SDMS DOCID # 1149995

Powerine Oil Company

Hand Delivered

May 12, 1997

Mr. Keith Elliott, P.E.
Associate Water Resource
Control Engineer
Los Angeles Regional Water
Quality Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Re: --Request for No Further Action Letter by Tuesday, May 13, 1997
--Lakeland Property, 12354 Lakeland Road, Santa Fe Springs (File No. 96-137)

Dear Mr. Elliott:

Powerine requests a No Further Action ("NFA") letter be issued for the above referenced facility by Tuesday, May 13, 1997. All analytical data from more than 180 sampling locations indicates that the site presents neither a threat to groundwater nor to human health and safety. Notwithstanding the *de minimis* risk associated with the formerly unexcavated site, Powerine has excavated over 5000 cubic yards of hydrocarbon impacted soil and has backfilled the excavation areas with imported fill. Since Powerine has completed these activities, which exceed the closure requirements in your April 2, 1997 transmittal, we request the Regional Board's NFA certification so we may close escrow for the sale of the site prior to May 15, 1997.

This letter report specifically addresses the following remediation activities conducted at the site during the weeks of April 28, 1997 and May 5, 1997:

- Soil sampling, analysis, and excavation activities took place as the final loading racks and subsurface piping were removed. Excavation areas were determined using information from the *Fate and Transport/Human Health Risk Assessment* (HLA, March 21, 1997) and from Regional Board direction obtained by Powerine during five (5) site inspections.

- The risk characterization for the site was reevaluated using all analytical data obtained from the excavation plus previous soil data already available from forty borings and from beneath fourteen (14) former tanks.

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- Sample duplicates were analyzed from the consultant to the financing entity developing the site. That consultant, ATC Associates (of Arcadia, California), provided Powerine with two (2) groundwater samples from temporary wells and two (2) soil samples from test excavations. The data obtained from the ATC samples was consistent with that previously obtained by Powerine.

- Soil samples were analyzed in response to requests made during the Regional Board's site inspection of May 9, 1997. The data obtained from the Regional Board's sampling locations was consistent with data previously obtained by Powerine from similar locations.

- Excavated soil was stockpiled on a separate Powerine parcel located one quarter mile from the Lakeland Property. Remediation, disposal, and/or reuse options are now being evaluated for this soil.

In order to assist the Regional Board with their expedited review of closure criteria for this site, summarized below is a chronology of the investigation/remediation efforts which occurred at the site prior to excavation activities:

1. Ten wells have been installed on and adjacent to the site. Four wells were installed on the site (International Technology Corp., January 1986), four wells were installed directly upgradient (International Technology Corp., August 29, 1986), plus two wells were installed directly downgradient of the site (ENSR Corporation, October 1990).

2. Thirty six borings were drilled to further assess the extent of hydrocarbon impacted soil (TriHydro Corporation, December 17, 1996, and TriHydro Corporation, February 7, 1997). Throughout all phases of the Lakeland Property investigation/remediation activities, the highest concentrations of BTEX, MTBE, and naphthalene were discovered while drilling the 36 borings.

3. A fate and transport/human health risk assessment ("FT/RA") was conducted using all of the data available in items 1) and 2) above. The FT/RA protocol was reviewed and modified by the Regional Board prior to Powerine's completion of the FT/RA. The results of the SESOIL fate and transport model show that the chemicals of interest (BTEX, MTBE, and naphthalene) are not expected to reach the water table. Additionally, the risk assessment shows that the site does not pose a noncarcinogenic hazard or a significant cancer risk. (Harding Lawson Associates, March 21, 1997.)

4. A summary of soil analyses taken from beneath fourteen above ground and underground tanks was compiled. The results of the soil analyses are consistent with those obtained earlier. (Christman and Winefield, May 7, 1997.)

5. The soil results from the tank removals were added to the data set of the FT/RA in order to reassess fate/transport and health risk characterization for the site. The amended FT/RA showed that the risk to groundwater and human health was less than formerly projected. (Harding Lawson Associates, April 30, 1997.)

6. The one on-site deep water production well (Well 6) and two off-site deep wells (Wells 7 and 8) were purged, gauged, and sampled (TriHydro Corporation, April 30, 1997). After receipt of groundwater data from Well 6 showed that the concentrations of volatile organic compounds were substantially beneath drinking water standards, Well 6 was abandoned (Christman and Winefield, May 7, 1997).

Summary of Additional Soil Analyses During Excavation Activities

Powerine completed its abandonment activities for seven truck loading racks, three primary sumps, and numerous subsurface pipes during the weeks of April 28, 1997 and May 5, 1997. Analytical protocol for soil sampling was obtained from the Regional Board's closure requirements in their April 2, 1997 transmittal, and from direction obtained by Powerine from the Regional Board during several site inspections. A total of 5100 cubic yards of hydrocarbon impacted soil was excavated from depths ranging from three (3) to 32 feet beneath ground surface.

Soil Sample Collection

Soil samples were collected using new 6-inch long, 2.5-inch diameter brass liners, which were triple-rinsed prior to use via a detergent and deionized water. All samples were taken either directly from trenched pits or (in cases were the excavation depth was greater than five feet) from the backhoe bucket. More specifically:

- The brass liners were manually driven into the soil and checked to ensure that the samples contained no headspace prior to capping with teflon sheeting (or aluminum foil) and plastic end caps, and were placed on ice for laboratory analysis.

- An aliquot from each sampling location was placed into a sealed plastic bag for soil gas headspace field screening.

- Soil gas headspace field screening results were recorded for each sample.

Each plastic bag containing its soil sample for field screening was shaken to enhance volatilization, placed in the sun, and allowed to equilibrate to ambient temperature. The soil sample was field screened by inserting the probe of a flame ionization detector

("FID") through a small hole made in the plastic bag and measuring the headspace total organic vapor ("TOV") concentrations. The FID was calibrated prior to use at the beginning of each day with factory prepared methane standards of concentrations equaling 100 parts per million ("ppm") and 1000 ppm. Soil stockpile TOV measurements were also made in fulfillment of the South Coast Air Quality Management District Rule 1166, "Volatile Organic Compound Emissions from Decontamination of Soil."

Lithology observed from the areas sampled for the site excavation are consistent with those described in the December 17, 1996 and February 7, 1997 soil investigations for this site.

Laboratory Analyses

Soil samples were submitted to state certified laboratories for analyses by the following EPA methods:

- Method 8015(m)--Total Petroleum Hydrocarbons Modified for the C_6 to C_{44} Range by Gas Chromatography
- Method 8020--Aromatic Volatile Organics by Gas Chromatography for BTEX and MTBE
- Method 8260--Volatile Organic Compounds Including BTEX and MTBE by Gas Chromatography and Mass Spectrometry

Not every sample was analyzed for each of the above listed EPA methods.

Soil Quality Analytical Results

Soil analyses by EPA Methods 8015(m) and 8020 were conducted by Jones Environmental Laboratories, Fullerton, California, using an on-site mobile laboratory for analysis within 24 hours of sample collection. The EPA Method 8260 analyses were conducted by BC Laboratories, Bakersfield, California within 48 hours of sample collection. Laboratory quality assurance/quality control ("QA/QC") data were reported by both laboratories to be within acceptable limits for the analytical methods performed.

A comprehensive summary of all of Powerine's soil analytical results to date is displayed on Plates 1 and 2. A comprehensive listing of all of Powerine's BTEX, MTBE, naphthalene, and TPH results to date is provided as Table 1. Laboratory analytical

reports and chains of custody for the excavation activities described herein are presented in Appendix A.

Fate and Transport/Human Health Risk Assessment ("FT/RA"): Second Addendum

Powerine's risk assessment consultant, Harding Lawson Associates, has further amended their March 21, 1997 FT/RA ("Second Addendum") using the newly obtained soil excavation data described above, the soil data previously obtained for the first FT/RA addendum and the original March 21, 1997 FT/RA, and the Regional Board approved protocol. Two scenarios were evaluated for the Second Addendum. The first scenario assumed that no hydrocarbon impacted soil was removed from site, the "Pre-Excavation Scenario." The second scenario (the "Excavation Scenario") was indicative of actual, final site conditions because the hydrocarbon concentrations of the excavated/removed soil were not input into the risk equations. For both scenarios, the incremental risk to human health and safety was projected to be substantially beneath commonly accepted action limits. The results of the risk assessment are listed below:

	Pre-Excavation Scenario	*Excavation Scenario (Actual Site Conditions)*
Noncancer Risk		
On-site Worker Average	Hazard Index = 0.0062	Hazard Index = 0.0037
Reasonable Maximum Exposure	Hazard Index = 0.026	Hazard Index = 0.013
Cancer Risk		
On-site Worker Average	Risk = $5x10^{-8}$	Risk = $3x10^{-8}$
Reasonable Maximum Exposure	Risk = $1x10^{-6}$	Risk = $5x10^{-7}$

These values are based on the application of multiple conservative assumptions throughout the risk assessment process, which leads to overprediction of risks. Moreover, by excavating and removing large portions of the Pre-Excavation Scenario soils, Powerine has remediated the site in excess of closure criteria dictated by the FT/RA, i.e., those criteria previously approved by the Regional Board.

Additionally, the fate and transport portion of the FT/RA continues to show that the groundwater will not be impacted by petroleum hydrocarbons at the site. None of the concentrations of chemicals of interest discovered subsequent to submittal of the original fate and transport analysis exceeds those concentrations already used for said analysis. (Reference Plate 6 of the March 21, 1997 FT/RA and Table 1 of the May 12, 1997 Second Addendum). Therefore, by virtue of having already conducted a worst case analysis, HLA has concluded that there remains no mechanism for the hydrocarbons entrained in the soil to reach the groundwater table.

The second addendum to the Fate and Transport/Human Health Risk Assessment is provided as Appendix B.

Analytical Duplicates from Consultant to Developer's Lender

On May 5, 1997 (i.e., prior to completion of excavation activities), ATC Associates conducted soil sampling/analyses in locations adjacent to sites previously investigated by Powerine. ATC also installed two temporary two-inch wells along the north-south line between the former tank farm and loading racks. (These sample locations are provided on Plate 3.) ATC's activities were mandated by the financing entity that will provided development loans for this property. As such, the lender established a procedure to verity data provided to them by Powerine.

Powerine analyzed two split soil samples (PT-2 and PT-4) from a series of eighteen shallow trenches dug by ATC's backhoe. These samples were run using EPA Method 8260 in order to determine the concentrations of the chemicals of interest (COI's) analyzed for the FT/RA. The concentrations of the COI's from PT-2 and PT-4 were within the range of concentrations already detected for the 0-15 feet interval in the Pre-Excavation Dataset. (Reference Table 1 of Appendix B). As such, the duplicate soil samples received from the ATC investigation confirmed the fact that Powerine had already accounted for worst case conditions when reviewing health risk and soil leachate parameters.

The data from the two temporary wells indicates that there is a sheen of light non-aqueous petroleum liquid (LNAPL) atop the groundwater. Exact LNAPL thicknesses have not been provided to Powerine from ATC. (The existence of an LNAPL sheen beneath and in the vicinity of the Lakeland Property has already been documented in several of Powerine's quarterly and semi-annual reports.) Each groundwater sample was analyzed via Method 8260. No chlorinated hydrocarbons or MTBE was detected in either groundwater sample.

A copy of the above referenced laboratory reports is provided in Appendix C.

Analytical Duplicates from Regional Board Sampling Event

During a site inspection on May 9, 1997 the Regional Board and Powerine representatives obtained two soil samples from the site's excavated areas. The Regional Board requested that Powerine analyze the samples for the six chemicals of interest as

well as total petroleum hydrocarbons. The results of the related analyses are listed below and copies of the laboratory reports are located in Appendix D.

Sample No.	*Location*	*Benzene (mg/kg)*	*Toluene (mg/kg)*	*Ethylbenzene (mg/kg)*	*Xylenes (mg/kg)*	*MTBE (mg/kg)*	*TPH (mg/kg)*
R3-N-BTN(7')	Near Powerine PL-15	<0.005	0.32	0.64	0.97	<0.005	2000
PL-7(2')	East of Powerine PL-7	<0.005	0.028	0.010	0.064	<0.005	84

All of the concentration from the Regional Board samples were substantially lower than average concentrations of samples previously obtained for the site.

Closing

Powerine appreciates the continued and thorough oversight the Regional Board has provided for the Lakeland Property investigation and remediation activities. Given the fact that Powerine has met all of the Regional Board's closure requirements and due to staff's active involvement with the property, we are confident that a No Further Action letter will be issued by May 13, 1997, so Powerine may close escrow on the site prior to May 15, 1997.

REGISTERED PROFESSIONAL ENGINEER
MATTHEW WINEFIELD
No. C049885
Exp.: 9-30-00
CIVIL
STATE OF CALIFORNIA

Sincerely,

June M. Christman
Manager - Environmental Engineering

Matt Winefield, M.S., P.E.
Senior Environmental Engineer

JMC/MAW:md
Attachments

cc: Mr. Jim Ross, P. E., LARWQCB (w/o attachments)
Files 50505.01 and 80535.01.1

(MAW/lkcl512.doc)

References

Christman, June and Winefield, Matt. *Preliminary Closure Report.* May 7, 1997.

ENSR Consulting and Engineering. *Groundwater Monitoring Wells.* October, 1990.

Harding Lawson Associates. *Fate and Transport/Human Health Risk Assessment.* March 21, 1997.

Harding Lawson Associates. *Addendum to Fate and Transport/Human Health Risk Assessment.* April 30, 1997.

International Technology Corporation. *Refinery Subsurface Investigation (File No. 85-18).* August 29, 1986

International Technology Corporation. *Investigation and Site Assessment for Subsurface Contamination, Powerine Oil Company.* January, 1997.

Tri-Hydro Corporation. *Soils Investigation, Administration Building/Lakeland Property.* December 17, 1996.

Tri-Hydro Corporation. *Final Soils Investigation, Administration Building/Lakeland Property.* February 7, 1997.

Tri-Hydro Corporation. *Purging and Sampling Activities, Deep Production Wells Completed in the Silverado Aquifer.* April 30, 1997.

APPENDIX A

Laboratory Reports and Chains of Custody from Powerine Excavations

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	05/05/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1635
Attn:	Matt Winefield	**Date Sampled:**	05/02/97
		Date Received:	05/02/97
Project:	Lakeland Pipe Racks	**Date Analyzed:**	05/02/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. Mod 8015 Diesel - Simulated Distillation Extended Range

Approval:

Steve Jones, Ph.D.
Laboratory Manager

P.O. Box 5387
Fullerton, CA 92838

(714)449-9937
Fax (714)449-9685

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/05/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:**	B-1635
		Client Ref. No.:	
Attn:	Matt Winefield	**Date Sampled:**	05/02/97
		Date Received:	05/02/97
Project:	Lakeland Pipe Racks	**Date Analyzed:**	05/02/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (mg/Kg)					Reporting Limits	Surrogate
Sample ID	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	(mg/Kg)	Recovery %
R1-A-N-5	0.038	ND	0.033	0.11	0.17	0.005	--
R1-B-M-6	ND	ND	0.12	0.14	0.25	0.005	--
R1-C-M-6	ND	ND	ND	ND	0.005	0.005	106
R2-A-M-6	ND	ND	0.020	0.026	0.051	0.005	--
R2-B-M-7	ND	ND	0.023	0.042	0.052	0.005	--
R3-A-N-3	ND	ND	ND	ND	0.013	0.005	102
R3-B-M-3	ND	ND	ND	ND	0.008	0.005	103
R3-C-S-3	ND	ND	ND	ND	0.030	0.005	111
R4-A-N-3	ND	ND	2.3	4.1	12	0.15	120
R4-B-M-3	ND	ND	11	22	57	0.66	--
R4-C-S-3	ND	ND	ND	ND	0.009	0.005	106

ND = Not Detected

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Testing Laboratories

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/05/97
Client Address:	P.O. Box 2108	**JEL Ref. No.:**	B-1635
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	
Attn:	Matt Winefield	**Date Sampled:**	05/02/97
		Date Received:	05/02/97
Project:	Lakeland Pipe Racks	**Date Analyzed:**	05/02/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: AR 26 (B-1636)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	102%	98%	4.3%	65 - 125
o-Xylene	92%	90%	2.1%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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LABORATORY RESULTS

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Attn:	Matt Winefield	**Date Sampled:**	05/02/97
		Date Received:	05/02/97
Project:	Lakeland Pipe Racks	**Date Analyzed:**	05/02/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

	Sample ID Concentration (mg/Kg)					
Carbon Chain Range	R1A-N-5	R1B-M-5	R1C-M-6	R2A-M-6	R2B-M-7	R3A-N-3
C6-C7	ND	1.4	ND	9.9	ND	ND
C8-C9	18	10	ND	1.1	4.1	ND
C10-C11	160	36	3.2	31	57	ND
C12-C13	550	120	11	140	180	ND
C14-C15	740	190	15	150	260	ND
C16-C17	620	120	12	90	220	ND
C18-C19	380	120	11	83	160	7.6
C20-C23	1000	160	32	99	260	30
C24-C27	810	210	14	60	200	54
C28-C31	730	150	15	63	250	73
C32-C35	500	160	8.2	87	140	69
C36-C39	460	160	8.5	120	180	73
C40-C43	450	230	6.8	96	170	84
C44+	67	33	ND	12	24	37
Total	6400	1700	140	1000	2100	430
Reporting Limits	10	10	10	10	10	10
Surrogate Recovery %	--	--	--	--	--	--

ND = Not Detected

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LABORATORY RESULTS

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		Date Received:	05/02/97
Project:	Lakeland Pipe Racks	**Date Analyzed:**	05/02/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

	Sample ID Concentration (mg/Kg)				
Carbon Chain Range	R3B-M-3	R3C-S-3	R4A-N-3	R4B-M-3	R4C-S-3
C6-C7	ND	ND	2.1	120	ND
C8-C9	ND	ND	38	1100	ND
C10-C11	ND	ND	35	1400	ND
C12-C13	ND	ND	25	630	ND
C14-C15	5.0	ND	8.2	340	5.4
C16-C17	1.7	ND	4.6	180	12
C18-C19	12	ND	1.1	95	29
C20-C23	11	ND	ND	110	59
C24-C27	23	ND	6.9	130	73
C28-C31	36	4.2	15	190	97
C32-C35	51	14	27	160	82
C36-C39	82	15	36	120	83
C40-C43	85	7.1	36	52	33
C44+	35	2.0	11	20	15
Total	340	42	250	4600	490
Reporting Limits	10	10	10	10	10
Surrogate Recovery %	--	101	106	--	--

ND = Not Detected

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QUALITY CONTROL INFORMATION

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Attn:	Matt Winefield	**Date Sampled:**	05/02/97
		Date Received:	05/02/97
Project:	Lakeland Pipe Racks	**Date Analyzed:**	05/02/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

Sample Spiked: AR 25 (B-1636)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	94%	91%	2.8%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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CHAIN OF CUSTODY

BC LABORATORIES, INC.
4100 Atlas Court • Bakersfield, CA 93308
(805) 327-4911 • FAX (805) 327-1918

Report To: Winefield
Name: Powerline
Address: 12354 Lakewood
City: S.F. Springs
State: CA Zip: 90670
Attn: Matt Winefield
Phone: (310) 944-6111

Project: Lakewood Pipe Racks
Project #:
Sampler Name: Chris Johnson
Other:

B16 35

Lab#	Sample Description	Date & Time Sampled	Matrix (S) Soil (SL) Sludge (W) Water (Other)	EPA 8020	MOD-8015(cc)	Samples rec. cold (y/n)	Custody Seals (y/n)	Results Needed by: Date & Time	Number and Container Type
R1A	R1A-N-5'	5/2/97 12:37	S		X	N	N		Brass
R1B	R1A-N-5'	5/2/97 12:37	S	X		N	N		
R2A	R1B-M-5'	5/2/97 12:40	S		X	N	N		
R2B	R1B-M-6'	5/2/97 12:40	S	X		N	N		
R3A	R1C-M-6'	5/2/97 12:30	S		X	N	N		
R3B	R1C-M-6'	5/2/97 12:30	S	X		N	N		
R4A	R2A-M-6'	5/2/97 14:00	S	X	X	N	N		
R5B	R2B-M-7'	5/2/97 14:03	S	X	X	N	N		
R6A	R3A-N-3'	5/2/97 14:07	S	X	X	N	N		
R7B	R3B-M-3'	5/2/97 14:09	S	X	X	N	N		
R8A	R3C-S-3'	5/2/97 14:12	S	X	X	N	N		
R9A	R4A-N-3'	5/2/97 14:20	S	X	X	N	N		
R10B	R4B-M-3'	5/2/97 14:30	S	X	X	N	N		
R11B	R4C-S-3'	5/2/97 14:35	S	X	X	N	N		

Comment:

Billing Info:
Name: File
Address
City State
Attention:
Time:
Miles:
P.O.#

Sample Disposal
☐ BC Disposal @ 5.00 ea.
☐ Return to client

Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Winefield		5/2/97 18:15
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:

Jones Environmental

Testing Laboratories

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LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	05/06/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1637
Attn:	Matt Winefield	**Date Sampled:**	05/05/97
		Date Received:	05/05/97
Project:	Lakeland	**Date Analyzed:**	05/05/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. Mod 8015 Diesel - Simulated Distillation Extended Range

Approval:

Steve Jones, Ph.D.
Laboratory Manager

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LABORATORY RESULTS

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Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1637
Attn:	Matt Winefield	**Date Sampled:** **Date Received:**	05/05/97 05/05/97
Project:	Lakeland	**Date Analyzed:**	05/05/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (mg/Kg)					Reporting Limits	Surrogate
Sample ID	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	(mg/Kg)	Recovery %
R6-E-S	ND	ND	15	23	70	1.0	120
R6-F-M	ND	ND	43	20	140	1.0	--
R6-6-N	ND	ND	0.005	0.008	0.026	0.005	--
RN-A-N	ND	ND	3.5	3.7	13	0.5	115
RN-B-M	9.5	0.92	9.8	16	45	1.0	121
RN-C-S	ND	ND	ND	ND	ND	0.005	109
RN-D-W	9.4	ND	28	17	120	1.0	--
TK 4637-2'	ND	ND	20	3.9	88	0.5	--
TK 4637-5'	ND	ND	0.041	0.060	0.16	0.005	--

ND = Not Detected

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Jones Environmental

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JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/06/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:**	B-1637
		Client Ref. No.:	
Attn:	Matt Winefield	**Date Sampled:**	05/05/97
		Date Received:	05/05/97
Project:	Lakeland	**Date Analyzed:**	05/05/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: RN-C-N

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	100%	99%	1.4%	65 - 125
o-Xylene	90%	88%	2.2%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

P.O. Box 5387
Fullerton, CA 92838

(714)449-9937
Fax (714)449-9685

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/06/97
Client Address:	P.O. Box 2108	**JEL Ref. No.:**	B-1637
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	
Attn:	Matt Winefield	**Date Sampled:**	05/05/97
		Date Received:	05/05/97
Project:	Lakeland	**Date Analyzed:**	05/05/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

	Sample ID Concentration (mg/Kg)					
Carbon Chain Range	R6-E-S	R6-F-M	R6-G-N	RN-A-N	RN-B-M	RN-C-S
C6-C7	16	480	ND	ND	27	ND
C8-C9	950	3200	1.6	17	240	ND
C10-C11	880	2600	3.4	40	180	1.6
C12-C13	410	1800	ND	33	160	ND
C14-C15	180	1500	9.1	27	53	9.3
C16-C17	110	1200	7.8	25	14	7.2
C18-C19	55	780	13	21	13	11
C20-C23	21	890	25	20	10	9.9
C24-C27	15	360	18	14	7.9	3.3
C28-C31	13	280	42	18	9.2	9.4
C32-C35	19	150	41	24	9.5	11
C36-C39	29	65	32	21	3.9	15
C40-C43	21	25	39	44	8.1	6.2
C44+	10	ND	ND	5	ND	2.5
Total	2700	13300	230	310	740	86
Reporting Limits	10	10	10	10	10	10
Surrogate Recovery %	114	--	110	110	98	104

ND = Not Detected

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JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/06/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1637
Attn:	Matt Winefield	**Date Sampled:**	05/05/97
		Date Received:	05/05/97
Project:	Lakeland	**Date Analyzed:**	05/05/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

	Sample ID Concentration (mg/Kg)		
Carbon Chain Range	RN-D-W	TK 4637-2'	TK 4637-5'
C6-C7	210	160	ND
C8-C9	1900	2900	77
C10-C11	1300	5200	120
C12-C13	640	6600	180
C14-C15	420	5800	230
C16-C17	320	4900	200
C18-C19	220	3400	150
C20-C23	250	3100	150
C24-C27	87	1000	37
C28-C31	96	580	39
C32-C35	62	430	60
C36-C39	15	290	53
C40-C43	14	210	70
C44+	9.2	17	15
Total	5500	34600	1400
Reporting Limits	10	50	10
Surrogate Recovery %	--	--	--

ND = Not Detected

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JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/06/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1637
Attn:	Matt Winefield	**Date Sampled:** **Date Received:**	05/05/97 05/05/97
Project:	Lakeland	**Date Analyzed:**	05/05/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

Sample Spiked: RN-C-S

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	114%	109%	4.4%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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JONES ENVIROMENTAL
TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Powerine Oil Company

Date: 5/5/97

Project Name:

Client Project #:

Project Address: 12354 LAKELAND RD. SANTA fe Springs, CA 90232

Project Contact: MATT Winefield

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☐ Mobile Lab

JEL Project #: B1637

Page: 1 of 1

Lab Use Only
Sample Condition as Received:
Chilled ☑ yes ☐ no
Sealed ☐ yes ☑ no

Analysis Requested

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	8015 (m) - Full Chain	8020							Number of Containers	Container/Comments
	R6-E-S	5/5/97	08:05	B1637-1		X	X								
	R6-F-M	5/5/97	08:08	B1637-2		X	X								
	R6-G-N	5/5/97	08:12	B1637-3		X	X								
	RN-A-N	5/5/97	08:15	B1637-4		X	X								
	RN-B-M	5/5/97	08:30	B1637-5		X	X								
	RN-C-S	5/5/97	08:35	B1637-6		X	X								
	RN-D-W	5/5/97	08:37	B1637-7		X	X								
	TK 4637 - 2'	5/5/97	09:00	B1637-8		X	X								
	TK 4637 - 5'	5/5/97	09:05	B1637-9		X	X								

❶ Relinquished by (signature): Chris M. Johnson	Date: 5/5/97	❷ Received by (signature): [signature]	Date: 5/5/97
Company: Powerine/American Environmental	Time: 10:20	Company: JEL	Time: 10:20
❸ Relinquished by (signature):	Date:	❹ Received by Laboratory (signature):	Date:
Company:	Time:	Company:	Time:

Total Number of Containers: 9

Additional Comments:

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	05/07/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:**	B-1638
		Client Ref. No.:	
Attn:	Matt Winefield	**Date Sampled:**	05/05/97
		Date Received:	05/05/97
Project:	Lakeland	**Date Analyzed:**	05/05/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. Mod 8015 Diesel - Simulated Distillation Extended Range

Approval:

Steve Jones, Ph.D.
Laboratory Manager

P.O. Box 5387
Fullerton, CA 92838

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Fax (714)449-9685

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/07/97
Client Address:	P.O. Box 2108	**JEL Ref. No.:**	B-1638
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	
Attn:	Matt Winefield	**Date Sampled:**	05/05/97
		Date Received:	05/05/97
Project:	Lakeland	**Date Analyzed:**	05/05/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (mg/Kg)					Reporting Limits	Surrogate
Sample ID	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	(mg/Kg)	Recovery %
SU-1-8/SUMP	ND	ND	12	31	43	1.0	--
SU-2-9/SUMP	ND	ND	3.3	12	15	1.0	118
SU-3-3/SUMP	0.80	0.17	0.70	2.1	2.4	0.5	119
SU-4-3/SUMP	ND	13	21	64	50	2.0	--
4N-NW-5	ND	0.77	5.4	8.3	29	0.66	114
4N-N-6	ND	ND	ND	ND	ND	0.005	102
4N-E-5	ND	ND	ND	ND	ND	0.005	105

ND = Not Detected

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/07/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1638
Attn:	Matt Winefield	**Date Sampled:**	05/05/97
		Date Received:	05/05/97
Project:	Lakeland	**Date Analyzed:**	05/05/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

---

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: 4N-E-5

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	102%	99%	3.2%	65 - 125
o-Xylene	87%	84%	4.3%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/07/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1638
Attn:	Matt Winefield	**Date Sampled:**	05/05/97
		Date Received:	05/05/97
Project:	Lakeland	**Date Analyzed:**	05/05/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

---

Modified 8015 Diesel (Simulated Distillation Extended Range)

Sample ID
Concentration (mg/Kg)

