

**TRC Alton
Geoscience**

5052 Commercial Circle
Concord, California 94520
Telephone 925-688-1200
Facsimile 925-688-0388

September 30, 1999

Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502-6577

ATTN: MS. EVA CHU

SITE: TOSCO (76) SERVICE STATION 11104
1716 WEBSTER STREET
ALAMEDA, CALIFORNIA

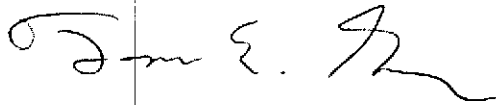
RE: DUAL-PHASE VACUUM EXTRACTION EVENT REPORT

Dear Ms. Chu:

Enclosed per your request is a copy of the Dual-Phase Vacuum Extraction Event Report for the above-referenced site.

If you have any questions, please call me at (925) 688-2474.

Sincerely,



Tom Seeliger
Associate

99 OCT -5 AM 8:42
ENVIRONMENTAL
PROTECTION

**TRC Alton
Geoscience**

July 29, 1999

Tosco Marketing Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

ATTN: MR. DAVID DEWITT

SITE: TOSCO (76) SERVICE STATION 11104
1716 WEBSTER STREET
ALAMEDA, CALIFORNIA

RE: DUAL-PHASE VACUUM EXTRACTION EVENT REPORT

Dear Mr. DeWitt:

Please find enclosed the results of a Dual-Phase Extraction Event conducted at Tosco (76) Service Station 11104, located at 1716 Webster Street, Alameda, California. The contents of this report include:

Summary Sheet

Figure 1: Site Plan

Tables: (1) Dual-Phase Vacuum Extraction Data
(2) Well Data

Charts: (1) Influent TPH Concentrations and Total Vapor-Phase Hydrocarbons Recovered Versus Time
(2) Benzene and MTBE Vapor-Phase Concentrations Versus Time for RW-1
(3) Benzene and MTBE Vapor-Phase Concentrations Versus Time for TCW-1

Appendix: Dual-Phase Vacuum Extraction Field Sheets and Analytical Laboratory Data Sheets

If you have any questions please call me at (925) 688-2474.

Sincerely,



Tom Seeliger
Associate

p:/projects/tosco/11104/11104r3.doc

Alton Geoscience, Inc.

Dual-Phase Extraction Test Report

Summary Sheet

Tosco (76) Service Station 11104
1716 Webster Street
Alameda, California

BAAQMD# NA
NPDES# NA

DUAL-PHASE EXTRACTION PERFORMANCE

Date(s) of Event(s): 6/21/99 - 6/25/99
Total Operating Hours: 62.25
Technology Used: High-vacuum liquid-ring pump with Thermal Oxidizer

Extraction Wells with Max/Min Vapor Concentration (ppmv): RW-1 (240 / 0)
TCW-1 (30 / 0)

Max/Min Flow Rate for Extraction Wells (cfm): RW-1 (133 / 79)
TCW-1 (207 / 57)

Max/Min Vacuum for Extraction Wells (in Hg): RW-1 (23.5 / 20.0)
TCW-1 (12.5 / 24.0)

Total Recovery Volume by Vapor (gallons/pounds): 0.29 / 1.84
Total Recovery Volume by Water (gallons): 6,726 #

LABORATORY ANALYSIS OF GROUND WATER SAMPLES

Sample Date(s): 6/21, 6/25
Well Number (s): MW-1, RW-1, TCW-1

Well ID	Date	Time Sampled	Sample Result (µg/L)					
			TPH-g	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MtBE
MW-1	6/21/99	10:40	18,000	2,600	55	1,300	850	95,000*
MW-1	6/25/99	22:05	14,000	1,600	260	900	1,000	21,000*
RW-1	6/21/99	10:30	1,300	35	2.1	1.2	82	13,000*
RW-1	6/25/99	22:15	N.D.<50	900	N.D.<0.50	N.D.<0.50	N.D.<0.50	100,000*
TCW-1	6/25/99	22:10	12,000	1,000	N.D.<0.50	910	1,200	19,000*

LABORATORY ANALYSIS OF VAPOR SAMPLES

Sample Date(s): 6/21 - 6/25
Well Number (s): RW-1, TCW-1

Well ID	Date	Time Sampled	Sample Result (ppmv)					
			TPH-g	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MtBE
RW-1 (INF-1)	6/21/99	15:21	71	0.22	1.1	7.4	32	51*
RW-1	6/22/99	15:30	17	0.27	0.085	0.23	1.5	7.7*
RW-1	6/23/99	15:30	13	0.066	0.012	0.23	1.2	12*
TCW-1	6/24/99	16:00	17	1.9	0.22	0.39	1.5	31*
TCW-1	6/25/99	15:30	2.7	0.025	N.D.<0.013	0.35	0.17	0.42*
TCW-1	6/25/99	22:00	N.D.<2.4	0.018	N.D.<0.013	0.015	0.062	0.39*

ADDITIONAL INFORMATION:

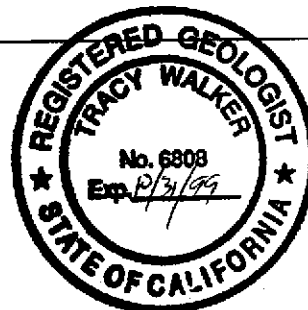
- # - The 6,726 gallons of water generated during the 6/21-6/25/99 dual-phase extraction event was removed from the site by vacuum truck.
- * - Analyzed by EPA Method 8260.
- ppmv = parts per million by volume
- cfm = cubic feet per minute
- in Hg = inches of mercury
- TPH-g = total petroleum hydrocarbons as gasoline
- MtBE = Methyl tert-Butyl Ether
- µg/L = micrograms per liter
- N.D. = not detectable

Prepared by:

Bella Bakrania Bella Bakrania

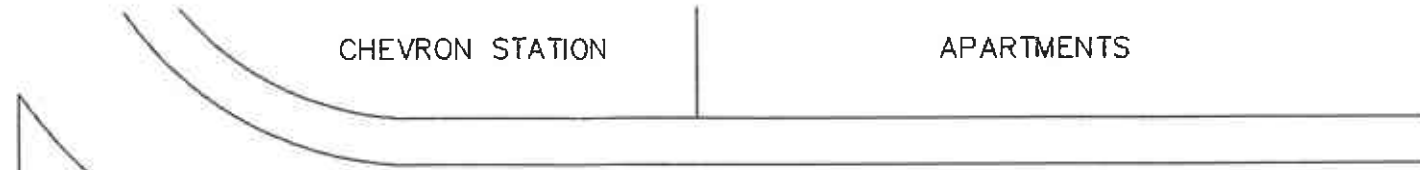
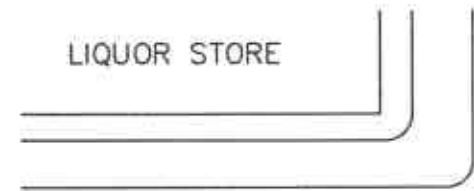
Approved by:

Tracy L. Walker Tracy Walker, RG



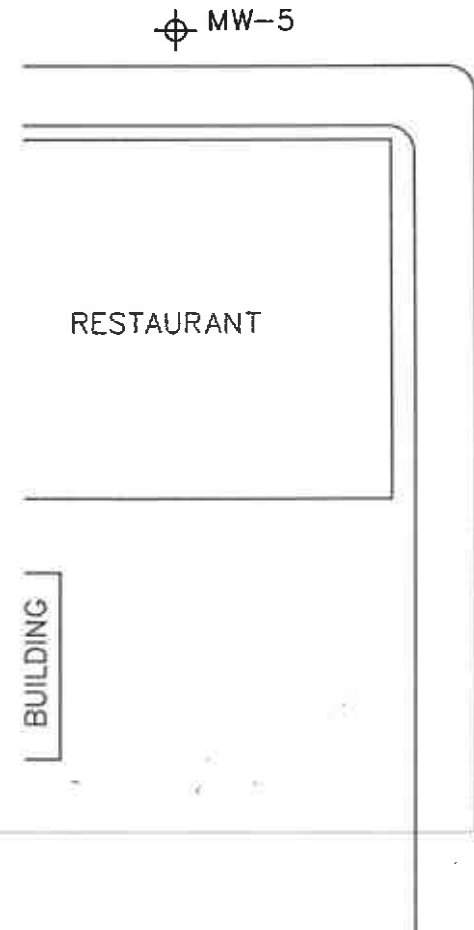
Alton Project No: 41-0218-01

Submission Date: 29-Jul-99

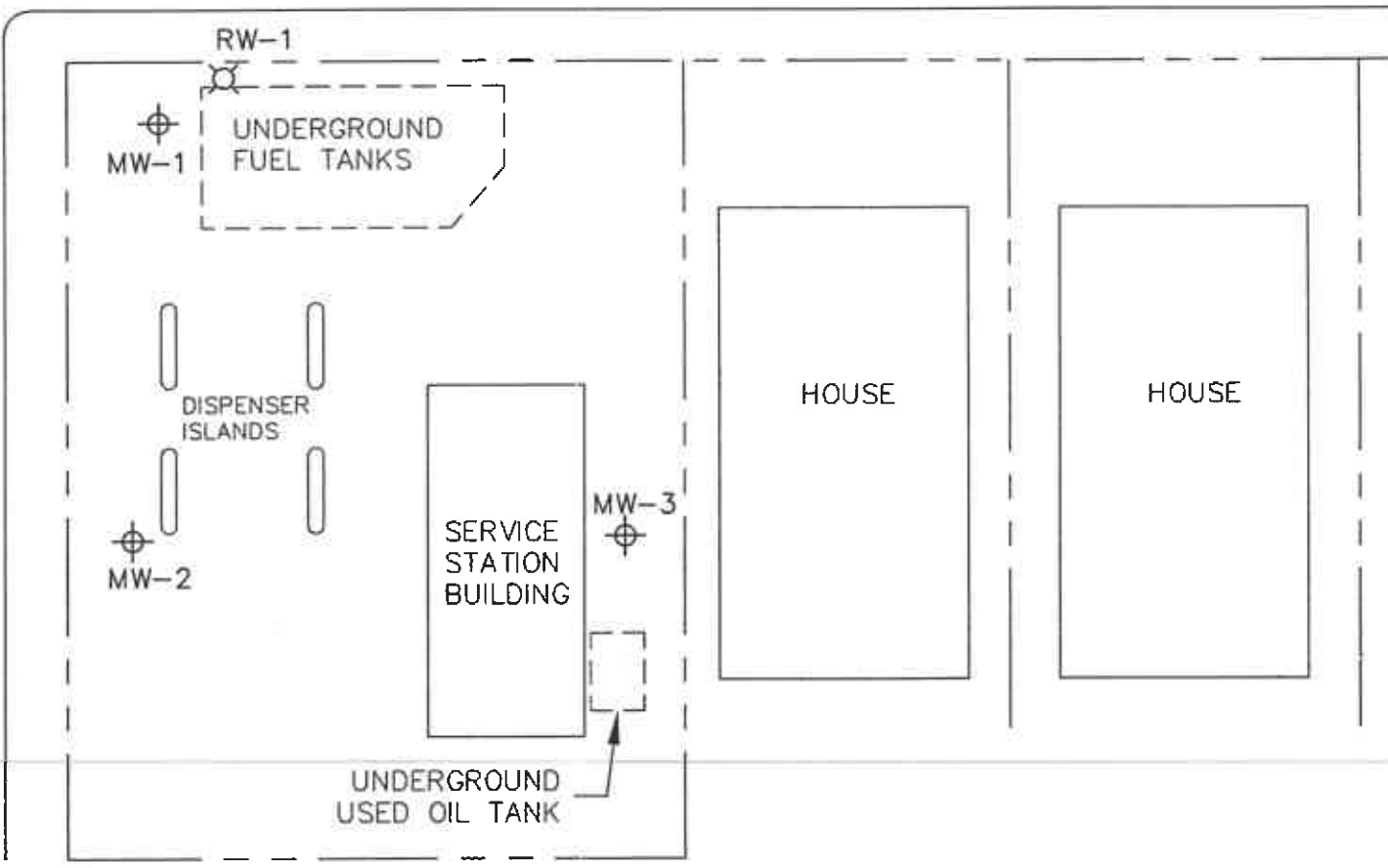


LEGEND

- ⊕ Monitoring Well
- ⊗ Recovery Well
- - - Property Line

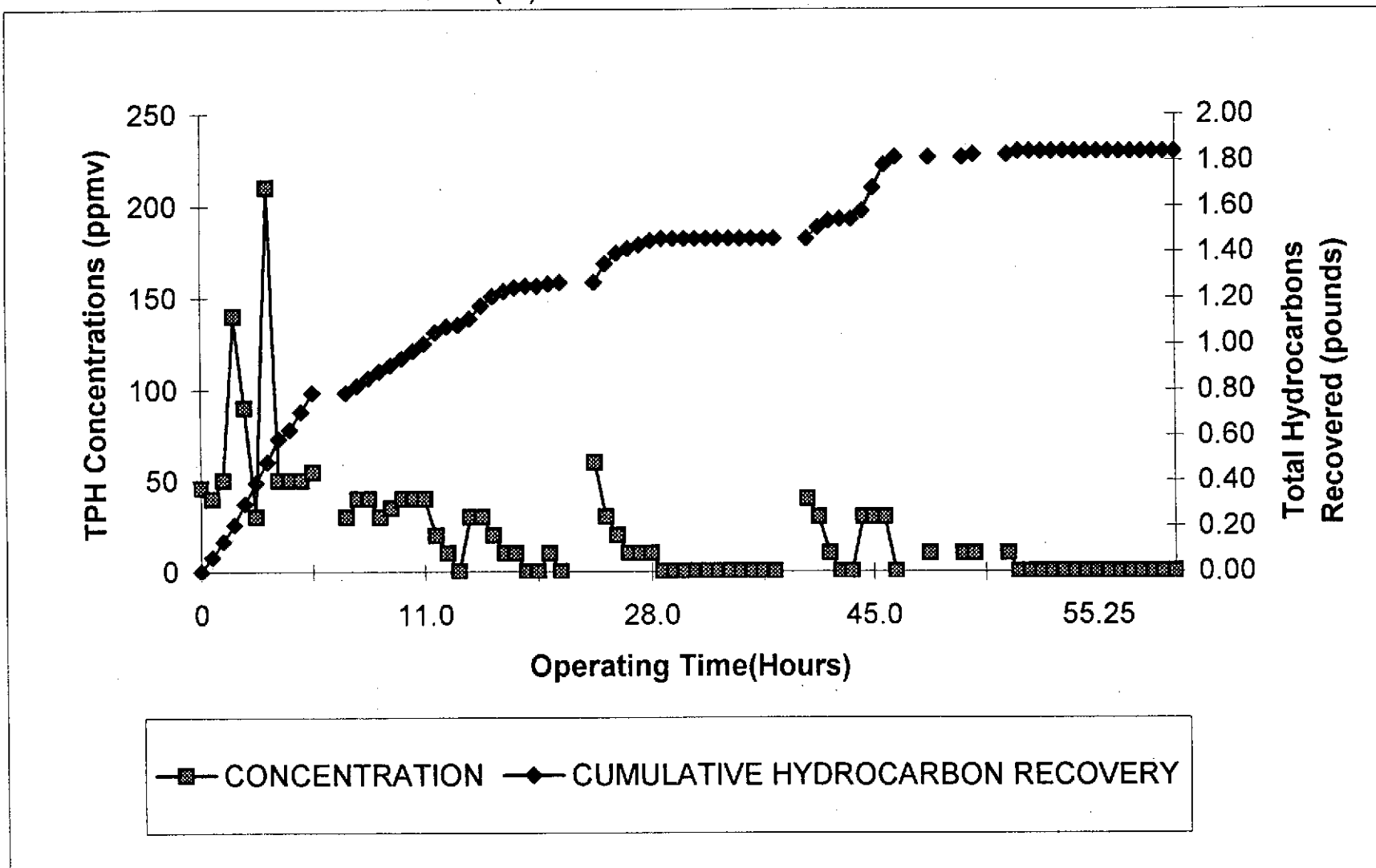


WEBSTER STREET



Influent TPH Concentrations and Total Vapor-Phase Hydrocarbons Recovered Versus Time

