TRC

Customer-Focused Solutions

May 24, 2005

TRC Project No. 42-0163-03

Mr. Don Hwang
Alameda County Health Services
1131 Harbor Bay Parkway, Suite 250
Oakland, California 94502

SITE: 76 SERVICE STATION NO. 0746
3943 BROADWAY
OAKLAND, CALIFORNIA
ALAMEDA COUNTY

SUBJECT: DUAL-PHASE EXTRACTION REPORT

Dear Mr. Hwang:

On behalf of ConocoPhillips Company (ConocoPhillips), TRC submits this report of dual-phase extraction (DPE) activities for ConocoPhillips Station No. 0746, located at 3943 Broadway in Oakland, California. This action was performed in accordance with the work plan submitted by TRC on September 23, 2004. The work was conducted on April 5-8, 2005, and consisted of 68 continuous hours of DPE.

1.0 FIELD ACTIVITIES

1.1 Scope of Work

A 68-hour DPE event was performed on April 5-8, 2005. The DPE event was implemented to attempt to remove residual vapor-phase, adsorbed-phase and dissolved-phase hydrocarbons remaining in site soils. The event was originally scheduled to last 72-hours, but was terminated 4 hours prior to scheduled shut-down time do to limited space for extracted groundwater.

1.2 Pre-Field Activities

A notification letter dated March 30, 2005 was sent to the Bay Area Quality Management District (BAAQMD). A site-specific health and safety plan was prepared for TRC personnel.

1.3 Procedures

TRC used a mobile treatment system (MTS) to extract hydrocarbon vapors from wells RW-1, MW-3, and MW-5. Liquid- and vapor-phase hydrocarbons were removed from the extraction wells and separated at the MTS. The liquids were automatically transferred into an aboveground storage

tank and the hydrocarbon vapors were abated using a catalytic/thermal oxidizer. The exclusion zone was constructed with consideration of the station refueling activities. As a result, refueling activities continued without interruption during the DPE event.

The extraction wells were fitted with a custom wellhead seal and connected with flexible hose to convey soil vapors to the MTS unit. The MTS consists of a truck-mounted high vacuum (28 inches of Hg) liquid ring pump and thermal oxidizer, moisture knockout tank, air particulate filters, and all necessary piping and gauges. Abated soil vapors were discharged to the atmosphere.

A TRC operator was onsite throughout the course of the event to record system airflow rates [cubic feet per minute (cfm)], applied vacuum in the conveyance piping [inches of mercury (inches Hg)], and influent soil vapor screening data [parts per million by volume (ppmv)]. A Horiba™ organic vapor analyzer (OVA) was used to screen influent soil vapor concentrations.

Three influent soil vapor samples were collected in Tedlar™ bags and submitted to a certified analytical laboratory under chain-of-custody documentation. Samples were analyzed for the presence of total petroleum hydrocarbons calculated as gasoline (TPH-g), benzene, toluene, ethyl benzene, and total xylenes (BTEX compounds), methyl tertiary butyl ether (MTBE), and ethanol using Environmental Protection Agency (EPA) Method 8260B.

1.4 Results

During the event, the MTS unit operated continuously for a total of 68 hours. In order to maximize vapor-phase hydrocarbon recovery during the event, vapor extraction was focused on the most productive well (MW-3) when combined influent concentrations had dropped to asymptotic levels. The resulting short-term spike in influent concentration can be seen on Figure 3.

Refer to Table 1 for tabulated MTS data, and Appendix A for field data sheets. The average flow rate was 32 cfm and average applied vacuum was 20 inches Hg. OVA screening for influent concentrations of total petroleum hydrocarbons was performed during the event. Total petroleum hydrocarbon concentrations were measured with the OVA at the beginning and conclusion of the event at 6,750 ppmv and 500 ppmv, respectively. Total estimated hydrocarbon mass removal and hydrocarbon concentration are plotted versus time in Figure 3.

Laboratory analytical results are presented in Table 2, *Summary Sheet*. All certified analytical reports and chain-of-custody documentation are presented in Appendix B. Vapor-phase TPH-g concentrations ranged from 5,600 ppmv to 1,100 ppmv. Benzene concentrations ranged from 22 ppmv to 3.9 ppmv. MTBE concentrations range from 5.3 ppmv to 2.9 ppmv. Laboratory analytical TPH-g and benzene concentrations are plotted versus time in Figure 4. Vapor-phase TPH and benzene concentrations decreased during the event. Influent soil vapor concentration data (measured every 30 minutes throughout the course of the event) was used to calculate mass

removed during the DPE event. Table 1 presents the results. Approximately 39 pounds of hydrocarbons were removed from the extraction wells in 68 hours of continuous operation. A total of 6,500 gallons of groundwater were removed from the subsurface.

1.5 Waste Disposal

Groundwater generated during the course of DPE activities was transported by Onyx Environmental to the ConocoPhillips refinery in Rodeo, California, for treatment and disposal. A copy of the waste manifest is included in Appendix C.

2.0 EVALUATION OF FINDINGS

This event was successful at removing a substantial amount of vapor-phase petroleum hydrocarbons from the subsurface in a relatively short time period. Influent vapor concentrations decreased over the course of the event and appeared to reach asymptotic levels.

The influent concentrations and mass removal rates indicate that further short-term DPE treatment may be an effective means of reducing source material in the vicinity of RW-1, MW-3, and MW-5.

Hydrocarbon concentrations in groundwater were lower after the MTS event for two of the wells (RW-1 and MW-5). MW-3 exhibited an increase in dissolved-phase hydrocarbon concentration. The increase could be due to hydraulic influence attracting nearby groundwater of greater hydrocarbon impact than that typically encountered at MW-3. These results do not contraindicate the potential success of DPE as a viable technology for reducing groundwater concentrations at the site, and a longer DPE event (three to five days) may result in declining influent concentrations.

3.0 RECOMMENDATIONS

Given the localized area of hydrocarbon-impacted soil (in the vicinity of MW-3, MW-5, and RW-1) and the results of the short-term DPE event, TRC recommends that DPE be considered as a viable potential remediation technique for the site. Short-term MTS treatment is proposed as more cost-effective than installation of a dedicated DPE remediation system, provided the number of short-term treatment events is relatively limited.

TRC recommends evaluation of dissolved gasoline trends over the next 3 – 6 months for any longer-term effects related to this event. Remediation alternatives for the site, including a possible additional long-term DPE event of three to five days, will in the interim be discussed with the lead regulatory agency, and a plan towards site closure will be developed by the fourth quarter of 2005.

4.0 LIST OF ATTACHMENTS

Figures:
1) Vicinity Map
2) Site Plan
3) System Concentration and Hydrocarbon Recovery Versus Time
4) Vapor-Phase TPH and Benzene Concentrations Versus Time

Tables:
1) Mobile Treatment System Vacuum Extraction Data
2) Mobile Treatment System - Summary Sheet

Appendices:
A) MTS Field Sheets
B) Laboratory Analytical Reports
C) Waste Manifest

Should you have any questions regarding this report, please contact us at (925) 688-1200.

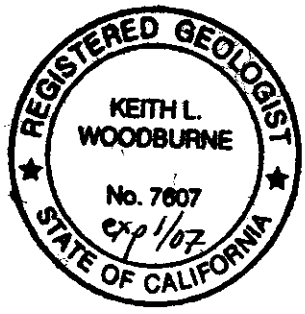
Sincerely,
TRC

Mark Trevor
Project Geologist

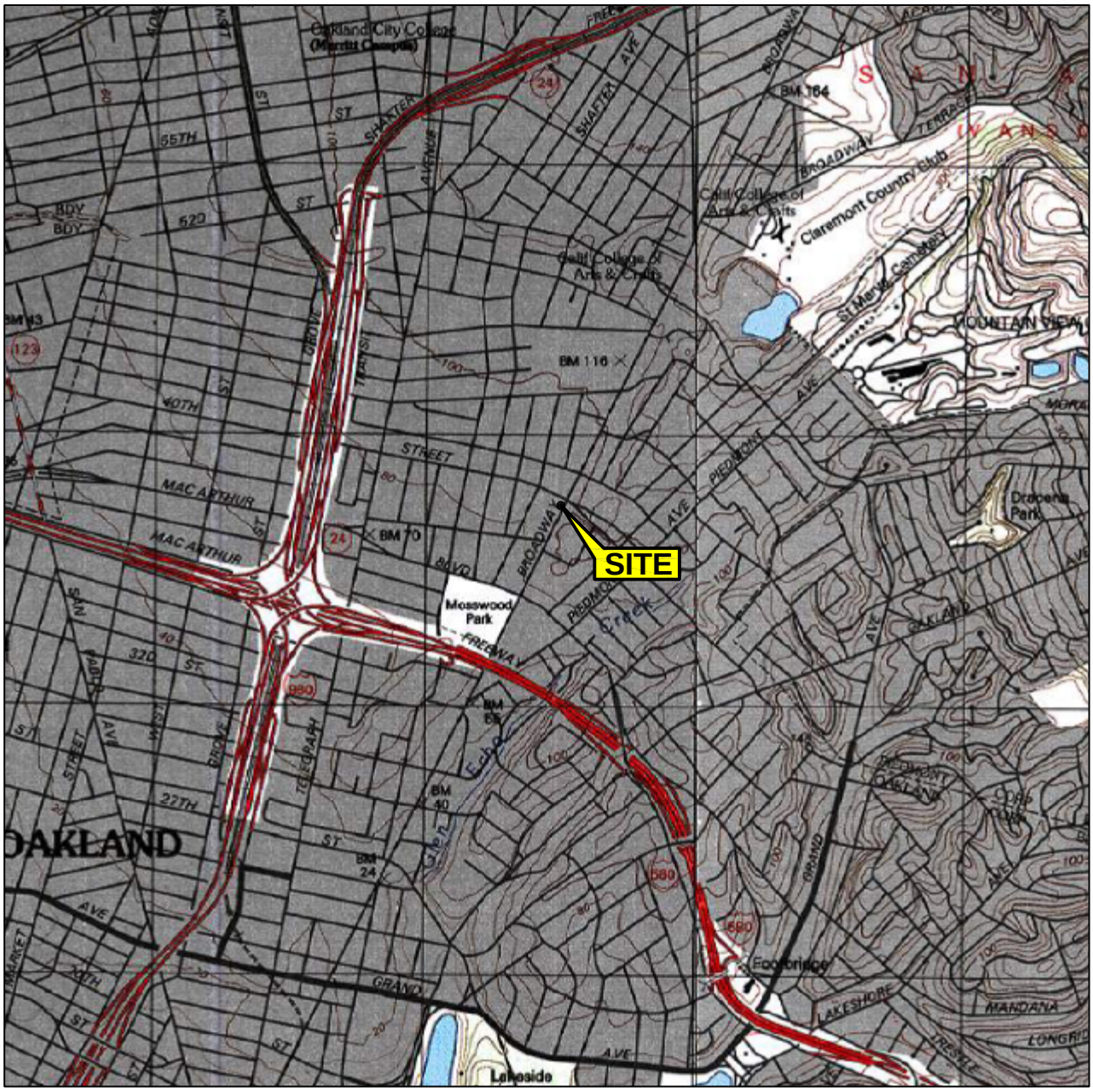
Keith Woodburne, R.G.
Senior Project Geologist

Roger Batra
Senior Project Manager

cc: Shelby Lathrop, ConocoPhillips (electronic upload)



FIGURES



SOURCE:

United States Geological Survey
7.5 Minute Topographic Maps:
Oakland East and Oakland West
Quadrangles, California

VICINITY MAP

76 Service Station #0746
3943 Broadway
Oakland, California

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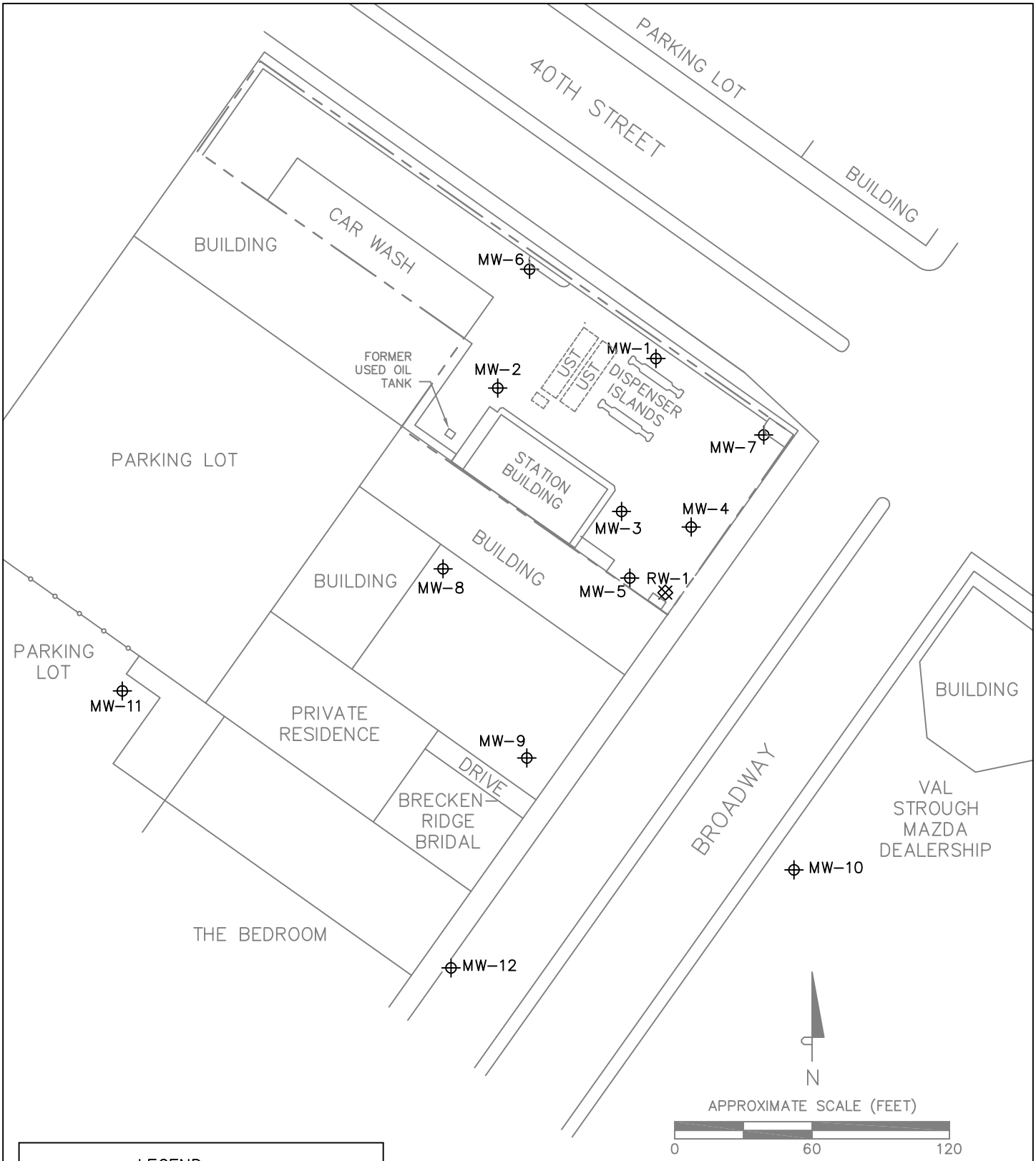
FIGURE 1



SOURCE: Site plan by Gettler-Ryan, May 2000; revised per client-provided as-built drawing, February 2004.

SITE PLAN

76 Service Station #0746
3943 Broadway
Oakland, California

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FIGURE 2

SYSTEM CONCENTRATION AND HYDROCARBON RECOVERY VERSUS TIME

ConocoPhillips 0746

3943 Broadway, Oakland CA

April 5-8, 2005

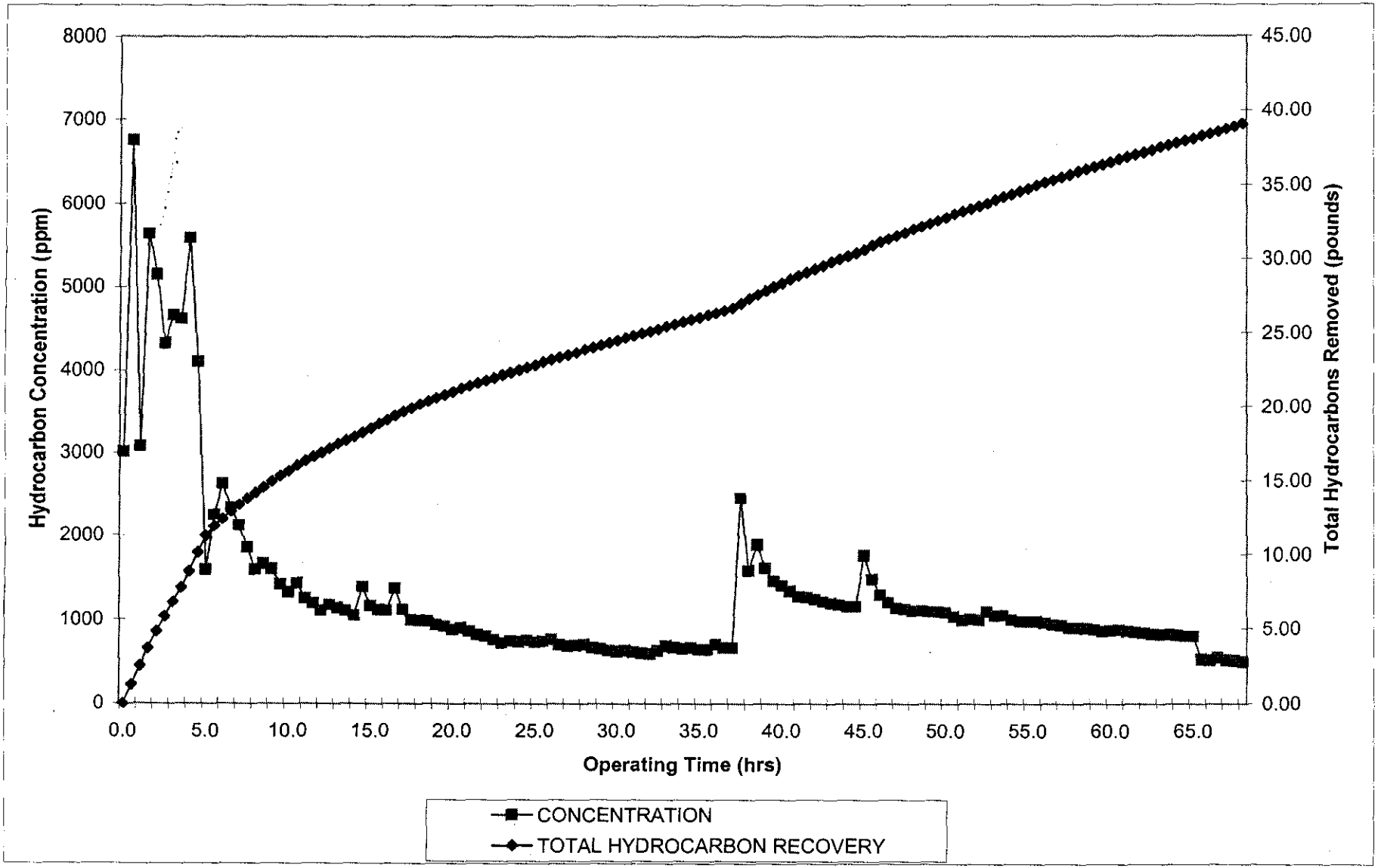

FIGURE 3

Vapor - Phase TPH and Benzene Concentrations Versus Time

ConocoPhillips 0746

3943 Broadway, Oakland, CA

April 5-8, 2005

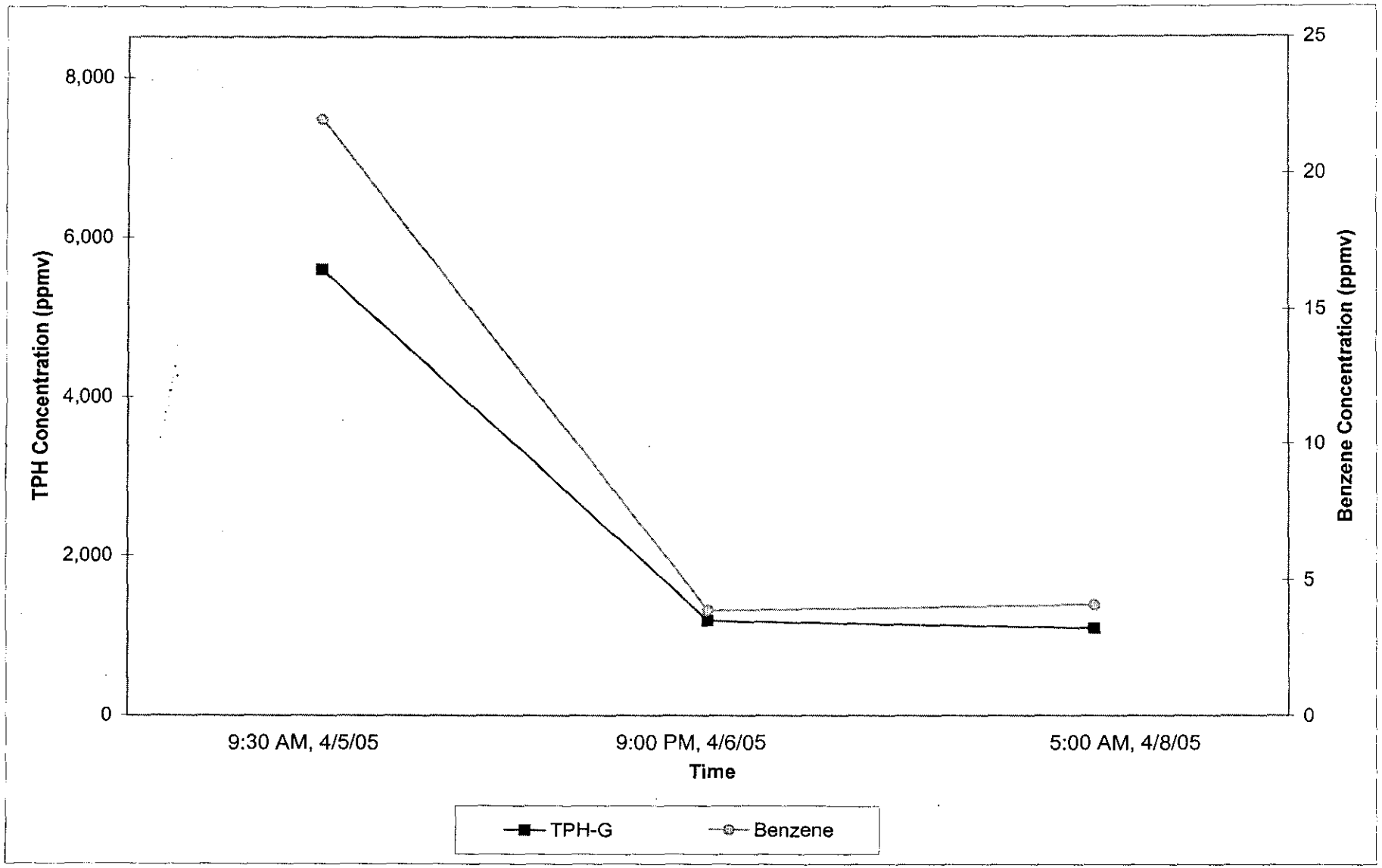

FIGURE 4

TABLES

Table 1

MOBILE TREATMENT SYSTEM VACUUM EXTRACTION DATA

ConocoPhillips 0746
3943 Broadway, Oakland CA
April 5-8, 2005

DATE	TIME	ELAPSED TIME (MINUTES)	TOTAL TIME (HOURS)	TOTAL SYSTEM MEASUREMENTS					
				INLET BLOWER VACUUM (IN OF Hg)	SYSTEM INLET FLOW* (CFM)	CONCENTRATION** (PPMV)	CUMULATIVE HYDROCARBON RECOVERY		EXTRACTION WELL OPEN
							POUNDS	GALLONS*	
05-Apr-05	9:00	0.0	0.0	19.0	50	3020	0.00	0.00	RW-1, MW-3, MW-5
05-Apr-05	9:30	30.00	0.50	22.0	28	6750	1.30	0.21	RW-1, MW-3, MW-5
05-Apr-05	10:00	30.00	1.00	18.5	45	3080	2.52	0.40	RW-1, MW-3, MW-5
05-Apr-05	10:30	30.00	1.50	20.7	32	5630	3.67	0.59	RW-1, MW-3, MW-5
05-Apr-05	11:00	30.00	2.00	20.2	31	5150	4.83	0.77	RW-1, MW-3, MW-5
05-Apr-05	11:30	30.00	2.50	19.8	32	4320	5.85	0.93	RW-1, MW-3, MW-5
05-Apr-05	12:00	30.00	3.00	20.0	31	4660	6.81	1.09	RW-1, MW-3, MW-5
05-Apr-05	12:30	30.00	3.50	20.0	31	4620	7.79	1.24	RW-1, MW-3, MW-5
05-Apr-05	13:00	30.00	4.00	20.0	31	5580	8.87	1.42	RW-1, MW-3, MW-5
05-Apr-05	13:30	30.00	4.50	19.0	45	4100	10.13	1.62	RW-1, MW-3, MW-5
05-Apr-05	14:00	30.00	5.00	15.0	67	1600	11.22	1.79	RW-1, MW-3, MW-5
05-Apr-05	14:30	30.00	5.50	20.5	31	2250	11.86	1.89	RW-1, MW-3, MW-5
05-Apr-05	15:00	30.00	6.00	20.0	31	2630	12.38	1.98	RW-1, MW-3, MW-5
05-Apr-05	15:30	30.00	6.50	19.5	31	2340	12.90	2.06	RW-1, MW-3, MW-5
05-Apr-05	16:00	30.00	7.00	19.5	31	2120	13.37	2.14	RW-1, MW-3, MW-5
05-Apr-05	16:30	30.00	7.50	20.0	32	1860	13.80	2.20	RW-1, MW-3, MW-5
05-Apr-05	17:00	30.00	8.00	20.0	32	1600	14.18	2.26	RW-1, MW-3, MW-5
05-Apr-05	17:30	30.00	8.50	20.0	37	1670	14.56	2.33	RW-1, MW-3, MW-5
05-Apr-05	18:00	30.00	9.00	20.0	37	1610	14.98	2.39	RW-1, MW-3, MW-5
05-Apr-05	18:30	30.00	9.50	20.0	34	1430	15.35	2.45	RW-1, MW-3, MW-5
05-Apr-05	19:00	30.00	10.00	20.0	37	1330	15.68	2.50	RW-1, MW-3, MW-5
05-Apr-05	19:30	30.00	10.50	19.5	37	1440	16.03	2.56	RW-1, MW-3, MW-5
05-Apr-05	20:00	30.00	11.00	20.0	34	1260	16.36	2.61	RW-1, MW-3, MW-5
05-Apr-05	20:30	30.00	11.50	20.0	34	1200	16.64	2.66	RW-1, MW-3, MW-5
05-Apr-05	21:00	30.00	12.00	20.0	34	1110	16.91	2.70	RW-1, MW-3, MW-5
05-Apr-05	21:30	30.00	12.50	19.5	36	1180	17.18	2.74	RW-1, MW-3, MW-5
05-Apr-05	22:00	30.00	13.00	19.5	34	1140	17.46	2.79	RW-1, MW-3, MW-5
05-Apr-05	22:30	30.00	13.50	19.5	35	1110	17.73	2.83	RW-1, MW-3, MW-5
05-Apr-05	23:00	30.00	14.00	19.3	33	1050	17.98	2.87	RW-1, MW-3, MW-5
05-Apr-05	23:30	30.00	14.50	20.0	34	1400	18.26	2.92	RW-1, MW-3, MW-5
06-Apr-05	0:00	30.00	15.00	19.5	34	1170	18.55	2.96	RW-1, MW-3, MW-5
06-Apr-05	0:30	30.00	15.50	19.2	37	1120	18.83	3.01	RW-1, MW-3, MW-5
06-Apr-05	1:00	30.00	16.00	19.2	37	1110	19.11	3.05	RW-1, MW-3, MW-5
06-Apr-05	1:30	30.00	16.50	19.5	33	1380	19.41	3.10	RW-1, MW-3, MW-5
06-Apr-05	2:00	30.00	17.00	19.2	33	1120	19.69	3.15	RW-1, MW-3, MW-5
06-Apr-05	2:30	30.00	17.50	19.3	36	1000	19.94	3.19	RW-1, MW-3, MW-5
06-Apr-05	3:00	30.00	18.00	19.1	35	990	20.18	3.22	RW-1, MW-3, MW-5
06-Apr-05	3:30	30.00	18.50	19.2	34	980	20.41	3.26	RW-1, MW-3, MW-5
06-Apr-05	4:00	30.00	19.00	19.6	33	940	20.63	3.30	RW-1, MW-3, MW-5
06-Apr-05	4:30	30.00	19.50	19.5	35	920	20.85	3.33	RW-1, MW-3, MW-5
06-Apr-05	5:00	30.00	20.00	19.5	34	880	21.06	3.36	RW-1, MW-3, MW-5
06-Apr-05	5:30	30.00	20.50	19.6	34	900	21.27	3.40	RW-1, MW-3, MW-5
06-Apr-05	6:00	30.00	21.00	19.6	33	860	21.47	3.43	RW-1, MW-3, MW-5
06-Apr-05	6:30	30.00	21.50	19.4	34	820	21.66	3.46	RW-1, MW-3, MW-5
06-Apr-05	7:00	30.00	22.00	20.2	32	800	21.84	3.49	RW-1, MW-3, MW-5
06-Apr-05	7:30	30.00	22.50	20.0	32	760	22.01	3.52	RW-1, MW-3, MW-5
06-Apr-05	8:00	30.00	23.00	19.5	34	720	22.18	3.54	RW-1, MW-3, MW-5
06-Apr-05	8:30	30.00	23.50	19.5	34	740	22.35	3.57	RW-1, MW-3, MW-5
06-Apr-05	9:00	30.00	24.00	19.5	34	730	22.52	3.60	RW-1, MW-3, MW-5
06-Apr-05	9:30	30.00	24.50	19.5	34	750	22.69	3.62	RW-1, MW-3, MW-5

Table 1

MOBILE TREATMENT SYSTEM VACUUM EXTRACTION DATA

ConocoPhillips 0746

3943 Broadway, Oakland CA

April 5-8, 2005

DATE	TIME	ELAPSED TIME (MINUTES)	TOTAL TIME (HOURS)	TOTAL SYSTEM MEASUREMENTS					
				INLET BLOWER VACUUM (IN OF Hg)	SYSTEM INLET FLOW* (CFM)	CONCENTRATION** (PPMV)	CUMULATIVE HYDROCARBON RECOVERY		EXTRACTION WELL OPEN
							POUNDS	GALLONS*	
06-Apr-05	10:00	30.00	25.00	19.5	34	730	22.86	3.65	RW-1, MW-3, MW-5
06-Apr-05	10:30	30.00	25.50	19.5	34	740	23.03	3.68	RW-1, MW-3, MW-5
06-Apr-05	11:00	30.00	26.00	19.5	34	760	23.21	3.71	RW-1, MW-3, MW-5
06-Apr-05	11:30	30.00	26.50	19.5	34	700	23.38	3.73	RW-1, MW-3, MW-5
06-Apr-05	12:00	30.00	27.00	19.5	33	680	23.54	3.76	RW-1, MW-3, MW-5
06-Apr-05	12:30	30.00	27.50	19.5	35	690	23.69	3.79	RW-1, MW-3, MW-5
06-Apr-05	13:00	30.00	28.00	19.5	35	700	23.86	3.81	RW-1, MW-3, MW-5
06-Apr-05	13:30	30.00	28.50	19.0	37	660	24.03	3.84	RW-1, MW-3, MW-5
06-Apr-05	14:00	30.00	29.00	19.5	37	650	24.19	3.86	RW-1, MW-3, MW-5
06-Apr-05	14:30	30.00	29.50	19.0	37	630	24.35	3.89	RW-1, MW-3, MW-5
06-Apr-05	15:00	30.00	30.00	19.5	37	620	24.51	3.92	RW-1, MW-3, MW-5
06-Apr-05	15:30	30.00	30.50	19.5	37	630	24.67	3.94	RW-1, MW-3, MW-5
06-Apr-05	16:00	30.00	31.00	19.5	37	610	24.83	3.97	RW-1, MW-3, MW-5
06-Apr-05	16:30	30.00	31.51	19.5	37	600	24.98	3.99	RW-1, MW-3, MW-5
06-Apr-05	17:00	30.00	32.01	19.5	37	590	25.13	4.01	RW-1, MW-3, MW-5
06-Apr-05	17:30	30.00	32.51	19.5	37	630	25.28	4.04	RW-1, MW-3, MW-5
06-Apr-05	18:00	30.00	33.01	19.5	36	680	25.45	4.07	RW-1, MW-3, MW-5
06-Apr-05	18:30	30.00	33.51	19.5	36	660	25.61	4.09	RW-1, MW-3, MW-5
06-Apr-05	19:00	30.00	34.01	19.5	36	650	25.77	4.12	RW-1, MW-3, MW-5
06-Apr-05	19:30	30.00	34.51	19.5	36	660	25.93	4.14	RW-1, MW-3, MW-5
06-Apr-05	20:00	30.00	35.01	20.5	31	640	26.08	4.17	RW-1, MW-3, MW-5
06-Apr-05	20:30	30.00	35.51	20.0	32	640	26.22	4.19	RW-1, MW-3, MW-5
06-Apr-05	21:00	30.00	36.01	19.5	34	700	26.37	4.21	RW-1, MW-3, MW-5
06-Apr-05	21:30	30.00	36.51	18.7	39	660	26.54	4.24	RW-1, MW-3, MW-5
06-Apr-05	22:00	30.00	37.01	18.4	39	660	26.72	4.27	RW-1, MW-3, MW-5
06-Apr-05	22:30	30.00	37.51	18.5	22	2460	27.04	4.32	MW-3
06-Apr-05	23:00	30.00	38.01	21.0	23	1590	27.35	4.37	MW-3
06-Apr-05	23:30	30.00	38.51	20.6	23	1890	27.62	4.41	MW-3
07-Apr-05	0:00	30.00	39.01	20.7	23	1620	27.90	4.46	MW-3
07-Apr-05	0:30	30.00	39.51	20.5	25	1470	28.15	4.50	MW-3
07-Apr-05	1:00	30.00	40.01	20.5	25	1420	28.40	4.54	MW-3
07-Apr-05	1:30	30.00	40.51	20.4	26	1350	28.64	4.58	MW-3
07-Apr-05	2:00	30.00	41.01	20.3	26	1280	28.87	4.61	MW-3
07-Apr-05	2:30	30.00	41.51	20.3	26	1270	29.10	4.65	MW-3
07-Apr-05	3:00	30.00	42.01	20.3	26	1250	29.32	4.68	MW-3
07-Apr-05	3:30	30.00	42.51	20.3	26	1220	29.54	4.72	MW-3
07-Apr-05	4:00	30.00	43.01	20.3	26	1200	29.76	4.75	MW-3
07-Apr-05	4:30	30.00	43.51	20.3	26	1180	29.97	4.79	MW-3
07-Apr-05	5:00	30.00	44.01	20.3	26	1160	30.18	4.82	MW-3
07-Apr-05	5:30	30.00	44.51	20.0	23	1160	30.37	4.85	MW-3
07-Apr-05	6:00	30.00	45.01	21.0	23	1770	30.60	4.89	MW-3
07-Apr-05	6:30	30.00	45.51	21.0	23	1490	30.86	4.93	MW-3
07-Apr-05	7:00	30.00	46.01	20.7	26	1300	31.09	4.97	MW-3
07-Apr-05	7:30	30.00	46.51	20.5	26	1210	31.31	5.00	MW-3
07-Apr-05	8:00	30.00	47.01	20.3	28	1140	31.53	5.04	MW-3
07-Apr-05	8:30	30.00	47.51	20.3	28	1130	31.75	5.07	MW-3
07-Apr-05	9:00	30.00	48.01	20.3	28	1110	31.96	5.11	MW-3
07-Apr-05	9:30	30.00	48.51	20.3	28	1110	32.17	5.14	MW-3
07-Apr-05	10:00	30.00	49.01	20.3	28	1100	32.38	5.17	MW-3
07-Apr-05	10:30	30.00	49.51	20.3	28	1100	32.59	5.21	MW-3

Table 1

MOBILE TREATMENT SYSTEM VACUUM EXTRACTION DATA

ConocoPhillips 0746
3943 Broadway, Oakland CA
April 5-8, 2005

DATE	TIME	ELAPSED TIME (MINUTES)	TOTAL TIME (HOURS)	TOTAL SYSTEM MEASUREMENTS					EXTRACTION WELL OPEN
				INLET BLOWER VACUUM (IN OF Hg)	SYSTEM INLET FLOW* (CFM)	CONCENTRATION** (PPMV)	CUMULATIVE HYDROCARBON RECOVERY		
							POUNDS	GALLONS*	
07-Apr-05	11:00	30.00	50.01	20.3	28	1090	32.80	5.24	MW-3
07-Apr-05	11:30	30.00	50.51	20.3	28	1040	33.01	5.27	MW-3
07-Apr-05	12:00	30.00	51.01	20.3	28	990	33.20	5.30	MW-3
07-Apr-05	12:30	30.00	51.51	20.5	28	1010	33.39	5.33	MW-3
07-Apr-05	13:00	30.00	52.01	20.5	28	1000	33.58	5.36	MW-3
07-Apr-05	13:30	30.00	52.51	20.5	28	1100	33.78	5.40	MW-3
07-Apr-05	14:00	30.00	53.01	20.5	28	1050	33.99	5.43	MW-3
07-Apr-05	14:30	30.00	53.51	20.5	28	1050	34.19	5.46	MW-3
07-Apr-05	15:00	30.00	54.01	20.5	29	1000	34.39	5.49	MW-3
07-Apr-05	15:30	30.00	54.51	20.5	29	980	34.58	5.52	MW-3
07-Apr-05	16:00	30.00	55.01	20.5	29	980	34.78	5.56	MW-3
07-Apr-05	16:30	30.00	55.51	20.5	29	980	34.97	5.59	MW-3
07-Apr-05	17:00	30.00	56.01	20.5	29	960	35.16	5.62	MW-3
07-Apr-05	17:30	30.00	56.51	20.5	28	940	35.35	5.65	MW-3
07-Apr-05	18:00	30.00	57.01	20.5	28	930	35.53	5.68	MW-3
07-Apr-05	18:30	30.00	57.51	20.3	28	900	35.70	5.70	MW-3
07-Apr-05	19:00	30.00	58.01	20.3	28	900	35.87	5.73	MW-3
07-Apr-05	19:30	30.00	58.51	20.3	27	890	36.04	5.76	MW-3
07-Apr-05	20:00	30.00	59.01	20.3	27	880	36.21	5.78	MW-3
07-Apr-05	20:30	30.00	59.51	20.2	27	860	36.37	5.81	MW-3
07-Apr-05	21:00	30.00	60.01	20.2	27	870	36.53	5.83	MW-3
07-Apr-05	21:30	30.00	60.51	20.2	28	880	36.69	5.86	MW-3
07-Apr-05	22:00	30.00	61.01	20.2	26	860	36.85	5.89	MW-3
07-Apr-05	22:30	30.00	61.51	20.2	26	850	37.00	5.91	MW-3
07-Apr-05	23:00	30.00	62.01	20.2	27	840	37.15	5.94	MW-3
07-Apr-05	23:30	30.00	62.51	20.2	27	830	37.31	5.96	MW-3
08-Apr-05	0:00	30.00	63.01	20.2	27	820	37.46	5.98	MW-3
08-Apr-05	0:30	30.00	63.51	20.2	27	820	37.61	6.01	MW-3
08-Apr-05	1:00	30.00	64.01	20.2	28	810	37.76	6.03	MW-3
08-Apr-05	1:30	30.00	64.51	21.2	26	800	37.91	6.06	MW-3
08-Apr-05	2:00	30.00	65.01	21.2	26	800	38.05	6.08	MW-3
08-Apr-05	2:30	30.00	65.51	18.1	44	530	38.21	6.10	RW-1, MW-3, MW-5
08-Apr-05	3:00	30.00	66.01	17.9	44	520	38.37	6.13	RW-1, MW-3, MW-5
08-Apr-05	3:30	30.00	66.51	17.8	47	550	38.54	6.16	RW-1, MW-3, MW-5
08-Apr-05	4:00	30.00	67.01	17.8	47	520	38.71	6.18	RW-1, MW-3, MW-5
08-Apr-05	4:30	30.00	67.51	17.8	47	510	38.87	6.21	RW-1, MW-3, MW-5
08-Apr-05	5:00	30.00	68.01	17.7	46	500	39.03	6.24	RW-1, MW-3, MW-5
				TOTAL HYDROCARBONS RECOVERED			39.03	6.24	
				TOTAL WATER RECOVERED (GALLONS)			6,500		

Notes

TPH = total petroleum hydrocarbons
CFM = cubic feet per minute
IN of Hg = inches of mercury
ppmv = ; per million by volume
-- = Unit down for extraction well transfer

* = Based on hydrocarbon density of 6.26 pounds per gallon.
** = Based on field Horiba OVA readings.

Table 2

TRC

Vacuum Extraction Event Report ***Summary Sheet***

76 Station 0746
3943 Broadway
Oakland, California

BAAQMD # 262
NPDES# NA

VACUUM EXTRACTION PERFORMANCE

Date(s) of Event(s):	**April 5-8, 2005**
Total Operating Hours:	**68.00**
Technology Used:	**High-vacuum liquid-ring pump with Thermal Oxidizer**
Total Sytem Max/Min Influent Vapor Concentration (ppmv):	**6,750 / 500**
Total System Max/Min Flow Rate (cfm):	**67 / 22**
Total Max/Min Vacuum (in Hg):	**22 / 15**
Total Recovery Volume by Vapor (pounds/gallons):	**39 / 6.2**

LABORATORY ANALYSIS OF VAPOR SAMPLES

			Sample Result (ppmv)						
Well ID	**Date**	**Time Sampled**	TPH-G *	Benzene*	Toluene*	Ethyl Benzene*	Total Xylenes*	MTBE*	Comments
RW-1, MW-3, MW-5	05-Apr-05	9:30 AM	5,600	22	8.3	13	31	2.9	Influent
RW-1, MW-3, MW-5	06-Apr-05	9:00 PM	1200	3.9	15	8.2	33	3.4	Influent
RW-1, MW-3, MW-5	08-Apr-05	5:00 PM	1100	4.1	4.8	4.7	23	5.3	Influent

			Sample Result (ppmv)						
Well ID	**Date**	**Time Sampled**	TPH-G *	Benzene*	Toluene*	Ethyl Benzene*	Total Xylenes*	MTBE*	Comments
RW-1	29-Nov-04	8:35 AM	4,500	46	ND<1.0	34	3.6	140	pre MTS
RW-1	09-May-05	13:12 PM	2,100	18	0.98	37	10	25	post MTS
MW-3	29-Nov-05	10:00 AM	9,000	5.9	ND<5	45	ND<10	550	pre MTS
MW-3	09-May-05	12:02 PM	12,000	130	58	410	1,200	680	post MTS
MW-5	29-Nov-04	NA	LPH	LPH	LPH	LPH	LPH	LPH	pre MTS
MW-5	09-May-05	12:18 PM	59,000	1,400	770	2,700	8,200	ND<50	post MTS

ADDITIONAL INFORMATION:

* = Analyzed by EPA method 8260B
PPMV = parts per million by volume
ug/L = micrograms per liter
cfm = cubic feet per minute
in Hg = inches of mercury
TPH-g = total petroleum hydrocarbons as gasoline
MtBE = Methyl tert-Butyl Ether
N.D. = not detectable
NA = not tested

LPH = liquid-phase hydrocarbons in well
Note: Total system concentration and flow measurements are taken on the pressure side of the blower after dilution.

Prepared by: _____ Mark Trevor, Project Geologist TRC Project No: 42-0163-03

Approved by: _____ Keith Woodburne, R.G., Senior Project Geologist

APPENDIX A

TRC MTS FIELD DATA

Customer-Focused Solutions

Client: CONOCO PHILLIPS
Site: 76-0746
Date: ~~4/4/05~~ 4/5/05
MTS Unit #: 0934
Laptop Unit #: 3
Sheet: 1 / A
Project No.: 42-0163-03
Task No.: UA03
Technician: LCC, RG (AM) 6→11:30 AM

CUMULATIVE WELLS			EXTRACTION WELL # 1		EXTRACTION WELL # 2
TOTALIZER START (gallons):	Time:		WELL ID:	RW-1	MW-5
TOTALIZER END (gallons):	Time:		DTW (ft):	~~5.65~~ 6.45	7.75
STACK HC CONCENTRATION (ppmv): 0	Time: 9:30 AM		DEPTH to FP (ft):	0	7.50
			TOTAL DEPTH (ft.):		
			CASING DIAM. (in):	6	2

Time (24 hr.) 12:00 noon	Total Well Flow DP (in. H2O) (inlet Tank Temp)	Total Well Flow Rate (scfm)	Total Well Inf. Conc. (ppmv)	Manifold Vacuum (in. of Hg)	H2O Temp	Temp.	System Flow DP (in. H2O)	System Flow Rate (scfm)	System Inf. Conc. (ppm)	System Temp (deg. F)	Extraction wells open	EW1 Flow DP (in. H2O)	EW1 Flow Rate (scfm)	EW1 HC Conc. (ppmv)	EW1 Vacuum (in. of Hg)	EW1 Stinger Depth (ft)	EW2 Flow DP (in. H2O)	EW2 Flow Rate (scfm)	EW2 HC Conc. (ppmv)	EW2 Vacuum (in. of Hg)	EW2 Stinger Depth (ft)
12:00							1.55		720	we had to stop (H20 Heavy)						6.5					1'
9:00	.15			19.0	92	100°	.35	50	3020	1442	1,2,3										
9:30	—	—	—	22.0			.13	28	6750	1446		Tedlar tube Combined									
10:00				18.5			.35	45	3080	1448											
10:30				20.7	123°	131	.20	32	5630	1467		.01	6	3110	22.7		.08	19	13,100 NOT BAGGED	22.0	
11:00				20.2			.18	31	5150	1444											
11:30	61°			19.8	138°	148°	.20	32	4320	1447	1,2,3										
12:00	60			20.0	138	149	.18	31	4660	1451	2,3					X	.08	19	4350	21.5	
1230	61			20.0	142	152	.18	31	4610	1443	2,3										
13:00	61			20.0	~~138~~	~~152~~	.18	31	5580	1445	1,2,3	.02	9	1900	21.0	10	.08	19	5560	21.25	
1330	61			19.0	145	156	.35	45	4100	1441											
1400	61			15.0	138	142	.75	67	1600	1445											
1430	61			20.5	135	150	.18	31	2250	1460											
1500	60			20.0	138	152	.18	31	2630	1442		.04	12	3660	21.25		.08	19	2359	21.0	
1530	60			19.5	142	154	.18	31	2340	1444											
1600	60			19.5	142	154	.18	31	2120	1443											
1630	59			20.0	142	154	.20	32	1860	1448						8.5					
1700	59			20.0	142	154	.20	32	1600	1441		.02	9	2120	21.5	8.0	.10	22	1370	21.0	
1730	59			20.0	145	154	.25	37	1670	1446											
1800	59			20.0	145	154	.25	37	1610	1443											

NOTES: 60° manifold 9:00 AM → 61° 10:30 / VAPOR SAMPLE AT 0930
1150 SHUT OFF RW-1 FOR PM, - 1250 PUT RW-1 ON LINE, 1340 LOWERED VACUUM TO 15.0 FOR PM
1430 CLOSED DILUTION DUE TO WATER STILL 3.5 GPM AT 15.0", PINCHED DOWN ON MANIFOLD VALVES

TRC MTS FIELD DATA

Customer-Focused Solutions

Sheet: 2 A / 1

Client: CONOCO PHILLIPS
Site: 76 STATION - 0746
Date: 4/5/05 → 4/06/05

MTS Unit #: 0934
Laptop Unit #: 3

Project No.: 42-0163-03
Task No.: UA03
Technician: LCE (RG 9:20 PM)

CUMULATIVE WELLS		EXTRACTION WELL # 1	EXTRACTION WELL # 2
TOTALIZER START (gallons):	Time:	WELL ID: RW-1	MW-5
TOTALIZER END (gallons):	Time:	DTW (ft):	
STACK HC CONCENTRATION (ppmv): 0	Time: 22:00	DEPTH to FP (ft):	
INLET VAPOR TEMP		TOTAL DEPTH(ft):	
		CASING DIAM. (in): 6"	2"

	VACUUM SIDE DATA						PRESSURE SIDE DATA															
Time (24 hr.)	Total Well Flow DP (in. H2O)	Total Well Flow Rate (scfm)	Total Well Inf. Conc. (ppmv)	Manifold Vacuum (in. of Hg)	H2O TEMP	VAPOR TEMP	System Flow DP (in. H2O)	System Flow Rate (scfm)	System Inf. Conc. (ppm)	System Temp (deg. F)	Extraction wells open:	Flow DP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow DP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
1830	58			20.0	141	150	.23	34	1430	1444	1,2,3					8'					1'
1900	57			20.0	140	149	.25	37	1330	1443		.02	9	1560	21.5		.15	28	970	21.0	
1930	57			19.5	140	150	.25	37	1440	1444											
2000	57			20.0	140	149	.23	34	1260	1447											
2030	56			20.0	140	149	.23	34	1200	1445											
2100	56			20.0	138	148	.23	34	1110	1448		.02	9	1200	21.5		.10	22	740	21.0	
2130	56			19.2	138	146	.25	36	1180	1443											
2200	56			19.5	138	146	.22	34	1140	1442											
2230	56			19.5	136	145	.23	35	1110	1446											
2300	56			19.3	136	145	.21	33	1050	1445		.02	9	1120	22.5		.09	21	680	22.2	
2330	56			20.0	110	122	.20	34	1400	1443											
0000	56			19.5	124	132	.21	34	1170	1446											
30	57			19.2	133	138	.26	37	1120	1447											
100	57			19.2	135	140	.25	37	1110	1445		.02	9	1010	21.8		.11	23	720	20.8	
130	57			19.5	135	142	.21	33	1380	1447											
2:00	56			19.2	139	146	.21	33	1120	1446											
2:30	56			19.3	138	145	.25	36	1000	1449											
3:00	56			19.1	138	145	.24	35	990	1444		.02	9	940	21.7		.11	23	580	20.6	
3:30	53			19.2	136	145	.23	34	980	1445											
4:00	54			19.6	135	145	.21	33	940	1447											

NOTES: ADDED Seal H2O while taking 23:00 READINGS (SORRY!) RG

TRC MTS FIELD DATA

Customer-Focused Solutions

Sheet: 3 / A

Client: Conoco Phillips
Site: (76) 0746
Date: 4/6/05

MTS Unit #: 0934
Laptop Unit #: 3

Project No.: 42 0163 03
Task No.: UA03
Technician: RG, LEE

CUMULATIVE WELLS			EXTRACTION WELL # 1		EXTRACTION WELL # 2	
TOTALIZER START (gallons):		Time:	WELL ID:	RW-1		MW-5
TOTALIZER END (gallons):		Time:	DTW (ft):			
STACK HC CONCENTRATION (ppmv):	"0"	Time: 7:00 AM	DEPTH to FP (ft):			
			TOTAL DEPTH(ft.):			
			CASING DIAM. (in):	6"		2"

	VACUUM SIDE DATA						PRESSURE SIDE DATA														
Time (24 hr.)	Total Well Flow DP (in. H2O)	Total Well Flow Rate (scfm)	Total Well Inf. Conc. (ppmv)	Manifold Vacuum (in. of Hg)	H2O Temp	Manifold Temp	System Flow DP (in. H2O)	System Flow Rate (scfm)	System Inf. Conc. (ppm)	System Temp (deg. F)	Extraction wells open:	Flow DP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow DP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
4:30	54°			19.5	136°	146°	.23	35	920	1444	123					8'					1'
5:00	54°			19.5	135	146	.22	34	880	1445		.02	9	890	21.7		.10	22	550	20.5	
5:30	54°			19.6	135	146°	.22	34	900	1448											
6:00	54°			19.6	135°	146°	.21	33	860	1446											
6:30	54°			19.7	135°	146°	.22	34	820	1448											
7:00	54°			20.2	123°	130°	.20	32	800	1445		.02	9	830	22.3		.09	22	480	21.0	
7:30	54			20.0	130	135	.20	32	760	1445											
8:00	56			19.5	135	142	.22	34	720	1445											
8:30	58			19.5	135	142	.22	34	710	1448											
9:00	60			19.5	140	145	.22	34	730	1446		.02	9	770	22.0		.10	22	420	21.0	
9:30	58			19.5	140	148	.22	34	750	1441											
10:00	59			19.5	142	150	.22	34	730	1444											
10:30	UNIT		DOWN	FOR			PROPANE		DELIVERY												
11:00	60			19.5	140	150	.22	34	760	1446		.02	9	740	22.0		.10	22	400	21.0	
11:30	60			19.5	140	150	.22	34	700	1448											
12:00	59			19.5	140	150	.21	33	680	1452											
12:30	60			19.5	140	151	.23	35	690	1443											
13:00	59			19.5	140	150	.23	35	700	1444		.02	9	960	21.7		.10	22	420	20.7	
13:30	59			19.0	140	150	.25	37	660	1448											
14:00	59			19.5	138	149	.25	37	650	1440											

NOTES: ADDED Seal H2O 6:45 Am / 0930 TANK COVER CHECK 60.5"/ 4/6/05 - 1025 SHUT DOWN UNIT FOR PROPANE 92.7 gal.
1045 UNIT BACK IN SERVICE

925 260-6384

TRC MTS FIELD DATA

Customer-Focused Solutions

Sheet: 4 A 1

Client: CONOCO PHILLIPS
Site: 76 STATION - 0746
Date: 4/6/05 → 4/7/05
MTS Unit #: 0934
Laptop Unit #: 3
Project No.: 42-016303
Task No.: UA03
Technician: LEE, RG

CUMULATIVE WELLS

TOTALIZER START (gallons): Time:
TOTALIZER END (gallons): Time:
STACK HC CONCENTRATION (ppmv): Time: 1530 - "0"
INLET TEMP

	EXTRACTION WELL # 1	EXTRACTION WELL # 2
WELL ID:	RW-1	MW-5
DTW (ft):		
DEPTH to FP (ft):		
TOTAL DEPTH (ft.):	22.40	
CASING DIAM. (in):	6"	2"

Time (24 hr.)	VACUUM SIDE DATA: Total Well Flow DP (in. H2O) [crossed out; TEMP]	Total Well Flow Rate (scfm)	Total Well Inf. Conc. (ppmv)	Manifold Vacuum (in. of Hg)	H2O TEMP	VAPOR TEMP TO OX	PRESSURE SIDE DATA: System Flow DP (in. H2O)	System Flow Rate (scfm)	System Inf. Conc. (ppm)	System Temp (deg. F)	Extraction wells open:	Well #1 Flow DP (in. H2O)	Well #1 Flow Rate (scfm)	Well #1 HC Conc. (ppmv)	Well #1 Vacuum (in. of Hg)	Well #1 Stinger Depth (ft)	Well #2 Flow DP (in. H2O)	Well #2 Flow Rate (scfm)	Well #2 HC Conc. (ppmv)	Well #2 Vacuum (in. of Hg)	Well #2 Stinger Depth (ft)
1430	59°			19.0	135°	146°	.25	37	630	1447	1,2,3					8'					1'
1500	59°			19.5	135°	146°	.25	37	620	1448		.02	9	650	21.7		.08	19	370	21.0	
1530	58°			19.5	135°	146°	.25	37	630	1443											
1600	58°			19.5	135°	146°	.25	37	610	1448											
1630	58°			19.5	135°	146°	.25	37	600	1448											
1700	57°			19.5	135°	144°	.25	37	590	1449		.02	9	580	21.7		.12	24	330	20.7	
1730	57°			19.5	135°	144°	.25	37	630	1441											
1800	57°			19.5	135°	145°	.24	36	680	1448											
1830	56°			19.5	135°	145°	.24	36	660	1444											
1900	55°			19.5	135°	145°	.24	36	650	1449		.02	9	560	21.6		.11	23	340	20.6	
19:30	54°			19.5	135°	145°	.24	36	660	1444											
20:00	54°			20.5	116°	124°	.17	31	640	1442											
20:30	54°			20.0	125°	127°	.19	32	640	1445											
21:00	54°			19.5	131°	136°	.22	34	640	1444		.02	9	660	22.0		.11	23	350	21.0	
21:30	57°			18.7	135°	139°	.29	39	700	1446											
22:00	57°			18.4	135°	141°	.29	39	660	1445	↓					↓					↓
22:30	59°			18.5	134°	141	.29	39	660	1451	1,2,3	.02	9	660	21.8		.13	26	370	20.5	
23:00	58°			21.0	137°	145°	.10	22	2460	1450	#3					~~8'~~ X					X
23:30	58°			20.6	140°	148°	.11	23	1590	1446	only										
23:35	58°			20.6	140	149°	.11	23	1890	1447	↓										

NOTES: 1525 STL LAB PICKED UP VAPOR SAMPLE
ADDED Seal H2O 21:00 Pulled individual "well" AT least 4-5 min Each RG
Increased well VAC RW-1, MW-3 RG

TRC MTS FIELD DATA

Customer-Focused Solutions

- Client: Conoco Phillips
- Site: 76 STATION 0746
- Date: 4/7/05
- MTS Unit #: 0934
- Laptop Unit #: 3
- Sheet: 5 /
- Project No.: 42 016303
- Task No.: UA03
- Technician: RG, LEE

CUMULATIVE WELLS

- TOTALIZER START (gallons): Time:
- TOTALIZER END (gallons): Time:
- STACK HC CONCENTRATION (ppmv): Time: 0700 "0"

EXTRACTION WELL # 1

- WELL ID: MW-3
- DTW (ft):
- DEPTH to FP (ft):
- TOTAL DEPTH (ft.): 22.4'
- CASING DIAM. (in):

EXTRACTION WELL # 2

Time (24 hr.)	Total Well Flow DP (in. H2O) (Manifold Temp)	Total Well Flow Rate (scfm)	Total Well Inf. Conc. (ppmv)	Manifold Vacuum (in. of Hg)	H2O Temp	Temp	System Flow DP (in. H2O)	System Flow Rate (scfm)	System Inf. Conc. (ppm)	System Temp (deg. F)	Extraction wells open:	Well #1 Flow DP (in. H2O)	Well #1 Flow Rate (scfm)	Well #1 HC Conc. (ppmv)	Well #1 Vacuum (in. of Hg)	Well #1 Stinger Depth (ft)	Well #2 Flow DP (in. H2O)	Well #2 Flow Rate (scfm)	Well #2 HC Conc. (ppmv)	Well #2 Vacuum (in. of Hg)	Well #2 Stinger Depth (ft)
23:45				20.6			.11	23	1660	1450	#1 (only)					15'					
23:50				20.6			.11	23	1640	1450	↓					20'					
00:00				20.7	140°	149°	.11	23	1620	1445	↓					20'					
00:05				20.7			.12	24	2200	1446	↓					15'					
00:10				20.7			.11	23	1700	1450	↓					↓					
00:15				20.6			.12	25	1580	1457	↓					↓					
00:30	58°			20.5	140	150°	.12	25	1470	1450	↓					↓					
1:00				20.5			.13	26	1420	1446	↓					↓					
1:30				20.4			.13	26	1350	1444	↓					↓					
2:00	58°			20.3	140°	150°	.13	26	1280	1457	↓					↓					
2:30				20.3			.13	26	1270	1446	↓					↓					
3:00				20.3			.13	26	1250	1450	↓					↓					
3:30				20.3			.13	26	1220	1441	↓					↓					
4:00	57°			20.3	140°	149°	.13	26	1200	1444	↓					↓					
4:30				20.3			.13	26	1180	1450	↓					↓					
5:00				20.3			.13	26	1160	1451	↓					↓					
5:30				20.0	115°	130°	.11	23	1160	1442	↓					↓					
6:00				21.0	122°	120°	.10	23	1770	1442	↓					↓					
6:30				21.0			.10	23	1490	1442	↓					↓					
7:00	58			20.7	132	140	.13	26	1300	1451	↓ #1					15'					

NOTES: (MW-3) NOTE this Stinger has ((6) 1/4" holes) extending about (4"/2)(8"/2)(14"/2) from Stinger end! RG. 1/4" Holes = 6

ADDED Seal H2O 5:15 Am   5:55 Unit Shut Down Vac→Back up 15 min later) Seal H2O Valve was shut off

TRC MTS FIELD DATA

Customer-Focused Solutions

Sheet: 6 / 1

Client: CONOCO PHILLIPS
Site: 76 STATION - 0746
Date: 4/7/05
MTS Unit #: 0934
Laptop Unit #: 3
Project No.: 42 016303
Task No.: VA03
Technician: LEE

CUMULATIVE WELLS												EXTRACTION WELL # 1					EXTRACTION WELL # 2				
TOTALIZER START (gallons): Time:												WELL ID: MW-3									
TOTALIZER END (gallons): Time:												DTW (ft):									
STACK HC CONCENTRATION (ppmv): Time: 1230 HORIBA - "O"												DEPTH to FP (ft):									
MANIFOLD INLET TEMP												TOTAL DEPTH(ft.):									
	VACUUM SIDE DATA						PRESSURE SIDE DATA					CASING DIAM. (in): 2"									
Time (24 hr.)	Total Well Flow DP (in. H2O)	Total Well Flow Rate (scfm)	Total Well Inf. Conc. (ppmv)	Manifold Vacuum (in. of Hg)	SCAL H2O TEMP	VAPOR TO OX TEMP	System Flow DP (in. H2O)	System Flow Rate (scfm)	System Inf. Conc. (ppm)	System Temp (deg. F)	Extraction wells open:	Flow DP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow DP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
0730	58			20.5	140	144	.13	26	1210	1452	#1 & 2					15'					
0800	58			20.25	142	146	.15	28	1140	1450											
0830	58			20.25	142	148	.15	28	1130	1452											
0900	58			20.25	142	149	.15	28	1110	1446											
0930	58			20.25	142	149	.15	28	1110	1442											
1000	58			20.25	142	150	.15	28	1100	1440											
1030	59			20.25	144	152	.15	28	1100	1441											
1100	59			20.25	145	153	.15	28	1090	1444											
1130	59			20.25	140	149	.15	28	1040	1450											
1200	59			20.25	140	149	.15	28	990	1451											
1230	59			20.5	140	149	.15	28	1010	1445											
1300	59			20.5	140	149	.15	28	1000	1446											
1330	60			20.5	140	159	.15	28	1100	1850											
1400	60			20.5	140	154	.15	28	1050	1454											
1430	60			20.5	140	152	.15	28	1050	1451											
1500	60			20.5	140	160	.16	29	1000	1447											
1530	60			20.5	141	152	.16	29	980	1446											
1600	60			20.5	142	152	.16	29	980	1442											
1630	60			20.5	142	152	.16	29	980	1450											
1700	60			20.5	142	151	.16	29	960	1451											

NOTES:

TRC MTS FIELD DATA

Customer-Focused Solutions

Sheet: 7A/

Client: CONOCO PHILLIPS | Site: 76 STA. -0746 | Date: 4/7/05 | MTS Unit #: 0954 | Laptop Unit #: J

Project No.: 42 016303 | Task No.: UA03 | Technician: COC RG

CUMULATIVE WELLS		EXTRACTION WELL # 1		EXTRACTION WELL # 2	
TOTALIZER START (gallons):	Time:	WELL ID:	MW-3		MW-5
TOTALIZER END (gallons):	Time:	DTW (ft):			
STACK HC CONCENTRATION (ppmv):	Time:	DEPTH to FP (ft):			
MANIFOLD INLET TEMP		TOTAL DEPTH(ft.):			
		CASING DIAM. (in):	2"		2"

	VACUUM SIDE DATA						PRESSURE SIDE DATA					EXTRACTION WELL # 1					EXTRACTION WELL # 2				
Time (24 hr.)	Total Well Flow DP (in. H2O)	Total Well Flow Rate (scfm)	Total Well Inf. Conc. (ppmv)	Manifold Vacuum (in. of Hg)	SEMC H2O TEMP	UNIFOR TO OX TEMP	System Flow DP (in. H2O)	System Flow Rate (scfm)	System Inf. Conc. (ppm)	System Temp (deg. F)	Extraction wells open:	Flow DP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow DP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
1730	59			20.5	140	148	.15	28	940	1447	1,					15'					
1800	59			20.5	140	148	.15	28	930	1442											
1830	58			20.25	140	146	.15	28	900	1449											
1900	58			20.25	140	146	.15	28	900	1444											
1930	58			20.3	138	145	.14	27	890	1442											
2000	56			20.3	138	144	.14	27	880	1446											
2030	57			20.2	138	143	.14	27	860	1444											
2100	56			20.2	137	141	.14	27	870	1441											
2130	56			20.2	137	142	.15	28	880	1445											
2200	56			20.2	136	140	.13	26	860	1445											
2230	56			20.2	136	140	.13	26	850	1446											
2300	56			20.2	136	142	.14	27	840	1449											
2330	56			20.2	137	143	.14	27	830	1442											
2400	56			20.2	138	144	.14	27	820	1447											
0030	56			20.2	138	144	.14	27	820	1443											
100	56			20.2	140	147	.15	28	810	1449											
130	55			21.2	108°	126°	.12	26	800	1445											
200	55			21.2	118°	129°	.12	26	800	1450	#1										
205	58°			17.5	123°	133°	.43	50	540	1443	1, 2, 3										1'
230	56°			18.1	125°	135°	.35	44	530	1456											

NOTES: ADDED Semi H2O 1:20 AM

(Well #3 LS RW-1 Stinger 7') 2105 Am Retracted all 3 wells
(Well #2 LS MW-5 " 1'
(Well #1 LS MW-3 " 15'

Client: ~~76~~ Conoco Phillips

Site: (76) STATION #0746

Date: 4/8/05

TRC MTS FIELD DATA

Customer-Focused Solutions

MTS Unit #: 0934 Laptop Unit #: 3

Sheet: 8A / Project No.: 42 016303

Task No.: VA03 Technician: RG

CUMULATIVE WELLS		EXTRACTION WELL # 1	EXTRACTION WELL # 2
TOTALIZER START (gallons):	Time:	WELL ID: MW-3	MW-5
TOTALIZER END (gallons):	Time:	DTW (ft):	
STACK HC CONCENTRATION (ppmv): "0"	Time: 3:30 AM RG	DEPTH to FP (ft):	
		TOTAL DEPTH(ft.):	
		CASING DIAM. (in): 2"	2"

	VACUUM SIDE DATA						PRESSURE SIDE DATA													
Time (24 hr.)	Total Well Flow DP (in. H2O)	Total Well Flow Rate (scfm)	Total Well Inf. Conc. (ppmv)	Manifold Vacuum (in. of Hg)	H2O Sep Temp	Temp	System Flow DP (in. H2O)	System Flow Rate (scfm)	System Inf. Conc. (ppm)	System Temp (deg. F)	Extraction wells open:	Flow DP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow DP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
3:00	56°			17.9	126°	136°	.35	44	520	1444	1,2,3	.13	26	780	20.8	15'	.12	24	290	21.0	1'
3:30	58°			17.8	129°	138°	.41	47	550	1443	↓					↓			↓		
4:00	57°			17.8	128°	138°	.41	47	520	1446											
4:30	57°			17.8	128°	138°	.41	47	510	1449		.14	27	770	20.9		.12	24	270	21.0	↓
5:00	57°			17.7	128°	138°	.40	46	500	1450		.14	27	760	20.9	↓	.12	24	270	21.0	↓

NOTES:

Form #162 - Effective Date: 2-13-92

VAPOR EXTRACTION TEST

Project No. 42-0163-03
Task No. UA03
Start Time. 4-5-05 (9:00) VAC START
1st well heads (Noon)

Site: 76-0746
Date: 4/5/05 Cont'
Stop Time.

1/2

	Extraction Well			Observation Wells				
Well I.D.	RW-1	MW-5	MW-3	~~RW-1~~	~~MW-5~~	~~MW-3~~		
Distance (feet)								
Casing Dia. (inches)								
Screen Interval (ft)		IN - ~~HG~~ HG						
Time (min)	Flow Rate (cfm)	~~HC Conc.~~ (ppm)	Vacuum (inch H20)					
Noon 0:00 12:00	OFF	18.5	19.5	—				
0:05 1800	OFF	15.5	19.0					
0:10 1430	16.5	10.0	9.5					
0:15 1530	14.0	10.0	12.0					
0:20 1630	14.0	9.0	9.0					
0:25 1730	14.0	9.0	9.0					
0:30 1830	14.0	9.0	9.0					
0:35 1930	14.0	9.0	10.0					
0:40 2030	14.0	9.0	10.0					
0:45 2130	14.0 ~~HG~~	5 ~~HG~~	6 ~~HG~~					
0:50 2330	13.5 ~~HG~~	5 ~~HG~~	6 ~~HG~~					
4/6/05 0:55 0030	13.0 ~~HG~~	4.5 ~~HG~~	5.5 ~~HG~~					
1:00 1:30	5.0 HG	(5.0) 62.0 H20	5.0 HG (62.0 H20)					
1:10 2:00	5.0 HG	7.0 HG	7.0 HG					
1:20 2:30	7.0 HG	7.0 HG	7.0 HG					
1:30 2135	96.0 H20	84.00 H20	94.00 H20 (I ADJUSTED to this well Head RG.					
1:40 3:15	75.00 H20	70.00 H20	95.00 H20 "					
1:50 5:00	67.00 "	70.00 "	90.00 "					
2:00 7:00	75.00 "	68.00 "	95.00					
2:30 8:00	60.0	70.00	90.0					
3:00 9:00	65.0	70.0	90.0					
3:30 10:00	65.0	65.0	90.0					
4:00 11:00	65.0	65.0	90.0					
4:30 12:00	70.0	75.0	88.0					
5:00 13:00	90.0	75.0	88.0					
6:00 14:00	90.0	65.0	95.0					
7:00 15:00	90.0	65.0	95.0					
8:00 16:00	9.0	5.0	8.0	READING IN HG DUE TO PROBLEM WITH H20 GAGE				
9:00 17:00	8.5	5.0	8.0					
10:00 18:00	6.0	5.0	10.0					
12:00 19:00	5.0	5.0	9.0					
14:00 20:00	5.5	5.2	9.5	(T.D of Stinger)				TD = total Depth of Stinger
16:00 21:30	9.0	5.0	10					
18:00 23:30			11.2	10'				
20:00 23:35			10.0	15'				
25:00 23:45			10.0	15'				
30:00 23:50			9.0	20'				
4/7/05 40:00 00:00			10.0	20'				
50:00 00:15			11.2	15'				
60:00 00:30			11.5	15'				
70:00 1:00			11.5 HG					
80:00 3:00			11.5					
90:00 4:00			11.5					
100:00 5:00			11.5					
6:00			11.3					
8:00			11.0					
0800			11.0					

See Next Page (For RDS)

Form #162 • Effective Date: 2-13-92

VAPOR EXTRACTION TEST

Project No. 42 016303

Task No. UA03

Start Time.

Site: 76 STA. 0746

Date: 4/7/05

Stop Time. 4/8/05 (5:00 AM)

2/2

Tanker limit 0500 AM.

	Extraction Well			Observation Wells				
Well I.D.	MW-3	MW-5	RW-1	Rw1	MW-5			
Distance (feet)								
Casing Dia. (inches)	2"							
Screen Interval (ft)								
Time (min)	Flow Rate (cfm)	HC Conc. (ppm)		Vacuum (inch H20)				
0900	11.0 HG							
0:05 1000	11.0							
0:10 1100	11.5							
0:15 1200	11.5							
0:20 1300	11.5							
0:25 1400	12.0							
0:30 1500	12.0							
0:35 1600	12.0			ROIs				
0:40 1700	11.5							
0:45 1800	11.5							
0:50 1900	11.0							
0:55 2000	11.4			H20	H20			
1:00 2100	11.2			.79	.24			
1:10 2200	11.0			.80	.24			
1:20 2300	11.0			.79	.24			
4/8/05 1:30 0000	11.0			.79	.24			
1:40 1:00	11.0			.80	.24			
1:50 2:00	11.0 HG			.79	.24			
2:00 2:30	10.4 "	6.0 HG	9.0 HG					
2:30 3:00	10.4	6.0 HG	9.1 HG					
3:00 4:00	10.4	8.0 HG	9.5 HG					
3:30 5:00	10.4	9.5 "	10.0 "					
4:00								
4:30								
5:00								
6:00								
7:00								
8:00								
9:00								
10:00								
12:00								
14:00								
16:00								
18:00								
20:00								
25:00								
30:00								
40:00								
50:00								
60:00								
70:00								
80:00								
90:00								
100:00								

TRC

Customer-Focused Solutions

MTS FIELD DATA

Continuation Sheet

1/B

Site: 0746

Date: 4/4/05

Project No.: 42-0163-03

	Extraction Well #	Extraction Well # 3	Extraction Well #	Extraction Well #
Well ID:		MW-3		
DTW (ft):		5.22 7.85		
DEPTH TO FP (ft):				
TOTAL DEPTH (ft):				
CASING DIA. (in):		2"		

Time (24 hr.)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Slinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Slinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Slinger Depth (ft)
12:00					1'										
9:00															
9:30															
10:00															
10:30						.04	13	11490 (NOT BAGGED)	22.6						
11:00															
11:30															
12:00						.06	16	9620	21.5						
12:30															
~~13:00~~ 15:00						.06	16	6700	21.5						
13:30															
14:00															
14:30						.08	19	4890	21.5						
15:00															
15:30															
16:00															
16:30															
17:00						.08	19	4440	21.0						
17:30															
18:00															

Notes:

TRC
Customer-Focused Solutions

MTS FIELD DATA

Continuation Sheet

2B

Site: 76 STATION - 0746
Date: 4/5/05

Project No.: 42-0163-03

	Extraction Well #	Extraction Well #	Extraction Well #	Extraction Well #
Well ID:		MW-3		
DTW (ft):				
DEPTH TO FP (ft):				
TOTAL DEPTH (ft.):				
CASING DIA. (in):		2"		

Time (24 hr.)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
1830										1'										
1900						.08	19	3220	21.0											
1930																				
2000																				
2030																				
2100						.08	19	3120	21.0											
2130																				
2200																				
2230																				
2300						.07	17	3200	22.5											
2330																				
00 00																				
00 30																				
1:00						.08	18	2700	21.2											
1:30																				
2:00																				
2:30																				
3:00						.09	20	2540	20.8											
3:30																				
4:00										↓										
				Cont'd																

Notes:

TRC
Customer-Focused Solutions

MTS FIELD DATA
Continuation Sheet

3/B

Site: 76 0746
Date: 4/6/05

Project No.: 42016303

	Extraction Well #	Extraction Well # 3	Extraction Well #	Extraction Well #
	Well ID:	MW-3		
	DTW (ft):			
	DEPTH TO FP (ft):			
	TOTAL DEPTH (ft.):			
	CASING DIA. (in):	2"		

Time (24 hr.)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
4:30										1'										
5:00						.09	21	2470	21.0											
5:30																				
6:00																				
6:30																				
7:00						.09	22	2250	21.2											
7:30																				
8:00																				
8:30																				
9:00						.10	22	2170	21.0											
9:30																				
10:00						[illegible]														
10:30																				
11:00						.10	22	2110	21.0											
11:30																				
12:00																				
12:30																				
13:00						.10	22	1980	21.0											
13:30																				
14:00																				

Notes:

TRC

Customer-Focused Solutions

MTS FIELD DATA

Continuation Sheet

4B

Site: 76 STATION - 0746

Date: 4/6/05

Project No.: 42 016303

	Extraction Well #	Extraction Well # 3	Extraction Well #	Extraction Well #
Well ID:		MW-3		
DTW (ft):				
DEPTH TO FP (ft):				
TOTAL DEPTH (ft.):		22.40'		
CASING DIA. (in):		2"		

Time (24 hr.)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Slinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Slinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Slinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Slinger Depth (ft)
1430										1'										
1500						.12	24	1980	21.0											
1530																				
1600																				
1630																				
1700						.10	22	1840	21.0											
1730																				
1800																				
1830																				
1900						.10	22	1760	20.8											
1930																				
2000																				
2030																				
2100						.10	22	1810	21.0											
2130																				
2200																				
2230						.12	24	1800	20.8	1'										
2300						.10	22	2460	21.0	10'										
2330						.11	23	1590	20.6	10'										
2335						.11	23	1890	20.6	15'										

Notes:

TRC
Customer-Focused Solutions

MTS FIELD DATA
Continuation Sheet

7B + 8B

Site: (76 Station #0746
Date: ~~4/7-8/05~~ 4/8/05

Project No.: 42016303

	Extraction Well #	Extraction Well # 3	Extraction Well #	Extraction Well #
Well ID:		RW-1		
DTW (ft):				
DEPTH TO FP (ft):				
TOTAL DEPTH (ft.):				
CASING DIA. (in):		6"		

Time (24 hr.)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)	Flow ΔP (in. H2O)	Flow Rate (scfm)	HC Conc. (ppmv)	Vacuum (in. of Hg)	Stinger Depth (ft)
4/8/05										7'										
2:05																				
2:30																				
3:00						.01	6	380	22.3											
3:30																				
4:00																				
4:30						.02	9	350	22.0											
5:00						.02	9	340	21.9											

Notes:

APPENDIX B

SEVERN TRENT STL

Submission#: 2005-04-0126

TRC/Alton Geoscience-Concord

April 20, 2005

1590 Solano Way, Suite A
Concord, CA 94520

Attn.: Roger Batra
Project: Conoco Phillips # 0746
Site: 3942 Broadway, Oakland
Oakland

Attached is our report for your samples received on 04/06/2005 16:20
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 05/21/2005 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: dsharma@stl-inc.com

Sincerely,

Dimple Sharma
Project Manager

SEVERN TRENT STL

Submission: 2005-04-0126

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips # 0746

Received: 04/06/2005 16:20

Site: 3942 Broadway, Oakland
Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
INFLUENT VAPOR RW-1 MW-3 MW-5	04/05/2005 09:30	Air	1

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips # 0746

Received: 04/06/2005 16:20

Site: 3942 Broadway, Oakland
Oakland

Prep(s): 5030B
Test(s): 8260B

Sample ID: **INFLUENT VAPOR RW-1 MW-3 MW-5**
Lab ID: 2005-04-0126 - 1

Sampled: 04/05/2005 09:30
Extracted: 4/7/2005 09:00

Matrix: Air
QC Batch#: 2005/04/07-1A.64

Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	5600	1.6	ppmv	5.00	04/07/2005 09:00	
Benzene	22	1.6	ppmv	5.00	04/07/2005 09:00	
Toluene	8.3	1.3	ppmv	5.00	04/07/2005 09:00	
Ethylbenzene	13	1.2	ppmv	5.00	04/07/2005 09:00	
Total xylenes	31	1.2	ppmv	5.00	04/07/2005 09:00	
Methyl tert-butyl ether (MTBE)	2.9	0.70	ppmv	5.00	04/07/2005 09:00	
Ethanol	ND	130	ppmv	5.00	04/07/2005 09:00	
Surrogate(s)						
1,2-Dichloroethane-d4	109.2	72-128	%	5.00	04/07/2005 09:00	
Toluene-d8	95.3	80-113	%	5.00	04/07/2005 09:00	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord

Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips # 0746

Received: 04/06/2005 16:20

Site: 3942 Broadway, Oakland
Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2005/04/07-1A.64**

MB: 2005/04/07-1A.64-042 — Date Extracted: 04/07/2005 07:42

Compound	Conc.	RL	Unit	Analyzed	Flag
GRO (C6-C12)	ND	50	ug/L	04/07/2005 07:42	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	04/07/2005 07:42	
Benzene	ND	0.5	ug/L	04/07/2005 07:42	
Toluene	ND	0.5	ug/L	04/07/2005 07:42	
Ethylbenzene	ND	0.5	ug/L	04/07/2005 07:42	
Total xylenes	ND	1.0	ug/L	04/07/2005 07:42	
Ethanol	ND	50	ug/L	04/07/2005 07:42	
Surrogates(s)					
1,2-Dichloroethane-d4	111.2	73-130	%	04/07/2005 07:42	
Toluene-d8	99.6	81-114	%	04/07/2005 07:42	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips # 0746

Received: 04/06/2005 16:20

Site: 3942 Broadway, Oakland
Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2005/04/07-1A.64**

LCS 2005/04/07-1A.64-021 Extracted: 04/07/2005 Analyzed: 04/07/2005 07:21

LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	21.6		25	86.4			65-165	20		
Benzene	21.7		25	86.8			69-129	20		
Toluene	20.8		25	83.2			70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	544		500	108.8			73-130			
Toluene-d8	510		500	102.0			81-114			

SEVERN TRENT STL

Submission: 2005-04-0126

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips # 0746

Received: 04/06/2005 16:20

Site: 3942 Broadway, Oakland
Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/04/07-1A.64**

MS/MSD

Lab ID: 2005-04-0004 - 002

MS: 2005/04/07-1A.64-053 Extracted: 04/07/2005 Analyzed: 04/07/2005 11:53

Dilution: 1.00

MSD: 2005/04/07-1A.64-015 Extracted: 04/07/2005 Analyzed: 04/07/2005 12:15

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	108	104	78.1	25	119.6	103.6	14.3	65-165	20		
Benzene	22.7	24.1	ND	25	90.8	96.4	6.0	69-129	20		
Toluene	20.7	22.9	ND	25	82.8	91.6	10.1	70-130	20		
Surrogate(s)											
1,2-Dichloroethane-d4	556	554		500	111.1	110.8		73-130			
Toluene-d8	495	513		500	99.1	102.5		81-114			

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord

Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips # 0746

Received: 04/06/2005 16:20

Site: 3942 Broadway, Oakland
Oakland

Legend and Notes

Analysis Flag

L2

Reporting limits were raised due to high level of analyte present in the sample.

113909

Chain of Custody Record 2005-04-0126

ST-4124 (0901)

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

Client: CONOCO PHILLIPS	Project Manager: ~~MARK TREVER~~ ROGER BATRA	Date: 4/8/05	Chain of Custody Number: 183714
Address: 21 TECHNOLOGY DRIVE	Telephone Number (Area Code)/Fax Number: 925-688-2466	Lab Number	Page 1 of 1
City: IRVINE State: CA Zip Code: 92618	Site Contact: MARK TREVOR Lab Contact: BETH RILEY	Analysis (Attach list if more space is needed)	
Project Name and Location (State): 76 STATION - 0746	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	TEXVAR	TPPH	BETEX	MTBE	ETHANOL (8260B)	Special Instructions/ Conditions of Receipt
~~INFLUENT VAPOR~~ [illegible]	4/5/05	0930	X										X	X	X	X	X	21" 3"

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown

Sample Disposal: [ ] Return To Client [X] Disposal By Lab [ ] Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: [ ] 24 Hours [ ] 48 Hours [ ] 7 Days [ ] 14 Days [ ] 21 Days [X] Other: NORMAL

QC Requirements (Specify): [illegible]

	Date	Time		Date	Time
1. Relinquished By: [signature]	4/6/05	1525	1. Received By: [signature]	4/6/05	1540
2. Relinquished By: [signature]	4/6/05	1620	2. Received By: [signature]	04/06/05	1620
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

SEVERN TRENT STL

Submission#: 2005-04-0182

TRC/Alton Geoscience-Concord

April 21, 2005

1590 Solano Way, Suite A
Concord, CA 94520

Attn.: Roger Batra
Project: Conoco Phillips #0746
Site: 3943 Broadway, Oakland

Attached is our report for your samples received on 04/07/2005 17:58
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 05/22/2005 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: dsharma@stl-inc.com

Sincerely,

Dimple Sharma
Project Manager

SEVERN TRENT STL

Submission: 2005-04-0182

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips #0746

Received: 04/07/2005 17:58

Site: 3943 Broadway, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
COMBINED INFLUENT VAPOR	04/06/2005 21:00	Air	1

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips #0746

Received: 04/07/2005 17:58
Site: 3943 Broadway, Oakland

Prep(s): 5030B
Test(s): 8260B
Sample ID: **COMBINED INFLUENT VAPOR**
Lab ID: 2005-04-0182 - 1
Sampled: 04/06/2005 21:00
Extracted: 4/8/2005 12:00
Matrix: Air
QC Batch#: 2005/04/08-1A.64
Analysis Flag: L2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	1200	3.1	ppmv	10.00	04/08/2005 12:00	
Benzene	3.9	3.1	ppmv	10.00	04/08/2005 12:00	
Toluene	15	2.6	ppmv	10.00	04/08/2005 12:00	
Ethylbenzene	8.2	2.3	ppmv	10.00	04/08/2005 12:00	
Total xylenes	33	2.3	ppmv	10.00	04/08/2005 12:00	
Methyl tert-butyl ether (MTBE)	3.4	1.4	ppmv	10.00	04/08/2005 12:00	
Ethanol	ND	250	ppmv	10.00	04/08/2005 12:00	
Surrogate(s)						
1,2-Dichloroethane-d4	117.3	72-128	%	1.00	04/08/2005 12:00	
Toluene-d8	98.0	80-113	%	1.00	04/08/2005 12:00	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips #0746

Received: 04/07/2005 17:58
Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B
Method Blank
MB: 2005/04/08-1A.64-035

Water

Test(s): 8260B
QC Batch # 2005/04/08-1A.64
Date Extracted: 04/08/2005 08:35

Compound	Conc.	RL	Unit	Analyzed	Flag
GRO (C6-C12)	ND	50	ug/L	04/08/2005 08:35	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	04/08/2005 08:35	
Benzene	ND	0.5	ug/L	04/08/2005 08:35	
Toluene	ND	0.5	ug/L	04/08/2005 08:35	
Ethylbenzene	ND	0.5	ug/L	04/08/2005 08:35	
Total xylenes	ND	1.0	ug/L	04/08/2005 08:35	
Ethanol	ND	50	ug/L	04/08/2005 08:35	
Surrogates(s)					
1,2-Dichloroethane-d4	113.8	73-130	%	04/08/2005 08:35	
Toluene-d8	98.6	81-114	%	04/08/2005 08:35	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips #0746

Received: 04/07/2005 17:58
Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2005/04/08-1A.64**

LCS 2005/04/08-1A.64-014 Extracted: 04/08/2005 Analyzed: 04/08/2005 08:14
LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	25.3		25	101.2			65-165	20		
Benzene	25.3		25	101.2			69-129	20		
Toluene	23.5		25	94.0			70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	536		500	107.2			73-130			
Toluene-d8	490		500	98.0			81-114			

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips #0746

Received: 04/07/2005 17:58
Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/04/08-1A.64**

MS/MSD

Lab ID: 2005-04-0017 - 001

MS: 2005/04/08-1A.64-029 Extracted: 04/08/2005 Analyzed: 04/08/2005 09:29
Dilution: 1.00

MSD: 2005/04/08-1A.64-051 Extracted: 04/08/2005 Analyzed: 04/08/2005 09:51
Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	213	213	167	25	184.0	852.0	129.	65-165	20	M3	M3,R2
Benzene	25.6	26.8	1.43	25	96.7	107.2	10.3	69-129	20		
Toluene	22.2	23.7	ND	25	88.8	94.8	6.5	70-130	20		
Surrogate(s)											
1,2-Dichloroethane-d4	552	543		500	110.4	108.6		73-130			
Toluene-d8	489	479		500	97.8	95.8		81-114			

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord

Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: Conoco Phillips #0746

Received: 04/07/2005 17:58

Site: 3943 Broadway, Oakland

Legend and Notes

Analysis Flag

L2

Reporting limits were raised due to high level of analyte present in the sample.

Result Flag

M3

Sample > 4x spike concentration.

R2

Analyte RPD was out of QC limits due to sample heterogeneity.

113960

Chain of Custody Record

2005-04-0182

STL 4124 (0901)

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

Field	Value
Client	CONOCO PHILLIPS
Project Manager	ROGER BATRA
Date	4/6/05
Chain of Custody Number	183715
Address	21 TECHNOLOGY DRIVE
Telephone Number (Area Code)/Fax Number	925-688-2466
Lab Number	
Page	1 of 1
City	IRVINE
State	CA
Zip Code	92618
Site Contact	MARK TREVOR
Lab Contact	BETH RILEY
Project Name and Location (State)	76 STATION - 0746
Carrier/Waybill Number	
Contract/Purchase Order/Quote No.	

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	TEDLAR	TPPH	BETCX	MTBE	ETHANOL 8260B	Special Instructions/Conditions of Receipt
COMBINED EFFLUENT VAPOR RW-1, MW-2, MW-5	4/6/05	2100	X											X	X	X	X	X	19 2

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other NORMAL

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: [signature]	4/7/05	1045	1. Received By: [signature]	4/7/05	1045
2. Relinquished By: [signature]	4/7/05	1758	2. Received By: [signature]	04/07/05	1758
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

SEVERN TRENT STL

Submission#: 2005-04-0238

TRC/Alton Geoscience-Concord

April 21, 2005

1590 Solano Way, Suite A
Concord, CA 94520

Attn.: Roger Batra

Project#: 41050001FA20
Project: Conoco Phillips #0746
Site: 3943 Broadway, Oakland

Attached is our report for your samples received on 04/08/2005 17:10
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 05/23/2005 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: dsharma@stl-inc.com

Sincerely,

Dimple Sharma
Project Manager

SEVERN TRENT STL

Submission: 2005-04-0238

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 41050001FA20
Conoco Phillips #0746

Received: 04/08/2005 17:10

Site: 3943 Broadway, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
INFLUENT VAPOR MW-3 MW-5 RW-1	04/08/2005 05:00	Air	1
EFFLUENT VAPOR (STACK)	04/08/2005 05:00	Air	2

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 41050001FA20
Conoco Phillips #0746

Received: 04/08/2005 17:10

Site: 3943 Broadway, Oakland

Prep(s): 5030B
Test(s): 8260B
Sample ID: **INFLUENT VAPOR MW-3 MW-5 RW-1**
Lab ID: 2005-04-0238 - 1
Sampled: 04/08/2005 05:00
Extracted: 4/9/2005 10:18
Matrix: Air
QC Batch#: 2005/04/09-1B.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	1100	0.31	ppmv	1.00	04/09/2005 10:18	
Benzene	4.1	0.31	ppmv	1.00	04/09/2005 10:18	
Toluene	4.8	0.26	ppmv	1.00	04/09/2005 10:18	
Ethylbenzene	4.7	0.23	ppmv	1.00	04/09/2005 10:18	
Total xylenes	23	0.23	ppmv	1.00	04/09/2005 10:18	
Methyl tert-butyl ether (MTBE)	5.3	0.14	ppmv	1.00	04/09/2005 10:18	
Ethanol	ND	25	ppmv	1.00	04/09/2005 10:18	
Surrogate(s)						
1,2-Dichloroethane-d4	117.9	72-128	%	1.00	04/09/2005 10:18	
Toluene-d8	98.5	80-113	%	1.00	04/09/2005 10:18	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 41050001FA20
Conoco Phillips #0746

Received: 04/08/2005 17:10

Site: 3943 Broadway, Oakland

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**EFFLUENT VAPOR (STACK)**	Lab ID:	2005-04-0238 - 2
Sampled:	04/08/2005 05:00	Extracted:	4/9/2005 09:56
Matrix:	Air	QC Batch#:	2005/04/09-1B.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	ND	0.31	ppmv	1.00	04/09/2005 09:56	
Benzene	ND	0.31	ppmv	1.00	04/09/2005 09:56	
Toluene	ND	0.26	ppmv	1.00	04/09/2005 09:56	
Ethylbenzene	ND	0.23	ppmv	1.00	04/09/2005 09:56	
Total xylenes	ND	0.23	ppmv	1.00	04/09/2005 09:56	
Methyl tert-butyl ether (MTBE)	ND	0.14	ppmv	1.00	04/09/2005 09:56	
Ethanol	ND	25	ppmv	1.00	04/09/2005 09:56	
Surrogate(s)						
1,2-Dichloroethane-d4	115.9	72-128	%	1.00	04/09/2005 09:56	
Toluene-d8	95.2	80-113	%	1.00	04/09/2005 09:56	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 41050001FA20
Conoco Phillips #0746

Received: 04/08/2005 17:10

Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2005/04/09-1B.64**

MB: 2005/04/09-1B.64-018 — Date Extracted: 04/09/2005 08:18

Compound	Conc.	RL	Unit	Analyzed	Flag
GRO (C6-C12)	ND	50	ug/L	04/09/2005 08:18	
Benzene	ND	0.5	ug/L	04/09/2005 08:18	
Toluene	ND	0.5	ug/L	04/09/2005 08:18	
Ethylbenzene	ND	0.5	ug/L	04/09/2005 08:18	
Total xylenes	ND	1.0	ug/L	04/09/2005 08:18	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	04/09/2005 08:18	
Ethanol	ND	50	ug/L	04/09/2005 08:18	
Surrogates(s)					
1,2-Dichloroethane-d4	112.6	73-130	%	04/09/2005 08:18	
Toluene-d8	99.4	81-114	%	04/09/2005 08:18	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 41050001FA20
Conoco Phillips #0746

Received: 04/08/2005 17:10

Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2005/04/09-1B.64**

LCS 2005/04/09-1B.64-056 Extracted: 04/09/2005 Analyzed: 04/09/2005 07:56
LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	26.0		25	104.0			65-165	20		
Benzene	26.0		25	104.0			69-129	20		
Toluene	24.2		25	96.8			70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	528		500	105.6			73-130			
Toluene-d8	503		500	100.6			81-114			

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 41050001FA20
Conoco Phillips #0746

Received: 04/08/2005 17:10

Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/04/09-1B.64**

MS/MSD

Lab ID: 2005-04-0097 - 003

MS: 2005/04/09-1B.64-013 Extracted: 04/09/2005 Analyzed: 04/09/2005 09:13

Dilution: 1.00

MSD: 2005/04/09-1B.64-034 Extracted: 04/09/2005 Analyzed: 04/09/2005 09:34

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	27.7	28.0	ND	25	110.8	112.0	1.1	65-165	20		
Benzene	28.2	26.8	ND	25	112.8	107.2	5.1	69-129	20		
Toluene	26.0	25.1	ND	25	104.0	100.4	3.5	70-130	20		
Surrogate(s)											
1,2-Dichloroethane-d4	562	578		500	112.4	115.6		73-130			
Toluene-d8	507	505		500	101.4	101.0		81-114			

Chain of Custody Record

STL-4124 (0901)

2005-04-0238

SEVERN TRENT **STL**
Severn Trent Laboratories, Inc.

114015

Client: CONOCO PHILLIPS	Project Manager: ROGER BATRA	Date: 4/8/05	Chain of Custody Number: 164255
Address: 5052 COMMERCIAL CIRCLE	Telephone Number (Area Code)/Fax Number: 925-688-2466	Lab Number:	Page 1 of 1
City: State: Zip Code:	Site Contact: MARK TREVOR / Lab Contact: BETH RILEY	Analysis (Attach list if more space is needed)	
Project Name and Location (State): 76 STATION-0746 3943 BROADWAY OAKLAND CA.	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	TEDLAR	TPPH	BETEX	MTBE	ETHANOL (8260B)	Special Instructions/Conditions of Receipt
INFLUENT VAPOR MW-3 RW-1 MW-5	4/8/05	0500	X											X	X	X	X	X	19°C
EFFLUENT VAPOR (STACK)	4/8/05	0500	X											X	X	X	X	X	

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other NORMAL

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: Lee Dallinger [signature]	4/8/05	1605	1. Received By: [signature]	4/8/05	1610
2. Relinquished By: [signature]	4-8-05	1710	2. Received By: [signature]	4/8/05	1710
3. Relinquished By:			3. Received By:		

Comments:

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

SEVERN TRENT STL

Submission#: 2005-05-0292

TRC/Alton Geoscience-Concord

May 16, 2005

1590 Solano Way, Suite A
Concord, CA 94520

Attn.: Roger Batra

Project#: 42016308
Project: Conoco Phillips # 0746
Site: 3943 Broadway, Oakland

Attached is our report for your samples received on 05/10/2005 17:10
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 06/24/2005 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: dsharma@stl-inc.com

Sincerely,

Dimple Sharma
Project Manager

SEVERN TRENT STL

Submission: 2005-05-0292

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 42016308
Conoco Phillips # 0746

Received: 05/10/2005 17:10

Site: 3943 Broadway, Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-3	05/09/2005 12:02	Water	1
MW-5	05/09/2005 12:18	Water	2
RW-1	05/09/2005 13:12	Water	3

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 42016308
Conoco Phillips # 0746

Received: 05/10/2005 17:10

Site: 3943 Broadway, Oakland

Prep(s): 5030B
Test(s): 8260B
Sample ID: **MW-3**
Lab ID: 2005-05-0292 - 1
Sampled: 05/09/2005 12:02
Extracted: 5/14/2005 02:49
Matrix: Water
QC Batch#: 2005/05/13-2A.62
Analysis Flag: L2, pH: <2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	12000	500	ug/L	10.00	05/14/2005 02:49	
Benzene	130	5.0	ug/L	10.00	05/14/2005 02:49	
Toluene	58	5.0	ug/L	10.00	05/14/2005 02:49	
Ethylbenzene	410	5.0	ug/L	10.00	05/14/2005 02:49	
Total xylenes	1200	10	ug/L	10.00	05/14/2005 02:49	
Methyl tert-butyl ether (MTBE)	680	5.0	ug/L	10.00	05/14/2005 02:49	
Ethanol	ND	500	ug/L	10.00	05/14/2005 02:49	
Surrogate(s)						
1,2-Dichloroethane-d4	104.8	73-130	%	10.00	05/14/2005 02:49	
Toluene-d8	96.6	81-114	%	10.00	05/14/2005 02:49	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 42016308
Conoco Phillips # 0746

Received: 05/10/2005 17:10

Site: 3943 Broadway, Oakland

Prep(s): 5030B
Test(s): 8260B
Sample ID: **MW-5**
Lab ID: 2005-05-0292 - 2
Sampled: 05/09/2005 12:18
Extracted: 5/13/2005 15:03
Matrix: Water
QC Batch#: 2005/05/13-1A.62
Analysis Flag: L2, pH: <2 (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	59000	5000	ug/L	100.00	05/13/2005 15:03	
Benzene	1400	50	ug/L	100.00	05/13/2005 15:03	
Toluene	770	50	ug/L	100.00	05/13/2005 15:03	
Ethylbenzene	2700	50	ug/L	100.00	05/13/2005 15:03	
Total xylenes	8200	100	ug/L	100.00	05/13/2005 15:03	
Methyl tert-butyl ether (MTBE)	ND	50	ug/L	100.00	05/13/2005 15:03	
Ethanol	ND	5000	ug/L	100.00	05/13/2005 15:03	
Surrogate(s)						
1,2-Dichloroethane-d4	92.0	73-130	%	100.00	05/13/2005 15:03	
Toluene-d8	92.2	81-114	%	100.00	05/13/2005 15:03	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 42016308
Conoco Phillips # 0746

Received: 05/10/2005 17:10

Site: 3943 Broadway, Oakland

Prep(s): 5030B
Sample ID: **RW-1**
Sampled: 05/09/2005 13:12
Matrix: Water
pH: <2

Test(s): 8260B
Lab ID: 2005-05-0292 - 3
Extracted: 5/14/2005 02:23
QC Batch#: 2005/05/13-2A.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
GRO (C6-C12)	2100	50	ug/L	1.00	05/14/2005 02:23	
Benzene	18	0.50	ug/L	1.00	05/14/2005 02:23	
Toluene	0.98	0.50	ug/L	1.00	05/14/2005 02:23	
Ethylbenzene	37	0.50	ug/L	1.00	05/14/2005 02:23	
Total xylenes	10	1.0	ug/L	1.00	05/14/2005 02:23	
Methyl tert-butyl ether (MTBE)	25	0.50	ug/L	1.00	05/14/2005 02:23	
Ethanol	ND	50	ug/L	1.00	05/14/2005 02:23	
Surrogate(s)						
1,2-Dichloroethane-d4	103.0	73-130	%	1.00	05/14/2005 02:23	
Toluene-d8	96.3	81-114	%	1.00	05/14/2005 02:23	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 42016308
Conoco Phillips # 0746

Received: 05/10/2005 17:10

Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2005/05/13-1A.62**

MB: 2005/05/13-1A.62-003 — Date Extracted: 05/13/2005 10:03

Compound	Conc.	RL	Unit	Analyzed	Flag
GRO (C6-C12)	ND	50	ug/L	05/13/2005 10:03	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	05/13/2005 10:03	
Benzene	ND	0.5	ug/L	05/13/2005 10:03	
Toluene	ND	0.5	ug/L	05/13/2005 10:03	
Ethylbenzene	ND	0.5	ug/L	05/13/2005 10:03	
Total xylenes	ND	1.0	ug/L	05/13/2005 10:03	
Ethanol	ND	50	ug/L	05/13/2005 10:03	
Surrogates(s)					
1,2-Dichloroethane-d4	88.2	73-130	%	05/13/2005 10:03	
Toluene-d8	96.6	81-114	%	05/13/2005 10:03	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 42016308
Conoco Phillips # 0746

Received: 05/10/2005 17:10

Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B
Test(s): 8260B

Method Blank
Water
QC Batch # 2005/05/13-2A.62

MB: 2005/05/13-2A.62-044
Date Extracted: 05/13/2005 20:44

Compound	Conc.	RL	Unit	Analyzed	Flag
GRO (C6-C12)	ND	50	ug/L	05/13/2005 20:44	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	05/13/2005 20:44	
Benzene	ND	0.5	ug/L	05/13/2005 20:44	
Toluene	ND	0.5	ug/L	05/13/2005 20:44	
Ethylbenzene	ND	0.5	ug/L	05/13/2005 20:44	
Total xylenes	ND	1.0	ug/L	05/13/2005 20:44	
Ethanol	ND	50	ug/L	05/13/2005 20:44	
Surrogates(s)					
1,2-Dichloroethane-d4	104.8	73-130	%	05/13/2005 20:44	
Toluene-d8	94.0	81-114	%	05/13/2005 20:44	

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 42016308
Conoco Phillips # 0746

Received: 05/10/2005 17:10

Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike | **Water** | **QC Batch # 2005/05/13-1A.62**

LCS 2005/05/13-1A.62-037 | Extracted: 05/13/2005 | Analyzed: 05/13/2005 09:37
LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	24.2		25	96.8			65-165	20		
Benzene	24.0		25	96.0			69-129	20		
Toluene	23.2		25	92.8			70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	435		500	87.0			73-130			
Toluene-d8	470		500	94.0			81-114			

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 42016308
Conoco Phillips # 0746

Received: 05/10/2005 17:10

Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2005/05/13-2A.62**

LCS 2005/05/13-2A.62-018 Extracted: 05/13/2005 Analyzed: 05/13/2005 20:18
LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	26.5		25	106.0			65-165	20		
Benzene	22.9		25	91.6			69-129	20		
Toluene	21.9		25	87.6			70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	511		500	102.2			73-130			
Toluene-d8	484		500	96.8			81-114			

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 42016308
Conoco Phillips # 0746

Received: 05/10/2005 17:10

Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/05/13-1A.62**

MS/MSD

Lab ID: 2005-05-0122 - 003

MS: 2005/05/13-1A.62-059 Extracted: 05/13/2005 Analyzed: 05/13/2005 11:59

Dilution: 1.00

MSD: 2005/05/13-1A.62-025 Extracted: 05/13/2005 Analyzed: 05/13/2005 12:25

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	36.1	33.6	11.5	25	98.4	88.4	10.7	65-165	20		
Benzene	25.3	25.2	ND	25	101.2	100.8	0.4	69-129	20		
Toluene	25.3	24.1	ND	25	101.2	96.4	4.9	70-130	20		
Surrogate(s)											
1,2-Dichloroethane-d4	404	404		500	80.8	80.8		73-130			
Toluene-d8	486	474		500	97.2	94.8		81-114			

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 42016308
Conoco Phillips # 0746

Received: 05/10/2005 17:10

Site: 3943 Broadway, Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/05/13-2A.62**

MS/MSD Lab ID: 2005-05-0072 - 001

MS: 2005/05/13-2A.62-006 Extracted: 05/13/2005 Analyzed: 05/13/2005 22:06
Dilution: 1.00

MSD: 2005/05/13-2A.62-032 Extracted: 05/13/2005 Analyzed: 05/13/2005 22:32
Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	50.5	55.5	24.7	25	103.2	123.2	17.7	65-165	20		
Benzene	25.3	27.3	ND	25	101.2	109.2	7.6	69-129	20		
Toluene	23.6	24.5	ND	25	94.4	98.0	3.7	70-130	20		
Surrogate(s)											
1,2-Dichloroethane-d4	484	525		500	96.8	105.0		73-130			
Toluene-d8	470	495		500	94.0	99.0		81-114			

SEVERN TRENT STL

Submission: 2005-05-0292

Gas/BTEX Fuel Oxygenates by 8260B

TRC/Alton Geoscience-Concord
Attn.: Roger Batra

1590 Solano Way, Suite A
Concord, CA 94520
Phone: (925) 688-1200 Fax: (925) 688-0388

Project: 42016308
Conoco Phillips # 0746

Received: 05/10/2005 17:10

Site: 3943 Broadway, Oakland

Legend and Notes

Analysis Flag

L2

Reporting limits were raised due to high level of analyte present in the sample.

114962

ConocoPhillips Chain Of Custody Record

STL-San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
(925) 484-1919 (925) 484-1096 fax

ConocoPhillips Site Manager: Shelby Lathrop

INVOICE REMITTANCE ADDRESS: CONOCOPHILLIPS, Attn: Dee Hutchinson, 3611 South Harbor, Suite 200, Santa Ana, CA 92704

2005-05-0292

ConocoPhillips Work Order Number

ConocoPhillips Cost Object

DATE: 5/9/05

PAGE: 1 of 1

SAMPLING COMPANY:	Valio Valve ID:	CONOCOPHILLIPS SITE NUMBER	GLOBAL ID NO.:
TRC	TRCC	0746	TO600101471

ADDRESS: 1590 Solano Way , Suite A Concord, CA 94520

PROJECT CONTACT (Hardcopy or PDF Report to): Roger Batra

TELEPHONE:	FAX:	E-MAIL:
(925)688-2466	(925)688-0388	rbatra@trcsolutions.com

SITE ADDRESS (Street and City): 3943 Broadway, Oakland

CONOCOPHILLIPS SITE MANAGER: Shelby Lathrop

EDF DELIVERABLE TO (PP or Consultant): PHONE #: E-MAIL: LAB USE ONLY

SAMPLER NAME(S) (Print): Tim Johnson

CONSULTANT PROJECT NUMBER: 42016308

REQUESTED ANALYSES

TURNAROUND TIME (CALENDAR DAYS): ☐ 14 DAYS ☐ 7 DAYS ☐ 72 HOURS ☑ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NEEDED ☐

FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes

3 a

* Field Point name only required if different from Sample ID

LAB USE ONLY	Sample Identification/Field Point Name*	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	8015m - TPHd Extractable	8260B - TPHg/BTEX/MBE	8260B - TPHg/BTEX/TBA/TAME/DIPE/ETBE Oxygenates	8260B - MTBE/BTEX / 8 oxygenates + methanol (8015M)	8260B - Full Scan VOCs (does not include oxygenates)	8270C - Semi-Volatiles	8015M / 8021B - TPHg/BTEX/MBE	Lead ☐Total ☐STLC ☐TCLP	Ethanol by 8260B	TEMPERATURE ON RECEIPT C°
	MW-3	5/9/05	1102	GW	6		X							X	
	MW-5	↓	1218	GW	6		X							X	
	RW-1	↓	1312	GW	6		X							X	

PRICED

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time
	Refrigerator	5/9/05	1630
		5-10-05	1556
		5-10-05	1710

Rev 10/03 Revision

Table 1

CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 29, 2004

76 Station 0746

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
MW-1														
11/29/04	80.54	7.27	0.00	73.27	0.27	--	58	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	44	
MW-2														
11/29/04	81.32	--	--	--	--	--	--	--	--	--	--	--	--	Unable to open
MW-3														
11/29/04	81.41	9.15	0.00	72.26	0.14	--	9000	5.9	ND<5.0	45	ND<10	--	550	
MW-4														
11/29/04	81.48	9.01	0.00	72.47	-0.52	--	120	ND<0.50	ND<0.50	0.52	ND<1.0	--	0.55	
MW-5														
11/29/04	81.38	9.16	0.21	72.38	0.14	--	--	--	--	--	--	--	--	LPH in well
MW-6														
11/29/04	79.94	7.01	0.00	72.93	0.53	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	4.8	
MW-7														
11/29/04	81.64	8.21	0.00	73.43	0.11	--	62	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.6	
MW-8														
11/29/04	81.41	9.88	0.00	71.53	0.16	--	1500	ND<10	ND<10	ND<10	ND<20	--	1600	
MW-9														
11/29/04	80.53	9.55	0.00	70.98	-0.17	--	690	0.72	ND<0.50	1.3	ND<1.0	--	160	
MW-10														
11/29/04	81.61	12.58	0.00	69.03	-1.06	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.72	
MW-11														
11/29/04	78.18	10.96	0.00	67.22	-0.86	--	63	ND<0.50	ND<0.50	1.0	2.5	--	ND<0.50	
MW-12														
11/29/04	79.61	12.17	0.00	67.44	-2.33	--	64	0.68	ND<0.50	1.2	3.0	--	0.71	
RW-1														

Table 1

CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 29, 2004

76 Station 0746

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
RW-1 continued														
11/29/04	80.63	8.23	0.00	72.40	0.08	--	4500	46	ND<1.0	34	3.6	--	140	

APPENDIX C

WATER QUALITY & COMPLIANCE		Remediation Wastewater from Petroleum Product Facilities	
Responsible Dept: ESD	Orig. Issue: 12/1/94	Latest Revision: 12/17/03	Page: 1

Form R-149: Authorization for Receipt of Remediation Wastewater @ ConocoPhillips's San Francisco Refinery at Rodeo

WASTEWATER TREATMENT PLANT (UNIT 100) OPERATORS:
This form below, if approved, serves as an acceptance document to process the wastewater at the San Francisco Refinery Wastewater Treatment Plant, Unit 100. The Requester is required to supply all of the necessary analytical and completely fill out the following table:

Requester's Name/Signature:	Name: Ed Ralston	Signature: [signature]
Company:	ConocoPhillips	Date of Request: 5/12/2005
Address:	76 Broadway, Sacramento, CA. 95818	
Telephone/Fax:	Phone: 916-558-7633	FAX: 916-558-7639
Station No. and Location:	COP #250746, 3943 Broadway, Oakland, CA	
Description of Water Source:	Purge Water – DPE test	
Total Volume of Water/Solids Expected:	Water: 8,000 gallons	Solids: (minimal)
Expected per-Delivery Volume/Frequency:	Volume: 8,000 gallons	Frequency: one time discharge
Pesticides/Fish Toxicity Expected:	Pesticides: Yes (No)	Fish Tox: Yes (No)
Maximum Rate of Disposal (ESD)	8000	Gallons per Week

The remediation wastewater described above has been reviewed for Federal and California Hazardous Waste characteristics.

This water is *(circle one):* (recommended) / **not recommended for processing at the WWTP.**

This form is valid until: 8/14/05

ESD Signature: [signature] **Date Recommended:** 5/16/05

Operations Signature: S.C. Whitehead **Date Approved:** 5/17/05

TRUCK DRIVERS: Please provide a copy of this R-149 form upon delivery of wastewater to Unit 100.

Driver's info:

Truck No. _____ **pH at site** _____

UNIT 100 OPERATORS: Please fill out the portion below and forward this completed form to ESD in Room 111 of the Administration Building.

Date and time of delivery:	**Delivered on:** ____/____/____	@ _____ **AM / PM**
Volume delivered:	_____ **gallons or** _____ **bbl**	**pH** _____

NO FREE PRODUCT ACCEPTED **GRAVITY OFF-LOAD ONLY**

Any questions? Call: (510) 245-4403, (510); (510) 245-4465 or FAX (510) 245-4476.
ONYX/Mark Laliberte: FAX: (707) 745-0510; DIRECT: (707) 748-3722; CELL: (510) 715-6532
TRC: Dennis Jensen; 21 Technology Drive, Irvine, CA 92618; (949) 753-0101 (office); (949) 753-0111 (fax); djensen@trcsolutions.com