Carbon Chain Range	SU-1-8/SUMP	SU-2-9/SUMP	SU-3-3/SUMP	SU-4-3/SUMP	4N-NW-5	4N-N-6	4N-E-5
C6-C7	160	4.6	ND	350	1.8	ND	ND
C8-C9	490	63	20	1400	55	ND	ND
C10-C11	890	160	46	1500	110	ND	ND
C12-C13	1200	180	62	1700	35	ND	ND
C14-C15	720	140	47	900	5.6	ND	ND
C16-C17	780	89	30	880	5.7	5.2	4.5
C18-C19	680	97	29	680	4.0	ND	ND
C20-C23	1000	120	32	940	4.1	ND	ND
C24-C27	910	140	17	940	ND	ND	ND
C28-C31	850	90	24	820	17	2.8	2.0
C32-C35	670	90	44	650	32	11	6.2
C36-C39	1100	110	61	560	32	8.5	7.4
C40-C43	380	93	76	200	1.8	1.2	6.1
C44+	13	4.1	13	42	ND	ND	ND
Total	9700	1400	500	11600	300	29	26
Reporting Limits	10	10	10	10	10	10	10
Surrogate Recovery %	--	--	121	--	90	89	90

ND = Not Detected

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/07/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1638
Attn:	Matt Winefield	**Date Sampled:** **Date Received:**	05/05/97 05/05/97
Project:	Lakeland	**Date Analyzed:**	05/05/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

---

Modified 8015 Diesel (Simulated Distillation Extended Range)

Sample Spiked: CLEAN SOIL

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	102%	96%	6.4%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1643
Attn:	Matt Winefield	**Date Sampled:**	05/08/97
		Date Received:	05/08/97
Project:	Lakeland	**Date Analyzed:**	05/08/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (mg/Kg)					Reporting Limits	Surrogate
Sample ID	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	(mg/Kg)	Recovery %
PL-7N-5	ND	ND	ND	ND	0.007	0.005	102
PL-7W-5	ND	ND	ND	0.012	0.049	0.005	97
PL-28-5A	ND	ND	ND	ND	0.020	0.005	98
OSU-4-6	ND	ND	ND	ND	0.011	0.005	98
PL-7-10	ND	12	25	29	57	0.70	--

ND = Not Detected

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Jones Environmental

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JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108	**JEL Ref. No.:**	B-1643
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	
Attn:	Matt Winefield	**Date Sampled:**	05/08/97
		Date Received:	05/08/97
Project:	Lakeland	**Date Analyzed:**	05/08/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: CLEAN SOIL

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	99%	98%	0.7%	65 - 125
o-Xylene	100%	100%	0.6%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1643
Attn:	Matt Winefield	**Date Sampled:**	05/08/97
		Date Received:	05/08/97
Project:	Lakeland	**Date Analyzed:**	05/08/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

Sample ID
Concentration (mg/Kg)

Carbon Chain Range	PL-7N-5	PL-7W-5	PL-28-5A	OSU-4-6	PL-7-10
C6-C7	ND	ND	ND	ND	71
C8-C9	ND	1.9	ND	ND	620
C10-C11	4.6	5.1	3.1	ND	560
C12-C13	2.4	4.2	2.9	ND	250
C14-C15	1.1	5.7	4.6	1.8	190
C16-C17	ND	311	1.7	5.9	170
C18-C19	ND	14	1.2	8.8	54
C20-C23	ND	8.6	2.0	23	21
C24-C27	ND	20	5.3	36	11
C28-C31	ND	12	14	48	9.9
C32-C35	ND	10	10	41	20
C36-C39	ND	2.0	2.5	32	ND
C40-C43	ND	ND	ND	15	ND
C44+	ND	ND	ND	ND	ND
Total	ND	94	47	210	2000
Reporting Limits	10	10	10	10	10
Surrogate Recovery %	102	125	96	--	89

ND = Not Detected

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Jones Environmental

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JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1643
Attn:	Matt Winefield	**Date Sampled:**	05/08/97
		Date Received:	05/08/97
Project:	Lakeland	**Date Analyzed:**	05/08/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

Sample Spiked: PL-7N-5

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	107%	98%	9.3%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Powerine Oil Comp

Date: 5/8/97

Project Name: LAKELAND RD

Client Project #:

Project Address: 12354 LAKELAND RD
Santa Fe Springs

Project Contact: MATT Winefield

Turn Around Requested:
- ☐ Immediate Attention
- ☒ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab SRJ

JEL Project #: B1643

Page 1 of 1

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Analysis Requested

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	EPA-8020	MOD-8015 (FULL RANGE)							Number of Containers	Container/Comments
	PL-7N-5'	5/8	09:05	B1643-1	S	X	X							1	
	PL-7W-5'		09:07	B1643-2		X	X							1	
	PL-28-5A'		10:00	B1643-3		X	X							1	
	OSU-4-6'		10:10	B1643-4		X	X							1	
	PL-7-10'	5/8	10:01			X	X							1	

❶ Relinquished by (signature)	Date	❷ Received by (signature)	Date	Total Number of Containers
Chris Johnson	5/8/97	[signature]	5/8/97	
Company	Time 13:40	Company JEL	Time 13:40	Additional Comments
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date	
Company	Time	Company	Time	

BC LABORATORIES, INC.

May 10, 1997

M. WINEFIELD
POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670

Subject: Laboratory Submission No.: 97-04853
Samples Received: 05/07/97

Dear Mr. Winefield:

The samples(s) listed on the Chain of Custody report were received by BC Laboratories, Inc. on 05/07/97.

Enclosed please find the analytical data for the testing requested. If you have any questions regarding this report please contact me at (805)327-4911, ext. 201.

Any unused sample will be stored on our premises for a minimum of 30 days (excluding bacteriologicals) at which time they will be disposed unless otherwise requested at the time of sample receipt. A disposal fee of $5 per sample may apply for solid sample matrices.

Please refer to submission number 97-04853 when calling for assistance.

Sincerely,

Christy J. Ariey
Project Coordinator
BC Laboratories, Inc.

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: M. WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/07/97
Laboratory No.: 97-04853-1

Sample Description: PL-7-4'

Sample Matrix: Soil

Date Collected: 05/06/97
Date Extracted: 05/07/97
Date Analyzed: 05/07/97

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	mg/kg	2.
Bromobenzene	None Detected	mg/kg	2.
Bromochloromethane	None Detected	mg/kg	2.
Bromodichloromethane	None Detected	mg/kg	2.
Bromoform	None Detected	mg/kg	2.
Bromomethane	None Detected	mg/kg	2.
n-Butylbenzene	11.	mg/kg	2.
sec-Butylbenzene	2.6	mg/kg	2.
tert-Butylbenzene	None Detected	mg/kg	2.
Carbon tetrachloride	None Detected	mg/kg	2.
Chlorobenzene	None Detected	mg/kg	2.
Chloroethane	None Detected	mg/kg	2.
Chloroform	None Detected	mg/kg	2.
Chloromethane	None Detected	mg/kg	2.
2-Chlorotoluene	None Detected	mg/kg	2.
4-Chlorotoluene	None Detected	mg/kg	2.
Dibromochloromethane	None Detected	mg/kg	2.
1,2-Dibromo-3-Chloropropane	None Detected	mg/kg	2.
1,2-Dibromoethane	None Detected	mg/kg	2.
Dibromomethane	None Detected	mg/kg	2.
1,2-Dichlorobenzene	None Detected	mg/kg	2.
1,3-Dichlorobenzene	None Detected	mg/kg	2.
1,4-Dichlorobenzene	None Detected	mg/kg	2.
Dichlorodifluoromethane	None Detected	mg/kg	2.
1,1-Dichloroethane	None Detected	mg/kg	2.
1,2-Dichloroethane	None Detected	mg/kg	2.
1,1-Dichloroethene	None Detected	mg/kg	2.
cis-1,2-Dichloroethene	None Detected	mg/kg	2.
trans-1,2-Dichloroethene	None Detected	mg/kg	2.
1,2-Dichloropropane	None Detected	mg/kg	2.
1,3-Dichloropropane	None Detected	mg/kg	2.
2,2-Dichloropropane	None Detected	mg/kg	2.
1,1-Dichloropropene	None Detected	mg/kg	2.
cis-1,3-Dichloropropene	None Detected	mg/kg	2.
trans-1,3-Dichloropropene	None Detected	mg/kg	2.
Ethyl Benzene	24.	mg/kg	2.
Hexachlorobutadiene	None Detected	mg/kg	2.
Isopropylbenzene	3.1	mg/kg	2.
p-Isopropyltoluene	None Detected	mg/kg	2.
Methylene Chloride	None Detected	mg/kg	4.
Naphthalene	39.	mg/kg	2.
n-Propylbenzene	16.	mg/kg	2.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: M. WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/07/97
Laboratory No.: 97-04853-1

Sample Description: PL-7-4'

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Styrene	None Detected	mg/kg	2.
1,1,1,2-Tetrachloroethane	None Detected	mg/kg	2.
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	2.
Tetrachloroethene	None Detected	mg/kg	2.
Toluene	6.0	mg/kg	2.
1,2,3-Trichlorobenzene	None Detected	mg/kg	2.
1,2,4-Trichlorobenzene	None Detected	mg/kg	2.
1,1,1-Trichloroethane	None Detected	mg/kg	2.
1,1,2-Trichloroethane	None Detected	mg/kg	2.
Trichloroethene	None Detected	mg/kg	2.
Trichlorofluoromethane	None Detected	mg/kg	2.
1,2,3-Trichloropropane	None Detected	mg/kg	2.
1,2,4-Trimethylbenzene	120.	mg/kg	2.
1,3,5-Trimethylbenzene	24.	mg/kg	2.
Vinyl Chloride	None Detected	mg/kg	2.
Total Xylenes	80.	mg/kg	4.
Methyl-t-butylether	None Detected	mg/kg	2.

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	98.	70-121
Toluene-d8	102.	81-117
4-Bromofluorobenzene	98.	74-121

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: M. WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/07/97
Laboratory No.: 97-04853-2

Sample Description: PL-9-5'

Sample Matrix: Soil

Date Collected: 05/06/97
Date Extracted: 05/08/97
Date Analyzed: 05/08/97

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	mg/kg	3.
Bromobenzene	None Detected	mg/kg	3.
Bromochloromethane	None Detected	mg/kg	3.
Bromodichloromethane	None Detected	mg/kg	3.
Bromoform	None Detected	mg/kg	3.
Bromomethane	None Detected	mg/kg	3.
n-Butylbenzene	11.	mg/kg	3.
sec-Butylbenzene	None Detected	mg/kg	3.
tert-Butylbenzene	None Detected	mg/kg	3.
Carbon tetrachloride	None Detected	mg/kg	3.
Chlorobenzene	None Detected	mg/kg	3.
Chloroethane	None Detected	mg/kg	3.
Chloroform	None Detected	mg/kg	3.
Chloromethane	None Detected	mg/kg	3.
2-Chlorotoluene	None Detected	mg/kg	3.
4-Chlorotoluene	None Detected	mg/kg	3.
Dibromochloromethane	None Detected	mg/kg	3.
1,2-Dibromo-3-Chloropropane	None Detected	mg/kg	3.
1,2-Dibromoethane	None Detected	mg/kg	3.
Dibromomethane	None Detected	mg/kg	3.
1,2-Dichlorobenzene	None Detected	mg/kg	3.
1,3-Dichlorobenzene	None Detected	mg/kg	3.
1,4-Dichlorobenzene	None Detected	mg/kg	3.
Dichlorodifluoromethane	None Detected	mg/kg	3.
1,1-Dichloroethane	None Detected	mg/kg	3.
1,2-Dichloroethane	None Detected	mg/kg	3.
1,1-Dichloroethene	None Detected	mg/kg	3.
cis-1,2-Dichloroethene	None Detected	mg/kg	3.
trans-1,2-Dichloroethene	None Detected	mg/kg	3.
1,2-Dichloropropane	None Detected	mg/kg	3.
1,3-Dichloropropane	None Detected	mg/kg	3.
2,2-Dichloropropane	None Detected	mg/kg	3.
1,1-Dichloropropene	None Detected	mg/kg	3.
cis-1,3-Dichloropropene	None Detected	mg/kg	3.
trans-1,3-Dichloropropene	None Detected	mg/kg	3.
Ethyl Benzene	6.2	mg/kg	3.
Hexachlorobutadiene	None Detected	mg/kg	3.
Isopropylbenzene	None Detected	mg/kg	3.
p-Isopropyltoluene	None Detected	mg/kg	3.
Methylene Chloride	None Detected	mg/kg	6.
Naphthalene	25.	mg/kg	3.
n-Propylbenzene	7.2	mg/kg	3.

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: M. WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/07/97
Laboratory No.: 97-04853-2

Sample Description: PL-9-5'

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Styrene	None Detected	mg/kg	3.
1,1,1,2-Tetrachloroethane	None Detected	mg/kg	3.
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	3.
Tetrachloroethene	None Detected	mg/kg	3.
Toluene	None Detected	mg/kg	3.
1,2,3-Trichlorobenzene	None Detected	mg/kg	3.
1,2,4-Trichlorobenzene	None Detected	mg/kg	3.
1,1,1-Trichloroethane	None Detected	mg/kg	3.
1,1,2-Trichloroethane	None Detected	mg/kg	3.
Trichloroethene	None Detected	mg/kg	3.
Trichlorofluoromethane	None Detected	mg/kg	3.
1,2,3-Trichloropropane	None Detected	mg/kg	3.
1,2,4-Trimethylbenzene	190.	mg/kg	5.
1,3,5-Trimethylbenzene	62.	mg/kg	3.
Vinyl Chloride	None Detected	mg/kg	3.
Total Xylenes	110.	mg/kg	6.
Methyl-t-butylether	None Detected	mg/kg	3.

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	102.	70-121
Toluene-d8	101.	81-117
4-Bromofluorobenzene	100.	74-121

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.
End CCV not analyzed for higher dilution due to instrument failure.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: M. WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/07/97
Laboratory No.: 97-04853-3

Sample Description: PL-24-4'

Sample Matrix: Soil

Date Collected: 05/07/97
Date Extracted: 05/07/97
Date Analyzed: 05/07/97

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	mg/kg	0.005
Bromobenzene	None Detected	mg/kg	0.005
Bromochloromethane	None Detected	mg/kg	0.005
Bromodichloromethane	None Detected	mg/kg	0.005
Bromoform	None Detected	mg/kg	0.005
Bromomethane	None Detected	mg/kg	0.005
n-Butylbenzene	None Detected	mg/kg	0.005
sec-Butylbenzene	None Detected	mg/kg	0.005
tert-Butylbenzene	None Detected	mg/kg	0.005
Carbon tetrachloride	None Detected	mg/kg	0.005
Chlorobenzene	None Detected	mg/kg	0.005
Chloroethane	None Detected	mg/kg	0.005
Chloroform	None Detected	mg/kg	0.005
Chloromethane	None Detected	mg/kg	0.005
2-Chlorotoluene	None Detected	mg/kg	0.005
4-Chlorotoluene	None Detected	mg/kg	0.005
Dibromochloromethane	None Detected	mg/kg	0.005
1,2-Dibromo-3-Chloropropane	None Detected	mg/kg	0.005
1,2-Dibromoethane	None Detected	mg/kg	0.005
Dibromomethane	None Detected	mg/kg	0.005
1,2-Dichlorobenzene	None Detected	mg/kg	0.005
1,3-Dichlorobenzene	None Detected	mg/kg	0.005
1,4-Dichlorobenzene	None Detected	mg/kg	0.005
Dichlorodifluoromethane	None Detected	mg/kg	0.005
1,1-Dichloroethane	None Detected	mg/kg	0.005
1,2-Dichloroethane	None Detected	mg/kg	0.005
1,1-Dichloroethene	None Detected	mg/kg	0.005
cis-1,2-Dichloroethene	None Detected	mg/kg	0.005
trans-1,2-Dichloroethene	None Detected	mg/kg	0.005
1,2-Dichloropropane	None Detected	mg/kg	0.005
1,3-Dichloropropane	None Detected	mg/kg	0.005
2,2-Dichloropropane	None Detected	mg/kg	0.005
1,1-Dichloropropene	None Detected	mg/kg	0.005
cis-1,3-Dichloropropene	None Detected	mg/kg	0.005
trans-1,3-Dichloropropene	None Detected	mg/kg	0.005
Ethyl Benzene	None Detected	mg/kg	0.005
Hexachlorobutadiene	None Detected	mg/kg	0.005
Isopropylbenzene	None Detected	mg/kg	0.005
p-Isopropyltoluene	None Detected	mg/kg	0.005
Methylene Chloride	None Detected	mg/kg	0.01
Naphthalene	None Detected	mg/kg	0.005
n-Propylbenzene	None Detected	mg/kg	0.005

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: M. WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/07/97
Laboratory No.: 97-04853-3

Sample Description: PL-24-4'

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Styrene	None Detected	mg/kg	0.005
1,1,1,2-Tetrachloroethane	None Detected	mg/kg	0.005
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.005
Tetrachloroethene	None Detected	mg/kg	0.005
Toluene	None Detected	mg/kg	0.005
1,2,3-Trichlorobenzene	None Detected	mg/kg	0.005
1,2,4-Trichlorobenzene	None Detected	mg/kg	0.005
1,1,1-Trichloroethane	None Detected	mg/kg	0.005
1,1,2-Trichloroethane	None Detected	mg/kg	0.005
Trichloroethene	None Detected	mg/kg	0.005
Trichlorofluoromethane	None Detected	mg/kg	0.005
1,2,3-Trichloropropane	None Detected	mg/kg	0.005
1,2,4-Trimethylbenzene	None Detected	mg/kg	0.005
1,3,5-Trimethylbenzene	None Detected	mg/kg	0.005
Vinyl Chloride	None Detected	mg/kg	0.005
Total Xylenes	None Detected	mg/kg	0.01
Methyl-t-butylether	None Detected	mg/kg	0.005

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	105.	70-121
Toluene-d8	99.	81-117
4-Bromofluorobenzene	98.	74-121

California D.O.H.S. Cert. #1286

Stuart G. Buttram
Department Supervisor

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: M. WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/07/97
Laboratory No.: 97-04853-4

Sample Description: PL-17'

Sample Matrix: Soil

Date Collected: 05/07/97
Date Extracted: 05/07/97
Date Analyzed: 05/07/97

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	mg/kg	0.005
Bromobenzene	None Detected	mg/kg	0.005
Bromochloromethane	None Detected	mg/kg	0.005
Bromodichloromethane	None Detected	mg/kg	0.005
Bromoform	None Detected	mg/kg	0.005
Bromomethane	None Detected	mg/kg	0.005
n-Butylbenzene	None Detected	mg/kg	0.005
sec-Butylbenzene	None Detected	mg/kg	0.005
tert-Butylbenzene	None Detected	mg/kg	0.005
Carbon tetrachloride	None Detected	mg/kg	0.005
Chlorobenzene	None Detected	mg/kg	0.005
Chloroethane	None Detected	mg/kg	0.005
Chloroform	None Detected	mg/kg	0.005
Chloromethane	None Detected	mg/kg	0.005
2-Chlorotoluene	None Detected	mg/kg	0.005
4-Chlorotoluene	None Detected	mg/kg	0.005
Dibromochloromethane	None Detected	mg/kg	0.005
1,2-Dibromo-3-Chloropropane	None Detected	mg/kg	0.005
1,2-Dibromoethane	None Detected	mg/kg	0.005
Dibromomethane	None Detected	mg/kg	0.005
1,2-Dichlorobenzene	None Detected	mg/kg	0.005
1,3-Dichlorobenzene	None Detected	mg/kg	0.005
1,4-Dichlorobenzene	None Detected	mg/kg	0.005
Dichlorodifluoromethane	None Detected	mg/kg	0.005
1,1-Dichloroethane	None Detected	mg/kg	0.005
1,2-Dichloroethane	None Detected	mg/kg	0.005
1,1-Dichloroethene	None Detected	mg/kg	0.005
cis-1,2-Dichloroethene	None Detected	mg/kg	0.005
trans-1,2-Dichloroethene	None Detected	mg/kg	0.005
1,2-Dichloropropane	None Detected	mg/kg	0.005
1,3-Dichloropropane	None Detected	mg/kg	0.005
2,2-Dichloropropane	None Detected	mg/kg	0.005
1,1-Dichloropropene	None Detected	mg/kg	0.005
cis-1,3-Dichloropropene	None Detected	mg/kg	0.005
trans-1,3-Dichloropropene	None Detected	mg/kg	0.005
Ethyl Benzene	None Detected	mg/kg	0.005
Hexachlorobutadiene	None Detected	mg/kg	0.005
Isopropylbenzene	None Detected	mg/kg	0.005
p-Isopropyltoluene	None Detected	mg/kg	0.005
Methylene Chloride	None Detected	mg/kg	0.01
Naphthalene	None Detected	mg/kg	0.005
n-Propylbenzene	None Detected	mg/kg	0.005

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: M. WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/07/97
Laboratory No.: 97-04853-4

Sample Description: PL-17'

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Styrene	None Detected	mg/kg	0.005
1,1,1,2-Tetrachloroethane	None Detected	mg/kg	0.005
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.005
Tetrachloroethene	None Detected	mg/kg	0.005
Toluene	None Detected	mg/kg	0.005
1,2,3-Trichlorobenzene	None Detected	mg/kg	0.005
1,2,4-Trichlorobenzene	None Detected	mg/kg	0.005
1,1,1-Trichloroethane	None Detected	mg/kg	0.005
1,1,2-Trichloroethane	None Detected	mg/kg	0.005
Trichloroethene	None Detected	mg/kg	0.005
Trichlorofluoromethane	None Detected	mg/kg	0.005
1,2,3-Trichloropropane	None Detected	mg/kg	0.005
1,2,4-Trimethylbenzene	None Detected	mg/kg	0.005
1,3,5-Trimethylbenzene	None Detected	mg/kg	0.005
Vinyl Chloride	None Detected	mg/kg	0.005
Total Xylenes	None Detected	mg/kg	0.01
Methyl-t-butylether	None Detected	mg/kg	0.005

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	102.	70-121
Toluene-d8	101.	81-117
4-Bromofluorobenzene	101.	74-121

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: M. WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/07/97
Laboratory No.: 97-04853-5

Sample Description: PL-28'

Sample Matrix: Soil

Date Collected: 05/07/97
Date Extracted: 05/08/97
Date Analyzed: 05/08/97

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	mg/kg	0.005
Bromobenzene	None Detected	mg/kg	0.005
Bromochloromethane	None Detected	mg/kg	0.005
Bromodichloromethane	None Detected	mg/kg	0.005
Bromoform	None Detected	mg/kg	0.005
Bromomethane	None Detected	mg/kg	0.005
n-Butylbenzene	None Detected	mg/kg	0.005
sec-Butylbenzene	None Detected	mg/kg	0.005
tert-Butylbenzene	None Detected	mg/kg	0.005
Carbon tetrachloride	None Detected	mg/kg	0.005
Chlorobenzene	None Detected	mg/kg	0.005
Chloroethane	None Detected	mg/kg	0.005
Chloroform	None Detected	mg/kg	0.005
Chloromethane	None Detected	mg/kg	0.005
2-Chlorotoluene	None Detected	mg/kg	0.005
4-Chlorotoluene	None Detected	mg/kg	0.005
Dibromochloromethane	None Detected	mg/kg	0.005
1,2-Dibromo-3-Chloropropane	None Detected	mg/kg	0.005
1,2-Dibromoethane	None Detected	mg/kg	0.005
Dibromomethane	None Detected	mg/kg	0.005
1,2-Dichlorobenzene	None Detected	mg/kg	0.005
1,3-Dichlorobenzene	None Detected	mg/kg	0.005
1,4-Dichlorobenzene	None Detected	mg/kg	0.005
Dichlorodifluoromethane	None Detected	mg/kg	0.005
1,1-Dichloroethane	None Detected	mg/kg	0.005
1,2-Dichloroethane	None Detected	mg/kg	0.005
1,1-Dichloroethene	None Detected	mg/kg	0.005
cis-1,2-Dichloroethene	None Detected	mg/kg	0.005
trans-1,2-Dichloroethene	None Detected	mg/kg	0.005
1,2-Dichloropropane	None Detected	mg/kg	0.005
1,3-Dichloropropane	None Detected	mg/kg	0.005
2,2-Dichloropropane	None Detected	mg/kg	0.005
1,1-Dichloropropene	None Detected	mg/kg	0.005
cis-1,3-Dichloropropene	None Detected	mg/kg	0.005
trans-1,3-Dichloropropene	None Detected	mg/kg	0.005
Ethyl Benzene	None Detected	mg/kg	0.005
Hexachlorobutadiene	None Detected	mg/kg	0.005
Isopropylbenzene	None Detected	mg/kg	0.005
p-Isopropyltoluene	None Detected	mg/kg	0.005
Methylene Chloride	None Detected	mg/kg	0.01
Naphthalene	None Detected	mg/kg	0.005
n-Propylbenzene	None Detected	mg/kg	0.005

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: M. WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/07/97
Laboratory No.: 97-04853-5

Sample Description: PL-28'

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Styrene	None Detected	mg/kg	0.005
1,1,1,2-Tetrachloroethane	None Detected	mg/kg	0.005
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.005
Tetrachloroethene	None Detected	mg/kg	0.005
Toluene	None Detected	mg/kg	0.005
1,2,3-Trichlorobenzene	None Detected	mg/kg	0.005
1,2,4-Trichlorobenzene	None Detected	mg/kg	0.005
1,1,1-Trichloroethane	None Detected	mg/kg	0.005
1,1,2-Trichloroethane	None Detected	mg/kg	0.005
Trichloroethene	None Detected	mg/kg	0.005
Trichlorofluoromethane	None Detected	mg/kg	0.005
1,2,3-Trichloropropane	None Detected	mg/kg	0.005
1,2,4-Trimethylbenzene	None Detected	mg/kg	0.005
1,3,5-Trimethylbenzene	None Detected	mg/kg	0.005
Vinyl Chloride	None Detected	mg/kg	0.005
Total Xylenes	None Detected	mg/kg	0.01
Methyl-t-butylether	None Detected	mg/kg	0.005

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	99.	70-121
Toluene-d8	98.	81-117
4-Bromofluorobenzene	100.	74-121

Note: End CCV not analyzed due to instrument failure.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

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BC LABORATORIES INC.

SAMPLE RECEIPT FORM -Rev. No.3 4/10/97

LAB NUMBER: 07-4853	TIME RECEIVED: 8:05p	DATE RECEIVED: 5/7/97	RECEIVED BY: MO

SHIPPING SPECIFICATIONS

Federal Express ☐ UPS ☐ Hand Delivery ☐

Lab Field Service ☒ Other ☐ (Specify) _____

SHIPPING CONTAINER

Ice Chest ☒ Box ☐

None ☐ Other ☐ (Specify) _____

SAMPLE CONDITION

Ice Chest ID	Ice Chest ID	Ice Chest ID	Ice Chest ID	Ice Chest ID	Ice Chest ID
Temperature -.10 °C	Temperature ____ °C	Temperature ____ °C	Temperature ____ °C	Temperature ____ °C	Temperature ____ °C
Emissivity .45					
Container Metal					

Ice ☒ Blue Ice ☐ None ☐ Comments: _____

Custody Seals: Ice Chest ☐ Containers ☐ None ☒

All samples received? Yes ☒ No ☐ All samples intact? Yes ☒ No ☐ Description match COC? Yes ☒ No ☐

SAMPLE CONTAINERS

Sample #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
QT GENERAL MINERAL/ GENERAL PHYSICAL																				
PT PE UNPRESERVED																				
QT INORGANIC CHEMICAL METALS																				
PT INORGANIC CHEMICAL METALS																				
PT CYANIDE																				
PT NITROGEN FORMS																				
PT TOTAL SULFIDE																				
2oz. NITRATE / NITRITE																				
100ml TOTAL ORGANIC CARBON																				
QT TOX																				
HEMICAL OXYGEN DEMAND																				
100ml PHENOLICS																				
40ml VOA VIAL TRAVEL BLANK																				
40ml VOA VIAL																				
VOA SET (3 VIALS, 1TB)																				
QT EPA 413.1, 413.2, 418.1																				
PT ODOR																				
RADIOLOGICAL																				
BACTERIOLOGICAL																				
PT EPA 504																				
QT EPA 508/608/8080																				
QT EPA 515.1/8150																				
QT EPA 525																				
QT EPA 525 TRAVEL BLANK																				
100ml EPA 547																				
100ml EPA 531.1																				
QT EPA 548																				
QT EPA 549																				
QT EPA 632																				
QT EPA 8015M																				
QT QA/QC																				
QT AMBER																				
8 OZ. JAR																				
32 OZ. JAR																				
SOIL SLEEVE	X	X	X	X	X															
VOA VIAL																				
STIC BAG																				

Comments: _____

Completed by: _____

(F:\WP60\DATA\DOCS\SHEILAH\FORMS\SAMREC.FRM

CHAIN OF CUSTODY

BC LABORATORIES, INC.
4100 Atlas Court • Bakersfield, CA 93308
(805) 327-4911 • FAX (805) 327-1918

Report To: M. WINEFIELD

Name: POWERINE OIL CO.
Address: 12354 LAKELAND
City: SANTA FE SPRINGS
State: CA Zip: 90670
Attn:
Phone: 562/944-6111

Project:
Project #:
Sampler Name:
Other:
97-4853

Analysis Requested: 8260 WQ. MTBE

DISTRIBUTION: SE MG

Lab#	Sample Description	Date & Time Sampled	Matrix (S) Soil (SL) Sludge (W) Water (Other)	Samples rec. cold (y/n)	Custody Seals (y/n)	Results Needed by: Date & Time	Number and Container Type
1 1	PL-7-4'	5/6/97	S			5/8,1600	1
2 2	PL-9-5'	5/6/97	S			5/8,1600	1
3 3	PL-24-4'	5/7/97	S			5/8,1600	1
4 4	PL-17	5/7/97	S			5/8,1600	1
5 5	PL-28	5/7/97	S			5/8,1600	1

NUMBERING CHECKED BY M.Ch

Comment:

Billing Info:
Name: POWERINE OIL CO.
Address FILE
City State
Attention:
Time:
Miles:
P.O.#

Sample Disposal
☐ BC Disposal @ 5.00 ea.
☐ Return to client

Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
M. Winefield	Steve Watkins	5/7/97 17:05
WATKINS 8:02pm	M. Ch	5/7/97 8:05p

JONES ENVIROMENTAL
TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Powerine Oil

Date: 5-5-97

Project Name: LAKELAND

Client Project #:

Project Address: 12354 LAKELAND RD.

