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May 20, 1996

Mr. Dale Klettke, CHMM
Hazardous Materials Specialist
Hazardous Materials Division
Department of Environmental Health
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

Reference: Site Assessment Report for Pacific Dry Dock and Repair Company Yard I

Dear Mr. Klettke:

Per your request please find enclosed a site assessment report for the former Crowley Marine Services' (Crowley) facility referenced above, located at 1441 Embarcadero in Oakland. This report was prepared by Versar, Inc. for Crowley.

Having completed the site investigation Crowley intends to submit a request for site closure in the near future. I would welcome the opportunity to meet with you and review this matter.

If you have any questions or comments regarding this matter please contact me at (206) 443-8042.

Sincerely,

Stephen/Wilson

Manager, Environmental Affairs

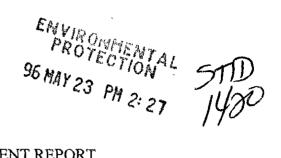
Enclosure

cc: PDD I Correspondence w/o enclosure

Beth Hamilton w/o enclosure Dan Schoenholtz w/enclosure

Igaz Jamall w/enclosure Paul Graff w/o enclosure





SITE ASSESSMENT REPORT FORMER PACIFIC DRY DOCK AND REPAIR COMPANY YARD I FACILITY OAKLAND, CALIFORNIA

Prepared for:

CROWLEY MARINE SERVICES, INC. 2401 Fourth Avenue P.O. Box 2287 Seattle, Washington 98111

Prepared by:

VERSAR, INC. 7844 Madison Avenue, Suite 167 Fair Oaks, California 95628

Versar Project No. 2722-116

May 6, 1996



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FOREWORD

On behalf of Crowley Marine Services, Inc., Versar, Inc., has conducted an environmental investigation at the site known as the former Pacific Dry Dock and Repair Company Yard I, at 1441 Embarcadero, Oakland, California. This report summarizes the soil and groundwater data collected at the Site from December 1989 through March 1996.

Prepared by:

Paul Graff, RG, HG

Senior Geologist

California Registered Geologist No. 5600



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1.0 INTRODUCTION

Crowley Marine Services, Inc. (Crowley) retained Versar, Inc. (Versar) to conduct an environmental investigation at the former Pacific Dry Dock and Repair Company Yard I Facility (Site) located at 1441 Embarcadero in Oakland, California (Figure 1). This report discusses investigation activities conducted from 1989 through 1996, and includes data from 1995 and 1996 soil and groundwater investigations.

1.1 Site Description and History

The Site occupies approximately 1.5 acres of shoreline property between the Embarcadero and the Oakland Inner Harbor. The property is bounded by Oakland Inner Harbor on the south and west, the Embarcadero on the north, and industrial property on the east (Figure 2). In 1992 Crowley ceased operations at the Site and it has been vacant since that time. From approximately 1910 to 1992, the Site was used as a dry dock and ship repair facility.

1.2 Site Geology and Hydrogeology

The Site is located in the Coast Ranges geomorphic province, between the Hayward Fault (to the east) and the San Andreas Fault (to the west). The underlying bedrock consists of Mesozoic volcanic and metavolcanic rocks similar to those found throughout the Coast Ranges. Overlying the bedrock are Quaternary marine and nonmarine alluvial sediments consisting of clays and silts.

The Site is nearly level at an elevation between five and eight feet above mean sea level (National Geodetic Vertical Datum of 1929). Versar has characterized the shallow soils as gravel, sand, silt, and clay fill material extending from the surface to the bay muds. The depth of the bay muds is between 7 and 15 feet below ground surface (bgs). The bay muds consisted of silty clays, clays with shell fragments, and thin water-saturated layers of sands or gravels.

Groundwater has been reported beneath the Site at depths ranging from approximately two to five feet bgs. Because of the Site's proximity to the waterfront, groundwater depth and

movement are expected to be tidally influenced. The typical groundwater gradient is approximately 0.016, ranging in direction from north to southeast.

2.0 SOIL INVESTIGATION

Between December 1989 and February 1996, Versar conducted several phases of soil sampling activities at the Site. For investigation purposes in 1992, the Site was divided into the western section and the eastern section. The following discussion briefly summarizes activities conducted at each section of the Site. Previously reported activities are only briefly mentioned and the respective reports referenced. Previously undocumented activities during 1995 and 1996 are discussed in more detail.

2.1 Western Section

In December 1989 and January 1990, Versar conducted a limited subsurface assessment at the Site. The assessment identified petroleum hydrocarbons, volatile and semi-volatile organic compounds (SVOCs), and metals and non-metals (arsenic, cyanide, and sulfides) in the soil and sediments at the Site. The findings of this initial investigation were reported in the Site Assessment of Pacific Dry Dock Yards I and II Report, dated October 2, 1990.

In September 1991, Versar oversaw the removal of a UST located in the northwestern portion of the Site. Soil and groundwater samples collected and submitted for laboratory analysis indicated petroleum hydrocarbons in soils and groundwater. A UST removal report, dated January 14, 1992, was submitted to the local regulatory agency, the Alameda County Health Services Agency (ACHSA).

In October 1991 and January 1992, Versar conducted a second phase of investigation on the western section of the Site. This investigation phase included drilling 48 soil borings and collecting and analyzing 11 groundwater samples and 70 soil samples. The findings of this investigation phase were presented in the *Preliminary Investigation and Evaluation Report* (PIER), Pacific Dry Dock and Repair Yard I, Western Section, dated May 6, 1992.

To further assess and monitor groundwater conditions on the Western Section of the Site, five groundwater monitoring wells were installed in June 1993. Ten soil samples were collected from the five boreholes and submitted for TPH-D, TPH-G, TOG, and BTEX analysis. In addition, two soil samples were submitted for SVOC, VOC, organochlorine pesticides and polychlorinated biphenyl (PCB), CAM 17 metals, and organotin analysis. Details of the monitoring well installation and laboratory analytical results were reported in the *Well Installation, Pacific Dry Dock and Repair Yard I, Western Section* report, dated November 1993.

2.2 Eastern Section

The December 1989/January 1990 assessment identified concentrations of petroleum hydrocarbons and metals on the eastern section of the Site. A total of 59 soil samples was collected and submitted for laboratory analysis. Analytical results and assessment details were included in the Site Assessment of Pacific Dry Dock Yards I and II Report, dated October 2, 1990.

In August 1992, Versar conducted additional investigation activities on the eastern section. The additional activities included sampling the contents of an abandoned 500-gallon UST and drilling 16 boreholes and collecting soil and groundwater samples. The results of the additional sampling indicated petroleum hydrocarbon and lead concentrations in the soils. Details of the 1992 sampling activities were presented in the *Addendum to Phase II Site Investigation Work Plan, Pacific Dry Dock Yard I* report, dated September 18, 1992.

In February 1994, Versar oversaw the removal of the 500-gallon UST from the northeast corner of the Site. Upon removal, the UST was inspected and no signs of degradation were noted. Soil and groundwater samples collected following UST removal were submitted for laboratory analysis. Details of the UST removal and laboratory analytical results were included in the *Underground Storage Tank Removal Report*, dated July 29, 1994.

2.2.1 1995 and 1996 Soil Investigations

The August 1992 investigation identified two boring locations where lead concentrations in soil samples exceeded Total Threshold Limit Concentration (TTLC) or Soluble Threshold Limit Concentration (STLC) values (BH18E and BH32E, both at five feet bgs). In June and July 1995, Versar removed approximately 40 tons of soil containing lead from the two locations (BH18 and BH32) identified during the 1992 investigation. The scope of work was outlined in a workplan addendum submitted to ACHSA on March 27, 1995, and approved in a letter dated June 13, 1995.

The initial excavation activities were conducted on June 20, 1995. A total of approximately 20 tons of soil were excavated from the two locations. Following completion of excavation activities, five soil samples were collected from each excavation for laboratory analysis. One sample was collected from each wall and from the bottom of each excavation. The results of laboratory analysis indicated lead concentrations exceeding STLC or TTLC values still present in each excavation.

Based on the June 1995 soil sampling results, Versar excavated an additional approximately 20 tons of soil from the west side of the BH18 excavation and the east and south sides of the BH32 excavation. Five confirmation soil samples were collected for laboratory analysis on July 14, 1995. The analytical results from these samples indicated that concentrations of lead above the TTLC and STLC values still existed on the west wall of the BH18 excavation and on the southwest, south, and east walls and bottom of the BH32 excavation. Figure 3 shows the current extent of the excavations, sampling locations, and pertinent laboratory analytical results. Table 1 summarizes the excavation soil samples collected in June and July 1995. Copies of the laboratory analytical reports are included as Appendix A. The approximately 40 tons of lead impacted soil were removed from the Site in January 1996 and disposed of at the Laidlaw Environmental Services facility in Buttonwillow, California. Waste disposal documentation is included as Appendix C.

Based on the results of the soil samples collected in July 1995, the extent of the lead impacted soil was not fully defined. Therefore, Versar proposed additional investigation activities in a January 1996 workplan addendum, which was approved by the ACHSA in a letter dated February 13, 1996. The activities outlined in the workplan addendum were conducted between February 28 and March 5, 1996. These activities included drilling and sampling soil borings and one well to 1) assess the extent of the lead impacted soils, and 2) assess groundwater conditions near the removed UST, the lead-impacted excavations, and near a 1992 boring containing petroleum hydrocarbons.

On February 28, 1996, eight soil borings were drilled and one monitoring well (MW6) installed on the eastern section of the Site to meet the above objectives. Drilling logs for the eight soil borings are included in Appendix B. A total of 22 soil samples were submitted to Trace Analysis Laboratories (Trace) for analysis of total lead. The analytical results for three samples collected at 2.5, 5.5, and 7.5 feet bgs from soil boring HP1, near the BH18 excavation, indicated total lead concentrations of 5.2, 26, and 8.8 mg/kg, respectively. Total lead concentrations in the soil samples collected at 2.5, 5.5, and 7.5 feet bgs in boring HP4, located five feet south of the BH32 excavation, were 1,200, 1,200, and 5.4 mg/kg, respectively. Soil samples collected at 2.5 and 5.0 feet bgs in boring SB2, located ten feet south of the BH32 excavation, contained 840 and 4,100 mg/kg total lead, respectively. Total lead concentrations in soil samples collected at 2.5 and 8.0 feet bgs in soil boring SB3 were 520 and 35 mg/kg. Soluble (STLC) lead at 38 milligrams per liter was also reported in the sample collected from SB3 at 2.5 feet bgs. The analytical results for the soil samples collected during the February drilling operations are summarized in Table 2 and shown on Figure 3. Complete copies of the analytical reports are included in Appendix A.

3.0 GROUNDWATER INVESTIGATION

The following sections discuss groundwater investigation activities conducted at the Site.

Previously reported activities are only briefly mentioned and the respective reports referenced.

Recent, previously undocumented activities are discussed in more detail.

3.1 Western Section

As previously mentioned, Versar supervised the removal of a UST from the northwestern corner of the Site in 1991. Groundwater samples collected from the excavation following the removal contained total petroleum hydrocarbons as gasoline (TPH-G), total petroleum hydrocarbons as diesel (TPH-D), total oil and grease (TOG), benzene, toluene, ethylbenzene, and xylenes (BTEX), and organic lead. Details of the UST removal and sampling results were included in the January 14, 1992 UST removal report.

On June 23 and 24, 1993, five 2-inch-diameter groundwater monitoring wells were installed to a depth of 13 to 14 feet bgs. Details of the well installation were included in Versar's report *Well Installation, Pacific Dry Dock and Repair Yard I, Western Section* report, dated November 7, 1993. Following well installation, a quarterly monitoring program was initiated at the Site. To date, a total of ten rounds of sampling have been conducted at the Site, the latest on March 5, 1996.

3.2 Eastern Section

During the August 1992 investigation, Versar collected groundwater samples from three soil borings that were extended into groundwater. The analytical results indicated concentrations of petroleum hydrocarbons and SVOCs in the groundwater. Details of the August 1992 groundwater sampling activities were included in Versar's report, *Addendum to Phase II Site Investigation Work Plan, Pacific Dry Dock Yard I*, dated September 18, 1992.

3.2.1 February 1996 Groundwater Sampling

On February 28, 1996, Versar installed one groundwater monitoring well and collected groundwater samples from four soil borings extended into groundwater. All four grab groundwater samples were submitted to Trace for analysis of TPH-D, TPH-G, BTEX, and total lead. The analytical results are shown on Figure 4 and Table 3.

3.3 March 1996 Quarterly Sampling Event

Following development of the new monitoring well, MW6, all six wells were purged and sampled on March 5, 1996. The six groundwater samples were submitted to Trace for analysis of TPH-D, TPH-G, BTEX, and total dissolved solids (TDS). The analytical results are shown on Figure 5 and Table 5. Groundwater levels collected prior to purging and sampling are shown in Table 4.

4.0 REFERENCES

Versar, Inc. Fair Oaks, California. Site Assessment of Pacific Dry Dock Yards I and II Report, Oakland, California. October 2, 1990.

Versar, Inc. Fair Oaks, California. Summary of Tank Removal Activities, Pacific Dry Dock and Repair Yard I, 1441 Embarcadero, Oakland, California. January 24, 1992.

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Versar, Inc. Fair Oaks, California. Well Installation, Pacific Dry Dock and Repair Yard I, Western Section, Oakland, California. November 1993.

Versar, Inc., Fair Oaks, California. Quarterly Groundwater Monitoring Report, Pacific Dry Dock Yard I, Oakland, California. April 1, 1994.

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Versar, Inc., Fair Oaks, California. Groundwater Monitoring Report - July 15, 1994, Pacific Dry Dock Yard I, Oakland, California. September 27, 1994.

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Versar, Inc., Fair Oaks, California. Addendum to Phase II Site Investigation Work Plan, Pacific Dry Dock and Repair Yard I, Oakland, California. March 27, 1995.

Versar, Inc., Fair Oaks, California. Groundwater Monitoring Report - February 2, 1995, Pacific Dry Dock and Repair Company Yard I, Oakland, California. May 4, 1995.

Versar, Inc., Fair Oaks, California. Groundwater Monitoring Report - May 3, 1995, Former Pacific Dry Dock and Repair Company Yard I, Oakland, California. August 31, 1995.