Tosco (76) Service Station 11104 6/21/99 - 6/25/99



Benzene and MTBE Vapor-Phase Concentrations Versus Time for RW-1

Tosco (76) Service Station 11104

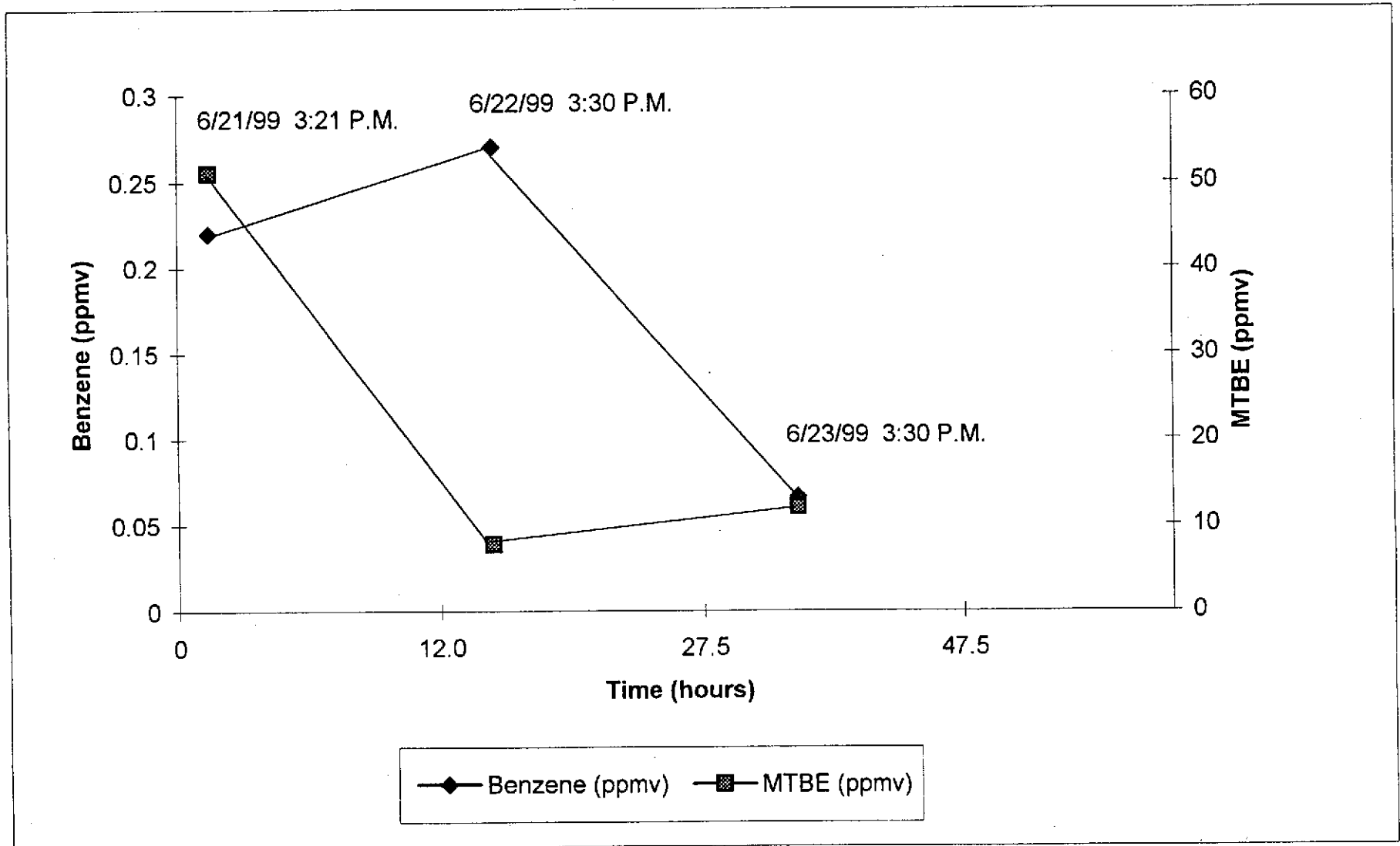


CHART 2

Benzene and MTBE Vapor-Phase Concentrations Versus Time for TCW-1

Tosco (76) Service Station 11104

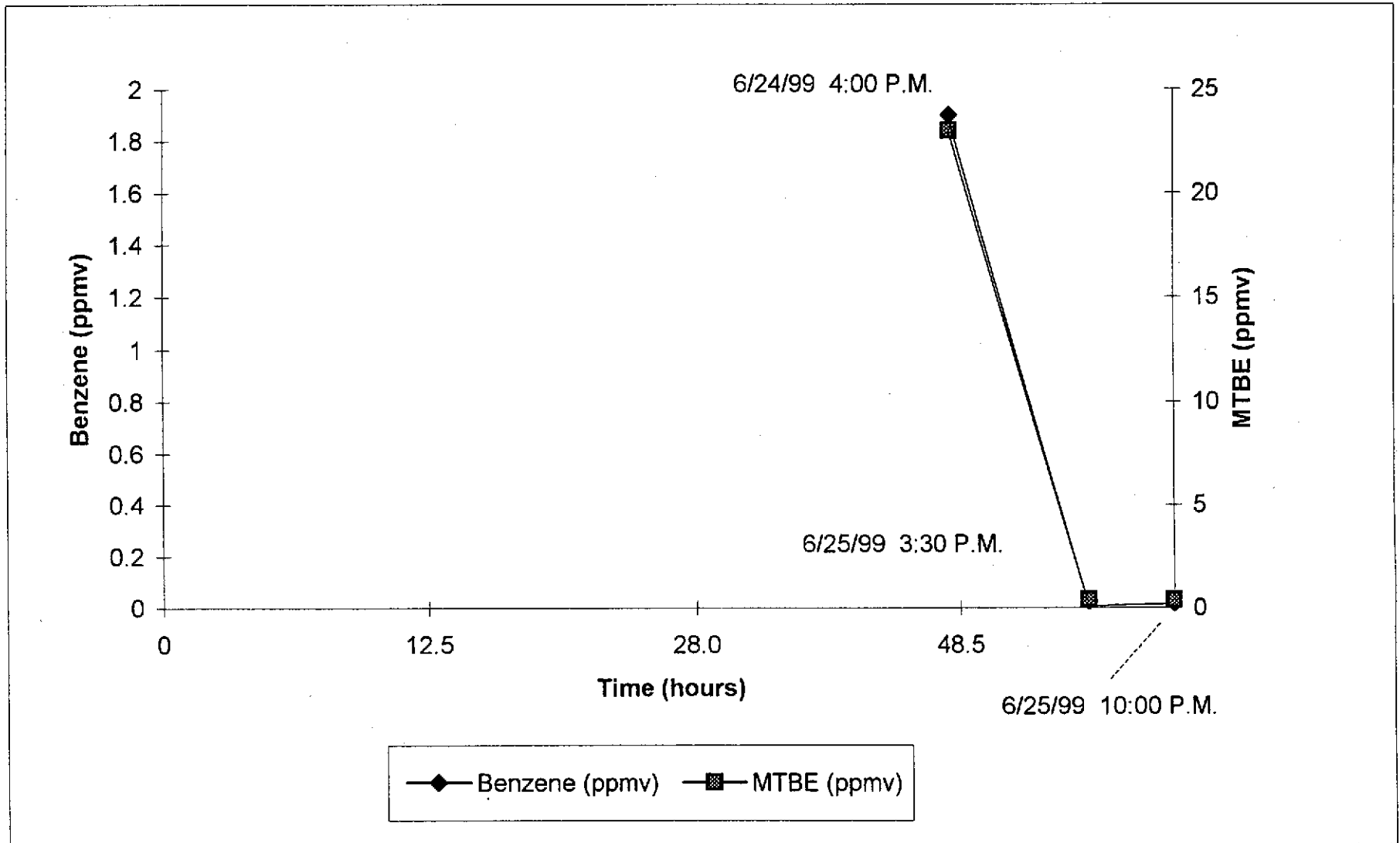


Table 1
MOBILE TREATMENT SYSTEM VACUUM EXTRACTION DATA
Tosco (76) Service Station 11104
6/21/99 - 6/25/99

TIME	OPERATING TIME (HOURS)	TOTAL SYSTEM MEASUREMENTS					EXTRACTION WELLS OPEN
		INLET BLOWER VACUUM (IN. OF Hg)	WELL FLOW (CFM)	CONCENTRATION (undiluted) (PPMV)	CUMULATIVE HYDROCARBON RECOVERY		
					(POUNDS)	(GAL)*	
6/21/99 14:30	0	23.5	86	46	0.00	0.00	RW-1
6/21/99 15:30	1.0	21.0	93	40	0.06	0.01	RW-1
6/21/99 16:30	2.0	21.5	93	50	0.13	0.02	RW-1
6/21/99 17:00	2.5	21.5	95	140	0.21	0.03	RW-1
6/21/99 17:30	3.0	20.0	97	90	0.30	0.05	RW-1
6/21/99 18:30	4.0	20.5	87	30	0.39	0.06	RW-1
6/21/99 19:00	4.5	20.5	98	210	0.48	0.08	RW-1
6/21/99 19:30	5.0	20.5	92	50	0.59	0.09	RW-1
6/21/99 20:00	5.5	20.5	97	50	0.63	0.10	RW-1
6/21/99 21:00	6.5	20.5	92	50	0.70	0.11	RW-1
6/21/99 22:00	7.5	20.5	102	55	0.79	0.13	RW-1
6/21/99 22:00	7.5	SYSTEM SHUTDOWN					
6/22/99 6:30	7.5	SYSTEM STARTUP					
6/22/99 6:30	7.5	22.0	102	30	0.79	0.13	RW-1
6/22/99 7:00	8.0	21.5	101	40	0.82	0.13	RW-1
6/22/99 7:30	8.5	20.5	99	40	0.85	0.14	RW-1
6/22/99 8:00	9.0	21.0	100	30	0.88	0.14	RW-1
6/22/99 8:30	9.5	20.5	98	35	0.91	0.14	RW-1
6/22/99 9:00	10.0	21.0	97	40	0.94	0.15	RW-1
6/22/99 9:30	10.5	20.5	100	40	0.97	0.15	RW-1
6/22/99 10:00	11.0	20.5	97	40	1.00	0.16	RW-1
6/22/99 11:00	12.0	20.5	98	20	1.05	0.17	RW-1
6/22/99 12:00	13.0	20.5	97	10	1.08	0.17	RW-1
6/22/99 13:00	14.0	20.5	100	0	1.08	0.17	RW-1
6/22/99 14:00	15.0	20.0	112	30	1.11	0.18	RW-1
6/22/99 15:00	16.0	20.5	110	30	1.17	0.19	RW-1
6/22/99 16:00	17.0	21.0	90	20	1.21	0.19	RW-1
6/22/99 17:00	18.0	21.0	91	10	1.23	0.20	RW-1

Table 1
MOBILE TREATMENT SYSTEM VACUUM EXTRACTION DATA
Tosco (76) Service Station 11104
6/21/99 - 6/25/99

TIME	OPERATING TIME (HOURS)	TOTAL SYSTEM MEASUREMENTS					EXTRACTION WELLS OPEN
		INLET BLOWER VACUUM (IN OF Hg)	WELL FLOW (CFM)	CONCENTRATION (undiluted) (PPMV)	CUMULATIVE HYDROCARBON RECOVERY		
					(POUNDS)	(GAL) *	
6/22/99 18:00	19.0	21.0	90	10	1.25	0.20	RW-1
6/22/99 19:00	20.0	21.0	89	0	1.25	0.20	RW-1
6/22/99 20:00	21.0	20.5	90	0	1.25	0.20	RW-1
6/22/99 21:00	22.0	21.0	103	10	1.26	0.20	RW-1
6/22/99 22:00	23.0	21.0	100	0	1.27	0.20	RW-1
6/22/99 22:00	23.0	SYSTEM SHUTDOWN					
6/23/99 6:30	23.0	SYSTEM STARTUP					
6/23/99 6:30	23.0	22.0	82	60	1.27	0.20	RW-1
6/23/99 7:30	24.0	21.0	130	30	1.35	0.22	RW-1
6/23/99 8:30	25.0	20.5	86	20	1.39	0.22	RW-1
6/23/99 9:30	26.0	20.5	89	10	1.41	0.23	RW-1
6/23/99 10:30	27.0	20.5	101	10	1.43	0.23	RW-1
6/23/99 11:30	28.0	20.5	99	10	1.45	0.23	RW-1
6/23/99 12:30	29.0	20.5	133	0	1.46	0.23	RW-1
6/23/99 13:30	30.0	21.0	94	0	1.46	0.23	RW-1
6/23/99 14:30	31.0	20.5	123	0	1.46	0.23	RW-1
6/23/99 15:30	32.0	20.0	96	0	1.46	0.23	RW-1
6/23/99 16:30	33.0	21.0	110	0	1.46	0.23	RW-1
6/23/99 17:30	34.0	20.5	91	0	1.46	0.23	RW-1
6/23/99 18:30	35.0	20.5	95	0	1.46	0.23	RW-1
6/23/99 19:30	36.0	20.5	108	0	1.46	0.23	RW-1
6/23/99 20:30	37.0	20.5	89	0	1.46	0.23	RW-1
6/23/99 21:30	38.0	21.0	91	0	1.46	0.23	RW-1
6/23/99 22:00	38.5	21.0	90	0	1.46	0.23	RW-1
6/23/99 22:00	38.5	SYSTEM SHUTDOWN					
6/24/99 6:00	38.5	SYSTEM STARTUP					
6/24/99 6:30	39.0	22.5	84	40	1.46	0.23	RW-1
6/24/99 7:30	40.0	21.0	89	30	1.51	0.24	RW-1

Table 1
MOBILE TREATMENT SYSTEM VACUUM EXTRACTION DATA
Tosco (76) Service Station 11104
6/21/99 - 6/25/99

TIME	OPERATING TIME (HOURS)	TOTAL SYSTEM MEASUREMENTS					EXTRACTION WELLS OPEN
		INLET BLOWER VACUUM (IN OF Hg)	WELL FLOW (CFM)	CONCENTRATION (undiluted) (PPMV)	CUMULATIVE HYDROCARBON RECOVERY		
					(POUNDS)	(GAL)*	
6/24/99 8:30	41.0	21.0	84	10	1.54	0.25	RW-1
6/24/99 9:30	42.0	20.5	88	0	1.54	0.25	TCW-1
6/24/99 10:30	43.0	25.0	79	0	1.54	0.25	TCW-1
6/24/99 11:30	44.0	12.5	207	30	1.58	0.25	TCW-1
6/24/99 12:30	45.0	13.0	200	30	1.68	0.27	TCW-1
6/24/99 13:30	46.0	13.0	201	30	1.78	0.28	TCW-1
6/24/99 14:30	47.0	24.0	62	0	1.81	0.29	TCW-1
6/24/99 15:00	47.5	SYSTEM SHUTDOWN TO REFUEL					
6/24/99 18:00	47.5	SYSTEM STARTUP					
6/24/99 19:00	48.5	23.0	112	10	1.81	0.29	TCW-1
6/24/99 19:15	48.75	SYSTEM SHUTDOWN					
6/24/99 20:30	48.75	SYSTEM STARTUP					
6/24/99 21:00	49.25	24.0	65	10	1.81	0.29	TCW-1
6/24/99 22:00	50.25	23.0	68	10	1.82	0.29	TCW-1
6/24/99 22:00	50.25	SYSTEM SHUTDOWN					
6/25/99 10:00	50.25	SYSTEM STARTUP					
6/25/99 10:00	50.25	14.0	176	10	1.82	0.29	TCW-1
6/25/99 11:00	51.25	14.0	176	0	1.84	0.29	TCW-1
6/25/99 11:30	51.75	14.0	140	0	1.84	0.29	TCW-1
6/25/99 12:00	52.25	14.0	134	0	1.84	0.29	TCW-1
6/25/99 12:30	52.75	14.0	134	0	1.84	0.29	TCW-1
6/25/99 13:00	53.25	14.0	134	0	1.84	0.29	TCW-1
6/25/99 13:30	53.75	14.5	134	0	1.84	0.29	TCW-1
6/25/99 14:00	54.25	13.5	134	0	1.84	0.29	TCW-1
6/25/99 15:00	55.25	21.0	57	0	1.84	0.29	TCW-1
6/25/99 16:00	56.25	21.0	57	0	1.84	0.29	TCW-1
6/25/99 17:00	57.25	21.0	57	0	1.84	0.29	TCW-1
6/25/99 18:00	58.25	21.0	70	0	1.84	0.29	TCW-1