SANTA fe SPRINGS

Project Contact:

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☒ Normal
- ☐ Mobile Lab

JEL Project #: BL638

Page 1 of 1

Lab Use Only
Sample Condition as Received:
Chilled ☑ yes ☐ no
Sealed ☐ yes ☒ no

Analysis Requested

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	8015 (M) - FULL	8020							Number of Containers	Container/Comments
	SU-1-8' / SUMP	5/5/97	3:10	BL638-1	S	X	X							1	BRASS SLEEVES
	SU-2-9' / SUMP	↓	3:15	BL638-2	S	X	X							1	
	SU-3-3' / SUMP	↓	3:18	BL638-3	S	X	X							1	
	SU-4-3' / SUMP	↓	3:22	BL638-4	S	X	X							1	
	4N-NW-5' /	↓	3:40	BL638-5	S	X	X							1	
	4N-N-6' /	↓	3:43	BL638-6	S	X	X							1	
	4N-E-5' /	↓	3:46	BL638-7	S	X	X							1	

❶ Relinquished by (signature): Chris M. Johnson	Date: 5/5/97	❷ Received by (signature): [signature]	Date: 5/5/97	7	Total Number of Containers
Company: Powerine Oil Co.	Time: 17:35	Company: JEL	Time: 17:35	Additional Comments	
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date		
Company	Time	Company	Time		

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JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:**	B-1641
		Client Ref. No.:	
Attn:	Matt Winefield	**Date Sampled:**	05/06/97
		Date Received:	05/06/97
Project:	Lakeland	**Date Analyzed:**	05/06/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. Mod 8015 Diesel - Simulated Distillation Extended Range

Approval:

Steve Jones, Ph.D.
Laboratory Manager

P.O. Box 5387
Fullerton, CA 92838

(714)449-9937
Fax (714)449-9685

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JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1641
Attn:	Matt Winefield	**Date Sampled:**	05/06/97
		Date Received:	05/06/97
Project:	Lakeland	**Date Analyzed:**	05/06/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (mg/Kg)					Reporting Limits	Surrogate
Sample ID	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	(mg/Kg)	Recovery %
PL-1-3	ND	ND	ND	ND	ND	0.005	97
PL-3-4	ND	ND	ND	ND	ND	0.005	96
PL-5-4	ND	0.029	0.020	0.034	0.11	0.005	114
PL-7-5	7.6	2.7	2.3	12	34	1.0	108
PL-8-5	ND	ND	ND	ND	0.060	0.005	96
PL-9-5	9.3	0.92	1.4	11	44	1.0	110
R6-12-5	ND	ND	ND	0.006	0.018	0.005	98

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1641
Attn:	Matt Winefield	**Date Sampled:**	05/06/97
		Date Received:	05/06/97
Project:	Lakeland	**Date Analyzed:**	05/06/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: PL-24-4 (B-1642)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	100%	108%	7.7%	65 - 125
o-Xylene	100%	101%	2.7%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:**	B-1641
		Client Ref. No.:	
Attn:	Matt Winefield	**Date Sampled:**	05/06/97
		Date Received:	05/06/97
Project:	Lakeland	**Date Analyzed:**	05/06/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

Sample ID
Concentration (mg/Kg)

Carbon Chain Range	PL-1-3	PL-3-4	PL-5-4	PL-7-5	PL-8-5	PL-9-5	R6-12-5
C6-C7	ND	ND	14	11	ND	2.2	ND
C8-C9	ND	ND	1.1	240	7.9	240	ND
C10-C11	ND	ND	2.6	710	12	410	ND
C12-C13	ND	ND	ND	230	4.8	120	ND
C14-C15	ND	ND	ND	59	1.9	13	ND
C16-C17	ND	ND	ND	31	7.5	5.6	ND
C18-C19	ND	ND	ND	47	1.5	1.2	ND
C20-C23	ND	ND	ND	70	9.5	3.2	ND
C24-C27	ND	ND	ND	16	9.3	ND	ND
C28-C31	ND	ND	ND	31	6.4	ND	ND
C32-C35	ND	ND	ND	23	6.8	ND	ND
C36-C39	ND	ND	ND	7.1	1.9	ND	ND
C40-C43	ND	ND	ND	ND	ND	ND	ND
C44+	ND	ND	ND	ND	ND	ND	ND
Total	ND	ND	18	1500	70	800	ND
Reporting Limits	10	10	10	10	10	10	10
Surrogate Recovery %	100	101	99	118	100	91	96

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:**	B-1641
		Client Ref. No.:	
Attn:	Matt Winefield	**Date Sampled:**	05/06/97
		Date Received:	05/06/97
Project:	Lakeland	**Date Analyzed:**	05/06/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

Sample Spiked: PL-24-4 (B-1642)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	93%	92%	1.2%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Powerine Oil Comp.
Date: 5/6/97
Project Name: LAKELAND RD.
Client Project #:
Project Address: 12354 LAKELAND RD. SANTA Fe Springs
Project Contact: MATT WINEFIELD

Turn Around Requested:
- ☐ Immediate Attention
- ☒ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☐ Mobile Lab

JEL Project #: B1641

Page 1 of 2

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☐ no
Sealed ☐ yes ☐ no

Analysis Requested

	Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	8020	8015							Number of Containers	Container/Comments
		PL-1-3'	5/6/97	09:36	B1641-1	S	X	X							1	
☆		PL-2-3'	5/6/97	09:37	B1641-2	S									1	HOLD TILL FURTHER NOTICE
		PL-3-4'	5/6/97	09:39	B1641-3	S	X	X							1	
☆		PL-4-3.5'	5/6/97	09:41	B1641-4	S									1	HOLD TILL FURTHER NOTICE
		PL-5-4'	5/6/97	09:41	B1641-5	S	X	X							1	
☆		PL-6-4'	5/6/97	09:43	B1641-6	S									1	HOLD TILL FURTHER NOTICE
		PL-7-5'	5/6/97	09:45	B1641-7	S	X	X							1	
☆		PL-8-5'	5/6/97	09:50	B1641-8	S	X	X							1	~~HOLD TILL FURTHER NOTICE~~ 5/7 RUN TEST
		PL-9-5'	5/6/97	09:56	B1641-9	S	X	X							1	
☆		PL-10-5'	5/6/97	10:01	B1641-10	S									1	HOLD TILL FURTHER NOTICE

❶ Relinquished by (signature): [signature]	Date: 5/6/97	❷ Received by (signature): [signature]	Date: 5/6/97	Total Number of Containers: 10
Company:	Time: 19:00	Company: JEL	Time: 19:00	Additional Comments: ☆ PLEASE HOLD TILL FURTHER NOTICE.
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date	
Company	Time	Company	Time	

JONES ENVIROMENTAL
TESTING LABORATORIES

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FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Powerine Oil Co.
Date: 5/6/97
Project Name: LAKELAND RD
Client Project #:
Project Address: 12354 LAKELAND RD. SANTA fe Springs CA
Project Contact:

Turn Around Requested:
- ☐ Immediate Attention
- ☒ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☐ Mobile Lab

JEL Project #: B1641

Page 2 of 2

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☐ no
Sealed ☐ yes ☐ no

Analysis Requested

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	8020	8015M							Number of Containers	Container/Comments
VOID	PL-11-5' VOID	5/6/97	10:05		~~S~~	~~X~~	~~X~~							~~1~~	
☆	R6-10-5'	5/6/97	15:58	B1641-11	S									1	HOLD TILL FURTHER NOTICE RUNTEST 5/7
☆	R6-11-5'	5/6/97	16:10	B1641-12	S									1	HOLD TILL FURTHER NOTICE
	R6-12-5'	5/6/97	16:15	B1641-13	S	X	X							1	

❶ Relinquished by (signature): Christie Johnson	Date: 5/6/97	❷ Received by (signature): [signature]	Date: 5/6/97
Company:	Time: 19:00	Company: JEL	Time: 19:00
❸ Relinquished by (signature)	Date	❶ Received by Laboratory (signature)	Date
Company	Time	Company	Time

Total Number of Containers: 9 CMJ

Additional Comments: ☆ PLEASE HOLD TILL FURTHER NOTICE.

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1642
Attn:	Matt Winefield	**Date Sampled:** **Date Received:**	05/07/97 05/07/97
Project:	Lakeland	**Date Analyzed:**	05/07/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. Mod 8015 Diesel - Simulated Distillation Extended Range

Approval:

Steve Jones, Ph.D.
Laboratory Manager

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Fullerton, CA 92838

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Fax (714)449-9685

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Testing Laboratories

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LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108	**JEL Ref. No.:**	B-1642
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	
Attn:	Matt Winefield	**Date Sampled:**	05/07/97
		Date Received:	05/07/97
Project:	Lakeland	**Date Analyzed:**	05/07/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (mg/Kg)					Reporting Limits	Surrogate
Sample ID	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	(mg/Kg)	Recovery %
PL-15-4	ND	ND	0.25	0.54	1.7	0.10	100
PL-17-4	ND	0.010	ND	ND	ND	0.005	98
PL-6-6	ND	0.48	0.68	9.0	3.6	0.25	91
PL-19-3	ND	ND	ND	ND	ND	0.005	100
PL-21-4	ND	ND	ND	ND	ND	0.005	90
PL-23-4	ND	ND	ND	ND	ND	0.005	101
PL-24-4	ND	ND	ND	ND	ND	0.005	83
PL-25-4	ND	9.3	19	23	69	0.67	--
PL-28-5	ND	ND	0.55	0.96	3.7	0.50	102
PL-26-3.5	ND	ND	ND	0.009	0.019	0.005	94
PL-30-5	ND	ND	ND	ND	0.005	0.005	98
PL-31-5	ND	ND	ND	ND	ND	0.005	98
PL-32-5	ND	ND	12	15	41	0.50	--

ND = Not Detected

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Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1642
Attn:	Matt Winefield	**Date Sampled:**	05/07/97
		Date Received:	05/07/97
Project:	Lakeland	**Date Analyzed:**	05/07/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: PL-31-5

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	96%	99%	3.9%	65 - 125
o-Xylene	95%	102%	7.7%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1642
Attn:	Matt Winefield	**Date Sampled:**	05/07/97
		Date Received:	05/07/97
Project:	Lakeland	**Date Analyzed:**	05/07/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

Sample ID
Concentration (mg/Kg)

Carbon Chain Range	PL-15-4	PL-17-4	PL-6-6	PL-19-3	PL-21-4	PL-23-4	PL-24-4
C6-C7	ND	ND	ND	ND	ND	ND	ND
C8-C9	6.6	ND	51	ND	ND	ND	ND
C10-C11	50	ND	110	ND	ND	ND	ND
C12-C13	290	ND	70	ND	ND	ND	ND
C14-C15	830	ND	42	ND	ND	ND	ND
C16-C17	540	3.9	41	ND	4.5	5.0	ND
C18-C19	530	ND	30	ND	2.6	ND	ND
C20-C23	710	ND	44	ND	9.4	ND	ND
C24-C27	440	ND	3.4	ND	5.9	ND	ND
C28-C31	490	17	4.2	ND	25	3.3	ND
C32-C35	400	51	19	ND	38	8.6	ND
C36-C39	450	72	34	ND	25	11	ND
C40-C43	510	50	25	ND	14	5.5	ND
C44+	35	12	7.7	ND	5.6	ND	ND
Total	5300	210	480	ND	130	33	ND
Reporting Limits	10	10	10	10	10	10	10
Surrogate Recovery %	--	100	94	94	100	84	93

ND = Not Detected

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Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1642
Attn:	Matt Winefield	**Date Sampled:**	05/07/97
		Date Received:	05/07/97
Project:	Lakeland	**Date Analyzed:**	05/07/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

Sample ID
Concentration (mg/Kg)

Carbon Chain Range	PL-25-4	PL-28-5	PL-26-3.5	PL-30-5	PL-31-5	PL-~~9~~-5 32
C6-C7	ND	ND	ND	ND	ND	15
C8-C9	100	ND	ND	ND	ND	230
C10-C11	410	ND	ND	ND	ND	230
C12-C13	360	2.5	1.2	ND	ND	120
C14-C15	150	8.4	2.1	ND	ND	19
C16-C17	34	13	6.2	ND	ND	3.2
C18-C19	19	5.7	ND	ND	ND	6.4
C20-C23	13	14	1.2	ND	ND	13
C24-C27	25	27	ND	ND	ND	5.0
C28-C31	17	36	ND	ND	ND	8.4
C32-C35	19	110	3.1	ND	ND	3.2
C36-C39	46	150	6.2	ND	ND	ND
C40-C43	30	290	1.3	ND	ND	ND
C44+	9.0	30	ND	ND	ND	ND
Total	1200	690	21	ND	ND	650
Reporting Limits	10	10	10	10	10	10
Surrogate Recovery %	117	125	95	98	93	105

ND = Not Detected

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QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1642
Attn:	Matt Winefield	**Date Sampled:**	05/07/97
		Date Received:	05/07/97
Project:	Lakeland	**Date Analyzed:**	05/07/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

Sample Spiked: PL-31-5

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	101%	110%	8.0%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Powerine Oil
Date: 5/7/97
Project Name: LAKELAND RD
Client Project #:
Project Address: 12354 LAKELAND RD. SANTA Fe Springs
Project Contact: MATT WINEFIELD

Turn Around Requested:
- ☐ Immediate Attention
- ☒ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☐ Mobile Lab

JEL Project #: B1642

Page 1 of 3

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Analysis Requested

	Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	EPA 8020	MDD 8015 (FULL RANGE)							Number of Containers	Container/Comments
		PL-8-	5/7/97		B1642-1	S									1	
		PL-9-	5		B1642-2	S									1	
		PL-11-			B1642-3	S									1	
*		PL-15-4		08:30	B1642-4	S	X	X							1	
		PL-16-4		08:32	B1642-5 [redacted]	S	\								1	
*		PL-17-4		08:35	B1642-6	S	X	X							1	
		PL-18-4		08:40	B1642-7	S									1	
*		PL-19-3		08:42	B1642-8	S	X	X							1	
		PL-20-3		08:44	B1642-9	S									1	
*		PL-21-4		08:47	B1642-10	S	X	X							1	

❶ Relinquished by (signature): Chris M. Johnson	Date: 5/7/97	❷ Received by (signature): [signature]	Date: 5/7/97	Total Number of Containers: 10
Company:	Time: 17:05	Company: JEL	Time: 17:05	Additional Comments:
❸ Relinquished by (signature):	Date:	❹ Received by Laboratory (signature):	Date:	
Company:	Time:	Company:	Time:	

JONES ENVIRONMENTAL
TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Powerine Oil Company
Date: 5/7/97
Project Name: LAKELAND RA.
Client Project #:
Project Address: 12354 LAKELAND RD.
SANTA fe Springs
Project Contact: MATT Winefield

Turn Around Requested:
- ☐ Immediate Attention
- ☒ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☐ Mobile Lab

JEL Project #: B1642

Page: 1 of 2

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Analysis Requested

	Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	EPA - 8020	MOD - 8015 (FULL RANGE)							Number of Containers	Container/Comments
*		PL-6-6	5/7/97	09:40	B1642-11	S	X	X							1	
		PL-22-3		09:20	B1642-12	S									1	
*		PL-23-4		09:25	B1642-13	S	X	X							1	
*		PL-24-4		09:27	B1642-14	S	X	X							1	
*		PL-25-4		10:10	B1642-15	S	X	X							1	
*		PL-26-3.5		10:12	B1642-16	S	X	X							1	
		PL-27-4		10:20	B1642-17	S										
*		PL-28-5		10:22	B1642-18	S	X	X							1	

❶ Relinquished by (signature): Chris M. Johnson	Date: 5/7/97	❷ Received by (signature): [illegible]	Date: 5/7/97		Total Number of Containers
Company:	Time: 17:05	Company: JEL	Time: 17:05	Additional Comments	
❸ Relinquished by (signature):	Date:	❹ Received by Laboratory (signature):	Date:		
Company:	Time:	Company:	Time:		

JONES ENVIRONMENTAL
TESTING LABORATORIES

P.O. BOX 5387
FULLERTON, CA 92635

Tel: 714 449-9937
Fax: 714 449-9685

Chain-Of-Custody Record

Client: Powerine Oil Co.
Date: 5/7/97
Project Name: LAKELAND RD.
Client Project #:
Project Address: 12354 LAKELAND RD. SANTA FE SPRINGS CA
Project Contact: MATT WINEFIELD

Turn Around Requested:
- ☐ Immediate Attention
- ☒ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☐ Mobile Lab

JEL Project #: B1642
Page 3 of 3

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☐ no
Sealed ☐ yes ☐ no

Analysis Requested: EPA 8020 MOD 8015 (FULL RANGE)

	Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	EPA 8020	MOD 8015 (FULL RANGE)							Number of Containers	Container/Comments
*		PL-30-5	5/7	16:20	B1642-19	S	X	X							1	
*		PL-31-5	↓	16:22	B1642-20	S	X	X							1	
*		PL-32-5	↓	16:25	B1642-21	S	X	X							1	

❶ Relinquished by (signature): [signature]	Date: 5/7/97	❷ Received by (signature): [signature]	Date: 5/7/97	3 Total Number of Containers
Company:	Time: 17:05	Company: JEL	Time: 17:05	Additional Comments
❸ Relinquished by (signature):	Date:	❹ Received by Laboratory (signature):	Date:	
Company:	Time:	Company:	Time:	

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	05/08/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:**	B-1643
		Client Ref. No.:	
Attn:	Matt Winefield	**Date Sampled:**	05/08/97
		Date Received:	05/08/97
Project:	Lakeland	**Date Analyzed:**	05/08/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. Mod 8015 Diesel - Simulated Distillation Extended Range

Approval:

Steve Jones, Ph.D.
Laboratory Manager

P.O. Box 5387
Fullerton, CA 92838

(714)449-9937
Fax (714)449-9685

B

APPENDIX B

Second Addendum to Fate and Transport/Human Health Risk Assessment

Harding Lawson Associates

May 12, 1997

37439 1

Mr. Matt Winefield
Powerine Oil Company
12354 Lakeland Road
Santa Fe Springs, California 90670

Second Addendum to Fate and Transport/Human Health Risk Assessment
12354 Lakeland Road
Santa Fe Springs, California

Dear Mr. Winefield:

On behalf of the Powerine Oil Company (Powerine), Harding Lawson Associates (HLA) has prepared this second addendum to the *Fate and Transport/Human Health Risk Assessment* (RA) (HLA, 1997a) for the Lakeland property (the Site) located at 12354 Lakeland Road in the city of Santa Fe Springs, Los Angeles County, California.

BACKGROUND

The results of the RA concluded that there were no significant risks to human health or groundwater quality based on Site characterization conducted through January 1997. An initial addendum (first addendum) to the RA was prepared by HLA on April 30, 1997, which updated the risk characterization to include additional site soil data collected during removal of aboveground and underground storage tanks (HLA, 1997b). The results of the first addendum concluded that the additional site characterization data collected during tank removal activities were supportive of no further action for soils at the Site (e.g., no significant risk to human health or groundwater quality). Risk assessment methodologies employed in the first addendum were approved by the Los Angeles Regional Water Quality Control Board (RWQCB) and were consistent with those employed in the RA (HLA, 1997a).

OBJECTIVE OF SECOND ADDENDUM

This letter report comprises a second addendum to the RA for the Site. This second addendum has been prepared to incorporate additional Site soil data collected by Powerine during abandonment of seven truck-loading racks, three primary sumps, and subsurface pipes. These field activities were conducted during the weeks of April 28 and May 5, 1997. Detailed information regarding field activities is provided in the *Final Closure Report*, dated May 12, 1997 (Powerine, 1997).

Analytical protocol for soil sampling was obtained from the RWQCB's closure requirements in its April 2, 1997 transmittal and from RWQCB direction obtained by Powerine during several Site inspections.

Approximately 5,100 cubic yards of soil was excavated from the Site based upon RWQCB direction obtained by Powerine during Site inspections. These remedial activities were not justified based on the results of the RA (HLA, 1997a), the first addendum to the RA (HLA, 1997b), and this second addendum to the RA.

Specific sample locations and excavation areas are shown in Powerine's *Final Closure Report* (Powerine, 1997).

HEALTH RISK CHARACTERIZATION

Methodology

In this second addendum to the RA, the chemicals of interest (COIs), toxicity assessment, and exposure assessment parameters are consistent with those employed in the *Fate and Transport/Human Health Risk Assessment, 12354 Lakeland Road* (HLA, 1997), with the exception of the concentration term. Two datasets were evaluated in this second addendum to the RA:

1. **Baseline (Pre-Excavation) Site Dataset** - The original Sitewide dataset evaluated in the RA (HLA, 1997a) plus the additional soil data reported in the first addendum (HLA, 1997b) plus all soil data collected during the latest field activities (Powerine, 1997b).

2. **Post-Excavation Site Dataset** - The baseline dataset minus data representing soil sample locations within excavated areas.

For both datasets, and the arithmetic mean and 95th UCL of the mean concentrations were recalculated (Tables 1 and 2, respectively) to provide conservative estimates of exposure concentrations in accordance with CalEPA risk assessment guidance.

The results of the risk characterization are summarized in Tables 3 and 4 for the baseline dataset and the post-excavation dataset, respectively. Calculational spreadsheets are presented in Attachments A and B for the baseline dataset and post-excavation dataset.

Baseline (Pre-Excavation) Risk Characterization

For the hypothetical onsite employee with typical exposure (average worker) working at the Site for a duration of 4.2 years, the predicted noncancer hazard index is 0.0062. This value is 161-fold lower than exposures considered safe by regulatory agencies for noncancer hazard. For the hypothetical onsite employee with high-end exposure (reasonable maximum exposure [RME] worker) working at the Site for a duration of 25 years, the predicted noncancer hazard index is 0.026. This value is 38-fold lower than acceptable exposures for noncancer hazard.

For the typical worker, the incremental cancer risk is predicted to be 0.05 in one million. For the worker with high end exposures (RME worker), the incremental cancer risk is predicted to be 1 in one million. These values are approximately 200-fold and 10-fold lower, respectively, than the one in one-hundred thousand cancer risk notification level promulgated in the California Safe Drinking Water Act (i.e., Proposition 65).

In summary, for the baseline dataset, it may be confidently concluded that the petroleum hydrocarbons detected in soil at the Site do not pose a noncarcinogenic hazard or significant cancer risk for a future worker at the Site.

Post-Excavation Risk Characterization

For the hypothetical onsite employee with typical exposure (average worker) working at the Site for a duration of 4.2 years, the predicted noncancer hazard index is 0.0037. This value is 270-fold lower

than exposures considered safe by regulatory agencies for noncancer hazard. For the hypothetical onsite employee with high-end exposure (RME worker) working at the Site for a duration of 25 years, the predicted noncancer hazard index is 0.013. This value is 77-fold lower than acceptable exposures for noncancer hazard.

For the typical worker, the incremental cancer risk is predicted to be 0.03 in one million. For the worker with high-end exposures (RME worker), the incremental cancer risk is predicted to be 0.5 in one million. These values are approximately 333-fold and 17-fold lower, respectively, than the one in one-hundred thousand cancer risk notification level promulgated in the California Safe Drinking Water Act (i.e., Proposition 65).

In summary, for the post-excavation dataset, it may be confidently concluded that the petroleum hydrocarbons detected in soil at the Site do not pose a noncarcinogenic hazard or significant cancer risk for a future worker at the Site.

LEACHATE EVALUATION

In the initial RA, a model simulation was conducted (using SESOIL) to conservatively evaluate the potential for the indicator chemicals to migrate to groundwater from soil at the Site. The modeling was based on a thorough and adequate site characterization and predicted that residual indicator chemicals would not reach the water table within 99 years (the maximum time allowed by SESOIL) due to the low soil permeability. In this second addendum, a leachate evaluation for the final baseline (pre-excavation) dataset is presented.

Data used in the initial RA (maximum values for each depth interval shown) and in the final baseline (pre-excavation) leachate evaluation are summarized in the table provided below.

Soil Data Summary for Leachate Evaluations

	Soil concentrations in mg/kg (initial RA data / final baseline data)					
Model depth (feet below ground surface)	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naphthalene
0 - 25	28 / 9.3	31 / 28	25 / 49	77 / 290	3.3 / 1.5	39 / 25
26 - 30	200	900	75	2000	0.019	19
31 - 45	28	100	41	210	0.05	13
46 - 55	130	900	270	1800	0	110

As shown in the table, the only indicator chemicals for which final baseline soil concentrations exceed those identified during the initial RA are ethylbenzene and xylenes. The values detected for these COIs

in the upper 25 feet are substantially lower than those closer to the water table (e.g., those that have the most impact on the leachate evaluation). Due to the low soil permeability and the 0 to 25-foot sample location relative to greater underlying soil concentrations, it is concluded that soils at the Site do not present a risk to groundwater using the updated soil dataset.

Yours very truly,

HARDING LAWSON ASSOCIATES

James Van de Water

James Van de Water, R.G.
Senior Hydrogeologist

Richard Pesin

Richard Pesin
Senior Toxicologist

N:\POWERINE\MAY9ADEN.DOC

Attachments: Tables 1 through 4
Attachments A and B

Quality Control Reviewer

Teri L. Copeland, M.S., D.A.B.T.
Principal Toxicologist

Printed on Recycled Paper.

References

Harding Lawson Associates. 1997a. *Fate and transport/human health risk assessment, 12354 Lakeland Road, Santa Fe Springs, California.* March 21.

Harding Lawson Associates. 1997b. *Addendum to fate and transport/human health risk assessment, 12354 Lakeland Road, Santa Fe Springs, California.* April 30.

Powerine Oil Company. 1997. *Final closure report, 12354 Lakeland Road, Santa Fe Springs, California.* May 12.