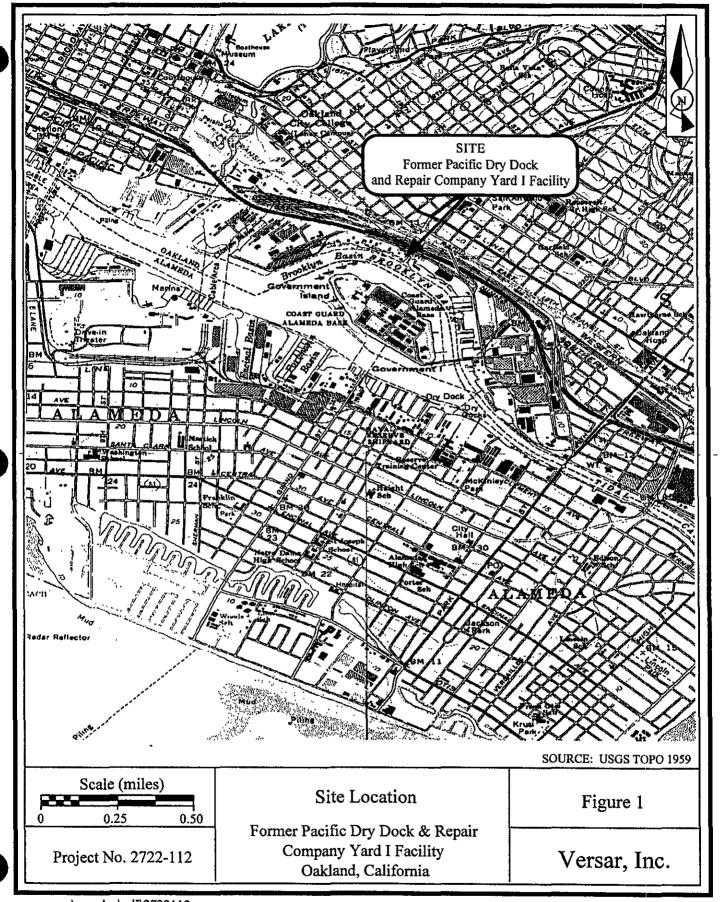
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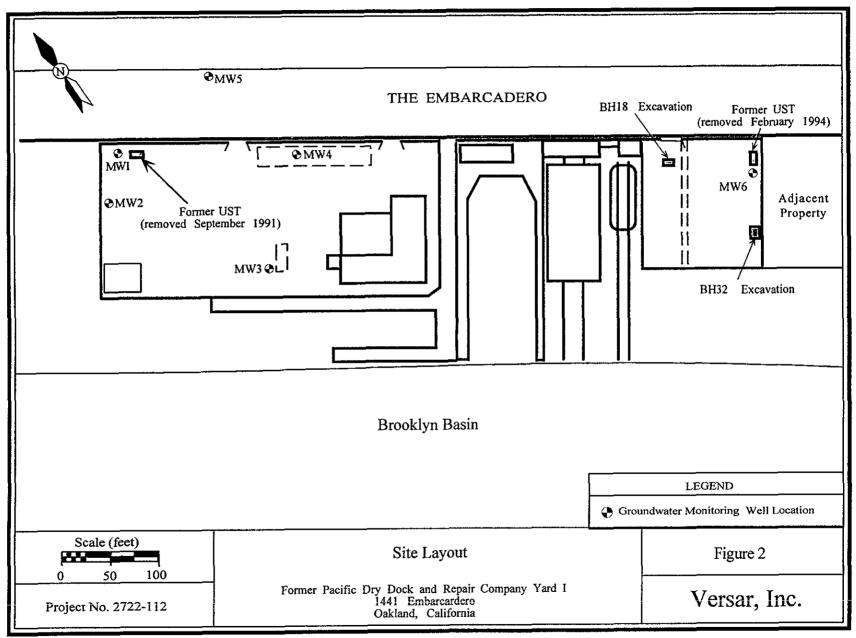
Versar, Inc., Fair Oaks, California. Groundwater Monitoring Report - September 7, 1995, Former Pacific Dry Dock and Repair Company Yard I, Oakland, California. November 10, 1995.

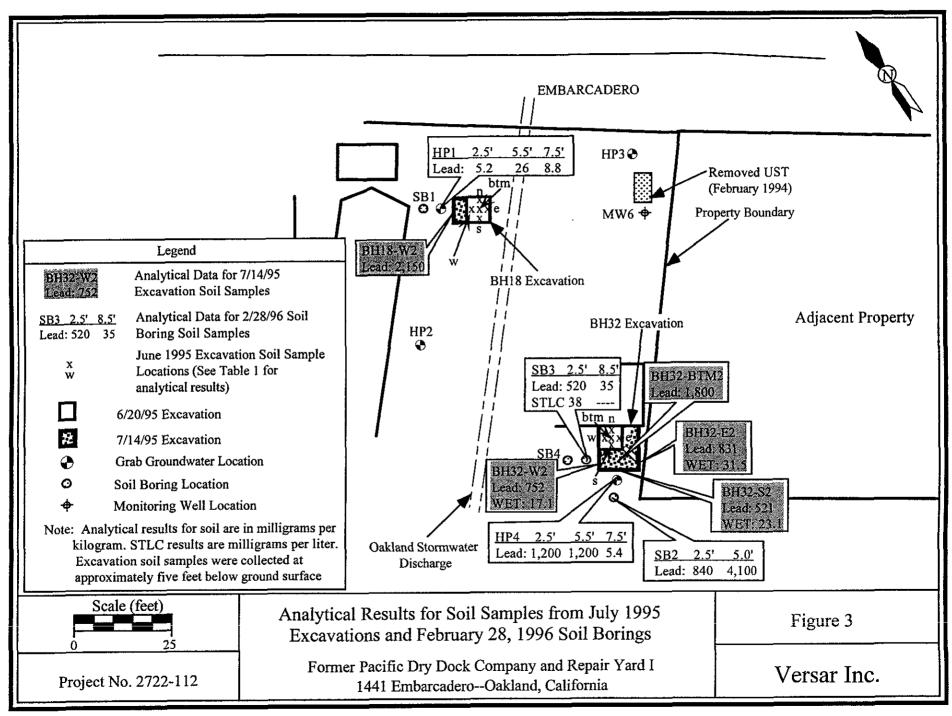
Versar, Inc., Fair Oaks, California. Revised Workplan Addendum for the Former Pacific Dry Dock and Repair Company Yard I, 1441 Embarcadero, Oakland, California. January 26, 1996.

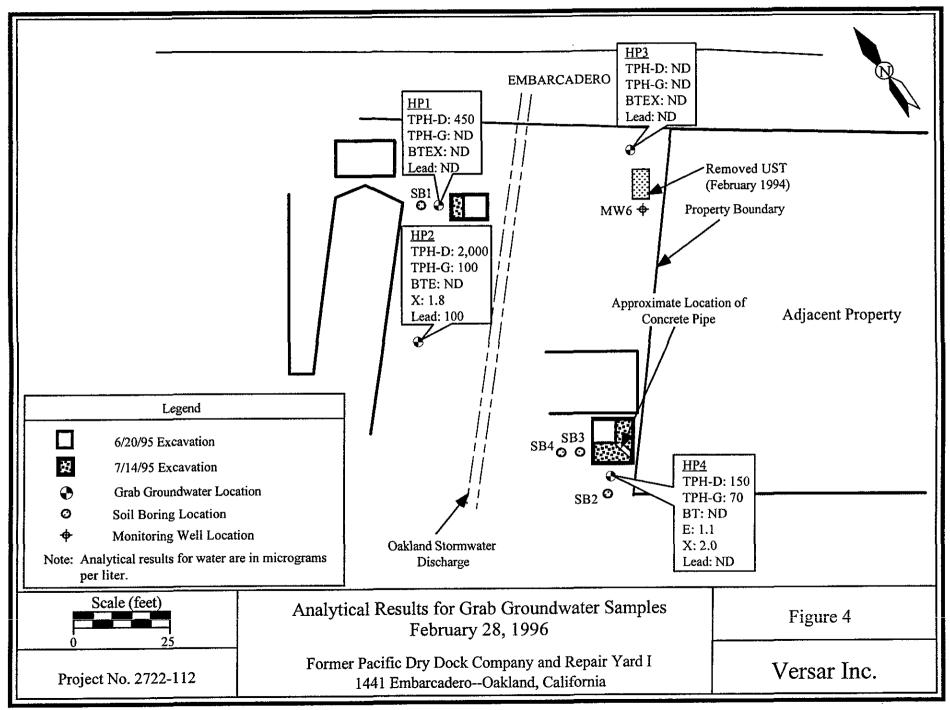
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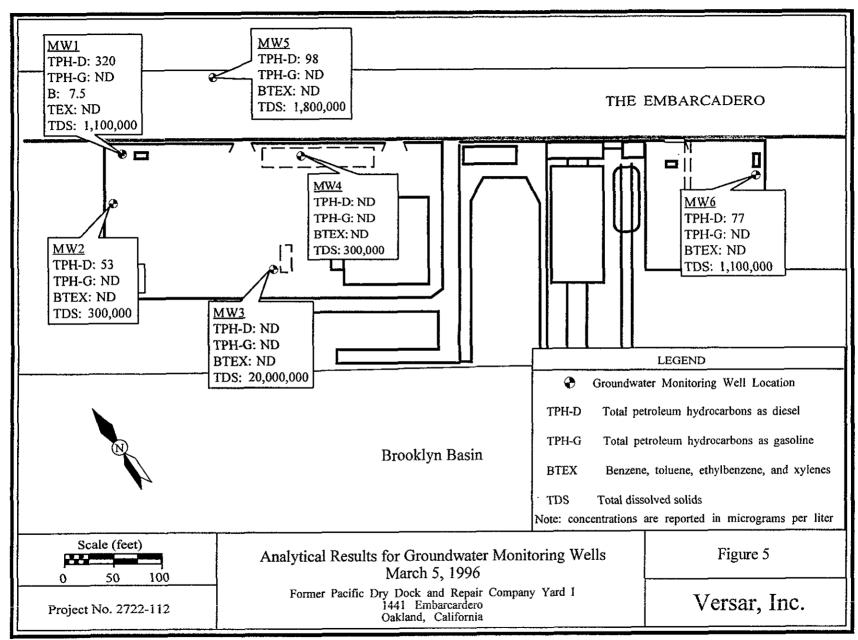
FIGURES











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TABLES

TABLE 1 Analytical Results for Excavation Soil Sampling in June and July 1995

Date	Sample Identification	Depth (ft)	Total Lead (mg/kg) ²	STLC¹ Lead (mg/L)³
6/20/95	BH18-N	5	81.2	2.13
0/20/75	BH18-S	5	38.2	NA ⁴
	H18-E	5	26.9	NA
	BH18-W	5	463	42.8
	BH18-BTM	5	18	NA
	BH18-SPL	Stockpile	22.1	NA
6/20/95	BH32-N	5	177	0.64
0.20.70	BH32-S	5	4,320	NA
	ВН32-Е	5	808	16.2
	BH32-W	5	17.1	NA
	BH32-BTM	5	6.81	NA
	BH32-SPL	Stockpile	2,980	NA
7/14/95	BH18-W2	5	2,150	NA
	SSP18B	Stockpile	29.1	NA
7/14/95	BH32-S2	5	521	23.1
	BH32-BTM2	5	1,800	NA
	BH32-W2	5	752	17.1
	BH32-E2	5	831	31.5
	SSP32B	Stockpile	758	NA

¹ Soluble Threshold Limit Concentration ² milligrams per kilogram ³ milligrams per liter ⁴ Not Analyzed

TABLE 2 Analytical Results for Soil Samples Collected on February 28, 1996

Sample Identification	Total Lead (mg/kg) ³	STLC ² Lead (mg/L) ⁴
HP1-2.0-2.5	5.2	NA ⁵
HP1-5.0-5.5	26.0	NA
HP1-8.0-8.5	8.8	NA
HP4-2.0-2.5	1,200	NA
HP4-5.0-5.5	1,200	NA
HP4-7.0-7.5	5.4	NA
SB3-2.0-2.5	520	38
SB3-8.0-8.5	35	NA
SB2-2.5-3.0	840	NA NA
SB2-5.0-5.5	4,100	NA

¹ Sample identification includes borehole number and sample depth (feet below ground surface).
² Soluble Threshold Limit Concentration
³ milligrams per kilogram
⁴ milligrams per liter
⁵ Not Analyzed

TABLE 3 ANALYTICAL RESULTS FOR GRAB GROUNDWATER SAMPLES COLLECTED FEBRUARY 28, 1996

Former Pacific Dry Dock and Repair Company Yard I Oakland, California

Froundwater Sample Identified	Sample Date	TPH-G (μg/L)¹	Dissolved TPH-D (μg/L)	MTBE (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethylbenzene (µg/L)	Xylenes	Filtered Lead (µg/L)
HPI	2/28/96	ND^2	450	ND	ND	ND	ND	ND	ND
HP2	2/28/96	100	2,000	ND	ND	ND	ND	1.8	100
HP3	2/28/96	ND	ND	ND	ND	ND	ND	ND	ND
HP4	2/28/96	70	150	ND	ND	ND	1.1	2.0	ND

¹ μg/L = micrograms per liter ² ND = Not Detected at or above method reporting limits.

TABLE 4

MONITORING WELL GROUNDWATER LEVELS

March 5, 1996

	MW1	MW2	MW3	MW4	MW5	Hydraulic Gradient (feet/foot)
Reference Casing Elevation (feet)	9.45	9.34	8.76	9.55	9.51	
July 1, 1993						
Depth to Groundwater (High Tide) ¹	5.01	4.94	5.54	9.33	6.56	
Groundwater Elevation	4.44	4.40	3.22	1.22	2.95	0.017 ft/ft
			•			to the east
October 14, 1993						
Depth to Groundwater (High Tide) ¹	6.54	5.74	3.98	6.45	6.92	
Groundwater Elevation	2.91	3.60	4.78	3.10	2.59	0.013 ft/ft
						to the north
December 8, 1993						
Depth to Groundwater (Low Tide) ²	6.28	4.55	6.50	6.02	6.71	
Groundwater Elevation	3.17	4.79	2.26	3.53	2.80	0.016 ft/ft
						to the east
<u>January 17, 1994</u>						
Depth to Groundwater (High Tide) ¹	4.93	4.90	6.60	6.05	6.60	
Groundwater Elevation	4.52	4.44	2.16	3.50	2.91	0.013 ft/ft
						to the southeast
March 30, 1994				4.01	6.25	
Depth to Groundwater (Low Tide) ²	4.87	4.51	9.81	4.91	6.35	0.000.676
Groundwater Elevation	4.58	4.83	-1.05	4.65	3.16	0.030 ft/ft
						to the southeas

Depth-to-groundwater measurements were taken during high tide and are expressed in feet below top of casing.