Table 1
MOBILE TREATMENT SYSTEM VACUUM EXTRACTION DATA
Tosco (76) Service Station 11104
6/21/99 - 6/25/99

TIME	OPERATING TIME (HOURS)	TOTAL SYSTEM MEASUREMENTS					EXTRACTION WELLS OPEN
		INLET BLOWER VACUUM (IN. OF Hg)	WELL FLOW (CFM)	CONCENTRATION (undiluted) (PPMV)	CUMULATIVE HYDROCARBON RECOVERY		
					(POUNDS)	(GAL) *	
6/25/99 19:00	59.25	21.0	70	0	1.84	0.29	TCW-1
6/25/99 20:00	60.25	20.5	81	0	1.84	0.29	TCW-1
6/25/99 21:00	61.25	20.5	70	0	1.84	0.29	TCW-1
6/25/99 22:00	62.25	20.5	70	0	1.84	0.29	TCW-1
TOTAL HYDROCARBONS RECOVERED					1.84	0.29	
TOTAL WATER RECOVERED (GAL)					6,726		

IN OF Hg = Inches of mercury
 CFM = cubic feet per minute
 * = Based on HC density of 6.26 pounds/gallon.
 PPMV = parts per million per volume
 GAL = gallons

Table 2
WELL DATA
Tosco (76) Service Station 11104
 6/21/99 - 6/25/99

TIME	Inlet Blower Vacuum (Inches of H2O)	Wellhead Vacuum (Inches of H2O)		Well Depth to Water (Feet)		Hydrocarbon Vapor Concentration (PPMV)	
		MW-1	RW-1	MW-1	RW-1	TCW-1	
6/21/99 14:15	*	*	4.64	4.93	*	*	
6/21/99 14:30	320.07	*	*	*	46	*	
6/21/99 15:30	286.02	*	*	*	40	*	
6/21/99 16:30	292.83	*	*	*	50	*	
6/21/99 17:00	292.83	*	*	*	140	*	
6/21/99 17:30	272.40	*	*	*	90	*	
6/21/99 18:30	279.21	*	*	*	30	*	
6/21/99 19:00	279.21	*	*	*	210	*	
6/21/99 19:30	279.21	*	*	*	50	*	
6/21/99 20:00	279.21	*	*	*	50	*	
6/21/99 21:00	279.21	*	*	*	50	*	
6/21/99 22:00	279.21	*	*	*	55	*	
6/21/99 22:00	SYSTEM SHUTDOWN						
6/22/99 6:30	SYSTEM STARTUP						
6/22/99 6:15	*	*	4.60	4.75	*	*	
6/22/99 6:30	299.64	*	*	*	30	*	
6/22/99 7:00	292.83	*	*	*	40	*	
6/22/99 7:30	279.21	*	*	*	40	*	
6/22/99 8:00	286.02	*	*	*	30	*	
6/22/99 8:30	279.21	*	*	*	35	*	
6/22/99 9:00	286.02	*	*	*	40	*	
6/22/99 9:30	279.21	*	*	*	40	*	
6/22/99 10:00	279.21	*	*	*	40	*	
6/22/99 11:00	279.21	*	*	*	20	*	
6/22/99 12:00	279.21	*	*	*	10	*	
6/22/99 13:00	279.21	*	*	*	0	*	
6/22/99 14:00	272.40	*	*	*	30	*	
6/22/99 15:00	279.21	*	*	*	30	*	
6/22/99 16:00	286.02	*	*	*	20	*	
6/22/99 17:00	286.02	0.05	*	*	10	*	
6/22/99 18:00	286.02	0.05	*	*	10	*	
6/22/99 19:00	286.02	*	*	*	0	*	
6/22/99 20:00	279.21	0.04	*	*	0	*	
6/22/99 21:00	286.02	0.03	*	*	10	*	
6/22/99 22:00	286.02	*	*	*	0	*	
6/22/99 22:00	SYSTEM SHUTDOWN						
6/23/99 6:30	SYSTEM STARTUP						

Table 2

WELL DATA

Tosco (76) Service Station 11104

6/21/99 - 6/25/99

TIME	Inlet Blower Vacuum (Inches of H2O)	Wellhead Vacuum (Inches of H2O)	Well Depth to Water (Feet)	Hydrocarbon Vapor Concentration (PPMV)
6/23/99 6:15	*	*	4.72	*
6/23/99 6:30	299.64	*	*	60
6/23/99 7:30	286.02	*	*	30
6/23/99 8:30	279.21	*	*	20
6/23/99 9:30	279.21	*	*	10
6/23/99 10:30	279.21	*	*	10
6/23/99 11:30	279.21	0.02	*	10
6/23/99 12:30	279.21	0	*	0
6/23/99 13:30	286.02	*	*	0
6/23/99 14:30	279.21	0	*	0
6/23/99 15:30	272.40	*	*	0
6/23/99 16:30	286.02	*	*	0
6/23/99 17:30	279.21	*	*	0
6/23/99 18:30	279.21	*	*	0
6/23/99 19:30	279.21	0	*	0
6/23/99 20:30	279.21	*	*	0
6/23/99 21:30	286.02	*	*	0
6/23/99 22:00	286.02	*	*	0
6/23/99 22:00	286.02	*	*	*
6/23/99 22:00	286.02	*	*	*
6/24/99 6:00				
6/24/99 6:15	*	*	4.82	*
6/24/99 6:30	306.45	*	*	40
6/24/99 7:30	286.02	*	*	30
6/24/99 8:30	286.02	*	*	10
6/24/99 9:30	279.21	*	*	0
6/24/99 10:30	340.50	*	*	0
6/24/99 11:30	170.25	*	*	30
6/24/99 12:30	177.06	*	*	30
6/24/99 13:30	177.06	*	*	30
6/24/99 14:30	326.88	*	*	0
6/24/99 15:00				
6/24/99 15:00				
6/24/99 18:00				
6/24/99 19:00	313.26	*	*	10
6/24/99 19:15				
6/24/99 20:30				
6/24/99 21:00	326.88	*	*	10

Table 2
WELL DATA
Tosco (76) Service Station 11104
6/21/99 - 6/25/99

TIME	Inlet Blower Vacuum (Inches of H ₂ O)	Wellhead Vacuum (Inches of H ₂ O)	Well Depth to Water (Feet)		Hydrocarbon Vapor Concentration (PPMV)	
		MW-1	RW-1	MW-1	RW-1	TCW-1
6/24/99 22:00	313.26	*	*	*	*	10
6/24/99 22:00	SYSTEM SHUTDOWN					
6/25/99 8:45	*	*	5.30	*	*	*
6/25/99 10:00	SYSTEM STARTUP					
6/25/99 10:00	190.68	*	*	*	*	10
6/25/99 11:00	190.68	*	*	*	*	0
6/25/99 11:30	190.68	*	*	*	*	0
6/25/99 12:00	190.68	*	*	*	*	0
6/25/99 12:30	190.68	*	*	*	*	0
6/25/99 13:00	190.68	*	*	*	*	0
6/25/99 13:30	197.49	*	*	*	*	0
6/25/99 14:00	183.87	*	*	*	*	0
6/25/99 15:00	286.02	*	*	*	*	0
6/25/99 16:00	286.02	*	*	*	*	0
6/25/99 17:00	286.02	*	*	*	*	0
6/25/99 18:00	286.02	*	*	*	*	0
6/25/99 19:00	286.02	*	*	*	*	0
6/25/99 20:00	279.21	*	*	*	*	0
6/25/99 21:00	279.21	*	*	*	*	0
6/25/99 22:00	279.2	*	*	*	*	0

* = Indicates reading not taken.

PPMV = parts per million by volume

Dual-Phase Vacuum Extraction Field Sheet

94A/43 6234

Project No.: 41021801
 Task No.: U101
 Technician: TSJ/JM

Alameda

925 686
5211

Client: TOSCO
 Site: 11104
 Date: 6-21 + 6-22-99

Cumulative Wells and System Operation

Extraction Well # 1

Extraction Well # 2

Extraction Well # 3

Extraction Well # 4

Well ID	Cumulative Wells and System Operation								Extraction Well # 1				Extraction Well # 2				Extraction Well # 3				Extraction Well # 4					
DTW (ft)	RW-1 - 4.60 MW-1 - 4.93								6'																	
Depth to FP (ft)																										
Screen Int. (ft)																										
ring Diam. (in)																										
DO (mg/L)																										
Time	Total Well Flow Rate (cfm)	Total Well Int. Conc. (ppmv)	Total Well Vacuum (in. of Hg)	System Fluoride (cfm)	System Int. Conc. (ppmv)	System Temp. (deg. F)	System Eff. Conc. (ppmv)	Extraction wells open	Vac. Flow Rate (cfm)	Vac. Conc. (ppmv)	Vacuum (in. of Hg)	Strainer Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Strainer Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Strainer Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Strainer Depth (ft)		
4:30		46	23.5	88		1450		RW-1																	2760	
5:30		40	21.0	93																					2878	
6:30		50	21.5	93		1386																			2969	
7:00		140	20.5	95																					2969	
7:30		95	20.5	97																						
8:00		30	20.5	87		1400																				
8:30		20	20.5	98		1400																				
9:00		50	20.5	92		1400			0.5 in																	
9:30		50	20.5	92		1400			Shutdown																	
10:00		55	20.5	102		1400																				
	DTW =		RW-1 4.60		MW-1 -		4.75																			
10:30		30	22	102		1423																				
11:00		40	21.5	101		1400			0 in																	
11:30		40	20.5	99		1400			0																	
12:00		50	21	100		1400			0																	
12:30		35	20.5	98		1400				5250																
1:00		40	21	97		1400			0																	
1:30		40	20.5	100		1400			0																	
2:00		40	20.5	97		1400			0																	
2:30		20	20.5	99		1400			0																	
3:00		10	20.5	97		1400			0																	
3:30		0	20.5	100		1400			0																	

Notes: totalizer = 2760 @ Start up

Dual-Phase Vacuum Extraction Field Sheet

Project No.: 41021801
 Task No.: V101
 Technician: CS & JM

Client: Tosco
 Site: 11104
 Date: 6-22 & 6-23-99

Well ID	Cumulative Wells and System Operation	Extraction Well # 1	Extraction Well # 2	Extraction Well # 3	Extraction Well # 4
DTW (ft)		RW-1			
Depth to PP (ft)					
Screen Int. (ft)					
vang Diam. (in)					
OO (mg/L)					

Time	Total Well				System				Extraction wells open	Extraction Well # 1				Extraction Well # 2				Extraction Well # 3				Extraction Well # 4					
	Flow Rate (cfm)	Inf Conc (ppmv)	Vacuum (in. of Hg)	Temp (deg F)	Flow Rate (cfm)	Inf Conc (ppmv)	Temp (deg F)	Eff. Conc. (ppmv)		Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Blinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Blinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Blinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Blinger Depth (ft)		
1400	30	20	112	1400				1				6															
1500	30	205	110	1400				1				6													3568		
1600	20	210	90	1400				1				8													3619		
1700	10	21	91	1400				1				8													3690		
1800	10	21	90	1400				1				8													3712		
1900	0	21	89	1400				1				8													3772		
2000	0	205	90	1400				1				8													3852		
2100	10	21	103	1400				1				10													3885		
2200	0	21	100	1400				1				10													3944		
System Shutdown																											

Time	Total Well Flow Rate (cfm)	Total Well Inf Conc (ppmv)	Total Well Vacuum (in. of Hg)	System Flowrate (cfm)	System Inf Conc (ppmv)	System Temp (deg F)	System Eff. Conc. (ppmv)	Extraction wells open	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Blinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Blinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Blinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Blinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Blinger Depth (ft)	Hydrocarbon Conc. (ppmv)
System Startup																													
6:30	60	22	82			1400		1				10																	
7:30	30	21	130			1400		1				10																	3990
8:30	20	20.86				1400		1																					4040
9:30	10	20.5				1400		1																					4151
10:30	10	20.5	101			1400		1																					4217
11:30	10	20.5	99			1400		1				12																	4273
12:30	0	20.5	133			1400		1																					4357
13:30	0	21	94			1400		1																					4467
14:30	0	20.5	123			1400		1																					4534
15:30	0	20	96			1400		1																					4580
16:30	0	21	110			1400		1																					4628
17:30	0	20.5	91			1400		1																					4628
18:30	0	20.5	95			1400		1																					4628

Notes:
 Vac in MW-1 @ 1700 6/22 0.05 in. H₂O Vac in MW-1 @ 1230 6/23 0 in H₂O
 Vac in MW-1 @ 1800 6/22 0.05 in. H₂O Vac in MW-1 @ 1430 6/23 0 in H₂O
 Vac in MW-1 @ 2000 6/22 0.04 in. H₂O
 Vac in MW-1 @ 2100 6/22 0.03 in. H₂O
 Vac in MW-1 @ 1130 6/23 0.02 in. H₂O

Dual-Phase Vacuum Extraction Field Sheet

Project No.: 41021801
 Task No.: U101
 Technician: CSJM

Client: TOSCO
 Site: 11104
 Date: 6-23-99 & 6-24-99

Cumulative Wells and System Operation								Extraction Well # 1				Extraction Well # 2				Extraction Well # 3				Extraction Well # 4					
Well ID								RW-1				TCW-1													
DTW (ft)								TD=21.5ft																	
Depth to PP (ft)																									
Screen Int. (ft)																									
Long Diam. (in)																									
DO (mg/L)																									
Time	Total Well Flow Rate (cfm)	Total Well Int. Conc. (ppmv)	Total Well Vacuum (in. of Hg)	System Flowrate (cfm)	System Int. Conc. (ppmv)	System Temp. (deg. F)	System Eff. Conc. (ppmv)	Extraction units open	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Slinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Slinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Slinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Slinger Depth (ft)	H ₂ O removed (Gals)
1930	0	20.5	10.8					1				13													4896
2030	0	20.5	8.9					1																	4950
2130	0	21	9.1					1																	5000
2200	0	21	9.0					1																	
System Shutdown																									
6:00	start-up		DTW Prod		4.82	MW-1		4.89																	
6:30	40	22.5	8.4					1				13													5138
7:30	30	21	8.1					1																	5219
8:30	10	21	8.4					1																	5660
9:30	0	20.0	8.8						MOUR to tank cavity well																
10:30	0	25	7.9						Equilibrated w/ Dilution to facilitate H ₂ O transfer at 40-PM 140PPM ^{1/2} DI																
11:30	30	12.5	20.7					2				4													6000
12:30	30	13	20.2					2				4													6280
1:30	30	13	20.1					2				4													6524
2:30	0	24	12					2	Began pumping w/ 2" sub pump in RW-1																
3:00	SYSTEM down, Diesel fuel out, system on @ 6:00, sub pump in RW-1 turned on, 200hz @ 700PM																								
6:00	10											4													6693
7:00	10	23	11.2					2				4													6823
7:15	system down																								
8:30	system up																								
9:00	10	24	11.5					2				4													7019
10:00	10	23	11.5					2				4													
Shut-down																									

Notes: VAC in MW-1 @ 1930 6/23 0 in. H₂O

6/25/99 8:45 am - DTW (RW-1) 5.30'

Dual-Phase Vacuum Extraction Field Sheet

Project No.: 41021801
 Task No.: 1101
 Technician: KD/CS

Client: TOSCO
 Site: 625 11104
 Date: 9/25

Cumulative Wells and System Operation										Extraction Well # 1				Extraction Well # 2				Extraction Well # 3				Extraction Well # 4						
Well ID	TCW-1									BW-1				TCW-1														
OTW (ft)										T.D. = 21.5																		
Depth to FP (ft)										DTW (8'30" @ 5.30																		
Screen Int. (ft)																												
Long Oper. (ft)																												
DO (mg/L)	- IN W.E																											
Time	Total Well Flow Rate (cfm)	Total Well Inj Conc. (ppmv)	Total Well Vacuum (in. of Hg)	* System Flowrate (cfm)	System Inj Conc. (ppmv)	System Temp. (deg F)	System Eff. Conc. (ppmv)	Extraction wells open	INWL Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow Rate (cfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
10:00		10	14	1.90				2				5'																
11:00		0	14	1.90				2				4.75'																7100
11:30		0	14	1.20				2				4.75'																7190
12:00		0	14	1.10				2				4.75'																7260
12:30		0	14	1.10				2				4.75'																7350
13:00		0	14	1.10				2				4.75'																7500
13:30		0	14.5	1.10				2				4.75'																7620
14:00		0	13.5	1.10				2				4.75'																7700
15:00		0	21.0	0.20				2				4.75'																7780
16:00		0	21.0	0.20				2				4.75'																7925
17:00		0	21.0	0.20				2				4.75'																8129
18:00		0	21.0	0.30				2				4.75'																8266
19:00		0	21.0	0.30				2				4.75'																8400
20:00		0	20.5	0.40				2				4.75'																8496
21:00		0	20.5	0.30				2				4.75'																8583
22:00		0	20.5	0.30				2				4.75'																8666
System Shutdown																												

Notes:
 * System flow rate (Chart Recorder) not working - Recording Inches Hg → to convert to flow rate
 * 2" Sub Pump in R.W.1 at 300 mg/hz * Stinger at 5" b.g. in T.C.W.1 - DIA → 11:00 AM PAUSE
 Stinger to 4.75'
 6,720.6 gallons in Baker @ Shutdown @ 10 PM 6-25-94



Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Alton Geoscience
5052 Commercial Cir.
Concord, CA. 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Sample Matrix: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-1735

Sampled: Jun 21, 1999
Received: Jun 22, 1999
Reported: Jul 8, 1999

QC Batch Number: GC062899 GC062899
802004A 802004A

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 906-1735 RW-1	Sample I.D. 906-1735 MW-1
Purgeable Hydrocarbons	50	1,300	18,000
Benzene	0.50	35	2,600
Toluene	0.50	2.1	55
Ethyl Benzene	0.50	1.2	1,300
Total Xylenes	0.50	82	850
MTBE	2.5	11,000	85,000
Chromatogram Pattern:		Gasoline	Gasoline

JUL 23 1999

Quality Control Data

Report Limit Multiplication Factor:	2.0	100
Date Analyzed:	6/28/99	6/28/99
Instrument Identification:	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	83	89

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager

9061735.ALT <1>





Alton Geoscience 5052 Commercial Cir. Concord, CA. 94520 Attention: Tom Seeliger	Client Project ID: Tosco #11104, Alameda Sample Matrix: Air Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 906-1737	Sampled: Jun 21, 1999 Received: Jun 22, 1999 Reported: Jul 8, 1999
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QC Batch Number: GC061899

802002A

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit PPMV	Sample I.D. 906-1737 INF-1
Purgeable Hydrocarbons	2.4	71
Benzene	0.016	0.22
Toluene	0.013	1.1
Ethyl Benzene	0.012	7.4
Total Xylenes	0.012	32

Chromatogram Pattern: Gasoline

Quality Control Data

Report Limit Multiplication Factor:	10
Date Analyzed:	6/23/99
Instrument Identification:	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	97

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager





Alton Geoscience 5052 Commercial Cir. Concord, CA. 94520 Attention: Tom Seeliger	Client Project ID: Tosco #11104, Alameda Sample Descript: Water, RW-1 Analysis Method: EPA 8260 Lab Number: 906-1735	Sampled: Jun 21, 1999 Received: Jun 22, 1999 Analyzed: Jun 24, 1999 Reported: Jul 8, 1999
---	---	--

QC Batch Number: MS0623998260S2A
Instrument ID: GC/MS-2

OXYGENATED COMPOUNDS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Ethanol.....	2,500	N.D.
t-Butanol.....	500	4,100
Methyl t-Butyl Ether (MTBE).....	10	13,000
Di-Isopropyl Ether (DIPE).....	10	N.D.
Ethyl t-Butyl Ether (ETBE).....	10	N.D.
t-Amyl Methyl Ether (TAME).....	10	270

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150..... 99
1,2-Dichloroethane-d4.....	50	150..... 88

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Alton Geoscience 5052 Commercial Cir. Concord, CA. 94520 Attention: Tom Seeliger	Client Project ID: Tosco #11104, Alameda Sample Descript: Water, MW-1 Analysis Method: EPA 8260 Lab Number: 906-1736	Sampled: Jun 21, 1999 Received: Jun 22, 1999 Analyzed: Jun 24, 1999 Reported: Jul 8, 1999
---	---	--

QC Batch Number: MS0623998260S2A

Instrument ID: GC/MS-2

OXYGENATED COMPOUNDS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Ethanol.....	100,000	N.D.
t-Butanol.....	20,000	45,000
Methyl t-Butyl Ether (MTBE).....	400	95,000
Di-Isopropyl Ether (DIPE).....	400	N.D.
Ethyl t-Butyl Ether (ETBE).....	400	N.D.
t-Amyl Methyl Ether (TAME).....	400	2,200

Surrogates	Control Limit %		% Recovery
Dibromofluoromethane.....	50	150	101
1,2-Dichloroethane-d4.....	50	150	92

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager





Alton Geoscience 5052 Commercial Cir. Concord, CA. 94520 Attention: Tom Seeliger	Client Project ID: Tosco #11104, Alameda Sample Descript: Air, INF-1 Analysis Method: EPA 8260 Lab Number: 906-1737	Sampled: Jun 21, 1999 Received: Jun 22, 1999 Analyzed: Jun 23, 1999 Reported: Jul 8, 1999
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QC Batch Number: MS0623998260S2A
Instrument ID: GC/MS-2

OXYGENATED COMPOUNDS (EPA 8260)

Analyte	Detection Limit ppmv	Sample Results ppmv
Ethanol.....	250	N.D.
t-Butanol.....	50	N.D.
Methyl t-Butyl Ether (MTBE).....	1.0	51
Di-Isopropyl Ether (DIPE).....	1.0	N.D.
Ethyl t-Butyl Ether (ETBE).....	1.0	N.D.
t-Amyl Methyl Ether (TAME).....	1.0	N.D.

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150..... 80
1,2-Dichloroethane-d4.....	50	150..... 74

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Alton Geoscience
5052 Commercial Cir.
Concord, CA. 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Matrix: Liquid

QC Sample Group: 9061735-736

Reported: Jul 8, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
QC Batch#:	GC062899 802004A	GC062899 802004A	GC062899 802004A	GC062899 802004A	MS062399 8260S2A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8260
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	N. Nelson
MS/MSD #:	9061625	9061625	9061625	9061625	9061102
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/28/99	6/28/99	6/28/99	6/28/99	6/24/99
Analyzed Date:	6/28/99	6/28/99	6/28/99	6/28/99	6/24/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	GC/MS-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	50 µg/L
Result:	22	18	19	66	48
MS % Recovery:	110	90	95	110	96
Dup. Result:	21	18	18	63	54
MSD % Recov.:	105	90	90	105	108
RPD:	4.7	0.0	5.4	4.7	12
RPD Limit:	0-20	0-20	0-20	0-20	0-25

LCS #:	4LCS062899	4LCS062899	4LCS062899	4LCS062899	LCS062499
Prepared Date:	6/28/99	6/28/99	6/28/99	6/28/99	6/24/99
Analyzed Date:	6/28/99	6/28/99	6/28/99	6/28/99	6/24/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	GC/MS-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	50 µg/L
LCS Result:	23	19	19	64	55
LCS % Recov.:	115	95	95	107	110

MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130	70-130
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SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference





Sequoia Analytical

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Alton Geoscience
5052 Commercial Cir.
Concord, CA. 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Matrix: Vapor

QC Sample Group: 906-1737

Reported: Jul 8, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
QC Batch#:	GC061899	GC061899	GC061899	GC061899	MS062399
	802002A	802002A	802002A	802002A	8260S2B
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8260
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	N. Nelson
MS/MSD #:	100NG BTEX	100NG BTEX	100NG BTEX	100NG BTEX	BLK062499
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/18/99	6/18/99	6/18/99	6/18/99	6/24/99
Analyzed Date:	6/18/99	6/18/99	6/18/99	6/18/99	6/24/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GC/MS-2
Conc. Spiked:	2.0 µg/L	2.0 µg/L	2.0 µg/L	6.0 µg/L	10 µg/L
Result:	1.6	1.4	1.5	4.9	11
MS % Recovery:	80	70	75	82	110
Dup. Result:	1.5	1.3	1.5	4.3	10
MSD % Recov.:	75	65	75	72	100
RPD:	6.5	7.4	0.0	13	9.5
RPD Limit:	0-20	0-20	0-20	0-20	0-25

LCS #:	2LCS062399	2LCS062399	2LCS062399	2LCS062399	LCS062399
Prepared Date:	6/23/99	6/23/99	6/23/99	6/23/99	6/23/99
Analyzed Date:	6/23/99	6/23/99	6/23/99	6/23/99	6/23/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GC/MS-2
Conc. Spiked:	2.0 µg/L	2.0 µg/L	2.0 µg/L	6.0 µg/L	50 µg/L
LCS Result:	19	18	18	61	11
LCS % Recov.:	95	90	90	62	110

MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130	70-130
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SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS= Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference





SEQUOIA ANALYTICAL CHAIN OF CUSTODY

- 680 Chesapeake Drive • Redwood City, CA 94063 • (650) 364-9600 FAX (650) 364-9233
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- 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 FAX (707) 792-0342

Company Name: ALTON GEOSCIENCE		Project Name: TOSCO 11104	
Mailing Address: 5052 Commercial Cir.		Billing Address (if different):	
City: Concord	State: CA	Zip Code: 9906502	
Telephone: 925 688-1200	FAX #: 925-688-0389	P.O. #:	
Report To: Tom Seaton	Sampler: TS	QC Data: <input type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A	

Turnaround 10 Working Days 3 Working Days 2 - 8 Hours
 Time: 7 Working Days 2 Working Days
 5 Working Days 24 Hours

Drinking Water
 Waste Water
 Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	PPH-G-BTEX 8263 CHROMA-11 REMOVED								Comments	
1. RW-1	6/21/99-10:30	H ₂ O	4	VVA	9061735	X	X	X							
2. MW-1	" " 10:40	↓	4	" "	9061736	X	X	X							
3. INF-1	" " 3:21	Air	1	Tedk	9061737	X	X								
4.															
5.															
6.															
7.															
8.															
9.															
10.															

Relinquished By: <i>[Signature]</i>	Date: 6/22	Time:	Received By: <i>[Signature]</i>	Date: 6/22/99	Time: 1310
Relinquished By: <i>[Signature]</i>	Date: 6/22/99	Time: 1345	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <i>[Signature]</i>	Date: 6/22/99	Time: 14⁰⁰

Pink - Client
Yellow - Sequoia
White - Sequoia



Sequoia Analytical

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FAX (916) 921-0100
FAX (707) 792-0342
FAX (650) 232-9612

Alton Geoscience
5052 Commercial Circle
Concord, CA 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Sample Matrix: Air
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-1846

Sampled: Jun 22, 1999
Received: Jun 23, 1999
Reported: Jun 29, 1999

QC Batch Number:

GC062499

802002B

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE AS PPMV

Analyte	Reporting Limit ppmv	Sample I.D. 906-1846 RW-1
Purgeable Hydrocarbons	2.4	17
Benzene	0.016	0.27
Toluene	0.013	0.085
Ethyl Benzene	0.012	0.23
Total Xylenes	0.012	1.5
MTBE	0.69	12
Chromatogram Pattern:		Gasoline

Quality Control Data

Report Limit Multiplication Factor:	2.0
Date Analyzed:	6/24/99
Instrument Identification:	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	93

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

JUL - 8 1999

9061846.ALT <1>





Sequoia Analytical

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FAX (916) 921-0100
FAX (707) 792-0342
FAX (650) 232-9612

Alton Geoscience
5052 Commercial Circle
Concord, CA 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Sample Descript: Air, RW-1
Analysis Method: EPA 8260
Lab Number: 906-1846

Sampled: Jun 22, 1999
Received: Jun 23, 1999
Analyzed: Jun 24, 1999
Reported: Jun 29, 1999

QC Batch Number: MS0623998260S2A

Instrument ID: GC/MS-2

MTBE by EPA 8260

Analyte	Detection Limit ppmv	Sample Results ppmv
Methyl t-Butyl Ether (MTBE).....	0.11	7.7
Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150
		99

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Sequoia Analytical

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FAX (707) 792-0342
FAX (650) 232-9612

Alton Geoscience
5052 Commercial Circle
Concord, CA 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Matrix: Vapor

QC Sample Group: 906-1846

Reported: Jun 29, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
QC Batch#:	GC062499	GC062499	GC062499	GC062499	MS062399
	802002B	802002B	802002B	802002B	8260S2B
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8260
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	N. Nelson
MS/MSD #:	100NG BTEX	100NG BTEX	100NG BTEX	100NG BTEX	BLK062499
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99
Analyzed Date:	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GC/MS-2
Conc. Spiked:	2.0 µg/L	2.0 µg/L	2.0 µg/L	6.0 µg/L	10 µg/L
Result:	1.8	1.6	1.6	5.2	11
MS % Recovery:	90	80	80	87	110
Dup. Result:	1.4	1.2	1.0	3.6	10
MSD % Recov.:	70	60	50	60	100
RPD:	25	29	46	36	9.5
RPD Limit:	0-20	0-20	0-20	0-20	0-25

LCS #:	2LCS062499	2LCS062499	2LCS062499	2LCS062499	-
Prepared Date:	6/24/99	6/24/99	6/24/99	6/24/99	-
Analyzed Date:	6/24/99	6/24/99	6/24/99	6/24/99	-
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	-
Conc. Spiked:	2.0 µg/L	2.0 µg/L	2.0 µg/L	6.0 µg/L	-
LCS Result:	1.9	1.7	1.9	5.8	-
LCS % Recov.:	95	85	95	97	-

MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130	70-130
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Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





SEQUOIA ANALYTICAL CHAIN OF CUSTODY

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 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 FAX (707) 792-0342

Company Name: <i>Alton Geoscience</i>			Project Name: <i>TOSCO 11104</i>		
Mailing Address: <i>5052 Commercial Circle</i>			Billing Address (if different): <i>ATTN: Dave Delwitt</i>		
City: <i>Concord</i>	State: <i>CA</i>	Zip Code: <i>94520</i>	<i>2000 Crow Canyon Place, Suite 400 San Ramon, CA 94583</i>		
Telephone: <i>(925) 688-1200</i>	FAX #: <i>(925) 688-0388</i>	P.O. #: <i>TOSCO 11104</i>	<i>9906533</i>		
Report To: <i>Tom Seeliger</i>	Sampler: <i>Chris Smiga</i>	QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A			

Turnaround 10 Working Days 3 Working Days 2 - 8 Hours Drinking Water
 Time: 7 Working Days 2 Working Days *Standard* Waste Water
 5 Working Days 24 Hours *Alton AT* Other

Analyses Requested	
<i>TPH-G/TEX</i>	<i>MTBE</i>
<i>MTBE</i>	<i>MTBE 8260</i>

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	[Analyses Requested]										Comments						
<i>Blw-1</i>	<i>6-22-99 12:38M</i>	<i>Air</i>	<i>1</i>	<i>Tedlar</i>	<i>9061846</i>	<i>X</i>	<i>X</i>	<i>X</i>														
2.																						
3.																						
4.																						
5.																						
6.																						
7.																						
8.																						
9.																						
10.																						