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Table 1
Summary of Indicator Chemical Concentrations (sorted by depth)
Updated Pre-excavation Data Set for
Powerine Lakeland Property, Santa Fe Springs, California

Location	Depth (feet)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
PT-10	2	0.033	0.029	0.063	0.39	NV	NA
PT-13B	2	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-19	2	0.0025	0.0025	0.0025	0.0025	NV	NA
PTR-4	2	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
PTR-5	2	0.5	0.5	0.5	4.4	1.5	0.5
TK4637*	2	0.25	20	3.9	88	NV	NA
1501	3	0.0025	0.0025	0.0025	0.005	1.5	0.0025
1502	3	0.025	0.025	0.006	0.014	0.025	0.025
3001	3	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
3002	3	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
3701	3	0.12	0.37	2.1	2.2	0.15	2.6
4637	3	0.008	0.009	0.026	0.01	0.40	0.65
5004	3	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
5005	3	0.0025	0.007	0.0025	0.016	0.014	0.0025
5006	3	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
R3-A-N	3	0.0025	0.0025	0.0025	0.013	NV	NA
R3-B-M	3	0.0025	0.0025	0.0025	0.008	NV	NA
R3-C-S	3	0.0025	0.0025	0.0025	0.030	NV	NA
R4-A-N*	3	0.075	2.3	4.1	12	NV	NA
R4-B-M*	3	0.33	11	22	57	NV	NA
R4-C-S*	3	0.0025	0.0025	0.0025	0.009	NV	NA
RN-A-N*	3	0.25	3.5	3.7	13	NV	NA
RN-B-M*	3	0.92	9.8	16	45	NV	NA
SU-3*	3	0.17	0.70	2.1	2.4	NV	NA
SU-4*	3	13	21	64	50	NV	NA
PL-1	3	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-19	3	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-26	3.5	0.0025	0.0025	0.009	0.019	NV	NA
R6-E-S*	4	0.5	16	23	70	NV	NA
R6-F-M*	4	0.5	43	20	140	NV	NA
R6-6-N*	4	0.0025	0.006	0.008	0.026	NV	NA
PL-3	4	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-5	4	0.029	0.020	0.034	0.11	NV	NA
PL-15	4	0.05	0.25	0.54	1.7	NV	NA
PL-17	4	0.010	0.0025	0.0025	0.0025	0.0025	0.0025
PL-21	4	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-23	4	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-24	4	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
PL-25	4	9.3	19	23	69	NV	NA
PT-11	5	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-13	5	0.25	1.2	2.1	7.2	NV	NA
PT-13A	5	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-17	5	0.0025	0.0025	0.0025	0.005	NA	0.0025
PT-23	5	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-26	5	0.0025	0.0025	0.0025	0.005	NA	0.0025
PT-9	5	0.0025	0.0025	0.0025	0.007	NV	NA
R1-A-N	5	0.0025	0.033	0.11	0.17	NV	NA
RN-C-S	5	0.0025	0.0025	0.0025	0.0025	NV	NA
TK4637	5	0.0025	0.041	0.060	0.16	NV	NA
4N-NW	5	0.77	5.4	8.3	29	NV	NA

Table 1
Summary of Indicator Chemical Concentrations (sorted by depth)
Updated Pre-excavation Data Set for
Powerine Lakeland Property, Santa Fe Springs, California

Location	Depth (feet)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
4N-E	5	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-7*	5	2.7	6	24	80	1	39
PL-7N*	5	0.0025	0.0025	0.0025	0.007	NV	NA
PL-7W*	5	0.0025	0.0025	0.012	0.049	NV	NA
PL-8	5	0.0025	0.0025	0.0025	0.060	NV	NA
PL-9	5	0.92	1.4	11	110	1.5	25
R6-12	5	0.0025	0.0025	0.006	0.018	NV	NA
PL-28	5	0.25	0.55	0.96	3.7	0.0025	0.0025
PL-28A	5	0.0025	0.0025	0.0025	0.02	NV	NA
PL-30	5	0.0025	0.0025	0.0025	0.005	NV	NA
PL-31	5	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-32	5	0.25	12	15	41	NV	NA
R1-B-M	6	0.0025	0.12	0.14	0.25	NV	NA
R1-C-M	6	0.0025	0.0025	0.0025	0.005	NV	NA
R2-A-M	6	0.0025	0.020	0.026	0.051	NV	NA
4N-N	6	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-6	6	0.48	0.68	9.0	3.6	NV	NA
OSU-4	6	0.0025	0.0025	0.0025	0.011	NV	NA
R2-B-M	7	0.0025	0.023	0.042	0.052	NV	NA
SU-1	8	0.5	12	31	43	NV	NA
MW-206	9	0.0025	0.0025	0.0025	0.0025	NA	NA
RN-D-W	9	0.5	28	17	120	NA	NA
SU-2	9	0.5	3.3	12	15	NA	NA
PL-7	10	12	25	29	57	NV	NA
PT-27	10	0.0025	0.0025	0.0025	0.005	NA	0.0025
7A	10	1.4	26	49	290	NA	NA
7B	10	2.3	6.3	13	57	NA	NA
6A	12	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
6B	12	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
1A	14	0.0025	0.0025	0.0025	0.0025	NA	NA
1B	14	0.0025	0.0025	0.0025	0.0025	NA	NA
2A	14	0.0025	0.0025	0.0025	0.0025	NA	NA
2B	14	0.0025	0.0025	0.0025	0.0025	NA	NA
3A	14	0.0025	0.0025	0.0025	0.0025	NA	NA
3B	14	0.0025	0.0025	0.0025	0.0025	NA	NA
MW-206	14	0.0025	0.0025	0.0025	0.0025	NA	NA
PT-6	15	1.6	10.	13	40	NV	NA
PT-14	15	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-15	15	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-18	15	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-19	15	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-2	15	0.005	0.005	0.01	0.015	NV	NA
PT-23	15	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-3	15	1.5	16	25	60	NV	NA
PTR-1	15	0.0025	0.0025	0.0025	0.005	0.24	0.0025
PTR-2	15	1.0	4.0	10	60	3.3	39
PT-22	19	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-10	20	0.0025	0.0025	0.0076	0.012	NV	NA
PT-11	20	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-12	20	0.5	0.009	0.006	0.034	NV	NA

Table 1
Summary of Indicator Chemical Concentrations (sorted by depth)
Updated Pre-excavation Data Set for
Powerine Lakeland Property, Santa Fe Springs, California

Location	Depth (feet)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
PT-13A	20	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-13B	20	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-16	20	0.0025	0.0025	0.0025	0.005	NA	0.0025
PT-17	20	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-24	20	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-3	20	**2.7**	**18**	**23**	**57**	NV	NA
PT-9	20	0.0025	**0.013**	**0.031**	**0.063**	NV	NA
PTR-7	20	0.0025	0.0025	0.0025	0.005	**0.28**	0.0025
PT-20	21	0.0025	0.0025	0.0025	0.0025	NV	NA
PT- 6	25	**28**	**31**	**25**	**77**	NV	NA
PT-1	25	0.005	0.005	**0.011**	**0.012**	NV	NA
PT-4	25	0.0025	0.0025	0.0025	**0.005**	NV	NA
PT-5	25	**0.009**	0.0025	0.0025	**0.009**	NV	NA
PT-7	25	0.5	**1.6**	**2.7**	**10**	NV	NA
PTR-2	25	**2.6**	**1.6**	**7.0**	**22**	NA	NA
PT-1	29	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-25	29	0.5	0.5	0.5	**0.008**	NV	NA
PT-13	30	0.005	0.005	**0.01**	**0.014**	NV	NA
PT-8	30	**0.006**	**0.008**	**0.006**	**0.019**	NV	NA
PTR-3	30	**200**	**900**	**75**	**2000**	NA	NA
PTR-2	35	**14**	**130**	**49**	**340**	2.5	**19**
PTR-4	35	**22**	**25**	**19**	**58**	NA	NA
PTR-3	40	**46**	**180**	**84**	**400**	2.5	**12**
PTR-5	40	**0.057**	**0.0094**	**0.021**	**0.039**	0.0025	0.0025
PT-7	41	**0.056**	**0.019**	**0.029**	**0.057**	NV	NA
PTR-2	45	**13**	**100**	**32**	**210**	2.5	**13**
PTR-4	45	**25**	**55**	**41**	**120**	NA	NA
PTR-3	50	**28**	**50**	**40**	**120**	NA	NA
PTR-1	55	**0.087**	**0.12**	**0.013**	**0.090**	0.005	0.005
PTR-5	55	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
PTR-7	55	0.0025	0.0025	0.0025	0.005	**0.050**	0.0025
PTR-1	60	**0.050**	**0.025**	**0.010**	**0.045**	NA	NA
PTR-2	60	**130**	**900.**	**270**	**1800**	10	**110**
PTR-3	60	**1.7**	**7.3**	**2.7**	**19**	0.1	**2.8**
PTR-4	60	**9.4**	**49**	**14**	**90.**	0.15	**4.0**
PTR-5	60	**0.030**	**0.020**	**0.005**	**0.017**	NA	NA
PTR-6	60	**0.50**	**0.66**	**0.088**	**0.57**	0.015	**0.039**
PTR-2	65	0.0025	**0.014**	0.0025	**0.009**	NA	NA
PTR-3	65	**1.2**	**15**	**13**	**40**	NA	NA
PTR-4	65	**0.46**	**6.1**	**3.5**	**27**	0.15	**4.7**
PTR-6	65	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
PTR-7	65	**0.026**	**0.020**	0.0025	**0.014**	NA	NA
MW-206	69	0.0025	0.0025	0.0025	0.0025	NA	NA
PTR-1	70	0.0025	**0.011**	0.0025	**0.016**	NA	NA
PTR-2	70	**1.3**	**4.6**	**4.4**	**14**	NA	NA

STATISTICAL SUMMARY

STATISTICAL EVALUATION (0-3 feet)							
Number of Samples:		27	27	27	27	11	11
Minimum:		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Table 1
Summary of Indicator Chemical Concentrations (sorted by depth)
Updated Pre-excavation Data Set for
Powerine Lakeland Property, Santa Fe Springs, California

Location	Depth (feet)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
Maximum Detect:		13	21	64	88	2	3
Average Conc.		0.58	2.57	4.39	10.17	0.33	0.34
Standard Dev.		2.49	5.88	13.0	22.4	0.59	0.78
95% UCL		1.40	4.50	8.65	17.5	0.65	0.77
t value based on n		1.706	1.706	1.706	1.706	1.812	1.812
Concentration for direct contact pathways**:		**1.4**	**4.5**	**8.6**	**17.5**	**0.65**	**0.77**
STATISTICAL EVALUATION (0-15 feet)							
Number of Samples:		96	96	96	96	20	23
Minimum:		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Maximum:		13	43	64	290	3.3	39
Average Conc.		0.55	3.2	4.7	16.4	0.48	4.6
Standard Dev.		2.04	7.5	10.7	40.6	0.87	12.0
95% UCL:		0.90	4.5	6.6	23.3	0.82	8.9
t value based on n		1.662	1.662	1.662	1.662	1.729	1.717
Concentration input into air emissions model**:		**0.90**	**4.5**	**6.6**	**23.3**	**0.82**	**8.9**
STATISTICAL EVALUATION (>15-85 feet)							
Number of Samples:		46	46	46	46	14	15
Minimum:		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Maximum Detect:		200	900	270	2000	3.3	110
Average Conc.		11.4	53.7	15.3	117.2	1.3	11.0
Standard Dev.		35.3	186.0	43.1	393.9	2.7	28.0
95% UCL:		20.2	99.8	25.9	215	2.58	23.8
t value based on n		1.679	1.679	1.679	1.679	1.771	1.761
Concentration input into air emissions model**:		**20.2**	**99.8**	**25.9**	**215**	**2.58**	**23.8**

Notes:

All units reported in milligrams per kilogram (mg/kg) or ppm

* May 1997 excavation included removal of this sample location

** If the 95% UCL is greater than the maximum detected concentration (i.e., limited sample size), then the maximum detected concentration was used (used for benzene, toluene, ethylbenzene and MTBE at 0-3 foot depth); otherwise 95% UCL was used.

Italicized sample data represent values at 1/2-detection limit

Bold sample data represent detected values.

Shaded data represent samples collected during recent April 1997 sampling investigation

Shaded data represent samples collected during recent May 1997 sampling investigation

NA = not analyzed

NV = not valid; MTBE samples analyzed under Method 8020 can result in interferences; several samples with the highest results under Method 8020 were rerun under Method 8260 with almost all confirmation results nondetect.

Table 2
Summary of Indicator Chemical Concentrations (sorted by depth)
Post Excavation Data Set for
Powerine Lakeland Property, Santa Fe Springs, California

Location	Depth (feet)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
PT-10	2	0.033	0.029	0.063	0.39	NV	NA
PT-13B	2	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-19	2	0.0025	0.0025	0.0025	0.0025	NV	NA
PTR-4	2	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
PTR-5	2	0.5	0.5	0.5	4.4	1.5	0.5
1501	3	0.0025	0.0025	0.0025	0.005	1.5	0.0025
1502	3	0.025	0.025	0.006	0.014	0.025	0.025
3001	3	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
3002	3	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
3701	3	0.12	0.37	2.1	2.2	0.15	2.6
4637	3	0.008	0.009	0.025	0.01	0.40	0.65
5004	3	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
5005	3	0.0025	0.007	0.0025	0.016	0.014	0.0025
5006	3	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
R3-A-N	3	0.0025	0.0025	0.0025	0.013	NV	NA
R3-B-M	3	0.0025	0.0025	0.0025	0.008	NV	NA
R3-C-S	3	0.0025	0.0025	0.0025	0.030	NV	NA
PL-1	3	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-19	3	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-26	3.5	0.0025	0.0025	0.009	0.019	NV	NA
PL-3	4	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-5	4	0.029	0.020	0.034	0.11	NV	NA
PL-15	4	0.05	0.25	0.54	1.7	NV	NA
PL-17	4	0.010	0.0025	0.0025	0.0025	0.0025	0.0025
PL-21	4	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-23	4	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-24	4	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
PL-25	4	9.3	19	23	69	NV	NA
PT-11	5	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-13	5	0.25	1.2	2.1	7.2	NV	NA
PT-13A	5	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-17	5	0.0025	0.0025	0.0025	0.005	NA	0.0025
PT-23	5	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-26	5	0.0025	0.0025	0.0025	0.005	NA	0.0025
PT-9	5	0.0025	0.0025	0.0025	0.007	NV	NA
R1-A-N	5	0.0025	0.033	0.11	0.17	NV	NA
RN-C-S	5	0.0025	0.0025	0.0025	0.0025	NV	NA
TK4637	5	0.0025	0.041	0.060	0.16	NV	NA
4N-NW	5	0.77	5.4	8.3	29	NV	NA
4N-E	5	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-8	5	0.0025	0.0025	0.0025	0.060	NV	NA
PL-9	5	0.92	1.4	11	110	1.5	25
R6-12	5	0.0025	0.0025	0.006	0.018	NV	NA
PL-28	5	0.25	0.55	0.96	3.7	0.0025	0.0025
PL-28A	5	0.0025	0.0025	0.0025	0.020	NV	NA
PL-30	5	0.0025	0.0025	0.0025	0.005	NV	NA
PL-31	5	0.0025	0.0025	0.0025	0.0025	NV	NA

Table 2
Summary of Indicator Chemical Concentrations (sorted by depth)
Post Excavation Data Set for
Powerine Lakeland Property, Santa Fe Springs, California

Location	Depth (feet)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
PL-32	5	0.25	12	15	41	NV	NA
R1-B-M	6	0.0025	0.12	0.14	0.25	NV	NA
R1-C-M	6	0.0025	0.0025	0.0025	0.005	NV	NA
R2-A-M	6	0.0025	0.020	0.026	0.051	NV	NA
4N-N	6	0.0025	0.0025	0.0025	0.0025	NV	NA
PL-6	6	0.48	0.68	9.0	3.6	NV	NA
OSU-4	6	0.0025	0.0025	0.0025	0.011	NV	NA
R2-B-M	7	0.0025	0.023	0.042	0.052	NV	NA
SU-1	8	0.5	12	31	43	NV	NA
MW-206	9	0.0025	0.0025	0.0025	0.0025	NA	NA
RN-D-W	9	0.5	28	17	120	NA	NA
SU-2	9	0.5	3.3	12	15	NA	NA
PT-27	10	0.0025	0.0025	0.0025	0.005	NA	0.0025
7A	10	1.4	26	49	290	NA	NA
7B	10	2.3	6.3	13	57	NA	NA
6A	12	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
6B	12	0.0025	0.0025	0.0025	0.005	0.0025	0.0025
1A	14	0.0025	0.0025	0.0025	0.0025	NA	NA
1B	14	0.0025	0.0025	0.0025	0.0025	NA	NA
2A	14	0.0025	0.0025	0.0025	0.0025	NA	NA
2B	14	0.0025	0.0025	0.0025	0.0025	NA	NA
3A	14	0.0025	0.0025	0.0025	0.0025	NA	NA
3B	14	0.0025	0.0025	0.0025	0.0025	NA	NA
MW-206	14	0.0025	0.0025	0.0025	0.0025	NA	NA
PT- 6	15	1.6	10.	13	40	NV	NA
PT-14	15	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-15	15	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-18	15	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-19	15	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-2	15	0.005	0.005	0.01	0.015	NV	NA
PT-23	15	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-3	15	1.5	16	25	60	NV	NA
PTR-1	15	0.0025	0.0025	0.0025	0.005	0.24	0.0025
PTR-2	15	1.0	4.0	10	60	3.3	39
PT-22	19	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-10	20	0.0025	0.0025	0.0076	0.012	NV	NA
PT-11	20	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-12	20	0.5	0.009	0.006	0.034	NV	NA
PT-13A	20	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-13B	20	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-16	20	0.0025	0.0025	0.0025	0.005	NA	0.0025
PT-17	20	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-24	20	0.0025	0.0025	0.0025	0.0025	NV	NA
PT-3	20	2.7	18	23	57	NV	NA
PT-9	20	0.0025	0.013	0.031	0.063	NV	NA
PTR-7	20	0.0025	0.0025	0.0025	0.005	0.28	0.0025
PT-20	21	0.0025	0.0025	0.0025	0.0025	NV	NA

Table 2
Summary of Indicator Chemical Concentrations (sorted by depth)
Post Excavation Data Set for
Powerine Lakeland Property, Santa Fe Springs, California

Location	Depth (feet)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
PT- 6	25	**28**	**31**	**25**	**77**	NV	NA
PT-1	25	*0.005*	*0.005*	**0.011**	**0.012**	NV	NA
PT-4	25	*0.0025*	*0.0025*	*0.0025*	**0.005**	NV	NA
PT-5	25	**0.009**	*0.0025*	*0.0025*	**0.009**	NV	NA
PT-7	25	*0.5*	**1.6**	**2.7**	**10**	NV	NA
PTR-2	25	**2.6**	**1.6**	**7.0**	**22**	NA	NA
PT-1	29	*0.0025*	*0.0025*	*0.0025*	*0.0025*	NV	NA
PT-25	29	*0.5*	*0.5*	*0.5*	**0.008**	NV	NA
PT-13	30	*0.005*	*0.005*	**0.01**	**0.014**	NV	NA
PT-8	30	**0.006**	**0.008**	**0.006**	**0.019**	NV	NA
PTR-3	30	**200**	**900**	**75**	**2000**	NA	NA
PTR-2	35	**14**	**130**	**49**	**340**	*2.5*	**19**
PTR-4	35	**22**	**25**	**19**	**58**	NA	NA
PTR-3	40	**46**	**180**	**84**	**400**	*2.5*	**12**
PTR-5	40	**0.057**	**0.0094**	**0.021**	**0.039**	*0.0025*	*0.0025*
PT-7	41	**0.056**	**0.019**	**0.029**	**0.057**	NV	NA
PTR-2	45	**13**	**100**	**32**	**210**	*2.5*	**13**
PTR-4	45	**25**	**55**	**41**	**120**	NA	NA
PTR-3	50	**28**	**50**	**40**	**120**	NA	NA
PTR-1	55	**0.087**	**0.12**	**0.013**	**0.090**	*0.005*	*0.005*
PTR-5	55	*0.0025*	*0.0025*	*0.0025*	*0.005*	*0.0025*	*0.0025*
PTR-7	55	*0.0025*	*0.0025*	*0.0025*	*0.005*	**0.050**	*0.0025*
PTR-1	60	**0.050**	**0.025**	**0.010**	**0.045**	NA	NA
PTR-2	60	**130**	**900.**	**270**	**1800**	*10*	**110**
PTR-3	60	**1.7**	**7.3**	**2.7**	**19**	*0.1*	**2.8**
PTR-4	60	**9.4**	**49**	**14**	**90.**	*0.15*	**4.0**
PTR-5	60	**0.030**	**0.020**	**0.005**	**0.017**	NA	NA
PTR-6	60	**0.50**	**0.66**	**0.088**	**0.57**	*0.015*	**0.039**
PTR-2	65	*0.0025*	**0.014**	*0.0025*	**0.009**	NA	NA
PTR-3	65	**1.2**	**15**	**13**	**40**	NA	NA
PTR-4	65	**0.46**	**6.1**	**3.5**	**27**	*0.15*	**4.7**
PTR-6	65	*0.0025*	*0.0025*	*0.0025*	*0.005*	*0.0025*	*0.0025*
PTR-7	65	**0.026**	**0.020**	*0.0025*	**0.014**	NA	NA
MW-206	69	*0.0025*	*0.0025*	*0.0025*	*0.0025*	NA	NA
PTR-1	70	*0.0025*	**0.011**	*0.0025*	**0.016**	NA	NA
PTR-2	70	**1.3**	**4.6**	**4.4**	**14**	NA	NA

STATISTICAL SUMMARY

STATISTICAL EVALUATION (0-3 feet)							
Number of Samples:		19	19	19	19	11	11
Minimum:		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Maximum Detect:		1	1	2	4	2	3
Average Conc.		0.04	0.05	0.14	0.37	0.33	0.34
Standard Dev.		0.12	0.14	0.5	1.1	0.59	0.78
95% UCL		0.08	0.11	0.34	0.8	0.65	0.77
t value based on n		1.734	1.734	1.734	1.734	1.812	1.812

Table 2
Summary of Indicator Chemical Concentrations (sorted by depth)
Post Excavation Data Set for
Powerine Lakeland Property, Santa Fe Springs, California

Location	Depth (feet)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
Concentration for direct contact pathways*:		**0.084**	**0.11**	**0.34**	**0.81**	**0.65**	**0.77**

STATISTICAL EVALUATION (0-15 feet)							
Number of Samples:		81	81	81	81	19	22
Minimum:		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Maximum:		9.3	28	49	290	3.3	39
Average Conc.		0.28	1.8	3.0	11.8	0.46	3.1
Standard Dev.		1.10	5.4	8.0	38.9	0.88	9.6
95% UCL:		0.48	2.8	4.5	19.0	0.81	6.6
t value based on n		1.664	1.664	1.664	1.664	1.734	1.721
Concentration input into air emissions model*:		**0.48**	**2.8**	**4.5**	**19.0**	**0.81**	**6.6**

STATISTICAL EVALUATION (>15-65 feet)							
Number of Samples:		46	46	46	46	14	15
Minimum:		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Maximum Detect:		200	900	270	2000	3.3	110
Average Conc.		11.4	53.7	15.3	117.2	1.3	11.0
Standard Dev.		35.3	186.0	43.1	393.9	2.7	28.0
95% UCL:		20.2	99.8	25.9	215	2.58	23.8
t value based on n		1.679	1.679	1.679	1.679	1.771	1.761
Concentration input into air emissions model*:		**20.2**	**99.8**	**25.9**	**215**	**2.58**	**23.8**

Notes:

All units reported in milligrams per kilogram (mg/kg) or ppm

* If the 95% UCL is greater than the maximum detected concentration (i.e., limited sample size), then the maximum detected concentration was used (used for benzene, toluene, ethylbenzene and MTBE at 0-3 foot depth); otherwise 95% UCL was used.

Italicized sample data represent values at 1/2-detection limit

Bold sample data represent detected values.

Shaded data represent samples collected during recent April 1997 sampling investigation

Shaded data represent samples collected during recent May 1997 sampling investigation

NA = not analyzed

NV = not valid; MTBE samples analyzed under Method 8020 can result in interferences; several samples with the highest results under Method 8020 were rerun under Method 8260 with almost all confirmation results nondetect.

Table 3
Summary of Baseline (Pre-Excavation) Risk and Hazard Index for Indicator Chemicals
Powerine Lakeland Property, Santa Fe Springs, California

Summary of Risks for Indicator Chemicals

CHEMICAL	RISKS BY PATHWAY					TOTAL RISK *
	DERMAL	INGESTION	INHALATION OF VAPORS			
			Emanating from soils at a depth of:			
			[0-15 feet]	[>15-65 feet]	[0-65 feet]	
Using Average Exposure Parameters						
Benzene	**6.2E-10**	**8.2E-10**	**4.5E-08**	**2.5E-09**	**4.8E-08**	**5E-08**
Using Reasonable Maximum Exposure (RME) Parameters						
Benzene	**2.6E-07**	**2.4E-08**	**8.9E-07**	**4.9E-08**	**9.4E-07**	**1E-06**

Summary of Hazard Quotients for Indicator Chemicals

CHEMICAL	HAZARD QUOTIENTS BY PATHWAY					HAZARD INDEX*
	DERMAL	INGESTION	INHALATION OF VAPORS			
			Emanating from soils at a depth of:			
			[0-15 feet]	[>15-65 feet]	[0-65 feet]	
Using Average Exposure Parameters						
Benzene	6.1E-05	8.1E-05	4.4E-03	2.4E-04	4.7E-03	**0.0048**
Toluene	1.7E-06	2.2E-06	2.8E-04	9.9E-07	2.8E-04	**0.00028**
Ethylbenzene	6.4E-06	8.5E-06	1.4E-04	7.9E-09	1.4E-04	**0.000150**
Xylenes	6.5E-07	8.6E-07	6.2E-04	4.2E-09	6.2E-04	**0.00062**
MTBE	9.6E-06	1.3E-05	6.4E-06	2.7E-10	6.4E-06	**0.00003**
Naphthalene	1.4E-06	1.9E-06	3.1E-04	0.0E+00	3.1E-04	**0.00031**
Total:	**0.000081**	**0.000107**	**0.0058**	**0.00024**	**0.0060**	**0.0062**
Using Reasonable Maximum Exposure (RME) Parameters						
Benzene	4.3E-03	4.0E-04	1.5E-02	8.0E-04	1.6E-02	**0.020**
Toluene	1.2E-04	1.1E-05	9.3E-04	3.3E-06	9.3E-04	**0.00106**
Ethylbenzene	4.5E-04	4.2E-05	4.5E-04	2.6E-08	4.5E-04	**0.00094**
Xylenes	4.5E-05	4.3E-06	2.1E-03	1.4E-08	2.1E-03	**0.0021**
MTBE	6.8E-04	6.4E-05	2.1E-05	8.9E-10	2.1E-05	**0.0008**
Naphthalene	1.0E-04	9.4E-06	1.0E-03	0.0E+00	1.0E-03	**0.0010**
Total:	**0.0057**	**0.00053**	**0.019**	**0.00080**	**0.020**	**0.026**

* Total Risk and Hazard Index (sum of Hazard Quotients) were calculated using inhalation of vapors from 0-65 foot soil depths.

Table 4
Summary of Post-Excavation Risk and Hazard Index for Indicator Chemicals
Powerine Lakeland Property, Santa Fe Springs, California

Summary of Risks for Indicator Chemicals

CHEMICAL	RISKS BY PATHWAY					TOTAL RISK *
	DERMAL	INGESTION	INHALATION OF VAPORS			
			Emanating from soils at a depth of:			
			[0-15 feet]	[>15-65 feet]	[0-65 feet]	
Using Average Exposure Parameters						
Benzene	**3.7E-11**	**4.9E-11**	**2.4E-08**	**2.5E-09**	**2.7E-08**	**3E-08**
Using Reasonable Maximum Exposure (RME) Parameters						
Benzene	**1.6E-08**	**1.5E-09**	**4.8E-07**	**4.9E-08**	**5.3E-07**	**5E-07**

Summary of Hazard Quotients for Indicator Chemicals

CHEMICAL	HAZARD QUOTIENTS BY PATHWAY					HAZARD INDEX*
	DERMAL	INGESTION	INHALATION OF VAPORS			
			Emanating from soils at a depth of:			
			[0-15 feet]	[>15-65 feet]	[0-65 feet]	
Using Average Exposure Parameters						
Benzene	3.6E-06	4.8E-06	2.4E-03	2.4E-04	2.6E-03	**0.0026**
Toluene	3.9E-08	5.2E-08	1.7E-04	9.9E-07	1.7E-04	**0.00017**
Ethylbenzene	2.5E-07	3.3E-07	9.2E-05	7.9E-09	9.2E-05	**0.000093**
Xylenes	3.0E-08	4.0E-08	5.1E-04	4.2E-09	5.1E-04	**0.00051**
MTBE	9.6E-06	1.3E-05	6.3E-06	2.7E-10	6.3E-06	**0.00003**
Naphthalene	1.4E-06	1.9E-06	2.3E-04	0.0E+00	2.3E-04	**0.00023**
Total:	**0.000015**	**0.000020**	**0.0034**	**0.00024**	**0.0036**	**0.0037**
Using Reasonable Maximum Exposure (RME) Parameters						
Benzene	2.6E-04	2.4E-05	7.9E-03	8.0E-04	8.7E-03	**0.009**
Toluene	2.7E-06	2.6E-07	5.8E-04	3.3E-06	5.8E-04	**0.00058**
Ethylbenzene	1.7E-05	1.7E-06	3.1E-04	2.6E-08	3.1E-04	**0.00033**
Xylenes	2.1E-06	2.0E-07	1.7E-03	1.4E-08	1.7E-03	**0.0017**
MTBE	6.8E-04	6.4E-05	2.1E-05	8.9E-10	2.1E-05	**0.0008**
Naphthalene	1.0E-04	9.4E-06	7.7E-04	0.0E+00	7.7E-04	**0.0008**
Total:	**0.0011**	**0.00010**	**0.011**	**0.00080**	**0.012**	**0.013**

* Total Risk and Hazard Index (sum of Hazard Quotients) were calculated using inhalation of vapors from 0-65 foot soil depths.