Depth-to-groundwater measurements were taken during low tide and are expressed in feet below top of casing.

MONITORING WELL GROUNDWATER LEVELS

March 5, 1996

	MWI	MW2	MW3	MW4	MW5	Hydraulic Gradient (feet/foot)
	-			·		
July 15, 1994	5.31	5.16	8.76	9.55	9.51	
Depth to Groundwater (Outgoing Tide) ³	3.31 4.14	4.18	1.81	3.49	2.95	0.013 ft/ft
Groundwater Elevation	4.14	4.10	1.01	3.47	2.75	to the southeast
October 19, 1994						
Depth to Groundwater (Incoming Tide) ⁴	6.67	5.72	5.00	6.89	7.00	
Groundwater Elevation	2.78	3.62	3.76	2.66	2.51	0.007 ft/ft
Growing 210 canon						to the northeast
Reference Casing	9.45	9.35	8.74	9.50	9.51	
Elevation (feet) February 17, 1995						
February 2, 1995	4.04	2.42	6.06	2.92	5.15	0.017 ft/ft
Depth to Groundwater (Incoming Tide) ⁴	4.24 5.21	3.43 5.92	2.68	6.58	4.36	to the southeast
Groundwater Elevation	3.21	3.92	2.00	0.58	4.50	to the southeast
May 3, 1995						
Depth to Groundwater (Outgoing Tide)	4.76	3.01	8.90	3.79	5.91	0.018 ft/ft
Groundwater Elevation	4.69	6.34	-0.16	5.71	3.60	south of east
Groundwater Dievation						
September 7, 1995						
Depth to Groundwater (Outgoing Tide)	6.16	5.34	7.66	6.58	7.05	0.014 ft/ft
Groundwater Elevation	3.29	4.01	1.08	2.92	2.46	south of east

Depth-to-groundwater measurements were taken during high tide and are expressed in feet below top of casing.

Depth-to-groundwater measurements were taken during low tide and are expressed in feet below top of casing.

Depth-to-groundwater measurements were taken on an outgoing tide and are expressed in feet below top of casing.
 Depth-to-groundwater measurements were taken on an incoming tide and are expressed in feet below top of casing.

TABLE 4 (Continued)

MONITORING WELL GROUNDWATER LEVELS

March 5, 1996

	MWI	MW2	MW3	MW4	MW5	MW6	Hydraulic Gradient (feet/foot)
Reference Casing Elevation (feet) March 7, 1996	9.45	9.35	8.74	9.50	9.51	8.26	
March 5, 1996 Depth to Groundwater (Incoming Tide) ⁴ Groundwater Elevation	3.95 5.50	2.65 6.70	8.10 0.64	2.65 6.85	5.70 3.81	3.48 4.78	0.017 ft/ft to the southwest

Depth-to-groundwater measurements were taken during high tide and are expressed in feet below top of casing.

² Depth-to-groundwater measurements were taken during low tide and are expressed in feet below top of casing.

³ Depth-to-groundwater measurements were taken on an outgoing tide and are expressed in feet below top of casing.

Depth-to-groundwater measurements were taken on an incoming tide and are expressed in feet below top of casing.

TABLE 5 HISTORICAL CHEMICAL DATA FOR GROUNDWATER MONITORING WELL SAMPLES

March 5, 1996

Groundwater Monitoring Well	Sample Date	ΤΡΗ-G (μg/L) ¹	TPH-D (µg/L)	Total Oil and Grease (µg/L)	Benzene (µg/L)	Toluene (μg/L)	Ethylbenzene (µg/L)	Xylenes (μg/L)	TDS (μg/L)	Filtered Lead (µg/L)	Salinity
					ND	ND	NUN	ND	NA³	NA	NA
MWI	7/1/93	ND ²	ND	ND	ND	ND	ND	ND	8,800,000	NA NA	8.7
	1014/93	ND	63	NA	ND	ND	ND 1.4	1.5	1,200,000	NA NA	1.0
	1/18/94	ND	60	NA	NA 2.5	1.0		1.9	1,200,000 NA	NA NA	0.97
	3/30/94	ND	110	NA	2.5	1.7	0.56		NA NA	NA NA	NA
	7/15/94	ND	60	ND	ND	ND	ND	ND	NA NA	NA NA	NA NA
	10/19/94	ND	830	NA	ND	ND	ND	ND	NA NA	NA NA	NA NA
	2/2/95	ND	ND	NA	ND	ND	ND	ND		NA NA	
	5/3/95	ND	78	NA	1.6	0.58	ND	ND	NA		NA
	9/7/95	ND	ND	NA	ND	ND	ND	ND	NA	NA	NA
	3/5/96	ND	320	NA	7.5	ND	ND	ND	1,100,000	ND	NA
MW2	7/1/93	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
171 77 2	10/14/93	ND	ND	NA	ND	ND	ND	ND	12,000,000	NA	11
	1/18/94	ND	ND	NA	ND	ND	ND	ND	570,000	NA	0.46
	3/30/94	ND	ND	ND	ND	2.2	ND	ND	NA	NA	0.29
	7/15/94	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
	3/5/96	ND	53	NA	ND	ND	ND	ND	300,000	ND	NA
M312	7/1/93	ND	ND	ND	ND	ND	· ND	ND	NA	NA	NA
MW3	10/14/93	ND	840	NA	ND	ND	ND	ND	31,000,000	NA	29
	1/18/94	ND	64	NA NA	ND	ND	ND	ND	28,000,000	NA	27
	3/30/94	ND	ND	NA NA	ND	0.90	ND	ND	NA	NA	21
	3/30/94 7/15/94	ND	ND ND	ND	ND	ND	ND	ND	NA	NA	NA
	7/13/94 10/19/94	ND ND	ND	NA NA	ND	ND	ND	ND	NA	NA	NA
		100	ND	NA NA	38	0.55	ND	ND	NA	NA	NA
	2/2/95		ND ND	NA NA	ND	ND	ND	ND	NA	NA	NA
	5/3/95	ND	ND ND	NA NA	ND	ND	ND	ND	NA	NA	NA
	9/7/95	ND			ND	ND	ND	ND	20,000,000	ND	NA
	3/5/96	ND	ND	NA	ND	MD	ND	MD	20,000,000	1	11/1

¹ μg/L = micrograms per liter

² ND = Not Detected at or above method reporting limits.

³ NA = Not Analyzed

TABLE 5 (Continued)

HISTORICAL CHEMICAL DATA FOR GROUNDWATER MONITORING WELL SAMPLES

March 5, 1996

Former Pacific Dry Dock and Repair Company Yard I Oakland, California

Groundwater Monitoring Well	Sample Date	TPH-G (μg/L) ¹	ΤΡΗ-D (μg/L)	Total Oil and Grease (µg/L)	Benzene (μg/L)	Toluene (µg/L)	Ethylbenzene (μg/L)	Xylenes (μg/L)	TDS (μg/L)	Filtered Lead (µg/L)	Salinity
Womaning west	Date	(FB-2)	4.5								
MW4	7/1/93	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
W 4	10/14/93	ND	ND	NA	ND	ND	ND	ND	3,600,000	NA	3.4
	1/18/94	ND	ND	NA	ND	ND	ND	ND	3,100,000	NA	2.6
	3/30/94	ND	ND	NA.	ND	1.5	ND	1.5	NA	NA	0.1
	7/15/94	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
	3/5/96	ND	ND	NA	ND	ND	ИД	ИД	300,000	ND	NA
MW5	7/1/93	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
MATAND	10/14/93	ND	ND	NA	ND	ND	ND	ND	2,000,000	NA	2.0
	1/18/94	ND	ND	NA	ND	ND	ND	ND	2,200,000	NA	2.1
	3/30/94	ND	ND	ND	ND	0.87	ND	ND	NA	NA	1.6
	7/15/94	ND	ND	ND	ND	ND	ND	NA.	NA	NA	NA
	3/5/96	ND	98	NA	ND	ND	ND	ND	1,800,000	ND	NA -
MW6	3/5/96	ND	77	NA	ND	ND	ND	ND	1,100,000	ND	NA

¹ μg/L = micrograms per liter

² ND = Not Detected at or above method reporting limits.

³ NA = Not Analyzed

APPENDIX A LABORATORY REPORTS



June 26, 1995

Hr. Lawrence Kleinecke Versar. Inc. 5330 Primrose Suite 228 Fair Oaks, CA 95628

RE:

PACE Project Number: 701924

Client Project ID: 2722-118

Dear Mr. Kleinecke:

Enclosed are the results of analyses for samples received on June 20, 1995. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ron Chew

Project Manager

Enclosures



PAGE: 1

Versar, Inc. 5330 Primrose Suite 228

Fair Oaks. CA 95628

PACE Project Number: 701924 Client Project ID: 2722-118

Attn: Mr. Lawrence Kleinecke

Phone: (916)962-1612

PACE Sample No: Client Sample ID:	70147657 BH18-N			Date Collect Date Recei		/20/95 /20/95	····		
Parameters		Results	Units	PRL.	Analyzed	Method	Analys:	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested	•	81.2	mg/kg	4.95	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1	



PAGE: 2

PACE Project Number: 701924 Client Project ID: 2722-118

PACE Sample No: Client Sample 1D:	70147665 BH18-S	Date Collected: 06/20/95 Date Received: 06/20/95							
Parameters		Results	Units	PRL	Anal yzed	Method	Analys 	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested		38.2	mg/kg	4.9	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1	



PAGE: 3

PACE Project Number: 701924 Client Project ID: 2722-118

PACE Sample No: Client Sample ID:	70147673 BH18-E	Date Collected: 06/20/95 Date Received: 06/20/95							
Parameters		Results	Units	PRL	Anal yzed	Method	Analys	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested		26.9	mg/kg	4.55	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1	



PAGE: 4

PACE Project Number: 701924 Client Project ID: 2722-118

PACE Sample No: Client Sample ID:	70147681 BH18·W					6/20/95 6/20/95			
Parameters		Results	Units	PRL	Analyzed	Method	Analys:	t CAS#	Footnotes
Metals Metals. ICP Lead Date Digested		463	mg/kg	4.67	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1	



PAGE: 5

PACE Sample No: Client Sample ID:	70147699 BH18-BTM			Date Collect Date Recei	/20/95 /20/95				
Parameters	*****	Results	Units	PRL	Anal yzed	Method	Anal ys	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested		18	mg/kg	5.05	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1	



PAGE: 6

PACE Sample No: Client Sample 10:	70147707 BH18-SPL			Date Collect Date Recei					
Parameters		Results	Units	PRL	Analyzed	Method	Analys:	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested		22.1	mg/kg	4.55	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1	



Date Digested

REPORT OF LABORATORY ANALYSIS

PAGE: 7

PACE Sample No: Client Sample ID:	70147715 BH32·N			Date Collect Date Recei	Collected: 06/20/95 e Received: 06/20/95				
Parameters		Results	Units	PRL	Anal yzed	Method	Analyst	: CAS#	Footnotes
Metals, ICP Lead Date Digested		177	mg/kg	4.67	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1	



PAGE: 8

PACE Sample No: Client Sample ID:	70147723 BH32-S								
Parameters		Results	Units	PRL	Anal yzed	Method	Analysi	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested		4320	mg/kg	4.76	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1	



Date Digested

REPORT OF LABORATORY ANALYSIS

PAGE: 9

PACE Sample No: Client Sample ID:	70147731 BH32-E			Date Collect Date Recei		5/20/95 5/20/95			
Parameters		Results	Units	PRL	Anal yzed	Method	Anal yst	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested		808	mg/kg	4.85	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1	



PAGE: 10

PACE Sample No: Client Sample ID:	70147749 BH32-W			Date Collect Date Recei					
Parameters	,,,,,,,,,,,,,	Results	Units	PRL.	Anal yzed	Method	Anal ys	t CAS#	Footnotes
Hetals Metals. ICP Lead Date Digested		17.1	mg/kg	4.59	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1	



PAGE: 11

PACE Sample No: Client Sample ID:	70147756 BH32-8TM		Date Collected: 06/20/95 Date Received: 06/20/95							
Parameters		Results	Units	PRL	Analyzed	Method	Anal ys	t CAS#	Footnotes	
Metals Metals, ICP Lead Date Digested		6.81	mg/kg	4.5	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1		



PAGE: 12

PACE Sample No: Client Sample ID:	70147764 BII32-SPL								
Parameters		Results	Units	PRL	Anal yzed	Method	Analyst	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested		2980	mg/kg	4.76	06/23/95 06/22/95	EPA 6010	BRW	7439-92-1	



PAGE: 13

PACE Project Number: 701924 Client Project ID: 2722-118

PARAMETER FOOTNOTES

ND

Not Detected

NC

Not Calculable

PRL

PACE Reporting Limit



PAGE: 14

Versar, Inc. 5330 Primrose Suite 228 Fair Oaks, CA 95628 PACE Project Number: 701924 Client Project ID: 2722-118

Attn: Mr. Lawrence Kleinecke

Phone: (916)962-1612

OC Batch ID: 4228

Associated PACE Samples:

QC Batch Method: EPA 3050

70147665

70147673

70147681

70147699

70147657 70147707 70147756

70147715 70147764 70147723

70147731

70147749

HETHOD BLANK: 70149133

Associated PACE Samples:

70147665 70147657 70147723

70147673 70147749 70147731

70147681 70147756 70147699 70147764

70147707

70147715

Date of Batch: 06/21/95

Hethod

Blank

Result

PRL

Footnotes

Parameter

Units

Parameter

mg/kg

ND

HATRIX SPIKE: 70149141

Units

70147657

Spike Conc.

Matrix Spike Result

Spike

* Rec Footnotes

Lead

mg/kg

81.2

100

136

56

70149174 LABORATORY CONTROL SAMPLE & LCSD: 70149166

Units

LCS Spike Result Conc.

103

103

Spike LCSD * Rec Result

103

Dup * Rec RPD

103 0

Spike

Footnotes

Lead

Lead

Parameter

SAMPLE DUPLICATE: 70149158

Parameter

Units

mg/kg

70147657 81.2

Dup. Result

60

RPD Footnotes

mg/kg

30



PAGE: 15

PACE Project Number: 701924 Client Project ID: 2722-118

QUALITY CONTROL DATA PARAMETER FOOTNOTES

The Quality Control Sample Final Results listed above have been rounded to reflect an appropriate number of significant figures. Consistent with EPA guidelines unrounded concentrations have been used to calculate % Rec and RPD values.