Relinquished By: <i>Chris Smiga</i>	Date: <i>6-22-99</i>	Time:	Received By: <i>Karl [Signature]</i>	Date: <i>6/23/99</i>	Time: <i>1300</i>
Relinquished By: <i>Karl [Signature]</i>	Date: <i>6/23/99</i>	Time: <i>1420</i>	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <i>Kenneth Jensen</i>	Date: <i>6/23/99</i>	Time: <i>14:20</i>

Pink - Client
 Yellow - Sequoia
 White - Sequoia



Sequoia Analytical

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FAX (650) 232-9612

Alton Geoscience
5052 Commercial Circle
Concord, CA 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Sample Matrix: Air
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-1906

Sampled: Jun 23, 1999
Received: Jun 24, 1999
Reported: Jul 1, 1999

QC Batch Number: GC062499

802002B

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE AS PPMV

Analyte	Reporting Limit ppmv	Sample I.D. 906-1906 RW-1
Purgeable Hydrocarbons	2.4	13
Benzene	0.016	0.066
Toluene	0.013	0.012
Ethyl Benzene	0.012	0.23
Total Xylenes	0.012	1.2
MTBE	0.69	19
Chromatogram Pattern:		Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	6/25/99
Instrument Identification:	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	103

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager

JUL - 8 1999

9061906.ALT <1>





Sequoia Analytical

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(650) 232-9600

FAX (650) 364-9233
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FAX (916) 921-0100
FAX (707) 792-0342
FAX (650) 232-9612

Alton Geoscience
5052 Commercial Circle
Concord, CA 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Sample Descript: Air, RW-1
Analysis Method: EPA 8260
Lab Number: 906-1906

Sampled: Jun 23, 1999
Received: Jun 24, 1999
Analyzed: Jun 25, 1999
Reported: Jul 1, 1999

QC Batch Number: MS0623998260S2B

Instrument ID: GC/MS-2

MTBE by EPA 8260

Analyte	Detection Limit ppmv	Sample Results ppmv
Methyl t-Butyl Ether (MTBE).....	0.11	12
Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150
		85

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Sequoia Analytical

680 Chesapeake Drive
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FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342
FAX (650) 232-9612

Alton Geoscience
5052 Commercial Circle
Concord, CA 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Matrix: Vapor

QC Sample Group: 906-1906

Reported: Jul 1, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
QC Batch#:	GC062499	GC062499	GC062499	GC062499	MS062399
	802002B	802002B	802002B	802002B	8260S2B
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8260
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	N. Nelson
MS/MSD #:	100NG BTEX	100NG BTEX	100NG BTEX	100NG BTEX	BLK062499
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99
Analyzed Date:	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GC/MS-2
Conc. Spiked:	2.0 µg/L	2.0 µg/L	2.0 µg/L	6.0 µg/L	10 µg/L
Result:	1.8	1.6	1.6	5.2	11
MS % Recovery:	90	80	80	87	110
Dup. Result:	1.4	1.2	1.0	3.6	10
MSD % Recov.:	70	60	50	60	100
RPD:	25.0	28.6	46.2	36.4	9.5
RPD Limit:	0-20	0-20	0-20	0-20	0-25

LCS #:	2LCS062499	2LCS062499	2LCS062499	2LCS062499	LCS062599
Prepared Date:	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99
Analyzed Date:	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GC/MS-2
Conc. Spiked:	2.0 µg/L	2.0 µg/L	2.0 µg/L	6.0 µg/L	10 µg/L
LCS Result:	19	17	19	58	14
LCS % Recov.:	95	85	95	97	140

MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130	70-130
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Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





SEQUOIA ANALYTICAL CHAIN OF CUSTODY

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- 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 FAX (707) 792-0342

Company Name: <u>Alton Geoscience</u>			Project Name: <u>Tosco 11104 9906554</u>		
Mailing Address: <u>5052 Commercial Circle</u>			Billing Address (if different): <u>ATTN: Dave Delwith</u>		
City: <u>Concord</u>	State: <u>CA</u>	Zip Code: <u>94520</u>	<u>2000 Crows Canyon Place, Suite 400</u> <u>San Ramon, CA 94583</u>		
Telephone: <u>(925) 688-1200</u>		FAX #: <u>(925) 688-0388</u>	P.O. #: <u>Tosco 11104, Alameda</u>		
Report To: <u>Tom Seeliger</u>	Sampler: <u>Chris Smig</u>		QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A		

Turnaround <input type="checkbox"/> 10 Working Days <input type="checkbox"/> 3 Working Days <input type="checkbox"/> 2 - 8 Hours	<input type="checkbox"/> Drinking Water	Analyses Requested
Time: <input type="checkbox"/> 7 Working Days <input type="checkbox"/> 2 Working Days <input type="checkbox"/> 5 Working Days <input type="checkbox"/> 24 Hours	<input type="checkbox"/> Waste Water	
<u>Standard normal Alton TAT</u>	<input checked="" type="checkbox"/> Other	

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	TPH	MBEX	MTBE	MTBE#260	Comments
1. <u>BW-1</u>	<u>6-23-99 / 3:30 PM</u>	<u>Air</u>	<u>1</u>	<u>Tedla</u>	<u>9061906</u>	<u>X</u>	<u>X</u>	<u>X</u>		
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										

Relinquished By: <u>[Signature]</u>	Date: <u>6-23-99</u>	Time: _____	Received By: <u>[Signature]</u>	Date: <u>6/24/99</u>	Time: <u>12:50</u>
Relinquished By: <u>[Signature]</u>	Date: <u>6/24/99</u>	Time: <u>16:00</u>	Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____	Received By Lab: <u>[Signature]</u>	Date: <u>6/24/99</u>	Time: <u>16:00</u>

Pink - Client
Yellow - Sequoia
White - Sequoia



Alton Geoscience
5052 Commercial Cir.
Concord, CA. 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Sample Matrix: Air
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-2023

Sampled: Jun 24, 1999
Received: Jun 25, 1999
Reported: Jul 13, 1999

QC Batch Number: GC062499

802002B

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit ppmv	Sample I.D. 906-2023 TCW-1
Purgeable Hydrocarbons	2.4	17
Benzene	0.016	1.9
Toluene	0.013	0.22
Ethyl Benzene	0.012	0.39
Total Xylenes	0.012	1.5
MTBE	0.69	23
Chromatogram Pattern:		Gasoline

Quality Control Data

Report Limit Multiplication Factor:	2.0
Date Analyzed:	6/25/99
Instrument Identification:	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	105

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager

111
6/25/99





Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Alton Geoscience 5052 Commercial Cir. Concord, CA. 94520 Attention: Tom Sealiger	Client Project ID: Tosco #11104, Alameda Sample Descript: Air, TCW-1 Analysis Method: EPA 8260 Lab Number: 906-2023	Sampled: Jun 24, 1999 Received: Jun 25, 1999 Analyzed: Jun 25, 1999 Reported: Jul 13, 1999
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QC Batch Number: MS0623998260S2B
Instrument ID: GC/MS-2

MTBE by EPA 8260

Analyte	Detection Limit ppmv	Sample Results ppmv
Methyl t-Butyl Ether (MTBE).....	0.11	31

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50 150.....	81

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Alton Geoscience
5052 Commercial Cir.
Concord, CA. 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Matrix: Vapor

QC Sample Group: 906-2023

Reported: Jul 13, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
QC Batch#:	GC062499	GC062499	GC062499	GC062499	MS062399
	802002B	802002B	802002B	802002B	8260S2B
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8260
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	N. Nelson
MS/MSD #:	100NG BTEX	100NG BTEX	100NG BTEX	100NG BTEX	BLK062399
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99
Analyzed Date:	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GC/MS-2
Conc. Spiked:	2.0 µg/L	2.0 µg/L	2.0 µg/L	6.0 µg/L	10 µg/L
Result:	1.8	1.6	1.6	5.2	11
MS % Recovery:	90	80	80	87	110
Dup. Result:	1.4	1.2	1.0	3.6	10
MSD % Recov.:	70	60	50	60	100
RPD:	25	29	46	36	9.5
RPD Limit:	0-20	0-20	0-20	0-20	0-25

LCS #:	2LCS062599	2LCS062599	2LCS062599	2LCS062599	LCS062599
Prepared Date:	6/25/99	6/25/99	6/25/99	6/25/99	6/25/99
Analyzed Date:	6/25/99	6/25/99	6/25/99	6/25/99	6/25/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GC/MS-2
Conc. Spiked:	2.0 µg/L	2.0 µg/L	2.0 µg/L	6.0 µg/L	10 µg/L
LCS Result:	19	18	18	61	14
LCS % Recov.:	95	90	90	102	140

MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130	70-130
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Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





SEQUOIA ANALYTICAL CHAIN OF CUSTODY

- 680 Chesapeake Drive • Redwood City, CA 94063 • (650) 304-9600 FAX (650) 304-9200
- 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
- 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600 FAX (925) 988-9673
- 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 FAX (707) 792-0342
- 1551 Industrial Road • San Carlos, CA 94070 • (650) 232-9600 FAX (650) 232-9612

Company Name: <u>Alton GeoScience</u>			Project Name: <u>9506578</u>		
Mailing Address: <u>5052 Commercial Cir</u>			Billing Address (if different): <u>Attn: Dave Dewitt</u>		
City: <u>Concord</u>	State: <u>CA</u>	Zip Code: <u>94520</u>	<u>2000 Crow Canyon Place, Suite 400</u> <u>San Ramon, CA 94583</u>		
Telephone: <u>(925) 688-1200</u>		FAX #: <u>(925) 688-0308</u>	P.O. #: <u>TOSLO 11104</u>		
Report To: <u>Tom Seeliger</u>	Sampler: <u>Chris Smigg</u>		QC Data: <input type="checkbox"/> Level II (Standard) <input type="checkbox"/> Chromatograms <input type="checkbox"/> Level III <input type="checkbox"/> Level IV		

Turnaround Standard 7 Working Days 2 Working Days

Time: 10-15 Working Days 5 Working Days 1 Working Day

3 Working Days ASAP

Analyses Requested

Drinking Water Waste Water Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Analyses Requested										Comments							
1. <u>TCW-1</u>	<u>6/25/99 4PM</u>	<u>Air</u>	<u>1</u>	<u>Field</u>	<u>9062023</u>	<u>TPH</u>	<u>6/BTEX</u>	<u>MTBE</u>	<u>X</u>	<u>X</u>	<u>X</u>												
2.																							
3.																							
4.																							
5.																							
6.																							
7.																							
8.																							
9.																							
10.																							

Relinquished By: <u>[Signature]</u>	Date: <u>6/25</u>	Time: <u>12:15</u>	Received By: <u>[Signature]</u>	Date: <u>6/25/99</u>	Time: <u>12:15</u>
Relinquished By: <u>[Signature]</u>	Date: <u>6/25/99</u>	Time: <u>14:50</u>	Received By: <u>[Signature]</u>	Date: <u>6/25/99</u>	Time: <u>19:50</u>
Relinquished By: _____	Date: _____	Time: _____	Received By Lab: <u>Arnold C. Jensen</u>	Date: <u>6/25/99</u>	Time: <u>19:50</u>

Pink - Client
Yellow - Sequoia
White - Sequoia



Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Alton Geoscience 5052 Commercial Cir. Concord, CA. 94520 Attention: Tom Seeliger	Client Project ID: Tosco #11104, Alameda Sample Matrix: Air Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 906-2088	Sampled: Jun 25, 1999 Received: Jun 25, 1999 Reported: Jul 2, 1999
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QC Batch Number:	GC062499	GC062499
	802002B	802002B

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE AS PPMV

Analyte	Reporting Limit ppmv	Sample I.D. 906-2088 TCW-1 (3:30 PM)	Sample I.D. 906-2092 TCW-1 (10:00 PM)
Purgeable Hydrocarbons	2.4	2.7	N.D.
Benzene	0.016	0.025	0.018
Toluene	0.013	N.D.	N.D.
Ethyl Benzene	0.120	0.35	0.015
Total Xylenes	0.120	0.17	0.062
MTBE	0.69	0.3	0.39
Chromatogram Pattern:		Gasoline	--

JUL 25 1999

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Analyzed:	6/28/99	6/28/99
Instrument Identification:	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	96	81

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Alton Geoscience 5052 Commercial Cir. Concord, CA. 94520 Attention: Tom Seeliger	Client Project ID: Tosco #11104, Alameda Sample Matrix: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 906-2089	Sampled: Jun 25, 1999 Received: Jun 25, 1999 Reported: Jul 2, 1999
---	--	--

QC Batch Number:	GC070199	GC070299	GC070299
	802004A	802005A	802005A

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 906-2089 RW-1	Sample I.D. 906-2090 MW-1	Sample I.D. 906-2091 TCW-1
Purgeable Hydrocarbons	50	N.D.	14,000	12,000
Benzene	0.50	900	1,600	1,000
Toluene	0.50	N.D.	260	N.D.
Ethyl Benzene	0.50	N.D.	900	910
Total Xylenes	0.50	N.D.	1,000	1,200
MTBE	2.5	110,000	53,000	35,000
Chromatogram Pattern:		--	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1,000	200	200
Date Analyzed:	7/1/99	7/2/99	7/2/99
Instrument Identification:	HP-4	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	97	85	86

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager

9062088.ALT <2>





Alton Geoscience 5052 Commercial Cir. Concord, CA. 94520 Attention: Tom Seeliger	Client Project ID: Tosco #11104, Alameda Sample Descript: Air, TCW-1 (3:30 PM) Analysis Method: EPA 8260 Lab Number: 906-2088	Sampled: Jun 25, 1999 Received: Jun 25, 1999 Analyzed: Jun 28, 1999 Reported: Jul 2, 1999
---	--	--

QC Batch Number: MS0623998260S2B
Instrument ID: GC/MS-2

MTBE by EPA 8260 AS PPMV

Analyte	Detection Limit ppmv	Sample Results ppmv
Methyl t-Butyl Ether (MTBE).....	0.11	0.42
Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50 150	102

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Alton Geoscience 5052 Commercial Cir. Concord, CA. 94520 Attention: Tom Seeliger	Client Project ID: Tosco #11104, Alameda Sample Descript: Air, TCW-1 (10:00 PM) Analysis Method: EPA 8260 Lab Number: 906-2092	Sampled: Jun 25, 1999 Received: Jun 25, 1999 Analyzed: Jun 28, 1999 Reported: Jul 2, 1999
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QC Batch Number: MS0623998260S2B
Instrument ID: GC/MS-2

MTBE by EPA 8260 AS PPMV

Analyte	Detection Limit ppmv	Sample Results ppmv
Methyl t-Butyl Ether (MTBE).....	0.11	0.39

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50 150.....	106

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Alton Geoscience
5052 Commercial Cir.
Concord, CA. 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Sample Descript: Water, RW-1
Analysis Method: EPA 8260
Lab Number: 906-2089

Sampled: Jun 25, 1999
Received: Jun 25, 1999
Analyzed: Jul 1, 1999
Reported: Jul 2, 1999

QC Batch Number: MS0630998260S2A

Instrument ID: GC/MS-2

MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	2.0	100,000

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50 150.....	96

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Alton Geoscience 5052 Commercial Cir. Concord, CA. 94520 Attention: Tom Seeliger	Client Project ID: Tosco #11104, Alameda Sample Descript: Water, MW-1 Analysis Method: EPA 8260 Lab Number: 906-2090	Sampled: Jun 25, 1999 Received: Jun 25, 1999 Analyzed: Jul 1, 1999 Reported: Jul 2, 1999
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QC Batch Number: MS0630998260S2A
Instrument ID: GC/MS-2

MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	2.0	21,000

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50 150.....	68

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271
Julianne Fegley
Julianne Fegley
Project Manager





Alton Geoscience 5052 Commercial Cir. Concord, CA. 94520 Attention: Tom Seeliger	Client Project ID: Tosco #11104, Alameda Sample Descript: Water, TCW-1 Analysis Method: EPA 8260 Lab Number: 906-2091	Sampled: Jun 25, 1999 Received: Jun 25, 1999 Analyzed: Jul 1, 1999 Reported: Jul 2, 1999
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QC Batch Number: MS0630998260S2A
Instrument ID: GC/MS-2

MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	2.0	19,000

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50 150.....	80

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Alton Geoscience
5052 Commercial Cir.
Concord, CA. 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Matrix: Vapor

QC Sample Group: 9062088-092

Reported: Jul 2, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	MTBE
QC Batch#:	GC062499 802002B	GC062499 802002B	GC062499 802002B	GC062499 802002B	MS062399 8260S2B	MS062399 8260S2B
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8260	EPA 8260
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	N. Nelson	N. Nelson
MS/MSD #:	100NG BTEX	100NG BTEX	100NG BTEX	100NG BTEX	BLK062499	BLK062499
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99
Analyzed Date:	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99	6/24/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GC/MS-2	GC/MS-2
Conc. Spiked:	2.0 µg/L	2.0 µg/L	2.0 µg/L	6.0 µg/L	10 µg/L	10 µg/L
Result:	1.8	1.6	1.6	5.2	11	11
MS % Recovery:	90	80	80	87	110	110
Dup. Result:	1.4	1.2	1.0	3.6	10	10
MSD % Recov.:	70	60	50	60	100	100
RPD:	25	29	46	36	9.5	9.5
RPD Limit:	0-20	0-20	0-20	0-20	0-25	0-25

LCS #:	2LCS062599	2LCS062599	2LCS062599	2LCS062599	LCS062599	LCS062899
Prepared Date:	6/25/99	6/25/99	6/25/99	6/25/99	6/25/99	6/28/99
Analyzed Date:	6/25/99	6/25/99	6/25/99	6/25/99	6/25/99	6/28/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-2	GC/MS-2
Conc. Spiked:	2.0 µg/L	2.0 µg/L	2.0 µg/L	6.0 µg/L	10 µg/L	10 µg/L
LCS Result:	19	18	18	61	14	12
LCS % Recov.:	95	90	90	102	140	120

MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130	70-130	70-130
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Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





Alton Geoscience
5052 Commercial Cir.
Concord, CA. 94520
Attention: Tom Seeliger

Client Project ID: Tosco #11104, Alameda
Matrix: Liquid

QC Sample Group: 9062089-091

Reported: Jul 2, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	MTBE
QC Batch#:	GC070199 802004A	GC070199 802004A	GC070199 802004A	GC070199 802004A	MS063099 8260S2A	MS063099 8260S2A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8260	EPA 8260
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater	N. Nelson	N. Nelson
MS/MSD #:	9062358	9062358	9062358	9062358	9061845	9061845
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/1/99	7/1/99	7/1/99	7/1/99	6/30/99	6/30/99
Analyzed Date:	7/1/99	7/1/99	7/1/99	7/1/99	6/30/99	6/30/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	GC/MS-2	GC/MS-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	50 µg/L	50 µg/L
Result:	21	18	19	64	57	57
MS % Recovery:	105	90	95	107	114	114
Dup. Result:	21	18	19	64	65	65
MSD % Recov.:	105	90	95	107	130	130
RPD:	0.0	0.0	0.0	0.0	13	13
RPD Limit:	0-20	0-20	0-20	0-20	0-25	0-25

LCS #:	4LCS070199	4LCS070199	4LCS070199	4LCS070199	LCS063099	LCS070199
Prepared Date:	7/1/99	7/1/99	7/1/99	7/1/99	6/30/99	7/1/99
Analyzed Date:	7/1/99	7/1/99	7/1/99	7/1/99	6/30/99	7/1/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	GC/MS-2	GC/MS-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	50 µg/L	50 µg/L
LCS Result:	22	19	19	67	66	40
LCS % Recov.:	110	95	95	112	132	80

MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130	70-130	70-130
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Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager





SEQUOIA ANALYTICAL CHAIN OF CUSTODY

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Company Name: <i>Alton Geoscience</i>			Project Name: <i>Tosco 11104 9506593</i>		
Mailing Address: <i>5052 Commercial Circle</i>			Billing Address (if different): <i>ATTN: Dave Delwith</i>		
City: <i>Concord</i>	State: <i>CA</i>	Zip Code: <i>94520</i>	<i>2000 Crow Canyon Place Suite 400 San Ramon CA 94583</i>		
Telephone: <i>(925) 688-1200</i>		FAX #: <i>(925) 688-0388</i>	P.O. #: <i>Tosco 11104</i>		
Report To: <i>Tom Seeliger</i>		Sampler: <i>Chris Smiga</i>		QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A	

Turnaround	<input type="checkbox"/> 10 Working Days	<input type="checkbox"/> 3 Working Days	<input type="checkbox"/> 2 - 8 Hours	<input type="checkbox"/> Drinking Water	Analyses Requested
Time:	<input type="checkbox"/> 7 Working Days	<input type="checkbox"/> 2 Working Days	<i>normal</i>	<input type="checkbox"/> Waste Water	
	<input type="checkbox"/> 5 Working Days	<input type="checkbox"/> 24 Hours	<i>alton TAT</i>	<input checked="" type="checkbox"/> Other	

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	<div style="display: flex; justify-content: space-between;"> <i>TN-6/BIE</i> <i>MTBE</i> <i>MTBE 8260</i> </div>						Comments	
<i>1. TCW-1</i>	<i>6-25-99 / 3:30 PM</i>	<i>Air</i>	<i>1</i>	<i>Tedlar</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<i>9062088</i>
<i>2. RW-1</i>	<i>6-25-99 / 10:50 PM</i>	<i>H₂O</i>	<i>4</i>	<i>Voa</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<i>9062089 AD</i>
<i>3. MW-1</i>	<i>6-25-99 / 10:25 PM</i>	<i>H₂O</i>	<i>4</i>	<i>Voa</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<i>9062090</i>
<i>4. TCW-1</i>	<i>6-25-99 / 10:10 PM</i>	<i>H₂O</i>	<i>4</i>	<i>Voa</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<i>9062091</i>
<i>5. TCW-1</i>	<i>6-25-99 / 10:00 PM</i>	<i>Air</i>	<i>1</i>	<i>Tedlar</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<i>9062092</i>
<i>6.</i>													
<i>7.</i>													
<i>8.</i>													
<i>9.</i>													
<i>10.</i>													

Relinquished By: <i>[Signature]</i>	Date: <i>6-25-99</i>	Time:	Received By: <i>[Signature]</i>	Date: <i>6/28/99</i>	Time: <i>9:25</i>
Relinquished By: <i>[Signature]</i>	Date: <i>6/28/99</i>	Time: <i>9:45</i>	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <i>[Signature]</i>	Date: <i>6/28/99</i>	Time: <i>9:45</i>

Pink - Client

Yellow - Sequoia

White - Sequoia