
RDL									
1*Inf-1	09/28/94	09/30/94	1	57	<0.2	<0.2	<0.3	<0.2	
2*Eff-1	09/28/94	09/30/94	1	<10	<0.2	<0.2	<0.3	<0.2	

Karen Petryna
930 Springtown Boulevard, Livermore
Alameda County

Mark A. Valentini, PhD, Laboratory Director

: ORDER PLACED FOR CLIENT: Groundwater Technology, Inc. 9409375 :
: BC ANALYTICAL : GLEN LAB : 16:34:50 04 OCT 1994 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE..... ANALYZED	METHOD.....	EQUIP.	BATCH..	ID.NO
9409375*1	Inf-1	GAS.BTX.TESNC	09.30.94	8015M.TX	516-24	947065	8523
9409375*2	Eff-1	GAS.BTX.TESNC	09.30.94	8015M.TX	516-24	947065	8523

***

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

ORDER QC REPORT FOR G9409375

DATE REPORTED : 10/04/94

LABORATORY CONTROL STANDARDS
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
1. TPH-gas/BTEX (CADHS/80 C410229*1						
Date Analyzed	09.30.94	947065	09/30/94	09/30/94	Date	N/A
Benzene	09.30.94	947065	5.43	6.40	mg/M3	85
Toluene	09.30.94	947065	6.34	6.44	mg/M3	98
Ethylbenzene	09.30.94	947065	4.92	6.33	mg/M3	78 Q
Total Xylene Isomers	09.30.94	947065	3.49	4.12	mg/M3	85
a,a,a-Trifluorotoluene Reported	09.30.94	947065	53.1	50.0	mg/M3	106
a,a,a-Trifluorotoluene Theoretic	09.30.94	947065	50.0	50.0	mg/M3	100
2. TPH-gas/BTEX (CADHS/80 C410230*1						
Date Analyzed	09.30.94	947065	09/30/94	09/30/94	Date	N/A
Benzene	09.30.94	947065	6.26	6.40	mg/M3	98
Toluene	09.30.94	947065	7.29	6.44	mg/M3	113
Ethylbenzene	09.30.94	947065	5.96	6.33	mg/M3	94
Total Xylene Isomers	09.30.94	947065	3.92	4.12	mg/M3	95
a,a,a-Trifluorotoluene Reported	09.30.94	947065	63.1	50.0	mg/M3	126 Q
a,a,a-Trifluorotoluene Theoretic	09.30.94	947065	50.0	50.0	mg/M3	100

BC ANALYTICAL

ORDER QC REPORT FOR G9409375

DATE REPORTED : 10/04/94

ADDITIONAL LCS PRECISION (DUPLICATES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
1. TPH-gas/BTEX (CADHS/80							
Date Analyzed		09.30.94	947065	09/30/94	09/30/94	Date	N/A
Benzene		09.30.94	947065	5.43	6.26	mg/M3	14
Toluene		09.30.94	947065	6.34	7.29	mg/M3	14
Ethylbenzene		09.30.94	947065	4.92	5.96	mg/M3	19
Total Xylene Isomers		09.30.94	947065	3.49	3.92	mg/M3	12
a,a,a-Trifluorotoluene Reported		09.30.94	947065	53.1	63.1	mg/M3	17
a,a,a-Trifluorotoluene Theoretic		09.30.94	947065	50.0	50.0	mg/M3	0

BC ANALYTICAL

ORDER QC REPORT FOR G9409375

DATE REPORTED : 10/04/94

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
1. TPH-gas/BTEX (CADHS/80 B410188*1						
Date Analyzed	09.30.94	947065	09/30/94	NA	Date	8015M.TX
Benzene	09.30.94	947065	0	NA	mg/M3	8015M.TX
Toluene	09.30.94	947065	0	NA	mg/M3	8015M.TX
Ethylbenzene	09.30.94	947065	0	NA	mg/M3	8015M.TX
Total Xylene Isomers	09.30.94	947065	0	NA	mg/M3	8015M.TX
TPH (as Gasoline)	09.30.94	947065	0	NA	mg/M3	8015M.TX
a,a,a-Trifluorotoluene Reported	09.30.94	947065	54.4	NA	mg/M3	8015M.TX
a,a,a-Trifluorotoluene Theoretic	09.30.94	947065	50.0	NA	mg/M3	8015M.TX

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 16:35:22 04 OCT 1994 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9409375*1							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	59.5	50.0	119	
9409375*2							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	55.5	50.0	111	

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 16:35:26 04 OCT 1994 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
B410188*1*MB							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	54.4	50.0	109	
C410229*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	53.1	50.0	106	
C410229*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	50.0	50.0	100	
C410230*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	63.1	50.0	126	Q
C410230*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	947065	09/30/94	50.0	50.0	100	

CHAIN OF CUSTODY RECORD

BCA Log Number 6114-09-313

Client name: TES / Groundwater Technology	Project or PO#: 02070-0044
Address: 1304 Halyard Drive Suite 140	Phone #: (916) 372-4720
City, State, Zip: Sacramento, CA. 95691	Report attention: Karen Petryna / Brian Garber

Sampled by: Jeff Auchterlonie

Analyses required: BTEX; TPH Gasoline; Hazardous sample Special handling required

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sample description	Number of containers	BTEX	TPH Gasoline	Hazardous sample Special handling required	Remarks
	9-28-94	3:05		AInf-1 Air Sample Influent	1	✓	✓		Site Address:
	9-28-94	3:10		Efl-1 Air Sample Effluent	1	✓	✓		930 Springtown Blvd Livermore

	Signature	Print Name	Company	Date	Time
Relinquished by		Jeff Auchterlonie	Groundwater Technology	9-28-94	4:00
Received by		Mona Advance	BC Analytical	9-28-94	4:13
Relinquished by					
Received by					
Relinquished by					
Received by Laboratory					

B C ANALYTICAL

- ☐ 1085 Shary Circle, Concord, CA 94518 (510) 825-3894
- ☐ 801 Western Avenue, Glendale, CA 91201 (818) 247-5737
- ☐ 1200 Gene Autry Way, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements: _____

*KEY: AG—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil PE—Petroleum