ND

Not Detected

NC

Not Calculable

PRL PA

PACE Reporting Limit

RPD

Relative Percent Difference

Versar

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJE	CT NAM	E				/			P	ARAM	ETER	S	INDUSTRIAL Y HYGIENE SAMPLE
2722-118	PO	DI					/&		7 7	7	7	7	77	/
SAMPLERS: (Signatu			,	1	(Printed) Lawfence Kleinecke	/	TA CONTAINERS	25/2 25/2		/,	//	//	///	REMARKS
FIELD SAMPLE NUMBER	DATE	TIME	сомь.	GRAB	STATION LOCATION	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		//		\angle		/_		
BH18-N	6/2495	1015		<		l	×		<u>. </u>	ļ		_		147657
B#18-5	l e	1018		1		Į	X					_		14760
B#18-E	11	1020		X		l	X_		-					14767
BH(8-W	11	1023		X		l	X.		-					147681
B1+18-B7M	()	1025		×		l	X	_		ļ				14+699
BH18-SPL	(1	1030	X			2	K.			-	-	_		14 + 10+
BH32-N	14	1100		X		1	× ×	_	_	ļ		_	_	147713
BH32-5	14	1105		K		(X	_	_					147+ 13
BH32-E	۲į	1110		Κ.		1	×		_	<u> </u>	<u> </u>	_		147731
B#32-W	14	1115		X		l	~	_		-				147749
BH 32-BT	((_	1120		×		[X			ļ				147750
81+32-SPL	(1	1125	X			2	X			<u> </u>				147764
Relinquished by: (Si	gnature)		Date	: / Tin	ne Received by: (Signature)	Reli	inquished	i by: /	Signatur	e)		Date	/ Time	Received by: (Signature)
(Printed)				1	(Printed)	(Pri	nted)						<u> </u>	{Printed}
			<u></u>			_	Date / 1	Cime.	1.					
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July 07, 1995

Mr. Lawrence Kleinecke Versar, Inc. 5330 Primrose Suite 228 Fair Oaks, CA 95628

RE: PACE Project Number: 702009

Client Project ID: P.D.D.I.

Dear Mr. Kleinecke:

Enclosed are the results of analyses for samples received on June 20, 1995. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ron Chew

Project Manager

Enclosures



DATE: 07/07/95

PAGE: 1

Versar, Inc. 5330 Primrose Suite 228

Fair Oaks, CA 95628

PACE Project Number: 702009 Client Project ID: P.D.D.I.

Attn: Mr. Lawrence Kleinecke

Phone: (916)962-1612

PACE Sample No: Client Sample ID:	70158118 BH 18·N			Date Collect Date Recei	5/20/95 5/20/95				
Parameters		Results	Units	PRL	Analyzed	Method	Analys	t CAS#	Footnotes
Inorganics STLC Metals, ICP, SI Date Digested Metals	LC Leach.				06/30/95		••••		•••••
STLC Metals, ICP, ST Lead e Digested	LC Leach.	2130	ug/L	420	07/06/95 07/06/95	EPA 6010	SMS	7439-92-L	



DATE: 07/07/95

PAGE: 2

PACE Project Number: 702009 Client Project ID: P.D.D.I.

•	70158126 BH 18-W			Date Collect Date Recei		5/20/95 5/20/95			
Parameters		Results	Units	PRL	Analyzed	Method	Analys	t CAS#	Footnotes
Inorganics STLC Metals, ICP, STL Date Digested	C Leach.				06/30/95				
Metals STLC Metals, ICP, STL Lead Date Digested	C Leach.	42800	ug/L	420	07/06/95 07/06/95	EPA 6010	SMS	7439-92-1	



DATE: 07/07/95 PAGE: 3

PACE Project Number: 702009 Client Project ID: P.D.D.I.

PACE Sample No: 70158142			Date Collected:		ted: 06	/20/95			
Client Sample ID: BH	32-N			Date Receiv	ved: 06	d: 06/20/95			
Parameters	Re	sults	Units	PRL	Analyzed	Method	Analyst	: CAS#	Footnotes
Inorganics STLC Metals, ICP, STLC	Leach.			*********			••••	•••••	•••••
Date Digested					06/30/95				
Metals									
STLC Metals, ICP, STLC	Leach.								
Lead	64	10	ug/L	420	07/06/95	EPA 6010	SMS	7439-92-1	
Date Digested					07/06/95				



DATE: 07/07/95

PAGE: 4

PACE Project Number: 702009 Client Project ID: P.D.D.I.

PACE Sample No: Client Sample ID:	70158175 BH 32·E			Date Collect Date Recei		5/20/95 5/20/95			
Parameters		Results	Units	PRL	Analyzed	Method	Analys	t CAS#	Footnotes
Inorganics STLC Metals, ICP, Date Digested Metals		••••			06/30/95		••••		
STLC Metals, ICP, Lead Date Digested	SILU LEBON.	16200	ug/L	420	07/06/95 07/06/95	EPA 6010	SMS	7439-92-1	



DATE: 07/07/95 PAGE: 5

PACE Project Number: 702009 Client Project ID: P.D.D.I.

PARAMETER FOOTNOTES

ND Not Detected
NC Not Calculable
PRL PACE Reporting Limit

1455 McDowell Blvd. North, Suite D Petaluma, CA 94954 TEL: 707-792-1865 FAX: 707-792-0342 An Equal Opportunity Employer



QUALITY CONTROL DATA

DATE: 07/07/95

PAGE: 6

Versar, Inc. 5330 Primrose Suite 228

Fair Oaks, CA 95628

PACE Project Number: 702009 Client Project ID: P.D.D.I.

Attn: Mr. Lawrence Kleinecke

Phone: (916)962-1612

QC Batch ID: 4588

Associated PACE Samples:

70158118

QC Batch Method: EPA 3010

70158126

70158142

70158175

Date of Batch: 07/05/95

METHOD BLANK: 70167093

Associated PACE Samples:

70158118

Units

70158142

70158175

Method B1 ank

70158126

Result

PRL

Footnotes

Lead

ug/L

ND

420

MATRIX SPIKE: 70167101

Units

70151303

Spike Conc.

Spike Result

Matrix

Spike

* Rec Footnotes

Parameter Lead

Parameter

ug/L

2840

10000

12600

97

LABORATORY CONTROL SAMPLE & LCSD: 70167127 70167135

Units

Spike Conc.

LCS Result Spike LCSD

* Rec Result

Spike Dup % Rec RPD

Footnotes

Parameter Lead

ug/L

10000

9670

97

9650

97

SAMPLE DUPLICATE: 70167119

Parameter

Lead

Units

ug/L

70151303 2840

Result 2890

Dup.

RPD

2

Footnotes



DATE: 07/07/95

PAGE: 7

PACE Project Number: 702009 Client Project ID: P.D.D.I.

QUALITY CONTROL DATA PARAMETER FOOTNOTES

The Quality Control Sample Final Results listed above have been rounded to reflect an appropriate number of significant figures. Consistent with EPA guidelines unrounded concentrations have been used to calculate % Rec and RPD values.

Not Detected

NC Not Calculable

PRL PACE Reporting Limit

RPD Relative Percent Difference



CONCURIAL





CHAIN-OF-CUSTODY RECORD. Analytical Request

Client	Versan, Onc.				Repor	To: Laure	na Klein	necks_	Pace Client No.	
Address	5330 Esimaese	Duise, Si	ct 228		Bill To	· Vers	sar.		Pace Project Manager	rRMC
	Fair (Cals.				P.O. #	/ Billing Refere	nce		Pace Project No.	
Phone	(916) 962 -16				Projec	t Name / No.	PADI		*Requested Due Date	7/7/95
	By (PRINT): Chien t Signature Date S	ampled		CONTAINERS		VATIVES	ANALYSES REQUEST			
ITEM NO.	SAMPLE DESCRIPTIO	ON TIME	E MATRIX PACE	NO. OF COI	UNPRESERVED H ₂ SO ₄ HNO ₃	VOA	5/5/	/////	//// RE	EMARKS
1	BH 18-N	20/4	5- Solid 158	C . C 41		Market 18	N X	Sumple AKA 70147657	7. I '	1924
2	BH 18 -W		158	1	Service at the most of the Market	A STATE OF THE STA	X X Section	7014768		
3	BH 32 - N		581				X	70147715		
4	BH32 - E	√	1581	15			XX	70 14 7 73	CPC (1 154 3 4 4 6)	
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Additio	nal Comments					e Tightle in Demokratists of the ten				
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Versar

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJE	CT NAM	E	·····				7	7		P	ARAN	ETE	RS		INDUSTRIAL HYGIENE SAMPLE	Y X
2722-118	PO	DI					/			. 7	7	7	7	7	7	/	
SAMPLERS: (Signatu	ist .				primed Lawrence Rleinecke	<u></u>	Cons			/	/,	//	/	//	//	REMARKS	
FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	\\ \g	8/ /k	<u> </u>	y T	L,	_	4	/	_			
B 418-N	6/2495	1015		く		Ł	X	X					_	_		147657	
BA18-5	ŧ,	1018		٨		1	X									147665	5
B 418-E	21	1020		X			K						_			14767	
BH18-W	f t	1023		X		1	ĸ	X								14 1681	
B418-B7M	į i	1025		×		1	X	-								14 +699	
BH18-51L	(:	1030	X			2	K									14 +101	
BH32-N	11	1100		X		1	K	X	ļ							14777	
B#32-5	11	1105		jį.		1	<	_							_, <u></u>	197+02	<u>'</u>
B#32-E	rı	1110	<u> </u>	<			K	X								14+131	
B432-W	10	1115		K		1	~								·····	147749	
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81+32-5PL	11	1125	X			2	X					1			10	alred by: (Signature)	4-
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JANN 18 1 Prilhadi KI		l	134	1 1,3	METALLINA BY	6.7	0-4	75	55 P	3	77	LC	L	e-c	* at	WET by July	7



July 20, 1995



Mr. Philip Cox Versar, Inc. 7844 Madison Avenue Suite 167 Fair Oaks, CA 95628

RE:

PACE Project Number: 702241

Client Project ID: Crowley

Dear Mr. Cox:

Enclosed are the results of analyses for samples received on July 14, 1995. If you have any questions concerning this report, please feel free to contact me.

Sincerely.

Ron Chew

Project Manager

Enclosures



PAGE: 1

Versar, Inc. 7844 Madison Avenue

Suite 167

Fair Oaks, CA 95628

PACE Project Number: 702241 Client Project ID: Crowley

Attn: Mr. Philip Cox Phone: (916)863-9342

PACE Sample No: Client Sample ID:	70181110 BH32-S2			Date Collect Date Recei		7/14/95 7/14/95		•	
Parameters Metals		Results	Units	PRL	Anal yzed	Method	Analys	t CAS#	Footnotes
Metals, ICP Lead Date Digested		521	mg/kg	4.95	07/19/95 07/18/95	EPA 6010	BRW	7439-92-1	



PAGE: 2

PACE Sample No: Client Sample ID:	70181128 BH32-BTM2			Date Collect Date Recei		7/14/95 7/14/95			
Parameters		Results	Units	PRL	Anal yzed	Method	Anal ys	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested	•••••	1800	mg/kg	2.81	07/19/95 07/18/95	EPA 6010	BRW	7439-92-1	•••••



PAGE: 3

PACE Sample No: Client Sample ID:	70181136 BH32-W2			Date Collect Date Recei		7/14/95 7/14/95			
Parameters		Results	Units	PRL	Anal yzed	Method	Analys	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested		752	mg/kg	4.31	07/19/95 07/18/95	EPA 6010	BRW	7439-92-1	••••••



PAGE: 4

PACE Sample No: Client Sample ID:	70181144 BH32-E2			Date Collec Date Recei		7/14/95 7/14/95			
Parameters		Results	Units	PRL	Ana1 yzed	Method	Anal ys	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested		831	mg/kg	3.91	07/19/95 07/18/95	EPA 6010	BRW	7439-92-1	



PAGE: 5

PACE Sample No: Client Sample ID:	70181151 BH18-W2			Date Collect Date Recei		7/14/95 7/14/95			
Parameters		Results	Units	PRL	Analyzed	Method	Analys	t CAS#	Footnotes
Metals									
Metals, ICP Lead Date Digested		2150	mg/kg	5	07/19/95 07/18/95	EPA 6010	BRW	7439-92-1	



PAGE: 6

PACE Project Number: 702241 Client Project ID: Crowley

PACE Sample No: Client Sample ID:	70181169 SSP32B			Date Collect Date Recei		7/14/95 7/14/95			
Parameters		Results	Units	PRL	Analyzed	Method	Analys	t CAS#	Footnotes
Metals Metals, ICP Lead Date Digested		758	mg/kg	3.42	07/19/95 07/18/95	EPA 6010	BRW	7439-92-1	

Petaluma, CA 94954 TEL: 707-792-1865 FAX: 707-792-0342

1455 McDowell Blvd. North, Suite D

An Equal Opportunity Employer



PAGE: 7

PACE Sample No: Client Sample ID:	70181177 SSP18B		.,,	Date Collect Date Recen		7/14/95 7/14/95	· , ·		
Parameters		Results	Units	PRL	Analyzed	Method	Analyst	: CAS#	Footnotes
Metals Metals, ICP			*********	••••	•••••			***************************************	
Lead Date Digested		29.1	mg/kg	4.46	07/19/95 07/18/95	EPA 6010	BRW	7439-92-1	



PAGE: 8

PACE Project Number: 702241 Client Project ID: Crowley

PARAMETER FOOTNOTES

ND Not Detected NC Not Calculable

PRL PACE Reporting Limit



PAGE: 9

Versar, Inc.

7844 Madison Avenue

Suite 167

Fair Oaks, CA 95628

PACE Project Number: 702241 Client Project ID: Crowley

Attn: Mr. Philip Cox Phone: (916)863-9342

OC Batch ID: 5038

QC Batch Method: EPA 3050

Date of Batch: 07/18/95

Associated PACE Samples:

70181110 70181169 70181128 70181177

70181144

70181151

METHOD BLANK: 70184734

Associated PACE Samples:

70181110

70181128

Method

70181136

70181144

70181151

70181169

70181177

Parameter

Units

B1 ank Result

PRL

70181136

ND

Footnotes

mg/kg

5

MATRIX SPIKE: 70184742

Units

70181250

Spike Conc.

Matrix Spike Result

Spike

* Rec Footnotes

Parameter Lead

mg/kg

9.25

87

..... 86.3

89

LABORATORY CONTROL SAMPLE & LCSD: 70184767

70184775

Spike LCS Conc.