Attachment A
Baseline Dataset
Risk and Hazard Calculations for Dermal Exposure Pathway
Powerine Lakeland Property, Santa Fe Springs, California

For ADULT worker exposed to surface soils (0-3 feet):
(Exposure point concentration based on data from Pre-Excavation data set)

Using Average Exposure Parameters

RISKS:

Chemical	Cs* (mg/kg)	ABS (u)	SA (cm^2)	AF (mg/cm^2)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF $(mg/kg\text{-}d)^{-1}$	RISK (u)
Benzene	1.4	0.1	840	0.09	1.00E-06	0.685	4.2	70	70	6.21E-09	0.1	**6.2E-10**

HAZARD QUOTIENTS:

Chemical	Cs* (mg/kg)	ABS (u)	SA (cm^2)	AF (mg/cm^2)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfD (mg/kg-d)	HQ (u)
Benzene	1.4	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	1.04E-07	0.0017	6.1E-05
Toluene	4.5	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	3.33E-07	0.2	1.7E-06
Ethylbenzene	8.6	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	6.40E-07	0.1	6.4E-06
Xylene	17.5	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	1.30E-06	2	6.5E-07
MTBE	0.65	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	4.81E-08	0.005	9.6E-06
Naphthalene	0.77	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	5.71E-08	0.04	1.4E-06
												0.000081

Using Reasonable Maximum Exposure (RME) Parameters

RISKS:

Chemical	Cs* (mg/kg)	ABS (u)	SA (cm^2)	AF (mg/cm^2)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF $(mg/kg\text{-}d)^{-1}$	RISK (u)
Benzene	1.4	0.1	5300	1.0	1.00E-06	0.685	25	70	70	2.59E-06	0.1	**2.6E-07**

HAZARD QUOTIENTS:

Chemical	Cs* (mg/kg)	ABS (u)	SA (cm^2)	AF (mg/cm^2)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfD (mg/kg-d)	HQ (u)
Benzene	1.4	0.1	5300	1.0	1.00E-06	0.685	25	70	25	7.26E-06	0.0017	4.3E-03
Toluene	4.5	0.1	5300	1.0	1.00E-06	0.685	25	70	25	2.33E-05	0.2	1.2E-04
Ethylbenzene	8.6	0.1	5300	1.0	1.00E-06	0.685	25	70	25	4.48E-05	0.1	4.5E-04
Xylene	17.5	0.1	5300	1.0	1.00E-06	0.685	25	70	25	9.09E-05	2	4.5E-05
MTBE	0.65	0.1	5300	1.0	1.00E-06	0.685	25	70	25	3.38E-06	0.005	6.8E-04
Napthalene	0.77	0.1	5300	1.0	1.00E-06	0.685	25	70	25	3.99E-06	0.04	1.0E-04
												0.0057

Notes:

* Surface soil concentration (0-3 feet); 95% UCL concentration (or maximum concentration when 95% UCL > maximum concentration) from Spreadsheet "*[POWDATA3.XLW] Updated Pre-Excavation Data Set*".

EF = 0.685 (250 days of occupational exposure / 365 days per year)

Attachment A
Baseline Dataset
Risk and Hazard Calculations for Incidental Ingestion Pathway
Powerine Lakeland Property, Santa Fe Springs, California

For ADULT worker exposed to surface soils (0-3 feet):
(Exposure point concentration based on data from Pre-Excavation data set)

Using Average Exposure Parameters

RISKS:

Chemical	Cs* (mg/kg)	IR (mg/d)	BF (u)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF $(mg/kg\text{-}d)^{-1}$	Risk (u)
Benzene	1.4	10	1.0	1.00E-06	0.685	4.2	70	70	8.22E-09	0.1	**8.2E-10**

HAZARD QUOTIENTS:

Chemical	Cs* (mg/kg)	IR (mg/d)	BF (u)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDo (mg/kg-d)	HQ (u)
Benzene	**1.4**	10	1.0	1.00E-06	0.685	4.2	70	4.2	1.37E-07	0.0017	8.1E-05
Toluene	**4.5**	10	1.0	1.00E-06	0.685	4.2	70	4.2	4.40E-07	0.2	2.2E-06
Ethylbenzene	**8.6**	10	1.0	1.00E-06	0.685	4.2	70	4.2	8.46E-07	0.1	8.5E-06
Xylene	**17.5**	10	1.0	1.00E-06	0.685	4.2	70	4.2	1.72E-06	2	8.6E-07
MTBE	**0.65**	10	1.0	1.00E-06	0.685	4.2	70	4.2	6.37E-08	0.005	1.3E-05
Naphthalene	**0.77**	10	1.0	1.00E-06	0.685	4.2	70	4.2	7.56E-08	0.04	1.9E-06
											0.000107

Using Reasonable Maximum Exposure (RME) Parameters

RISKS:

Chemical	Cs* (mg/kg)	IR (mg/d)	BF (u)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF $(mg/kg\text{-}d)^{-1}$	Risk (u)
Benzene	1.4	50	1.0	1.00E-06	0.685	25	70	70	2.45E-07	0.1	**2.4E-08**

HAZARD QUOTIENTS:

Chemical	Cs* (mg/kg)	IR (mg/d)	BF (u)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDo (mg/kg-d)	HQ (u)
Benzene	1.4	50	1.0	1.00E-06	0.685	25	70	25	6.85E-07	0.0017	4.0E-04
Toluene	4.5	50	1.0	1.00E-06	0.685	25	70	25	2.20E-06	0.2	1.1E-05
Ethylbenzene	8.6	50	1.0	1.00E-06	0.685	25	70	25	4.23E-06	0.1	4.2E-05
Xylene	17.5	50	1.0	1.00E-06	0.685	25	70	25	8.58E-06	2	4.3E-06
MTBE	0.65	50	1.0	1.00E-06	0.685	25	70	25	3.18E-07	0.005	6.4E-05
Napthalene	0.77	50	1.0	1.00E-06	0.685	25	70	25	3.77E-07	0.04	9.4E-06
											0.00053

Notes:

* Surface soil concentration (0-3 feet); 95% UCL concentration (or maximum concentration when 95% UCL > maximum concentration) from Spreadsheet "*[POWDATA3.XLW] Updated Pre-Excavation Data Set*"

EF = 0.685 (250 days of occupational exposure / 365 days per year)

Attachment A
Baseline Dataset
Risk and Hazard Calculations for Vapor Inhalation Pathway
(surface vapors [0-15 feet])
Powerine Lakeland Property, Santa Fe Springs, California

For ADULT worker exposed to vapors from soil at 0-15 feet:
(Exposure point concentration based on data from Pre-Excavation data set)

Using Average Exposure Parameters

RISKS:

Chemical	Ci * (mg/m3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF (mg/kg-d)$^{-1}$	RISK (u)
Benzene	1.28E-04	6	0.685	4.2	1.0	70	70	4.51E-07	0.1	**4.5E-08**

HAZARD QUOTIENTS:

Chemical	Ci * (mg/m3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDi (mg/kg-d)	HAZARD (u)
Benzene	1.28E-04	6	0.685	4.2	1.0	70	4.2	7.51E-06	0.0017	4.4E-03
Toluene	5.22E-04	6	0.685	4.2	1.0	70	4.2	3.06E-05	0.11	2.8E-04
Ethylbenzene	6.67E-04	6	0.685	4.2	1.0	70	4.2	3.92E-05	0.29	1.4E-04
Xylene	2.12E-03	6	0.685	4.2	1.0	70	4.2	1.24E-04	0.2	6.2E-04
MTBE	9.34E-05	6	0.685	4.2	1.0	70	4.2	5.48E-06	0.86	6.4E-06
Naphthalene	2.14E-04	6	0.685	4.2	1.0	70	4.2	1.26E-05	0.04	3.1E-04
										0.0058

Using Reasonable Maximum Exposure (RME) Parameters

RISKS:

Chemical	Ci * (mg/m3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF (mg/kg-d)$^{-1}$	RISK (u)
Benzene	1.28E-04	20	0.685	25	1.0	70	70	8.95E-06	0.1	**8.9E-07**

HAZARD QUOTIENTS:

Chemical	Ci * (mg/m3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDi (mg/kg-d)	HAZARD (u)
Benzene	1.28E-04	20	0.685	25	1.0	70	25	2.50E-05	0.0017	1.5E-02
Toluene	5.22E-04	20	0.685	25	1.0	70	25	1.02E-04	0.11	9.3E-04
Ethylbenzene	6.67E-04	20	0.685	25	1.0	70	25	1.31E-04	0.29	4.5E-04
Xylene	2.12E-03	20	0.685	25	1.0	70	25	4.15E-04	0.2	2.1E-03
MTBE	9.34E-05	20	0.685	25	1.0	70	25	1.83E-05	0.86	2.1E-05
Naphthalene	2.14E-04	20	0.685	25	1.0	70	25	4.19E-05	0.04	1.0E-03
										0.019

Notes:

* Ci from air dispersion modeling file "*p0_15n3.sav*" for BTEX and MTBE and "*n0_15n3.sav*" for naphthalene;
Model input parameters incorporated 95% UCL soil concentrations (0-15 foot depth) from Spreadsheet "*[POWDATA3.XLW] Updated Pre-Excavation*

Attachment A
Baseline Dataset
Risk and Hazard Calculations for Vapor Inhalation Pathway
(from subsurface soils [>15 -65 feet])
Powerine Lakeland Property, Santa Fe Springs, California

For ADULT worker exposed to vapors from soil at >15-65 feet:
(Exposure point concentration based on data from Pre-Excavation data set)

Using Average Exposure Parameters

RISKS:

Chemical	Ci * (mg/m^3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF (mg/kg-d)$^{-1}$	RISK (u)
Benzene	6.96E-06	6	0.685	4.2	1.0	70	70	2.45E-08	0.1	**2.5E-09**

HAZARD QUOTIENTS:

Chemical	Ci * (mg/m^3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDi (mg/kg-d)	HAZARD (u)
Benzene	6.96E-06	6	0.685	4.2	1.0	70	4.2	4.09E-07	0.0017	2.4E-04
Toluene	1.86E-06	6	0.685	4.2	1.0	70	4.2	1.09E-07	0.11	9.9E-07
Ethylbenzene	3.92E-08	6	0.685	4.2	1.0	70	4.2	2.30E-09	0.29	7.9E-09
Xylene	1.42E-08	6	0.685	4.2	1.0	70	4.2	8.34E-10	0.2	4.2E-09
MTBE	3.90E-09	6	0.685	4.2	1.0	70	4.2	2.29E-10	0.86	2.7E-10
Naphthalene**	0.00E+00	6	0.685	4.2	1.0	70	4.2	0.00E+00	0.04	0.0E+00
										0.00024

Using Reasonable Maximum Exposure (RME) Parameters

RISKS:

Chemical	Ci * (mg/m^3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF (mg/kg-d)$^{-1}$	RISK (u)
Benzene	6.96E-06	20	0.685	25	1.0	70	70	4.86E-07	0.1	**4.9E-08**

HAZARD QUOTIENTS:

Chemical	Ci * (mg/m^3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDi (mg/kg-d)	HAZARD (u)
Benzene	6.96E-06	20	0.685	25	1.0	70	25	1.36E-06	0.0017	8.0E-04
Toluene	1.86E-06	20	0.685	25	1.0	70	25	3.64E-07	0.11	3.3E-06
Ethylbenzene	3.92E-08	20	0.685	25	1.0	70	25	7.67E-09	0.29	2.6E-08
Xylene	1.42E-08	20	0.685	25	1.0	70	25	2.78E-09	0.2	1.4E-08
MTBE	3.90E-09	20	0.685	25	1.0	70	25	7.63E-10	0.86	8.9E-10
Naphthalene**	0.00E+00	20	0.685	25	1.0	70	25	0.00E+00	0.04	0.0E+00
										0.00080

Notes:

* Ci from air dispersion modeling file "*p16_65nd.sav*" for BTEX and MTBE and "*n16_65nd.sav*" for naphthalene;
Model input parameters incorporated 95% UCL soil concentrations (>15-65 foot depth) from Spreadsheet "*[POWDATA3.XLW] Updated Pre-Excavation Data Set* ".

** Based on the physical-chemical properties of naphthalene, the emissions at depth (>15-65 feet) were determined to be insignificant, essentially 0.

Emissions/Dispersion Model Output

Analysis for ...

Analyses Performed:

Volatile emissions from Jury or SESOIL
Box Model used for dispersion

*** PARAMETERS ***

Deterministic Run

PARAMETER NAME	UNITS	VALUE
Wind Speed	m/s	.200E+01
Box Height	m	.200E+01
Box Width	m	.231E+03

Benzene

PARAMETER NAME	UNITS	VALUE

Ethylbenzene

PARAMETER NAME	UNITS	VALUE

Methyl t-Butyl Ether

PARAMETER NAME	UNITS	VALUE

Toluene

PARAMETER NAME	UNITS	VALUE

Xylene

PARAMETER NAME	UNITS	VALUE

OUTPUTS

	Volatile Emissions (kg/yr)	Particulate Emissions (kg/yr)	Air Concentration (mg/m^3)

Averaging Time, yr =	5		
Benzene	.447E+01	.000E+00	.153E-03
Ethylbenzene	.296E+02	.000E+00	.102E-02
Methyl t-But	.601E+01	.000E+00	.206E-03
Toluene	.212E+02	.000E+00	.727E-03
Xylene	.113E+03	.000E+00	.387E-02
Averaging Time, yr =	10		
Benzene	.316E+01	.000E+00	.108E-03
Ethylbenzene	.210E+02	.000E+00	.719E-03
Methyl t-But	.425E+01	.000E+00	.146E-03
Toluene	.150E+02	.000E+00	.514E-03
Xylene	.798E+02	.000E+00	.274E-02
Averaging Time, yr =	15		
Benzene	.258E+01	.000E+00	.885E-04
Ethylbenzene	.171E+02	.000E+00	.587E-03
Methyl t-But	.347E+01	.000E+00	.119E-03
Toluene	.122E+02	.000E+00	.419E-03
Xylene	.652E+02	.000E+00	.224E-02
Averaging Time, yr =	20		
Benzene	.223E+01	.000E+00	.766E-04
Ethylbenzene	.148E+02	.000E+00	.509E-03
Methyl t-But	.301E+01	.000E+00	.103E-03
Toluene	.106E+02	.000E+00	.363E-03
Xylene	.564E+02	.000E+00	.194E-02
Averaging Time, yr =	25		
Benzene	.200E+01	.000E+00	.685E-04
Ethylbenzene	.133E+02	.000E+00	.455E-03
Methyl t-But	.269E+01	.000E+00	.923E-04
Toluene	.947E+01	.000E+00	.325E-03
Xylene	.505E+02	.000E+00	.173E-02
Averaging Time, yr =	30		
Benzene	.182E+01	.000E+00	.626E-04
Ethylbenzene	.121E+02	.000E+00	.415E-03
Methyl t-But	.245E+01	.000E+00	.843E-04
Toluene	.864E+01	.000E+00	.297E-03
Xylene	.461E+02	.000E+00	.158E-02
Averaging Time, yr =	35		
Benzene	.182E+01	.000E+00	.626E-04
Ethylbenzene	.121E+02	.000E+00	.415E-03
Methyl t-But	.245E+01	.000E+00	.843E-04
Toluene	.864E+01	.000E+00	.297E-03
Xylene	.461E+02	.000E+00	.158E-02
Averaging Time, yr =	40		
Benzene	.182E+01	.000E+00	.626E-04
Ethylbenzene	.121E+02	.000E+00	.415E-03
Methyl t-But	.245E+01	.000E+00	.843E-04
Toluene	.864E+01	.000E+00	.297E-03
Xylene	.461E+02	.000E+00	.158E-02
Averaging Time, yr =	45		
Benzene	.182E+01	.000E+00	.626E-04
Ethylbenzene	.121E+02	.000E+00	.415E-03
Methyl t-But	.245E+01	.000E+00	.843E-04
Toluene	.864E+01	.000E+00	.297E-03
Xylene	.461E+02	.000E+00	.158E-02

Averaging Time, yr = 50

Benzene	.182E+01	.000E+00	.626E-04
Ethylbenzene	.121E+02	.000E+00	.415E-03
Methyl t-But	.245E+01	.000E+00	.843E-04
Toluene	.864E+01	.000E+00	.297E-03
Xylene	.461E+02	.000E+00	.158E-02

Averaging Time, yr = 55

Benzene	.182E+01	.000E+00	.626E-04
Ethylbenzene	.121E+02	.000E+00	.415E-03
Methyl t-But	.245E+01	.000E+00	.843E-04
Toluene	.864E+01	.000E+00	.297E-03
Xylene	.461E+02	.000E+00	.158E-02

Averaging Time, yr = 60

Benzene	.182E+01	.000E+00	.626E-04
Ethylbenzene	.121E+02	.000E+00	.415E-03
Methyl t-But	.245E+01	.000E+00	.843E-04
Toluene	.864E+01	.000E+00	.297E-03
Xylene	.461E+02	.000E+00	.158E-02

Averaging Time, yr = 65

Benzene	.182E+01	.000E+00	.626E-04
Ethylbenzene	.121E+02	.000E+00	.415E-03
Methyl t-But	.245E+01	.000E+00	.843E-04
Toluene	.864E+01	.000E+00	.297E-03
Xylene	.461E+02	.000E+00	.158E-02

Averaging Time, yr = 70

Benzene	.182E+01	.000E+00	.626E-04
Ethylbenzene	.121E+02	.000E+00	.415E-03
Methyl t-But	.245E+01	.000E+00	.843E-04
Toluene	.864E+01	.000E+00	.297E-03
Xylene	.461E+02	.000E+00	.158E-02

Averaging Time, yr = 75

Benzene	.182E+01	.000E+00	.626E-04
Ethylbenzene	.121E+02	.000E+00	.415E-03
Methyl t-But	.245E+01	.000E+00	.843E-04
Toluene	.864E+01	.000E+00	.297E-03
Xylene	.461E+02	.000E+00	.158E-02

Jury Output File
Analysis for ...

*** COMMON INPUT PARAMETERS ***

PARAMETER NAME	UNITS	VALUE
Porosity	(cc/cc)	.3250
Bulk Density	(g/cc)	1.820
Water Content	(cc/cc)	.2880
Fractional Organic Carbon	(mg/mg)	.2400E-02
Incorporation Depth	(cm)	457.0
Clean Soil Thickness	(cm)	.0000
Simulation Time	(yrs)	30
Length of Soil Column	(cm)	2500.
Infiltration Rate	(cm/day)	.0000
Source Length	(m)	293.0
Source Width	(m)	183.0
Boundary Layer Thickness	(cm)	.5000

Chemical Specific Input Parameters for Benzene

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	.4800
Diffusion Coeff. in Air	(cm^2/day)	7603.
Diffusion Coeff. in Water	(cm^2/day)	.8467
Henrys Constant	[(mg/L)/(mg/L)]	.2280
Organic Carbon Part. Coeff.	(cc/g)	58.90
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Benzene

Time = 1 yrs

Soil Concentration Profile

Depth (cm)	Concentration (mg/kg soil)
.00	.00
15.24	.24
323.93	.48
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = 9988.
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater (g/day) = .0000

Time = 2 yrs

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Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.17
323.93	.48
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1412E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
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Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.14
323.93	.48
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1730E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.12
323.93	.48
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00

2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1997E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.11
323.93	.48
632.62	.16E-03
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2233E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.79E-01
323.93	.46
632.62	.39E-02
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3158E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)

.00	.00
15.24	.65E-01
323.93	.45
632.62	.12E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3867E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.56E-01
323.93	.43
632.62	.21E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .4465E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.50E-01
323.93	.42
632.62	.31E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .4992E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .3825E-67

Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.46E-01
323.93	.40
632.62	.39E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .5468E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .6161E-56
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Chemical Specific Input Parameters for Ethylbenzene

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	4.500
Diffusion Coeff. in Air	(cm^2/day)	6480.
Diffusion Coeff. in Water	(cm^2/day)	.6739
Henrys Constant	[(mg/L)/(mg/L)]	.3230
Organic Carbon Part. Coeff.	(cc/g)	204.0
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Ethylbenzene

Time = 1 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	2.9
323.93	4.5
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .6630E+05

Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 2 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	2.2
323.93	4.5
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .9375E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.8
323.93	4.5
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1148E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.6
323.93	4.5
632.62	.00

941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1326E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.5
323.93	4.5
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1482E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.0
323.93	4.5
632.62	.15E-02
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2096E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.86
323.93	4.4
632.62	.12E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

umulative Emissions to Air (g) = .2567E+06
dvective Mass Loading Rate to Groundwater (g/day) = .0000
iffusive Mass Loading Rate to Groundwater (g/day) = .0000
dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.74
323.93	4.3
632.62	.36E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

umulative Emissions to Air (g) = .2964E+06
dvective Mass Loading Rate to Groundwater (g/day) = .0000
iffusive Mass Loading Rate to Groundwater (g/day) = .0000
dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.67
323.93	4.3
632.62	.71E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00

2500.00	.00

Cumulative Emissions to Air (g) = .3314E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.61
323.93	4.2
632.62	.11
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3630E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Chemical Specific Input Parameters for Methyl t-Butyl Ether

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	.8100
Diffusion Coeff. in Air	(cm^2/day)	6143.
Diffusion Coeff. in Water	(cm^2/day)	.7811
Henrys Constant	[(mg/L)/(mg/L)]	.3240E-01
Organic Carbon Part. Coeff.	(cc/g)	7.000
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Methyl t-Butyl Ether

Time = 1 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.48
323.93	.81
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00

2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1345E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 2 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.36
323.93	.81
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1902E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.30
323.93	.81
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2330E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)

.00	.00
15.24	.26
323.93	.81
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2690E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.23
323.93	.81
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3008E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.17
323.93	.80
632.62	.10E-02
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .4253E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000

Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.14
323.93	.78
632.62	.56E-02
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .5209E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.12
323.93	.77
632.62	.13E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .6015E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.11
323.93	.75
632.62	.23E-01
941.31	.00

1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

umulative Emissions to Air (g) = .6725E+05
dvective Mass Loading Rate to Groundwater (g/day) = .0000
iffusive Mass Loading Rate to Groundwater (g/day) = .0000
dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.97E-01
323.93	.73
632.62	.33E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

umulative Emissions to Air (g) = .7366E+05
dvective Mass Loading Rate to Groundwater (g/day) = .0000
iffusive Mass Loading Rate to Groundwater (g/day) = .0000
dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Chemical Specific Input Parameters for Toluene

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	2.800
Diffusion Coeff. in Air	(cm^2/day)	7517.
Diffusion Coeff. in Water	(cm^2/day)	.7430
Henrys Constant	[(mg/L)/(mg/L)]	.2720
Organic Carbon Part. Coeff.	(cc/g)	140.0
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Toluene

Time = 1 yrs
==========

S Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.6
323.93	2.8

632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
76.07	.00
2484.76	.00
2500.00	.00

:umulative Emissions to Air (g) = .4735E+05
ıdvective Mass Loading Rate to Groundwater (g/day) = .0000
)iffusive Mass Loading Rate to Groundwater (g/day) = .0000
ıdvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 2 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.2
323.93	2.8
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
84.76	.00
500.00	.00

:umulative Emissions to Air (g) = .6695E+05
.dvective Mass Loading Rate to Groundwater (g/day) = .0000
)iffusive Mass Loading Rate to Groundwater (g/day) = .0000
.dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.0
323.93	2.8
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

:umulative Emissions to Air (g) = .8199E+05
ıdvective Mass Loading Rate to Groundwater (g/day) = .0000
)iffusive Mass Loading Rate to Groundwater (g/day) = .0000
ıdvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs

==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.88
323.93	2.8
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .9467E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.79
323.93	2.8
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1058E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.57
323.93	2.8
632.62	.43E-02
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00

2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1497E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.47
323.93	2.7
632.62	.22E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1833E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.40
323.93	2.6
632.62	.51E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2117E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm) Concentration(mg/kg soil)

.00	.00
15.24	.36
323.93	2.6
632.62	.85E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2367E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.33
323.93	2.5
632.62	.12
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2592E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Chemical Specific Input Parameters for Xylene

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	19.00
Diffusion Coeff. in Air	(cm^2/day)	6739.
Diffusion Coeff. in Water	(cm^2/day)	.7560
Henrys Constant	[(mg/L)/(mg/L)]	.2130
Organic Carbon Part. Coeff.	(cc/g)	196.0
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Xylene

Time = 1 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.12E-03
15.24	13.
323.93	19.
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2525E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 2 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	10.
323.93	19.
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3570E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	8.5
323.93	19.
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .4372E+06

Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	7.5
323.93	19.
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .5048E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	6.8
323.93	19.
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .5644E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	4.9
323.93	19.
632.62	.15E-02

941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .7981E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	4.0
323.93	19.
632.62	.20E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .9775E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	3.5
323.93	19.
632.62	.73E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1129E+07
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	3.1
323.93	18.
632.62	.16
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1262E+07
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	2.8
323.93	18.
632.62	.28
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1382E+07
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Emissions/Dispersion Model Output

Analysis for ...

Analyses Performed:

Volatile emissions from Jury or SESOIL
Box Model used for dispersion

*** PARAMETERS ***

Deterministic Run

PARAMETER NAME	UNITS	VALUE
Wind Speed	m/s	.200E+01
Box Height	m	.200E+01
Box Width	m	.231E+03

Naphthalene

PARAMETER NAME	UNITS	VALUE

OUTPUTS

	Volatile Emissions (kg/yr)	Particulate Emissions (kg/yr)	Air Concentration (mg/m^3)
Averaging Time, yr =	5		
Naphthalene	.139E+02	.000E+00	.477E-03
Averaging Time, yr =	10		
Naphthalene	.984E+01	.000E+00	.338E-03
Averaging Time, yr =	15		
Naphthalene	.803E+01	.000E+00	.276E-03
Averaging Time, yr =	20		
Naphthalene	.696E+01	.000E+00	.239E-03
Averaging Time, yr =	25		
Naphthalene	.622E+01	.000E+00	.214E-03
Averaging Time, yr =	30		
Naphthalene	.568E+01	.000E+00	.195E-03
Averaging Time, yr =	35		
Naphthalene	.568E+01	.000E+00	.195E-03
Averaging Time, yr =	40		
Naphthalene	.568E+01	.000E+00	.195E-03
Averaging Time, yr =	45		
Naphthalene	.568E+01	.000E+00	.195E-03

Averaging Time, yr = 50

Naphthalene	.568E+01	.000E+00	.195E-03

Averaging Time, yr = 55

Naphthalene	.568E+01	.000E+00	.195E-03

Averaging Time, yr = 60

Naphthalene	.568E+01	.000E+00	.195E-03

Averaging Time, yr = 65

Naphthalene	.568E+01	.000E+00	.195E-03

Averaging Time, yr = 70

Naphthalene	.568E+01	.000E+00	.195E-03

Averaging Time, yr = 75

Naphthalene	.568E+01	.000E+00	.195E-03

Jury Output File
Analysis for ...

*** COMMON INPUT PARAMETERS ***

PARAMETER NAME	UNITS	VALUE
Porosity	(cc/cc)	.3250
Bulk Density	(g/cc)	1.820
Water Content	(cc/cc)	.2880
Fractional Organic Carbon	(mg/mg)	.2400E-02
Incorporation Depth	(cm)	457.0
Clean Soil Thickness	(cm)	.0000
Simulation Time	(yrs)	30
Length of Soil Column	(cm)	2500.
Infiltration Rate	(cm/day)	.0000
Source Length	(m)	293.0
Source Width	(m)	183.0
Boundary Layer Thickness	(cm)	.5000

Chemical Specific Input Parameters for Naphthalene

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	8.900
Diffusion Coeff. in Air	(cm^2/day)	5098.
Diffusion Coeff. in Water	(cm^2/day)	.6480
Henrys Constant	[(mg/L)/(mg/L)]	.1980E-01
Organic Carbon Part. Coeff.	(cc/g)	1190.
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Naphthalene

Time = 1 yrs

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.10E-02
15.24	8.9
323.93	8.9
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3112E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 2 yrs

==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.72E-03
15.24	8.9
323.93	8.9
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .4400E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.59E-03
15.24	8.7
323.93	8.9
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .5389E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.51E-03
15.24	8.5
323.93	8.9
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00

2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .6223E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.46E-03
15.24	8.2
323.93	8.9
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .6957E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.32E-03
15.24	7.0
323.93	8.9
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .9838E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)

.00	.26E-03
15.24	6.1
323.93	8.9
632.62	.00
941.31	.00
250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1205E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.23E-03
15.24	5.5
323.93	8.9
632.62	.00
941.31	.00
1250.00	.00
558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

umulative Emissions to Air (g) = .1391E+06
dvective Mass Loading Rate to Groundwater (g/day) = .0000
iffusive Mass Loading Rate to Groundwater (g/day) = .0000
dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.20E-03
15.24	5.1
323.93	8.9
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
67.38	.00
176.07	.00
2484.76	.00
2500.00	.00

umulative Emissions to Air (g) = .1556E+06
dvective Mass Loading Rate to Groundwater (g/day) = .0000
iffusive Mass Loading Rate to Groundwater (g/day) = .0000

Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs

==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.19E-03
15.24	4.7
323.93	8.9
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1704E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Attachment B
Post Excavation Dataset
Risk and Hazard Calculations for Dermal Exposure Pathway
Powerine Lakeland Property, Santa Fe Springs, California

For ADULT worker exposed to surface soils (0-3 feet):
(Exposure point concentration based on data from Post Excavation data set)

Using Average Exposure Parameters

RISKS:

Chemical	Cs* (mg/kg)	ABS (u)	SA (cm²)	AF (mg/cm²)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF (mg/kg-d)$^{-1}$	RISK (u)
Benzene	0.084	0.1	840	0.09	1.00E-06	0.685	4.2	70	70	3.72E-10	0.1	**3.7E-11**

HAZARD QUOTIENTS:

Chemical	Cs* (mg/kg)	ABS (u)	SA (cm²)	AF (mg/cm²)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfD (mg/kg-d)	HQ (u)
Benzene	0.084	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	6.20E-09	0.0017	3.6E-06
Toluene	0.11	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	7.82E-09	0.2	3.9E-08
Ethylbenzene	0.34	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	2.50E-08	0.1	2.5E-07
Xylene	0.81	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	6.00E-08	2	3.0E-08
MTBE	0.65	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	4.81E-08	0.005	9.6E-06
Naphthalene	0.77	0.1	840	0.09	1.00E-06	0.685	4.2	70	4.2	5.71E-08	0.04	1.4E-06
												0.000015

Using Reasonable Maximum Exposure (RME) Parameters

RISKS:

Chemical	Cs* (mg/kg)	ABS (u)	SA (cm²)	AF (mg/cm²)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF (mg/kg-d)$^{-1}$	RISK (u)
Benzene	0.084	0.1	5300	1.0	1.00E-06	0.685	25	70	70	1.55E-07	0.1	**1.6E-08**

HAZARD QUOTIENTS:

Chemical	Cs* (mg/kg)	ABS (u)	SA (cm²)	AF (mg/cm²)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfD (mg/kg-d)	HQ (u)
Benzene	0.084	0.1	5300	1.0	1.00E-06	0.685	25	70	25	4.34E-07	0.0017	2.6E-04
Toluene	0.11	0.1	5300	1.0	1.00E-06	0.685	25	70	25	5.48E-07	0.2	2.7E-06
Ethylbenzene	0.34	0.1	5300	1.0	1.00E-06	0.685	25	70	25	1.75E-06	0.1	1.7E-05
Xylene	0.81	0.1	5300	1.0	1.00E-06	0.685	25	70	25	4.21E-06	2	2.1E-06
MTBE	0.65	0.1	5300	1.0	1.00E-06	0.685	25	70	25	3.38E-06	0.005	6.8E-04
Napthalene	0.77	0.1	5300	1.0	1.00E-06	0.685	25	70	25	3.99E-06	0.04	1.0E-04
												0.0011

0.39 for 1.5 mg/kg
0.86 for 3.3 mg/kg MTBE.

Notes:

* Surface soil concentration (0-3 feet); 95% UCL concentration (or maximum concentration when 95% UCL > maximum concentration) from Spreadsheet "*[POWDATA4.XLW] Post Excavation Data Set*".

EF = 0.685 (250 days of occupational exposure / 365 days per year)

Attachment B
Post Excavation Dataset
Risk and Hazard Calculations for Incidental Ingestion Pathway
Powerine Lakeland Property, Santa Fe Springs, California

For ADULT worker exposed to surface soils (0-3 feet):
(Exposure point concentration based on data from Post Excavation data set)

Using Average Exposure Parameters

RISKS:

Chemical	Cs* (mg/kg)	IR (mg/d)	BF (u)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF $(mg/kg\text{-}d)^{-1}$	Risk (u)
Benzene	0.084	10	1.0	1.00E-06	0.685	4.2	70	70	4.92E-10	0.1	**4.9E-11**

HAZARD QUOTIENTS:

Chemical	Cs* (mg/kg)	IR (mg/d)	BF (u)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDo (mg/kg-d)	HQ (u)
Benzene	**0.084**	10	1.0	1.00E-06	0.685	4.2	70	4.2	8.20E-09	0.0017	4.8E-06
Toluene	**0.11**	10	1.0	1.00E-06	0.685	4.2	70	4.2	1.03E-08	0.2	5.2E-08
Ethylbenzene	**0.34**	10	1.0	1.00E-06	0.685	4.2	70	4.2	3.30E-08	0.1	3.3E-07
Xylene	**0.81**	10	1.0	1.00E-06	0.685	4.2	70	4.2	7.94E-08	2	4.0E-08
MTBE	**0.65**	10	1.0	1.00E-06	0.685	4.2	70	4.2	6.37E-08	0.005	1.3E-05
Naphthalene	**0.77**	10	1.0	1.00E-06	0.685	4.2	70	4.2	7.56E-08	0.04	1.9E-06
											0.000020

Using Reasonable Maximum Exposure (RME) Parameters

RISKS:

Chemical	Cs* (mg/kg)	IR (mg/d)	BF (u)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF $(mg/kg\text{-}d)^{-1}$	Risk (u)
Benzene	0.084	50	1.0	1.00E-06	0.685	25	70	70	1.46E-08	0.1	**1.5E-09**

HAZARD QUOTIENTS:

Chemical	Cs* (mg/kg)	IR (mg/d)	BF (u)	CF (kg/mg)	EF (u)	ED (yrs)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDo (mg/kg-d)	HQ (u)
Benzene	0.084	50	1.0	1.00E-06	0.685	25	70	25	4.10E-08	0.0017	2.4E-05
Toluene	0.11	50	1.0	1.00E-06	0.685	25	70	25	5.17E-08	0.2	2.6E-07
Ethylbenzene	0.34	50	1.0	1.00E-06	0.685	25	70	25	1.65E-07	0.1	1.7E-06
Xylene	0.81	50	1.0	1.00E-06	0.685	25	70	25	3.97E-07	2	2.0E-07
MTBE	0.65	50	1.0	1.00E-06	0.685	25	70	25	3.18E-07	0.005	6.4E-05
Napthalene	0.77	50	1.0	1.00E-06	0.685	25	70	25	3.77E-07	0.04	9.4E-06
											0.00010

Notes:

* Surface soil concentration (0-3 feet); 95% UCL concentration (or maximum concentration when 95% UCL > maximum concentration) from Spreadsheet "*[POWDATA4.XLW] Post Excavation Data Set*".

EF = 0.685 (250 days of occupational exposure / 365 days per year)

Attachment B
Post Excavation Dataset
Risk and Hazard Calculations for Vapor Inhalation Pathway
(surface vapors [0-15 feet])
Powerine Lakeland Property, Santa Fe Springs, California

For ADULT worker exposed to vapors from soil at 0-15 feet:
(Exposure point concentration based on data from Post Excavation data set)

Using Average Exposure Parameters

RISKS:

Chemical	Ci * (mg/m3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF $(mg/kg\text{-}d)^{-1}$	RISK (u)
Benzene	6.85E-05	6	0.685	4.2	1.0	70	70	2.41E-07	0.1	**2.4E-08**

HAZARD QUOTIENTS:

Chemical	Ci * (mg/m3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDi (mg/kg-d)	HAZARD (u)
Benzene	**6.85E-05**	6	0.685	4.2	1.0	70	4.2	4.02E-06	0.0017	2.4E-03
Toluene	**3.25E-04**	6	0.685	4.2	1.0	70	4.2	1.91E-05	0.11	1.7E-04
Ethylbenzene	**4.55E-04**	6	0.685	4.2	1.0	70	4.2	2.67E-05	0.29	9.2E-05
Xylene	**1.73E-03**	6	0.685	4.2	1.0	70	4.2	1.02E-04	0.2	5.1E-04
MTBE	**9.23E-05**	6	0.685	4.2	1.0	70	4.2	5.42E-06	0.86	6.3E-06
Naphthalene	**1.58E-04**	6	0.685	4.2	1.0	70	4.2	9.28E-06	0.04	2.3E-04
										0.0034

Using Reasonable Maximum Exposure (RME) Parameters

RISKS:

Chemical	Ci * (mg/m3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF $(mg/kg\text{-}d)^{-1}$	RISK (u)
Benzene	6.85E-05	20	0.685	25	1.0	70	70	4.79E-06	0.1	**4.8E-07**

HAZARD QUOTIENTS:

Chemical	Ci * (mg/m3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDi (mg/kg-d)	HAZARD (u)
Benzene	6.85E-05	20	0.685	25	1.0	70	25	1.34E-05	0.0017	7.9E-03
Toluene	3.25E-04	20	0.685	25	1.0	70	25	6.36E-05	0.11	5.8E-04
Ethylbenzene	4.55E-04	20	0.685	25	1.0	70	25	8.90E-05	0.29	3.1E-04
Xylene	1.73E-03	20	0.685	25	1.0	70	25	3.39E-04	0.2	1.7E-03
MTBE	9.23E-05	20	0.685	25	1.0	70	25	1.81E-05	0.86	2.1E-05
Naphthalene	1.58E-04	20	0.685	25	1.0	70	25	3.09E-05	0.04	7.7E-04
										0.011

Notes:

* Ci from air dispersion modeling file "p0_15n4.sav" for BTEX and MTBE and "n0_15n4.sav" for naphthalene;
Model input parameters incorporated 95% UCL soil concentrations (0-15 foot depth) from Spreadsheet "*[POWDATA4.XLW] Post Excavation Data S*

Attachment B
Post Excavation Dataset
Risk and Hazard Calculations for Vapor Inhalation Pathway
(from subsurface soils [>15 -65 feet])
Powerine Lakeland Property, Santa Fe Springs, California

For ADULT worker exposed to vapors from soil at >15-65 feet:
(Exposure point concentration based on data from Post Excavation data set)

Using Average Exposure Parameters

RISKS:

Chemical	Ci * (mg/m^3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF (mg/kg-d)$^{-1}$	RISK (u)
Benzene	6.96E-06	6	0.685	4.2	1.0	70	70	2.45E-08	0.1	**2.5E-09**

HAZARD QUOTIENTS:

Chemical	Ci * (mg/m^3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDi (mg/kg-d)	HAZARD (u)
Benzene	6.96E-06	6	0.685	4.2	1.0	70	4.2	4.09E-07	0.0017	2.4E-04
Toluene	1.86E-06	6	0.685	4.2	1.0	70	4.2	1.09E-07	0.11	9.9E-07
Ethylbenzene	3.92E-08	6	0.685	4.2	1.0	70	4.2	2.30E-09	0.29	7.9E-09
Xylene	1.42E-08	6	0.685	4.2	1.0	70	4.2	8.34E-10	0.2	4.2E-09
MTBE	3.90E-09	6	0.685	4.2	1.0	70	4.2	2.29E-10	0.86	2.7E-10
Naphthalene**	0.00E+00	6	0.685	4.2	1.0	70	4.2	0.00E+00	0.04	0.0E+00
										0.00024

Using Reasonable Maximum Exposure (RME) Parameters

RISKS:

Chemical	Ci * (mg/m^3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	LADD (mg/kg-d)	CSF (mg/kg-d)$^{-1}$	RISK (u)
Benzene	6.96E-06	20	0.685	25	1.0	70	70	4.86E-07	0.1	**4.9E-08**

HAZARD QUOTIENTS:

Chemical	Ci * (mg/m^3)	BR (m^3/d)	EF (u)	ED (yrs)	B (u)	BW (kg)	AT (yrs)	ADD (mg/kg-d)	RfDi (mg/kg-d)	HAZARD (u)
Benzene	6.96E-06	20	0.685	25	1.0	70	25	1.36E-06	0.0017	8.0E-04
Toluene	1.86E-06	20	0.685	25	1.0	70	25	3.64E-07	0.11	3.3E-06
Ethylbenzene	3.92E-08	20	0.685	25	1.0	70	25	7.67E-09	0.29	2.6E-08
Xylene	1.42E-08	20	0.685	25	1.0	70	25	2.78E-09	0.2	1.4E-08
MTBE	3.90E-09	20	0.685	25	1.0	70	25	7.63E-10	0.86	8.9E-10
Naphthalene**	0.00E+00	20	0.685	25	1.0	70	25	0.00E+00	0.04	0.0E+00
										0.00080

Notes

* Ci from air dispersion modeling file "p16_65nd.sav" for BTEX and MTBE and "n16_65nd.sav" for naphthalene;
Model input parameters incorporated 95% UCL soil concentrations (>15-65 foot depth) from Spreadsheet "*[POWDATA4.XLW] Post Excavation Data Set*".

** Based on the physical-chemical properties of naphthalene, the emissions at depth (>15-65 feet) were determined to be insignificant, essentially 0.

941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .9788E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	4.9
323.93	23.
632.62	.24E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1199E+07
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	4.3
323.93	23.
632.62	.89E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1384E+07
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	3.8
323.93	22.
632.62	.20
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1547E+07
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	3.5
323.93	22.
632.62	.34
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1695E+07
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Emissions/Dispersion Model Output

Analysis for ...

Analyses Performed:

Volatile emissions from Jury or SESOIL
Box Model used for dispersion

*** PARAMETERS ***

Deterministic Run

PARAMETER NAME	UNITS	VALUE
Wind Speed	m/s	.200E+01
Box Height	m	.200E+01
Box Width	m	.231E+03

Naphthalene

PARAMETER NAME	UNITS	VALUE

OUTPUTS

	Volatile Emissions (kg/yr)	Particulate Emissions (kg/yr)	Air Concentration (mg/m^3)
Averaging Time, yr = 5			
aphthalene	.103E+02	.000E+00	.354E-03
Averaging Time, yr = 10			
aphthalene	.730E+01	.000E+00	.250E-03
Averaging Time, yr = 15			
aphthalene	.596E+01	.000E+00	.204E-03
Averaging Time, yr = 20			
aphthalene	.516E+01	.000E+00	.177E-03
Averaging Time, yr = 25			
aphthalene	.461E+01	.000E+00	.158E-03
Averaging Time, yr = 30			
aphthalene	.421E+01	.000E+00	.145E-03
Averaging Time, yr = 35			
aphthalene	.421E+01	.000E+00	.145E-03
Averaging Time, yr = 40			
aphthalene	.421E+01	.000E+00	.145E-03
Averaging Time, yr = 45			
aphthalene	.421E+01	.000E+00	.145E-03

Averaging Time, yr =	50		
Naphthalene	.421E+01	.000E+00	.145E-03
Averaging Time, yr =	55		
Naphthalene	.421E+01	.000E+00	.145E-03
Averaging Time, yr =	60		
Naphthalene	.421E+01	.000E+00	.145E-03
Averaging Time, yr =	65		
Naphthalene	.421E+01	.000E+00	.145E-03
Averaging Time, yr =	70		
Naphthalene	.421E+01	.000E+00	.145E-03
Averaging Time, yr =	75		
Naphthalene	.421E+01	.000E+00	.145E-03

Jury Output File
Analysis for ...

*** COMMON INPUT PARAMETERS ***

PARAMETER NAME	UNITS	VALUE
Porosity	(cc/cc)	.3250
Bulk Density	(g/cc)	1.820
Water Content	(cc/cc)	.2880
Fractional Organic Carbon	(mg/mg)	.2400E-02
Incorporation Depth	(cm)	457.0
Clean Soil Thickness	(cm)	.0000
Simulation Time	(yrs)	30
Length of Soil Column	(cm)	2500.
Infiltration Rate	(cm/day)	.0000
Source Length	(m)	293.0
Source Width	(m)	183.0
Boundary Layer Thickness	(cm)	.5000

Chemical Specific Input Parameters for Naphthalene

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	6.600
Diffusion Coeff. in Air	(cm^2/day)	5098.
Diffusion Coeff. in Water	(cm^2/day)	.6480
Henrys Constant	[(mg/L)/(mg/L)]	.1980E-01
Organic Carbon Part. Coeff.	(cc/g)	1190.
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Naphthalene

Time = 1 yrs

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.76E-03
15.24	6.6
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
500.00	.00

Cumulative Emissions to Air (g) = .2308E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 2 yrs

==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.54E-03
15.24	6.6
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3263E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.44E-03
15.24	6.4
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3996E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.38E-03
15.24	6.3
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00

2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .4615E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.34E-03
15.24	6.1
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .5159E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.24E-03
15.24	5.2
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .7296E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm) Concentration(mg/kg soil)

.00	.20E-03
15.24	4.6
323.93	6.6
632.62	.00
941.31	.00
250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .8935E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.17E-03
15.24	4.1
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
558.69	.00
867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

umulative Emissions to Air (g) = .1032E+06
dvective Mass Loading Rate to Groundwater (g/day) = .0000
iffusive Mass Loading Rate to Groundwater (g/day) = .0000
dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.15E-03
15.24	3.8
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
867.38	.00
176.07	.00
2484.76	.00
2500.00	.00

umulative Emissions to Air (g) = .1154E+06
dvective Mass Loading Rate to Groundwater (g/day) = .0000
iffusive Mass Loading Rate to Groundwater (g/day) = .0000

Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs

==========

S l Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.14E-03
15.24	3.5
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1264E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	9.2
323.93	23.
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .6191E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	8.3
323.93	23.
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .6921E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	6.0
323.93	23.
632.62	.19E-02

Emissions/Dispersion Model Output

Analysis for ...

Analyses Performed:

Volatile emissions from Jury or SESOIL
Box Model used for dispersion

*** PARAMETERS ***

Deterministic Run

PARAMETER NAME	UNITS	VALUE
Wind Speed	m/s	.200E+01
Box Height	m	.200E+01
Box Width	m	.231E+03

Benzene

PARAMETER NAME	UNITS	VALUE

Ethylbenzene

PARAMETER NAME	UNITS	VALUE

Methyl t-Butyl Ether

PARAMETER NAME	UNITS	VALUE

Toluene

PARAMETER NAME	UNITS	VALUE

Xylene

PARAMETER NAME	UNITS	VALUE

OUTPUTS

	Volatile Emissions (kg/yr)	Particulate Emissions (kg/yr)	Air Concentration (mg/m^3)

Averaging Time, yr =	5		
Benzene	.837E+01	.000E+00	.287E-03
Ethylbenzene	.435E+02	.000E+00	.149E-02
Methyl t-But	.609E+01	.000E+00	.209E-03
Toluene	.340E+02	.000E+00	.117E-02
Xylene	.138E+03	.000E+00	.475E-02
Averaging Time, yr =	10		
Benzene	.592E+01	.000E+00	.203E-03
Ethylbenzene	.307E+02	.000E+00	.105E-02
Methyl t-But	.431E+01	.000E+00	.148E-03
Toluene	.241E+02	.000E+00	.826E-03
Xylene	.979E+02	.000E+00	.336E-02
Averaging Time, yr =	15		
Benzene	.483E+01	.000E+00	.166E-03
Ethylbenzene	.251E+02	.000E+00	.861E-03
Methyl t-But	.352E+01	.000E+00	.121E-03
Toluene	.196E+02	.000E+00	.674E-03
Xylene	.799E+02	.000E+00	.274E-02
Averaging Time, yr =	20		
Benzene	.419E+01	.000E+00	.144E-03
Ethylbenzene	.217E+02	.000E+00	.746E-03
Methyl t-But	.304E+01	.000E+00	.104E-03
Toluene	.170E+02	.000E+00	.584E-03
Xylene	.692E+02	.000E+00	.238E-02
Averaging Time, yr =	25		
Benzene	.374E+01	.000E+00	.128E-03
Ethylbenzene	.194E+02	.000E+00	.667E-03
Methyl t-But	.272E+01	.000E+00	.934E-04
Toluene	.152E+02	.000E+00	.522E-03
Xylene	.619E+02	.000E+00	.212E-02
Averaging Time, yr =	30		
Benzene	.342E+01	.000E+00	.117E-03
Ethylbenzene	.178E+02	.000E+00	.609E-03
Methyl t-But	.249E+01	.000E+00	.853E-04
Toluene	.139E+02	.000E+00	.477E-03
Xylene	.565E+02	.000E+00	.194E-02
Averaging Time, yr =	35		
Benzene	.342E+01	.000E+00	.117E-03
Ethylbenzene	.178E+02	.000E+00	.609E-03
Methyl t-But	.249E+01	.000E+00	.853E-04
Toluene	.139E+02	.000E+00	.477E-03
Xylene	.565E+02	.000E+00	.194E-02
Averaging Time, yr =	40		
Benzene	.342E+01	.000E+00	.117E-03
Ethylbenzene	.178E+02	.000E+00	.609E-03
Methyl t-But	.249E+01	.000E+00	.853E-04
Toluene	.139E+02	.000E+00	.477E-03
Xylene	.565E+02	.000E+00	.194E-02
Averaging Time, yr =	45		
Benzene	.342E+01	.000E+00	.117E-03
Ethylbenzene	.178E+02	.000E+00	.609E-03
Methyl t-But	.249E+01	.000E+00	.853E-04
Toluene	.139E+02	.000E+00	.477E-03
Xylene	.565E+02	.000E+00	.194E-02

Averaging Time, yr =	50		
Benzene	.342E+01	.000E+00	.117E-03
Ethylbenzene	.178E+02	.000E+00	.609E-03
Methyl t-But	.249E+01	.000E+00	.853E-04
Toluene	.139E+02	.000E+00	.477E-03
Xylene	.565E+02	.000E+00	.194E-02
Averaging Time, yr =	55		
Benzene	.342E+01	.000E+00	.117E-03
Ethylbenzene	.178E+02	.000E+00	.609E-03
Methyl t-But	.249E+01	.000E+00	.853E-04
Toluene	.139E+02	.000E+00	.477E-03
Xylene	.565E+02	.000E+00	.194E-02
Averaging Time, yr =	60		
Benzene	.342E+01	.000E+00	.117E-03
Ethylbenzene	.178E+02	.000E+00	.609E-03
Methyl t-But	.249E+01	.000E+00	.853E-04
Toluene	.139E+02	.000E+00	.477E-03
Xylene	.565E+02	.000E+00	.194E-02
Averaging Time, yr =	65		
Benzene	.342E+01	.000E+00	.117E-03
Ethylbenzene	.178E+02	.000E+00	.609E-03
Methyl t-But	.249E+01	.000E+00	.853E-04
Toluene	.139E+02	.000E+00	.477E-03
Xylene	.565E+02	.000E+00	.194E-02
Averaging Time, yr =	70		
Benzene	.342E+01	.000E+00	.117E-03
Ethylbenzene	.178E+02	.000E+00	.609E-03
Methyl t-But	.249E+01	.000E+00	.853E-04
Toluene	.139E+02	.000E+00	.477E-03
Xylene	.565E+02	.000E+00	.194E-02
Averaging Time, yr =	75		
Benzene	.342E+01	.000E+00	.117E-03
Ethylbenzene	.178E+02	.000E+00	.609E-03
Methyl t-But	.249E+01	.000E+00	.853E-04
Toluene	.139E+02	.000E+00	.477E-03
Xylene	.565E+02	.000E+00	.194E-02

Jury Output File
Analysis for ...

*** COMMON INPUT PARAMETERS ***

PARAMETER NAME	UNITS	VALUE
Porosity	(cc/cc)	.3250
Bulk Density	(g/cc)	1.820
Water Content	(cc/cc)	.2880
Fractional Organic Carbon	(mg/mg)	.2400E-02
Incorporation Depth	(cm)	457.0
Clean Soil Thickness	(cm)	.0000
Simulation Time	(yrs)	30
Length of Soil Column	(cm)	2500.
Infiltration Rate	(cm/day)	.0000
Source Length	(m)	293.0
Source Width	(m)	183.0
Boundary Layer Thickness	(cm)	.5000

Chemical Specific Input Parameters for Benzene

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	.9000
Diffusion Coeff. in Air	(cm^2/day)	7603.
Diffusion Coeff. in Water	(cm^2/day)	.8467
Henrys Constant	[(mg/L)/(mg/L)]	.2280
Organic Carbon Part. Coeff.	(cc/g)	58.90
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Benzene

Time = 1 yrs

Soil Concentration Profile

Depth (cm)	Concentration (mg/kg soil)
.00	.00
15.24	.44
323.93	.90
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1873E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 2 yrs

==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.32
323.93	.90
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2648E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.27
323.93	.90
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3243E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.23
323.93	.90
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00

2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3745E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.21
323.93	.90
632.62	.30E-03
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .4187E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.15
323.93	.87
632.62	.72E-02
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .5920E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm) Concentration(mg/kg soil)

.00	.00
15.24	.12
323.93	.84
632.62	.22E-01
941.31	.00
50.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

:umulative Emissions to Air (g) = .7251E+05
\dvective Mass Loading Rate to Groundwater (g/day) = .0000
)iffusive Mass Loading Rate to Groundwater (g/day) = .0000
\dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.11
323.93	.81
632.62	.40E-01
941.31	.00
1250.00	.00
58.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

:umulative Emissions to Air (g) = .8373E+05
\dvective Mass Loading Rate to Groundwater (g/day) = .0000
)iffusive Mass Loading Rate to Groundwater (g/day) = .0000
\dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.95E-01
323.93	.78
632.62	.58E-01
941.31	.00
1250.00	.00
1558.69	.00
67.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

:umulative Emissions to Air (g) = .9360E+05
\dvective Mass Loading Rate to Groundwater (g/day) = .0000
)iffusive Mass Loading Rate to Groundwater (g/day) = .7172E-67

Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.86E-01
323.93	.76
632.62	.74E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1025E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .1155E-55
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Chemical Specific Input Parameters for Ethylbenzene

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	6.600
Diffusion Coeff. in Air	(cm^2/day)	6480.
Diffusion Coeff. in Water	(cm^2/day)	.6739
Henrys Constant	[(mg/L)/(mg/L)]	.3230
Organic Carbon Part. Coeff.	(cc/g)	204.0
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Ethylbenzene

Time = 1 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	4.3
323.93	6.6
632.62	.00
941.31	.00
50.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .9724E+05

Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 2 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	3.2
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1375E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	2.7
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1684E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	2.4
323.93	6.6
632.62	.00

941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1944E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	2.1
323.93	6.6
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2174E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.5
323.93	6.6
632.62	.22E-02
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3074E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.3
323.93	6.5
632.62	.18E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

:umulative Emissions to Air (g) = .3765E+06
ıdvective Mass Loading Rate to Groundwater (g/day) = .0000
)iffusive Mass Loading Rate to Groundwater (g/day) = .0000
ıdvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.1
323.93	6.4
632.62	.53E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

:umulative Emissions to Air (g) = .4347E+06
ıdvective Mass Loading Rate to Groundwater (g/day) = .0000
)iffusive Mass Loading Rate to Groundwater (g/day) = .0000
ıdvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.98
323.93	6.3
632.62	.10
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00

2500.00	.00

Cumulative Emissions to Air (g) = .4861E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.89
323.93	6.1
632.62	.16
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .5324E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Chemical Specific Input Parameters for Methyl t-Butyl Ether

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	.8200
Diffusion Coeff. in Air	(cm^2/day)	6143.
Diffusion Coeff. in Water	(cm^2/day)	.7811
Henrys Constant	[(mg/L)/(mg/L)]	.3240E-01
Organic Carbon Part. Coeff.	(cc/g)	7.000
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Methyl t-Butyl Ether

Time = 1 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.49
323.93	.82
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00

2176.07	.00
2484.76	00
2500.00	.00

Cumulative Emissions to Air (g) = .1362E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 2 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.36
323.93	.82
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1926E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.30
323.93	.82
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2359E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)

.00	.00
15.24	.26
323.93	.82
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2723E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.24
323.93	.82
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3045E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.17
323.93	.81
632.62	.10E-02
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .4306E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000

Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.14
323.93	.79
632.62	.56E-02
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .5273E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.12
323.93	.78
632.62	.13E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .6089E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.11
323.93	.76
632.62	.23E-01
941.31	.00

1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .6808E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.99E-01
323.93	.74
632.62	.33E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .7457E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Chemical Specific Input Parameters for Toluene

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	4.500
Diffusion Coeff. in Air	(cm^2/day)	7517.
Diffusion Coeff. in Water	(cm^2/day)	.7430
Henrys Constant	[(mg/L)/(mg/L)]	.2720
Organic Carbon Part. Coeff.	(cc/g)	140.0
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Toluene

Time = 1 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	2.6
323.93	4.5

632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .7609E+05
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 2 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	2.0
323.93	4.5
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1076E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.6
323.93	4.5
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .1318E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 4 yrs

==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.4
323.93	4.5
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

umulative Emissions to Air (g) = .1522E+06
dvective Mass Loading Rate to Groundwater (g/day) = .0000
iffusive Mass Loading Rate to Groundwater (g/day) = .0000
dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 5 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	1.3
323.93	4.5
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

umulative Emissions to Air (g) = .1701E+06
dvective Mass Loading Rate to Groundwater (g/day) = .0000
iffusive Mass Loading Rate to Groundwater (g/day) = .0000
dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 10 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.91
323.93	4.4
632.62	.69E-02
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00

2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2406E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 15 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.75
323.93	4.3
632.62	.35E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .2946E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 20 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.65
323.93	4.2
632.62	.81E-01
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

umulative Emissions to Air (g) = .3402E+06
dvective Mass Loading Rate to Groundwater (g/day) = .0000
iffusive Mass Loading Rate to Groundwater (g/day) = .0000
dvective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 25 yrs
==========

Soil Concentration Profile

Depth (cm) Concentration(mg/kg soil)

.00	.00
15.24	.58
323.93	4.1
632.62	.14
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3803E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 30 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	.53
323.93	4.1
632.62	.20
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .4166E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Chemical Specific Input Parameters for Xylene

Parameter Name	Units	Value
Total Soil Concentration	(mg/kg)	23.30
Diffusion Coeff. in Air	(cm^2/day)	6739.
Diffusion Coeff. in Water	(cm^2/day)	.7560
Henrys Constant	[(mg/L)/(mg/L)]	.2130
Organic Carbon Part. Coeff.	(cc/g)	196.0
Lumped Chemical Decay Rate	(1/day)	.0000

Outputs for Xylene

Time = 1 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.15E-03
15.24	16.
323.93	23.
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .3096E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 2 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.11E-03
15.24	12.
323.93	23.
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .4378E+06
Advective Mass Loading Rate to Groundwater (g/day) = .0000
Diffusive Mass Loading Rate to Groundwater (g/day) = .0000
Advective & Diffusive Mass Loading Rate to Groundwater(g/day) = .0000

Time = 3 yrs
==========

Soil Concentration Profile

Depth (cm)	Concentration(mg/kg soil)
.00	.00
15.24	10.
323.93	23.
632.62	.00
941.31	.00
1250.00	.00
1558.69	.00
1867.38	.00
2176.07	.00
2484.76	.00
2500.00	.00

Cumulative Emissions to Air (g) = .5361E+06

C

APPENDIX C

Laboratory Reports and Chains of Custody for ATC Associates Duplicate Samples

BC LABORATORIES, INC.

