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Quarterly Groundwater Monitoring and Sampling Report for the Powerine Refinery

January 1988

PREPARED FOR

Powerine Oil Company
P.O. Box 2108
Santa Fe Springs, California 90670

By

ERT, Inc.
19782 MacArthur Boulevard, Suite 365
Irvine, California 92715

ERT®
A RESOURCE ENGINEERING COMPANY

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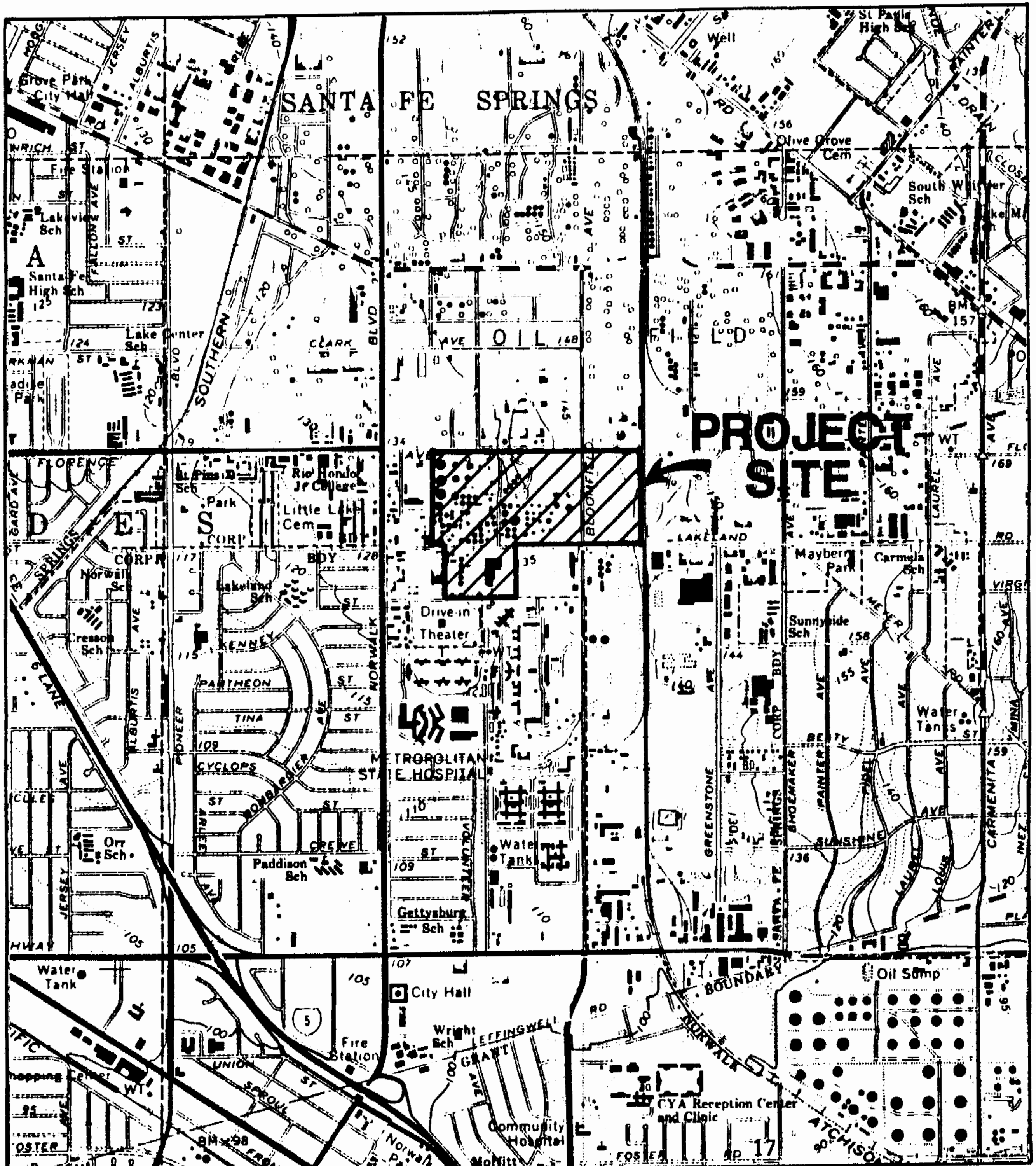
1.0 INTRODUCTION

ERT, Inc. measured water levels in 13 monitoring wells on November 30 and December 1, 1987 and collected water samples from 11 monitoring wells and one onsite production well between December 2 and 4, 1987 at the Powerine Oil Company refinery located at 12354 Lakeland Road, Santa Fe Springs, California (Figures 1 and 2). The samples were analyzed to evaluate the concentrations of purgeable halocarbon and purgeable organic compounds. This work was performed to comply with the requirements of the Regional Water Quality Control Board, Los Angeles Region (RWQCB) for quarterly monitoring, sampling, and analytical testing of perched groundwater beneath the refinery. This report summarizes the field procedures, laboratory analyses, and analytical results for the fourth quarter of 1987.



BASE MAP FROM U.S.G.S. 7½ MINUTE SERIES (TOPOGRAPHIC), WHITTIER QUADRANGLE

0 2000 4000 FEET

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A RESOURCE ENGINEERING COMPANY

FIGURE 1

PROJECT SITE LOCATION MAP

DRAWN BY:	DATE:	PROJECT NO.:
CHK'D BY: DC	REVISED:	DWG.NO.:

FX-9 Wells

2.0 GROUNDWATER MONITORING AND SAMPLING

2.1 Water-Level Monitoring

Water-level monitoring was performed on November 30 and December 1, 1987 using a Solinst water level meter in wells containing water only, and a stainless steel tape, water gauging paste, and gasoline gauging paste in a well containing free product (MW-504). Monitoring equipment was decontaminated following each measurement. The decontamination procedure consisted of a tap water rinse, a thorough scrubbing using a non-phosphatic detergent in tap water, a second tap water rinse, and a final rinse using distilled water obtained from a State-certified analytical laboratory.

Groundwater monitoring results are summarized in Table 1 and are illustrated on the groundwater contour map in Figure 3. Groundwater elevations ranged from 37.4 feet above MSL in MW-501 to 54.8 feet above MSL in MW-104. The water table gradient slopes southwesterly across the site.

Monitoring well MW-202 was dry and monitoring well MW-504 contained 1.9 feet of free product on the upper surface of the perched aquifer. Therefore, water samples were not extracted from either of these monitoring wells. The depth to groundwater was not measured in monitoring well MW-102 because the well was reportedly destroyed sometime prior to July, 1987.

TABLE 1

Summary of Monitoring Data

MW* No.	Date	Elevation Top of Casing (feet,MSL)	Depth to Water (feet)	Water Level Elevations (feet,MSL)	Free Product (feet)
101	11/30/87	134.98	88.18	46.8	ND
102	11/30/87	134.81	a	a	a
103	12/01/87	136.95	92.60	44.35	ND
104	12/01/87	141.60	86.78	54.82	ND
201	11/30/87	132.91	89.70	43.21	ND
202	12/01/87	137.89	b	b	ND
203	12/01/87	143.89	95.18	48.71	ND
204	12/01/87	140.14	94.26	45.88	ND
205	12/01/87	138.17	89.48	48.69	ND
206	11/30/87	129.93	92.33	37.6	ND
501	12/01/87	128.70	91.27	37.43	ND
502	11/30/87	131.19	93.72	37.47	ND
503	11/30/87	131.43	92.19	39.24	ND
504	11/30/87	133.83	92.38	41.45	1.90 (0.51)c

KEY

ND = Not Detected
a = Destroyed
b = Dry Well
c = Quantity of free product, previous report
* = Monitoring Well

ERT

FX-9 Wells

2.2 Groundwater Sampling

Eleven (11) monitoring wells and one (1) onsite water production well (P-6 on Figure 2) were sampled between December 2 and December 4, 1987. Sampling began with monitoring well MW-205, which contained water with the lowest reported concentrations of hydrocarbon compounds, and proceeded sequentially to wells with progressively higher reported concentrations. This sampling sequence was followed in order to minimize the potential for cross contamination between wells.

Before a sample was extracted, each well was purged of approximately four (4) well volumes of water using either a 1/3-horsepower Grundfos submersible pump, or a Teflon hand bailer. Upon removal of four (4) well volumes, the water's pH, temperature, and conductivity were measured and recorded. Purged water was discharged into 55-gallon drums to be later disposed of by refinery personnel.

Water samples were extracted from the monitoring wells using a Teflon bailer and from a faucet adjacent to the well housing of production well P-6. The samples were placed into two (2) 40-mililiter VOA vials. All samples were properly labeled and immediately placed on ice in a portable cooler. In addition, two (2) sample blanks consisting of distilled water obtained from a State-certified laboratory were collected. These sample blanks were extracted from the same Teflon bailer used to sample the monitoring wells. Monitoring well MW-504 contained free product and, therefore, was not sampled.

All equipment used to purge and sample the monitoring wells was decontaminated after each well was sampled. The

decontamination procedure consisted of a tap water rinse, a thorough scrubbing in tap water and non-phosphatic detergent, a second tap water rinse, and a final rinse using distilled water.

A summary of the data recorded while sampling the monitoring wells is presented in Table 2. Conductivity values ranged from 1800 umhos/cm in MW-503 to 4800 umhos/cm in MW-104 and, in general, decrease across the site from the northeast to the southwest. The measurements of water pH ranged from 6.8 to 7.2.

TABLE 2

Summary of Groundwater Sampling Data

MW* No.	Time	Purge Method	Volume Purged (gals.)	Temp. (°C)	pH	Conductivity (cm/umhos)	Water Turb.
101	12/3/87 (10:20)	HB	4	a	a	a	a
103	12/3/87 (12:00)	HB	2	a	6.9	3400	cloudy
104	12/2/87 (17:45)	SP	30	a	6.9	4800	cloudy
201	12/3/87 (14:30)	SP	35	a	7.0	2050	cloudy
202	b	b	b	b	b	b	b
203	12/3/87 (16:30)	SP	30	a	7.0	3190	cloudy
204	12/4/87 (08:45)	SP	25	24	7.05	2140	clear to sl. cloudy
205	12/2/87 (10:30)	SP	24	a	7.20	2180	clear to sl. cloudy
206	12/4/87 (11:30)	SP	30	24	6.70	2200	gray cloudy
501	12/4/87 (09:45)	SP	20	24	6.83	2820	sl. cloudy

TABLE 2 (Cont.d)

Summary of Groundwater Sampling Data

MW* No.	Time	Purge Method	Volume Purged (gals.)	Temp. (°C)	pH	Conductivity (cm/umbos)	Water Turb.
502	12/4/87 (10:30)	SP	30	24	6.85	2450	sl. cloudy
503	12/3/87 (15:40)	SP	35	a	7.0	1800	sl. cloudy
504	c	c	c	c	c	c	c

KEY

a = Not measured
b = Insufficient water in well
c = Not sampled due to presence of free product in well
HB = Hand bailer
SP = Submersible pump
sl. = Slightly
* = Monitoring well

3.0 LABORATORY ANALYSIS

All samples were submitted to Chemical Research Laboratories, Inc., a California-certified analytical laboratory, for analysis using EPA Test Methods 601 and 624. Standard chain-of-custody procedures and documents were utilized (Appendix A). Test methods were performed following EPA monitored quality assurance/quality control procedures assuring results of laboratory analyses.

3.1 EPA Test Method 601

EPA method 601 is a purge and trap gas chromatographic method applicable to the determination of purgeable halocarbons from water samples as prescribed by 40 CFR 136.1. An inert gas is bubbled through a 5-ml water sample contained in a specifically-designed purging chamber and maintained at ambient temperature from the aqueous phase to the water vapor phase. The vapor is swept through a sorbent trap where the halocarbons are trapped. After purging is completed, the trap is heated and backflushed with the inert gas to desorb the halocarbons which are then detected with a halide specific detector. Two field reagent blanks were prepared from reagent water and carried through the sampling and handling protocol to check for possible contamination. Standard operating procedures require that compound identification should be supported by at least one additional qualitative technique, such as EPA method 624.

3.2 EPA Test Method 624

EPA method 624 is a purge and trap gas chromatographic/mass spectrometer (gc/ms) method applicable to the determination of purgeable organics from water samples, and is also prescribed by 40 CRF 136.1. An inert

gas is bubbled through a 5-ml sample contained in a specifically designed purging chamber at ambient temperature. The purgeables are efficiently transferred from the aqueous phase to the vapor phase. The vapor is swept through a sorbent column where the purgeables are trapped. After purging is completed, the sorbent column is heated and backflushed with the inert gas to desorb the purgeables into a gas chromatographic column. The gas chromatograph is temperature programmed to separate the purgeables which are then detected with a mass spectrometer. Two field reagent blanks were prepared from reagent water and carried through the sampling and handling protocol to check for possible contamination.

4.0 ANALYTICAL RESULTS

All analytical results are presented on the Laboratory Reports in Appendix B. Results of analyses for benzene, toluene, ethylbenzene, and total xylenes (BTEX) performed for this and the previous five quarterly reports are summarized on Table 3. Results of analyses for purgeable halocarbons are summarized on Table 4. In water samples extracted from the eleven (11) monitoring wells and one (1) production well, benzene concentrations ranged from non-detectable (less than 5 ug/L) to 13,000 ug/L, toluene concentrations ranged from non-detectable (less than 5 ug/L) to 2,300 ug/L, ethylbenzene concentrations ranged from non-detectable (less than 5 ug/L) to 900 ug/L, and concentrations of total xylenes ranged from non-detectable (less than 5 ug/L) to 5,000 ug/L. Relatively low concentrations of benzene (11 ug/L) and total xylenes (20 ug/L) were detected in sample blank MW-001; however, BTEX concentrations did not exceed the detection limits (5 ug/L) in sample blank MW-002.

Concentrations of volatile organic compounds were highest in water samples collected from monitoring wells MW-206, MW-501, and MW-502. Benzene concentrations in these samples were 7,400 ug/L, 8,300 ug/L, and 13,000 ug/L, respectively. Toluene concentrations of the samples collected in MW-206, MW-501, and MW-502 ranged from 1,200 to 2,300 ug/L; ethylbenzene concentrations ranged from 400 to 900 ug/L; and total xylene concentrations ranged from 1,100 to 5,000 ug/L.

The concentrations of other volatile organic compounds detected in water samples analyzed this quarter were relatively low with the exception of the acetone concentrations detected in samples from monitoring wells MW-205 and MW-502 and production well P-6. Acetone concentrations detected in samples extracted from monitoring wells MW-205, MW-502, and production well P-6 were 240 ug/L,

TABLE 3

Summary of Analytical Test Results - Volatile Organic Compounds

(Values in ug/L)

MW No.	Date	Benzene	Ethyl Benzene	Toluene	Total Xylenes
101	Dec. 87	140	ND<5	ND<5	ND<5
	Sept. 87	340	37	ND<30	ND<30
	June. 87	43	1.6	0.5	2.6
	Jan/Feb 87	39	2.5	TR<1	TR<1
	Nov. 86	62	3.3	1.4	1.5
	Jul. 86	58	TR<5	ND<1	ND<1
103	Dec. 87	12	ND<5	ND<5	ND<5
	Sept. 87	120	ND<5	ND<5	ND<5
	June 87	69	1.3	1.1	3.5
	Jan/Feb 87	180	1.0	1.0	3.9
	Nov. 86	78	ND<1	2.2	5.7
	Jul. 86	TR4	ND<1	ND<1	ND<1
104	Dec. 87	ND<5	ND<5	ND<5	ND<5
	Sept. 87	ND<5	ND<5	ND<5	ND<5
	June 87	0.6	ND<0.5	0.5	1.5
	Jan/Feb. 87	ND<1	ND<1	ND<1	ND<1
	Nov. 86	ND<1	ND<1	ND<1	ND<1
	Jul. 86	ND<1	ND<1	ND<1	ND<1

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

MW No.	Date	Benzene	Ethyl Benzene	Toluene	Total Xylenes
201	Dec. 87	290	ND<5	6	142
	Sept. 87	120	9	12	12
	June 87	290	23	12	39
	Jan/Feb 87	70	5.0	4.0	15
	Nov. 86	68	10	10	32
	July 86	ND<1	ND<1	ND<1	ND<1
203	Dec. 87	120	ND<5	ND<1	ND<1
	Sept. 87	92	ND<5	ND<5	ND<5
	June 87	1.0	1.6	0.7	2.9
	Jan/Feb 87	78	TR<1	1.0	3.4
	Nov. 86	88	TR<1	1.4	1.9
	July 86	50	ND<1	TR6	18
204	Dec. 87	9	ND<5	ND<5	ND<5
	Sept. 87	18	ND<5	ND<5	ND<5
	June 87	45	2.8	0.7	3.4
	Jan/Feb 87	9.2	2.6	TR<1	2.3
	Nov. 86	260	15	6.7	41
	July 86	TR9	ND<1	ND<1	ND<1

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

MW No.	Date	Benzene	Ethyl Benzene	Toluene	Total Xylenes
205	Dec. 87	ND<5	ND<5	ND<5	ND<5
	Sept. 87	ND<5	ND<5	ND<5	ND<5
	June 87	3.6	0.5	0.6	1.5
	Jan/Feb 87	4.3	TR<1	ND<1	1.2
	Nov. 86	7.5	ND<1	ND<1	1.5
	July 86	13	ND<1	ND<1	ND<1
206	Dec. 87	7400	900	2300	5000
	Sept. 87	4100	1300	930	4000
	June 87	3700	1300	1300	3200
	Jan/Feb 87	4500	1100	1800	3600
	Nov. 86	6800	1800	2700	7100
	July 86	3800	TR82	1800	9000
501	Dec. 87	8300	400	2000	1100
	Sept. 87	1400	170	ND<50	ND<50
	June 87	2200	210	40	78
	Jan/Feb 87	1500	160	TR<50	74
	Nov. 86	1500	210	67	140
	July 86	1400	290	51	470

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

MW No.	Date	Benzene	Ethyl Benzene	Toluene	Total Xylenes
502	Dec. 87	13000	900	1200	4800
	Sept. 87	8400	1300	1700	5500
	June 87	13000	1400	2100	5600
	Jan/Feb 87	6300	960	1700	5200
	Nov. 86	6200	1500	4100	8500
	July 86	10000	1200	4100	6900
503	Dec. 87	220	ND<10	44	660
	Sept. 87	53	280	76	390
	June 87	620	330	360	510
	Jan/Feb 87	TR<25	440	95	690
	Nov. 86	95	940	290	1600
	July 86	140	ND<1	ND<1	740
PW-6	Dec. 87	ND<5	ND<5	ND<5	ND<5
	Sept. 87	ND<5	ND<5	ND<5	ND<5

Table 3 (continued)

Summary of Analytical Test Results -
Volatile Organic Compounds

MW No.	Date	Benzene	Ethyl Benzene	Toluene	Total Xylenes
001	Dec. 87	11	ND<5	ND<5	20
002	Dec. 87	ND<5	ND<5	ND<5	ND<5

KEY

MW = Monitoring Well

ND = This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

TR = Trace, this compound was present, but was below the level at which concentration could be determined.

* = Sample Blank

Data from July 1986 to September 1987 from IT Corporation Report (October, 1987)

TABLE 4

Summary of Analytical Test Results - Purgeable Halocarbon Compounds

Monitoring Well Number	Compounds Detected	Concentration (ug/L)
101	1,1-Dichloroethane	1.2
	Trans-1,2-Dichloroethene	1.5
	Trichloroethene	7.7
103	1,1-Dichloroethane	3.7
104	None Detected	---
201	Trans-1,2-Dichloroethene	3.0
	1,2-Dichloroethane	3.3
203	Methylene Chloride	2.0
	Trans-1,2-Dichloroethene	7.4
204	1,2-Dichloroethane	3.3
205	Trans-1,2-Dichloroethene	1.0
	1,2-Dichloroethane	6.5
	1,1,1-Trichloroethane	1.2
206	1,1-Dichloroethane	1.2
	Trans-1,2-Dichloroethene	1.7
	1,2-Dichloroethane	12.4
501*	None Detected	---
502	1,2-Dichloroethane	17.0
503	Trans-1,2-Dichloroethene	12.0
P-6	None Detected	---
001**	None Detected	---
002**	None Detected	---

* A higher detection limit (50 ug/L) was used due to matrix interference.

** Sample Blank

1,700 ug/L, and 45 ug/L, respectively. A potential source for the acetone detected in these samples has not been evaluated for this investigation.

The concentration of purgeable halocarbons detected in the samples analyzed for the fourth quarter of 1987 was relatively low (Table 4).

5.0 CONCLUSIONS

The monitoring and analytical results derived in the fourth quarter, 1987 are apparently consistent with the results derived during previous quarters (Table 3). A comparison of the most recently derived results with the results of the previous quarter (September, 1987) indicate the following:

- The benzene concentration was nearly the same in MW-104, MW-203, MW-204, MW-205, and PW-6; decreased in MW-101 and MW-103; and increased in W-201, MW-206, MW-501, MW-502, and MW-503.
- The toluene concentration was nearly the same in MW-101, MW-103, MW-104, MW-201, MW-203, MW-204, MW-205, and PW-6; decreased in MW-502 and MW-503; and increased in MW-206 and MW-501.
- The ethylbenzene concentration was nearly the same in MW-103, MW-104, MW-201, MW-203, MW-204, MW-205, and PW-6; decreased in MW-101, MW-206, MW-502, and MW-503; and increased in MW-501.
- The xylene concentration was nearly the same in MW-101, MW-103, MW-104, MW-203, MW-204, MW-205, and PW-6; decreased in MW-502; and increased in MW-201, MW-206, MW-501, and MW-503.
- The acetone concentration decreased from 1,400 ug/L to non-detectable (less than 10 ug/L) in MW-101, but increased from non-detectable to concentrations of 240 ug/L, 1,700 ug/L, and 45 ug/L in MW-205, MW-502, and PW-6, respectively.
- The thickness of free product in monitoring well MW-504 increased from approximately 0.5 feet to 1.9 feet.

Respectfully submitted,

ERT, Inc.

Daniel C. Oliver
Project Manager

James B. Watson
Manager Environmental Programs

DCO/vj

ERT

6.0 REFERENCES

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APPENDIX A

CHAIN-OF-CUSTODY DOCUMENTS

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
Powerine / Qtr. Spling.	Powerine Refinery
Project No. G310	Field Logbook No.
Sampler: (Signature) [signature]	Chain of Custody Tape No. NA

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	EPA 601	EPA 624					REMARKS
MW-001	12/2/87	12:20		Water in VOA	✓	✓					
MW-205	12/2/87	12:20		" " "	✓	✓					
MW-104	12/2/87	17:45		" " "	✓	✓					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12/2/87	18:30			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature) Don Bunley	Date 12/2/87	Time 6:40 pm

Sample Disposal Method:	Disposed of by: (Signature)	Date	Time

SAMPLE COLLECTOR

Environmental Research and Technology, Inc.
~~696 Virginia Road~~ 19782 MacArthur Blvd.
~~Concord, MA 01742~~ Suite 365
~~617-369-8910~~ Irvine, CA 92715
(714) 476-0321

~~ANALYTICAL LABORATORY~~

SEE MARK KING FOR PRICE QUOTE

ERT

№ 7510

1974-3-84

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
Quantec Sampling	Powerine Refinery
Project No.	Field Logbook No.
G310	
Sampler: (Signature)	Chain of Custody Tape No.
[signature]	

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	EPA 601	EPA 624					REMARKS
MW-002	12/3/87	10:20		Water in VOA(2)	✓	✓					
MW-101	12/3/87	10:20		" " " "	✓	✓					
MW-103	12/3/87	12:00		" " " "	✓	✓					
MW-201	12/3/87	14:45		" " " "	✓	✓					
MW-503	12/3/87	15:50		" " " "	✓	✓					
MW-203	12/3/87	16:30		" " " "	✓	✓					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12/3/87	17:75			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature)	Date	Time
			[signature]	12/3/87	5:45pm

Sample Disposal Method:	Disposed of by: (Signature)	Date	Time

SAMPLE COLLECTOR

Environmental Research and Technology, Inc.
~~696 Virginia Road~~ 19782 MacArthur Blvd Suite 365
~~Concord, MA 01742~~ Irvine, CA 92715
~~617-369-8910~~
(714) 476-0721

ANALYTICAL LABORATORY

SEE MARK KING FOR PRICE QUOTATION

ERT

№ 7896

974-3-84

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
ERT / Dr. Spling	Powerine Refinery
Project No.	**Field Logbook No.**
G310	
Sampler: (Signature)	**Chain of Custody Tape No.**
[signature]	

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	EPA 601	EPA 624					REMARKS
MW-204	12/4/87	8:45		Water in VOA's (2)	✓	✓					
MW-501	"	9:45		" " " "	✓	✓					
MW-502	"	10:30		" " " "	✓	✓					
MW-206	"	11:30		" " " "	✓	✓					
PW-6	"	11:45		" " " "	✓	✓					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12/4/87	14:15			
Relinquished by: (Signature)	**Date**	**Time**	**Received by: (Signature)**	**Date**	**Time**
Relinquished by: (Signature)	**Date**	**Time**	**Received for Laboratory: (Signature)**	**Date**	**Time**
			Don Bailey	12/04/87	2:15
Sample Disposal Method:	**Disposed of by: (Signature)**			**Date**	**Time**

SAMPLE COLLECTOR

Environmental Research and Technology, Inc.
~~696 Virginia Road~~
~~Concord, MA 01742~~
~~617-369-8910~~
17782 MacArthur Blvd., 365
Irvine, CA 92715
(714) 476-0321

ANALYTICAL LABORATORY

ERT

№ 789

APPENDIX B

LABORATORY REPORTS

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458

RECEIVED
JAN 12 1988
ERT-IRVINE

December 21, 1987

ERT
19782 MacArthur Blvd. Ste. 305
Irvine, CA 92712
ATTN: Daniel Oliver

ANALYSIS NO.: 733621-001/006
ANALYSES: EPA Method 601, 624
DATE SAMPLED: 12/02/87
DATE SAMPLE REC'D: 12/02/87
PROJECT: G310 Powerine Refinery

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 733621-001/006 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

REVIEWED AND APPROVED

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December 21, 1987

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

ANALYSIS NO.: 733710-001/006
ANALYSES: EPA Method 601,624
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
PROJECT: G310
Quarter Sampling
Powerine Refinery

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 733710-001/006 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

REVIEWED AND APPROVED

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December 23, 1987

ERT
17782 Mac Arthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

ANALYSIS NO.: 733803-001/005
ANALYSES: EPA Method 601,624
DATE SAMPLED: 12/04/87
DATE SAMPLE REC'D: 12/04/87
PROJECT: G 310 Powerine Refinery

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 733803-001/005 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

REVIEWED AND APPROVED

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW-101

ANALYSIS NO.: 733710-002
ANALYSES: EPA Method 601
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/09/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	7.7
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	1.2	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	1.5	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
Trichlorofluoromethane	ND(1.)	1,3-Dichlorobenzene	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,4-Dichlorobenzene	ND(1.)
Trichloroflouromethane	ND(1.)		

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW - 101

ANALYSIS NO.: 733710-002
ANALYSES: EPA Method 624
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/10/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	16.
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	140.
Carbon Disulfide	ND(5.)	Cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethyvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW - 103

ANALYSIS NO.: 733710-003
ANALYSES: EPA Method 601
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/09/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	3.7	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
Trichlorofluoromethane	ND(1.)	1,3-Dichlorobenzene	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,4-Dichlorobenzene	ND(1.)
Trichloroflouromethane	ND(1.)		

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW - 103

ANALYSIS NO.: 733710-003
ANALYSES: EPA Method 624
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/11/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	12.
Carbon Disulfide	ND(5.)	Cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethyvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	8.	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Ste. 305
Irvine, CA 92712
ATTN: Daniel Oliver

Sample ID: MW-104

ANALYSIS NO.: 733621-003
ANALYSES: EPA Method 601
DATE SAMPLED: 12/02/87
DATE SAMPLE REC'D: 12/02/87
DATE ANALYZED: 12/07/87
SAMPLE TYPE: Liquid
PROJECT: G310 Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	(ug/L)		(ug/L)
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Ste. 305
Irvine, CA 92712
ATTN: Daniel Oliver

Sample ID: MW-104

ANALYSIS NO.: 733621-006
ANALYSES: EPA Method 624
DATE SAMPLED: 12/02/87
DATE SAMPLE REC'D: 12/02/87
DATE ANALYZED: 12/12/87
SAMPLE TYPE: Liquid
PROJECT: G310 Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	(ug/L)		(ug/L)
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	ND(5.)
Carbon Disulfide	21.	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW - 201

ANALYSIS NO.: 733710-004
ANALYSES: EPA Method 601
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/09/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	3.	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	3.3	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
Trichlorofluoromethane	ND(1.)	1,3-Dichlorobenzene	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,4-Dichlorobenzene	ND(1.)
Trichloroflouromethane	ND(1.)		

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW - 201

ANALYSIS NO.: 733710-004
ANALYSES: EPA Method 624
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/11/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	5.
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	290.
Carbon Disulfide	16.	Cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethyvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	11.	Tetrachloroethene	5.
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	6.
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	142.

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW - 203

ANALYSIS NO.: 733710-006
ANALYSES: EPA Method 601
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/09/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	2.	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	7.4	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
Trichlorofluoromethane	ND(1.)	1,3-Dichlorobenzene	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,4-Dichlorobenzene	ND(1.)
Trichloroflouromethane	ND(1.)		

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW - 203

ANALYSIS NO.: 733710-006
ANALYSES: EPA Method 624
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/11/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	120.
Carbon Disulfide	ND(5.)	Cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethyvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	18.	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(5.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

ERT
17782 Mac Arthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW-204

ANALYSIS NO.: 733803-001
ANALYSES: EPA Method 601
DATE SAMPLED: 12/04/87
DATE SAMPLE REC'D: 12/04/87
DATE ANALYZED: 12/10/87
SAMPLE TYPE: Water
PROJECT: G 310 Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	3.3	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichloroflouromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT
17782 Mac Arthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW-204

ANALYSIS NO.: 733803-001
ANALYSES: EPA Method 624
DATE SAMPLED: 12/04/87
DATE SAMPLE REC'D: 12/04/87
DATE ANALYZED: 12/12/87
SAMPLE TYPE: Water
PROJECT: G 310 Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	9.
Carbon Disulfide	ND(5.)	Cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethyvinyl ether	ND(5.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	20.	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Ste. 305
Irvine, CA 92712
ATTN: Daniel Oliver

Sample ID: MW-205

ANALYSIS NO.: 733621-002
ANALYSES: EPA Method 601
DATE SAMPLED: 12/02/87
DATE SAMPLE REC'D: 12/02/87
DATE ANALYZED: 12/07/87
SAMPLE TYPE: Liquid
PROJECT: G310 Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	(ug/L)		(ug/L)
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	1.0	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	6.5	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	1.2	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Ste. 305
Irvine, CA 92712
ATTN: Daniel Oliver

Sample ID: MW-205

ANALYSIS NO.: 733621-005
ANALYSES: EPA Method 624
DATE SAMPLED: 12/02/87
DATE SAMPLE REC'D: 12/02/87
DATE ANALYZED: 12/11/87
SAMPLE TYPE: Liquid
PROJECT: G310 Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	(ug/L)		(ug/L)
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	240.	Benzene	ND(5.)
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

ERT
17782 Mac Arthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW-206

ANALYSIS NO.: 733803-004
ANALYSES: EPA Method 601
DATE SAMPLED: 12/04/87
DATE SAMPLE REC'D: 12/04/87
DATE ANALYZED: 12/10/87
SAMPLE TYPE: Water
PROJECT: G 310 Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	1.2	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	1.7	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	12.4	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichloroflouromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT
17782 Mac Arthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW-206

ANALYSIS NO.: 733803-004
ANALYSES: EPA Method 624
DATE SAMPLED: 12/04/87
DATE SAMPLE REC'D: 12/04/87
DATE ANALYZED: 12/14/87
SAMPLE TYPE: Water
PROJECT: G 310 Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	mg/L		mg/L
Chloromethane	ND(0.5)	1,2-Dichloropropane	ND(0.2)
Bromomethane	ND(0.5)	Trans-1,3-Dichloropropene	ND(0.2)
Vinyl Chloride	ND(0.5)	Trichloroethene	ND(0.2)
Chloroethane	ND(0.5)	Dibromochloromethane	ND(0.2)
Methylene Chloride	ND(0.2)	1,1,2-Trichloroethane	ND(0.2)
Acetone	ND(0.5)	Benzene	7.4
Carbon Disulfide	ND(0.2)	Cis-1,3-Dichloropropene	ND(0.2)
1,1-Dichloroethene	ND(0.2)	2-Chloroethyvinyl ether	ND(0.5)
1,1-Dichloroethane	ND(0.2)	Bromoform	ND(0.2)
Trans-1,2-Dichloroethene	ND(0.2)	4-Methyl-2-Pentanone	ND(0.5)
Chloroform	ND(0.2)	2-Hexanone	ND(0.5)
1,2-Dichloroethane	ND(0.2)	Tetrachloroethene	ND(0.2)
2-Butanone	ND(0.5)	1,1,2,2-Tetrachloroethane	ND(0.2)
1,1,1-Trichloroethane	ND(0.2)	Toluene	2.3
Carbon Tetrachloride	ND(0.2)	Chlorobenzene	ND(0.2)
Vinyl Acetate	ND(0.5)	Ethylbenzene	0.9
Bromodichloromethane	ND(0.2)	Styrene	ND(0.2)
		Total Xylenes	5.

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LABORATORY REPORT

ERT
17782 Mac Arthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW-501

ANALYSIS NO.: 733803-002
ANALYSES: EPA Method 601
DATE SAMPLED: 12/04/87
DATE SAMPLE REC'D: 12/04/87
DATE ANALYZED: 12/14/87
SAMPLE TYPE: Water
PROJECT: G 310 Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	ug/L			ug/L
Chloromethane	ND(50.) *		1,2-Dichloropropane	ND(50.)
Bromomethane	ND(50.)		Trans-1,3-Dichloropropene	ND(50.)
Vinyl Chloride	ND(50.)		Trichloroethene	ND(50.)
Chloroethane	ND(50.)		Dibromochloromethane	ND(50.)
Methylene Chloride	ND(50.)		1,1,2-Trichloroethane	ND(50.)
1,1-Dichloroethene	ND(50.)		Cis-1,3-Dichloropropene	ND(50.)
1,1-Dichloroethane	ND(50.)		2-Chloroethylvinylether	ND(50.)
Trans-1,2-Dichloroethene	ND(50.)		Bromoform	ND(50.)
Chloroform	ND(50.)		Tetrachloroethene	ND(50.)
1,2-Dichloroethane	ND(50.)		1,1,2,2-Tetrachloroethane	ND(50.)
1,1,1-Trichloroethane	ND(50.)		Chlorobenzene	ND(50.)
Carbon Tetrachloride	ND(50.)		Bromodichloromethane	ND(50.)
1,2-Dichlorobenzene	ND(50.)		1,3-Dichlorobenzene	ND(50.)
Trichloroflouromethane	ND(50.)		1,4-Dichlorobenzene	ND(50.)

* Higher detection limit is due to matrix interference.

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LABORATORY REPORT

ERT
17782 Mac Arthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW-501

ANALYSIS NO.: 733803-002
ANALYSES: EPA Method 624
DATE SAMPLED: 12/04/87
DATE SAMPLE REC'D: 12/04/87
DATE ANALYZED: 12/14/87
SAMPLE TYPE: Water
PROJECT: G 310 Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	mg/L		mg/L
Chloromethane	ND(0.5)	1,2-Dichloropropane	ND(0.2)
Bromomethane	ND(0.5)	Trans-1,3-Dichloropropene	ND(0.2)
Vinyl Chloride	ND(0.5)	Trichloroethene	ND(0.2)
Chloroethane	ND(0.5)	Dibromochloromethane	ND(0.2)
Methylene Chloride	ND(0.2)	1,1,2-Trichloroethane	0.3
Acetone	ND(0.5)	Benzene	8.3
Carbon Disulfide	0.4	Cis-1,3-Dichloropropene	ND(0.2)
1,1-Dichloroethene	ND(0.2)	2-Chloroethyvinyl ether	ND(0.5)
1,1-Dichloroethane	ND(0.2)	Bromoform	ND(0.2)
Trans-1,2-Dichloroethene	ND(0.2)	4-Methyl-2-Pentanone	ND(0.5)
Chloroform	ND(0.2)	2-Hexanone	ND(0.5)
1,2-Dichloroethane	ND(0.2)	Tetrachloroethene	ND(0.2)
2-Butanone	ND(0.5)	1,1,2,2-Tetrachloroethane	ND(0.2)
1,1,1-Trichloroethane	ND(0.2)	Toluene	2.
Carbon Tetrachloride	ND(0.2)	Chlorobenzene	ND(0.2)
Vinyl Acetate	ND(0.5)	Ethylbenzene	0.4
Bromodichloromethane	ND(0.2)	Styrene	ND(0.2)
		Total Xylenes	1.1

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LABORATORY REPORT

ERT
17782 Mac Arthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW-502

ANALYSIS NO.: 733803-003
ANALYSES: EPA Method 601
DATE SAMPLED: 12/04/87
DATE SAMPLE REC'D: 12/04/87
DATE ANALYZED: 12/10/87
SAMPLE TYPE: Water
PROJECT: G 310 Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	17.	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichloroflouromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT
17782 Mac Arthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW-502

ANALYSIS NO.: 733803-003
ANALYSES: EPA Method 624
DATE SAMPLED: 12/04/87
DATE SAMPLE REC'D: 12/04/87
DATE ANALYZED: 12/14/87
SAMPLE TYPE: Water
PROJECT: G 310 Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	mg/L		mg/L
Chloromethane	ND(0.5)	1,2-Dichloropropane	ND(0.2)
Bromomethane	ND(0.5)	Trans-1,3-Dichloropropene	ND(0.2)
Vinyl Chloride	ND(0.5)	Trichloroethene	ND(0.2)
Chloroethane	ND(0.5)	Dibromochloromethane	ND(0.2)
Methylene Chloride	ND(0.2)	1,1,2-Trichloroethane	ND(0.2)
Acetone	1.7	Benzene	13.
Carbon Disulfide	ND(0.2)	Cis-1,3-Dichloropropene	ND(0.2)
1,1-Dichloroethene	ND(0.2)	2-Chloroethyvinyl ether	ND(0.5)
1,1-Dichloroethane	ND(0.2)	Bromoform	ND(0.2)
Trans-1,2-Dichloroethene	ND(0.2)	4-Methyl-2-Pentanone	1.
Chloroform	ND(0.2)	2-Hexanone	ND(0.5)
1,2-Dichloroethane	ND(0.2)	Tetrachloroethene	ND(0.2)
2-Butanone	ND(0.5)	1,1,2,2-Tetrachloroethane	ND(0.2)
1,1,1-Trichloroethane	ND(0.2)	Toluene	1.2
Carbon Tetrachloride	ND(0.2)	Chlorobenzene	ND(0.2)
Vinyl Acetate	ND(0.5)	Ethylbenzene	0.9
Bromodichloromethane	ND(0.2)	Styrene	ND(0.2)
		Total Xylenes	4.8

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW - 503

ANALYSIS NO.: 733710-005
ANALYSES: EPA Method 601
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/09/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(10.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(10.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(10.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(10.)
Methylene Chloride	ND(10.)	1,1,2-Trichloroethane	ND(10.)
1,1-Dichloroethene	ND(10.)	Cis-1,3-Dichloropropene	ND(10.)
1,1-Dichloroethane	ND(10.)	2-Chloroethylvinylether	ND(10.)
Trans-1,2-Dichloroethene	12.	Bromoform	ND(10.)
Chloroform	ND(10.)	Tetrachloroethene	ND(10.)
1,2-Dichloroethane	ND(10.)	1,1,2,2-Tetrachloroethane	ND(10.)
1,1,1-Trichloroethane	ND(10.)	Chlorobenzene	ND(10.)
Carbon Tetrachloride	ND(10.)	Bromodichloromethane	ND(10.)
Trichlorofluoromethane	ND(10.)	1,3-Dichlorobenzene	ND(10.)
1,2-Dichlorobenzene	ND(10.)	1,4-Dichlorobenzene	ND(10.)
Trichloroflouromethane	ND(10.)		

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW - 503

ANALYSIS NO.: 733710-005
ANALYSES: EPA Method 624
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/11/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(20.)*	1,2-Dichloropropane	ND(10.)
Bromomethane	ND(20.)	Trans-1,3-Dichloropropene	ND(10.)
Vinyl Chloride	ND(20.)	Trichloroethene	ND(10.)
Chloroethane	ND(20.)	Dibromochloromethane	ND(10.)
Methylene Chloride	ND(10.)	1,1,2-Trichloroethane	ND(10.)
Acetone	ND(20.)	Benzene	220.
Carbon Disulfide	ND(10.)	Cis-1,3-Dichloropropene	ND(10.)
1,1-Dichloroethene	ND(10.)	2-Chloroethyvinyl ether	ND(20.)
1,1-Dichloroethane	ND(10.)	Bromoform	ND(10.)
Trans-1,2-Dichloroethene	20.	4-Methyl-2-Pentanone	ND(20.)
Chloroform	ND(10.)	2-Hexanone	ND(20.)
1,2-Dichloroethane	ND(10.)	Tetrachloroethene	ND(10.)
2-Butanone	ND(20.)	1,1,2,2-Tetrachloroethane	ND(10.)
1,1,1-Trichloroethane	ND(10.)	Toluene	44.
Carbon Tetrachloride	ND(10.)	Chlorobenzene	ND(10.)
Vinyl Acetate	ND(20.)	Ethylbenzene	ND(10.)
Bromodichloromethane	ND(10.)	Styrene	ND(10.)
		Total Xylenes	660.

* Higher detection limit due to concentration of xylenes.

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LABORATORY REPORT

ERT
17782 Mac Arthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: PW-6

ANALYSIS NO.: 733803-005
ANALYSES: EPA Method 601
DATE SAMPLED: 12/04/87
DATE SAMPLE REC'D: 12/04/87
DATE ANALYZED: 12/10/87
SAMPLE TYPE: Water
PROJECT: G 310 Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichloroflouromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT
17782 Mac Arthur Blvd. Suite 365
Irvine, CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: PW-6

ANALYSIS NO.: 733803-005
ANALYSES: EPA Method 624
DATE SAMPLED: 12/04/87
DATE SAMPLE REC'D: 12/04/87
DATE ANALYZED: 12/14/87
SAMPLE TYPE: Water
PROJECT: G 310 Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	45.	Benzene	ND(5.)
Carbon Disulfide	24.	Cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethyvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Ste. 305
Irvine, CA 92712
ATTN: Daniel Oliver

Sample ID: MW-001

ANALYSIS NO.: 733621-001
ANALYSES: EPA Method 601
DATE SAMPLED: 12/02/87
DATE SAMPLE REC'D: 12/02/87
DATE ANALYZED: 12/07/87
SAMPLE TYPE: Liquid
PROJECT: G310 Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	(ug/L)		(ug/L)
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,3-Dichlorobenzene	ND(1.)
Trichlorofluoromethane	ND(1.)	1,4-Dichlorobenzene	ND(1.)

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LABORATORY REPORT

ERT
19782 MacArthur Blvd. Ste. 305
Irvine, CA 92712
ATTN: Daniel Oliver

Sample ID: MW-001

ANALYSIS NO.: 733621-004
ANALYSES: EPA Method 624
DATE SAMPLED: 12/02/87
DATE SAMPLE REC'D: 12/02/87
DATE ANALYZED: 12/11/87
SAMPLE TYPE: Liquid
PROJECT: G310 Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	(ug/L)		(ug/L)
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	11.
Carbon Disulfide	18.	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(5.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	20.

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW - 002

ANALYSIS NO.: 733710-001
ANALYSES: EPA Method 601
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/09/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 601/8010 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(1.)	1,2-Dichloropropane	ND(1.)
Bromomethane	ND(1.)	Trans-1,3-Dichloropropene	ND(1.)
Vinyl Chloride	ND(1.)	Trichloroethene	ND(1.)
Chloroethane	ND(1.)	Dibromochloromethane	ND(1.)
Methylene Chloride	ND(1.)	1,1,2-Trichloroethane	ND(1.)
1,1-Dichloroethene	ND(1.)	Cis-1,3-Dichloropropene	ND(1.)
1,1-Dichloroethane	ND(1.)	2-Chloroethylvinylether	ND(1.)
Trans-1,2-Dichloroethene	ND(1.)	Bromoform	ND(1.)
Chloroform	ND(1.)	Tetrachloroethene	ND(1.)
1,2-Dichloroethane	ND(1.)	1,1,2,2-Tetrachloroethane	ND(1.)
1,1,1-Trichloroethane	ND(1.)	Chlorobenzene	ND(1.)
Carbon Tetrachloride	ND(1.)	Bromodichloromethane	ND(1.)
Trichlorofluoromethane	ND(1.)	1,3-Dichlorobenzene	ND(1.)
1,2-Dichlorobenzene	ND(1.)	1,4-Dichlorobenzene	ND(1.)
Trichloroflouromethane	ND(1.)		

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LABORATORY REPORT

ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
19782 Mac Arthur Blvd. Suite 365
Irvine CA 92715
ATTN: Mr. Daniel Oliver

SAMPLE ID: MW - 002

ANALYSIS NO.: 733710-001
ANALYSES: EPA Method 624
DATE SAMPLED: 12/03/87
DATE SAMPLE REC'D: 12/03/87
DATE ANALYZED: 12/11/87
SAMPLE TYPE: Water
PROJECT: G310
Quarter Sampling
Powerine Refinery

EPA METHODS 624/8240 VOLATILE POLLUTANTS DATA SHEET

	ug/L		ug/L
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	ND(5.)
Carbon Disulfide	6.	Cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethyvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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