Result

Spike LCSD % Rec Result

Dup % Rec RPD

Footnotes

Lead

mg/kg

Units

100

102

102 100 100 2

Spike

Parameter

SAMPLE DUPLICATE: 70184759

Parameter

Units

70181250

Dup.

RPD

Footnotes

Lead

mg/kg

9.25

7,24

24



PAGE: 10

PACE Project Number: 702241 Client Project ID: Crowley

QUALITY CONTROL DATA PARAMETER FOOTNOTES

The Quality Control Sample Final Results listed above have been rounded to reflect an appropriate number of significant figures. Consistent with EPA guidelines unrounded concentrations have been used to calculate % Rec and RPD values.

ND Not Detected

PRL.

NC Not Calculable

PACE Reporting Limit

RPD Relative Percent Difference

TEL: 707-792-1865 FAX: 707-792-0342



CHAIN OF CUSTODY RECORD

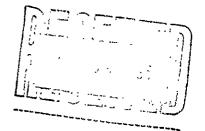
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					CHAIN OF COS	,,,,,,		.00110							
PROJECT NO.	PROJE	ECT NAM	ΙĒ		2 22 2 5 00	. 17	-	71	/	P	PARAMET	rens		INDUSTRIAL HYGIENE SAMPLE	٧ (لايز
2722 - 118	1 C	<u>rowl-</u>	χ: ¹	for	ne Pacific Dry Dock and Kega	. Yac	4	/ se / \	7	7		77	7	} 	
SAMPLERS: (Signature M	rel V Cox	- v	<i>)</i>		Philip M. (ax		CONTAIL			/,	//		//	REMARKS	
FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	5/	<u>*//</u>	<u>//</u>	\angle					
BH32-52	7/14/2	0925		X	Excavation BH32	1800	X					<u> </u>	5 D		70
BH32-BTM2		0935		X		11	X	 				<u> </u>		181128	
BH32-W2		0940		X		11'	X							181136	
BH32-E2		1005	'	X	∀	11'	X		_				-	181144	
BH18 -W2		1105	'	X	Execution BHIB	11'	X		<u>. </u>				1	181151	
55P32B		1110	<u> X</u>	王	FR Sil Stackpole BH32		X						<u></u>	\$181169	
SSP18B		1115	X		Soil Stockpile BH18	1	X'	-		-			-	¥ 181177	-
			<u> </u>				_ '								
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Relinquished by: (Sig				te / Ti	ime Received for Laboratory by:	1,		/ Time		arks					_
					Jami Neopbe	5/1/	4/91	1540	-						
(Printed)					(Signature) (Printed) TAMIN BobinS	1 p	M	K.							
					1 HWI M POPINZ	للسلم	<u> </u>	<u> </u>							





July 31, 1995



Mr. Philip Cox Versar, Inc. 7844 Madison Avenue Suite 167 Fair Oaks, CA 95628

RE:

PACE Project Number: 702380

Client Project ID: CROWLEY

,

Dear Mr. Cox:

Enclosed are the results of analyses for samples received on July 24, 1995. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ron Chew

Project Manager

Enclosures



PAGE: 1

Versar, Inc.

7844 Madison Avenue

Suite 167

Fair Oaks, CA 95628

PACE Project Number: 702380 Client Project ID: CROWLEY

Attn: Mr. Philip Cox Phone: (916)863-9342

PACE Sample No: Client Sample ID: 70193891 4

Date Collected:

07/14/95

BH-32-52

Date Received:

07/24/95

Footnotes

Parameters

Results

Units

Analyzed Method

07/24/95

Analyst CAS#

Inorganics

STLC Metals, ICP, STLC Leach.

Date Digested

Metals

Nate Digested

STLC Metals, ICP, STLC Leach.

Lead

23100

ug/L

420

07/28/95 EPA 6010

07/27/95

SMS

7439-92-1

1455 McDowell Blvd. North, Suite D Petaluma, CA 94954 TEL: 707-792-1865 FAX: 707-792-0342



PAGE: 2

PACE Project Number: 702380 Client Project ID: CROWLEY

PACE Sample No: Client ^ le ID:	70193909 BH-32-W2			Date Collect Date Recei		7/14/95 7/24/95			
Parameters		Results	Units	PRL	Analyzed	Method	Ana 1 y	st CAS#	Footnotes
Inorganics STLC Metals, ICP, ST Date Digested	TLC Leach.		••••		07/24/95				
Metals STLC Metals, ICP, S Lead Date Digested	TLC Leach.	17100	ug/L	420	07/28/95 07/27/95	EPA 6010	SMS	7439-92-1	



PAGE: 3

PACE Project Number: 702380 Client Project ID: CROWLEY

PACE Sample No: 70193917				Date Collec		/14/95			
Client Sample ID: BI	H-32-E2			Date Recei	ved: 0/	7/24/95			
Parameters		Results	Units	PRL	Analyzed	Method	Analysi	t CAS#	Footnotes
Inorganics STLC Metals, ICP, STLC Date Digested	Leach.				07/24/95				
Metals STLC Metals, ICP, STLC Lead Date Digested	Leach.	31500	ug/L	420	07/28/95 07/27/95	EPA 6010	SMS	7439-92-1	



PAGE: 4

PACE Project Number: 702380 Client Project ID: CROWLEY

PARAMETER FOOTNOTES

ND Not Detected
NC Not Calculable
PRL PACE Reporting Limit



PAGE: 5

Versar, Inc. 7844 Madison Avenue

Suite 167

Fair Oaks, CA 95628

PACE Project Number: 702380 Client Project ID: CROWLEY

Attn: Mr. Philip Cox Phone: (916)863-9342

QC Batch ID: 5420

Associated PACE Samples:

70193891

QC Batch Method: EPA 3010

70193909

70193917

Date of Batch: 07/27/95

MATRIX SPIKE: 70198742			Spike	Matri) Spike				
Parameter	Units	70192596	Conc.	Resul1		Footnotes		
Lead	ug/L	3030	10000	15700	127	1		
LABORATORY CONTROL SAMPLE &	LCSD: 70198767	70198775 Spike LCS		Spike	LCSD	Spike Dup		
Parameter	Units	-	sult	•	Result	% Rec RPD	Footnotes	
Lead	ug/L	10000 109	500	105	10200	102 3		
Lead	ug/L	10000 109	500	105	10200	102 3		

SAMPLE DUPLICATE: 70198759

Parameter	Units	70192596	Result	RPD	Footnotes
		• • • • • • • • • • • • • • • • • • • •			• • • • • • • • • • • • • • • • • • • •
Lead	ug/L	3030	3700	20	



PAGE: 6

PACE Project Number: 702380 Client Project ID: CROWLEY

QUALITY CONTROL DATA PARAMETER FOOTNOTES

The Quality Control Sample Final Results listed above have been rounded to reflect an appropriate number of significant figures. Consistent with EPA guidelines unrounded concentrations have been used to calculate % Rec and RPD values.

ND Not De

Not Detected

NC

Not Calculable

PRL

PACE Reporting Limit

RPD

Relative Percent Difference

[1] High

High spike recovery may be due to matrix interferences.





702380



CHAIN-OF-CUSTODY RECORD Analytical Request

ENVIRU	INWENTAL ENDONA	HURIES								
Client	Versar				<u>1</u>	Report To:	mil. Cox		Pace Client No.	
Address	5330 PM	misse Drive,	Sente	తాన్ శ్రీ	<u>!</u>	Bill To:	lesar		Pace Project Manager	RMC
		6, CA 956.			<u> 1</u>	P.O. # / Billing Refe	rence		Pace Project No.	7 / .
Phone		2-1612.			<u>!</u>	Project Name / No.	Crowley		*Requested Due Date:	1/31/95
Sampled	By (PRINT):				S PR	ESERVATIVES	ANALYSES REQUEST		7////	
Sampler	Signature	Date Sampled	THE MATCH	, DACE NO	NO. OF CONTAINERS UNPRESERVED H2SO4 H3	HNO3	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		/////	MARKS
NO.		DESCRIPTION	TIME MATRIX	PACE NO.		 		Sample		AKAH
1	BH 32 -	Springling in all its	Mas Solice	193891	(1)		× Propriet	17018	110)	2241
2	BH32 - U	U2		193909		SALES COLORS AS SALES SALES	l x	(7018)	136)	· 人名·哈··································
3	011 3 2 -			193917				(701811	,44)	Parting the state of the state
₹.~	PH 32		多數 生命性	Carrier Age	的機能所變	in the standard in	4岁月春日至	MARINE MARINE PARTY	经验的基础	
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6							· 一、	以 到第一分為海绵的特殊	建筑企业等。	
7				1	!				ANGEN CONTRACTOR	
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	COOLER NOS.	BAILERS	SHIPMEN OUT DATE	T METHOD RETURNED DA	ITEM NUMBER		D BY / AFFILIATION		ED BY / AFFILIATION	DATE TIME
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Additio	nal Comments				rouself?					
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					oragijar i	BALLER BARREL			美国国际	here assets
						*				

PROJECT NO.

2722 - 118

FIELD

SAMPLE NUMBER

附2-52

8H32-BIMZ

BH32-W2

B#32-E2

BH18 -W2

55P32B

SSP18B

SAMPLERS: (Signature)

کتابہ ۱۹۸۸ (م

BTAG

7/4 kg 0925

PROJECT NAME

SOME

TWE

10935

0940

1005

1105

1110

1115

Ron Chew

PARAMETERS

JAIRTEIM

HYGENE SAUPLE

REMARKS

TAT 181110

WE *5

Crowley: Forme Pacific Dry Dock and Regir Kent

Philip M. Gx

Execuption BH32

Excevetion BHIB

Post-It* brand fax transmittal mento 7671 | Fol pages >

Soil Shetzile BH18

867-9942

STATION LOCATION

(4,7)742-0342 Heceived by: (Signatura) Date / Time Halinguished by: (Signature) Received by: (Signature) Date / Time Relinquished by: (Signature, 7 14 61 1340 (Printed) (Printed) (Printed) #rinted Versar Remarks Received for Laboratory by: Date / Time Relinquished by: Deserve (Printed) (Primed)



Telephone (510) 783-6960 Facsimile (510) 783-1512



March 11, 1996

Mr. Philip M. Cox Versar, Inc. 7844 Madison Avenue, Suite 167 Fair Oaks, California 95628

Dear Mr. Cox:

Trace Analysis Laboratory received four water samples on March 1, 1996, for your Project No. 2722-112, Crowley Yard I (our custody log number 6223).

These samples were analyzed for Dissolved Total Petroleum Hydrocarbons as Diesel, Gasoline, Methyl tert-butyl ether, Benzene, Toluene, Ethylbenzene, Xylenes, and Dissolved Lead. Our analytical report and the completed chain of custody form are enclosed for your review.

Trace Analysis Laboratory is certified under the California Environmental Laboratory Accreditation Program. Our certification number is 1199.

If you should have any questions or require additional information, please call me.

Sincerely yours,

Louis W. DuPuis

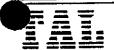
Quality Assurance/Quality Control Manager

Enclosures

Trace Analysis Laboratory, Inc.

3423 Investment Boulevard, #8 • Hayward, California 94545

Telephone (510) 783-6960 Facsimile (510) 783-1512



LOG NUMBER:

6223

DATE SAMPLED: DATE RECEIVED: 02/28/96 03/01/96

DATE EXTRACTED:

03/07/96

DATE ANALYZED: DATE REPORTED:

Sample Type: Water

03/08/96 03/11/96

50

ND

CUSTOMER:

Versar, Inc.

REQUESTER:

Philip M. Cox

PROJECT:

No. 2722-112, Crowley Yard I

		НР	1	НР	2	HP 3			
Method and Constituent:	<u>Units</u>	Concen-		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit		
DHS Method:									
Dissolved Total Petroleum Hydrocarbons as Diesel	ug/1	450	50	2,000	50	ND	50		

50

		Н.	IP 4	Metho	d Blank
Method and Constituent:	<u>Units</u>		Reporting <u>Limit</u>		Reporting <u>Limit</u>
DHS Method:					
Dissolved Total F	Petroleum				

150

OC Summary:

% Recovery: 7.2

Hydrocarbons as Diesel ug/l

% RPD:

Concentrations reported as ND were not detected at or above the reporting limit.

Tace Analysis Laboratory, Inc.

LOG NUMBER: 6223 02/28/96 DATE SAMPLED: DATE RECEIVED: 03/01/96 03/04/96 DATE ANALYZED:

03/11/96 DATE REPORTED: Two

PAGE:

			Sample	Type:	Water		
		н	P 1	Н	P 2	1-	JP 3
Method and Constituent:	<u>Units</u>	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting <u>Limit</u>
DHS Method: Total Petroleum Hydro- carbons as Gasoline	ug/1	ND	50	100	50	ND	50
EPA Method 8020 for:							
Methyl t-Butyl Ether	ug/1	ND	5.0	ND	5.0	ND	5.0
Benzene	ug/l	ND	0.50	ND	0.50	ND	0.50
Toluene	ug/l	ND	0.50	ND	0.50	ND	0.50
Ethylbenzene	ug/l	ND	0.50	ND	0.50	ND	0.50
ylenes	ug/l	ND	1.5	1.8	1.5	ND	1.5
		H	IP 4	Metho	od Blank		
Method and Constituent:	<u>Units</u>	Concen- tration	Reporting <u>Limit</u>	Concen- tration	Reporting <u>Limit</u>		
DHS Method:							
Total Petroleum Hydro- carbons as Gasoline	ug/l	70	50	ND	50		
EPA Method 8020 for:							
Methyl t-Butyl Ether	ug/l	ND	5.0	ND	5.0		
Benzene	ug/l	ND	0.50	ND	0.50		
Toluene	ug/l	ND	0.50	ND	0.50		
Ethylbenzene	ug/l	1.1	0.50	ND	0.50		
Xylenes	ug/1	2.0	1.5	ND	1.5		

QC Summary:

% Recovery: 105 % RPD: 7.4

Concentrations reported as ND were not detected at or above the reporting limit.

Trace Analysis Laboratory, Inc.