May 10, 1997

MATT WINEFIELD
POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670

Subject: Laboratory Submission No.: 97-04779
Samples Received: 05/06/97

Dear Mr. Winefield:

The samples(s) listed on the Chain of Custody report were received by BC Laboratories, Inc. on 05/06/97.

Enclosed please find the analytical data for the testing requested. If you have any questions regarding this report please contact me at (805)327-4911, ext. 201.

Any unused sample will be stored on our premises for a minimum of 30 days (excluding bacteriologicals) at which time they will be disposed unless otherwise requested at the time of sample receipt. A disposal fee of $5 per sample may apply for solid sample matrices.

Please refer to submission number 97-04779 when calling for assistance.

Sincerely,

Christy Ferguson for C. Ariey

Christy J. Ariey
Project Coordinator
BC Laboratories, Inc.

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: MATT WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/06/97
Laboratory No.: 97-04779-1

Sample Description: LAKELAND: ATC #1 SAMPLE #1

Sample Matrix: Aqueous

Date Collected: 05/06/97
Date Extracted: 05/06/97
Date Analyzed: 05/06/97

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	33000.	µg/L	900.
Bromobenzene	None Detected	µg/L	900.
Bromochloromethane	None Detected	µg/L	900.
Bromodichloromethane	None Detected	µg/L	900.
Bromoform	None Detected	µg/L	900.
Bromomethane	None Detected	µg/L	900.
n-Butylbenzene	1100.	µg/L	900.
sec-Butylbenzene	None Detected	µg/L	900.
tert-Butylbenzene	None Detected	µg/L	900.
Carbon tetrachloride	None Detected	µg/L	900.
Chlorobenzene	None Detected	µg/L	900.
Chloroethane	None Detected	µg/L	900.
Chloroform	None Detected	µg/L	900.
Chloromethane	None Detected	µg/L	900.
2-Chlorotoluene	None Detected	µg/L	900.
4-Chlorotoluene	None Detected	µg/L	900.
Dibromochloromethane	None Detected	µg/L	900.
1,2-Dibromo-3-Chloropropane	None Detected	µg/L	900.
1,2-Dibromoethane	None Detected	µg/L	900.
Dibromomethane	None Detected	µg/L	900.
1,2-Dichlorobenzene	None Detected	µg/L	900.
1,3-Dichlorobenzene	None Detected	µg/L	900.
1,4-Dichlorobenzene	None Detected	µg/L	900.
Dichlorodifluoromethane	None Detected	µg/L	900.
1,1-Dichloroethane	None Detected	µg/L	900.
1,2-Dichloroethane	None Detected	µg/L	900.
1,1-Dichloroethene	None Detected	µg/L	900.
cis-1,2-Dichloroethene	None Detected	µg/L	900.
trans-1,2-Dichloroethene	None Detected	µg/L	900.
1,2-Dichloropropane	None Detected	µg/L	900.
1,3-Dichloropropane	None Detected	µg/L	900.
2,2-Dichloropropane	None Detected	µg/L	900.
1,1-Dichloropropene	None Detected	µg/L	900.
cis-1,3-Dichloropropene	None Detected	µg/L	900.
trans-1,3-Dichloropropene	None Detected	µg/L	900.
Ethyl Benzene	16000.	µg/L	900.
Hexachlorobutadiene	None Detected	µg/L	900.
Isopropylbenzene	None Detected	µg/L	900.
p-Isopropyltoluene	None Detected	µg/L	900.
Methylene Chloride	None Detected	µg/L	2000.
Naphthalene	5500.	µg/L	900.
n-Propylbenzene	4000.	µg/L	900.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: MATT WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/06/97
Laboratory No.: 97-04779-1

Sample Description: LAKELAND: ATC #1 SAMPLE #1

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Styrene	None Detected	µg/L	900.
1,1,1,2-Tetrachloroethane	None Detected	µg/L	900.
1,1,2,2-Tetrachloroethane	None Detected	µg/L	900.
Tetrachloroethene	None Detected	µg/L	900.
Toluene	110000.	µg/L	3000.
1,2,3-Trichlorobenzene	None Detected	µg/L	900.
1,2,4-Trichlorobenzene	None Detected	µg/L	900.
1,1,1-Trichloroethane	None Detected	µg/L	900.
1,1,2-Trichloroethane	None Detected	µg/L	900.
Trichloroethene	None Detected	µg/L	900.
Trichlorofluoromethane	None Detected	µg/L	900.
1,2,3-Trichloropropane	None Detected	µg/L	900.
1,2,4-Trimethylbenzene	29000.	µg/L	900.
1,3,5-Trimethylbenzene	8300.	µg/L	900.
Vinyl Chloride	None Detected	µg/L	900.
Total Xylenes	95000.	µg/L	2000.
Methyl-t-butylether	None Detected	µg/L	900.

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	98.	76-114
Toluene-d8	101.	88-110
4-Bromofluorobenzene	96.	86-115

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.
Sample received at pH = 7.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: MATT WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/06/97
Laboratory No.: 97-04779-2

Sample Description: LAKELAND: ATC #2 SAMPLE #2

Sample Matrix: Aqueous

Date Collected: 05/06/97
Date Extracted: 05/06/97
Date Analyzed: 05/06/97

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	22000.	µg/L	700.
Bromobenzene	None Detected	µg/L	700.
Bromochloromethane	None Detected	µg/L	700.
Bromodichloromethane	None Detected	µg/L	700.
Bromoform	None Detected	µg/L	700.
Bromomethane	None Detected	µg/L	700.
n-Butylbenzene	1000.	µg/L	700.
sec-Butylbenzene	None Detected	µg/L	700.
tert-Butylbenzene	None Detected	µg/L	700.
Carbon tetrachloride	None Detected	µg/L	700.
Chlorobenzene	None Detected	µg/L	700.
Chloroethane	None Detected	µg/L	700.
Chloroform	None Detected	µg/L	700.
Chloromethane	None Detected	µg/L	700.
2-Chlorotoluene	None Detected	µg/L	700.
4-Chlorotoluene	None Detected	µg/L	700.
Dibromochloromethane	None Detected	µg/L	700.
1,2-Dibromo-3-Chloropropane	None Detected	µg/L	700.
1,2-Dibromoethane	None Detected	µg/L	700.
Dibromomethane	None Detected	µg/L	700.
1,2-Dichlorobenzene	None Detected	µg/L	700.
1,3-Dichlorobenzene	None Detected	µg/L	700.
1,4-Dichlorobenzene	None Detected	µg/L	700.
Dichlorodifluoromethane	None Detected	µg/L	700.
1,1-Dichloroethane	None Detected	µg/L	700.
1,2-Dichloroethane	None Detected	µg/L	700.
1,1-Dichloroethene	None Detected	µg/L	700.
cis-1,2-Dichloroethene	None Detected	µg/L	700.
trans-1,2-Dichloroethene	None Detected	µg/L	700.
1,2-Dichloropropane	None Detected	µg/L	700.
1,3-Dichloropropane	None Detected	µg/L	700.
2,2-Dichloropropane	None Detected	µg/L	700.
1,1-Dichloropropene	None Detected	µg/L	700.
cis-1,3-Dichloropropene	None Detected	µg/L	700.
trans-1,3-Dichloropropene	None Detected	µg/L	700.
Ethyl Benzene	10000.	µg/L	700.
Hexachlorobutadiene	None Detected	µg/L	700.
Isopropylbenzene	920.	µg/L	700.
p-Isopropyltoluene	None Detected	µg/L	700.
Methylene Chloride	None Detected	µg/L	2000.
Naphthalene	6100.	µg/L	700.
n-Propylbenzene	3000.	µg/L	700.

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: MATT WINEFIELD 310-944-6111

Date Reported: 05/08/97
Date Received: 05/06/97
Laboratory No.: 97-04779-2

Sample Description: LAKELAND: ATC #2 SAMPLE #2

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Styrene	None Detected	µg/L	700.
1,1,1,2-Tetrachloroethane	None Detected	µg/L	700.
1,1,2,2-Tetrachloroethane	None Detected	µg/L	700.
Tetrachloroethene	None Detected	µg/L	700.
Toluene	42000.	µg/L	2000.
1,2,3-Trichlorobenzene	None Detected	µg/L	700.
1,2,4-Trichlorobenzene	None Detected	µg/L	700.
1,1,1-Trichloroethane	None Detected	µg/L	700.
1,1,2-Trichloroethane	None Detected	µg/L	700.
Trichloroethene	None Detected	µg/L	700.
Trichlorofluoromethane	None Detected	µg/L	700.
1,2,3-Trichloropropane	None Detected	µg/L	700.
1,2,4-Trimethylbenzene	20000.	µg/L	700.
1,3,5-Trimethylbenzene	5400.	µg/L	700.
Vinyl Chloride	None Detected	µg/L	700.
Total Xylenes	49000.	µg/L	2000.
Methyl-t-butylether	None Detected	µg/L	700.

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	104.	76-114
Toluene-d8	102.	88-110
4-Bromofluorobenzene	103.	86-115

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.
Sample received at pH = 7.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

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4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

~~JONES~~ BC
~~ENVIROMENTAL~~
TESTING LABORATORIES

~~P.O. BOX 5397~~
~~FULLERTON, CA 92635~~
~~Tel: 714-449-9937~~
~~Fax: 714-449-9685~~

97-4779

Chain-Of-Custody Record

Client: Powerine Oil Co.	Date: 5/6/97
Project Name: LAKELAND	Client Project #:
Project Address: 12354 LAKELAND RD. SANTA Fe Springs CA.	Turn Around Requested: ☐ Immediate Attention ☒ Rush 24-48 Hours ☐ Rush 72-96 Hours ☐ Normal ☐ Mobile Lab
Project Contact: MATT WINEFIELD	

DISTRIBUTION

Analysis Requested

BC Project #

Page of

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☐ no
Sealed ☐ yes ☐ no

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A)	8260								Number of Containers	Container/Comments
ATC#1	SAMPLE WELL #1	5/6/97	-1		A	X									① RUN TOTAL ② TESTS - 1 for EACH WELL
ATC#1	SAMPLE WELL #1	5/6/97			A	X									①
ATC#2	SAMPLE WELL #2	5/6/97	-2		A	X									①
ATC#2	SAMPLE WELL #2	5/6/97			A	X									①

NUMBERING CHECKED BY M.ch.

Must have ID# on VOA vials. - [illegible]

❶ Relinquished by (signature): [signature]	Date: 5/6/97	❷ Received by (signature): [signature]	Date: 5-6-97		④ Total Number of Containers
Company: POC	Time:	Company: B.C. Labs	Time: 1523	Additional Comments: RUN TOTAL ② TESTS, 1 for EACH WELL	
❸ Relinquished by (signature): [signature]	Date: 5-6-97	❶ Received by Laboratory (signature): [signature]	Date: 5/6/97		
Company: BC Labs	Time: 1800	Company: BC LABS	Time: 6:00p		

BC LABORATORIES INC.

SAMPLE RECEIPT FORM -Rev. No.3 4/10/97

LAB NUMBER: 97-4779 TIME RECEIVED: 6:00p | DATE RECEIVED: 5/6/97 | RECEIVED BY: MO

SHIPPING SPECIFICATIONS

Federal Express ☐ UPS ☐ Hand Delivery ☐

Lab Field Service ☒ Other ☐ (Specify) _____

SHIPPING CONTAINER

Ice Chest ☒ Box ☐

None ☐ Other ☐ (Specify) _____

SAMPLE CONDITION

Ice Chest ID	Ice Chest ID	Ice Chest ID	Ice Chest ID	Ice Chest ID	Ice Chest ID
Temperature 5.2 °C	Temperature ____ °C	Temperature ____ °C	Temperature ____ °C	Temperature ____ °C	Temperature ____ °C
Emissivity .95					
Container 7					

Ice ☒ Blue Ice ☐ None ☐ Comments: _____

Custody Seals: Ice Chest ☐ Containers ☐ None ☒

No description on individual VOAs just bags they came in.

All samples received? Yes ☒ No ☐ All samples intact? Yes ☒ No ☐ Description match COC? Yes ☒ No ☐

SAMPLE CONTAINERS

Sample #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
QT GENERAL MINERAL/ GENERAL PHYSICAL																				
PT PE UNPRESERVED																				
QT INORGANIC CHEMICAL METALS																				
PT INORGANIC CHEMICAL METALS																				
PT CYANIDE																				
PT NITROGEN FORMS																				
PT TOTAL SULFIDE																				
2oz. NITRATE / NITRITE																				
100ml TOTAL ORGANIC CARBON																				
QT TOX																				
CHEMICAL OXYGEN DEMAND																				
100ml PHENOLICS																				
40ml VOA VIAL TRAVEL BLANK																				
40ml VOA VIAL	2	2																		
VOA SET (3 VIALS, 1TB)																				
QT EPA 413.1, 413.2, 418.1																				
PT ODOR																				
RADIOLOGICAL																				
BACTERIOLOGICAL																				
PT EPA 504																				
QT EPA 508/608/8080																				
QT EPA 515.1/8150																				
QT EPA 525																				
QT EPA 525 TRAVEL BLANK																				
100ml EPA 547																				
100ml EPA 531.1																				
QT EPA 548																				
QT EPA 549																				
QT EPA 632																				
QT EPA 8015M																				
QT QA/QC																				
QT AMBER																				
8 OZ. JAR																				
32 OZ. JAR																				
SOIL SLEEVE																				
VIAL																				
TIC BAG																				

Comments: _____

Completed by: _____

[F:\WP60\DATA\DOCS\SHEILAH\FORMS\SAMREC.FRM

BC LABORATORIES, INC.

May 10, 1997

JUDI R. GARDNER
POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670

Subject: Laboratory Submission No.: 97-04780
Samples Received: 05/06/97

Dear Ms. Gardner:

The samples(s) listed on the Chain of Custody report were received by BC Laboratories, Inc. on 05/06/97.

Enclosed please find the analytical data for the testing requested. If you have any questions regarding this report please contact me at (805)327-4911, ext. 201.

Any unused sample will be stored on our premises for a minimum of 30 days (excluding bacteriologicals) at which time they will be disposed unless otherwise requested at the time of sample receipt. A disposal fee of $5 per sample may apply for solid sample matrices.

Please refer to submission number 97-04780 when calling for assistance.

Sincerely,

Christy Ferguson for C. Ariey

Christy J. Ariey
Project Coordinator
BC Laboratories, Inc.

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: JUDI R. GARDNER 310-944-6111

Date Reported: 05/08/97
Date Received: 05/06/97
Laboratory No.: 97-04780-1

Sample Description: TP-2

Sample Matrix: Soil

Date Collected: 05/05/97 @ 10:45AM
Date Extracted: 05/06/97
Date Analyzed: 05/06/97

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	mg/kg	3.
Bromobenzene	None Detected	mg/kg	3.
Bromochloromethane	None Detected	mg/kg	3.
Bromodichloromethane	None Detected	mg/kg	3.
Bromoform	None Detected	mg/kg	3.
Bromomethane	None Detected	mg/kg	3.
n-Butylbenzene	7.4	mg/kg	3.
sec-Butylbenzene	3.2	mg/kg	3.
tert-Butylbenzene	None Detected	mg/kg	3.
Carbon tetrachloride	None Detected	mg/kg	3.
Chlorobenzene	None Detected	mg/kg	3.
Chloroethane	None Detected	mg/kg	3.
Chloroform	None Detected	mg/kg	3.
Chloromethane	None Detected	mg/kg	3.
2-Chlorotoluene	None Detected	mg/kg	3.
4-Chlorotoluene	None Detected	mg/kg	3.
Dibromochloromethane	None Detected	mg/kg	3.
1,2-Dibromo-3-Chloropropane	None Detected	mg/kg	3.
1,2-Dibromoethane	None Detected	mg/kg	3.
Dibromomethane	None Detected	mg/kg	3.
1,2-Dichlorobenzene	None Detected	mg/kg	3.
1,3-Dichlorobenzene	None Detected	mg/kg	3.
1,4-Dichlorobenzene	None Detected	mg/kg	3.
Dichlorodifluoromethane	None Detected	mg/kg	3.
1,1-Dichloroethane	None Detected	mg/kg	3.
1,2-Dichloroethane	None Detected	mg/kg	3.
1,1-Dichloroethene	None Detected	mg/kg	3.
cis-1,2-Dichloroethene	None Detected	mg/kg	3.
trans-1,2-Dichloroethene	None Detected	mg/kg	3.
1,2-Dichloropropane	None Detected	mg/kg	3.
1,3-Dichloropropane	None Detected	mg/kg	3.
2,2-Dichloropropane	None Detected	mg/kg	3.
1,1-Dichloropropene	None Detected	mg/kg	3.
cis-1,3-Dichloropropene	None Detected	mg/kg	3.
trans-1,3-Dichloropropene	None Detected	mg/kg	3.
Ethyl Benzene	12.	mg/kg	3.
Hexachlorobutadiene	None Detected	mg/kg	3.
Isopropylbenzene	3.9	mg/kg	3.
p-Isopropyltoluene	3.1	mg/kg	3.
Methylene Chloride	None Detected	mg/kg	6.
Naphthalene	5.3	mg/kg	3.
n-Propylbenzene	9.7	mg/kg	3.

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: JUDI R. GARDNER 310-944-6111

Date Reported: 05/08/97
Date Received: 05/06/97
Laboratory No.: 97-04780-1

Sample Description: TP-2

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Styrene	None Detected	mg/kg	3.
1,1,1,2-Tetrachloroethane	None Detected	mg/kg	3.
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	3.
Tetrachloroethene	None Detected	mg/kg	3.
Toluene	None Detected	mg/kg	3.
1,2,3-Trichlorobenzene	None Detected	mg/kg	3.
1,2,4-Trichlorobenzene	None Detected	mg/kg	3.
1,1,1-Trichloroethane	None Detected	mg/kg	3.
1,1,2-Trichloroethane	None Detected	mg/kg	3.
Trichloroethene	None Detected	mg/kg	3.
Trichlorofluoromethane	None Detected	mg/kg	3.
1,2,3-Trichloropropane	None Detected	mg/kg	3.
1,2,4-Trimethylbenzene	61.	mg/kg	3.
1,3,5-Trimethylbenzene	20.	mg/kg	3.
Vinyl Chloride	None Detected	mg/kg	3.
Total Xylenes	60.	mg/kg	6.
Methyl-t-butylether	None Detected	mg/kg	3.

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	98.	70-121
Toluene-d8	98.	81-117
4-Bromofluorobenzene	108.	74-121

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: JUDI R. GARDNER 310-944-6111

Date Reported: 05/08/97
Date Received: 05/06/97
Laboratory No.: 97-04780-2

Sample Description: TP-4

Sample Matrix: Soil

Date Collected: 05/05/97 @ 10:40AM
Date Extracted: 05/06/97
Date Analyzed: 05/06/97

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	mg/kg	2.
Bromobenzene	None Detected	mg/kg	2.
Bromochloromethane	None Detected	mg/kg	2.
Bromodichloromethane	None Detected	mg/kg	2.
Bromoform	None Detected	mg/kg	2.
Bromomethane	None Detected	mg/kg	2.
n-Butylbenzene	3.3	mg/kg	2.
sec-Butylbenzene	5.9	mg/kg	2.
tert-Butylbenzene	None Detected	mg/kg	2.
Carbon tetrachloride	None Detected	mg/kg	2.
Chlorobenzene	None Detected	mg/kg	2.
Chloroethane	None Detected	mg/kg	2.
Chloroform	None Detected	mg/kg	2.
Chloromethane	None Detected	mg/kg	2.
2-Chlorotoluene	None Detected	mg/kg	2.
4-Chlorotoluene	None Detected	mg/kg	2.
Dibromochloromethane	None Detected	mg/kg	2.
1,2-Dibromo-3-Chloropropane	None Detected	mg/kg	2.
1,2-Dibromoethane	None Detected	mg/kg	2.
Dibromomethane	None Detected	mg/kg	2.
1,2-Dichlorobenzene	None Detected	mg/kg	2.
1,3-Dichlorobenzene	None Detected	mg/kg	2.
1,4-Dichlorobenzene	None Detected	mg/kg	2.
Dichlorodifluoromethane	None Detected	mg/kg	2.
1,1-Dichloroethane	None Detected	mg/kg	2.
1,2-Dichloroethane	None Detected	mg/kg	2.
1,1-Dichloroethene	None Detected	mg/kg	2.
cis-1,2-Dichloroethene	None Detected	mg/kg	2.
trans-1,2-Dichloroethene	None Detected	mg/kg	2.
1,2-Dichloropropane	None Detected	mg/kg	2.
1,3-Dichloropropane	None Detected	mg/kg	2.
2,2-Dichloropropane	None Detected	mg/kg	2.
1,1-Dichloropropene	None Detected	mg/kg	2.
cis-1,3-Dichloropropene	None Detected	mg/kg	2.
trans-1,3-Dichloropropene	None Detected	mg/kg	2.
Ethyl Benzene	None Detected	mg/kg	2.
Hexachlorobutadiene	None Detected	mg/kg	2.
Isopropylbenzene	2.2	mg/kg	2.
p-Isopropyltoluene	None Detected	mg/kg	2.
Methylene Chloride	None Detected	mg/kg	4.
Naphthalene	3.0	mg/kg	2.
n-Propylbenzene	2.8	mg/kg	2.

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

POWERINE OIL COMPANY
12354 LAKELAND ROAD
SANTA FE SPRINGS, CA 90670
Attn: JUDI R. GARDNER 310-944-6111

Date Reported: 05/08/97
Date Received: 05/06/97
Laboratory No.: 97-04780-2

Sample Description: TP-4

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Styrene	None Detected	mg/kg	2.
1,1,1,2-Tetrachloroethane	None Detected	mg/kg	2.
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	2.
Tetrachloroethene	None Detected	mg/kg	2.
Toluene	None Detected	mg/kg	2.
1,2,3-Trichlorobenzene	None Detected	mg/kg	2.
1,2,4-Trichlorobenzene	None Detected	mg/kg	2.
1,1,1-Trichloroethane	None Detected	mg/kg	2.
1,1,2-Trichloroethane	None Detected	mg/kg	2.
Trichloroethene	None Detected	mg/kg	2.
Trichlorofluoromethane	None Detected	mg/kg	2.
1,2,3-Trichloropropane	None Detected	mg/kg	2.
1,2,4-Trimethylbenzene	6.0	mg/kg	2.
1,3,5-Trimethylbenzene	2.9	mg/kg	2.
Vinyl Chloride	None Detected	mg/kg	2.
Total Xylenes	None Detected	mg/kg	4.
Methyl-t-butylether	None Detected	mg/kg	2.

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	96.	70-121
Toluene-d8	100.	81-117
4-Bromofluorobenzene	95.	74-121

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

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97-4780 BC, ATC Dupl. Samples from Powerine Oil Co.

~~AMERICAN ANALYTICS~~ CHAIN-OF-CUSTODY RECORD

AMERICAN ANALYTICS

~~9765 ETON AVE, CHATSWORTH, CA 91311~~

~~(818) 998-5547~~ ~~(818) 998-5548~~ ~~1-800-533-TEST~~ ~~1-800-600-8378~~ ~~FAX (818) 998-7258~~

DATE: _____

PAGE ____ OF ____

AA Client: ATC Associates Inc.	Phone	Sampler's Name	
Project Manager: Alison Davies	P.O. No.	Sampler's Signature	DISTRIBUTION BR MC
Project Name: Powerine	Project No.	Project Manager's Signature	
Job Name and Address: 12354 Lakeland Road, Santa Fe Springs			

ANALYSIS REQUIRED

Detection Limits

Test Name: 8260

Test Requirements: 48 hour TAT.

	A.A. I.D.#	Client's I.D.	Date	Time	Sample Type	Number of Containers	8260	Test Requirements
*	-1	TP-2	5/5/97	10:45 3'	S	1	X	Run TP-2 and TP-4 only unless add'l requests made by P.O.C.
*	-2	TP-4		10:40 3'			X	
		~~TP-9~~						
		~~TP-6~~						
	-3	TP-10		10:30 3'				All other samples on hold until further notice.
	-4	TP-11		11:20 2'				
	-5	TP-12		11:25 2'				
		~~TP-13~~						
	-6	TP-14		11:30 1'				
	-7	TP-15		12:00 3'				
	-8	TP-16		12:10 2'				
		~~TP-16~~						
	TOTAL					8		

NUMBERING CHECKED BY: M.Ch.

SAMPLE INTEGRITY-TO BE FILLED IN BY RECEIVING LAB		
Samples Intact	Yes _____	No _____
Samples Properly Cooled	Yes _____	No _____
Samples Accepted	Yes _____	No _____
If Not Why:		
AA Project No.		

Relinquished by:	Date	Time	Received by:
Alison Davies	5/5/97	1:40	Chris Johnson
Chris M. Johnson	5/6/97	1523	Jim Moor
Jim Moor	5/6/97	1800	[illegible]
	Date	Time	Received by:

DISTRIBUTION: White - Laboratory, Canary - Laboratory, Pink - Account Executive, Gold - Client

BC LABORATORIES INC.

SAMPLE RECEIPT FORM -Rev. No.3 4/10/97

LAB NUMBER: 07-4180 | TIME RECEIVED: 6:00p | DATE RECEIVED: 5/6/97 | RECEIVED BY: MO

SHIPPING SPECIFICATIONS

Federal Express ☐ UPS ☐ Hand Delivery ☐

Lab Field Service ☒ Other ☐ (Specify) _____

SHIPPING CONTAINER

Ice Chest ☒ Box ☐

None ☐ Other ☐ (Specify) _____

SAMPLE CONDITION

Ice Chest ID	Ice Chest ID	Ice Chest ID	Ice Chest ID	Ice Chest ID	Ice Chest ID
Temperature 5.1 °C	Temperature ____ °C	Temperature ____ °C	Temperature ____ °C	Temperature ____ °C	Temperature ____ °C
Emissivity .95					
Container 9					

Ice ☒ Blue Ice ☐ None ☐ Comments: _____

Custody Seals: Ice Chest ☐ Containers ☐ None ☒

All samples received? Yes ☒ No ☐ All samples intact? Yes ☒ No ☐ Description match COC? Yes ☒ No ☐

SAMPLE CONTAINERS

Sample #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
QT GENERAL MINERAL/ GENERAL PHYSICAL																				
PT PE UNPRESERVED																				
QT INORGANIC CHEMICAL METALS																				
PT INORGANIC CHEMICAL METALS																				
PT CYANIDE																				
PT NITROGEN FORMS																				
PT TOTAL SULFIDE																				
2oz. NITRATE / NITRITE																				
100ml TOTAL ORGANIC CARBON																				
QT TOX																				
CHEMICAL OXYGEN DEMAND																				
100ml PHENOLICS																				
40ml VOA VIAL TRAVEL BLANK																				
40ml VOA VIAL																				
VOA SET (3 VIALS, 1TB)																				
QT EPA 413.1, 413.2, 418.1																				
PT ODOR																				
RADIOLOGICAL																				
BACTERIOLOGICAL																				
PT EPA 504																				
QT EPA 508/608/8080																				
QT EPA 515.1/8150																				
QT EPA 525																				
QT EPA 525 TRAVEL BLANK																				
100ml EPA 547																				
100ml EPA 531.1																				
QT EPA 548																				
QT EPA 549																				
QT EPA 632																				
QT EPA 8015M																				
QT QA/QC																				
QT AMBER																				
8 OZ. JAR																				
32 OZ. JAR																				
SOIL SLEEVE																				
PCB VIAL																				
PLASTIC BAG																				
4oz jars	X	X	X	X	X	X	X													

Comments: _____

Completed by: M.

(F:\WP60\DATA\DOCS\SHEILAH\FORMS\SAMREC.FRM)

D

APPENDIX D

Laboratory Reports and Chains of Custody for Regional Board Samples

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	Powerine Oil Company	**Report Date:**	05/12/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1648
Attn:	Matt Winefield	**Date Sampled:**	05/09/97
		Date Received:	05/09/97
Project:	Lakeland	**Date Analyzed:**	05/10/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

ANALYSES REQUESTED

1. EPA 8020 - Volatile Aromatic Hydrocarbons
2. Mod 8015 Diesel - Simulated Distillation Extended Range

Approval:

Steve Jones, Ph.D.
Laboratory Manager

P.O. Box 5387
Fullerton, CA 92838

(714)449-9937
Fax (714)449-9685

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/12/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1648
Attn:	Matt Winefield	**Date Sampled:**	05/09/97
		Date Received:	05/09/97
Project:	Lakeland	**Date Analyzed:**	05/10/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (mg/Kg)					Reporting Limits	Surrogate
Sample ID	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	(mg/Kg)	Recovery %
R3N-BTM	ND	ND	0.32	0.64	0.97	0.10	104
PL7-2	ND	ND	0.028	0.010	0.064	0.005	104

ND = Not Detected

P.O. Box 5387
Fullerton, CA 92838

(714)449-9937
Fax (714)449-9685

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/12/97
Client Address:	P.O. Box 2108	**JEL Ref. No.:**	B-1648
	Santa Fe Springs, CA 90670	**Client Ref. No.:**	
Attn:	Matt Winefield	**Date Sampled:**	05/09/97
		Date Received:	05/09/97
Project:	Lakeland	**Date Analyzed:**	05/10/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (mg/Kg)				Reporting Limits	Surrogate
Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	(mg/Kg)	Recovery %
R3N-BTM	ND	0.32	0.64	0.97	0.10	104
PL7-2	ND	0.028	0.010	0.064	0.005	104

ND = Not Detected

P.O. Box 5387
Fullerton, CA 92838

(714)449-9937
Fax (714)449-9685

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	Powerine Oil Company	**Report Date:**	05/12/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1648
Attn:	Matt Winefield	**Date Sampled:**	05/09/97
		Date Received:	05/09/97
Project:	Lakeland	**Date Analyzed:**	05/10/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: AR 33

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	97%	96%	1.2%	65 - 125
o-Xylene	100%	100%	0.4%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

P.O. Box 5387
Fullerton, CA 92838

(714)449-9937
Fax (714)449-9685

Jones Environmental

Testing Laboratories

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	Powerine Oil Company	**Report Date:**	05/12/97
Client Address:	P.O. Box 2108 Santa Fe Springs, CA 90670	**JEL Ref. No.:** **Client Ref. No.:**	B-1648
Attn:	Matt Winefield	**Date Sampled:**	05/09/97
		Date Received:	05/09/97
Project:	Lakeland	**Date Analyzed:**	05/10/97
Project Address:	Santa Fe Springs, CA	**Physical State:**	Soil

Modified 8015 Diesel (Simulated Distillation Extended Range)

	Sample ID Concentration (mg/Kg)	
Carbon Chain Range	R3-N-BTM	PL7-2
C6-C7	ND	ND
C8-C9	10	ND
C10-C11	32	ND
C12-C13	130	ND
C14-C15	320	2.4
C16-C17	270	1.2
C18-C19	210	ND
C20-C23	280	4.3
C24-C27	200	6.4
C28-C31	180	8.3
C32-C35	160	15
C36-C39	120	22
C40-C43	50	17
C44+	29	6.9
Total	2000	84
Reporting Limits	10	10
Surrogate Recovery %	--	97

ND = Not Detected

P.O. Box 5387
Fullerton, CA 92838

(714)449-9937
Fax (714)449-9685

WESTERN ATLAS

Jones Environmental Labs

~~CORE LABORATORIES~~

NO. 0/911

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Powerline Oil Co.	PROJECT NAME/NUMBER: RWQCB Samples
SEND REPORT TO: Matt Winefield	BILLING INFORMATION
ADDRESS:	BILL TO:
FILE	ADDRESS: FILE
PHONE:	PHONE:
FAX:	FAX: PO NO.:

LAB JOB NO. B1648

SAMPLE NO.	SAMPLE ID	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRES.	NUMBER OF CONTAINERS	8020	8015 - Full Chem							REMARKS / PRECAUTIONS
1	R3N-BTM	5/9/97	1700	S	BS	None	1	X	X							
2	PL7-2	5/9/97	1730	S	BS	None	1	X	X							

ANALYSIS / METHOD REQUEST

SAMPLER: Matt Winefield

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☒ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☐ ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE:	5/9/97	SIGNATURE:	5/9/97	SIGNATURE:	
PRINTED NAME/COMPANY: M. Winefield, Powerline	TIME 19:05	PRINTED NAME/COMPANY: Steve Jones	TIME 19:05	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	**2. RECEIVED BY:**	DATE	**3. RECEIVED BY:**	DATE
SIGNATURE:		SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ **Anaheim, California** 1250 E. Gene Autry Way Anaheim, California 92805 (714) 937- (800) 404

☐ **Long Beach, California** 3700 Cherry Avenue Long Beach, California 90807 (310) 595-8401 (800) 814-3433

☐ **Denver (Aurora), Colorado** 10703 E. Bethany Drive Aurora, Colorado 80014 (303) 751-1780 (800) 972-2673

☐ **Casper, Wyoming** 420 West 1st Street Casper, Wyoming 82601 (307) 235-5741 -66-0603

☐ **Houston, Texas** 8210 Mosely Road Houston, Texas 77075 (713) 943-9776 (800) 734-2673

☐ **Corpus Christi, Texas** 1733 North Padre Island Drive Corpus Christi, Texas 78408 (512) 289-2673 (800) 548-8228

☐ **Lake Charles, Louisiana** 3645 Beglis Parkway Sulphur, Louisiana 70663 (318) 583-4926 (800) 259-4926

ORIGINAL

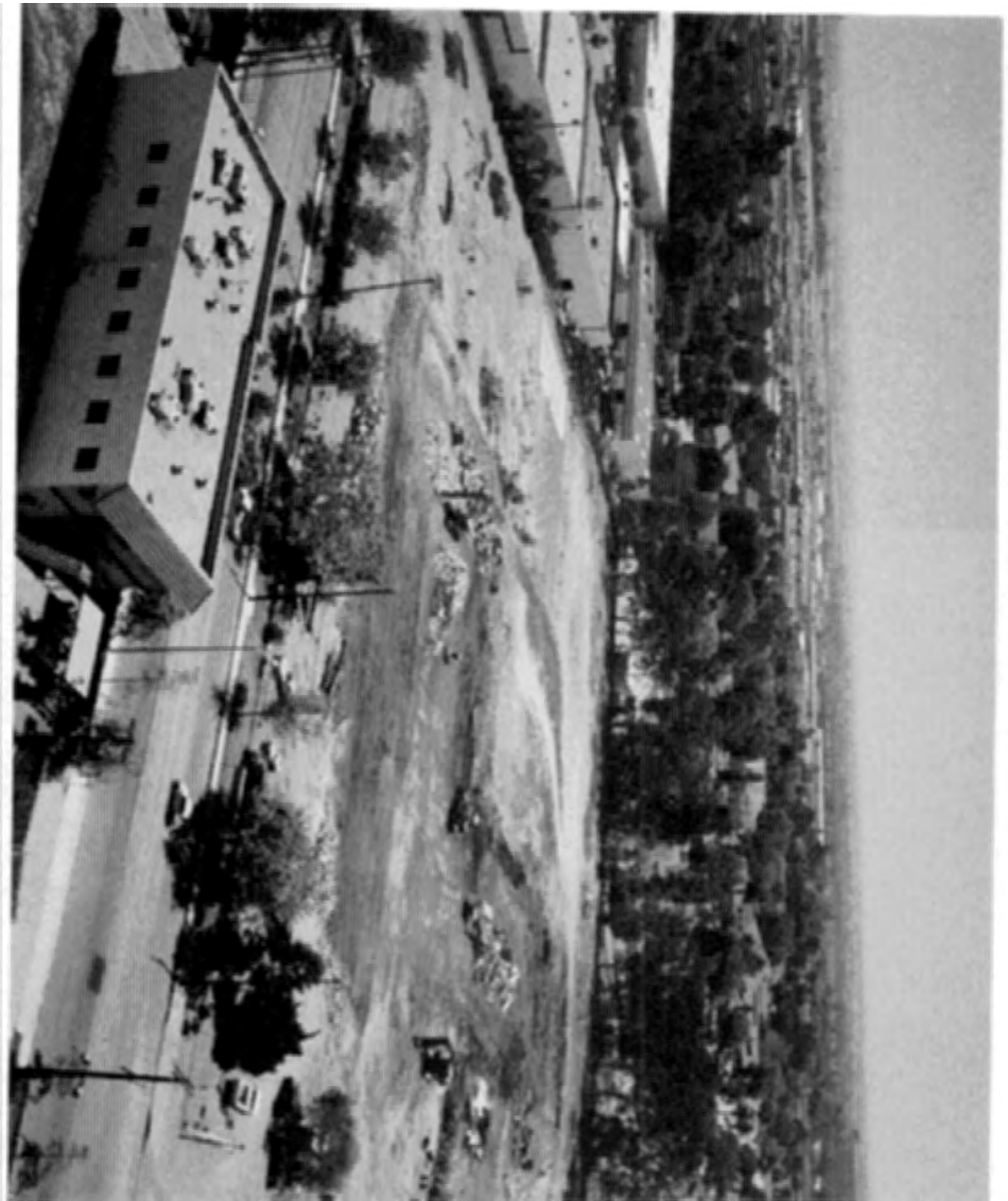
APPENDIX E

Photographs of Soil Excavation Areas and Temporary Off-Site Storage Location

E

EAST SIDE OF LAKELAND PROPERTY EXCAVATION

EXCAVATED SOIL STOCK PILES - PLACED OFF-SITE



WEST SIDE OF LAKELAND PROPERTY EXCAVATION

TABLE 1

Comprehensive Summary of Soil BTEX, MTBE, Naphthalene, and TPH Data

Table 1. Comprehensive Summary of Soil BTEX, MTBE, Naphthalene, and TPH Data, Lakeland Property, Powerine Oil Company

No.	Location	Depth	Benzene		Toluene		Ethylbenzene		Total Xylenes		Methyl-tert-butyl ether (MTBE)		Naphthalene	TPH
			8020	8260/8240	8020	8260/8240	8020	8260/8240	8020	8260/8240	8020**	8260	8260	8015m
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
1	PT-1	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
2	PT-10	2	0.033	NA	0.029	NA	0.063	NA	0.39	NA	ND	NA	NA	ND
3	PT-11	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
4	PT-12	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
5	PT-13	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
6	PT-13a	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9700
7	PT-13b	2	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
8	PT-14	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
9	PT-15	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
10	PT-18	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
11	PT-19	2	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
12	PT-2	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
13	PT-20	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
14	**PT-22**	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**20300**
15	PT-23	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
16	PT-24	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
17	PT-3	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
18	PT-4	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
19	PT-5	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
20	PT-6	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
21	PT-7	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
22	PT-8	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1800
23	PT-9	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	140
24	PTR-1	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
25	PTR-4	2	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA
26	PTR-5	2	NA	ND	NA	ND	NA	ND	NA	4.4	NA	1.5	ND	NA
27	**TK-4637**	2	**ND**	NA	**20**	NA	**3.8**	NA	**88**	NA	**ND**	NA	NA	**34800**
28	1501	3	ND	ND	ND	ND	ND	ND	ND	ND	NA	1.5	ND	NA
29	1502	3	ND	ND	ND	ND	0.006	ND	0.014	ND	NA	ND	ND	NA
30	3001	3	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
31	3002	3	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA
32	3701	3	0.12	ND	0.37	ND	2.1	1.5	0.72	2.2	NA	ND	2.5	1300
33	4637	3	0.008	ND	0.009	ND	0.025	ND	0.010	ND	NA	0.40	0.65	NA
34	5004	3	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
35	5005	3	ND	ND	0.007	ND	ND	ND	0.016	ND	NA	0.014	ND	NA

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			8020	8260/8240	8020	8260/8240	8020	8260/8240	8020	8260/8240	8020**	8260	8260	8015m
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
36	5006	3	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	NA
37	PL-1	3	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
38	PL-19	3	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
39	R3A-N	3	ND	NA	ND	NA	ND	NA	0.013	NA	ND	NA	NA	430
40	R3B-M	3	ND	NA	ND	NA	ND	NA	0.008	NA	ND	NA	NA	340
41	R3C-S	3	ND	NA	ND	NA	ND	NA	0.030	NA	ND	NA	NA	42
42	**R4A-N**	3	ND	NA	**2.3**	NA	**4.1**	NA	**12**	NA	**ND**	NA	NA	**250**
43	**R4B-M**	3	ND	NA	**11**	NA	**22**	NA	**57**	NA	**ND**	NA	NA	**4600**
44	**R4C-S**	3	ND	NA	ND	NA	ND	NA	**0.009**	NA	ND	NA	NA	**490**
45	**RN-A-N**	3	ND	NA	**3.5**	NA	**3.7**	NA	**13**	NA	**ND**	NA	NA	**310**
46	**RN-B-M**	3	**0.92**	NA	**9.8**	NA	**16**	NA	**45**	NA	**9.5**	NA	NA	**740**
47	**SU-3-SUMP**	3	**0.17**	NA	**0.70**	NA	**2.1**	NA	**2.4**	NA	**0.8**	NA	NA	**500**
48	**SU-4-SUMP**	3	**13**	NA	**21**	NA	**64**	NA	**50**	NA	**ND**	NA	NA	**11600**
49	PL-26	3.5	ND	NA	ND	NA	0.009	NA	0.019	NA	ND	NA	NA	21
50	PL-15	4	ND	NA	0.25	NA	0.54	NA	1.7	NA	ND	NA	NA	5300
51	PL-17	4	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	210
52	PL-21	4	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	130
53	PL-23	4	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	33
54	PL-24	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
55	PL-25	4	9.3	NA	19	NA	23	NA	69	NA	ND	NA	NA	1200
56	PL-3	4	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
57	PL-5	4	0.029	NA	0.020	NA	0.034	NA	0.11	NA	ND	NA	NA	18
58	**R6-E-S**	4	**ND**	NA	**15**	NA	**23**	NA	**70**	NA	**ND**	NA	NA	**2700**
59	**R6-F-M**	4	**ND**	NA	**43**	NA	**20**	NA	**140**	NA	**ND**	NA	NA	**13300**
60	**R6-G-N**	4	**ND**	NA	**0.005**	NA	**0.008**	NA	**0.026**	NA	**ND**	NA	NA	**230**
61	**PL-7**	4.5	**2.7**	**ND**	**2.3**	**6.0**	**12**	**24**	**34**	**80**	**7.6**	**ND**	**35**	**1500**
62	4N-E	5	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	26
63	4N-NW	5	0.77	NA	5.4	NA	8.3	NA	29	NA	ND	NA	NA	300
64	PL-28	5	ND	ND	0.56	ND	0.96	ND	3.7	ND	ND	ND	ND	690
65	PL-28-5A	5	ND	NA	ND	NA	ND	NA	0.020	NA	ND	NA	NA	47
66	PL-30	5	ND	NA	ND	NA	ND	NA	0.005	NA	ND	NA	NA	ND
67	PL-31	5	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
68	PL-32	5	ND	NA	12	NA	15	NA	41	NA	ND	NA	NA	650
69	PL-7N	5	ND	NA	ND	NA	ND	NA	0.007	NA	ND	NA	NA	ND
70	PL-7W	5	ND	NA	ND	NA	0.012	NA	0.049	NA	ND	NA	NA	94
71	PL-8	5	ND	NA	ND	NA	ND	NA	0.060	NA	ND	NA	NA	70

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			8020	8260/8240	8020	8260/8240	8020	8260/8240	8020	8260/8240	8020**	8260	8260	8015m
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
72	PL-9	5	0.92	ND	1.4	ND	11	6.2	44	110	9.3	ND	25	800
73	PT-11	5	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
74	PT-13	5	ND	NA	1.2	NA	2.1	NA	7.2	NA	1.4	ND	NA	ND
75	PT-13a	5	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	350
76	PT-17	5	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND
77	PT-21	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
78	PT-22	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
79	PT-23	5	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
80	PT-26	5	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND	ND
81	PT-9	5	ND	NA	ND	NA	ND	NA	0.007	NA	ND	NA	NA	ND
82	R1A-N	5	ND	NA	0.033	NA	0.11	NA	0.17	NA	0.036	NA	NA	6400
83	R6-12	5	ND	NA	ND	NA	0.006	NA	0.016	NA	ND	NA	NA	ND
84	RN-C-S	5	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	86
85	TK-4637	5	ND	NA	0.041	NA	0.060	NA	0.16	NA	ND	NA	NA	1400
86	4N-N	6	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	29
87	OSU-4	6	ND	NA	ND	NA	ND	NA	0.011	NA	ND	NA	NA	210
88	PL-6	6	0.48	NA	0.68	NA	9.0	NA	3.8	NA	ND	NA	NA	480
89	R1B-M	6	ND	NA	0.12	NA	0.14	NA	0.25	NA	ND	NA	NA	1700
90	R1C-M	6	ND	NA	ND	NA	ND	NA	0.005	NA	ND	NA	NA	140
91	R2A-M	6	ND	NA	0.020	NA	0.026	NA	0.051	NA	ND	NA	NA	1000
92	R2B-M	7	ND	NA	0.023	NA	0.042	NA	0.052	NA	ND	NA	NA	2100
93	SU-I-SUMP	8	ND	NA	12	NA	31	NA	43	NA	ND	NA	NA	9700
94	MW-206	9	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA
95	RN-D-W	9	ND	NA	28	NA	17	NA	120	NA	9.4	NA	NA	5500
96	SU-2-SUMP	9	ND	NA	3.3	NA	12	NA	15	NA	ND	NA	NA	1400
97	7A	10	1.4	NA	26	NA	49	NA	290	NA	NA	NA	NA	4900
98	7B	10	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	2200
99	PL-7	10	12	NA	25	NA	29	NA	57	NA	ND	NA	NA	2600
100	PT-13a	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
101	PT-27	10	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND	ND
102	6A	12	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	9.7
103	6B	12	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
104	1A	14	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	NA
105	1B	14	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	NA
106	2A	14	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	NA
107	2B	14	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	NA

Notes:

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			8020	8260/8240	8020	8260/8240	8020	8260/8240	8020	8260/8240	8020**	8260	8260	8015m
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
108	3A	14	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	NA
109	3B	14	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	NA
110	MW-206	14	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA
111	PT-14	15	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
112	PT-15	15	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
114	PT-19	15	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
115	PT-2	15	ND	NA	ND	NA	0.010	NA	0.015	NA	ND	NA	NA	ND
116	PT-23	15	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
117	PT-3	15	1.5	NA	16	NA	25	NA	60	NA	1.4	NA	NA	2800
118	PT-4	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
119	PT-5	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2800
120	PT-6	15	1.6	NA	10	NA	13	NA	40	NA	50	ND	NA	400
121	PTR-1	15	NA	ND	NA	ND	NA	ND	NA	ND	NA	0.24	ND	NA
122	PTR-2	15	NA	ND	NA	4.0	NA	10	NA	60	NA	3.3	39	NA
123	PT-22	19	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
124	PT-27	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
125	PT-10	20	ND	NA	ND	NA	0.0076	NA	0.012	NA	0.0058	NA	NA	ND
126	PT-11	20	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
127	PT-12	20	ND	NA	0.009	NA	0.006	NA	0.034	NA	ND	NA	NA	ND
128	PT-13a	20	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
129	PT-13b	20	ND	NA	ND	NA	ND	NA	ND	NA	0.030	NA	NA	ND
130	PT-16	20	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND
131	PT-17	20	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
132	PT-24	20	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
133	PT-3	20	2.7	NA	18	NA	23	NA	57	NA	1.1	NA	NA	4100
134	PT-9	20	ND	NA	0.013	NA	0.031	NA	0.063	NA	0.04	NA	NA	ND
135	PTR-7	20	NA	ND	NA	ND	NA	ND	NA	ND	NA	0.28	ND	ND
136	PT-20	21	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND
137	PT-1	25	ND	NA	ND	NA	0.011	NA	0.012	NA	0.010	NA	NA	ND
138	PT-21	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
139	PT-4	25	ND	NA	ND	NA	ND	NA	0.005	NA	ND	NA	NA	ND
140	PT-5	25	0.009	NA	ND	NA	ND	NA	0.009	NA	ND	NA	NA	ND
141	PT-6	25	28	NA	31	NA	25	NA	77	NA	11	NA	NA	860
142	PT-7	25	ND	NA	1.6	NA	2.7	NA	10	NA	1.5	NA	NA	1300
143	PTR-2	25	2.6	NA	1.6	NA	7.0	NA	22	NA	NA	NA	NA	5300
144	PT-1	29	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	ND

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			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
145	PT-25	29	ND	NA	ND	NA	ND	NA	0.008	NA	ND	NA	NA	ND
146	PT-13	30	ND	NA	ND	NA	0.010	NA	0.014	NA	ND	NA	NA	ND
147	PT-26	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
148	PT-7	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
149	PT-8	30	0.006	NA	0.008	NA	0.006	NA	0.019	NA	0.019	NA	NA	ND
150	PTR-1	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
151	PTR-3	30	200	NA	900	NA	75	NA	2000	NA	NA	NA	NA	14500
152	PTR 2	35	NA	14	NA	130	NA	49	NA	340	NA	ND	19	NA
153	PTR-4	35	22	NA	25	NA	19	NA	58	NA	NA	NA	NA	300
154	PTR-3	40	NA	46	NA	180	NA	84	NA	400	NA	ND	12	NA
155	PTR-6	40	NA	0.057	NA	0.0094	NA	0.021	NA	0.039	NA	ND	ND	ND
156	PT-7	41	0.056	NA	0.019	NA	0.029	NA	0.057	NA	ND	NA	NA	ND
157	PTR-2	45	NA	13	NA	100	NA	32	NA	210	NA	ND	13	27000
158	PTR-4	45	25	NA	55	NA	41	NA	120	NA	NA	NA	NA	870
159	PTR-3	50	28	NA	50	NA	40	NA	120	NA	NA	NA	NA	910
160	PTR-1	55	NA	0.087	NA	0.12	NA	0.013	NA	0.090	NA	ND	ND	NA
161	PTR-4	55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	340
162	PTR-5	55	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA
163	PTR-6	55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
164	PTR-7	55	NA	ND	NA	ND	NA	ND	NA	ND	NA	0.050	ND	ND
165	PTR-1	60	0.050	NA	0.025	NA	0.010	NA	0.045	NA	NA	NA	NA	ND
166	PTR-2	60	NA	130	NA	900	NA	270	NA	1800	NA	ND	110	NA
167	PTR-3	60	NA	1.7	NA	7.3	NA	2.7	NA	19	NA	ND	2.6	NA
168	PTR-4	60	NA	9.4	NA	49	NA	14	NA	90	NA	ND	4.0	NA
169	PTR-5	60	0.030	NA	0.020	NA	0.005	NA	0.017	NA	NA	NA	NA	NA
170	PTR-6	60	NA	0.50	NA	0.66	NA	0.080	NA	0.57	NA	ND	0.039	NA
171	PTR-2	65	ND	NA	0.014	NA	ND	NA	0.009	NA	NA	NA	NA	ND
172	PTR-3	65	1.2	NA	15	NA	13	NA	40	NA	NA	NA	NA	680
173	PTR-4	65	NA	0.46	NA	6.1	NA	3.5	NA	27	NA	ND	4.7	850
174	PTR-6	65	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA
175	PTR-7	65	0.026	NA	0.020	NA	ND	NA	0.014	NA	NA	NA	NA	NA
176	MW-206	69	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA
177	PTR-1	70	ND	NA	0.011	NA	ND	NA	0.016	NA	NA	NA	NA	ND
178	PTR-2	70	1.3	NA	4.6	NA	4.4	NA	14	NA	NA	NA	NA	80
179	PTR-1	75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND

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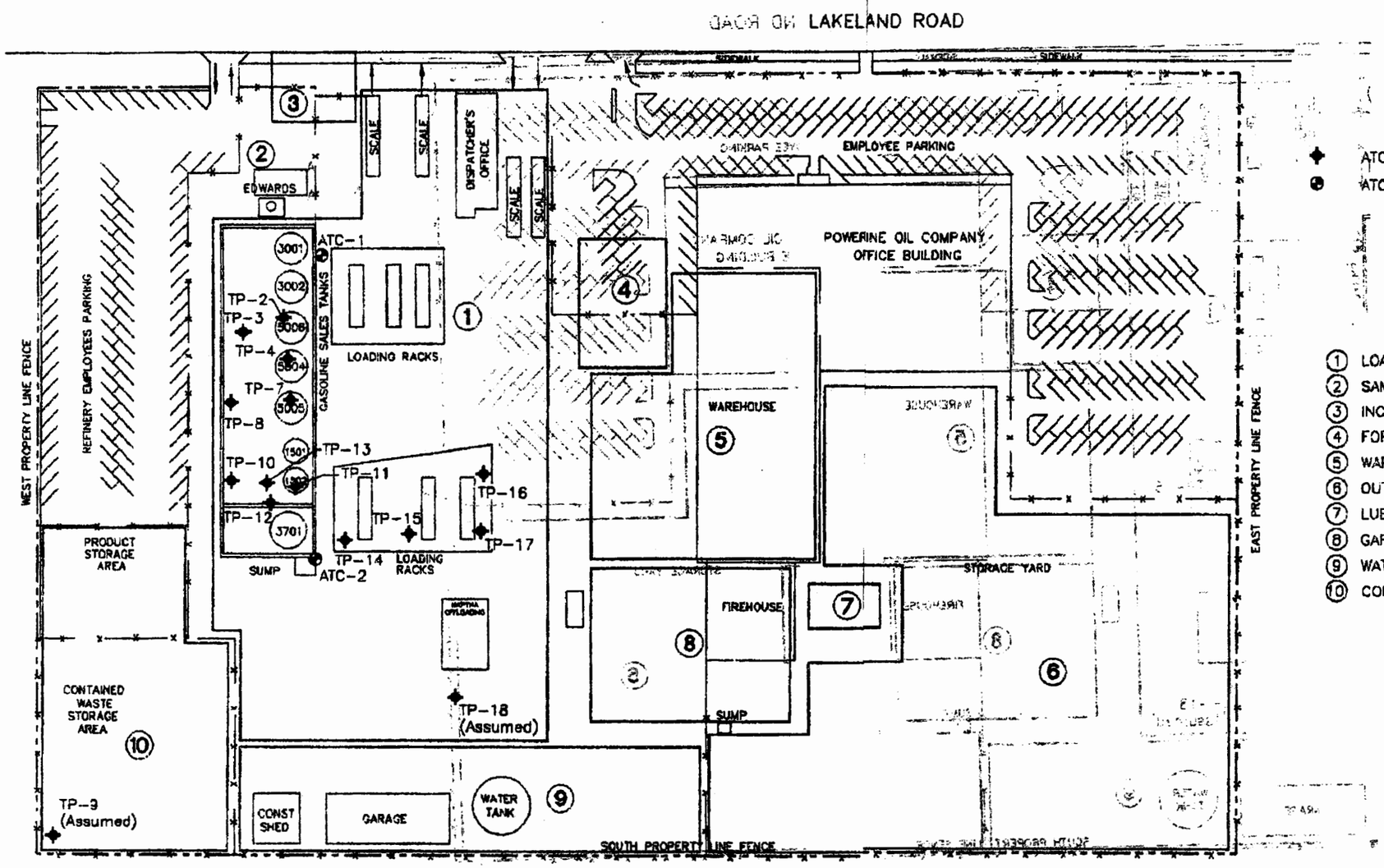
PLATES 1 and 2

Comprehensive Summary: Soil Analytical and Excavation Data

1
2

PLATE 3

ATC Associates Sampling Locations



EXPLANATION

- ATC ASSOCIATES TRENCH PIT LOCATION
- ATC ASSOCIATES TEMPORARY WELL LOCATION

AREA DESCRIPTION

1. LOADING RACKS, TANKS, AND SCALES
2. SAMPLE RETAIN UST
3. INCOMING PIPELINE CORRIDOR
4. FORMER GASOLINE DISPENSING FACILITY
5. WAREHOUSE
6. OUTDOOR STORAGE YARD
7. LUBE OIL UST
8. GARAGE
9. WATER PRODUCTION AND CONST. MATERIALS
10. CONTAINED WASTE/PRODUCT STORAGE

0 100 ft.
SCALE

N

REVISIONS	
Date	By

PLATE 3

ATC ASSOCIATES SAMPLE LOCATIONS, LAKELAND PROPERTY, POWERINE OIL COMPANY

Drawn By: BW | Checked By: MW | SCALE: 1" = 100' | Date: 5/12/97 | Disk Reference: PRLPATCL