LOG NUMBER: 6223
DATE SAMPLED: 02/28/96
DATE RECEIVED: 03/01/96
DATE EXTRACTED: 03/04/96
DATE ANALYZED: 03/07/96
DATE REPORTED: 03/11/96

PAGE:

Three

		<u></u>	Sample				
Method and		Concen-	P 1 Reporting	Concen-	P 2 Reporting	Concen-	P 3 Reporting
<u>Constituent</u> :	<u>Units</u>	<u>tration</u>	<u>Limit</u>	<u>tration</u>	<u>Limit</u>	<u>tration</u>	<u>Limit</u>
EPA Method 239.1:							
Dissolved Lead .	ug/1	ND	100	100	100	ND	100
		Н	IP 4	Metho	d Blank	QC S	ummary
Method and <u>Constituent</u> :	<u>Units</u>	Concen- tration	Reporting <u>Limit</u>	Concen- tration	Reporting <u>Limit</u>	% Recovery	% <u>RPD</u>
EPA Method 239.1:							
issolved Lead	ug/1	ND	100	ND	100	80	0.0

Concentrations reported as ND were not detected at or above the reporting limit.

Louis W. DuPuis

Quality Assurance/Quality Control Manager



6223

CHAIN OF COULODY RECORD

PROJECT NO.	PROJE	CT NAM	1E		***************************************			7	7		PARAMET	ERS		INDUSTRIAL Y HYGIENE SAMPLE
2722-112	وبه ٢	بىلى ك	લા				_/	\& /	\leftarrow	7	/ /	7 7	7 7	
SAMPLERS: (Signature) FIELD	reV			1 (Printed) Fullip M. Gx								//	REMARKS
FIELD SAMPLE NUMBER	DATE	TIME	COMP	GRAB	STATION LOCATION	30	CONTR		8/6					
HPVI I	7/20/j			\bowtie		4	X	X	X	X			Note	: Please satisf
HP2	4	176		×		4	X	X	X	X			filter	TPH-Do Lead Sthrough a Emicron felter.
HP3		1005		n		4	Χ		X_	X			sample	5through a
HP4	4	1730		な		4	Х	Χ	Χ	$ X _{-}$	1		0.45	micron felter.
Relinguished by: (Signature)	onature)		Date	-/ Tim	e Received by: (Signature)	Reli	nquis	hed b	y: <i>(Si</i>	nature)	D	ate / Ti	me Rec	eived by: (Signature)
Ustridamica pro instruction					VIA FEDEX (Printed)	(Prir	nted)						(Pric	nted)
(Printed) Unlip M.	Philip M. Cx Versex				W Fillited)									
Relinquished by: (Signature) Date / Federal Express 3/1/96				11 A	(Signature) イマン(分すり	3/1/9/2 /1/4			16 11.42			-da		
(Printed)					Louis Pulis			····		fed E	>, unto	2,0	est=	1-1, ter glass

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

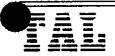
P6=1-1. Ter plastic HNO3, TPH6=2-40W HC white T-1 ref. 20



Trace Analysis Laboratory, Inc.

3423 Investment Boulevard, #8 • Hayward, California 94545

Telephone (510) 783-6960 Facsimile (510) 783-1512



March 11, 1996

Mr. Phil Cox Versar, Inc. 7844 Madison Avenue, Suite 167 Fair Oaks, California 95628

Dear Mr. Cox:

Trace Analysis Laboratory received twenty-two soil samples on February 28, 1996 for your Project No. 2722-112, Crowley Yard I (our custody log number 6215).

Eight of these samples were analyzed for Total Lead. Our analytical report, the completed chain of custody form, and our analytical methodologies are enclosed for your review.

Trace Analysis Laboratory is certified under the California Environmental Laboratory Accreditation Program. Our certification number is 1199.

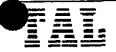
If you should have any questions or require additional information, please call me.

Sincerely yours,

Louis W. DuPuis

Quality Assurance/Quality Control Manager

Enclosures



LOG NUMBER: 6215

DATE SAMPLED:

DATE RECEIVED:

02/28/96 02/28/96

DATE EXTRACTED:

03/0896

DATE ANALYZED:

03/08/96

DATE REPORTED:

03/11/96

CUSTOMER:

Versar, Inc.

REQUESTER:

Phil Cox

PROJECT:

No. 2722-112, Crowley Yard I

		Samp	le Type:	<u>Soil</u>		
Method and Constituent:	<u>Units</u>	HP1-2.0-2.5 Concen- Report tration Limit	ng Concen-	.0-5.5 Reporting Limit	HP1-8 Concen- tration	.0-8.5 Reporting Limit
EPA Method 7420: Lead	ug/kg	5,200 3,600	26,000	3,600	8,800	3,600
Method and Constituent:	<u>Units</u>	HP4-2.0-2.5 Concen- Report tration Limi	ing Concen-	.0-5.5 Reporting Limit	HP4-7 Concen- tration	.0-7.5 Reporting Limit
EPA Method 7420: Lead	ug/kg	1,200,000 3,60	0 1,200,000	3,600	5,400	3,600
Method and Constituent:	<u>Units</u>	SB3-2.0-2.5 Concen- Report tration Limi	ing Concen-	Reporting Limit	Metho Concen- tration	od Blank Reporting Limit
EPA Method 7420: Lead	ug/kg	520,000 3,60	0 35,000	3,600	ND	3,600

QC Summary:

% Recovery: 76

% RPD: 6.3

Concentrations reported as ND were not detected at or above the reporting limit.

Quality Assurance/Quality Control Manager

Versar 6215



Assemble Shipment fashite and vellows Conv to Coordinator Field Files (pink).

CHAIN OF CUSTODY RECORD

ſ	PROJECT NO.	PROJE	CT NAM	E				PARAMETERS									INDUSTRIAL HYGIENE SAMPLE	20	
- [2722-112	Cio	, my Yo	1 <u>5</u>				_/_	& /	- 7	7	$\overline{}$	$\overline{}$			7	ナ		
	SAMPLERS: (Signature					Philip M. Gx	/	SONTAINS SONTAINS) /	/,	/,	/,	/,	/,	//	/	REMARKS	
	FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	30		<u> </u>			<u>/</u>	<u>/</u>	_	<u>_</u>	_			
X	HP3-50-35	2/2/41	831		X	HP3 Suil Boring										Hol	LD		
г	581-25-3,0		1107		X	S81 " "		1			\	\		 		<u> </u>	-		
- 1	581-6.6-6.5		1114		X		1		\rightarrow	•				 			-		
	581-8.0-8.5		1/19		×	V	1		_		 					<u>'</u>	4-		
	HP1-2.0-2.5		1131		X	HP 1 Soil Buring	1	X	_		<u> </u>								
- 1	11-3.5-4.0	-3.5 - 4.0 /134			X	,)								-	Ho	ILD		
ł	HP1-5.0-5.5				X	4	1	X			<u> </u>								
	HPZ- 3.0-3.5		1221		X	HPZ 50,11 Baring								<u> </u>	-	HUL	<u>.p</u>		
Х	HPZ-5-0-55		१रर९		X	4							-		_				
X	584-20-25		1355	1_	X	SB4 So, I Bing	1			ļ						1	2		
人	584-5.0-5.5		1400		X		<u> </u>							-		<u> </u>			
	(84-8.0-85		1403		<u> </u> <u> </u>		1				L	<u></u>	<u></u>	D-1		ima I s	Zecci-	ved by: (Signature)	
	Relinquished by: (Sign		2/		e / Tin	me Received by: (Signature)	Rel	inquish	ned b	y: (Si	gnaturi	9)		Da	ite / Ti	inic 1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	rea ay. j <i>aighalule)</i>	
	Plin M Gy (Printed)		· .	<i>પ્લાં</i> જ્ઞ	1	(Printed)	(Prir	nted)					\dashv			- + 6	(Printed	d)	
	Phi M. Car			Veric	, T.								<u></u>						
	Relinquished by: (Sig			Dat	te / Tin	me Received for Laboratory by: (Signature) FLAV, RWM	2/2	Date /	/ Tin しい	ne 23	Rema	rks	р/и У	-, S -1	1011, re	1-8	77 = 20-	or phi) Gx.	ı
	(Printed)					(Printed)		i			3/	1/96	· ~ · •	5-d •	lo y	747	عر ۲	r th. 1 6 3.	ò
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Versar

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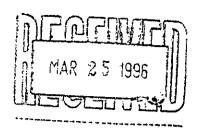
CHAIN OF CUSTODY RECORD

_									7							INDUSTRIAL	Y
I	PROJECT NO.		CT NAM						/ /	•		PAR	AMET	ERS		HYGIENE SAMPLE	<i>مع</i> ذ
	2722-112	(/	مداسم	. Ye	Z.			_/	\$ /-	7	7	/	7 /	77	77		
	SAMPLERS: (Signatur	re) (y				Philip (ex		/	139/		/		/,	//		REMARKS	
	FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	\$	5/2						4			
į	SB3-50-5.2	2/20/26	1427		X	SI (Roving 5B3	(X		_							
λ	SB3-86-85		1484		×	+	t	\times	_ -				-				
4	HP4, 2.5-25	9	1478		X.	Soll Boring 494	1	X	_ -		-	_					
	494-3.5-40	4.7	1505		X	•					-				1404	-D	
•	P4-5055		1516		X		1	X		_	-	-	_				
r	414-7-0-25	1 (1522		X	₩	1	X			\bot						
X	SB2-2.53.		1547		X	S-1 Bm 5B2	<u> </u>			-	-	-	-	-	ltoL	P	
	582-5-0-5.5		1535		X					_	- -			-	1	•	
χ	SB2 8085	V	1600		X	Ь	_[_				_				Ţ	<i>,</i>	
		1		_				<u> </u>	_		_	<u> </u>	-				
			<u> </u>			<i>i.</i> ,	ļ 	-			-			-			
X	HP1-80-85		1156		X	• •	1	X						-1- / Ti	D	aired by (Giranus)	
	Relinquished by: 150	gnature)	2		e / Ti	1 .	Rel	inquis	hed by:	(Signati	ure)		Di	ate / Ti	ine Rec	eived by: (Signature)	
*	(Printed) Ph. ligh M.				10 1. t.,	(Printed)	(Pri	nted)						I	(Prin	ted)	
	Relinquished by: (Si	ignature)		Dat	ie / Ti	Flux Rivern:	2/2	y gi	/ Time	Ren	narks , ç	•					
!	(Printed)				_	(Printed) /2		•	<i>\$</i> . •					_	·.`		
			<u></u>	. (1.7.	-mant l	white and vellows Conv to Coordinator Field	Files (pink).									

Telephone (510) 783-6960 Facsimile (510) 783-1512



March 20, 1996



Mr. Philip M. Cox Versar, Inc. 7844 Madison Avenue, Suite 167 Fair Oaks, California 95628

Dear Mr. Cox:

Trace Analysis Laboratory received twenty-two soil samples on February 28, 1996 for your Project No. 2722-112, Crowley Yard I (our custody log number 6215A).

Two of these samples were analyzed for Total Lead and one was analyzed for WET/Lead. Our analytical report, the completed chain of custody form, and our analytical methodologies are enclosed for your review.

Trace Analysis Laboratory is certified under the California Environmental Laboratory Accreditation Program. Our certification number is 1199.

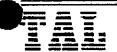
If you should have any questions or require additional information, please call me.

Sincerely yours,

Louis W. DuPuis

Quality Assurance/Quality Control Manager

Enclosures



LOG NUMBER: 6215A
DATE SAMPLED: 02/28/96
DATE RECEIVED: 02/28/96
DATE EXTRACTED: 03/18/96
DATE ANALYZED: 03/19/96
DATE REPORTED: 03/20/96

CUSTOMER:

Versar, Inc.

REQUESTER:

Philip M. Cox

PROJECT:

No. 2722-112, Crowley Yard I

SB2-5.0-5.5 Method Blank SB2-2.5-3.0 Concen-Reporting Concen-Reporting Reporting Method and Limit <u>tration</u> Limit tration Constituent: Units tration

EPA Method 7420:

Lead ug/kg 840,000 3

3,600 4,100,000

Sample Type:

3,600

Soil

8,800

3,600

QC Summary:

% Recovery: 80

% RPD:

0.3

Concentrations reported as ND were not detected at or above the reporting limit.

Trace Analysis Laboratory, Inc.

LOG NUMBER:

DATE SAMPLED: 02/28/96 DATE RECEIVED: 02/28/96

03/15/96 and 03/19/96 DATE EXTRACTED:

6215A

03/20/96 DATE ANALYZED: 03/19/96 DATE REPORTED: PAGE:

Two

Waste Extraction Test

Extract of Water Sample Type:

		SB3-2	.0-2.5	Metho	d Blank	QC_Su	mmary
Method and Constituent:	<u>Units</u>	Concen- tration	Reporting <u>Limit</u>	Concen- tration	Reporting <u>Limit</u>	% Recovery	% RPD
EPA Method 239.1:							
Lead .	ug/1	38,000	. 100	ND	100	80	0.9

Concentrations reported as ND were not detected at or above the reporting limit.

Louis W. DuPuis

Quality Assurance/Quality Control Manager

Versar

6215A

CHAIN OF CUSTODY RECORD

_ ~					CHAIN OF CL	USTU	JY F	ECO	4D							
PROJECT NO. 2722 -112	1	ECT NAM		el I			 -	1	Z	1	P	ARAME	TERS		INDUSTRIAL HYGIENE SAMPLE	Y W
SAMPLERS: ASigner	vel				Printed) Philip Cox		/g						[BEMARKS	
FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	/3		3/5	7	Ι,		//	//			
283-50-5'A	42/4	1427		Х	Sil Paring 3B3	1	X	(X)								
583-80-85		. દુવ્યુપ		X		1	X									
HP4, 2.3 -25	1.	14%		X	Soll Boring HP4	1	X									
1494-3.5.40	્	1505		X		1	<u> </u>							HoL	D	
1P.4-5 p.5.5		1516		X		1	X							·		
114-7-5-25		1522		X	<u> </u>		X						<u> </u>			
SB2-2,5-3.0	_	1511		X	S-1 Bm 5B2	1	K			_	_		_]	(tol)	>	
582-5-6-5.5		1555		X			\triangle] 					
182 80-85	4	iboo		X.	\	1.				1				P		
· · · · · · · · · · · · · · · · · · ·												<u> </u>	┦—			
4. 4.							ļ			_	-					
HP1-80-85		1156		X			X		<u>. </u> .	<u>. l.</u>			<u> </u>	<u> </u>		
Helinquished by: 15ign	ature l			/ Tim		Reli	ajups	ked by:	: ISigna	RU(#)		Di	ate / Ti	ime Recei	red by: (Signature)	
Printed M. G	K	- .	100		[Printect#	{Prin	modi							Prime	d)	
Refinquished by: (Sign.	ezure)		Date	/ Tim	Aw Rivera:	t 4		/ Time	1	anark	5	5	day	TAT	8 PM. GK	8
(Pecited)	-			-	(Printed)	-,	[•	,		,		(X) J.M.Gr	

((2)

ACE ANALYSTS

710100/4107

1996 09:36

03-12-1996

APPENDIX B DRILLING LOGS

ſ													·_ V ¹ _	$\overline{}$
					Ver.	sar I	nc.			DRILLI	NG LOG	PROJECT NO. <u>2722-1</u>	12	
	Su	perv	/isi	ng	Geol	ogist:	Pa	aul	Graff		Site Name: Former	Pacific Dry Dock & Repa	air Ya	rd I
	Lo	g B	у:_	P	<u>hilip</u>	Cox	<u> </u>				Boring No: HP1			
	Da	e:	_2	2/2	8/96				<u> </u>		Boring Diameter: 8			
ı									azmat		Boring Depth: 9.5			
	Ço	ntra	icto	or L	.ic. N	o. <u>C</u>	<u>57</u> .	- <u>55</u> 4	1979		Boring Location: F	ive feet west of BH 18 Ex	cavat	ion
ı	Ris	ζŢ	yDε	: (CMI	<u>: 75</u>				****				
1	Dri	ller	<u>:</u>	Jei	ff			T	I					
				ľ	$\nabla \mathbf{V}$	ion					JSCS SOIL DESCRIP ION AND GEOLOGIC			ਰ
			1] - -	mc	USCS Group	}		5015 0011511			···	Headspace (ppm)
	Œ	Advanced/	덡	ļ	First Water/ Water Table	`ons	5 G	<u>8</u>				GRAVEL, SANDS, FINES		yace
1	Depth (ft)	ivan	힔		rst V	ell (SCS	Lithology		t, MOISTURE, DEN IGY: FILL, ALLUVI		POROSITY, ODORS, STAIN	ING	spe
	Ď	Ā	×		Ή×	M	D	12	02020					He
l									0 01 2 01	A anhalt (2 lavers) with gravel base.			
	٦									- '	•	nd fine grained, water at		
	-4-			16			SP	0.0	2.0 -5.5	approximately 3		<u> </u>		
				18				0.0			,		3.0	20
	4			7	∇			0:0						
			٩	5 6	_		sc	22	3 51-0 51	Clavey sand: or	ov 5-10% shells pre	esent, sand moderately to		
	,			5					3.5 7.5			ned, clay approximately		
	6			2 2			-	缪		10-30%. Very lo	ose at 6.5-8.0' bgs.	Traces of gravel at	5.0	0
				2		Ì				-	ydrocarbon odor.	•		
	8			$\begin{bmatrix} 1 \\ 1 \end{bmatrix}$									7.0	0
				3										
				3 8									9.0	0
	10	\sqcap	Н				╁	-						
									Note	: Borehole backfi	lled with grout fron	n bottom of borehole to ev	en	
									with	grade				
							T							
		\square	L	-	<u> </u>	 -	╀							
	┢┈	Н					十		1					
			L	_	<u> </u>	<u> </u>	1	4						
						1								
	-	+	\vdash	\vdash	\vdash	 -	+	+	-					+
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L					Vers	sar I	nc.				DRIL	LIŅG	LOG	PROJECT NO.	<u> 2722-112</u>	
	Suj	erv	isir	ıg (Geolo	gist:	Pa	ul C	iraff	···.		s	ite Name: Forn	ner Pacific Dry Dock	& Repair Y	ard I
	Lo	g By	/ :	Pl	<u>hilip</u>	Cox						В	oring No: HP2) 		
	Da	e:	2	/28	3/96							B	oring Diameter:	8 inches		
L	Dr	lling	g C	ont	racto	r: W	/es	t Ha	zmat			В	oring Depth: 9	.5 feet		<u></u>
ŀ							<u>57</u> .	·554	979			B	oring Location:	Approximately 40	feet south o	f
ŀ					CME	75								BH 18 Excavation		
ŀ	Dr	ller.	J	ef	f T		_					Y ICC	SCOU DECO	PATION	····	
ł				Ž	ZY	tíon				so	IL COND		CS SOIL DESCR I AND GEOLOG	GFTION SIC INTERPRETATION	1	(ii
	COLOR, MOISTUR GEOLOGY: FILL, A											ENSIT	Y, SECONDAR	NT: GRAVEL, SANDS Y POROSITY, ODORS		Headspace (ppm)
	0.0'-2.5' Asphalt wi 2.5'-9.5' Clayey san										_			derate hydrocarbon o	odor.	
İ	4		4	1			SC	2.2	2.0 3.0					%. Oily product on c		
ı			4		Δ					when	removed	to sa	ample at 5'.	-	3.5	1,812
ŀ	4	\Box	+	+	三		ļ						<u></u>			
ļ					ļ											
	6			4												
				5											6.5	- 1,400
	8		- 1	1 3 8												
	10									Borel	hole back	cfilled	l with grout fr	om bottom of boreho	le to even	-
										· · · · · · · · · · · · · · · · · · ·						
				 												_
											<u> </u>					
			+	1							<u> </u>					

ſ				Ver	sar l	Inc.			DRILLIN	NG LOG	PROJECT NO. <u>2722-112</u>	
	Su	perv	isin	g Geol	ogist:	Pa	ul (Graff		Site Name: Former	Pacific Dry Dock & Repair Y	ard I
N	Lo	g By	<u>/; </u>	Philir	Cox	<u>. </u>				Boring No: HP3		
1	Da	te:	2/:	28/96						Boring Diameter: 8	inches	
L	Dr	llin	g Co	ntract	or: V	Ves	t Ha	az <u>mat</u>		Boring Depth: 9.5	feet	
ļ	Co	ntra	ctor	Lic. N	lo. C	57	<u>-554</u>	1979			I feet north of the former UST	
ŀ	Ri	₂.Тұ	pe:	CM	E 75					<u> </u>	Excavation	
ŀ	Dri	ller:	Je	ff						GGG GGH, DEGGDYD	mio.	
				ŽΨ	tion					ISCS SOIL DESCRIP ON AND GEOLOGIC	TION SINTERPRETATION	E
	Depth (ft)	Advanced/	Recovered	First Water/ Water Table	Well Construction	USCS Group	Lithology	COLOR	-	SITY, SECONDARY	: GRAVEL, SANDS, FINES POROSITY, ODORS, STAINING	Headspace (ppm)
ľ		П	T			sw	0:0		Asphalt with grav			
l	_		1	ł			000	0.5'-4.0'	•	, ,	r or staining, gravels from 15	1 1
ł	2	<u> </u>	8	 	 	╫┈	00			· · · · · · · · · · · · · · · · · · ·	1.0" in diameter, subrounded, ned with <10% fines, fill.	1
l	4		7 15				0 0 0 0		sand wen graded	inc to coarse grain	2.0	0
Ī		T		∇		SC		4.0'-7.0'	Clayey sand: clay	approximately 10	-15%, tan sand, moderately	
			4	Δ					-	_	rated, shells up to 40%, no	
N	6		.5 4	ļ	ļ	├-			petroleum odor o	r staining.	5.5	+-0-
			֓֟֟֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓			CI						
	8			ļ		L		7.0'-9.5'			nately 10-15%, high	
ı			1						plasticity clay, s	aturated, dark gray	, no petroleum odor or stainin	g
	10		1								9.5	- 0
								Note: with		led with grout from	bottom of borehole to even	
						 						
			_	ļ		_						
		\prod	1			T						
			_			_						
		Ш						<u>L</u> .				

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L	_				Ver.	sar Ì	Inc.			<u> </u>	DRILL	IŅ	GLOG		PROJECT 1	NO. <u>272</u>	2-112	
3	su.	erv	isi	ng	Geol	ogist:	Pa	ul C	Graff				Site Name: Forme	er Pa	cific Dry Do	ock & Re	epair Ya	ard I
	-01	<u> By</u>	/;	P	hilip	Cor	ζ						Boring No: HP4					
Ĺ	<u>Dat</u>	e:	_2	/2	8/96								Boring Diameter: 8	3 inc	hes			
L	<u>Dri</u>	lling	χ C	on	tracto	or: V	Ves	t H	azmat				Boring Depth: 9.5	fee	t			
L	Coi	ntra	cto	r I	ic. N	o. C	<u>57</u> .	<u>-554</u>	1979			4	Boring Location:	5 fe	et west of B	H32 exc	<u>avation</u>	
L	Rie	Ту	pe	: (CME	75						_						
L	Dri	ller:	_	Jei	ff		 	,		····								
				ľ	$\nabla \mathbf{Y}$	<u>.</u>				SO	II. CONDIT		SCS SOIL DESCRI N AND GEOLOGI			ION		<u> </u>
			1		اہ تے اب ت	Well Construction	d D	ł										Headspace (ppm)
	Œ	ed/	쥝		/ate Tabi	Suo.	38	283					RADING, PERCEN					ace
1	Depth (ft)	Advanced/			First Water/ Water Table) He	USCS Group	Lithology					TY, SECONDARY M, BEDROCK	PO!	ROSITY, ODG	ORS, STA	INING	adsp
	മ്	Ϋ́	킥		Ē.≱	ß	Ď	יבֿי.					· · · · · · · · · · · · · · · · · · ·					H
							CL	0.0			lt with gra					1007		
			۱					0.0	0.5'-4.0'				k brown, gravels		-	10%, up		
\vdash	2			4	,		┢	0.0		<u> </u>	in diame	etei	r, low plasticity c	nay,	. 1111.		·····	
1				7	Δ̈́			<u> </u>										1 1
L	4	ı		25 50	/8"			0.0									4.0	827
			٦				SW	倊	4.0'-8.0'	Grave	lly sand: ¿	gray	y, sand well grad	led,	gravel up to	1/4",		
				3					3	subar	ıgular, slig	ght	hydrocarbon odo	or, w	oody materi	ial in cut	tings.	
外	6_		Ⅎ	$\frac{2}{1}$			╁	83							<u>, , , , , , , , , , , , , , , , , , , </u>		6.0	91
				1													0.0	7 21
	8			1					8.0'-9.5	' Clay:	brown, t	rac	e shells, moderat	te pl	lasticity, pro	bable ba	y muds	
ſ			Ĭ	1			CF	1	r r	satu	rated.							
	_			2				1	d d								9.5	0
-	0	H	+			 	╁╌		1									+
1			1						1		hole backi	fille	ed with grout from	m be	ottom of bor	ehole to	even	
١									with	grade								
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			I															
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				Ver	rsar	Inc			DRILLIN	NG LOG	PROJECT NO. <u>2722-11</u>	12	
Su	pe	ervis	sing	Geol	logis	t: P	aul (Graff		Site Name: Former	Pacific Dry Dock & Repa	ir Ya	rd I
Lo	g	By:	I	hilir	<u>Co</u>	X				Boring No: MW6			
Da	ile.	i	2/2	8/96	<u>: </u>					Boring Diameter: 8	inches		
								azmat		Boring Depth: 13.5			
C	<u>) [] (</u>	tract	tor	<u>Lic. N</u>	lo. (C57	-554	1979		,	ight feet south of former L	JST	
	_			CM)	E 75	<u> </u>				e:	xcavation.	···	
Dı	rill T	ler:	<u>Je</u>	ff_		_	Τ	1	71	I ISCS SOIL DESCRIP	TION		<u> </u>
	l			ŽĀ		<u> </u>				ON AND GEOLOGIC			(ii
Depth (ft)	A demond	Advanced/ Recovered		First Water/ Water Table		Well Construction	Lithology	COLOR		SITY, SECONDARY	: GRAVEL, SANDS, FINES POROSITY, ODORS, STAINI	NG	Headspace (ppm)
,					XX	Sv	0.0.0.0	3	Asphalt with grav		up to 1.5" in diameter,		
	ĺ		6	<u> </u>			0.0	0.3 3.0			30% decreasing with dept	h,	
	ł		8 9			S	- 122		sand fine grained	i, clay present at ap	proximately 10%,	3.0	0
4	ļ	1		$\overline{\Delta}$						oximately 4.0' bgs,		5.0] "
	L			•				3.0'-6.0'			odor or staining, shells,		
6			1 2						•	ed fine to medium-	to 40%, saturated, sand	5.5 -	0
8			1			C		6.0'-14.	5' Bay muds: clay	_	ate plasticity, no		
.10)		2 8 4									9.0	0
12	2											·-	
14			1 2										
16			3									14.5	0
	,							Well	11' 8		h slotted screen, 3' blank, ite chips, and cement grou	t	

,														1_01	· <u> </u>
					Ver.	sar I	'nc.			D	RILLIN	G LOG	PROJECT NO. <u>2722-1</u>	12	
	Suj	oer	vis	ing	Geol	ogist:	Pa	ul C	raff			Site Name: Forme	r Pacific Dry Dock & Repa	<u>air Yaı</u>	d I
	Lo	g B	3y:	F	hilip	Cox				····		Boring No: SB1		_	
1	Da	te:		2/2	8/96				<u> </u>			Boring Diameter: 8	inches		
ļ	Dr	illir	ng	Coı	ntracto	or: W	/es	t Ha	zmat			Boring Depth: 9.5	feet		
ŀ	Co	ntr	act	ог	Lic. N	o. C	<u>57</u> .	<u>-554</u>	979			Boring Location:	Ten feet west of BH 18 Ex	<u>cavati</u>	on
ļ	Ri	z T	'nρ	e:	CME	75					· ·				
ļ	Dr	ille	r:	Jе	ff			, , ,							
					$\nabla \mathbf{V}$	ion				SOIL C		SCS SOIL DESCRIE ON AND GEOLOGIC	PTION CINTERPRETATION	,	ਰ
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	•						sw	00	I .	Asphalt w	_		up to 1.5", subangular to ar	ogular.	
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	6			2 2			sc		4.5'-9.5				on odor, sand moderately y approximatley 20%. Sma	all	
	8			2						_	• -	raded gravel lens a nately 1/4" in diam	at approximately 8.5 feet. neter.	6.0 -	0
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J								ul C	raff			Pacific Dry Dock & Repair Ya	ard I
7					hilip 8/96	COX					Boring No: SB2 Boring Diameter: 8	inches	
ŀ	Da Dr					V	Ves	rt Hø	azmat		Boring Depth: 9.5		
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	Depth (ft)	Advanced/	Recovered		First Water/ Water Table	Well Constru	USCS Group	Lithology	COLOR		SITY, SECONDARY	C: GRAVEL, SANDS, FINES POROSITY, ODORS, STAINING	Headspace (ppm)
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1	Da		_		8/96							Boring Diameter: 8	inches	
	Dri	llir	ng !	Cor	ntracto	or: V	Ves	t Ha	azmat			Boring Depth: 9.5	feet	
ļ	Co	ntra	act	or I	_ic. N	o. C	<u>57</u> .	<u>-554</u>	979			Boring Location: F	ive feet west of BH 32 Excav	ation
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ŀ	Dr	lle	r:	Je	ff						7.	ACC COLL PERCENT	TION	
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	Depth (ft)	Advanced/	Recovered		First Water/ Water Table	Well Construction	USCS Group	Lithology	COLOR	R, MOISTURE,	DENS		: GRAVEL, SANDS, FINES POROSITY, ODORS, STAINING	Headspace (ppm)
							Cī	7.7	1	-	_		o to 1/2" 10-15% in content	
١	2 0.0'-1.5' Asphalt with class 0.0'-1.5' Asphalt with clas												at approximately 3.5', trace	
				14 24	∇			4		shells, fill.			3.0	- 52
	4_		_	 	<u>₹</u>	<u> </u>	SW	12.2					***************************************	
	6			9					4.0'-9.5'	Sand: shells or staining.	prese	ent up to 25%, well	l graded, very loose, no odor	
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N					hilip				-1.64.L			Boring No: SB		
7					8/96		·	*****				Boring Diameter		
						r: V	/es	t Ha	zmat			Boring Depth:	9.5 feet	
	Co	ntra	acte	or I	.ic. N	o. C	<u>57-</u>	- <u>554</u>	979			Boring Location	: Ten feet west of BH 32 Excava	tion
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	Depth (ft)	Advanced/	Recovered		First Water/ Water Table	Well Constr	USCS Group	Lithology	COLOR	, MÓIS	TURE, DEN		ENT: GRAVEL, SANDS, FINES RY POROSITY, ODORS, STAINING	Headspace (ppm)
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ı	2			I 11			CL		2.0'-4.5'				el up to 1/4", subrounded, clay	
1.24										iow p	iasticity, **	ator at approxim	3.0	- 0
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APPENDIX C WASTE DISPOSAL DOCUMENTATION



Laidlaw Environmental Services (Lokern). Inc. 2500 West Lokern Road • Buttonwillow, CA 93206 • (805) 762-737 £USTOMER COPY

WEIGHMASTER CERTIFICATE

The TOGERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Work Order #: 9601551 WMU #: STU

Grid/Bay: BAY-1

Weighed at 2500 W. Lokern Rd., Buttonwillow, CA.

Scale

Gross by: MERCED MORENO Tare by: / MERCED MORENO : deputy 01/19/96

16:04

Gross Weight Tare Weight

lbs A 31,940 lbs B

: deputy

01/19/96 18:37

Net Weight

28,260 lbs 3,680

Net Weight

tons 1.84

GENERATOR INFORMATION

Generator: Approval #:

CROWLEY MARINE SERVICES

Location:

SEATTLE

SOIL W/LEAD/DIESEL

Manifest #: 95720629

Waste Name: 15144-BTR-0196 Hazardous Class:

CA HAZ Physical State:

SOLID

Station #:

State Waste Code(s): 611

EPA Waste Code(s):

TRANSPORTER INFORMATION

Transporter: CABALLERO Truck #: c-88

Truck Type:

END DUMP # of Bins: 1

Truck License #:

SP2960T

Trailer License #: GT10027 Trailer License #:

Washout (hrs):

WASTE VERIFICATION ANALYSIS

Method: Sampler: SCOOP Analyst: DANIEL LADEIRA DANIEL LADEIRA

Container		Container	Container	Container	Container	
Test	ID# 9601551-1 Result <u>OK?</u>	ID# Result OK?	ID# Result OK?	ID# Result OK?	Number Size	
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S Manager 12	Property of the second of the second	A Company of the Company of the State of the		1 HP		

COMMENTS:

RTIFY THAT THE HAULER ABOVE DELIVERED THE DESCRIBED WASTE TO THIS DISPOSAL FACILITY AND IT WAS ACCEPTABLE MATERIAL UNDER THE TERMS OF APPLICABLE PERMITS.

TSDF Signature:.

Driver Signature:

I CERTIFY THAT THE DESCRIBED WASTE WAS HAULED BY ME TO THE WASTE MANAGEMENT FACILITY NAMED ABOVE.

Marine Les Cillis	Juliste Man for Cms	CI 1 419 916
17. Transporter 1 Acknowledgement of Receipt of Materials	<u> </u>	Month Day Year
Printed/Typed Name	Signature	Month Day Year
FC CAMPICE	TR GALLOW	
18. Transporter 2 Acknowledgement of Receipt of Materials	La.	Month Day Year
Printed/Typed Name	Signature	Moran Suy 1601
1	ļ	! 1 1

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazordous materials covered by this manifest except a noted in Item 19.	

Printed/Typed Name

DO NOT WRITE BELOW THIS LINE

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Laidlaw Environmental Services (Lokern), Inc.

2500 West Lokern Road • Buttonwillow, CA 93206 • (805) 762-7372

CUSTOMER COPY

WEIGHMASTER CERTIFICATE

TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

: deputy

: deputy

Weighed at 2500 W. Lokern Rd., Buttonwillow, CA.

16:17

18:41

Work Order #: 9601549

WMU #: STU

Grid/Bay: BAY-1

Scale **Gross Weight**

lbs A 71,240 Tare Weight lbs B 29,520

Net Weight lbs 41,720 Net Weight tons 20.86

GENERATOR INFORMATION

01/19/96

01/19/96

Generator:

Approval #:

Gross by:

Tare by:

CROWLEY MARINE SERVICES

Waste Name:

Location: SEATTLE

SOIL W/LEAD/DIESEL

SOLID

Station #:

Manifest #: 95720643 State Waste Code(s): 611 Hazardous Class:

CA HAZ Physical State:

EPA Waste Code(s):

TRANSPORTER INFORMATION

Transporter: Truck License #:

CABALLERO 9A24171

15144-BTR-0196

MERCED MORENO

MERCED MORENO

Truck #: 70

Truck Type: FIND DUMP

of Bins: 1

Washout (hrs):

300

Trailer License #: Trailer License #: FT53601

WASTE VERIFICATION ANALYSIS

Method: Analyst: Sampler: SCOOP DANIEL LADEIRA DANIEL LADEIRA

<u></u>	Container	Container	Container	Container	Container Information		
Test	ID# 9601549-1	ID# Result OK?	ID# Result OK?	ID# Result OK?	1		
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COMMENTS:

TIFY THAT THE HAULER ABOVE DELIVERED THE DESCRIBED WASTE THIS DISPOSAL FACILITY AND IT WAS ACCEPTABLE MATERIAL UNDER THE TERMS OF APPLICABLE PERMITS.

TSDF Signature:

Driver Signature:

I CERTIFY THAT THE DESCRIBED WASTE WAS HAULED BY ME TO THE WASTE MANAGEMENT FACILITY NAMED ABOVE.

See Instructions on back of page 6. State of Californio—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-96)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-75

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPO

Department of Toxic Substances C Sacramento, California

LINESONA LIA TARROLIS	1. Generator's US EPA ID No.	Manif	est Documen	t No.	2. Page 1		in the shaded areas		
UNIFORM HAZARDOUS WASTE MANIFEST	CIAID 1019 11410	18/6/4/01	0101	011	į of /	is not requi	ired by Federal law.		
3. Generator's Name and Mailing Address CRUWLEY MARINE	SERVICE		;	A. State	Manifest Document	Number 9	572064		
P.O.BÜX 2287 SEATTLE, WA 98111-2287 4. Generator's Phone (206, 443-8042					Generator's ID	- In 100	BiJO: /		
4. Generator's Phone (201, 443-6047) 5. Transporter 1 Company Name 6. US EPA ID Number					C. State Transporter's 1D				
	n.An.an	812141112	400	D. Tronsp	orter's Phone H	08) 72	29-0196		
7. Transporter 2 Company Name	CABAILERO CAOGEZIA 7. Transporter 2 Company Name 8. US EPA ID Number					602	354		
F. Transporter's Phone 10 US FPA ID Number G. State Facility's ID							× * * * * * * * * * * * * * * * * * * *		
9. Designated Facility Name and Site Address LAIDLAW ENVIRON	nental ockvic	Number		7 A	10191861	a 75	2761		
2500 LOKERN RI BUTTANIUILLOW,	\ A_{\}		ファイ.	H. Facility	Phone 800-8	2 6 18 9 1			
11. US DOT Description (including Proper Ship			12. Con	tainers Type	13. Total Quantity	14. Unit Wt/Vol	1. Waste Number		
· RCRA bulk s			170,	. 7 pra			State (0/)		
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с.							State		
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J. Additional Descriptions for Materials Used	Above	D-not		K. Handli	ing Codes for Was	b. S	oove .		
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WORK DRUER #	9601544)		K-188					
15. Special Handling Instructions and Addition	al Information								
EMERGENCY	CONTACT (SOC	1)989-2	1470						
CONTRACTOR CONTRACTOR III	dealers the content of this con	signment are fully o	and accurate	y described	dove by proper	shippina na	me and are classified,		
packed, marked, and labeled, and are in	all respects in proper condition for he	ansport by highway	according to	о аррисари	s international and	national go	remmem regularions.		
If I am a large quantity generator, I cer economically practicable and that I have	calculated the acceptachia method of the	realment Storage. (or disposal c	urrenny av	dilable to me which	111111111111111111111111111111111111111	ma breastu otra rolere		
threat to human health and the environm waste management method that is available	ent; OR, if I am a small quantity ge tile to me and that I can afford.	Kerator, I have ma	de a good f	aith effort	to minimize my wo	isie genorui	ion diag select into post		
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18. Transporter 2 Acknowledgement of Receip Printed/Typed Name	t of Materials Signature					Mo	nth Day Yes		
19. Discrepancy Indication Space	<u> </u>		-						
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20. Facility Owner or Operator Certification of Printed/Typed Name	Signature		19			Ma	nth Day Ye		
LAFRIED A	(BREIN)	- 1/11		- //		-10	11199		



Gross by:

Tare by:

Laidlaw Environmental Services (Lokern), Inc. 2500 West Lokern Road • Buttonwillow, CA 93206 • (805) 762-7372

CUSTOMER COPY

WEIGHMASTER CERTIFICATE

THIS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

: deputy

Hazardous Class:

Weighed at 2500 W. Lokern Rd., Buttonwillow, CA.

18:23

Work Order #: 9601550

WMU #: STU

Grid/Bay: BAY-3

> Scale ibs A

Gross Weight : deputy 01/19/96 16:08 MERCED MORENO

01/19/96

Tare Weight lbs R 31,820 **Net Weight** lbs 35,000 Net Weight tons

17.50

66,820

GENERATOR INFORMATION Constitution

Generator: CROWLEY MARINE SERVICES

MERCED MORENO

Location: SEATTLE

Approval #: 15144~BTR-0196 Waste Name: SOIL W/LEAD/DIESEL

SOLID

Station #:

Manifest #: 95720638 State Waste Code(s): 611 CA HAZ Physical State: EPA Waste Code(s):

TRANSPORTER INFORMATION .

Transporter: CABALLERO

Truck Type: FND DUMP # of Bins: 1

Truck License #: 4T40637

Trailer License #: FT81953 Trailer License #:

Washout (hrs):

WASTE VERIFICATION ANALYSIS

Method: Analyst: Sampler: DANTEL LADETRA SCOOP DANIEL LADEIRA

	Container	Container	Container	Container	Container	
Test ID# 9601550-1		ID#	ID#	ID#	Information	
	Result OK?	Result OK?	Result OK?	Result OK?	Number Size	
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COMMENTS:

TIFY THAT THE HAULER ABOVE DELIVERED THE DESCRIBED WASTE TO THIS DISPOSAL FACILITY AND IT WAS ACCEPTABLE MATERIAL UNDER THE TERMS OF APPLICABLE PERMITS.

TSDF Signature:

Driver Signature:

I CERTIFY THAT THE DESCRIBED WASTE WAS HAULED BY ME TO THE WASTE MANAGEMENT FACILITY NAMED ABOVE.

See Instructions on back of page 6.

Department of Toxic Substances C Socramento, California

Pre	or type. Form designed for the on ellie (12 pile	1. Generator's US EPA ID	No	Manifest Document	No.	2. Page 1	Information	in the shaded areas		
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	WASTE MANIFEST				02	. / of /				
					A. State					
1	3. Generator's Name and Mailing Address					A. State Manifest Document Number 9572063				
lŀ	CROINLEY MARINE SERVICE					**************************************				
	D. D. BOX 2287 SEATTLE, WA 98111-2287 4. Generator's Phone (206, 443-8042.					B. State Generator's ID				
ļ	4. Generator's Phone (27)/ WLZ-STILL					441/44/316	002	72/		
lŀ	5. Transporter 1 Company Name 6. US EPA ID Number					C. State Transporter's ID				
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╽┟	7. Transporter 2 Company Name	8. US E	0 9 8 2 9 / PA ID Number	1	E. State Transporter's ID 602355					
il	7. Itansponer 2 Company Isome				F. Transporter's Phone G. State Focility's ID					
Ш				1 1 1 1						
lł	9. Designated Facility Name and Site Address	10. US E	PA ID Number	-						
	4. Designated Facility Name and Site Address LHIOLAW ENVIRU	KMENTAL	SERVICE	S	CHO 9804752061					
	ニムーロル・ハンソニカロ クル	'i 141			H. Facility's Phone: 17 2005					
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H	11. US DOT Description (including Proper Ship	ping Name, Hazard Class, ar	nd ID Number)	No.	Type	Quantity	Wt/Vol	1. Waste Number		
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ı	16. GENERATOR'S CERTIFICATION: I hereb packed, marked, and labeled, and are in	y declare that the contents of	this consignment are to be for transport by him	tutty and accurates hway accordina to	y aescribed Lapplicable	e international and	national go	vernment regulations.		
l	•									
١	if I am a large quantity generator, I cert	hify that I have a program in	place to reduce the	volume and toxic	ity of was	te generated to the	degree I	have determined to be		
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l	threat to human health and the environm waste management method that is availab	ent; OR, it I am a small qua	nmy geoerator, i nav	e unage a good n	alli suon	to manatize my we	ara gonora.			
l	Printed/Typed Name	A Si	chature // a	4 4 4	<u> </u>		Mo	nth Day Yec		
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IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPO