

REPORT
ENVIRONMENTAL SITE INVESTIGATION
AND
SOIL REMEDIATION
JET PROPULSION LABORATORY
PASADENA, CALIFORNIA
Project 805-1H/1101-1H



Prepared for:
Jet Propulsion Laboratory
California Institute of Technology
4800 Oak Grove Drive
Pasadena, California 91109-8099

Prepared by:
Maness Environmental Services, Inc.
1101 East Spring Street
Long Beach, California 90807

October 29, 1992

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REPORT
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PASADENA, CALIFORNIA
PROJECT 805-1H/1101-1H

1.0 EXECUTIVE SUMMARY

In August of 1991, Maness Environmental Services, Inc. (MES), was contacted by Kitchell Contractors, Inc., regarding contaminated soil they had encountered at one of their construction sites. The contaminated soil was discovered during their construction of the new Observational Instruments Laboratory (OIL) Building No. 306, on the campus of the Jet Propulsion Laboratory/Cal-Tech (JPL) facility in Pasadena, California. The contaminated soil was encountered during the sub-excavation for the building foundations.

MES was retained by JPL to excavate and properly dispose of the oily contaminated soil which was estimated to be between 50 to 100 cubic yards. Once MES arrived on-site and began excavation in the impacted area, it immediately became obvious that there was significantly more contaminated soil than what was originally estimated. After meeting with JPL and Kitchell personnel, a thorough site investigation was proposed to determine the lateral and vertical extent of the contamination throughout the OIL building construction area. The site investigation showed that there was an average of four to six feet of oily contaminated soil throughout the proposed building area.

The actual source of the contamination is unknown, however, based on historical information, visual observations and conversations with JPL personnel, the site apparently was part of a gorge or gully system in the area. It was evident the site had been used as a borrow pit for discarding various rubble and debris. During the investigation we uncovered a significant amount of railroad ties, shrubs, trees and tree stumps, concrete, piping, etc. As a borrow pit, it is possible that over the years oily contaminated soil may have been discarded in the site area. Since the actual source of contamination was unknown, several samples were collected and submitted for a wide range of analytical testing. The samples were analyzed for diesel, gasoline, EPA priority pollutants (volatile and semi-volatile compounds, chlorinated hydrocarbons and polynuclear aromatics), metals and for hazardous categorization in accordance with Title 22 "Hazardous Waste Determination", California Code of Regulations.

The analytical testing showed that the contamination was made up of primarily heavier end petroleum hydrocarbons and was determined to be non-hazardous in accordance with Title 22 criteria. However, the concentrations of petroleum hydrocarbon contamination detected on-site fell under the category of California Regulated Waste and required proper handling and disposal. The contaminated soil at the site was categorized into two kinds of waste. That which required disposal at a Class II Landfill or equivalent, and that which could be disposed of at a Class III Landfill. In order to dispose of Class III material, a request for discharge of non hazardous contaminated soil was submitted to the Los Angeles Regional Water Quality Control Board (RWQCB) for approval. Over the course of the project, the RWQCB authorized the discharge of 10,500 cubic yards of oily contaminated soil to a Class III facility.

From November 5, 1991, through January 15, 1992, MES excavated and disposed of approximately 19,000 tons of non-hazardous contaminated soil. One (1) cubic yard equals approximately 1.6 tons. Approximately 2,870 tons were transported and disposed as Class II material to Laidlaw's Lokern facility in Buttonwillow, California, and approximately 16,130 tons were transported and disposed as Class III material to Laidlaw's Waste Systems, Chiquita Canyon facility in Valencia, California.

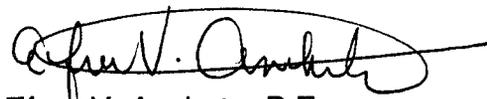
On January 16, 1992, confirmation samples were collected to determine if the contamination had been removed from the construction area. The analytical results showed that the contamination in the OIL building area had been removed to appropriate levels.

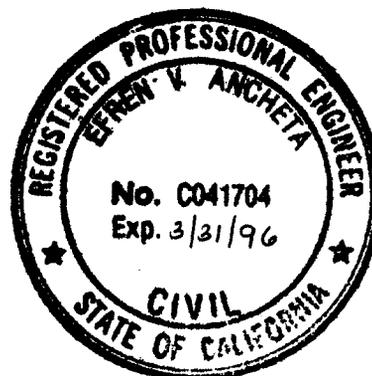
Yours Truly

Maness Environmental Services, Inc.


Gabriele Baader
Project Geologist


Paul David Herrera
Project Director


Efrén V. Ancheta, P.E.
Project Technical Advisor



1.1 BACKGROUND INFORMATION

Kitchell Contractors, Inc., was retained by NASA's Jet Propulsion Laboratory/Cal Tech (JPL) to construct their new Observational Instruments Laboratory (OIL) Building No. 306. Figure 1.0 shows the JPL/Cal-Tech OIL project vicinity site map. In August 1991, during the sub-excavation for the building foundations, Kitchell's excavation subcontractor encountered a layer of visually contaminated soil. The site excavation work was immediately stopped and JPL environmental affairs personnel contacted. The contaminated soil was detected between soldier pile #13 and #17 along the west soldier pile wall. See Figure 1.1 which shows the initial excavation area.

1.2 PURPOSE AND SCOPE OF WORK

As a result of the contaminated soil detected at the site, JPL and subsequently Kitchell Contractors, retained Maness Environmental Services, Inc. (MES), in August 1991, to evaluate the extent of the contaminated soil and determine the most cost effective and time efficient method for remediating the site. Based on the analytical data and evaluation of the critical time table regarding the construction of the OIL building No. 306, the only remediation alternative to meet the time restraints was to excavate and properly dispose of the contaminated soil.

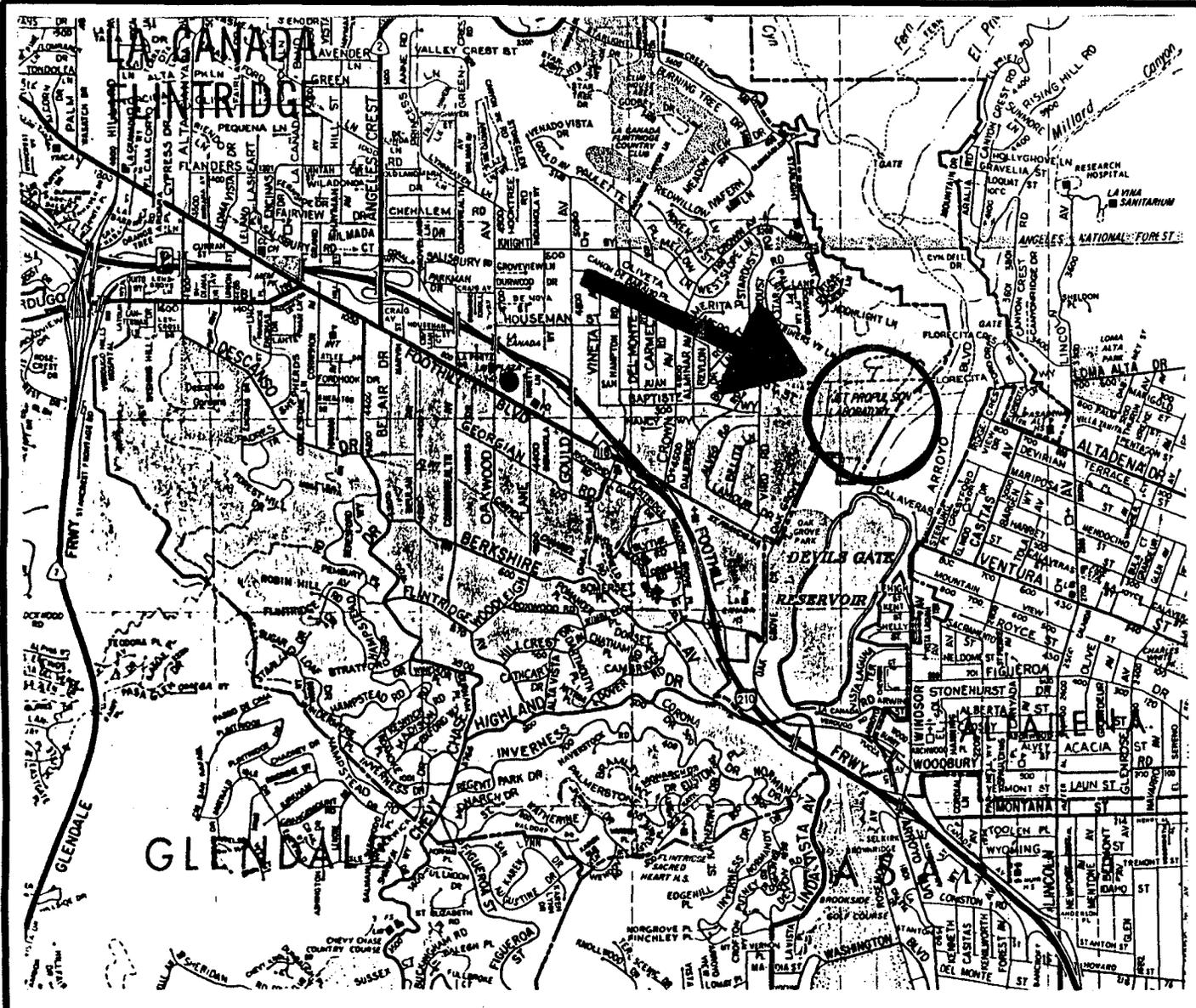
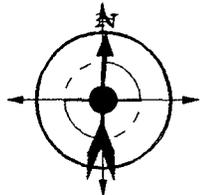


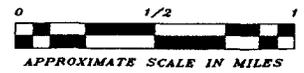
FIGURE 1.0
JPL/CAL TECH.
OIL PROJECT
VICINITY MAP

PREPARED FOR
JPL
4800 OAK GROVE DRIVE
PASADENA
CALIFORNIA

2



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G. BAADER
 CHECKED BY:
M. SCHOFIELD
 APPROVED BY:
D. HERRERA



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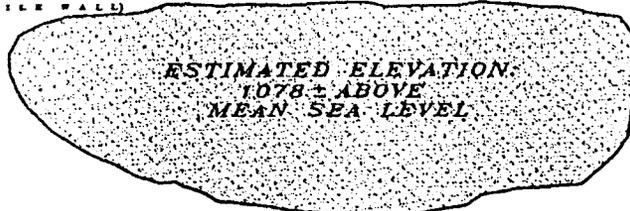
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1101 EAST SPRING STREET, P.O. BOX 7917, LONG BEACH, CA. 90807-0917
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DRIVEWAY

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

(WEST SOLDIER PILE WALL)

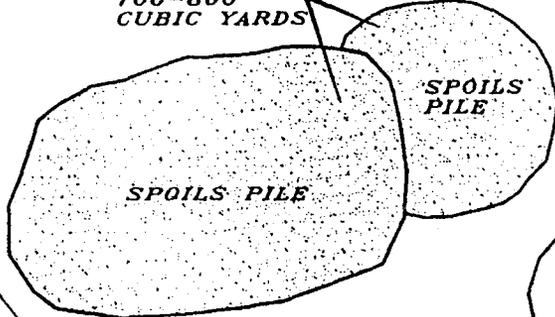


INITIAL EXCAVATION AREA

ESTIMATED ELEVATION 1086' ABOVE MEAN SEA LEVEL

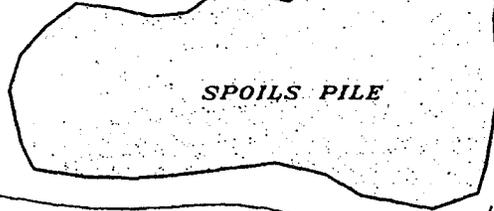
APPROXIMATELY 2500 CUBIC YARDS

APPROXIMATELY 700-800 CUBIC YARDS



SPOILS PILE

SPOILS PILE



SPOILS PILE

RAMP

CLEAN IMPORT STOCKPILE

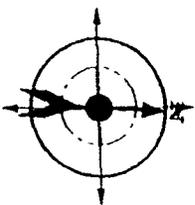
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FIGURE 1.1
INITIAL EXCAVATION AND OIL CONSTRUCTION SITE

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APPROXIMATE SCALE IN FEET

DRAWN BY:

G. BAADER

CHECKED BY:

M. SCHOFIELD

APPROVED BY:

D. HERRERA



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ENVIRONMENTAL SERVICES INC.

A DIVISION OF
MANESS INDUSTRIES

1101 EAST SPRING STREET, P.O. BOX 7917, LONG BEACH, CA. 90807-0917
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2.0 PHASE I - ENVIRONMENTAL SITE INVESTIGATION

2.1 SOIL SAMPLING

2.1.1 TITLE 22 NON - HAZARDOUS DETERMINATION

On August 23, 1991, MES arrived on-site and met with JPL and Kitchell personnel to discuss project schedule and site health and safety. The MES project director presented the site specific health and safety plan and conducted a thorough review of the plan and health and safety protocol with the JPL health and safety officer, Kitchell personnel and MES field staff. The MES site specific Health & Safety Plan is presented in Appendix A. The soil was excavated following all pertinent requirements of the South Coast Air Quality Management District (AQMD). Since volatile organic contamination was not detected at the site, no AQMD notification was required.

Since the actual source of the contamination was unknown, several soil samples were collected from the excavation in the most visually stained areas between western soldier piles #13 and #17. The soil was obviously stained and contained a distinct petroleum hydrocarbon odor. Figure 2.0 shows the initial excavation and the sample locations. We instructed the laboratory to composite samples S4 through S8 and run a whole series of analysis to determine the contaminants present and to begin the non-hazardous determination analysis in accordance with Title 22 of the California Code of regulations. The composite samples were analyzed for total recoverable petroleum hydrocarbons (TRPH) using EPA Method 418.1, for a complete suite of metals using EPA Methods 6010, 7060, 7471 and 7740, for PCB's and pesticides using EPA Method 8080A, for semi-volatile organics using EPA Method 8270, for purgeable organics using EPA Method 8240 and for total contaminant leachate potential (TCLP) for semi-volatiles 8270 and for purgeable organics 8240. The analytical reports and associated chain-of-custody forms for the initial sampling and non-hazardous determination testing are presented in Appendix B. Table 2.0 summarizes the contaminant characterization and non-hazardous determination analytical results.

In addition, the composite sample was submitted for a bioassay toxicity test to determine whether the contaminated soil is hazardous in accordance with Title 22 of the California Code of Regulations. The toxicity testing is conducted by exposing a test fish population for 96 hours to a specific concentration of contaminated soil to determine the lethal dose in which 50% of the population dies. Toxicity is measured by the percent survivorship at the various concentrations. The bioassay laboratory report is presented in Appendix C.

Based on the analytical results, the soil at the OIL construction site was determined to be "non-hazardous" in accordance with Title 22 criteria. The majority of the contamination appeared to be made up of heavier end petroleum hydrocarbons.

DRIVEWAY

6 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

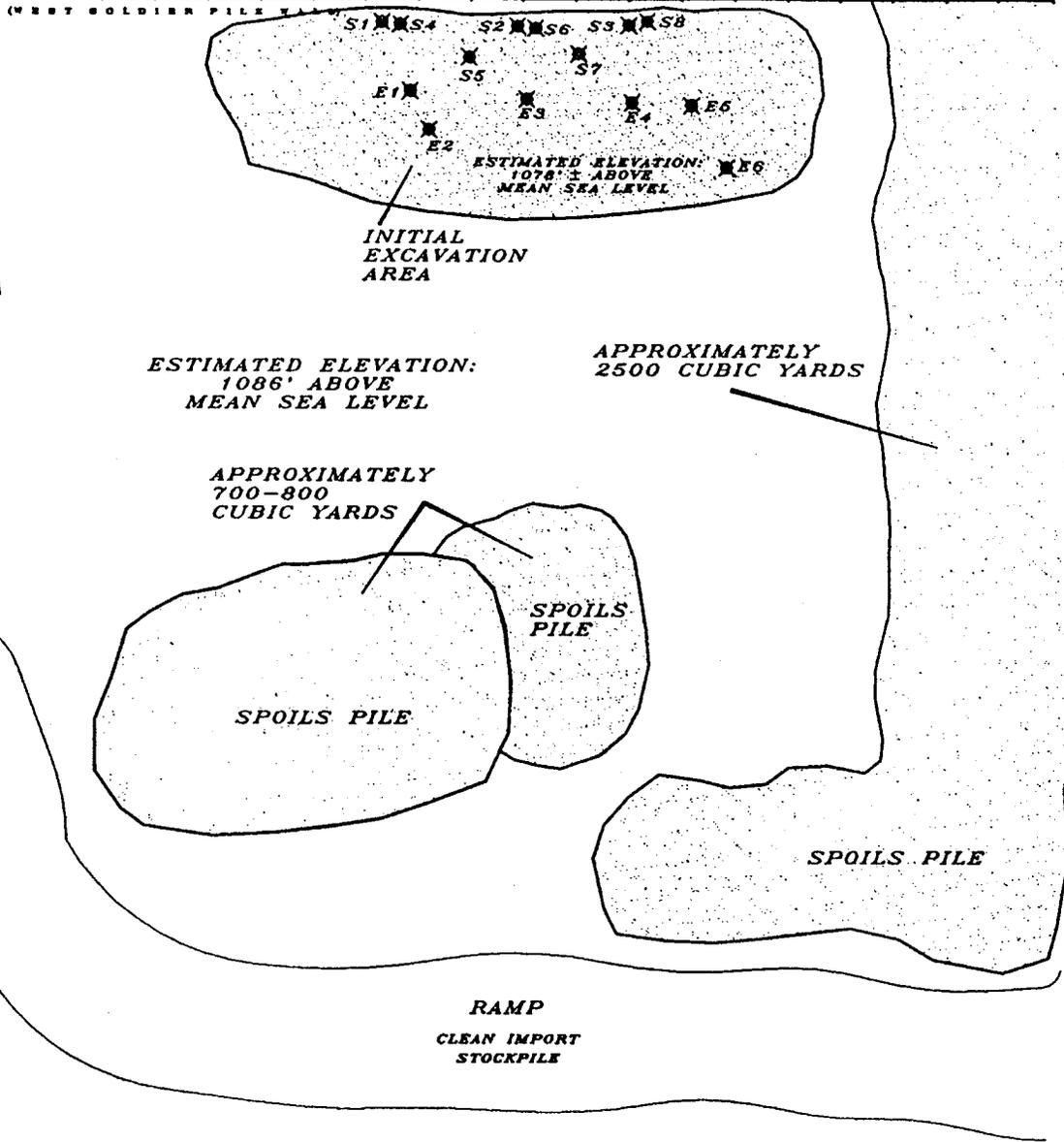
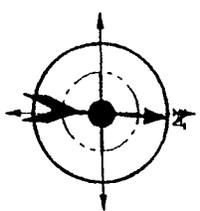


FIGURE 2.0
 INITIAL EXCAVATION AND SAMPLING LOCATIONS FOR CONTAMINANT CHARACTERIZATION AND NON-HAZARDOUS DETERMINATION SAMPLES

PREPARED FOR
 JPL
 4800 OAK GROVE DRIVE
 PASADENA CALIFORNIA

LEGEND
 * SOIL SAMPLE LOCATIONS
 E1 COLLECTED 8/23/91
 S1 COLLECTED 8/26/91



PROJECT #: 805-1H/1101-1H
 DATE: 3/24/1992



DRAWN BY:
 G. BAADER
 CHECKED BY:
 M. SCHOFIELD
 APPROVED BY:
 D. HERRERA



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TABLE 2.0

Analytical results for contaminant characterization and non-hazardous determination testing

Project 805-1H/1101-1H

JPL, Pasadena, OIL Building Construction Site

SAMPLE ID	COMPOSITE (S4 through S8)
EPA 8010 (Flash Point)	> 110 Degrees C
EPA 9045 (pH)	7.3
EPA 418.1 (TRPH)	180 mg/kg
EPA 335.2 (Cyanides)	ND < 0.20 mg/kg
EPA 420.1 (Phenols)	0.30 mg/kg
EPA 9030 (Sulfides)	23 mg/kg
Percent Water	9.7 %
Percent Solids	90.3 %
Percent Oil	N/A
EPA 6010 (Antimony)	0.95 mg/kg
EPA 7060 (Arsenic)	0.22 mg/kg
EPA 6010 (Barium)	120 mg/kg
EPA 6010 (Beryllium)	0.58 mg/kg
EPA 6010 (Cadmium)	ND mg/kg
EPA 6010 (Chromium)	11 mg/kg
EPA 6010 (Cobalt)	11 mg/kg
EPA 6010 (Copper)	30 mg/kg
EPA 6010 (Lead)	14 mg/kg
EPA 7471 (Mercury)	0.10 mg/kg
EPA 6010 (Molybdenum)	0.50 mg/kg
EPA 6010 (Nickel)	8.1 mg/kg
EPA 7740 (Selenium)	0.22 mg/kg
EPA 6010 (Silver)	ND mg/kg
EPA 6010 (Thallium)	ND mg/kg
EPA 6010 (Vanadium)	43 mg/kg
EPA 6010 (Zinc)	66 mg/kg
EPA 8080A (Pesticides, PCB's)	ND at 1.0 ug/kg
EPA 8270 (Semi-volatile Organics)	ND at 160 ug/kg
EPA 8240 (Purgeable Organics)	ND at 5 ug/kg
CCR Screen Bioassay	non - hazardous

TABLE 2.0 (continued)

Analytical results for contaminant characterization and non-hazardous determination testing

Project 805-1H/1101-1H

JPL, Pasadena, OIL Building Construction Site

SAMPLE ID	EPA 418.1
E 1	130
E 2	110
E 3	3,000
E 4	450
E 5	120
E 6	78
S 1	38
S 2	2,000
S 3	390
Detection Limit (mg/kg)	5.0

2.1.2 SOIL TEST BORINGS

Once we began excavating along the western soldier pile wall, it immediately became obvious that the contamination was deeper than was initially anticipated. Instead of continuing to chase the contamination by excavation, a soil boring investigation was proposed to determine the vertical extent of the contamination along the western soldier pile wall.

On August 28, 1991, MES drilled four soil test borings in the excavation area along the western soldier pile wall. Borings D10, D13, D15A and D17 were drilled approximately eight to ten feet from the west soldier pile wall and in-line with their respective soldier piles. Samples were collected at 3, 5, 10, 15, and 20 feet using a hollow stem auger with split spoon sampler. See Appendix D for summary of hollow-stem and grab sample collection, and soil sample handling procedures. The samples were analyzed for total recoverable petroleum hydrocarbons (TRPH) using EPA Method 418.1. If the samples had TRPH levels of 50 parts per million (ppm) or greater, the laboratory was instructed to analyze the samples for the volatile components of gasoline using EPA Method 8020 and for California Department of Health Services 8015 Modified for diesel. In addition to the four borings along the western soldier pile wall, JPL personnel instructed us to drill two random soil test borings away from the known area of contamination to determine if the contamination was isolated to the area along the western soldier pile wall. The additional two borings, D1 and D2, were drilled just south of the stockpiled "clean" pile. The same sample collection and analytical rational were followed for boring D1 and D2 as the four test borings along the western soldier pile wall. However, no samples were collected below 5.0' in boring D1 and below 10.0' in D2 due to sample refusal. Figure 2.1 shows the initial soil test boring locations at the OIL site.

The analytical results from the borings along the western soldier pile wall indicated that the contamination appeared to subside approximately three feet below the bottom of the excavation or at approximate elevation 1075 feet above mean sea level (MSL). However, borings D1 and D2 showed elevated TRPH contamination five feet below the existing grade of approximately 1080 feet above MSL.

As a result of the unexpected contamination in borings D1 and D2, JPL personnel instructed us to perform an extensive soil test boring program over the entire OIL building construction site to determine if the TRPH contamination is present throughout the entire site. On August 29, and 30, 1991, an additional nineteen soil test borings were drilled at the site. The same sampling rational was followed for the additional borings, with the exception that the lab was instructed not to sample the next depth in a boring if the sample above was less than 50 ppm. In addition to the borings we drilled, Pasadena based Converse Consultants West provided additional data when they drilled five soil test borings

5 6 7 8 9 10 11 12 13 14 15 16 17 18 20 21 22 23 24 25

(WEST SOLDIER PILE WALL)

D10A
6'=21

D13A

D15A
3'=350
5'=45
10'=37

D17A

CONTAMINATED SOIL
EXCAVATION

D1
3'=5,500
5'=35

D2
3'=110
5'=250
10'=8.1

APPROXIMATELY
700-800
CUBIC YARDS

APPROXIMATELY
2500 CUBIC
YARDS

SPOILS PILE

SPOILS
PILE

SPOILS PILE

RAMP
CLEAN IMPORT
STOCKPILE

DRIVEWAY

(NORTH SOLDIER PILE WALL)

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FIGURE 2.1

SOIL BORING LOCATIONS
FOR INITIAL
SOIL TEST BORING
INVESTIGATION

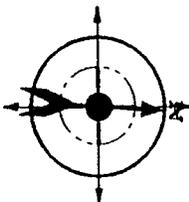
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PASADENA
CALIFORNIA

LEGEND

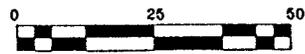
SAMPLE RESULTS EPA 418.1
IN PARTS PER MILLION

6



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G. BAADER

CHECKED BY:

M. SCHOFIELD

APPROVED BY:

D. HERRERA



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along the northern soldier pile wall (borings D37B, D37C, D42E, D45F and D48G) at similar depths as part of a non-related geophysical investigation. The Converse samples were submitted to Geotest Environmental Laboratories in Long Beach, where they were instructed to run the same analysis following similar analytical rational as our investigation. Figure 2.2 shows the boring locations and Table 2.1 summarizes the analytical results for the soil test boring investigation. The soil boring logs are presented in Appendix E and the laboratory reports and associated chain-of-custody forms are presented in Appendix F.

Based on the analytical results, the contamination was detected an average of five feet below the existing grade (1086 feet above MSL) throughout the OIL building construction site. The contamination was made up primarily of heavier end petroleum hydrocarbons with minimal levels of diesel contamination. The highest concentrations of petroleum hydrocarbon contamination was detected in the southern portion of the property in borings D6B-3' and D10B-3' with 27,000 ppm and 10,000 ppm TRPH, respectively. The only reportable volatile contamination associated with gasoline detected in the investigation was also detected in these samples with 0.15 ppm and 0.10 ppm toluene, respectively.

2.1.3 SPOILS PILE SAMPLING

At the time MES personnel arrived at the OIL excavation site, a significant amount of soil had been stockpiled along the northern soldier pile wall and in the center of the site. The soil in the center of the site (approximately 1000 to 1500 cubic yards) was composed of two connecting piles that had been excavated from the known contaminated area along the western soldier pile wall. The soil stockpiled in the center of the property was visibly stained and contained a distinct petroleum odor. The large "L" shaped pile (approximately 1500 to 2500 cubic yards) that ran along the northern soldier pile wall was excavated from the OIL building foundation, however, not specifically from the known impacted area along the western soldier pile wall. This stockpile was presumed clean since it was not excavated from the known contamination area and was not obviously stained or discolored.

On August 23, 1991, several discreet samples were collected from the smaller spoils pile stockpiled in the center of the property using a hand advanced sampling auger (see Appendix D for summary of hand-auger sampling methodology and soil sample handling procedures). The samples were analyzed for total recoverable petroleum hydrocarbons using EPA Method 418.1. The samples were analyzed on-site using Terra Tech Environmental Testing Laboratory out of Irvine, California. The analysis was performed on-site using one of Terra Tech's state certified mobile laboratories. The sample results showed elevated levels of total recoverable petroleum hydrocarbons present in

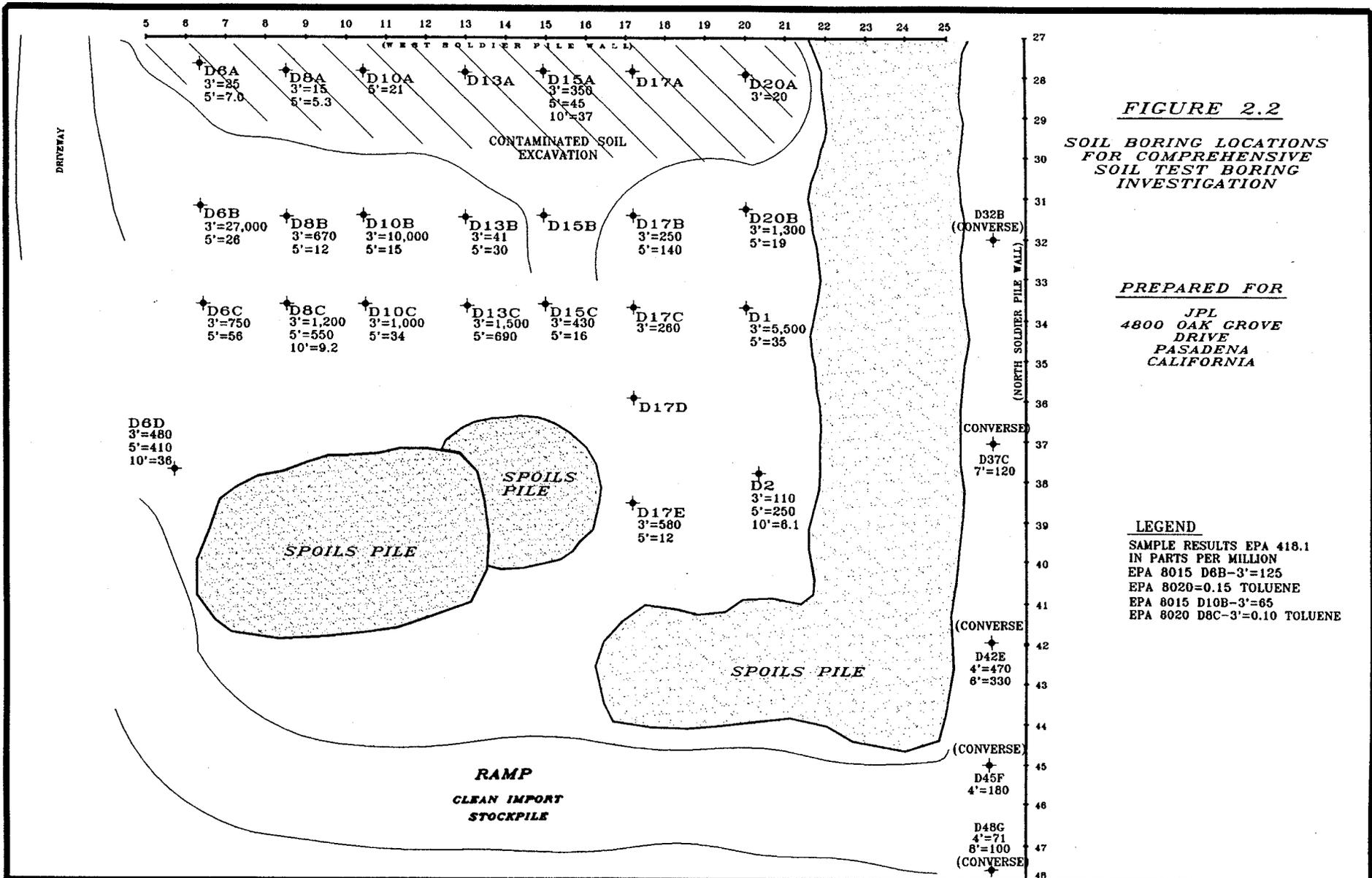


FIGURE 2.2

**SOIL BORING LOCATIONS
FOR COMPREHENSIVE
SOIL TEST BORING
INVESTIGATION**

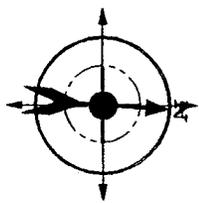
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**JPL
4800 OAK GROVE
DRIVE
PASADENA
CALIFORNIA**

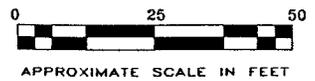
LEGEND

**SAMPLE RESULTS EPA 418.1
IN PARTS PER MILLION
EPA 8015 D6B-3'=125
EPA 8020=0.15 TOLUENE
EPA 8015 D10B-3'=65
EPA 8020 D8C-3'=0.10 TOLUENE**

11



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G. BAADER
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1101 EAST SPRING STREET, P.O. BOX 7917, LONG BEACH, CA. 90807-0917
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TABLE 2.1**Analytical results for soil test boring investigation**

Project 805-1H/1101-1H

JPL, Pasadena, OIL Building Construction Site

SAMPLE ID	EPA 418.1	8015 M DIESEL	EPA 8020/BTEX
D 6 A - 3'	25	-	-
D 6 A - 5'	7	-	-
D 6 B - 3'	27,000	140	ND
D 6 B - 5'	26	-	-
D 6 C - 3'	750	ND	ND (*)
D 6 C - 5'	56	ND	ND
D 6 C - 10'	ND	-	-
D 6 D - 3'	480	ND	ND
D 6 D - 5'	410	ND	ND
D 6 D - 10'	36	-	-
D 8 A - 3'	15	-	-
D 8 A - 5'	5.3	-	-
D 8 B - 3'	670	ND	ND
D 8 B - 5'	12	-	-
D 8 C - 3'	1,200	ND	ND (**)
D 8 C - 5'	550	ND	ND
D 8 C - 10'	9.2	-	-
D 10 A - 3'	ND	ND	ND
D 10 A - 5'	21	ND	ND
D 10 A - 10'	ND	-	-
D 10 A - 15'	ND	-	-
D 10 A - 20'	ND	-	-
D 10 B - 3'	10,000	99	ND
D 10 B - 5'	15	-	-
D 10 C - 3'	1,000	ND	ND
D 10 C - 5'	34	-	-
D 13 A - 3'	ND	ND	ND
D 13 A - 5'	ND	ND	ND
D 13 A - 10'	ND	-	-
D 13 A - 15'	ND	-	-
D 13 A - 20'	ND	-	-
D 13 B - 3'	41	-	-
D 13 B - 5'	30	-	-
D 13 C - 3'	1,500	ND	ND
Detection Limit	5.0 mg/kg	20 mg/kg	0.1 mg/kg

TABLE 2.1 (continued)**Analytical results for soil test boring investigation**

Project 805-1H/1101-1H, JPL, Pasadena, OIL Building Construction Site

SAMPLE ID	EPA 418.1	8015 M DIESEL	EPA 8020/BTEX
D 13 C - 5'	690	ND	ND
D 13 C - 10'	ND	-	-
D 15 A - 3'	300	ND	ND
D 15 A - 5'	43	ND	ND
D 15 A - 10'	37	-	-
D 15 A - 15'	ND	-	-
D 15 A - 20'	ND	-	-
D 15 B - 3'	ND	-	-
D 15 B - 5'	ND	-	-
D 15 C - 3'	430	ND	ND
D 15 C - 5'	16	-	-
D 17 A - 3'	ND	ND	ND
D 17 A - 5'	ND	ND	ND
D 17 A - 10'	ND	-	-
D 17 A - 15'	ND	-	-
D 17 A - 20'	ND	-	-
D 17 B - 3'	250	ND	ND
D 17 B - 5'	140	ND	ND
D 17 B - 10'	ND	-	-
D 17 C - 3'	260	ND	ND
D 17 C - 5'	ND	-	-
D 17 D	NR	NR	NR
D 17 E - 3'	580	ND	ND
D 17 E - 5'	12	-	-
D 20 A - 3'	20	-	-
D 20 A - 5'	ND	-	-
D 20 B - 3'	1,300	ND	ND
D 20 B - 5'	19	-	-
D 1 - 3'	5,500	94	ND
D 1 - 5'	ND	ND	ND
D 1 - 10'	ND	-	-
D 1 - 15'	ND	-	-
D 2 - 3'	110	ND	ND
D 2 - 5'	250	ND	ND
D 2 - 10'	6.1	-	-
D 2 - 15'	ND	-	-
Detection Limit	5.0 mg/kg	20 mg/kg	0.1 mg/kg

TABLE 2.1 (continued)

Analytical results for soil test boring investigation

Project 805-1H/1101-1H

JPL, Pasadena, OIL Building Construction Site

(Soil Samples collected by Converse Consultants West on 9/4/91 and 9/5/91)

SAMPLE ID	EPA 418.1	8015 M DIESEL	EPA 8020/BTEX
D32B E-1 3'-4'	ND	-	-
D32B E-2 8'-9'	ND	-	-
D32B E-3 13'-14'	ND	-	-
D37C E-1 6'-7'	120	-	-
D37C E-2 10'-11'	ND	-	-
D37C E-3 19'-20'	ND	-	-
D42E E-1 3'-4'	470	ND	ND
D42E E-2 5'-6'	330	ND	ND
D42E E-3 9'-10'	ND	-	-
D45F E-1 3'-4'	180	ND	ND
D45F E-2 7'-8'	ND	-	-
D45F E-3 13'-14'	ND	-	-
D48G E-1 3'-4'	71	-	-
D48G E-2 7'-8'	100	-	-
D48G E-3 12'-13'	ND	-	-
Detection Limit	10 mg/kg	10 mg/kg	0.005 mg/kg (BTE) 0.015 mg/kg (X)

NOTE:

ND = none detected

NR = no sample recovery

- = not analyzed

mg/kg = milligram per kilogram

BTEX = benzene, toluene, ethylbenzene, total xylenes

() = 0.15 mg/kg toluene*

*(**) = 0.1 mg/kg toluene*

all the samples analyzed. See Figure 2.3 which shows the spoils piles and sampling locations. On September 4, 1991, several hand auger samples were collected from the larger spoils pile stockpiled in the center of the site. Five samples from each area were collected from five distinct sampling areas and submitted to a Geotest where they were composited and analyzed. The composite samples were analyzed for TRPH, volatile components of gasoline using EPA Method 8020 and for the California Department of Health Services (CADOHS) Method 8015 modified for diesel. Once again the results showed elevated levels of TRPH and only minimal levels of diesel and no detectable concentrations of gasoline.

After meeting with JPL personnel, the decision was made to collect and analyze samples from the supposed clean "L" shaped spoils pile along the northern soldier pile wall. The decision was made based on the fact that the soil boring results revealed a consistent pattern of petroleum hydrocarbon contamination throughout the project site. Since the large "L" shaped spoils pile was the result of excavation throughout the site, it was felt that the material could not very well be exported without some analytical data indicating that it was free of contamination. On August 10, 1991, several hand auger samples were collected from the large "L" shaped stockpile and submitted to Geotest for analysis. The samples were analyzed for TRPH, CADOHS 8015 modified for diesel and for gasoline (EPA 8020). The analytical results from the "L" shaped spoils pile also showed elevated levels of heavier end petroleum hydrocarbons with minimal diesel and no detectable concentrations of gasoline.

Figure 2.3 shows the spoils pile sampling locations and associated TRPH results. The laboratory reports for the spoils pile sampling and their associated chain-of-custody forms are presented in Appendix G.

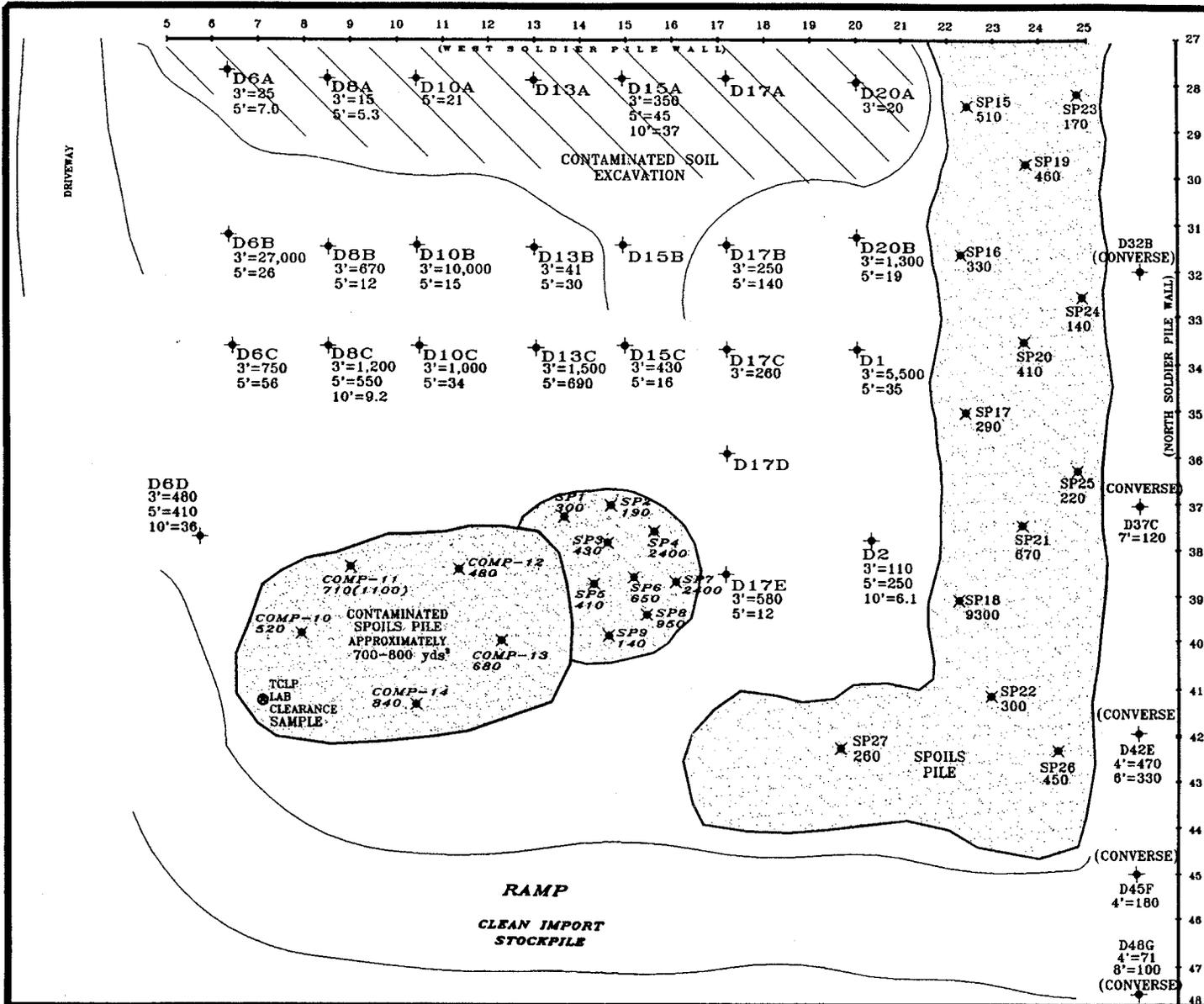
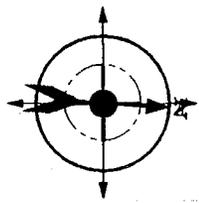


FIGURE 2.3
SPOILS PILES
AND
SOIL SAMPLING
LOCATIONS

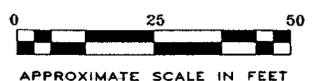
PREPARED FOR
JPL
4800 OAK GROVE
DRIVE
PASADENA
CALIFORNIA

LEGEND
 SAMPLE RESULTS EPA 418.1
 IN PARTS PER MILLION
 EPA 8015 D6B-3'=125
 EPA 8020=0.15 TOLUENE
 EPA 8015 D10B-3'=65
 EPA 8020 D8C-3'=0.10 TOLUENE

16



PROJECT #: 805-1H/1101-1H
 DATE: 3/24/1992



DRAWN BY:
G. BAADER
 CHECKED BY:
M. SCHOFIELD
 APPROVED BY:
D. HERRERA



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1101 EAST SPRING STREET, P.O. BOX 7917, LONG BEACH, CA. 90807-0917
 CONTRACTOR LICENSE NO. 553633, (213) 695-4555 (714) 995-7162 FAX (213) 427-8420

2.2 AREA GEOLOGY

The Jet Propulsion Laboratory is located in the northern Los Angeles Basin at the foothills of the San Gabriel Mountains, between La Canada to the west and Altadena to the east. The northwestern-southeastern Tujunga fault separates the igneous and metamorphic rocks of the San Gabriel Mountains from recent alluvial deposits. The Tujunga fault zone determines the south face of the mountains.

The La Canada Valley is covered by Quaternary alluvial fan gravel and sand derived from the San Gabriel Mountains. These include alluvial sediments which consist of unconsolidated floodplain deposits of silt, sand, and gravel and underly the JPL facility. The Arroyo Seco Canyon marks the eastern border of the JPL facility and contains Quaternary stream channel deposits of gravel, sand, and silt. Northwest of JPL elevated remnants of alluvial gravel and fan conglomerate sediments are deposited.

The northeastern part of the property borders at crystalline basement rocks, specifically leucocratic granitic rocks of late Mesozoic age. The gray-white, medium- to fine-grained massive granitic rock is composed mostly of quartz monzonite and granodiorite. Minerals are essentially of quartz, plagioclase feldspar (oligoclase), K-feldspar (mostly microcline), and minor biotite, in part cataclastic northeast of the San Gabriel fault and intrusive into quartz diorite and gneissic rocks.

The leucocratic granitic rocks overlay quartz diorite, hornblende diorite-gabbro, and granodiorite of Mesozoic age, granite and siliceous metamorphic rocks of Precambrian or Paleozoic age, and gneissic rocks of possible Precambrian age.

2.2.1 SITE SPECIFIC GEOLOGY

The soil investigation indicated that the alluvial sediments, consisting of unconsolidated floodplain deposits of silt, sand, and gravel, were covered by an average of three to five feet of oily contaminated soil throughout the excavation area. The dark brown soil was unconsolidated and contained a variety of debris. During the soil investigation and excavation MES encountered concrete, bricks, wire, glass, trees, railroad ties, roots, boulders, and oily contaminated soil.

Characteristics of the soil changed between depths of seven to twelve feet. The color changed from medium/dark brown or gray to light brown. The fine to medium grained silty and brown/gray sand was replaced by medium to coarse grained, light brown and native, alluvial gravelly silty sand. These specific characteristics place the lower border of the contaminated fill material and the upper border of the native soil between seven and twelve feet in the area of the excavation.

2.2.2 HYDROGEOLOGY

The subject site is located between 1050 and 1200 feet above mean sea level (MSL). A review of the County of Los Angeles Department of Public Works hydrologic records indicates that the first groundwater beneath the site is approximately 184 feet below land surface (Well # 4010 E, located NE of the intersection 210 Freeway and Foothill Boulevard, last measured on April 4, 1991, ground surface elevation at well location: 1161 ft). No groundwater was detected during the soil test borings.

2.3 CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - LOS ANGELES REGION CLASS III WASTE DISCHARGE CLEARANCE

On July 22, 1991 the Los Angeles Regional Water Quality Control Board (RWQCB) adopted Order No. 91-93, General Waste Discharge Requirements for the discharge of non-hazardous contaminated soils. With the adoption of the new requirement, all non-hazardous contaminated soils that could potentially be disposed at a Class III facility must now be approved by the Regional Board prior to disposal in any Class III landfill. The discharge requirements state that the samples collected must be representative of the waste stream and must not exceed the maximum concentrations allowed for total petroleum hydrocarbon contamination and other fuel constituents. In accordance with the requirements, the maximum acceptable levels for discharge into a Class III landfill for soils impacted with diesel, crude oil or waste oil is 1000 ppm TRPH, and for soils impacted with gasoline the maximum acceptance level is 100 ppm TRPH, 0.07 ppm benzene, 10.0 ppm toluene, 62.0 ppm xylene and 68.0 ppm ethylbenzene.

Once a non-hazardous waste discharge request has been approved by the Regional Board, a profile application along with the analytical data must be submitted to the proposed Class III landfill for approval and clearance. Once clearance has been granted, the soil can be scheduled into the facility and the soil transported under a non-hazardous waste data form.

On September 6, October 14, and December 30, 1991, MES submitted requests for approval for the discharge of 11,000 cubic yards of non-hazardous contaminated soil to an approved Class III disposal facility. The Regional Board granted approval for a total of 10,500 cubic yards. Only on the December 30, 1991, request we were granted partial clearance. Five hundred cubic yards were rejected due to five samples which slightly exceeded the minimal allowable concentration levels for total petroleum hydrocarbons. All the non-hazardous Class III soil approved from the OIL project site was transported to Chiquita Canyon Landfill in Valencia, California.

The Regional Board non-hazardous waste discharge acceptance letters and associated monitoring requirements for the site are presented in Appendix H.

3.0 PHASE II - SITE REMEDIATION

3.1 EXCAVATION AND DISPOSAL

On November 5, 1991, MES began excavating the contaminated soil along the western soldier pile wall. In accordance with the data, this area was excavated another three feet in depth from approximately 1078 feet above MSL to 1075 feet above MSL. In addition, based on the soil test boring investigation, the excavation area was confined to the OIL building foundation or approximately the area contained by soldier piles #3 to #24 along the western soldier pile wall to soldier pile #46 along the northern soldier pile wall. In accordance with the soil test data, this area would be excavated four to seven feet below the existing grade of elevation 1086 feet above MSL down to approximately 1079 feet above MSL.

However, before the major excavation could be performed, the large spoils piles stockpiled in the center of the site and along the northern soldier pile wall had to be loaded and transported to the appropriate disposal facility. During the spoils pile characterization sampling, samples could only be collected from the surface to approximately four to five feet deep into the stockpiled soil. This was due to the considerable size of the spoils piles and the large number of rocks and cobbles which interfered with collecting deeper hand auger samples. As a result, a Geotest state certified mobile laboratory was present on-site at all times during the excavation and the loading and transporting of the stockpiled spoils piles. This was to insure that any pockets of clean soil or pockets of highly contaminated soil was not inadvertently transported and disposed as Class III waste. We would begin at one end of the stockpiled soil and remove approximately three to five feet across the entire face (one bucket load of a 980 loader). We would then collect samples all across the new face of the stockpiled soil and have them analyzed with the mobile lab for TRPH using EPA Method 418.1. The mobile lab was also set up for CADOHS 8015 modified for diesel and for gasoline using EPA Method 8020. If we encountered a pocket of soil with significantly more staining, or we detected volatile organic compounds on the field organic vapor meter, or the TRPH result was much higher than the average concentrations we were encountering at the site, then the lab was instructed to analyze the sample for 8015M and for 8020.

The screening samples were labeled in a number of different ways depending on when and where the sample was being collected. For example, sample SP 11/5-1 was the first screening sample collected from that spoils pile on November 5, 1991. Once we cut into the pile a second sample was collected and was called SP 11/5-2. Another sample screening description we used was when we began loading out the large "L" shaped spoils pile along the northern soldier pile wall. Once again, approximately three to five feet were removed across the entire face of the spoils pile. Samples were then collected along the

new face using the northern and western soldier piles as sample coordinates. For example SP 29/22 was a spoils pile collected at coordinates northern soldier pile #29 and western soldier pile #22. The next sample across the face was collected at SP 31/22, i.e., spoils pile with coordinates at northern soldier pile #31 and western soldier pile #22. As we cut deeper into the "L" shaped spoils pile the next western soldier pile number was referenced, i.e., SP (northern soldier pile #)/23, etc. Throughout the loading and excavating phase, the screening samples were described using one or a combination of the described naming conventions.

Throughout the course of the site work, over 150 screening samples were collected at various times and stages of the project. It is virtually impossible to show each of the samples collected on a site map since it would mean that for every three to five feet of soil removed from a stockpile of soil we would literally have to have a new figure and table showing the sampling location and results. When we are talking about a project where we removed 10,500 cubic yards, it would make for a very cluttered and confusing report. As a result, all of the screening samples collected and analyzed throughout the course of the project are presented in Appendix I.

The main objective of the excavation was to remove all of the contaminated soil within the boundary of the proposed OIL building foundations. The area outside of the building foundations was not as critical since the majority of this area was going to be a parking lot. The remaining area that was not going to be under asphalt would be planter or vegetative area. Kitchell and JPL had the entire OIL building surveyed by a surveying crew to absolutely define the outline of the building, plus a five foot over excavation for the building foundations. The corners of the proposed building were marked with steel stakes and markings on the northern and western soldier pile walls. Figure 3.0 shows the outline of the building and the final excavation area. In addition, we excavated approximately four to six feet deep and approximately fifteen feet out from the northern soldier pile wall. The excavation was along the area of the Converse test borings which detected elevated levels of TRPH in the soil.

From November 7, 1991, to January 15, 1992, over 10,500 cubic yards of non-hazardous petroleum hydrocarbon impacted soil was excavated, loaded, transported and disposed to an authorized disposal facility. The soil was transported by Jervicon, Inc., out of Santa Maria, California, and by Golden State Transportation out of Long Beach, California, both state and federally licensed to transport non-hazardous contaminated soil. A total of 2,870.37 tons of Class II soil was disposed to Laidlaw's Lokern facility in Buttonwillow, California, and 16,007.65 tons of soil was disposed to Laidlaw's Chiquita Canyon facility in Valencia, California. The non-hazardous waste data forms for Lokern and Chiquita Canyon are presented in Appendix K and L, respectively.

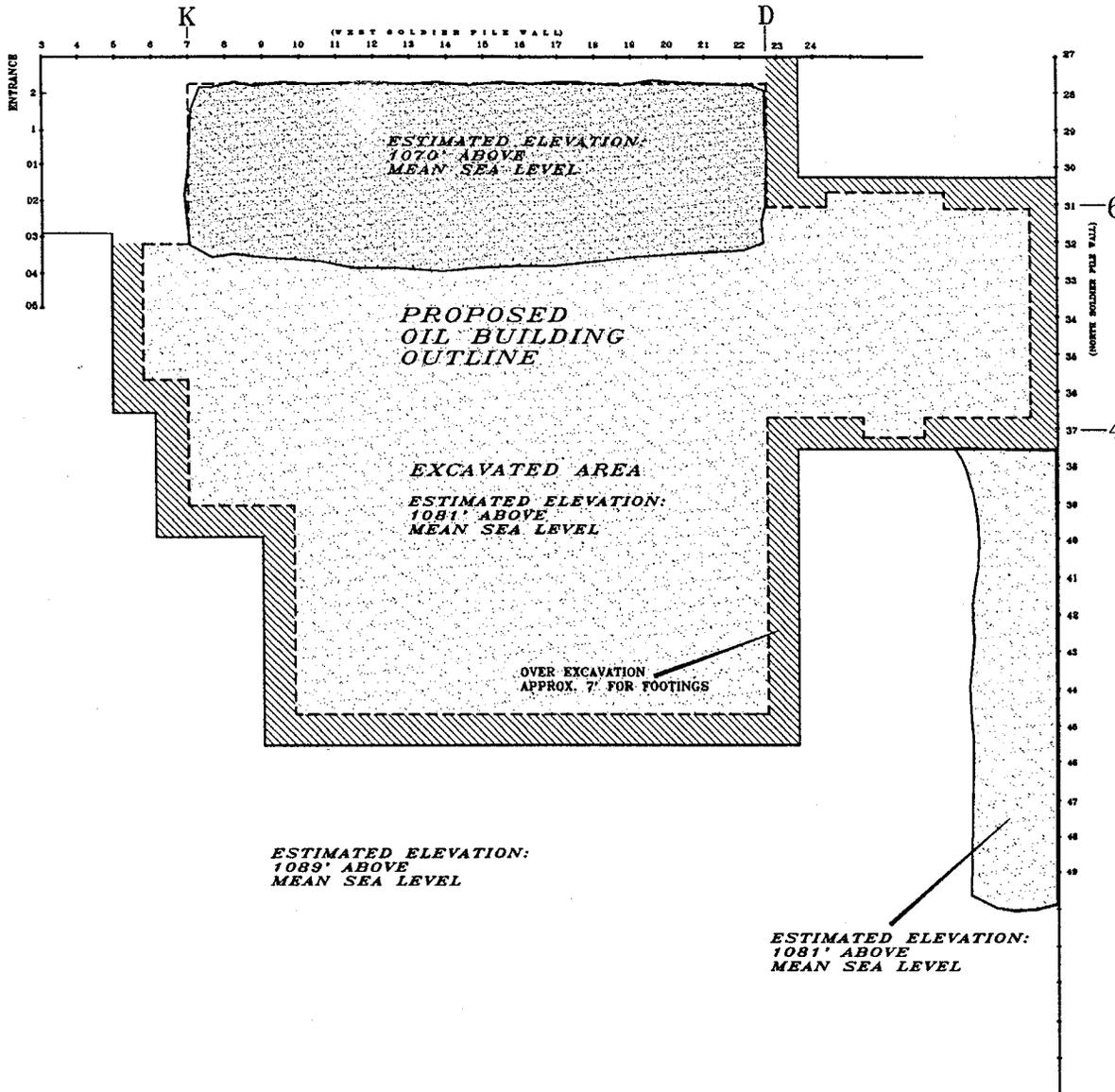
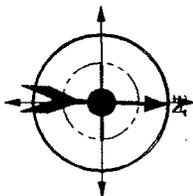


FIGURE 3.0
FINAL
EXCAVATION BOUNDARIES
AND
APPROXIMATE ELEVATIONS

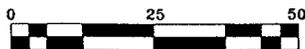
PREPARED FOR
JPL
4800 OAK GROVE
DRIVE
PASADENA
CALIFORNIA

22



PROJECT #: 805-1H/1101-1H

DATE: 3/24/1992



APPROXIMATE SCALE IN FEET

DRAWN BY:

G. BAADER

CHECKED BY:

M. SCHOFIELD

APPROVED BY:

D. HERRERA



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ENVIRONMENTAL SERVICES INC.

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MANESS INDUSTRIES

1101 EAST SPRING STREET, P.O. BOX 7917, LONG BEACH, CA. 90807-0917
CONTRACTOR LICENSE NO. 553633. (213) 595-4555 (714) 995-7162 FAX (213) 427-8420

4.0 PHASE III - CONFIRMATION SAMPLING

4.1 BUILDING FOUNDATION

On January 16, 1992, upon excavation of the contaminated soil, a MES geologist collected 28 soil samples from the bottom of the excavation within the proposed OIL building and foundation area. The confirmation samples were submitted to Geotest and analyzed for TRPH using EPA Method 418.1. The laboratory results indicated that the majority of the contamination had been removed within the proposed building area. However, four areas within the proposed building boundary continued to show slightly elevated levels of TRPH. The samples were D/33: 190 ppm, 12/36: 55 ppm, 15/36: 590 ppm, and 19/42: 79 ppm. On January 16, 1992, we excavated an additional ten to fifteen cubic yards from the above sampling locations. The samples were submitted to an on-site Geotest state certified mobile laboratory and analyzed for TRPH using EPA Method 418.1. This second round of samples all came up non-detected. As a result, the objective of removing the petroleum hydrocarbon contamination within the proposed building and foundation area was successful. Slightly elevated levels of TRPH is still present along the boundaries of the proposed building. Confirmation samples collected along the walls of the excavation continued to show positive results. However, these locations are outside of the proposed OIL building No. 306 and foundations, and will be capped with parking lot asphalt. Figure 4.0 shows the confirmation sampling locations and associated TRPH results. Table 4.0 summarizes the confirmation sampling results. The confirmation sampling laboratory reports are presented in Appendix J.

4.2 PARKING LOT AREA

On February 6, 1992, MES collected twenty confirmation samples from the proposed parking lot area and submitted the samples to Geotest for TRPH analysis. The confirmation sampling was performed to determine the condition of the subsurface soil in this area and to establish baseline data indicating the concentrations of any TRPH soil that would be capped beneath the proposed parking lot asphalt.

The analytical results showed only minimal levels of TRPH contamination. No significant levels of petroleum hydrocarbon contamination was detected in the planned parking lot area. The parking lot confirmation sample locations and associated results are also presented in Figure 4.0. Table 4.0 also includes the analytical summary for the parking lot confirmation samples.

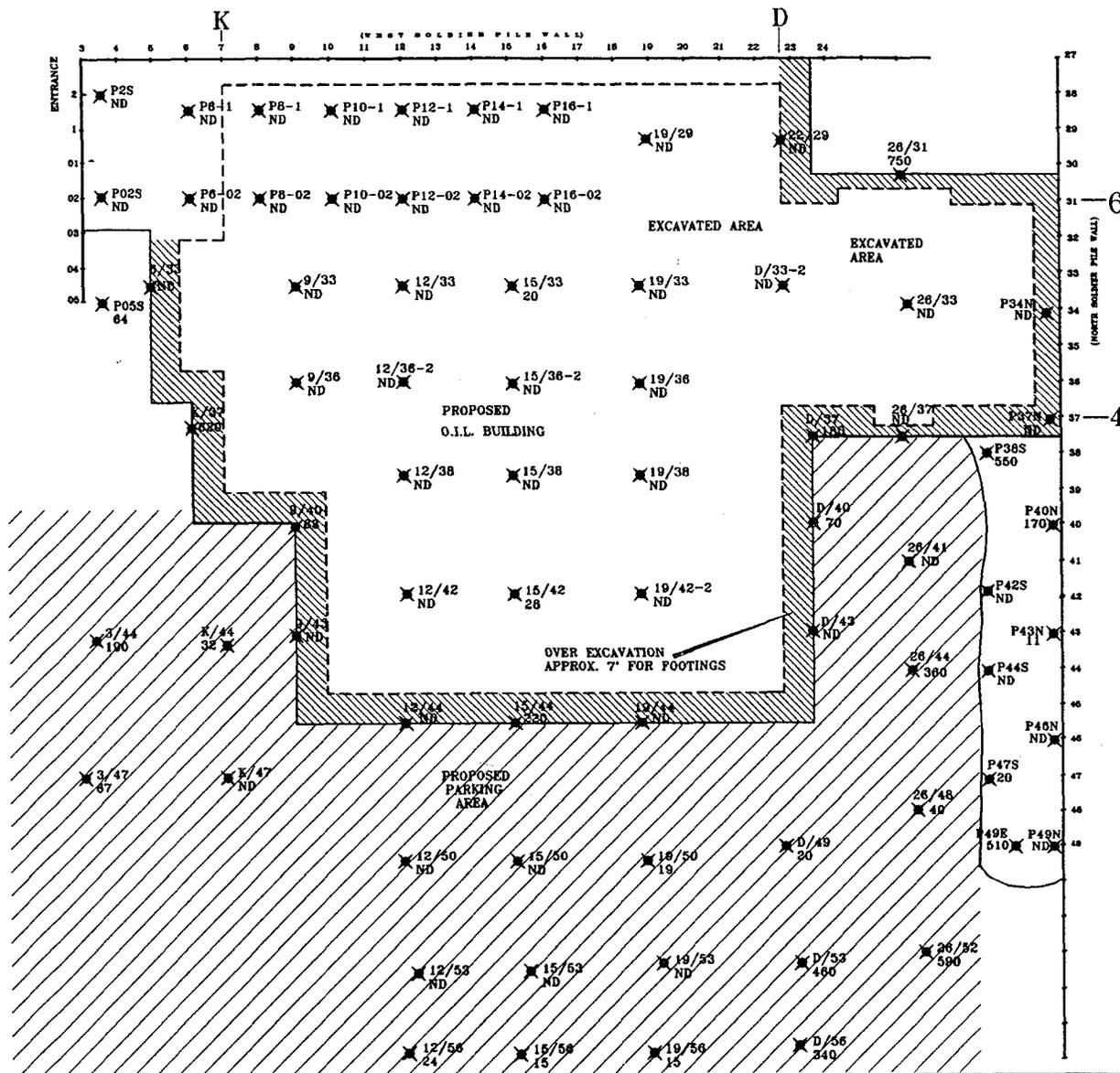
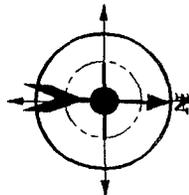


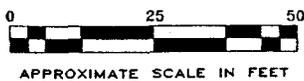
FIGURE 4.0
CONFIRMATION
SAMPLING LOCATIONS
AND
ASSOCIATED RESULTS

PREPARED FOR
JPL
4800 OAK GROVE
DRIVE
PASADENA
CALIFORNIA

LEGEND
 * CONFIRMATION SOIL SAMPLE LOCATIONS
 9/33 SAMPLE IDENTIFICATION NUMBER
 SAMPLE RESULTS EPA 418.1 IN PARTS PER MILLION



PROJECT #: 805-1H/1101-1H
 DATE: 3/24/1992



DRAWN BY:
G. BAADER
 CHECKED BY:
M. SCHOFIELD
 APPROVED BY:
D. HERRERA



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 ENVIRONMENTAL SERVICES INC.

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1101 EAST SPRING STREET, P.O. BOX 7917, LONG BEACH, CA 90807-0917
 CONTRACTOR LICENSE NO. 553633, (213) 595-4555 (714) 995-7162 FAX (213) 427-8420

TABLE 4.0
Summary of analytical results for confirmation sampling
 Project 805-1H/1101-1H
 JPL, Pasadena, OIL Building Construction Site

SAMPLE ID	EPA 418.1
P2/S	ND
P6/1	ND
P8/1	ND
P10/1	ND
P12/1	ND
P14/1	ND
P16/1	ND
P02/S	ND
P6/02	ND
P8/02	ND
P10/02	ND
P12/02	ND
P14/02	ND
P16/02	ND
P05/S	64
19/29	ND
22/29	ND
26 / 31	750
6 / 33	ND
9 / 33	ND
12 / 33	ND
15 / 33	20
19 / 33	ND
D / 33 - 2	ND
26 / 33	ND
K / 37	620
9 / 36	ND
12 / 36 - 2	ND
15 / 36 - 2	ND
19 / 36	ND
D / 37	180
26 / 37	ND
12 / 38	ND
15 / 38	ND
19 / 38	ND
Detection Limit (mg/kg)	10

TABLE 4.0 (continued)

Summary of analytical results for confirmation sampling

Project 805-1H/1101-1H

JPL, Pasadena, OIL Building Construction Site

SAMPLE ID	EPA 418.1
9 / 40	83
D / 40	70
12 / 42	ND
15 / 42	28
19 / 42 - 2	ND
9 / 43	ND
D / 43	ND
12 / 44	ND
15 / 44	220
19 / 44	ND
PL - 3/44	190
PL - 3/47	67
PL - K/44	32
PL - K/47	ND
PL - 12/50	ND
PL - 12/53	ND
PL - 12/56	24
PL - 15/50	ND
PL - 15/53	ND
PL - 15/56	15
PL - 19/50	19
PL - 19/53	ND
PL - 19/56	15
PL - D/49	20
PL - D/53	460
PL - D/56	340
PL - 26/41	ND
PL - 26/44	360
PL - 26/48	40
PL - 26/52	590
Detection Limit	10 mg/kg

NOTE: ND = none detected

5.0 CONCLUSIONS

Maness Environmental Services, Inc., has completed the environmental site investigation and soil remediation within the OIL site at the Jet Propulsion Laboratory in Pasadena, California. The soil was removed and properly disposed in accordance with the non-hazardous soil discharge requirements set forth by the Los Angeles RWQCB for the OIL site.

Based on the analytical results of the confirmation samples all of the petroleum hydrocarbon contaminated soil has been removed within the boundaries of the proposed OIL building and foundations. Only minimal levels of petroleum hydrocarbon impacted soil remains outside the boundaries of the OIL building and foundations. Confirmation samples collected west and east of the proposed OIL building show only minimal or no detectable levels of petroleum hydrocarbons. In addition, the majority of this area will be covered with asphalt for the OIL building parking lot and possible planters along the southern boundary of the site. Confirmation samples collected north of the proposed OIL building, along the base of the northern soldier pile wall, also showed minimal levels of petroleum hydrocarbons.

The non-hazardous contaminated soil has been disposed of in accordance with the requirements of the Los Angeles RWQCB Class III non-hazardous discharge criteria for the site, and in accordance with regulations governing the management, handling and proper treatment or disposal of non-hazardous petroleum contaminated soil.

6.0 APPENDICES

APPENDIX A

SITE SPECIFIC HEALTH & SAFETY PLAN

MANESS ENVIRONMENTAL SERVICES, INC.

Site Specific Safety Plan

Backup Marvin

General Site Information

Name of Site: JET PROPULSION LABORATORY (JPL) Project No. 1101-1
Site Address: 4800 Oak Grove Drive Pasadena California 91109
Client Name: Kitchell Contractors Site Contact: Jay Pich
Client Health And Safety Representative: Jay Pich
Plan Prepared By: Gabriele Baader Date: 11-01-91
Reviewed By: Paul David Herrera Date: 11-04-91
Source and Age of Information on the Site: Current

Proposed Site Visit Dates: Tuesday, November 5, 1991

Estimate of Hazards to Personnel: High Medium XXX Low None

Description of the Facility (attach site map): Ongoing construction at
O.I.L. Bldg #306 Open excavation 20 Feet at the ~~deepest~~ point.
deepest

Site status: XXX Active Closed Abandoned Unknown

Maness Work Party

<u>Name</u>	<u>Responsibility</u>	<u>Signature</u>
<u>Paul David Herrera</u>	<u>Project Director</u>	<u>[Signature]</u>
<u>Gabriele Baader</u>	<u>Project Geologist</u>	<u>[Signature]</u>
<u>Mike Murray</u>	<u>Foreman/Operator</u>	<u>[Signature]</u>
<u>Fred McNair</u>	<u>Foreman/Operator</u>	<u>[Signature]</u>
<u>Kelly Attardo</u>	<u>Operator</u>	<u>[Signature]</u>
<u>Aaron Mc Nair</u>	<u>Laborer</u>	<u>[Signature]</u>
<u>Mike Miller</u>	<u>Laborer</u>	<u>[Signature]</u>
<u>Kenny Hendrickson</u>	<u>Laborer</u>	<u>[Signature]</u>

Subcontractor Work Party

<u>SUBCONTRACTOR</u>	<u>CONTACT</u>	<u>RESPONSIBILITY</u>
<u>Golden State Transportation</u>	<u>Greg Becker</u>	<u>Transportation</u>
<u>Jervicon, Inc.</u>	<u>Sherry Mobley</u>	<u>Transportation</u>
<u>Terra Tech Labs, Inc.</u>	<u>Lisa Newcombe-Dierl</u>	<u>Laboratory</u>
<u>Geotest</u>	<u>Barbara Altavilla</u>	<u>Laboratory</u>

A. B.
YSTZU
DR
SB

Site Entry Procedures: Enter facility northbound on Oak Grove Drive, north guard shack - sign in, collect "construction" signs for each vehicle and personnel identification number tag to be worn visible on clothing, enter facility through east guard shack straight to construction site. Continued amendment, Kitchell Contractors project report dated April 18, 1991, for on site regulations is attached and made a part of this Health & Safety Plan.

CHEMICAL HAZARDS

<u>Chemical Name</u>	<u>Physical State</u>	<u>TLV (PPM)</u>	<u>Characteristics</u>
<u>Petroleum Hydrocarbons</u>	<u>Soil/Solid</u>	<u>300</u>	<u>Combustible</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Is the Location of the Hazards Known: XXX Yes No

Describe Area Surrounding Hazards: Ongoing construction.
Contaminated soil inhibits completion of O.I.L. Bldg construction project.

Are There Potential Offsite Exposure Problems: Yes XXX No

Describe: _____

PHYSICAL HAZARDS

Walking in and around open excavation

ACTIVITY CONSIDERATIONS

List Planned Activities

<u>Activity</u>	<u>Location</u>	<u>Date</u>
<u>Soil Segregation</u>	<u>O.I.L. Bldg 306</u>	<u>05 Nov 1991</u>
<u>Soil Sampling</u>	<u>" " "</u>	<u>05 Nov 1991</u>
<u>Soil Removal</u>	<u>" " "</u>	<u>07 - 15 Nov 1991</u>
_____	_____	_____
_____	_____	_____

Who to call for Access: Jay Pich Phone Number 818/790-1044
Will Officials be Present: XXX Yes No
Are Street Closures Necessary: XXX Yes No
Is dust Control Necessary: XXX Possibly Yes No
Is there easy access for water trucks XXX Yes No

Describe options for dust control: Water truck or fire hydrant
(or equivalent) with one inch water hose.

What regulatory agencies are involved: None

Who at what agencies require notification of work commencement: None

SPECIFIC AREA SAFETY

Complete pages 4 and 5 for each within the site that exhibits different characteristics from the main health and safety criteria.

Area location(s) (description): O.I.L. Bldg 306 Contaminated soil excavation and removal

Work Description: Excavate contaminated soil using a backhoe tractor
Monitor the excavation for VOC as soil is excavated. Stockpile soil
on site for proper waste profiling and disposal.

Monitoring Equipment: Organic vapor analyzer (OVA)

Chemical Hazards Present: Petroleum based compounds

Physical Hazards Present: Walking in and around work area

Planned Level of Protection: "D" Upgrade Criteria: If contamination with VOC's of greater than 50 ppm in the breathing space for over 5 minute is detected after commencement of soil excavation, we will upgrade to level "C" protection.

Personal Protective Equipment:

Feet: Steel toe shoes

Clothing: Hard hat, cotton coveralls (or equivalent)

Respiratory: None required

Eyes: Safety glasses when required.

Gloves: Leather work gloves or equivalent

Comments: _____

Upgrade Protection Level: "C" Work Stop Criteria: If VOC levels of 50 ppm or more are detected in breathing space for greater than 5 minutes.

Upgrade Personal Protective Equipment:

Feet: N/A will not upgrade to Level "B"

Clothing: _____

Respiratory: _____

Eyes: _____

Gloves: _____

Additional Monitoring Equipment Required: OVA

Comments: _____

EMERGENCY INFORMATION

Report all accidents and injuries to Kitchell Contractors

Phone Numbers:

Local Police: 911 and (818) 248-3464

Local Fire: 911 and Activates emergency response systems

Local Ambulance: 911 and On site 818/353-3333

Local Hospital: Verdugo Hills Medical Center

On Site Phone No.: (818) 790-1044

Client Contact: Jay Pich (Don LaFontan - JPL)

Maness Environmental Services: 213/595-4555

Hospital Route (Attach map with route highlighted) From JPL go south on Oak Grove Drive to Foothill Boulevard. Go north west on Foothill Blvd approx. 1.6 miles to Verdugo Rod. Go west on Verdugo Road 6 miles to Verdugo Hills Medical Center. Enter left off Verdugo, go up hill for emergency Trauma Center.

Location of Nearest:

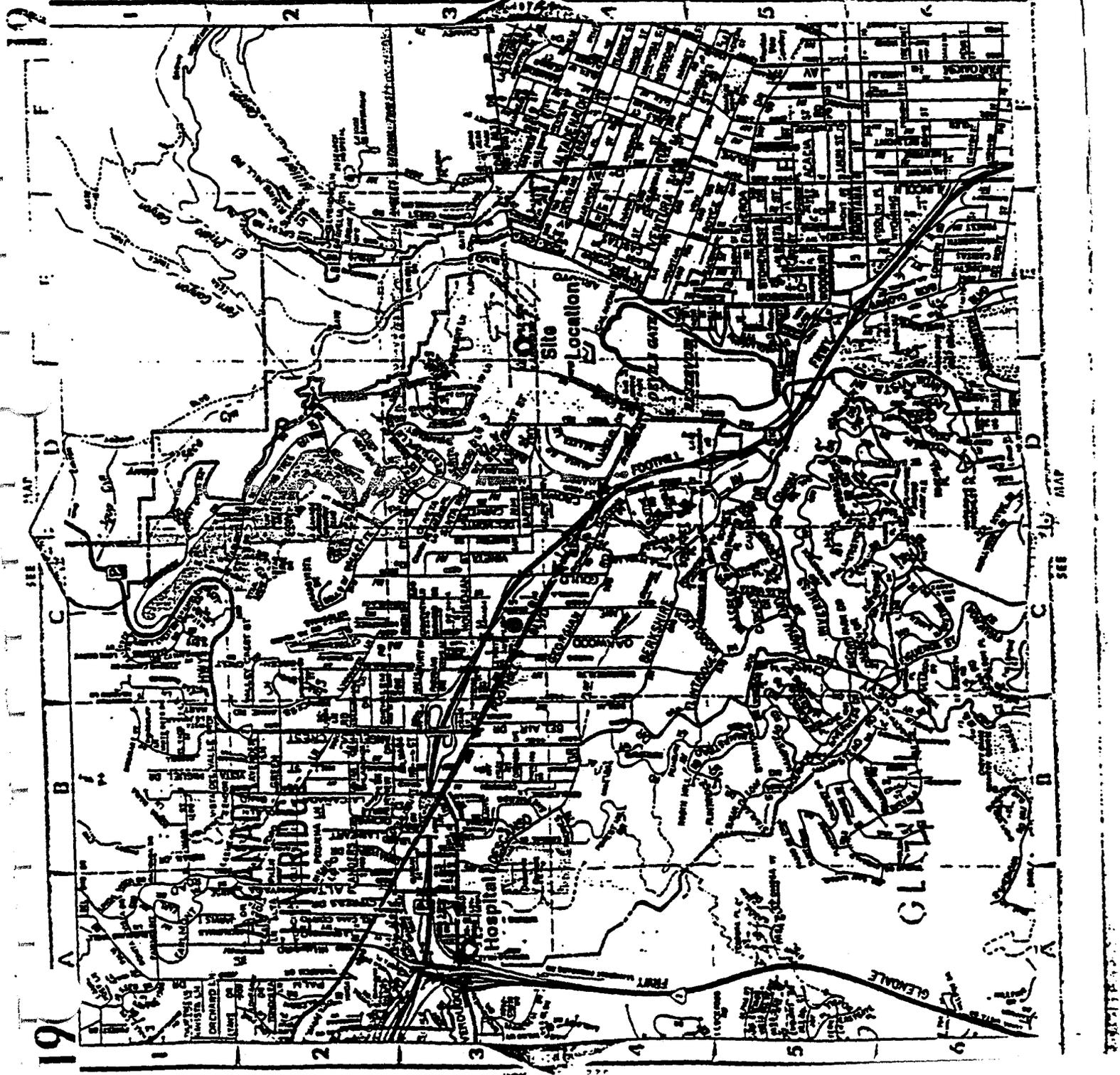
Phone: Kitchell Contractors Temporary Office Trailer 818/790-1044

Water Source: Bottled water in office trailer

Public Right of Way: Oak Grove Drive and Foothill Boulevard

Sanitation Facility: Temporary toilets in various on-site locations

DOUGHERTY ST



19
 SEE MAP
 F
 E
 D
 C
 B
 A

SEE MAP
 D
 C
 B
 A

Project JET PROPULSION LABORATORY
OBSERVATIONAL INSTRUMENTS LABORATORY Bldg. 306
Project No. 5332A

Date 18 April 91

Report No. 1

project report

From: Jay Pich Project Superintendent Distribution:

To: ALL SUBCONTRACTORS

- ↔ WEEKLY MEETINGS - 9:30 am ~~Mondays~~ ^{4:00}
- <> WORKING HOURS - 7:00 am - 9:00 pm (7 days a week)
Must schedule weekend work in advance
- <> SAFETY
 - 1.) JPL On Site Inspectors
 - 2.) CAL OSHA
 - 3.) KCI On Site Inspectors
 - 4.) Weekly Foreman Toolbox Meetings required by all Subs
KCI to get a copy of each Meeting.
 - 5.) Backup Alarms required on all Equipment
 - 6.) Proper Attire, ie Hard Hats, Shoes, Clothing
 - 7.) MSDS - Every item must be addressed and reported To KCI
 - 8.) Cleanup - JPL Reports Daily
 - 9.) Fighting - Permanent removal from Campus
 - ~~10.) Backcheck Valves on Welding~~
 - 11.) Fire Extinguishers
 - ~~12.) Welding Permits~~
 - 13.) Blocking of Roads
 - ~~14.) JPL Fire Dept. Req's~~
 - 15.) Absolutely No Alcohol on JPL Campus
- ↔ INSPECTION - Request for Inspection Form
- ↔ 2 WAY RADIOS - All Subs using Radios must submit Frequency for approval
- <> PARKING/SECURITY - See attached JPL requirements
- <> MEDICAL - On Site Services - Dial #353-3333 NOT 911
Report all accidents and injuries to KCI
- <> NO RADIOS ALLOWED ON SITE - Including Headset Radios'
- ↔ UNION REPS - Must sign in at Visitor Control, Guard Escort
- ↔ VISITORS - All Visitors must sign in at KCI Field Office, including Salesmen
- <> POWER TO SUB'S TRAILERS
- <> HARASSMENT TO LAB EMPLOYEES

Project JET PROVISION LABORATORY
OBSERVATIONAL INSTRUMENTS LABORATORY Bldg. 306
Project No. 5332A

Date 18 April 91

Report No. 1

project report

From: Jay Pich/Project Superintendent Distribution:

To: ALL SUBCONTRACTORS

- <> CAMPUS OFF-LIMITS TO CONSTRUCTION WORKERS
- <> 2 WEEK LOOK AHEAD SCHEDULE
- <> AUTHORIZATION TO PROCEED ON OWNER CHANGES/RFI'S/KCI T&M'S
- <> RFI PROCESS
- <> ASBUILTS

APPENDIX B

**ANALYTICAL REPORT AND ASSOCIATED
CHAIN-OF-CUSTODY DOCUMENTS FOR
INITIAL EXCAVATION AND
NON-HAZARDOUS DETERMINATION
SAMPLING**

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Manass Environmental
Client Address: 1101 East Spring Street
Long Beach, CA 90807

Report Date: 8/26/91
Lab P.N.: 2278
Client P.N.: 805

Project Name: Jet Propulsion Laboratory
Project Address: 4800 Oak Grove Drive
Pasadena, CA

Date Sampled: 8/23/91
Date Analyzed: 8/23/91
Physical State: Solid

<u>Sample ID</u>	TPH Recoverable EPA 418.1 mg/kg
E1	130
SP-1	300
SP-2	190
SP-3	430
SP-5	410
SP-6	650
SP-8	950
SP-9	140
E2	110
E4	450
E5	120

Detection limits mg/kg	5.0
------------------------	-----

ND; Not Detectable
The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness Environmental
Client Address: 1101 East Spring Street
Long Beach, CA 90807

Report Date: 8/26/91
Lab P.N.: 2278
Client P.N.: 805

Project Name: Jet Propulsion Laboratory
Project Address: 4800 Oak Grove Drive
Pasadena, CA

Date Sampled: 8/23/91
Date Analyzed: 8/23/91
Physical State: Solid

<u>Sample ID</u>	TPH Recoverable EPA 418.1 <u>mg/kg</u>
SP-4	2400
SP-7	2400

Detection limits mg/kg	10
------------------------	----

ND; Not Detectable
The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness Environmental
Client Address: 1101 East Spring Street
Long Beach, CA 90807

Report Date: 8/26/91
Lab P.N.: 2278
Client P.N.: 805

Project Name: Jet Propulsion Laboratory
Project Address: 4800 Oak Grove Drive
Pasadena, CA

Date Sampled: 8/23/91
Date Analyzed: 8/23/91
Physical State: Solid

<u>Sample ID</u>	TPH Recoverable EPA 418.1 mg/kg		
E3	3000		
<table border="1"><tr><td>Detection limits mg/kg</td><td>15</td></tr></table>		Detection limits mg/kg	15
Detection limits mg/kg	15		

ND; Not Detectable
The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

1520 E. 155th Ave.

Suite 130

Santa Ana

California

92705

Tel 714.757.7022

Fax 714.757.7274

LABORATORY REPORT

Client: Maness Environmental
Client Address: 1101 East Spring Street
Long Beach, CA 90807

Report Date: 8/26/91
Lab P.N.: 2278
Client P.N.: 805

Contact: Gabriele Baader

Project Name: Jet Propulsion Laboratory
Project Address: 4800 Oak Grove Drive
Pasadena, CA

Date Sampled: 8/23/91
Date Received: 9/23/91
Date Analyzed: 8/23/91
Physical State: Solid

Quality Assurance/Quality Control Summary

<u>Parameter (Method)</u>	<u>QC Type</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>Relative Percent Difference</u>	<u>Acceptable Range</u>
TPH, Recoverable (EPA 418.1)	M	102	70-125	2	0-20

M = Matrix Spike / Spike Duplicate

L = Laboratory Control Sample Spike / Spike Duplicate


Reviewed


Approved

The samples were received by TERRA TECH LABS, Inc. in a chilled state, intact and accompanied by the Chain-of-Custody Record.
Acceptance of samples by Terra Tech Labs, Inc. is not an indication of condition upon receipt.
Laboratory Results apply only to the sample matrix analyzed and may not apply to an apparently identical or similar sample.
The Laboratory Report is the property of the client to whom it is addressed.
The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness Environmental
Client Address: 1101 East Spring Street
Long Beach, CA 90807

Report Date: 8/27/91
Lab P.N.: 2278
Client P.N.: N/A

Project Name: JPL
Project Address: 4800 Oak Grove Drive
Pasadena, CA

Date Sampled: 8/26/91
Date Analyzed: 8/26/91
Physical State: Solid

<u>Sample ID</u>	TPH Recoverable EPA 418.1 <u>mg/kg</u>
E6	78
E7	490
S1	38
S2	2000
S3	390
E8	24
E9	6.6
E10	940
E11	730
E12	61
E13	240
E14	83
E15	530
E16	480
E17	93

Detection limits mg/kg	5.0
------------------------	-----

ND; Not Detectable
The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

320 E. URBIE AVE.

Suite 130

Santa Ana

California

92705

Tel 714.757.7022

Fax 714.757.7274

LABORATORY REPORT

Client: Maness Environmental
 Client Address: 1101 East Spring Street
 Long Beach, CA 90807

Report Date: 8/27/91
 Lab P.N.: 2278
 Client P.N.: N/A

Contact: Dave Herrera

Project Name: JPL
 Project Address: 4800 Oak Grove Drive
 Pasadena, CA

Date Sampled: 8/26/91
 Date Received: 8/26/91
 Date Analyzed: 8/26/91
 Physical State: Solid

Quality Assurance/Quality Control Summary

<u>Parameter (Method)</u>	<u>QC Type</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>Relative Percent Difference</u>	<u>Acceptable Range</u>
TPH, Recoverable (EPA 418.1)	M	99	70-125	1	0-20

M = Matrix Spike / Spike Duplicate

L = Laboratory Control Sample Spike / Spike Duplicate



Reviewed



Approved

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TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

320 E. Jettie Ave.
 Suite 130
 Santa Ana
 California
 92705
 Tel 714.757.7022
 Fax 714.757.7274

LABORATORY REPORT

Client: Maress
 Client Address: 1101 E. Spring Street
 Long Beach, CA 90807

Report Date: 9/15/91
 Lab P.N.: 2288
 Client P.N.: 805-1H

Contact: Dave Herrera

Project Name: JPL
 Project Address: Pasadena, CA

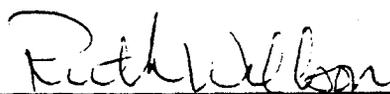
Date Sampled: 8/26/91
 Date Received: 8/26/91
 Date Analyzed: 8/27/91-9/15/91
 Physical State: Solid

Quality Assurance/Quality Control Summary

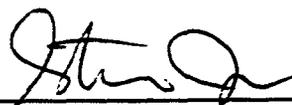
<u>Parameter (Method)</u>	<u>QC Type</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>Relative Percent Difference</u>	<u>Acceptable Range</u>
TPH, Recoverable (EPA 418.1)	M	95	70-125	3	0-20

M = Matrix Spike / Spike Duplicate

L = Laboratory Control Sample Spike / Spike Duplicate



 Reviewed



 Approved

The samples were received by TERRA TECH LABS, Inc. in a chilled state, intact and accompanied by the Chain-of-Custody Record.
 Acceptance of samples by Terra Tech Labs, Inc. is not an indication of condition upon receipt.
 Laboratory Results apply only to the sample matrix analyzed and may not apply to an apparently identical or similar sample.
 The Laboratory Report is the property of the client to whom it is addressed.
 The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness
Client Address: 1101 E. Spring Street
Long Beach, CA 90807

Report Date: 9/15/91
Lab P.N.: 2288
Client P.N.: 805-1H

Project Name: JPL
Project Address: Pasadena, CA

Date Sampled: 8/26/91
Date Analyzed: 8/27/91-9/3/91
Physical State: Solid

Predisposal Package

<u>Sample ID</u>	<u>Composite</u>	
Flash Point (EPA 1010)	>110 Degrees C	
pH (EPA 9045)	7.3	
TRPH (EPA 418.1)	180	mg/kg
Cyanides (EPA 335.2)	ND < 0.20	mg/kg
Phenols (EPA 420.1)	0.30	mg/kg
Sulfides (EPA 9030)	23	mg/kg
Percent Water	9.7%	
Percent Solids	90.3%	
Percent Oil	N/A	
Antimony (EPA 6010)	0.95	mg/kg
Arsenic (EPA 7060)	0.22	mg/kg
Barium (EPA 6010)	120	mg/kg
Beryllium (EPA 6010)	0.58	mg/kg
Cadmium (EPA 6010)	ND	mg/kg
Chromium (EPA 6010)	11	mg/kg
Cobalt (EPA 6010)	11	mg/kg
Copper (EPA 6010)	30	mg/kg
Lead (EPA 6010)	14	mg/kg
Mercury (EPA 7471)	0.10	mg/kg
Molybdenum (EPA 6010)	0.50	mg/kg
Nickel (EPA 6010)	8.1	mg/kg
Selenium (EPA 7740)	0.22	mg/kg
Silver (EPA 6010)	ND	mg/kg
Thallium (EPA 6010)	ND	mg/kg
Vanadium (EPA 6010)	43	mg/kg
Zinc (EPA 6010)	66	mg/kg

ND: Not Detectable

The Laboratory Results are only a portion of the Laboratory Report.

TERRATECH LABO^{Inc.}

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness
Client Address: 1101 E. Spring Street
Long Beach, CA 90807

Report Date: 9/15/91
Lab P.N.: 2288
Client P.N.: 805-1H

Project Name: JPL
Project Address: Pasadena, CA

Date Sampled: 8/26/91
Date Analyzed: 8/29/91
Physical State: Solid

Pesticides & PCB'S, EPA Method 8080A

<u>Sample ID</u>	<u>Composite</u>	<u>Detection</u>
	<u>Conc.</u>	<u>Limits</u>
	<u>(ug/kg)</u>	<u>(ug/kg)</u>
alpha-BHC	ND	1.0
gamma-BHC	ND	1.0
beta-BHC	ND	1.0
Heptachlor	ND	1.0
delta-BHC	ND	1.0
Aldrin	ND	1.0
Heptachlor epoxide	ND	1.0
Endosulfan (I)	ND	1.0
4,4'-DDE	ND	1.0
Dieldrin	ND	1.0
Endrin	ND	1.0
4,4-DDD	ND	1.0
Endosulfan (II)	ND	1.0
4,4'-DDT	ND	1.0
Endrin aldehyde	ND	1.0
Endosulfan sulfate	ND	1.0
4,4'-Methoxychlor	ND	1.0
Endrin ketone	ND	1.0
Aroclor 1016	ND	50
Aroclor 1221	ND	50
Aroclor 1232	ND	50
Aroclor 1242	ND	50
Aroclor 1248	ND	50
Aroclor 1254	ND	50
Aroclor 1260	ND	50

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness
Client Address: 1101 E. Spring Street
Long Beach, CA 90807

Report Date: 9/15/91
Lab P.N.: 2288
Client P.N.: 805-1H

Project Name: JPL
Project Address: Pasadena, CA

Date Sampled: 8/26/91
Date Extracted: 8/28/91
Date Analyzed: 9/6/91-9/14/91
Physical State: Solid

Sample ID: Composite

EPA 8270-Semi-volatile Organics

<u>Parameter</u>	<u>CAS #</u>	<u>Conc.</u> <u>µg/kg</u>	<u>Detection</u> <u>limit</u> <u>µg/kg</u>
N-Nitrosodimethylamine	62-75-9	ND	160
Phenol	108-95-2	ND	160
Aniline	62-53-3	ND	160
bis (2-Chloroethyl) ether	111-44-4	ND	160
2-Chlorophenol	95-57-8	ND	160
1,3-Dichlorobenzene	541-73-1	ND	160
1,4-Dichlorobenzene	106-46-7	ND	160
Benzyl alcohol	100-51-6	ND	160
1,2-Dichlorobenzene	95-50-1	ND	160
2-Methylphenol	95-48-7	ND	160
bis (2-Chloroisopropyl) ether	39638-32-9	ND	160
4-Methylphenol	106-44-5	ND	160
N-Nitroso-Di-n-Propylamine	621-64-7	ND	160
Hexachloroethane	67-72-1	ND	160
Nitrobenzene	98-95-3	ND	160
Isophorone	78-59-1	ND	160
2-Nitrophenol	88-75-5	ND	160
2,4-Dimethylphenol	105-67-9	ND	160
Benzoic acid	65-85-0	ND	820
bis (2-Chloroethoxy) Methane	111-91-1	ND	160
2,4-Dichlorophenol	120-83-2	ND	160
1,2,4-Trichlorobenzene	120-82-1	ND	160
Naphthalene	91-20-3	ND	160
4-Chloroaniline	106-47-8	ND	160
Hexachlorobutadiene	87-68-3	ND	160
4-Chloro-3-methylphenol	59-50-7	ND	160
2-Methylnaphthalene	91-57-6	ND	160
Hexachlorocyclopentadiene	77-47-4	ND	820
2,4,6-Trichlorophenol	88-06-2	ND	160
2,4,5-Trichlorophenol	95-95-4	ND	160
2-Chloronaphthalene	91-58-7	ND	160
2-Nitroaniline	88-74-4	ND	820
Dimethylphthalate	131-11-3	ND	160

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness
 Client Address: 1101 E. Spring Street
 Long Beach, CA 90807

Report Date: 9/15/91
 Lab P.N.: 2288
 Client P.N.: 805-1H

Project Name: JPL
 Project Address: Pasadena, CA

Date Sampled: 8/26/91
 Date Extracted: 8/28/91
 Date Analyzed: 9/6/91-9/14/91
 Physical State: Solid

Sample ID: Composite

EPA 8270-Semi-volatile Organics

Parameter	CAS #	Conc. µg/kg	Detection limit µg/kg
Acenaphthylene	208-96-8	ND	160
2,6-Dinitrotoluene	606-20-2	ND	160
3-Nitroaniline	99-09-2	ND	820
Acenaphthene	83-32-9	ND	160
2,4-Dinitrophenol	51-28-5	ND	820
4-Nitrophenol	100-02-7	ND	820
Dibenzofuran	132-64-9	ND	160
2,4-Dinitrotoluene	121-14-2	ND	160
Diethylphthalate	84-66-2	ND	160
4-Chlorophenyl-phenylether	7005-72-3	ND	160
Fluorene	86-73-7	ND	160
4-Nitroaniline	100-01-6	ND	820
4,6-Dinitro-2-methylphenol	534-52-1	ND	820
N-Nitrosodiphenylamine	86-30-6	ND	160
4-Bromophenyl-phenylether	101-55-3	ND	160
Hexachlorobenzene	118-74-1	ND	160
Pentachlorophenol	87-86-5	ND	820
Phenanthrene	85-01-8	ND	160
Anthracene	120-12-7	ND	160
Di-n-Butylphthalate	84-74-2	ND	820
Fluoranthene	206-44-0	ND	160
Pyrene	129-00-0	ND	160
Butylbenzylphthalate	85-68-7	ND	820
Benzo(a)anthracene	56-55-3	ND	160
Chrysene	218-01-9	ND	160
bis(2-Ethylhexyl)phthalate	117-81-7	ND	820
Di-n-octylphthalate	117-84-0	ND	160
Benzo(b)fluoranthene	205-99-2	ND	160
Benzo(k)fluoranthene	207-08-9	ND	160
Benzo(a)pyrene	50-32-8	ND	160
Indeno(1,2,3-cd)pyrene	193-39-5	ND	160
Dibenz(a,h)anthracene	53-70-3	ND	160
Benzo(g,h,i)perylene	191-24-2	ND	160

Enseco - CRL

7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 891-5917

September 17, 1991

TERRA TECH LAB, INC.
1920 EAST DEERE AVENUE, SUITE 130
SANTA ANA, CA 92705
ATTN: MS. RUTH WILSON

Analysis No.: G-9123914-001
Date Sampled: 26-AUG-1991
Date Sample Rec'd: 27-AUG-1991
Project: (TTL) #2288/801-1H) JPL - PASADENA, CA

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: G-9123914-001 shown above.

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

Note that ND means not detected at the reporting limit expressed. The reporting limit is raised to reflect the dilution factor of the sample.

Solid sample are reported on "as received" basis.

Preliminary data for EPA 8240 were provided on September 10, 1991 at 9:55 A.M.

Please note the cross-reference for CCR Bioassay analysis is as follows:

Enseco-CRL Ventura	Enseco-CRL	Client's Sample ID
<u>Sample ID</u>		
V-9124101-001	G-9123914-001	COMPOSITE



Reviewed



Approved

The Report Cover Letter is an integral part of this report.

Laboratory Report

TERRA TECH LABS, INC.
 1920 EAST DEERE AVENUE, SUITE 130
 SANTA ANA, CA 92705
 ATTN: MS. RUTH WILSON

Analysis No.: G-9123914-001
 Date Sampled: 26-AUG-1991
 Date Sample Rec'd: 27-AUG-1991
 Sample Type: SOLID
 Date Prepared: 29-AUG-1991
 Prep Method: EPA 5030
 Date Analyzed: 29-AUG-1991

By: SW
 By: SW

Project: (TTL #2288/801-1H) JPL - PASADENA, CA
 Sample ID: COMPOSITE

Purgeable Organics, EPA 8240

Units: ug/kg

Parameter	Sample Result	Sample RL	Blank Result	Blank RL
Chloromethane	ND	10	ND	10
Bromomethane	ND	10	ND	10
Vinyl Chloride	ND	10	ND	10
Chloroethane	ND	10	ND	10
Methylene Chloride	ND	5	ND	5
Acetone	ND	10	ND	10
Carbon Disulfide	ND	5	ND	5
Trichlorofluoromethane	ND	5	ND	5
1,1-Dichloroethene	ND	5	ND	5
1,1-Dichloroethane	ND	5	ND	5
Total 1,2-Dichloroethene	ND	5	ND	5
Chloroform	ND	5	ND	5
1,2-Dichloroethane	ND	5	ND	5
2-Butanone	ND	10	ND	10
1,1,1-Trichloroethane	ND	5	ND	5
Carbon Tetrachloride	ND	5	ND	5
Vinyl Acetate	ND	10	ND	10
Bromodichloromethane	ND	5	ND	5
1,2-Dichloropropane	ND	5	ND	5
cis-1,3-Dichloropropene	ND	5	ND	5
Trichloroethene	ND	5	ND	5
Dibromochloromethane	ND	5	ND	5
1,1,2-Trichloroethane	ND	5	ND	5
Benzene	ND	5	ND	5
cis-1,3-Dichloropropene	ND	5	ND	5
2-Chloroethylvinyl ether	ND	10	ND	10
Bromoform	ND	5	ND	5
4-Methyl-2-pentanone	ND	10	ND	10
2-Hexanone	ND	10	ND	10
Tetrachloroethene	ND	5	ND	5
1,1,2,2-Tetrachloroethane	ND	5	ND	5
Toluene	ND	5	ND	5
Chlorobenzene	ND	5	ND	5
Ethylbenzene	ND	5	ND	5
Styrene	ND	5	ND	5
Xylenes, Total	ND	5	ND	5

Laboratory Report

TERRA TECH LABS, INC.
1920 EAST DEERE AVENUE, SUITE 130
SANTA ANA, CA 92705
ATTN: MS. RUTH WILSON
Project: (TTL #2288/801-1H) JPL - PASADENA, CA

Analysis No.: G-9123914-001
Date Sampled: 26-AUG-1991
Date Sample Rec'd: 27-AUG-1991
Sample Type: SOLID

Purgeable Organics, EPA 8240
Surrogate Summary

Date	Parameter (Method)	Percent Recovery	Acceptable Range
29-AUG-1991	1,2 DICHLOROETHANE-D4 (EPA 8240)	120	70-135
29-AUG-1991	TOLUENE-D8 (EPA 8240)	125	69-138
29-AUG-1991	BROMOFLUOROBENZENE (EPA 8240)	101	60-137

Laboratory Report

TERRA TECH LABS, INC.
 1920 EAST DEERE AVENUE, SUITE 130
 SANTA ANA, CA 92705
 ATTN: MS. RUTH WILSON
 Project: (TTL #2288/801-1H) JPL - PASADENA, CA

Analysis No.: G-9123914-001
 Date Sampled: 26-AUG-1991
 Date Sample Rec'd: 27-AUG-1991
 Sample Type: SOLID

Matrix Spike/Matrix Spike Duplicate Report

Sample Number	Parameter (Method)	Units	Sample	Observed Concentration		Amt. Spiked	% Recovery			% RPD
				MS	MSD		MS	MSD	Avg.	
9123902-014	1,1-DICHLOROETHENE (EPA 8240)	ug/kg	ND	61.7	67.9	50.0	123	136	130	10
9123902-014	TRICHLOROETHENE (EPA 8240)	ug/kg	ND	59.2	59.8	50.0	118	120	119	1
9123902-014	BENZENE (EPA 8240)	ug/kg	ND	61.7	61.4	50.0	123	123	123	0
9123902-014	TOLUENE (EPA 8240)	ug/kg	ND	63.3	64.6	50.0	127	129	128	2
9123902-014	CHLOROBENZENE (EPA 8240)	ug/kg	ND	63.7	64.3	50.0	127	129	128	1

Matrix Spike/Matrix Spike Duplicate Report Cross-Reference

QC Batch	Date	Parameter (Method)	Sample Nos.
9123902-014	28-AUG-1991	1,1-DICHLOROETHENE (EPA 8240)	G-9123914-001
	28-AUG-1991	TRICHLOROETHENE (EPA 8240)	G-9123914-001
	28-AUG-1991	BENZENE (EPA 8240)	G-9123914-001
	28-AUG-1991	TOLUENE (EPA 8240)	G-9123914-001
	28-AUG-1991	CHLOROBENZENE (EPA 8240)	G-9123914-001

Laboratory Report

TERRA TECH LABS, INC.
 1920 EAST DEERE AVENUE, SUITE 130
 SANTA ANA, CA 92705
 ATTN: MS. RUTH WILSON
 Project: (TTL #2288/801-1H) JPL - PASADENA, CA

Analysis No.: G-9123914-001
 Date Sampled: 26-AUG-1991
 Date Sample Rec'd: 27-AUG-1991
 Sample Type: SOLID

Laboratory Control Sample Report

QC Batch	Parameter (Method)	Amt. Spiked	Units	Avg. Spike Recov.	Acceptable Range	Rel. Pct. Diff.	Acceptable Range
L91241001	1,1-DICHLOROETHENE (EPA 8240)	50.0	ug/kg	94	49-133	5	15
L91241001	TRICHLOROETHENE (EPA 8240)	50.0	ug/kg	95	76-128	3	15
L91241001	BENZENE (EPA 8240)	50.0	ug/kg	100	79-118	0	14
L91241001	TOLUENE (EPA 8240)	50.0	ug/kg	101	75-118	2	14
L91241001	CHLOROBENZENE (EPA 8240)	50.0	ug/kg	103	74-129	2	14

Laboratory Control Sample Report Cross-Reference

<u>QC Batch</u>	<u>Date</u>	<u>Parameter (Method)</u>	<u>Sample Nos.</u>
L91241001	28-AUG-1991	1,1-DICHLOROETHENE (EPA 8240)	G-9123914-001
		TRICHLOROETHENE (EPA 8240)	G-9123914-001
		BENZENE (EPA 8240)	G-9123914-001
		TOLUENE (EPA 8240)	G-9123914-001
		CHLOROBENZENE (EPA 8240)	G-9123914-001

August 30, 1991

TERRA TECH LABS
1920 E. Deere Avenue
Suite 130
Santa Ana, CA 92705

Attn: Ruth Willson

JOB NO. 19323

A

FINAL LABORATORY REPORT

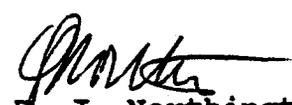
Samples Received: One (1) Soil Sample
Date Received: 8-27-91
Purchase Order No: Proj#: 2278/JPL

The sample was analyzed as follows:

<u>Samples Analyzed</u>	<u>Analysis</u>	<u>Results</u>
One (1) soil	Volatile Organics in TCLP Leachate Solution by EPA 8260	Data Sheets
One (1) soil	Semi-Volatile Organics in TCLP Leachate Solution by EPA 8270	Data Sheets

Page 1 of 1


Michael Shelton
Technical Director


J. J. Northington, Ph.D.
President

CLIENT: TERRA TECH LABS
WCAS JOB #: 19323

SAMPLE: TCLP LAB CLEARANCE

DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/28/91
DATE ANALYZED: 08/30/91

RUN NUMBER: 19323A1
SAMPLE AMOUNT: 100ML:1ML
MATRIX: LEACHATE

TCLP SEMI-VOLATILES (EPA 8270)

UNITS: UG/L (PPB)

CAS #	COMPOUND	CONCENTRATION	DET LIMIT
	CRESOLS	ND	10.
106-46-7	1,4-DICHLOROBENZENE	ND	10.
121-14-2	2,4-DINITROTOLUENE	ND	10.
118-74-1	HEXACHLOROBENZENE	ND	10.
87-68-3	HEXACHLOROBUTADIENE	ND	10.
67-72-1	HEXACHLOROETHANE	ND	10.
98-95-3	NITROBENZENE	ND	10.
87-86-5	PENTACHLOROPHENOL	ND	50.
110-86-1	PYRIDINE	ND	50.
95-95-4	2,4,5-TRICHLOROPHENOL	ND	50.
88-06-2	2,4,6-TRICHLOROPHENOL	ND	10.

SURROGATE	PERCENT RECOVERY	CONTROL LIMIT
PHENOL-d5	77	19-139
2-FLUOROPHENOL	70	21-154
NITROBENZENE-d5	85	35-114
2-FLUOROBIPHENYL	80	43-116
2,4,6-TRIBROMOPHENOL	100	10-123
TERPHENYL-d14	84	44-141

CLIENT: TERRA TECH LABS
WCAS JOB #: 19323

SAMPLE: METHOD BLANK

DATE RECEIVED: 08/28/91
DATE EXTRACTED: 08/28/91
DATE ANALYZED: 08/30/91

RUN NUMBER: 19323AA1
SAMPLE AMOUNT: 100ML:1ML
MATRIX: LEACHATE

TCLP SEMI-VOLATILES (EPA 8270)

UNITS: UG/L (PPB)

CAS #	COMPOUND	CONCENTRATION	DET LIMIT
	CRESOLS	ND	10.
106-46-7	1,4-DICHLOROBENZENE	ND	10.
121-14-2	2,4-DINITROTOLUENE	ND	10.
118-74-1	HEXACHLOROBENZENE	ND	10.
87-68-3	HEXACHLOROBUTADIENE	ND	10.
67-72-1	HEXACHLOROETHANE	ND	10.
98-95-3	NITROBENZENE	ND	10.
87-86-5	PENTACHLOROPHENOL	ND	50.
110-86-1	PYRIDINE	ND	50.
95-95-4	2,4,5-TRICHLOROPHENOL	ND	50.
88-06-2	2,4,6-TRICHLOROPHENOL	ND	10.

SURROGATE	PERCENT RECOVERY	CONTROL LIMIT
PHENOL-d5	75	19-139
2-FLUOROPHENOL	68	21-154
NITROBENZENE-d5	85	35-114
2-FLUOROBIPHENYL	77	43-116
2,4,6-TRIBROMOPHENOL	96	10-123
TERPHENYL-d14	85	44-141

WEST COAST ANALYTICAL SERVICE

MATRIX SPIKE (MS AND MSD)
% RECOVERY AND RPD SUMMARY

CLIENT: TERRA TECH LABS QC BATCH# : 082391W
 DATE ANALYZED: 08/28/91 MATRIX: WATER
 WCAS JOB #: 19323 UNITS: UG/L

VOLATILE COMPOUNDS

COMPOUND	CONC SPIKED	CONC SAMPLE	CONC MS	% REC MS	CONC MSD	% REC MSD	RPD
DICHLOROETHYLENE	50.	1.ND	48.	96	55.	110	-14
TRICHLOROETHYLENE	50.	1.ND	49.	98	49.	98	0
CHLOROBENZENE	50.	1.ND	51.	102	49.	98	4
TOLUENE	50.	1.ND	55.	110	55.	110	0
BENZENE	50.	1.ND	51.	102	53.	106	-4

* - ASTERISKED VALUES ARE OUTSIDE WARNING LIMITS

** - DOUBLY ASTERISKED VALUES ARE OUTSIDE CONTROL LIMITS

RPD=(MS-MSD)/((MS+MSD)/2)*100

RESULTS ARE REPORTED ON A WET WEIGHT BASIS

RPD: 0 OUT OF 5 RECOVERY: 0 OUT OF 10 OUTSIDE WARNING LIMITS

RPD: 0 OUT OF 5 RECOVERY: 0 OUT OF 10 OUTSIDE CONTROL LIMITS

ANALYTE	% RECOVERY		RPD	
	WARNING	CONTROL	WARNING	CONTROL
DICHLOROETHYLENE	51-155	25-182	18	27
TRICHLOROETHYLENE	59-120	44-135	13	19
CHLOROBENZENE	82-109	75-115	10	15
TOLUENE	80-116	71-125	13	19
BENZENE	73-125	60-138	14	19

WEST COAST ANALYTICAL SERVICE

MATRIX SPIKE (MS AND MSD)
% RECOVERY AND RPD SUMMARY

CLIENT : TERRA TECH LABS QC BATCH #: 082791W
DATE ANALYZED: 08/28/91 MATRIX : WATER
WCAS JOB # : 19323 UNITS : UG/L (PPB)

SEMI-VOLATILE COMPOUNDS

COMPOUND	CONC SPIKED	CONC SAMPLE	CONC MS	%REC MS	CONC MSD	%REC MSD	RPD
2,4-DINITROTOLUENE	50.	0.ND	55.	110*	52.	104	6
1,4-DICHLOROBENZENE	50.	0.ND	33.	66	32.	64	3
PENTACHLOROPHENOL	100.	0.ND	109.	109	107.	107	2

** - Outside Control Limits
* - Outside Warning Limits
RPD=(MS-MSD)/((MS+MSD)/2)*100

RPD: 0 Out of 3 RECOVERY: 0 Out of 6 Outside CONTROL limits
RPD: 0 Out of 3 RECOVERY: 1 Out of 6 Outside WARNING limits

WATER QUALITY CONTROL LIMITS

	RECOVERY		RPD	
	WARNING	CONTROL	WARNING	CONTROL
2,4-Dinitrotoluene	51-109	36-124	11	18
1,4-Dichlorobenzene	41-75	32-82	21	33
Pentachlorophenol	20-176	0-215	28	43

VOLATILE SURROGATE PERCENT RECOVERY SUMMARY

DATE ANALYZED: 08/29/91

INSTRUMENT: 4500

MATRIX: LEACHATE

SAMPLE #	TOLUENE-D8	BFB	1,2-DICHLORO-ETHANE-D4
CONTROL LIMITS	88-110	86-115	76-114
TCLP BLANK	94	110	94
TCLP LAB CLEARANCE	98	110	98

Data Reporting Qualifiers

- Value** - If the result is a value greater than or equal to the Detection Limit (DL), the value is reported.
- ND** - Indicates that the compound was analyzed for but not detected. The minimum DL for the sample with the ND is reported based on necessary concentration or dilution actions.
- B** - Indicates that the compound was found in the sample and the blank, and the value is reported without blank subtraction.

CHAIN-OF-CUSTODY RECORD

Client Manness		Date 8/23/91		Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)	Analysis Requested						Number of Containers	TTL Project # 1140 2278			
Project Name Jet Propulsion Laboratory		Client Project # 805				Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab #1	Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020				Page 01 of 02	
Project Address 4800 Oak Grove Drive															Lab Use Only. Sample Condition as received: Chilled yes / no Sealed yes / no	
Sampler's Signature Paradise, CA															Container / Comments	
Sample ID	Sample Location	Date	Time													
E1		8/23/91	1330	ITD3638	S			X				1	glass jar ↓ glass jar			
SP-1		8/23/91	1430	ITD3639	S			X				1				
SP-2		8/23/91	1435	ITD3640	S			X				1				
SP-3		8/23/91	1445	ITD3641	S			X				1				
SP-4		8/23/91	1445	ITD3642	S			X				1				
SP-5		8/23/91	1455	ITD3643	S			X				1				
SP-6		8/23/91	1500	ITD3644	S			X				1				
SP-7		8/23/91	1530	ITD3645	S			X				1				
SP-8		8/23/91	1545	ITD3646	S			X				1				
SP-9		8/23/91	1605	ITD3647	S			X				1				
① Relinquished by: (Signature) <i>[Signature]</i>		Date 8/23/91	② Received by: (Signature) <i>[Signature]</i>			Date 8/23/91	Total Number of Containers 10		TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077							
Company: Manness		Time 4:45	Company:			Time										
③ Relinquished by: (Signature)		Date	④ Received by Laboratory: (Signature) <i>[Signature]</i>			Date 8/23/91										
Company:		Time	Company: TTL			Time as above										

CHAIN-OF-CUSTODY RECORD

Client Manness		Date 8/23/91		Analysis Requested		TTL Project # 2278											
Project Name Jet Propulsion Laboratory		Client Project # 805				Page 02 of 02											
Project Address 4800 Oak Grove Drive		Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab #1				Number of Containers Lab Use Only. Sample Condition as received: Chilled yes / no Sealed yes / no											
City/State Pasadena, CA																	
Sampler's Signature		Laboratory Sample Number		Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)				Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)		TPH as Diesel Fuel, LUFT Manual		TPH as Gasoline, Extractable		TPH by EPA Method 418.1		BTEX by EPA Method 8020	
Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)			Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	Container / Comments				
E2		8/23/91	1610	TD-3648	S				X		1	glass jar ↓ ↓ ↓					
E3		↓	1610	TD-3649	S				X		1						
E4		↓	1610	TD-3650	S				X		1						
E5		↓	1610	TD-3651	S				X		1						
① Relinquished by: (Signature) <i>Gabriele Standa</i>		Date 8/23/91	② Received by: (Signature)		Date	Total Number of Containers											
Company: MES		Time 4:45	Company:		Time	TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077											
③ Relinquished by: (Signature)		Date	④ Received by Laboratory: (Signature)		Date												
Company:		Time	Company: TTL		Time as above												

CHAIN-OF-CUSTODY RECORD

Client MANESS ENVIRONMENTAL		Date 8-26-91		Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A) Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	Analysis Requested						Number of Containers	TTL Project # 2278	
Project Name JPL		Client Project #				TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020					Page 1 of 2
Project Address 4800 OAK GROVE DR.		Turn Around Requested:				TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020						Lab Use Only. Sample Condition as received: Chilled yes <input type="checkbox"/> NO Sealed yes <input type="checkbox"/> NO
Pasadena, CA		<input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab										Container / Comments		
Sampler's Signature														
Sample ID	Sample Location	Date	Time	Lab Sample Number	Sample Matrix	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	Other	Other	Other	Other	
E6		8-26-91	0940	TTD 3677	S			X					1 GLASS JAR	
E7		"	1004	TTD 3678	S			X					1 GLASS JAR	
S1		"	1020	TTD 3679	S			X					1 GLASS JAR	
S2		"	1020	TTD 3680	S			X					1 GLASS JAR	
S3		"	1020	TTD 3681	S			X					1 GLASS JAR	
E8		"	1505	TTD 3682	S			X					1 GLASS JAR	
E9		"	1505	TTD 3683	S			X					1 GLASS JAR	
E10		"	1505	TTD 3684	S			X					1 GLASS JAR	
E11		"	1505	TTD 3685	S			X					1 GLASS JAR	
E12		"	1505	TTD 3686	S			X					1 GLASS JAR	
① Relinquished by: (Signature) <i>[Signature]</i>		Date 8/28/91		② Received by: (Signature)		Date		Total Number of Containers 1						
Company: MANESS		Time 4:15pm		Company:		Time								
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature)		Date		TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077						
Company:		Time		Company: TTL		Time 8-26-91								
AS ABOVE														

CHAIN-OF-CUSTODY RECORD

Client MANESS ENVIRONMENTAL		Date 8-26-91		Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A) Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	Analysis Requested		TTL Project # 2278	
Project Name JPL		Client Project #								Page 2 of 2		Lab Use Only. Sample Condition as received: Chilled yes / <input checked="" type="checkbox"/> no Sealed yes / <input checked="" type="checkbox"/> no	
Project Address 4800 OAK GROVE DR.		Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab								Number of Containers			
PASADENA, CA													
Sampler's Signature				TCLP 8270	TCLP 8240	Container / Comments							
Sample ID	Sample Location	Date	Time										
E13		8-26-91	1515	TID 3687	S			X			1	GLASS JAR	
E14		"	1515	TID 3688	S			X			1	GLASS JAR	
E15		"	1515	TID 3689	S			X			1	GLASS JAR	
E16		"	1515	TID 3690	S			X			1	GLASS JAR	
E17		"	1515	TID 3691	S			X			1	GLASS JAR	
TCLP LAB CLEARANCE		"	1530	TID 3692	S					X	X	1	PLASTIC JAR
① Relinquished by: (Signature) <i>[Signature]</i>		Date 8/26/91		② Received by: (Signature)		Date		Total Number of Containers 16					
Company: MANESS		Time 4:15pm		Company:		Time		TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077					
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature) <i>[Signature]</i>		Date 8-26-91							
Company:		Time		Company: TTL		Time AS ABOVE							



Environmental Services, Inc.
 11 E. Spring St.
 Long Beach, CA 90807
 Telephone (213) 595-4555
 FAX (213) 427-8420

SAMPLE SUBMITTAL FORM/CHAIN OF CUSTODY RECORD (1146)

PLEASE REPORT DATE ANALYZED (AND TIME WHERE NECESSARY) WITH ANALYTICAL RESULTS

SITE JPL - PASADENA

MES PROJECT NO. 805-114

DO NOT EXCEED THESE HOLDING TIMES				MUST BE ANALYZED WITHIN 40 DAYS AFTER EXTRACTION										MUST BE ANALYZED WITHIN 28 DAYS			NUMBER OF SAMPLE CONTAINERS
HALOGEN VOLATILES 601/8010	MUST BE ANALYZED BY THIS DATE	AROM. VOLATILES 602/8020	MUST BE ANALYZED BY THIS DATE	PURGEABLES GC/MS 624/8240	MUST BE ANALYZED BY THIS DATE	TITLE 22 NON-HAZARDOUS TESTS	MUST BE EXTRACTED BY THIS DATE	BASE NEUTRAL/ACIDS GC/MS 625/8270	MUST BE EXTRACTED BY THIS DATE	PESTICIDES/PCB 608/8080	MUST BE EXTRACTED BY THIS DATE	MUST BE ANAL. EXT. BY THIS DATE	MUST BE ANAL. EXT. BY THIS DATE	MUST BE ANAL. EXT. BY THIS DATE	PRIORITY POLLUTANT METALS (13)	CAM METALS (17) TTLC/STLC	

DISPOSE OF SAMPLES 30 DAYS AFTER REPORTING ANALYSIS	SEND RESULTS ATTN. <u>DAVID</u>		
SAMPLE NUMBER	DATE M/D	24 HR. TIME	LAB ID

S4	8/26	11:30	TTD 3693	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
S5	/	11:45	TTD 3694	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
S6	/	12:00	TTD 3695	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
S7	/	12:10	TTD 3696	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
S8	/	12:25	TTD 3697	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1

Composite Analysis

As per phone conversation with Dave Hawk at 8-27-91 analyze as follows in pre-disposal pkg. (do full CER Metals instead of 14 metals included in pre-disposal pkg. (do full CER instead of 8010 + 8020 do 8080 test)

REMARKS: Both PCBs and pesticides also add 8070 and full Dissol (CER screen) COMPOSITE SAMPLE !! (1) ALL 5 SAMPLES S4 through S8 ANALYZE AS ONE SAMPLE !! FOR TITLE 22 NON-HAZARDOUS TESTS

COLLECTED/RELINQUISHED BY <u>G. Braader</u> Signature <u>G. BRAADER</u> Printed Name <u>MES</u> Company	RECEIVED BY <u>Rick Jones</u> 13:00 Signature Time <u>RICK JONES</u> 8-26-91 Printed Name Date <u>TERRA TECH LABS</u> Company	RELINQUISHED BY Signature Printed Name Company	RECEIVED BY (LABORATORY) Signature Time Printed Name Date Company	SAMPLE RECEIPT Total Number of Containers Chain of Custody Seals Rec'd Good Condition/Cold Conforms to Record Lab No.
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APPENDIX C

**LABORATORY REPORT AND ASSOCIATED
CHAIN-OF-CUSTODY DOCUMENTS FOR THE
CCR TITLE 22 BIOASSAY TOXICITY TEST**

Enseco - CRL

2810 Bunsen Ave. Unit A • Ventura, CA 93003
(805) 650-0546 • FAX: (805) 650-0756

13-SEP-91

CRL-Garden Grove
7440 Lincoln Way
Garden Grove, CA 92641
ATTN: Technical Services

Analysis No.: V-9124101-001
Date Sampled: 26-AUG-1991
Date Sample Rec'd: 29-AUG-1991
Project: (G-9123914) TERRA TECH LABS, INC.
JPL-PASEDNA, CA.

Enclosed with this letter is the report on the chemical, biological and/or physical analyses on the sample from ANALYSIS NO: V-9124101-001 shown above.

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

Note that ND means not detected at the reporting limit (RL) expressed. The detection limit is the reporting limit raised to reflect the dilution factor of the sample.

Solid samples are reported on "as received" basis.


Reviewed


Approved

The Report Cover Letter is an integral part of this report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is sent. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Laboratory Report

CRL-Garden Grove
7440 Lincoln Way
Garden Grove, CA 92641
ATTN: Technical Services

Analysis No.: V-9124101-001
Date Sampled: 26-AUG-1991
Date Sample Rec'd: 29-AUG-1991
Date Started: 3-SEP-1991 By: RP
Sample Type: SOIL

Project: (G-9123914) Terra Tech Labs, Inc. / JPL-Pasadena, CA.
Sample ID: (G-9123914-001) Composite

CCR Screen Bioassay, Fathead Minnow
(CA DOHS 1988)

Parameter	Sample Result	Units	Date Completed
CCR-Screen Bioassay	>750	mg/L	09/07/91

FATHEAD MINNOW HAZARDOUS WASTE SCREENING BIOASSAY

Lab No.: V-9124101-001

Client/ID: CRL-66/6-9123914
Terra Tech Labs, Inc.

TEST SUMMARY

Species: Pimephales promelas.

Size: Av. length: 28.4 mm; av. wt.: 0.26 g.

Test Protocol: Calif. F&G/DOHS 1988.

Test type: Static.

Test chamber volume 10 l.

Number of fish per chamber: 10.

Acclimation/dilution water: Reconstituted soft water (hardness 40-48 mg/l CaCO₃)

Aeration: Single bubble through narrow-bore tube. QA/QC Batch No.: PP-91238-1.

Source: Thomas Fish

Date fish received: 8-9-91

Regulations: CCR Title 22.

Endpoints: Survival at 96 hrs.

Temperature: 20 +/- 2°C.

Number of replicates: 2.

TEST DATA

	INITIAL				24 Hr				48 Hr				72 Hr				96 Hr			
DATE/TIME	9-3-91				9-4-91				9-5-91				9-6-91				9-7-91			
ANALYST:	1320				1345				1335				1305				1330			
	JLP				JLP				JLP				JLP				JLP			
	°C	DO	pH	#D	°C	DO	pH	#D	°C	DO	pH	#D	°C	DO	pH	#D	°C	DO	pH	#D
CONT A	20.1	7.5	7.9	0	19.9	6.0	7.3	0	19.9	6.9	7.3	0	20.0	7.3	7.5	0	20.2	7.3	7.3	0
CONT B	19.9	7.7	8.0	0	19.7	6.7	7.4	0	19.8	6.8	7.4	0	19.8	7.3	7.5	0	20.0	7.1	7.3	0
400 A	20.5	6.7	8.1	0	20.2	7.5	7.6	0	19.9	8.0	7.7	0	20.3	8.6	7.7	0	20.3	8.3	7.5	0
400 B	20.1	6.8	8.1	0	19.9	6.2	7.5	0	19.9	7.0	7.6	0	20.1	7.5	7.6	0	20.1	7.6	7.5	0
750 A	19.9	8.1	7.9	0	19.7	7.9	7.5	0	19.7	8.0	7.6	0	19.8	8.4	7.6	0	19.9	8.3	7.5	0
750 B	19.8	7.2	8.1	0	19.6	7.7	7.5	0	19.6	7.5	7.6	0	19.6	8.0	7.6	0	19.9	7.9	7.5	0
Comments:																				

ADDITIONAL WATER CHEMISTRIES

CONTROL		
	Alk.	Hard
0 hr	35	47
96hr	37	50

HIGH CONC.		
	Alk.	Hard
0 hr	35	47
96hr	38	52

RESULTS

Total Number Dead	
CONTROL	0/20
400 mg/l	0/20
750 mg/l	0/20

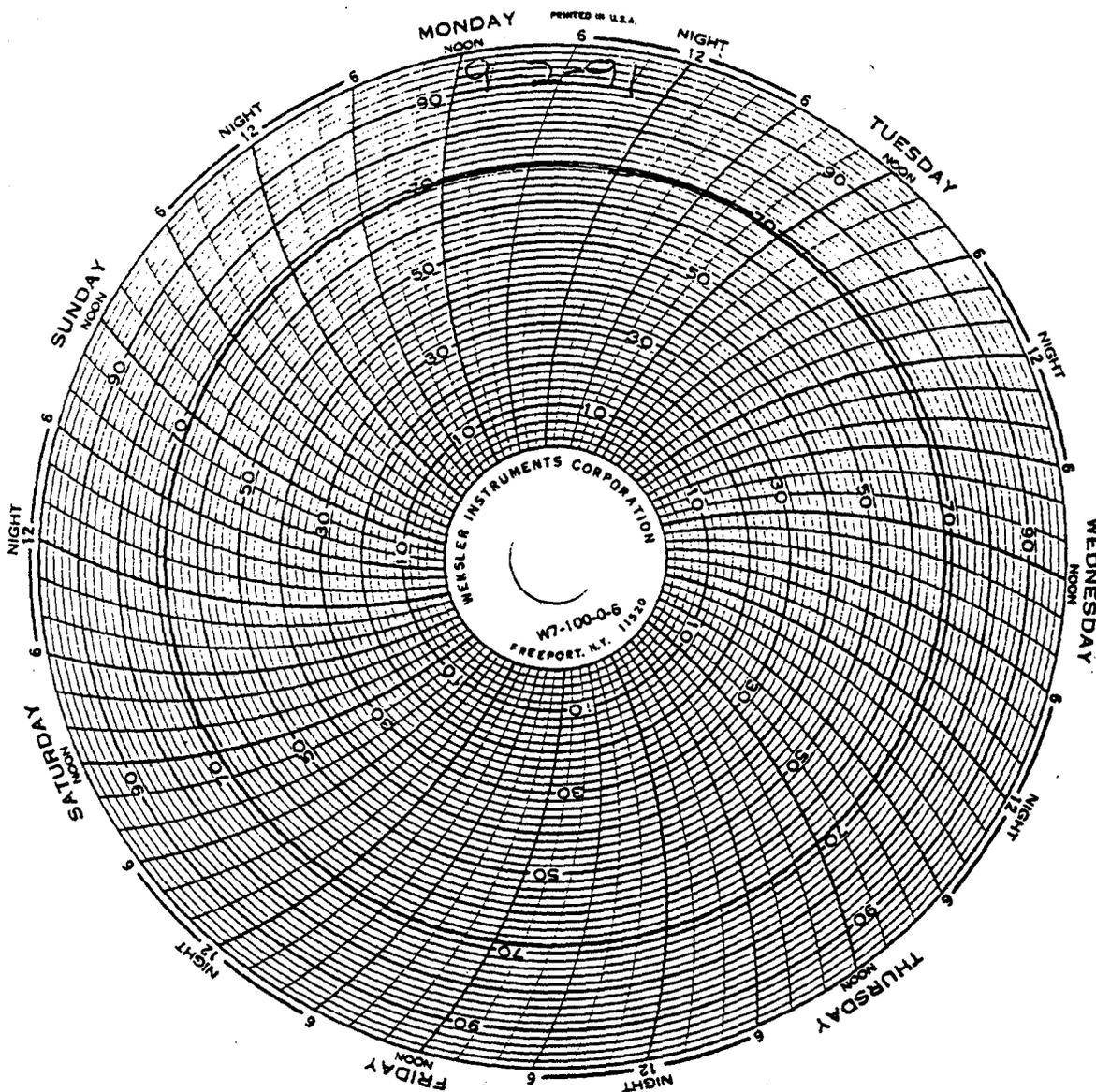
X	LC50 >750 mg/l (<40% dead in 750 mg/l conc.)
	400 <LC50< 750 (>40% dead in 750 & ≤60% in 400) *** Definitive Test Required ***
	LC50 <400 mg/l (>60% dead in 400 mg/l conc.)

BIOASSAY LABORATORY TEMPERATURE CHART

Lab No.: V-9124101-001

Date Beginning: 9/2/91 Ending: 9/9/91

Acceptable range: 20 +/- 2 °C. (64 to 72°F)





11 E. Spring St.
 Long Beach, CA 90807
 Telephone (213) 595-4555
 FAX (213) 427-8420

SAMPLE SUB

AL FORM/CHAIN OF CUSTODY RECORD (1111)

SITE JPL - PASADENA

MES PROJECT NO. 805-114

PLEASE REPORT DATE ANALYZED (AND TIME WHERE NECESSARY) WITH ANALYTICAL RESULTS																					
DO NOT EXCEED THESE HOLDING TIMES				MUST BE ANALYZED WITHIN 40 DAYS AFTER EXTRACTION				MUST BE ANALYZED WITHIN 28 DAYS													
DISPOSE OF SAMPLES 30 DAYS AFTER REPORTING ANALYSIS	SEND RESULTS ATTN. DAVID			HALOGEN VOLATILES 601/8010	MUST BE ANALYZED BY THIS DATE	AROM. VOLATILES 602/8020	MUST BE ANALYZED BY THIS DATE	PURGEABLES GC/MS 624/8240	MUST BE ANALYZED BY THIS DATE	TITLE 22 NON-HAZARDOUS MUST BE EXTRACTED BY THIS DATE	BASE/NEUTRAL/ACIDS GC/MS 625/8270	MUST BE EXTRACTED BY THIS DATE	PESTICIDES /PCB 608/8080	MUST BE EXTRACTED BY THIS DATE	MUST BE ANAL. EXT. BY THIS DATE	MUST BE ANAL. EXT. BY THIS DATE	MUST BE ANAL. EXT. BY THIS DATE	PRIORITY POLLUTANT METALS (13)	CAM METALS (17) TLIC/STLC	EP TOX METALS (8)	NUMBER OF SAMPLE CONTAINERS
SAMPLE NUMBER	DATE M/D	24 HR. TIME	LAB ID																		
S4	8/26	11:30	TTD 3693	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
S5	/	11:45	TTD 3694	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
S6	/	12:00	TTD 3695	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
S7	/	12:10	TTD 3696	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
S8	/	12:25	TTD 3697	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
<p>As per phone conversation with Dave Jones on 8-27-91 analyze as follows in pre-disposal pkg. (do full CER Metals instead of 14 metals included in pre-disposal pkg. (do full CER instead of 8010 + 8020 do 8080 test)</p> <p>REMARKS: Both PCBs and pesticides also add 8070 and full Dissassay (CER screen) COMPOSITE SAMPLE!! (1) ALL 5 SAMPLES S4 through S8 ANALYZE AS ONE SAMPLE!! FOR TITLE 22 NON-HAZARDOUS TESTS</p>																					
COLLECTED/RELINQUISHED BY <u>G. Bader</u> Signature				RECEIVED BY <u>Rick Jones</u> 13:00 Signature Time				RELINQUISHED BY Signature				RECEIVED BY (LABORATORY) Signature Time				SAMPLE RECEIPT					
G. BADER 13:00 Printed Name Time				RICK JONES 8-26-91 Printed Name Date												Total Number of Containers					
MES 8/26/91 Company Date				TERRA TECH LABS Company												Chain of Custody Seals					
																Rec'd Good Condition/Cold					
																Conforms to Record					
																Lab No.					

Composite Analysis

APPENDIX D

**SUMMARY OF METHODOLOGY FOR SAMPLE
COLLECTION & SOIL SAMPLE HANDLING
PROCEDURES FOR HOLLOW-STEM AUGER,
GRAB SAMPLING AND HAND AUGER
SAMPLING METHODS**

Soil test borings were conducted with a truck mounted drill rig equipped with 8.00 inch outer diameter (O.D.), 6.25 inch inner diameter (I.D.), hollow stem, continuous flight auger. Soil samples were collected in 5 feet intervals. A MES geologist conducted all field engineering under the direction of a state registered professional.

A California modified split barrel sampler was used to collect all soil samples from the test borings. The sampler was decontaminated with TSP detergent and clean water before collecting each sample. Upon recovery, the samples were sealed immediately with aluminum foil and plastic lids, then taped, labeled, and quickly placed in an ice chest on ice until delivery to the laboratory for analysis. All samples were screened in the field using an organic vapor analyzer (OVA) with a flame ionization detector (FID).

At each sample depth, the driller advanced the sampler one foot, and recorded blows-per-foot for evaluating soil density and consistency. Two 2 by 6 inch brass sample retainers were used to collect all soil samples from the test borings. The geologist used the soil from the upper sample retainer to describe lithology in accordance with the Unified Soil Classification System (USCS) and submitted the lower sample for chemical analysis. Proper chain-of-custody procedures were followed to ensure the integrity of samples being submitted for testing.

The soil samples from the spoils piles were collected using a hand advanced auger, which consists of a hammer attachment that drives 5 foot extensions and a sample barrel into the soil. The sample barrel contains a brass sample retainer in which the soil is collected. The sampler was decontaminated with TSP detergent and clean water before collecting each sample. Upon recovery, the samples were sealed immediately with aluminum foil and plastic lids, then taped, labeled, and quickly placed the samples in an ice chest on ice until delivery to the laboratory for analysis.

Grab samples were retrieved using a hand auger consisting of a T-handle, 5 foot extensions and an auger barrel. Using the T-handle the auger barrel was drilled into the soil. The retrieved soil was then packaged by hand in 250 milliliter Qorpack glass jars, sealed with Teflon lined lids, labeled, and immediately placed in an ice chest on ice until received by a state certified, analytical laboratory for testing.

APPENDIX E

SOIL BORING LOGS

BORING NO. D6A

SHEET 1 OF

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/29/91
 DATE FINISHED 8/29/91
 GROUND SURFACE EL. 1075
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0						
		34		sm		Silty sand, dark grey to brown, coarse to medium, trace pebbles and micaceous flakes, loose and dry in place, no hydrocarbon odor.
5		29		sm		Silty sand, light to dark brown, coarse to medium, trace pebbles and micaceous flakes, loose and slightly moist in place, slight hydrocarbon odor.
10		50		sm		Silty sand, gravelly, light brown, coarse to medium, trace pebbles and micaceous flakes, loose and dry in place, no odor. 1
15		90		sm		Silty sand, gravelly, light brown, coarse to medium, trace pebbles and micaceous flakes, loose and slightly moist in place, no odor. 1
20		60				

TOTAL DEPTH = 21 FEET

No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D6B

SHEET 1 OF

FIELD ENGINEER G. BAADER DATE BEGAN 8/29/91
 EDITED BY M. SCHOFIELD DATE FINISHED 8/29/91
 CHECKED BY D. HERRERA GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark grey to brown, coarse to medium, trace pebbles and micaceous flakes, loose and dry in place, no odor.
30		30		sm		Silty sand, dark brown, coarse to medium, trace pebbles and micaceous flakes, loose and slightly moist, no odor.
36		36		sm		Silty sand, gravelly, grey to dark brown, coarse to medium, trace pebbles and micaceous flakes, loose and slightly moist in place, no odor.
48		48		sm		Silty sand, gravelly, light brown to grey, coarse to medium, trace pebbles and micaceous flakes, loose and slightly moist, no odor.
66		66		sm		Silty sand, gravelly, light brown to brown, coarse to medium, trace pebbles and micaceous flakes, loose and slightly moist in place, no odor.
45		45				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D6C

SHEET 1 OF 1

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/30/91
 DATE FINISHED 8/30/91
 GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DESCRIPTION

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark brown, medium to fine, trace pebbles and micaceous flakes, loose and dry in place, no odor.
		34		sm		Silty sand, dark brown, coarse to fine, 20% pebbles, trace micaceous flakes, loose and dry in place, no odor.
5		14		sm		Silty sand, gravelly, medium brown, coarse to medium, trace pebbles and micaceous flakes, loose and dry in place, no odor.
10				sm		No sample recovery due to large boulders.
15						
20						

TOTAL DEPTH = 21 FEET

No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D6D

SHEET 1 OF

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/30/91
 DATE FINISHED 8/30/91
 GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark brown, medium to fine, trace cobbles and micaceous flakes, medium dense and dry in place, no odor.
14		14		sm		Silty sand, dark brown, medium to fine, 20% cobbles, trace micaceous flakes, medium dense and dry in place, no odor.
22		22		sm		Silty sand, gravelly, medium brown, medium to fine, trace cobbles and micaceous flakes, medium dense and slightly moist in place, no odor.
10		14		sm		Silty sand, gravelly, grey to brown, medium to fine, trace cobbles and micaceous flakes, loose and dry in place, no odor.
15				sm		No sample recovery due to large boulders.
20						

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D8A

SHEET 1 OF

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/29/91
 DATE FINISHED 8/29/91
 GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark, grey brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, slight hydrocarbon odor.
60		60		sm		Silty sand, dark brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
50		50		sm		Silty sand, gravelly, brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
10		25		sm		Silty sand, gravelly, brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
15		30		sm		No sample recovery due to large boulders.
20						

TOTAL DEPTH = 21 FEET

No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D8B

SHEET 1 OF 1

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/29/91
 DATE FINISHED 8/29/91
 GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0						
				sm		Silty sand, dark grey to brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, slight oily odor.
		35		sm		Silty sand, dark brown, coarse to medium, rusty spots, 10% cobbles, trace micaceous flakes, loose and slightly moist in place, slight oily odor.
5		34		sm		Silty sand, gravelly, grey to brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, slight oily odor.
		45		sm		Silty sand, gravelly, brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
10		29		sm		Silty sand, gravelly, brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
15		67				
20						

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION PL. PASADENA

BORING NO. D8C

SHEET 1 OF 1

FIELD ENGINEER G. BAADER DATE BEGAN 8/30/91
 EDITED BY M. SCHOFIELD DATE FINISHED 8/30/91
 CHECKED BY D. HERRERA GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0						
				sm		Silty sand, dark grey to brown, coarse to medium, trace cobbles, micaceous flakes, and asphalt, loose and dry in place, no odor. 3'
		48		sm		Silty sand, dark brown, coarse to medium, 10% cobbles, trace micaceous flakes and wood chips, loose and slightly moist in place, no odor. 5
5		41		sm		Silty sand, grey to brown, coarse to medium, trace micaceous flakes, cobbles, wood, and concrete, loose and dry in place, no odor. 10
10		20		sm		Silty sand, gravelly, light brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor. 15
15		82		sm		Silty sand, gravelly, light brown, coarse to medium, trace cobbles and micaceous flakes, medium dense and slightly moist in place, no odor. 20
20		90				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL. 3-B-DENA

BORING NO. D10B

SHEET 1 OF 1

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/29/91
 DATE FINISHED 8/29/91
 GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
3		50		sm		Silty sand, dark brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
5		60		sm		Silty sand, gravelly, light to medium brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
10		45		sm		Silty sand, gravelly, dark brown, coarse to medium, trace cobbles and micaceous flakes, medium dense and slightly moist in place, no odor.
15		90		sm		Silty sand, gravelly, light brown, coarse to medium, trace cobbles and micaceous flakes, medium dense and slightly moist, no odor.
20		57				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL PASADENA

BORING NO. D10C

SHEET 1 OF 1

FIELD ENGINEER G. BAADER DATE BEGAN 8/30/91
 EDITED BY M. SCHOFIELD DATE FINISHED 8/30/91
 CHECKED BY D. HERRERA GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DESCRIPTION

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, medium brown, coarse to medium, trace cobbles and micaceous flakes, asphalt and brick, loose and dry in place, no odor.
3		12		sm		Silty sand, dark brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
5		73		sm		Silty sand, gravelly, dark brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
10		93		sm		Silty sand, gravelly, dark brown, medium to fine, trace cobbles and micaceous flakes, loose and dry in place, no odor.
15		41		sm		Silty sand, gravelly, light brown, coarse to fine, 20% cobbles, trace micaceous flakes, loose and slightly moist in place, no odor.
20		83				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION PL. PASADENA

BORING NO. D13A

SHEET 1 OF 1

FIELD ENGINEER G. BAADER DATE BEGAN 8/28/91
 EDITED BY M. SCHOFIELD DATE FINISHED 8/28/91
 CHECKED BY D. HERRERA GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, medium to dark brown, coarse to medium, trace cobbles, roots, and micaceous flakes, loose and dry in place, slight oily odor.
24		24		sm		Silty sand, dark brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
45		45		sm		Silty sand, dark brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
65		65		sm		Silty sand, gravelly, light to medium brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
15		50		sm		Silty sand, gravelly, medium brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
20		35				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D13B

SHEET 1 OF 1

FIELD ENGINEER G. BAADER DATE BEGAN 8/29/91
 EDITED BY M. SCHOFIELD DATE FINISHED 8/29/91
 CHECKED BY D. HERRERA GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
3		25		sm		Silty sand, light to dark brown, coarse to fine, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
5		16		sm		Silty sand, gravelly, medium to dark brown, coarse to medium, trace cobbles and micaceous flakes, dense and slightly moist in place, no odor.
10		46		sm		Silty sand, gravelly, dark brown, coarse to medium, trace cobbles and micaceous flakes, dense and slightly moist in place, no odor.
15		53		sm		Silty sand, gravelly, light brown, coarse to fine, trace cobbles and micaceous flakes, dense and slightly moist in place, no odor.
20		58				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D13C

SHEET 1 OF 1

FIELD ENGINEER G. BAADER DATE BEGAN 8/30/91
 EDITED BY M. SCHOFIELD DATE FINISHED 8/30/91
 CHECKED BY D. HERRERA GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DESCRIPTION

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, medium brown, coarse to fine, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
3		24		sm		Silty sand, medium brown, coarse to fine, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
5		60		sm		Silty sand, medium brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
10		52		sm		Silty sand, gravelly, light brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
15		79		sm		Silty sand, light brown, coarse to medium, trace cobbles and micaceous flakes, dense and slightly moist in place, no odor.
20		49				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade
 with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PALMDENA

BORING NO. D15A

SHEET 1 OF 1

FIELD ENGINEER G. BAADER DATE BEGAN 8/28/91
 EDITED BY M. SCHOFIELD DATE FINISHED 8/28/91
 CHECKED BY D. HERRERA GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark brown, coarse to medium, trace cobbles, micaceous flakes, and wood, loose and dry in place, no odor.
12		12		sm		Silty sand, light to medium brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
25		25		sm		Silty sand, gravelly, light to medium brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
37		37		sm		Silty sand, gravelly, light to medium brown, coarse to medium, trace micaceous flakes, medium dense and slightly moist in place, no odor.
16		16		sm		Silty sand, gravelly, brown, coarse to medium, trace cobbles and micaceous flakes, medium dense and slightly moist in place, no odor.
23		23				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D15B

SHEET 1 OF 1

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/30/91
 DATE FINISHED 8/30/91
 GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DESCRIPTION

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark brown, medium to fine, trace cobbles, micaceous flakes, and wood, loose and dry in place, no odor.
3		12		sm		Silty sand, gravelly, light brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
5		25		sm		Silty sand, gravelly, light brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
10		66		sm		Silty sand, gravelly, brown, coarse to medium, trace cobbles and micaceous flakes, medium dense and slightly moist in place, no odor.
15		42		sm		Silty sand, gravelly, light brown, medium to fine, trace micaceous flakes, medium dense and slightly moist in place, no odor.
20		50				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D15C

SHEET 1 OF

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/30/91
 DATE FINISHED 8/30/91
 GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DESCRIPTION

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark brown, medium to fine, trace cobbles and micaceous flakes, loose and dry in place, no odor.
13		13		sm		Silty sand, medium brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
10		10		sm		Silty sand, gravelly, light brown, coarse to medium, 30% cobbles, trace micaceous flakes, loose and dry in place, no odor.
10		93		sm		Silty sand, gravelly, light brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
15		80		sm		Silty sand, gravelly, light brown, medium to fine, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
20		50				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D17A

SHEET 1 OF 1

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/28/91
 DATE FINISHED 8/28/91
 GROUND SURFACE EL. 1080'
 CASING ELEVATION NA

DESCRIPTION

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, brown to black, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, slight methane odor.
16		16		sm		Silty sand, medium to dark brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
50		50		sm		Silty sand, light to medium brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
45		45		sm		Silty sand, gravelly, light to medium brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
60		60		sm		Silty sand, gravelly, light to medium brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
85		85				

TOTAL DEPTH = 21 FEET

No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D17B

SHEET 1 OF

FIELD ENGINEER G. BAADER DATE BEGAN 8/30/91
 EDITED BY M. SCHOFIELD DATE FINISHED 8/30/91
 CHECKED BY D. HERRERA GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, medium brown, medium to coarse, trace micaceous flakes, loose and dry in place, slight oily odor.
		36		sm		Silty sand, gravelly, light to medium brown, coarse medium, trace micaceous flakes, loose and slightly moist in place, no odor.
5		35		sm		Silty sand, gravelly, light brown, coarse to fine, trace micaceous flakes, medium dense and dry in place, no odor.
10		35		sm		Silty sand, gravelly, light brown, coarse to medium, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
15		69		sm		Silty sand, gravelly, light brown, medium to fine, trace cobbles and micaceous flakes, medium dense and slightly moist in place, no odor.
20		40				

TOTAL DEPTH = 21 FEET

No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D17E

SHEET 1 OF 1

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/30/91
 DATE FINISHED 8/30/91
 GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark brown, coarse to medium, trace cobbles, micaceous flakes, and brick fragments, loose and dry in place, no odor.
3'		65		sm		Silty sand, gravelly, light brown, medium to fine, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
5'		13		sm		Silty sand, gravelly, medium brown, medium to fine, trace cobbles and micaceous flakes, loose and dry in place, no odor.
10'		35		sm		Silty sand, gravelly, light brown, coarse to medium, 30% cobbles, trace micaceous flakes, loose and dry in place, no odor.
15'		31		sm		Silty sand, gravelly, light brown, medium to fine, trace cobbles and micaceous flakes, medium dense and slightly moist in place, no odor.
20'		80				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D20A

SHEET 1 OF 1

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/30/91
 DATE FINISHED 8/30/91
 GROUND SURFACE EL. 1070'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0						
3		18		sm		Silty sand, gravelly, light brown, coarse to medium, trace cobbles and micaceous flakes, medium dense and dry in place, no odor.
5		39		sm		Silty sand, gravelly, light brown, medium to fine, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
10		17		sm		Silty sand, gravelly, light brown, medium to fine, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor.
15		56		sm		Silty sand, gravelly, light brown, coarse to medium, 30% cobbles, trace micaceous flakes, medium dense and slightly moist in place, no odor.
20		65				

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL PASADENA

BORING NO. D20B

SHEET 1 OF 1

FIELD ENGINEER G. BAADER
 EDITED BY M. SCHOFIELD
 CHECKED BY D. HERRERA

DATE BEGAN 8/30/91
 DATE FINISHED 8/30/91
 GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark brown, medium to fine, 20% cobbles, trace micaceous flakes, medium dense to dry in place, no odor.
3		12		sm		Silty sand, gravelly, light to dark brown, coarse to medium, 10% cobbles, trace micaceous flakes, loose and slightly moist in place, no odor.
5		10		sm		Silty sand, gravelly, medium to dark brown, coarse to medium, 30% cobbles, trace micaceous flakes, loose and dry in place, no odor.
10		45		sm		Silty sand, gravelly, light brown, medium to fine, trace micaceous flakes, loose and dry in place, no odor.
15		38		sm		Silty sand, gravelly, light brown, medium to fine, 20% cobbles, trace micaceous flakes, loose and dry in place, no odor.
20		60				

TOTAL DEPTH = 21 FEET

No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL PASADENA

BORING NO. D1

SHEET 1 OF 1

FIELD ENGINEER G. BAADER DATE BEGAN 8/28/91
 EDITED BY M. SCHOFIELD DATE FINISHED 8/28/91
 CHECKED BY D. HERRERA GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DESCRIPTION

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark brown, coarse to medium, trace cobbles and micaceous flakes, rusty colored spots, medium dense dry in place, no odor.
10		10		sm		Silty sand, dark brown, coarse to medium, trace cobbles and micaceous flakes, rusty colored spots, medium dense and dry in place, no odor.
5		12		sm		Silty sand, dark brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
10				sm		Silty sand, gravelly, light brown, coarse to medium, 30% cobbles, trace micaceous flakes, medium dense and slightly moist in place, no odor. No sample collection due to boring refusal and insufficient soil recovery. 10
15				sm		Silty sand, gravelly, light brown, medium to fine, trace cobbles and micaceous flakes, medium dense and slightly moist in place, no odor. No sample collection due to boring refusal and insufficient soil recovery. 15
20						20

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

BORING NO. D2

SHEET 1 OF 1

FIELD ENGINEER G. BAADER DATE BEGAN 8/28/91
 EDITED BY M. SCHOFIELD DATE FINISHED 8/28/91
 CHECKED BY D. HERRERA GROUND SURFACE EL. 1075'
 CASING ELEVATION NA

DESCRIPTION

DEPTH IN FEET	WELL DETAILS/ BACKFILL	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
0				sm		Silty sand, dark brown, coarse to medium, trace cobbles and micaceous flakes, loose and dry in place, no odor.
3		9		sm		Silty sand, medium to dark brown, coarse to medium, trace cobbles and micaceous flakes, medium dense and slightly moist in place, no odor.
5		14		sm		Silty sand, gravelly, light brown, medium to fine, 20% cobbles, trace micaceous flakes, medium dense and slightly moist in place, no odor.?
10		24		sm		Silty sand, gravelly, light brown, medium to fine, trace cobbles and micaceous flakes, loose and slightly moist in place, no odor. No sample collection due to boring refusal and insufficient soil recovery.
15				sm		Silty sand, gravelly, light brown, medium to coarse, trace cobbles and micaceous flakes, medium dense and slightly moist in place, no odor. No sample collection due to boring refusal and insufficient soil recovery.
20						

TOTAL DEPTH = 21 FEET
 No groundwater, boring finished to surface grade with bentonite.

CLIENT KITCHELL CONTRACTORS, INC.
 PROJECT NO. 805-1H/1101-1H
 LOCATION JPL, PASADENA

APPENDIX F

**LABORATORY REPORTS AND ASSOCIATED
CHAIN-OF-CUSTODY DOCUMENTS FOR
THE SOIL TEST BORING INVESTIGATION**

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness Environmental
Client Address: 1101 East Spring Street
Long Beach, CA 90807

Report Date: 8/29/91
Lab P.N.: 2306
Client P.N.: 805-1H

Project Name: JPL
Project Address: 4800 Oak Grove Drive
Pasadena, CA

Date Sampled: 8/28/91
Date Analyzed: 8/28/91
Physical State: Solid

<u>Sample ID</u>	<u>TPH, Recoverable EPA 418.1 mg/kg</u>
D15-3'	300
D15-5'	43
D15-10'	37
D15-15'	ND
D15-20'	ND
D13-3'	ND
D13-5'	ND
D13-10'	ND
D13-15'	ND
D13-20'	ND
D17-3'	ND
D17-5'	ND
D17-10'	ND
D17-15'	ND
D17-20'	ND
D10-3'	ND
D10-5'	21
D10-10'	ND
D10-15'	ND
D10-20'	ND
D1-3'	5500
D1-5'	ND
D1-10'	ND
D1-15'	ND
D2-3'	110
D2-5'	250
D2-10'	6.1
D2-15'	ND

Detection limits mg/kg	5.0
------------------------	-----

ND; Not Detectable

The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness Environmental
 Client Address: 1101 East Spring Street
 Long Beach, CA 90807

Report Date: 8/29/91
 Lab P.N.: 2306
 Client P.N.: 805-1H

Project Name: JPL
 Project Address: 4800 Oak Grove Drive
 Pasadena, CA

Date Sampled: 8/28/91
 Date Analyzed: 8/28/91
 Physical State: Solid

<u>Sample ID</u>	<u>Benzene</u> EPA 8020 <u>mg/kg</u>	<u>Toluene</u> EPA 8020 <u>mg/kg</u>	<u>Ethylbenzene</u> EPA 8020 <u>mg/kg</u>	<u>Xylenes,</u> Total EPA 8020 <u>mg/kg</u>	<u>TPH,</u> Extractable CA DHS <u>mg/kg</u>
D15-3'	ND	ND	ND	ND	ND
D15-5'	ND	ND	ND	ND	ND
D13-3'	ND	ND	ND	ND	ND
D13-5'	ND	ND	ND	ND	ND
D17-3'	ND	ND	ND	ND	ND
D17-5'	ND	ND	ND	ND	ND
D10-3'	ND	ND	ND	ND	ND
D10-5'	ND	ND	ND	ND	ND
D1-3'	ND	ND	ND	ND	94
D1-5'	ND	ND	ND	ND	ND
D2-3'	ND	ND	ND	ND	ND
D2-5'	ND	ND	ND	ND	ND
Detection limits mg/kg	0.10	0.10	0.10	0.10	20

ND; Not Detectable
 The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

Suite 130
Santa Ana
California
92705
Tel 714.757.7022
Fax 714.757.7274

LABORATORY REPORT

Client: Maness Environmental
Client Address: 1101 East Spring Street
Long Beach, CA 90807

Report Date: 8/29/91
Lab P.N.: 2306
Client P.N.: 805-1H

Contact: Dave Herrera

Project Name: JPL
Project Address: 4800 Oak Grove Drive
Pasadena, CA

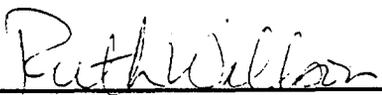
Date Sampled: 8/28/91
Date Received: 8/28/91
Date Analyzed: 8/28/91
Physical State: Solid

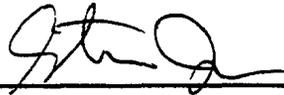
Quality Assurance/Quality Control Summary

<u>Parameter (Method)</u>	<u>QC Type</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>Relative Percent Difference</u>	<u>Acceptable Range</u>
Benzene (EPA 8020)	M	89	39-150	2	0-25
Toluene (EPA 8020)	M	85	46-148	4	0-25
Ethylbenzene (EPA 8020)	M	88	32-160	3	0-25
Xylenes, Total (EPA 8020)	M	88	46-148	4	0-25
TPH, Extractable (CA DHS)	M	85	40-140	8	0.35
TPH, Recoverable (EPA 418.1)	M	99	70-125	1	0-20
TPH, Recoverable (EPA 418.1)	M	96	70-125	0	0-20

M = Matrix Spike / Spike Duplicate

L = Laboratory Control Sample Spike / Spike Duplicate


Reviewed


Approved

The samples were received by TERRA TECH LABS, Inc. in a chilled state, intact and accompanied by the Chain-of-Custody Record.
Acceptance of samples by Terra Tech Labs, Inc. is not an indication of condition upon receipt.
Laboratory Results apply only to the sample matrix analyzed and may not apply to an apparently identical or similar sample.
The Laboratory Report is the property of the client to whom it is addressed.
The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness Environmental
Client Address: 1101 East Spring Street
Long Beach, CA 90807

Report Date: 8/30/91
Lab P.N.: 2306
Client P.N.: 805-1H

Project Name: JPL
Project Address: 4800 Oak Grove Drive
Pasadena, CA

Date Sampled: 8/29/91
Date Analyzed: 8/29/91
Physical State: Solid

<u>Sample ID</u>	<u>TPH, Recoverable EPA 418.1 mg/kg</u>
D6A-3'	25
D6A-5'	7.0
D8A-3'	15
D8A-5'	5.3
D6B-3'	27000
D6B-5'	26
D8B-3'	670
D8B-5'	12
D10B-3'	10000
D10B-5'	15
D13B-3'	41
D13B-5'	30

Detection limits mg/kg	5.0
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ND; Not Detectable
The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Manass Environmental
Client Address: 1101 East Spring Street
Long Beach, CA 90807

Report Date: 8/30/91
Lab P.N.: 2306
Client P.N.: 805-1H

Project Name: JPL
Project Address: 4800 Oak Grove Drive
Pasadena, CA

Date Sampled: 8/29/91
Date Analyzed: 8/29/91
Physical State: Solid

<u>Sample ID</u>	<u>Benzene EPA 8020 mg/kg</u>	<u>Toluene EPA 8020 mg/kg</u>	<u>Ethylbenzene EPA 8020 mg/kg</u>	<u>Xylenes, Total EPA 8020 mg/kg</u>	<u>TPH, Extractable CA DHS mg/kg</u>
D6B-3'	ND	ND	ND	ND	140
D8B-3'	ND	ND	ND	ND	ND
D10B-3'	ND	ND	ND	ND	99
Detection limits mg/kg	0.10	0.10	0.10	0.10	20

ND; Not Detectable
The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

Suite 130
Santa Ana
California
92705
Tel 714.757.7022
Fax 714.757.7274

LABORATORY REPORT

Client: Maness Environmental
Client Address: 1101 East Spring Street
Long Beach, CA 90807

Report Date: 8/30/91
Lab P.N.: 2306
Client P.N.: 805-1H

Contact: Dave Herrera

Project Name: JPL
Project Address: 4800 Oak Grove Drive
Pasadena, CA

Date Sampled: 8/29/91
Date Received: 8/29/91
Date Analyzed: 8/29/91
Physical State: Solid

Quality Assurance/Quality Control Summary

<u>Parameter (Method)</u>	<u>QC Type</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>Relative Percent Difference</u>	<u>Acceptable Range</u>
Benzene (EPA 8020)	M	105	39-150	8	0-25
Toluene (EPA 8020)	M	108	46-148	10	0-25
Ethylbenzene (EPA 8020)	M	108	32-160	10	0-25
Xylenes, Total (EPA 8020)	M	107	46-148	11	0-25
TPH, Extractable (CA DHS)	M	101	40-140	13	0.35
TPH, Recoverable (EPA 418.1)	M	101	70-125	1	0-20

M = Matrix Spike / Spike Duplicate

L = Laboratory Control Sample Spike / Spike Duplicate

Duth Wilson

Reviewed

Steve Jones

Approved

The samples were received by TERRA TECH LABS, Inc. in a chilled state, intact and accompanied by the Chain-of-Custody Record.
Acceptance of samples by Terra Tech Labs, Inc. is not an indication of condition upon receipt.
Laboratory Results apply only to the sample matrix analyzed and may not apply to an apparently identical or similar sample.
The Laboratory Report is the property of the client to whom it is addressed.
The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness Environmental
Client Address: 1101 East Spring Street
Long Beach, CA 90807

Report Date: 9/3/91
Lab P.N.: 2306
Client P.N.: 805-1H

Project Name: JPL
Project Address: 4800 Oak Grove Drive
Pasadena, CA

Date Sampled: 8/30/91
Date Analyzed: 8/30/91
Physical State: Solid

<u>Sample ID</u>	<u>TPH, Recoverable EPA 418.1 mg/kg</u>
D15B-3'	ND
D15B-5'	ND
D17B-3'	250
D17B-5'	140
D17B-10'	ND
D6C-3'	750
D8C-3'	1200
D6C-5'	56
D8C-5'	550
D6C-10'	ND
D8C-10'	9.2
D13C-3'	1500
D13C-5'	690
D13C-10'	ND
D6D-3'	480
D6D-5'	410
D6D-10'	36
D10C-3'	1000
D10C-5'	34
D20A-3'	20
D20A-5'	ND
D15C-3'	430
D15C-5'	16
D20B-3'	1300
D20B-5'	19
D17C-3'	260
D17C-5'	ND
D17E-3'	580
D17E-5'	12

Detection limits mg/kg	5.0
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TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

LABORATORY RESULTS

Client: Maness Environmental
 Client Address: 1101 East Spring Street
 Long Beach, CA 90807

Report Date: 9/3/91
 Lab P.N.: 2306
 Client P.N.: 805-1H

Project Name: JPL
 Project Address: 4800 Oak Grove Drive
 Pasadena, CA

Date Sampled: 8/30/91
 Date Analyzed: 8/30/91
 Physical State: Solid

Sample ID	Benzene EPA 8020 mg/kg	Toluene EPA 8020 mg/kg	Ethylbenzene EPA 8020 mg/kg	Xylenes, Total EPA 8020 mg/kg	TPH, Extractable CA DHS mg/kg
D17B-3'	ND	ND	ND	ND	ND
D17B-5'	ND	ND	ND	ND	ND
D6C-3'	ND	0.15	ND	ND	ND
D8C-3'	ND	0.10	ND	ND	ND
D6C-5'	ND	ND	ND	ND	ND
D8C-5'	ND	ND	ND	ND	ND
D13C-3'	ND	ND	ND	ND	ND
D13C-5'	ND	ND	ND	ND	ND
D6D-3'	ND	ND	ND	ND	ND
D6D-5'	ND	ND	ND	ND	ND
D10C-3'	ND	ND	ND	ND	ND
D15C-3'	ND	ND	ND	ND	ND
D20B-3'	ND	ND	ND	ND	ND
D17C-3'	ND	ND	ND	ND	ND
D17E-3'	ND	ND	ND	ND	ND

Detection limits mg/kg	0.10	0.10	0.10	0.10	20
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ND; Not Detectable
 The Laboratory Results are only a portion of the Laboratory Report.

TERRA TECH LABS Inc.

ENVIRONMENTAL TESTING

Suite 130
 Santa Ana
 California
 92705
 Tel 714.757.7022
 Fax 714.757.7274

LABORATORY REPORT

Client: Maness Environmental
 Client Address: 1101 East Spring Street
 Long Beach, CA 90807

Report Date: 9/3/91
 Lab P.N.: 2306
 Client P.N.: 805-1H

Contact: Dave Herrera

Project Name: JPL
 Project Address: 4800 Oak Grove Drive
 Pasadena, CA

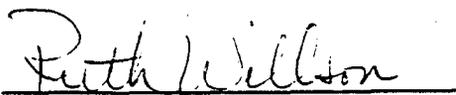
Date Sampled: 8/30/91
 Date Received: 8/30/91
 Date Analyzed: 8/30/91
 Physical State: Solid

Quality Assurance/Quality Control Summary

<u>Parameter (Method)</u>	<u>QC Type</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>Relative Percent Difference</u>	<u>Acceptable Range</u>
Benzene (EPA 8020)	M	107	39-150	3	0-25
Toluene (EPA 8020)	M	111	46-148	2	0-25
Ethylbenzene (EPA 8020)	M	109	32-160	3	0-25
Xylenes, Total (EPA 8020)	M	113	46-148	0	0-25
TPH, Extractable (CA DHS)	M	133	40-140	18	0.35
TPH, Recoverable (EPA 418.1)	M	101	70-125	1	0-20
TPH, Recoverable (EPA 418.1)	M	97	70-125	1	0-20

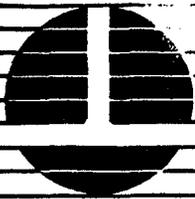
M = Matrix Spike / Spike Duplicate

L = Laboratory Control Sample Spike / Spike Duplicate


 Reviewed


 Approved

The samples were received by TERRA TECH LABS, Inc. in a chilled state, intact and accompanied by the Chain-of-Custody Record.
 Acceptance of samples by Terra Tech Labs, Inc. is not an indication of condition upon receipt.
 Laboratory Results apply only to the sample matrix analyzed and may not apply to an apparently identical or similar sample.
 The Laboratory Report is the property of the client to whom it is addressed.
 The Laboratory Results are only a portion of the Laboratory Report.



GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/04, 05/91
DATE RECEIVED: 09/17/91
DATE ANALYZED: 09/17/91
SAMPLE MATRIX: SOIL
CLIENT ID : 90-31-300-01

GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION:

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

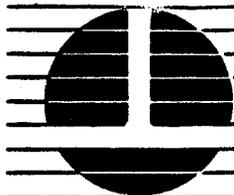
<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
D32B E-1 3'-4'	ND	10
D32B E-2 8'-9'	ND	10
D32B E-3 13'-14'	ND	10
D37C E-1 6'-7'	120	10
D37C E-2 10'-11'	ND	10
D37C E-3 19'-20'	ND	10
D42E E-1 3'-4'	470	10
D42E E-2 5'-6'	330	10
D42E E-3 9'-10'	ND	10

ND - Not detected below indicated limit of detection.

Analyst: RV

Reviewed and Approved: 
Report date: 9/17/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



GEOTEST

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and Testing Service

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LABORATORY REPORT

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/05/91
DATE RECEIVED: 09/17/91
DATE ANALYZED: 09/17/91
SAMPLE MATRIX: SOIL
CLIENT ID : 90-31-300-01
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION:

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY EPA METHOD 418.1

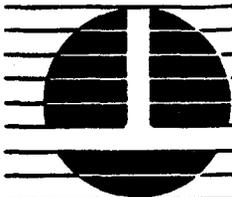
<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
D45F E-1 3'-4'	180	10
D45F E-2 7'-8'	ND	10
D45F E-3 13'-14'	ND	10
D48G E-1 3'-4'	71	10
D48G E-2 7'-8'	100	10
D48G E-3 12'-13'	ND	10

ND - Not detected below indicated limit of detection.

Analyst: RV

Reviewed and Approved: 
Report date: 9/18/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



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and Testing Service

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A M E N D E D L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/05/91
DATE RECEIVED: 09/17/91
DATE ANALYZED: 09/17/91
SAMPLE MATRIX: SOIL
CLIENT ID : 90-31-300-01

GEOTEST PROJECT NO.: 92851-09
ANALYSES: TPH-D

PROJECT NAME: JPL/OIL BLDG #306

**ANALYSIS OF HYDROCARBON CONTENT BY GAS CHROMATOGRAPHY
CAL/DOHS TPH FOR DIESEL**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
D42E E-1 3'-4'	ND	10
D42E E-2 5'-6'	ND	10
D45F E-1 3'-4'	ND	10

Amended due to typographical error on previous report.

ND - Not detected below indicated limit of detection.

Analyst: MF

Reviewed and Approved:

Report date: 9/20/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



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LABORATORY REPORT

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/05/91
DATE RECEIVED: 09/17/91
DATE ANALYZED: 09/17/91
SAMPLE MATRIX: SOIL
CLIENT ID : 90-31-300-01
GEOTEST PROJECT NO.: 92851-09
ANALYSES: BTEX

PROJECT NAME: JPL/OIL BLDG. #306

ANALYSIS OF ORGANIC AROMATICS EPA METHOD 8020

COMPONENTS	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
DETECTION LIMITS	0.005	0.005	0.005	0.015

SAMPLE ID

D42E E-1 3'-4'	ND	ND	ND	ND
D42E E-2 5'-6'	ND	ND	ND	ND
D45F E-1 3'-4'	ND	ND	ND	ND

ND - Not detected below indicated limit of detection.

Analyst: RV

Reviewed and Approved: 
Report date: 9/18/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



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and Testing Service

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**QUALITY ASSURANCE/QUALITY CONTROL SUMMARY
ANALYSIS OF HYDROCARBON CONTENT BY GAS CHROMATOGRAPHY
TOTAL PETROLEUM HYDROCARBONS - DIESEL**

GEOTEST CLIENT NAME: MANESS
GEOTEST PROJECT NO 92851-09
GEOTEST PROJECT NAME: JPL/OIL BLDG. #306
DATE ANALYZED: 9/17/91
SAMPLE MATRIX: SOIL

METHOD BLANK	CONCENTRATION (mg/kg)	DETECTION LIMIT (mg/kg)
	0.8	10
LABORATORY CONTROL STANDARD	92	70 - 130%

	% RECOVERY	ACCEPTABLE RANGE %
MATRIX SPIKE	94	70 - 130%

	% REPRODUCIBILITY	ACCEPTABLE RANGE %
MATRIX SPIKE DUPLICATE:	106	70 - 130%

Checked and Approved: 
Report Date: 9/18/91



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and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

QUALITY ASSURANCE/QUALITY CONTROL SUMMARY ANALYSIS OF TOTAL RECOVERABLE PETROLEUM HYDROCARBON (TRPH) BY INFRARED SPECTROMETRY EPA METHOD 418.1

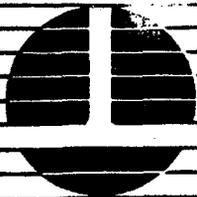
GEOTEST CLIENT NAME: MANESS
GEOTEST PROJECT NO: 92851-09
GEOTEST PROJECT NAME: JPL/OIL BLDG #306
DATE ANALYZED: 09/17/91
SAMPLE MATRIX: SOIL

	CONCENTRATION (mg/kg)	DETECTION LIMIT (mg/kg)
METHOD BLANK	ND	10
	% ACCURACY	ACCEPTABLE RANGE %
LABORATORY CONTROL STANDARD	101	70 - 130%
	% RECOVERY	ACCEPTABLE RANGE %
MATRIX SPIKE	105	70 - 130%
	% REPRODUCIBILITY	ACCEPTABLE RANGE %
MATRIX SPIKE DUPLICATE:	102	70 - 130%

Checked and Approved: _____

Report Date: _____

9/18/91



GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

**QUALITY ASSURANCE/QUALITY CONTROL SUMMARY
ANALYSIS OF ORGANIC VOLATILE AROMATICS
EPA METHOD 8020**

GEOTEST CLIENT NAME: MANESS
GEOTEST PROJECT NO: 92851-09
GEOTEST PROJECT NAME: JPL/OIL BLDG #306
DATE ANALYZED: 09/17/91
SAMPLE MATRIX: SOIL

	CONCENTRATION (mg/kg)	DETECTION LIMIT (mg/kg)
METHOD BLANK		
Benzene	ND	0.005
Toluene	ND	0.005
Ethylbenzene	ND	0.005
Total Xylenes	ND	0.015

	ACCURACY %	ACCEPTABLE RANGE %
LABORATORY CONTROL STANDARD		
Benzene	94	70-130%
Toluene	95	70-130%
Ethylbenzene	101	70-130%
Total Xylenes	95	70-130%

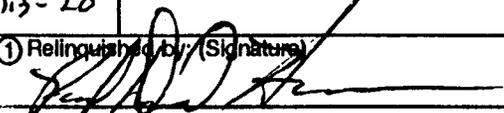
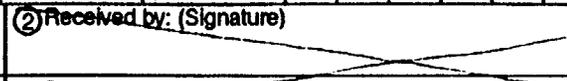
	RECOVERY %	ACCEPTABLE RANGE %
MATRIX SPIKE		
Benzene	98	70-130%
Toluene	98	70-130%
Ethylbenzene	96	70-130%
Total Xylenes	97	70-130%

	REPRODUCIBILITY %	ACCEPTABLE RANGE %
MATRIX SPIKE DUPLICATE		
Benzene	101	70-130%
Toluene	100	70-130%
Ethylbenzene	100	70-130%
Total Xylenes	100	70-130%

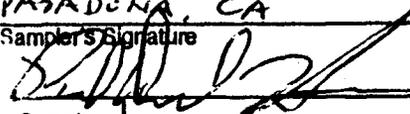
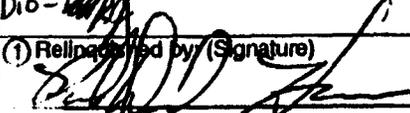
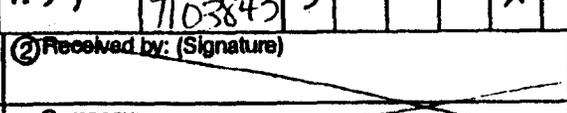
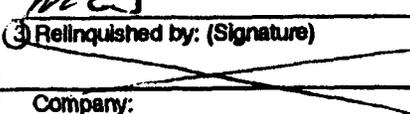
Checked and Approved: _____
Report Date: _____

[Handwritten Signature]
9/18/91

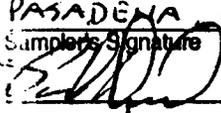
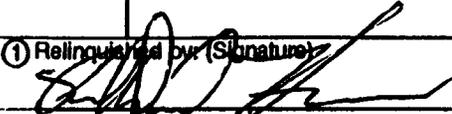
CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-28-91		Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A) Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	Analysis Requested							Number of Containers	TTL Project # (1140) 2306	
Project Name JPL		Client Project # 805-14				TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020					Page 1 of 3	
Project Address 1800 OAK GROVE DR.		Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab				TPH as Gasoline, LUFT Manual (P&T)	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020					Lab Use Only. Sample Condition as received: Chilled yes / <input checked="" type="checkbox"/> NO Sealed yes / <input checked="" type="checkbox"/> NO	
PASADENA, CA						TPH as Gasoline, LUFT Manual (P&T)	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020						
Sampler's Signature 											Container / Comments				
Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)	Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	Number of Containers	Container / Comments			
D15-3'		8-28-91	0809	1103824	S		X	X	X		1	BRASS SLEEVE			
D15-5'		"	0815	1103825	S		X	X	X		1	GLASS JAR			
D15-10'		"	0821	1103826	S		X	X	X		1	GLASS JAR			
D15-20'		"	0830	1103827	S		X	X	X		1	BRASS SLEEVE			
D15-15'		"	0830	1103828	S		X	X	X		1	BRASS SLEEVE			
D13-3'		"	0900	1103829	S		X	X	X		1	BRASS SLEEVE			
D13-5'		"	0913	1103830	S		X	X	X		1	BRASS SLEEVE			
D13-10'		"	0920	1103831	S			X			1	BRASS SLEEVE			
D13-15'		"	0935	1103832	S			X			1	BRASS SLEEVE			
D13-20'		"	0940	1103833	S			X			1	BRASS SLEEVE/HEADSPACE			
① Relinquished by: (Signature) 		Date 8/28/91		② Received by: (Signature) 				Date		Total Number of Containers					
Company: MANESS		Time		Company:				Time		TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077					
③ Relinquished by: (Signature) 		Date		④ Received by Laboratory: (Signature) Rick Jones				Date 8-28-91						Time AS ABOVE	
Company:		Time		Company: TTL				Time							

CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-28-91		Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)	Analysis Requested						Number of Containers	TTL Project # 2306		
Project Name JPL		Client Project # 805-14				Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020					Page 2 of 3
Project Address 4800 OAK GROVE DR.		Turn Around Requested:													<input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab
Project Address PASADENA, CA										Container / Comments					
Sampler's Signature 															
Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)	Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020					
D17-3'		8-28-91	1028	TID-3834	S		X		X	X		1	BRASS SLEEVE		
D17-5'		"	1034	TID-3835	S		X		X	X		1	BRASS SLEEVE/HEADSPACE		
D17-10'		"	1039	TID-3836	S				X			1	BRASS SLEEVE		
D17-15'		"	1045	TID-3837	S				X			1	BRASS SLEEVE		
D17-20'		"	1051	TID-3838	S				X			1	BRASS SLEEVE		
D10-3'		"	1124	TID-3839	S		X		X	X		1	BRASS SLEEVE		
D10-5'		"	1128	TID-3840	S		X		X	X		1	BRASS SLEEVE 1/4 FULL		
D10-10'		"	1139	TID-3841	S				X			1	BRASS SLEEVE		
D10-15'		"	1150	TID-3842	S				X			1	BRASS SLEEVE		
D10-20'		"	1157	TID-3843	S				X			1	BRASS SLEEVE		
(1) Relinquished by: (Signature) 		Date 8/28/91		(2) Received by: (Signature) 		Date 8-28-91						Total Number of Containers -			
Company: MANESS		Time		Company:		Time						TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077			
(3) Relinquished by: (Signature) 		Date		(4) Received by Laboratory: (Signature) Rick Jones		Date 8-28-91									
Company:		Time		Company: TTL		Time AS ABOVE									

CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-28-91		Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)	Analysis Requested							Number of Containers	TTL Project # 2306							
Project Name PL		Client Project # 805-1H				Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020					Page 3 of 3						
Project Address 1800 OAK GROVE DR.		Turn Around Requested:													Lab Use Only. Sample Condition as received: Chilled yes / <input checked="" type="checkbox"/> NO Sealed yes / <input checked="" type="checkbox"/> NO						
Project Address PASADENA CA		<input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab																			
Sampler's Signature 											Container / Comments										
Sample ID	Sample Location	Date	Time																		
D1-3'		8-28-91	1234	1103844	S	X	X	X				1 BRASS SLEEVE									
D1-5'		"	1244	1103845	S	X	X	X				1 BRASS SLEEVE									
D1-10'		"	1252	1103846	S		X					1 BRASS SLEEVE									
D1-15'		"	1259	1103847	S		X					1 BRASS SLEEVE									
D2-3'		"	1333	1103848	S	X	X	X				1 BRASS SLEEVE/HEADSPACE									
D2-5'		"	1342	1103849	S	X	X	X				1 STAINLESS SLEEVE/HEADSPACE									
D2-10'		"	1357	1103850	S		X					1 BRASS SLEEVE									
D2-15'		"	1405	1103851	S		X					1 BRASS SLEEVE									
① Relinquished by: (Signature) 		Date 8/28/91		② Received by: (Signature)				Date				28	Total Number of Containers								
Company: MANESS		Time		Company:				Time													
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature) Rick Jones				Date 8-28-91				TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077									
Company:		Time		Company: TTL				Time AS ABOVE													

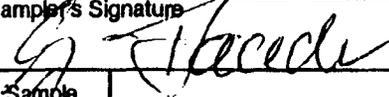
CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-29-91		Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)	Analysis Requested							Number of Containers	TTL Project # (1140) 2306									
Project Name JPL		Client Project #				Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	HOLD	-		-	Page 1 of 4								
Project Address 4800 OAK GROVE DR.		Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab																				Lab Use Only. Sample Condition as received: Chilled yes / <input checked="" type="checkbox"/> Sealed yes / <input checked="" type="checkbox"/>	
PASADENA, CA																						Container / Comments	
Sampler's Signature <i>[Signature]</i>																							
Sample ID	Sample Location	Date	Time																				
DBA-3'		8-29-91	0910	TTL 3968	S			X				1	STAINLESS SLEEVE										
DBA-5'		"	0915	TTL 3969	S			X				1	STAINLESS SLEEVE										
DBA-10'		"	0930	TTL 3970	S					X		1	STAINLESS SLEEVE										
DBA-15'		"	0950	TTL 3971	S					X		1	STAINLESS SLEEVE										
DBA-20'		"	0950	TTL 3972	S					X		1	STAINLESS SLEEVE										
DBA-3'		"	1032	TTL 3973	S			X				1	STAINLESS SLEEVE										
DBA-5'		"	1036	TTL 3974	S			X				1	STAINLESS SLEEVE										
DBA-10'		"	1057	TTL 3975	S					X		1	STAINLESS SLEEVE										
DBA-15'		"	1057	TTL 3976	S					X		1	STAINLESS SLEEVE										
DBA-20'		"	1112	TTL 3977	S					X		1	STAINLESS SLEEVE										
① Relinquished by: (Signature) <i>[Signature]</i>		Date		② Received by: (Signature)				Date				Total Number of Containers -											
Company:		Time		Company:				Time															
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature) <i>Rick Jones</i>				Date 8-29-91				TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077											
Company:		Time		Company: TTL				Time AS ABOVE															

CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-29-91		Analysis Requested		TTL Project # 2306						
Project Name JPL		Client Project #				Page 2 of 4						
Project Address 4800 OAK GROVE DR.		Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab		Laboratory Sample Number		Number of Containers		Lab Use Only. Sample Condition as received: Chilled yes / <input checked="" type="checkbox"/> no Sealed yes / <input checked="" type="checkbox"/> no				
PASADENA, CA												
Sampler's Signature <i>[Signature]</i>		Date		Time		Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)		Container / Comments				
Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	HOLD		
D6B-3'		8-29-91	1133	TID3978	S	X	X	X			1	STAINLESS SLEEVE / HEADSPACE
D6B-5'		"	1136	TID3979	S			X			1	STAINLESS SLEEVE STNLS
D6B-10'		"	1143	TID3980	S					X	1	STNLS SLEEVE
D6B-15'		"	1150	TID3981	S					X	1	STNLS SLEEVE
D6B-20'		"	1157	TID3982	S					X	1	STNLS SLEEVE
D8B-3'		"	1305	TID3983	S	X		X	X		1	STNLS SLEEVE
D8B-5'		"	1308	TID3984	S			X			1	STNLS SLEEVE
D8B-10'		"	1325	TID3985	S					X	1	STNLS SLEEVE
D8B-15'		"	1345	TID3986	S					X	1	STNLS SLEEVE
D8B-20'		"	1438	TID3987	S					X	1	STNLS SLEEVE
① Relinquished by: (Signature) <i>[Signature]</i>		Date		② Received by: (Signature)		Date		Total Number of Containers		-		
Company:		Time		Company:		Time		TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077				
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature) <i>Rick Jones</i>		Date 8-29-91						
Company:		Time		Company: TTL		Time AS ABOVE						

CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-29-91		Laboratory Sample Number Sample Matrix: Soil(S), Sludge(SL), Aqueous(A) Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T) TPH as Diesel Fuel, LUFT Manual TPH as Gasoline, Extractable TPH by EPA Method 418.1 BTEX by EPA Method 8020 HOLD		Analysis Requested		TTL Project # 2306																																																																																																																																																							
Project Name JPL		Client Project #				Number of Containers		Page 3 of 4		Lab Use Only. Sample Condition as received: Chilled yes / <input type="checkbox"/> Sealed yes / <input checked="" type="checkbox"/>																																																																																																																																																					
Project Address 4800 OAK GROVE DR.		Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab						Container / Comments																																																																																																																																																							
Project Address PASADENA, CA				Sampler's Signature 		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Sample ID</th> <th style="width: 20%;">Sample Location</th> <th style="width: 10%;">Date</th> <th style="width: 10%;">Time</th> <th style="width: 10%;">Laboratory Sample Number</th> <th style="width: 5%;">Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)</th> <th style="width: 5%;">Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)</th> <th style="width: 5%;">TPH as Diesel Fuel, LUFT Manual</th> <th style="width: 5%;">TPH as Gasoline, Extractable</th> <th style="width: 5%;">TPH by EPA Method 418.1</th> <th style="width: 5%;">BTEX by EPA Method 8020</th> <th style="width: 5%;">HOLD</th> <th style="width: 5%;">Number of Containers</th> <th style="width: 20%;">Container / Comments</th> </tr> </thead> <tbody> <tr> <td>D8B -25'</td> <td></td> <td>8-29-91</td> <td>1457</td> <td>TTD-3988</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>1</td> <td>STAINLESS SLEEVE</td> </tr> <tr> <td>V10B -3'</td> <td></td> <td>"</td> <td>1525</td> <td>TTD-3989</td> <td>S</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td>1</td> <td>STNLS SLEEVE</td> </tr> <tr> <td>D10B -5'</td> <td></td> <td>"</td> <td>1525</td> <td>TTD-3990</td> <td>S</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td>1</td> <td>STNLS SLEEVE</td> </tr> <tr> <td>D10B -10'</td> <td></td> <td>"</td> <td>1539</td> <td>TTD-3991</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>1</td> <td>STNLS SLEEVE</td> </tr> <tr> <td>D10B -15'</td> <td></td> <td>"</td> <td>1545</td> <td>TTD-3992</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>1</td> <td>STNLS SLEEVE</td> </tr> <tr> <td>D10B -20'</td> <td></td> <td>"</td> <td>1610</td> <td>TTD-3993</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>1</td> <td>STNLS SLEEVE</td> </tr> <tr> <td>D13B -3'</td> <td></td> <td>"</td> <td>1615</td> <td>TTD-3994</td> <td>S</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td>1</td> <td>STNLS SLEEVE</td> </tr> <tr> <td>D13B -5'</td> <td></td> <td>"</td> <td>1620</td> <td>TTD-3995</td> <td>S</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td>1</td> <td>STNLS SLEEVE</td> </tr> <tr> <td>D13B -10'</td> <td></td> <td>"</td> <td>1625</td> <td>TTD-3996</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>STNLS SLEEVE</td> </tr> <tr> <td>D13B -15'</td> <td></td> <td>"</td> <td>1630</td> <td>TTD-3997</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>STNLS SLEEVE</td> </tr> </tbody> </table>		Sample ID	Sample Location			Date	Time	Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)	Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	HOLD	Number of Containers	Container / Comments	D8B -25'		8-29-91	1457	TTD-3988	S						X	1	STAINLESS SLEEVE	V10B -3'		"	1525	TTD-3989	S		X	X	X			1	STNLS SLEEVE	D10B -5'		"	1525	TTD-3990	S			X				1	STNLS SLEEVE	D10B -10'		"	1539	TTD-3991	S						X	1	STNLS SLEEVE	D10B -15'		"	1545	TTD-3992	S						X	1	STNLS SLEEVE	D10B -20'		"	1610	TTD-3993	S						X	1	STNLS SLEEVE	D13B -3'		"	1615	TTD-3994	S			X				1	STNLS SLEEVE	D13B -5'		"	1620	TTD-3995	S			X				1	STNLS SLEEVE	D13B -10'		"	1625	TTD-3996	S							1	STNLS SLEEVE	D13B -15'		"	1630	TTD-3997	S				
Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)			Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	HOLD	Number of Containers	Container / Comments																																																																																																																																																
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D10B -10'		"	1539	TTD-3991	S								X	1	STNLS SLEEVE																																																																																																																																																
D10B -15'		"	1545	TTD-3992	S								X	1	STNLS SLEEVE																																																																																																																																																
D10B -20'		"	1610	TTD-3993	S								X	1	STNLS SLEEVE																																																																																																																																																
D13B -3'		"	1615	TTD-3994	S					X				1	STNLS SLEEVE																																																																																																																																																
D13B -5'		"	1620	TTD-3995	S					X				1	STNLS SLEEVE																																																																																																																																																
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Company:		Time		Company: TTL		Time AS ABOVE																																																																																																																																																									

CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-29-91		Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A) Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	Analysis Requested						Number of Containers	TTL Project # 2306	
Project Name SPL		Client Project #				TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020						Page 4 of 4
Project Address 4800 OAK GROVE DR.		Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab				TPH as Diesel Fuel, LUFT Manual								Lab Use Only. Sample Condition as received: Chilled yes / <input type="checkbox"/> Sealed yes / <input checked="" type="checkbox"/>
Pasadena, CA												Container / Comments		
Sample ID		Sample Location		Date	Time									
Sample's Signature <i>[Signature]</i>														
013 B -20'				8-29-91	1640	11D3598	S					1	STAINLESS SLEEVE	
① Relinquished by: (Signature) <i>[Signature]</i>		Date		② Received by: (Signature)				Date		31 Total Number of Containers				
Company:		Time		Company:				Time						
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature) <i>Rick Jones</i>				Date 8-29-91		TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-8077				
Company:		Time		Company: TTL				Time AS ABOVE						

CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-30-91		Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)	Analysis Requested							Number of Containers	TTL Project # 1110 2306								
Project Name JPL		Client Project #				Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	HOLD				Page 1 of 6							
Project Address 4800 OAK GROVE DR.		Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab																				Lab Use Only. Sample Condition as received: Chilled yes / <input checked="" type="checkbox"/> no Sealed yes / <input checked="" type="checkbox"/> no
City/State PASADENA, CA																						Container / Comments
Sampler's Signature <i>[Signature]</i>																						
Sample ID	Sample Location	Date	Time																			
D15 B -2'		8-30-91	0815	TID 4046	S			X				1	GLASS JAR									
D15 B -5'		"	0815	TID 4047	S			X				1	SLEEVE									
D17 AB -3'		"	0815	TID 4048	S	X		X	X			1	SLEEVE									
D17 B -5'		"	0822	TID 4049	S	X		X	X			1	SLEEVE/HEADSPACE									
D15 AB -10'		"	0824	TID 4050	S					X		1	SLEEVE									
D17 AB -10'		"	0830	TID 4051	S			X				1	SLEEVE									
D15 AB -15'		"	0838	TID 4052	S					X		1	SLEEVE									
D17 AB -15'		"	0830	TID 4053	S					X		1	SLEEVE									
D15 B -20'		"	0850	TID 4054	S					X		1	SLEEVE									
D17 B -20'		"	0850	TID 4055	S					X		1	SLEEVE									
① Relinquished by: (Signature) <i>[Signature]</i>		Date 8/30/91		② Received by: (Signature)				Date				- Total Number of Containers										
Company: MES		Time 1700		Company:				Time:														
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature) <i>Rick Jones</i>				Date 8-30-91				TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077										
Company:		Time		Company: TTL				Time AS ABOVE														

CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-30-91		Analysis Requested								TTL Project # 2306								
Project Name JPL		Client Project #		Laboratory Sample Number	Sample Matrix: Sol(S), Sludge(SL), Aqueous(A)	Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	HOLD	Number of Containers	Page 2 of 6							
Project Address 11800 OAK GROVE DR.		Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab											Lab Use Only. Sample Condition as received: Chilled yes / (10) Sealed yes / (10)							
PASADENA, CA													Container / Comments							
Sampler's Signature <i>[Signature]</i>																				
Sample ID	Sample Location	Date	Time																	
D6C -3'		8-30-91	0927	TTC4056	S		X		X	X		1	SLEEVE/HEADSPACE							
D8C -3'		"	0929	TTC4057	S		X		X	X		1	SLV							
D6C -5'		"	0934	TTC4058	S		X		X	X		1	SLV							
D8C -5'		"	0934	TTC4059	S		X		X	X		1	SLV							
D6C -10'		"	0940	TTC4060	S				X			1	SLV							
D8C -10'		"	0945	TTC4061	S				X			1	SLV							
D8C -15'		"	0954	TTC4062	S						X	1	SLV							
D8C -20'		"	1025	TTC4063	S						X	1	SLV							
D6C -15'		"	1035	TTC4064	S						X	1	SLV							
D13C -3'		"	1052	TTC4065	S		X		X	X		1	SLV/HEADSPACE - ALMOST EMPTY							
① Relinquished by: (Signature) <i>[Signature]</i>		Date 8/30/91		② Received by: (Signature)				Date				Total Number of Containers								
Company: MES		Time 1700		Company:				Time				TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077								
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature) <i>[Signature]</i>				Date 8-30-91												
Company:		Time		Company: TTL				Time AS ABOVE												

CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-30-91		Laboratory Sample Number	Sample Matrix: Solid(S), Sludge(SL), Aqueous(A) Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	Hold	Number of Containers	TTL Project # 2306			
Project Name JPL		Client Project #										Page 3 of 6			
Project Address 4800 OAK GROVE DR.		Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab										Lab Use Only. Sample Condition as received: Chilled yes / <input checked="" type="checkbox"/> no Sealed yes / <input checked="" type="checkbox"/> no			
PASADENA, CA												Container / Comments			
Sampler's Signature <i>[Signature]</i>															
Sample ID	Sample Location	Date	Time												
D13C-5'		8-30-91	1102	TTC-4066	S	X		X	X			1	SLV		
D13C-10'		"	1108	TTC-4067	S			X				1	SLV		
D6D-3'		"	1111	TTC-4068	S	X		X	X			1	SLV		
D6D-5'		"	1119	TTC-4069	S	X		X	X			1	SLV		
D6D-10'		"	1119	TTC-4070	S			X				1	SLV		
D13C-15'		"	1119	TTC-4071	S					X		1	SLV		
D13C-20'		"	1126	TTC-4072	S					X		1	SLV		
D6D-15'		"	1135	TTC-4073	S					X		1	SLV		
D10C-3'		"	1205	TTC-4074	S	X		X	X	19 19		1	SLV		
D10C-5'		"	1308	TTC-4075	S			X				1	SLV		
① Relinquished by: (Signature) <i>[Signature]</i>		Date 8/30/91		② Received by: (Signature)		Date						Total Number of Containers			
Company: MANESS		Time 1700		Company:		Time						TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077			
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature) <i>[Signature]</i>		Date 8-30-91									
Company:		Time		Company: TTL		Time AS ABOVE									

CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-30-91		Analysis Requested							TTL Project # 2306	
Project Name JPL		Client Project #									Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab	
Project Address 4800 OAK GROVE DR.		Laboratory Sample Number		Sample Matrix: Soil(S), Sludge(SL), Aqueous(A) Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T) TPH as Diesel Fuel, LUFT Manual TPH as Gasoline, Extractable TPH by EPA Method 418.1 BTEX by EPA Method 8020 HOLD								
Sampler's Signature <i>[Signature]</i>											Date	
Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	Number of Containers	Container / Comments		
D10C -10'		8-30-91	1312	TD4076	S				1	SLV		
D10C -15'		"	1322	TD4077	S				1	SLV		
D20A -3'		"	1322	TD4078	S		X		1	SLV		
D20A -5'		"	1325	TD4079	S		X		1	SLV		
D10C -20'		"	1331	TD4080	S			X	1	SLV		
D20A -10'		"	1333	TD4081	S			X	1	SLV		
D20A -15'		"	1340	TD4082	S			X	1	SLV		
D15C -3'		"	1355	TD4083	S	X	X	X	1	SLV		
D20A -20'		"	1355	TD4084	S				1	SLV/MOSTLY EMPTY		
D15C -5'		"	1359	TD4085	S		X		1	SLV		
① Relinquished by: (Signature) <i>[Signature]</i>		Date 8/30/91		② Received by: (Signature)				Date		Total Number of Containers 1		
Company: MEZ		Time 1700		Company:				Time				
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature) <i>[Signature]</i>				Date 8-30-91		TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077		
Company:		Time		Company: TTL				Time AS ABOVE				

CHAIN-OF-CUSTODY RECORD

Client MANESS		Date B-30-91		Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)	Analysis Requested						Number of Containers	TTL Project # 2306		
Project Name JPL		Client Project #				Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020	HOLD				Page 5 of 6
Project Address 4800 OAK GROVE DR.		Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab													
PASADENA, CA Sampler's Signature <i>[Signature]</i>										Container / Comments					
Sample ID	Sample Location	Date	Time												
D20B -3'		B-30-91	1413	PW 4086 ID 4087	S		X	X	X			1	SLV		
D20B -5'		"	1420	PW 4087 ID 4088	S			X				1	SLV		
D15C -10'		"	1420	PW 4088 ID 4089	S					X		1	SLV		
D15C -15'		"	1429	PW 4089 ID 4090	S					X		1	SLV/MOSTLY EMPTY		
D20B -10'		"	1439	PW 4090 ID 4091	S					X		1	SLV		
D15C -20'		"	1445	PW 4091 ID 4092	S					X		1	SLV		
D20B -15'		"	1459	PW 4092 ID 4093	S					X		1	SLV/HEADSPACE		
D20B -20'		"	1510	PW 4093 ID 4094	S					X		1	SLV		
D17C -3'		"	1534	PW 4094 ID 4095	S		X	X	X			1	SLV		
D17C -5'		"	1552	PW 4095 ID 4096	S			X				1	SLV		
① Relinquished by: (Signature) <i>[Signature]</i>		Date 9/30/91		② Received by: (Signature)				Date		Total Number of Containers					
Company: MANESS		Time 1700		Company:				Time		TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-6077					
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature) <i>[Signature]</i>				Date B-30-91							
Company:		Time		Company: TTL				Time AS ABOVE							

CHAIN-OF-CUSTODY RECORD

Client MANESS		Date 8-30-91		Laboratory Sample Number	Sample Matrix: Soil(S), Sludge(SL), Aqueous(A) Total Petroleum Hydrocarbons as Gasoline, LUFT Manual (P&T)	Analysis Requested							Number of Containers	TTL Project # 2306	
Project Name JPL		Client Project #				TPH as Diesel Fuel, LUFT Manual	TPH as Gasoline, Extractable	TPH by EPA Method 418.1	BTEX by EPA Method 8020						Page 6 of 6
Project Address 4800 OAK GROVE DR.		Turn Around Requested:													Lab Use Only. Sample Condition as received: Chilled yes / <input type="checkbox"/> no Sealed yes / <input checked="" type="checkbox"/> no
Project Address PASADENA, CA		<input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Mobile Lab											Container / Comments		
Sampler's Signature <i>[Signature]</i>															
Sample ID	Sample Location	Date	Time												
D17C -10'		8-30-91	1552	Rw 4096 ID 4097	S							1	SLV		
D17C -15'		"	1600	Rw 4097 ID 4098	S							1	SLV		
D17E -3'		"	1610	Rw 4098 ID 4099	S	X		X	X			1	SLV/HEADSPACE, 1/2 FULL		
D17E -5'		"	1610	Rw 4099 ID 4100	S			X				1	SLV		
D17E -10'		"	1626	Rw 4102 ID 4101	S						X	1	SLV		
D17E -15'		"	1626	Rw 4101 ID 4102	S						X	1	SLV/HEADSPACE		
D17C -20'		"	1626	Rw 4102 ID 4103	S						X	1	SLV/1/3 FULL		
D17E -20'		"	1642	Rw 4123 ID 4104	S						X	1	SLV		
		"			S							1			
		"			S							1			
① Relinquished by: (Signature) <i>[Signature]</i>		Date 8/30/91		② Received by: (Signature)				Date				58	Total Number of Containers		
Company: MES		Time 1700		Company:				Time							
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature) <i>[Signature]</i>				Date 8-30-90				TERRA TECH LABS, INC. ENVIRONMENTAL TESTING 16371 Gothard Street, Suite G Huntington Beach, CA 92647 Tel. (714) 842-8077			
Company:		Time		Company: TTL				Time AS ABOVE							



Inverse Envirolab

North Halstead Street, Pasadena, California 91107-3127
Telephone (818) 568-2807

92851-09

1 of 2

CHAIN OF CUSTODY RECORD

Envirolab Log Number 91-71-05-250

Project Name		Project Number		Analyses Required				Turn Around	
JPL/OIL BLDG # 306		91-31-300-01		/ / / / / / / /				Normal - 10 working days	
Project Location		Phone Number						1 week RUSH	
JET PROLISION LABORATORY		x 221						24-48 hour RUSH	
Project Manager		Sample Collector		/ / / / / / / /				< 24 hour RUSH	
TCB		JEA						Remarks	
Lab sample number	Date sampled	Time sampled	Matrix	Sample identification		Comp. Instr.			
1	9/5/91	0815	SOIL	D37C E-1 6'-7'		X	X		
2		0830		D37C E-2 10'-11'		X	X		
3		0845		D37C E-3 19'-20' (2 jars)		X	X	* Tests to be assigned	
4		0915		D42E E-1 3'-4'		X	X		
5		0925		D42E E-2 5'-6'		X	X		
6		0933		D42E E-3 9'-10'		X	X		
7		0950		D42E E-4 16'-17' (2 jars)		X		Samples relinquished to MANNES ENVIRONMENTAL SERVICES.	
8		1010		D42E E-5 19'-20' (2 jars)		X			
9		1045		D45E E-1 3'-4'		X	X		
10		1055		D45E E-2 7'-8'		X	X		
11		1110		D45E E-3 13'-14' (1 jar)		X	X		
12		1125		D45E E-4 19'-20' (2 jars)		X			

	Signature	Print Name	Company	Date	Time
Relinquished by	<i>Judy Adams</i>	Judy Z. Adams	CCW	9/5/91	1530
Received by	<i>Judy Adams</i>	Judy Adams	Inverse Envirolab	9/5/91	2:45
Relinquished by	<i>Kerry Hendrickson</i>	KERRY MCRAE	ENVIROLAB	9/16/91	5:00
Received by	<i>Kerry Hendrickson</i>	Kerry Hendrickson	MANNES ENVIRONMENTAL	9/16/91	3:00
Relinquished by	<i>G. Baader</i>	G. Baader	MANNES	9/17/91	8:25am
Received by	<i>Lionel Rojo</i>	Lionel Rojo	Greyst	9/17/91	9:20 AM



Project Name JPL/OIL BLOC # 206			Project Number 90-31-300-01			Analyses Required				Turn Around			
Project Location JET PROPULSION LABORATORY			Phone Number X 231							Normal - 10 working days		1 week RUSH	
Project Manager TCB			Sample Collector JZA									24-48 hour RUSH	
Lab sample number	Date sampled	Time sampled	Matrix	Sample identification			Comp. Instr.	Remarks					
13	9/3/91	1135	SOIL	D45F E-5 22'-23' (2'jes)				* tests to be assigned					
14		1210		D48G E-1 3'-4' (1'jes)									
15		1225		D48G E-2 7'-8' (1'jes)									
16		1235		D48G E-3 12'-13' (1'jes)									
				TOTAL: 15 SAMPLES				Samples being relinquished to MANESS ENVIRONMENTAL SERVICE					
				ANALYZE 3 HIGHEST FOR									
				SP15 DIESEL + 8020									
				DO NOT ANALYZE DEEPER SAMPLE IF UPPER IS ND									

	Signature	Print Name	Company	Date	Time
Relinquished by	<i>Judy Adams Jr.</i>	Judy Z. Adams Jr.	CEW	9/5/91	1530
Received by	<i>[Signature]</i>	Sludger Hart	EnviroLab	11/5/91	3:45
Relinquished by	<i>Walt J. Chan</i>	Ron McRae	ENVIROLAB	9/16/91	3:00
Received by	<i>Kennya A. Hendrickson</i>	Kennya A. Hendrickson	Maness ENVIRONMENTAL	9/16/91	3:00
Relinquished by	<i>G. Baade</i>	G. Baade	Maness	9/17/91	3:25am
Received by	<i>Lionel Pojo</i>	Lionel Pojo	Geotest	9/17/91	9:20 am

APPENDIX G

LABORATORY REPORTS AND ASSOCIATED

CHAIN-OF-CUSTODY DOCUMENTS

FOR SPOILS PILE SAMPLING



GEOTEST

An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

LABORATORY REPORT

KANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/04/91
DATE RECEIVED: 09/04/91
DATE ANALYZED: 09/05/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION:

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
COMP-10 A-E	520	10
COMP-11 A-E	1100	10
COMP-12 A-E	480	10
COMP-13 A-E	680	10
COMP-14 A-E	840	10

ND - Not detected below indicated limit of detection.

Analyst: MF

Reviewed and Approved: 

Report date: 9/6/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/04/91
DATE RECEIVED: 09/04/91
DATE ANALYZED: 09/05/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION:

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
COMP-11 A-E	710	10

ND - Not detected below indicated limit of detection.

Analyst: MF

Reviewed and Approved: 
Report date: 9/6/91

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/04/91
DATE RECEIVED: 09/04/91
DATE ANALYZED: 09/05/91
SAMPLE MATRIX: SOIL
CLIENT ID : 805-14
GEO TEST PROJECT NO.: 92851-09
ANALYSES: TPH-D*

PROJECT NAME: JPL
LOCATION: PASADENA, CALIFORNIA

ANALYSIS OF HYDROCARBON CONTENT BY GAS CHROMATOGRAPHY
CAL/DOHS TPH FOR DIESEL

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
COMP-10 A-E	17	10
COMP-11 A-E	29	10
COMP-12 A-E	46	10
COMP-13 A-E	53	10
COMP-14 A-E	56	10

* - ALL SAMPLES RE-ANALYZED, ORIGINAL REPORT SUBMITTED TO CLIENT ON 9-6-91.

ND - Not detected below indicated limit of detection.

Analyst: MF

Reviewed and Approved: 

Report date: 9/9/91

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/04/91
DATE RECEIVED: 09/04/91
DATE ANALYZED: 09/05/91
SAMPLE MATRIX: SOIL
CLIENT ID : 805-14
GEOTEST PROJECT NO.: 92851-09
ANALYSES: TPH-D

PROJECT NAME: JPL
LOCATION: PASADENA, CALIFORNIA

**ANALYSIS OF HYDROCARBON CONTENT BY GAS CHROMATOGRAPHY
CAL/DOHS TPH FOR DIESEL**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
COMP-10 A-E	22	10
COMP-11 A-E	26	10
COMP-12 A-E	20	10
COMP-13 A-E	37	10
COMP-14 A-E	41	10

ND - Not detected below indicated limit of detection.

Analyst: MF

Reviewed and Approved: 
Report date: 9/6/91

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/04/91
DATE RECEIVED: 09/04/91
DATE ANALYZED: 09/04/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO.: 92851-09
ANALYSES: BTEX

PROJECT NAME: JPL - PASADENA
LOCATION:

ANALYSIS OF ORGANIC AROMATICS
EPA METHOD 8020

COMPONENTS	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
DETECTION LIMITS	0.005	0.005	0.005	0.015

SAMPLE ID

COMP-10 A-E	ND	ND	ND	ND
COMP-11 A-E	ND	ND	ND	ND
COMP-12 A-E	ND	ND	ND	ND
COMP-13 A-E	ND	ND	ND	ND
COMP-14 A-E	ND	ND	ND	ND

ND - Not detected below indicated limit of detection.

Analyst: MF

Reviewed and Approved: 

Report date: 9/5/91

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QUALITY ASSURANCE/QUALITY CONTROL SUMMARY
ANALYSIS OF ORGANIC VOLATILE AROMATICS
EPA METHOD MODIFIED 8020

GEOTEST CLIENT NAME: MANESS
GEOTEST PROJECT NO: 92851-09
GEOTEST PROJECT NAME: JPL - PASADENA
DATE ANALYZED: 9/4/91
SAMPLE MATRIX: SOIL

METHOD BLANK	CONCENTRATION (mg/kg)	DETECTION LIMIT (mg/kg)
Benzene	0.0001	0.005
Toluene	0.0001	0.005
Ethylbenzene	0.0001	0.005
Total Xylenes	0.0001	0.015
	% ACCURACY	ACCEPTABLE RANGE %

LABORATORY CONTROL STANDARD

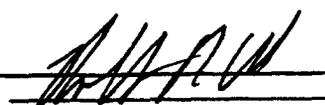
Benzene	93	70-130%
Toluene	98	70-130%
Ethylbenzene	97	70-130%
Total Xylenes	95	70-130%
	% RECOVERY	ACCEPTABLE RANGE %

MATRIX SPIKE

Benzene	102	70-130%
Toluene	101	70-130%
Ethylbenzene	101	70-130%
Total Xylenes	101	70-130%
	% REPRODUCIBILITY	ACCEPTABLE RANGE %

MATRIX SPIKE DUPLICATE

Benzene	100	70-130%
Toluene	99	70-130%
Ethylbenzene	99	70-130%
Total Xylenes	99	70-130%

Checked and Approved: 

Report Date: 9/15/91



Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

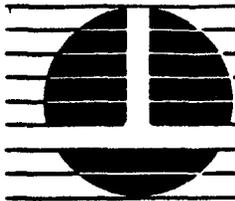
QUALITY ASSURANCE/QUALITY CONTROL SUMMARY
ANALYSIS OF TOTAL RECOVERABLE PETROLEUM HYDROCARBON
(TRPH) BY INFRARED SPECTROMETRY EPA METHOD 418.1

GEO TEST CLIENT NAME: MANESS
GEO TEST PROJECT NO 92851-09
GEO TEST PROJECT NAME: JPL - PASADENA
DATE ANALYZED: 09/05/91
SAMPLE MATRIX: SOIL

	CONCENTRATION (mg/kg)	DETECTION LIMIT (mg/kg)
METHOD BLANK	ND	10
	% ACCURACY	ACCEPTABLE RANGE %
LABORATORY CONTROL STANDARD	88	70 - 130%
	% RECOVERY	ACCEPTABLE RANGE %
MATRIX SPIKE	88	70 - 130%
	% REPRODUCIBILITY	ACCEPTABLE RANGE %
MATRIX SPIKE DUPLICATE:	99	70 - 130%

Checked and Approved: 

Report Date: 9/15/91



GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

**QUALITY ASSURANCE/QUALITY CONTROL SUMMARY
ANALYSIS OF TOTAL PETROLEUM HYDROCARBONS
TPH DIESEL**

J. FILIPOFF JOB NO.
D. HERRERA ACCT. NO.

GEOTEST CLIENT NAME: MANESS
GEOTEST PROJECT NO 92851-09
GEOTEST PROJECT NAME: JPL - PASADENA

SEP 10 1991

MANESS ENVIRONMENTAL

DATE ANALYZED: 9/5/91
SAMPLE MATRIX: SOIL

METHOD BLANK	CONCENTRATION (mg/kg) 2.9	DETECTION LIMIT (mg/kg) 10
	% ACCURACY	ACCEPTABLE RANGE %
LABORATORY CONTROL STANDARD	96	70 - 130%

	% RECOVERY	ACCEPTABLE RANGE %
MATRIX SPIKE:	94	70 - 130%

	% REPRODUCIBILITY	ACCEPTABLE RANGE %
MATRIX SPIKE DUPLICATE:	112	70 - 130%

Checked and Approved:

Report Date:

9/9/91



GEOTEST
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Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

KANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/10/91
DATE RECEIVED: 09/11/91
DATE ANALYZED: 09/13/91
SAMPLE MATRIX: SOIL
CLIENT ID : 805-1HE
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

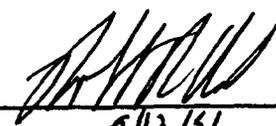
PROJECT NAME: JPL - PASADENA
LOCATION:

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP-15 (COMPOSITE A-E)	510	10
SP-16 (COMPOSITE A-E)	330	10
SP-17 (COMPOSITE A-E)	290	10
SP-18 (COMPOSITE A-E)	9300	10
SP-19 (COMPOSITE A-E)	460	10
SP-20 (COMPOSITE A-E)	410	10
SP-21 (COMPOSITE A-E)	670	10
SP-22 (COMPOSITE A-E)	300	10
SP-23 (COMPOSITE A-E)	170	10
SP-24 (COMPOSITE A-E)	140	10
SP-25 (COMPOSITE A-E)	220	10
SP-26 (COMPOSITE A-E)	450	10

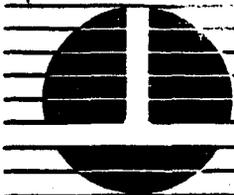
ND - Not detected below indicated limit of detection.

Analyst: SJ

Reviewed and Approved: 

Report date: 9/13/91

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GEOTEST
An Environmental Monitoring
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A M E N D E D L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/12/91
DATE RECEIVED: 09/12/91
DATE ANALYZED: 09/13/91
SAMPLE MATRIX: SOIL
CLIENT ID : 805-1H
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION:

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP-27	260	10

ND - Not detected below indicated limit of detection.

Analyst: MB

Reviewed and Approved: 

Report date: 10/15/91

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Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/10/91
DATE RECEIVED: 09/11/91
DATE ANALYZED: 09/12/91
SAMPLE MATRIX: SOIL
CLIENT ID : 805-1HE
GEOTEST PROJECT NO.: 92851-09
ANALYSES: TPH-D

PROJECT NAME: JPL
LOCATION: PASADENA, CALIFORNIA

ANALYSIS OF HYDROCARBON CONTENT BY GAS CHROMATOGRAPHY CAL/DOHS TPH FOR DIESEL

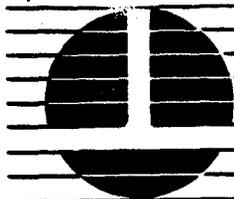
<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP-15 (COMPOSITE A-E)	ND	10
SP-16 (COMPOSITE A-E)	ND	10
SP-17 (COMPOSITE A-E)	ND	10
SP-18 (COMPOSITE A-E)	ND	10
SP-19 (COMPOSITE A-E)	ND	10
SP-20 (COMPOSITE A-E)	ND	10
SP-21 (COMPOSITE A-E)	ND	10
SP-22 (COMPOSITE A-E)	ND	10
SP-23 (COMPOSITE A-E)	ND	10
SP-24 (COMPOSITE A-E)	ND	10
SP-25 (COMPOSITE A-E)	ND	10
SP-26 (COMPOSITE A-E)	ND	10

ND - Not detected below indicated limit of detection.

Analyst: MB

Reviewed and Approved: 
Report date: 9/13/91

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GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

A M E N D E D L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/12/91
DATE RECEIVED: 09/12/91
DATE ANALYZED: 09/12/91
SAMPLE MATRIX: SOIL
CLIENT ID : 805-1H
GEOTEST PROJECT NO.: 92851-09
ANALYSES: TPH-D

PROJECT NAME: JPL
LOCATION: PASADENA, CALIFORNIA

**ANALYSIS OF HYDROCARBON CONTENT BY GAS CHROMATOGRAPHY
CAL/DOHS TPH FOR DIESEL**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP-27	ND	10

ND - Not detected below indicated limit of detection.

Analyst: MB

Reviewed and Approved: 
Report date: 10/15/91

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and Testing Service

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/10/91
DATE RECEIVED: 09/11/91
DATE ANALYZED: 09/12/91
SAMPLE MATRIX: SOIL
CLIENT ID : 805-1HE
GEOTEST PROJECT NO.: 92851-09
ANALYSES: BTEX

PROJECT NAME: JPL - PASADENA
LOCATION:

**ANALYSIS OF ORGANIC AROMATICS
EPA METHOD 8020**

COMPONENTS	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
DETECTION LIMITS	0.005	0.005	0.005	0.015

SAMPLE ID

SAMPLE ID	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES
SP-15 (COMPOSITE A-E)	ND	ND	ND	ND
SP-16 (COMPOSITE A-E)	ND	ND	ND	ND
SP-17 (COMPOSITE A-E)	ND	ND	ND	ND
SP-18 (COMPOSITE A-E)	ND	ND	ND	ND
SP-19 (COMPOSITE A-E)	ND	ND	ND	ND
SP-20 (COMPOSITE A-E)	ND	ND	ND	ND

ND - Not detected below indicated limit of detection.

Analyst: RV

Reviewed and Approved: 
Report date: 9/13/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

LABORATORY REPORT

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 09/10/91
DATE RECEIVED: 09/11/91
DATE ANALYZED: 09/12/91
SAMPLE MATRIX: SOIL
CLIENT ID : 805-1HE
GEOTEST PROJECT NO. : 92851-09
ANALYSES: BTEX

PROJECT NAME: JPL - PASADENA
LOCATION:

ANALYSIS OF ORGANIC AROMATICS EPA METHOD 8020

COMPONENTS	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
DETECTION LIMITS	0.005	0.005	0.005	0.015

SAMPLE ID

SP-21 (COMPOSITE A-E)	ND	ND	ND	ND
SP-22 (COMPOSITE A-E)	ND	ND	ND	ND
SP-23 (COMPOSITE A-E)	ND	ND	ND	ND
SP-24 (COMPOSITE A-E)	ND	ND	ND	ND
SP-25 (COMPOSITE A-E)	ND	ND	ND	ND
SP-26 (COMPOSITE A-E)	ND	ND	ND	ND

ND - Not detected below indicated limit of detection.

Analyst: RV

Reviewed and Approved: 
Report date: 9/13/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

A M E N D E D L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7317
LONG BEACH, CA 90807-0317

ATTENTION: DAVID HERRERA

PROJECT NAME: JPL - PASADENA
LOCATION:

DATE SAMPLED : 09/12/91
DATE RECEIVED: 09/12/91
DATE ANALYSED: 09/12/91
SAMPLE MATRIX: SOIL
CLIENT ID : 805-1H
GEOTEST PROJECT NO.: 92851-09
ANALYSES: BTEX

**ANALYSIS OF ORGANIC AROMATICS
EPA METHOD 8020**

COMPONENTS	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
DETECTION LIMITS	0.005	0.005	0.005	0.015

SAMPLE ID

SP-07	ND	ND	ND	ND
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ND - Not detected below indicated limit of detection.

Analyst: RV

Reviewed and Approved: 
Report date: 10/15/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



Matross Environmental Services, Inc.
1101 E. Spring St.
Long Beach, CA 90807
Telephone (213) 595-4555
FAX (213) 427-8420

SAMPLE SUBMITTAL FORM/CHAIN OF CUSTODY RECORD

92851-091 1 of 3

SITE JPL PASADENA
MES PROJECT NO. 805-14

PLEASE REPORT DATE ANALYZED (AND TIME WHERE NECESSARY) WITH ANALYTICAL RESULTS

DISPOSE OF SAMPLES 30 DAYS AFTER REPORTING ANALYSIS	SEND RESULTS ATTN <u>DAVID</u>			DO NOT EXCEED THESE HOLDING TIMES				MUST BE ANALYZED WITHIN 40 DAYS AFTER EXTRACTION				MUST BE ANALYZED WITHIN 28 DAYS				NUMBER OF SAMPLE CONTAINERS								
	SAMPLE NUMBER	DATE M D	24 HR TIME	LAB ID	HALOGEN VOLATILES 601/8010	MUST BE ANALYZED BY THIS DATE	AROM VOLATILES 602/8020	MUST BE ANALYZED BY THIS DATE	PURGEABLES GC/MS 624/8240	MUST BE ANALYZED BY THIS DATE	418.1	MUST BE EXTRACTED BY THIS DATE	BASE/NEUTRAL/ACIDS GC/MS 625/8270	MUST BE EXTRACTED BY THIS DATE	PESTICIDES/PCB 608/8080		MUST BE EXTRACTED BY THIS DATE	SD/S/D/E/S/E	MUST BE ANAL/EXT. BY THIS DATE	MUST BE ANAL/EXT. BY THIS DATE	MUST BE ANAL/EXT. BY THIS DATE	PRIORITY POLLUTANT METALS (13)	CAM METALS (17) TLC/STLC	EP TOX METALS (8)
SP-10-A	9	4			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
-B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
-C	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
-D	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
-E	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
SP-11-A					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
-B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
-C	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1

ONE COMPOSITE

REMARKS:
EACH - A through -E ⇒ ONE COMPOSITE SAMPLE
~~24 HOUR RUSH~~ RESULTS BY MONDAY

COLLECTED/RELINQUISHED BY <u>Antoine Stader</u> Signature <u>GASIMADOR 1:15</u> Printed Name Time <u>MES 9/4/91</u> Company Date	RECEIVED BY Signature Time Printed Name Date Company	RELINQUISHED BY Signature Time Printed Name Date Company	RECEIVED BY (LABORATORY) <u>Conrad Fajon</u> Signature Time <u>Liane Lopez 1:15</u> Printed Name Date <u>Greentest 9/4/91</u> Company Date	SAMPLE RECEIPT Total Number of Containers <u>8</u> Chain of Custody Seals <u>106</u> Rec'd Good Condition/Cold <u>1/5</u> Conforms to Record Lab No.
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Environmental Services, Inc.
 E. Spring St.
 Long Beach, CA 90807
 Telephone (213) 595-4555
 FAX (213) 427-8420

SAMPLE SUBM L FORM/CHAIN OF CUSTODY RECORD

3

SITE JPL PASADENA
 MES PROJECT NO. 805-1H

PLEASE REPORT DATE ANALYZED (AND TIME WHERE NECESSARY) WITH ANALYTICAL RESULTS

DISPOSE OF SAMPLES 30 DAYS AFTER REPORTING ANALYSIS
 SEND RESULTS ATTN. DAVID

SAMPLE NUMBER	DATE M:D	24 HR TIME	LAB ID	DO NOT EXCEED THESE HOLDING TIMES			MUST BE ANALYZED WITHIN 40 DAYS AFTER EXTRACTION						MUST BE ANALYZED WITHIN 28 DAYS			NUMBER OF SAMPLE CONTAINERS		
				HALOGEN VOLATILES 601/8010	AROM. VOLATILES 602/8020	PURGEABLES GC/MS 624/8240	BASE/NEUTRAL ACIDS GC/MS 625/8270	PESTICIDES/PCB 608/8080	BASE/NEUTRAL ACIDS GC/MS 625/8270	PESTICIDES/PCB 608/8080	PRIORITY POLLUTANT METALS (13)	CAM METALS (17) TLC/STLC	EP TOX METALS (6)					
SP-11-D	9/4			/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
SP-11-E	/			/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
SP-12-A	/			/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
-B	/			/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
-C	/			/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
-D	/			/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
-E	/			/	/	/	/	/	/	/	/	/	/	/	/	/	/	1
SP-13-A	/			/	/	/	/	/	/	/	/	/	/	/	/	/	/	1

REMARKS:
 EACH -A through -E → ONE COMPOSITE SAMPLE
 → 24 HOUR RUSH RESULTS BY MONDAY

COLLECTED/RELINQUISHED BY <u>Gabi Bander</u> Signature <u>GABI BANDER 1:15</u> Printed Name <u>9TES</u> Company <u>9/4/91</u> Date	RECEIVED BY <u>[Signature]</u> Signature <u>[Printed Name]</u> Printed Name <u>[Company]</u> Company	RELINQUISHED BY <u>[Signature]</u> Signature <u>[Printed Name]</u> Printed Name <u>[Company]</u> Company	RECEIVED BY (LABORATORY) <u>[Signature]</u> Signature <u>Lione Rojo</u> Printed Name <u>[Signature]</u> Company <u>9/4/91</u> Date	SAMPLE RECEIPT Total Number of Containers <u>3</u> Chain of Custody Seats <u>10</u> Rec'd Good Condition/Cold <u>YES</u> Conforms to Record Lab No.
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WHITE COPY-LABORATORY

CANARY COPY-JOB FILE

4018



Environmental Sciences, Inc.
 11 E. Spring St.
 Long Beach, CA 90807
 Telephone (213) 595-4555
 FAX (213) 427-8420

SAMPLE SUBMITTAL FORM/CHAIN OF CUSTODY RECORD

509

SITE JPL, PASADENA
 MES PROJECT NO. 805-1H

PLEASE REPORT DATE ANALYZED (AND TIME WHERE NECESSARY) WITH ANALYTICAL RESULTS																					
DO NOT EXCEED THESE HOLDING TIMES				MUST BE ANALYZED WITHIN 40 DAYS AFTER EXTRACTION					MUST BE ANALYZED WITHIN 28 DAYS												
DISPOSE OF SAMPLES 30 DAYS AFTER REPORTING ANALYSIS	SEND RESULTS ATTN. <u>DAVID</u>			HALOGEN VOLATILES 601/8010	MUST BE ANALYZED BY THIS DATE	AROM. VOLATILES 602/6020	MUST BE ANALYZED BY THIS DATE	PURGEABLES GC/MS 624/8240	MUST BE ANALYZED BY THIS DATE	MUST BE EXTRACTED BY THIS DATE	BASE/NEUTRAL/ACIDS GC/MS 625/8270	MUST BE EXTRACTED BY THIS DATE	PESTICIDES/PCB 608/8080	MUST BE EXTRACTED BY THIS DATE	MUST BE ANAL/EXT. BY THIS DATE	MUST BE ANAL/EXT. BY THIS DATE	MUST BE ANAL/EXT. BY THIS DATE	PRIORITY POLLUTANT METALS (13)	CAM METALS (17) TtLC-STLC	EP TOX METALS (8)	NUMBER OF SAMPLE CONTAINERS
SAMPLE NUMBER	DATE M D	24 HR. TIME	LAB ID																		
SP-13-B	9/4			/	/	/	/	/	/	/	/	/	/	/	/	/					1
SP-13-C	/			/	/	/	/	/	/	/	/	/	/	/	/	/					1
SP-13-D	/			/	/	/	/	/	/	/	/	/	/	/	/	/					1
SP-13-E	/			/	/	/	/	/	/	/	/	/	/	/	/	/					1
SP-14-A	/			/	/	/	/	/	/	/	/	/	/	/	/	/					1
SP-14-B	/			/	/	/	/	/	/	/	/	/	/	/	/	/					1
SP-14-C	/			/	/	/	/	/	/	/	/	/	/	/	/	/					1
SP-14-D	/			/	/	/	/	/	/	/	/	/	/	/	/	/					1
REMARKS: SP-14-E				/	/	/	/	/	/	/	/	/	/	/	/	/					1

EACH - A THROUGH - E ⇒ ONE COMPOSITE SAMPLE RESULTS BY MONDAY
 TOTAL SAMPLE NUMBERS ⇒ (5) ~~24 HOUR RUSH~~

COLLECTED/RELINQUISHED BY <u>[Signature]</u> Signature <u>GARY BANDER 115</u> Printed Name <u>MES</u> Company <u>9/4/91</u> Date	RECEIVED BY Signature Printed Name Date Company	RELINQUISHED BY Signature Printed Name Date Company	RECEIVED BY (LABORATORY) <u>[Signature]</u> Signature <u>Liane / Roy 1:15 pm</u> Printed Name <u>9/4/91</u> Date <u>Quest</u> Company	SAMPLE RECEIPT Total Number of Containers <u>90</u> Chain of Custody Seals <u>00</u> Rec'd Good Condition/Cold <u>OK</u> Conforms to Record Lab No.
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WHITE COPY-LABORATORY

CANARY COPY-JOB FILE

4018



Environmental Services, Inc.
E. Spring St.

Long Beach, CA 90807
Telephone (213) 595-4555
FAX (213) 427-8420

SAMPLE SUBMITTAL FORM/CHAIN OF CUSTODY RECORD

10001011 of 2

SITE JPL PASADENA

MES PROJECT NO. 805-1HE

PLEASE REPORT DATE ANALYZED (AND TIME WHERE NECESSARY) WITH ANALYTICAL RESULTS

DISPOSE OF SAMPLES 30 DAYS AFTER REPORTING ANALYSIS	SEND RESULTS ATTN. <u>DAVID/CABI</u>			DO NOT EXCEED THESE HOLDING TIMES		MUST BE ANALYZED WITHIN 40 DAYS AFTER EXTRACTION						MUST BE ANALYZED WITHIN 28 DAYS				NUMBER OF SAMPLE CONTAINERS								
	SAMPLE NUMBER	DATE M/D	24 HR. TIME	LAB ID	HALOGEN VOLATILES 601/8010	MUST BE ANALYZED BY THIS DATE	AROM. VOLATILES 602/8020	MUST BE ANALYZED BY THIS DATE	PURGEABLES GC/MS 624/8240	MUST BE ANALYZED BY THIS DATE	418.1	MUST BE EXTRACTED BY THIS DATE	BASE/NEUTRAL/ACIDS GC/MS 625/8270	MUST BE EXTRACTED BY THIS DATE	PESTICIDES/PCB 608/8080		MUST BE EXTRACTED BY THIS DATE	8015 Diesel	MUST BE ANAL/EXT. BY THIS DATE	MUST BE ANAL/EXT. BY THIS DATE	MUST BE ANAL/EXT. BY THIS DATE	PRIORITY POLLUTANT METALS (13)	CAM METALS (17) TTL/STLC	EP TOX METALS (8)
SP-15 (A through E)	9/10				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				
SP-16 (A through E)					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				
SP-17 (A-E)					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				
SP-18 (A-E)					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				
SP-19 (A-E)					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				
SP-20 (A-E)					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				
SP-21 (A-E)					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				
SP-22 (A-E)					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				

REMARKS: Regular Turbomound Composites from A through E of Each sample

COLLECTED/RELINQUISHED BY <u>G. Baader</u> Signature <u>G. BAADER</u> Printed Name <u>MES</u> Company <u>9/19/91</u> Date	RECEIVED BY <u>[Signature]</u> Signature <u>[Printed Name]</u> Printed Name <u>[Company]</u> Company	RELINQUISHED BY <u>[Signature]</u> Signature <u>[Printed Name]</u> Printed Name <u>[Company]</u> Company	RECEIVED BY (LABORATORY) <u>Lionel Rajo</u> 10:15 Signature Time <u>Lionel Rajo</u> 9/11/91 Printed Name Date <u>Greatest</u> Company	SAMPLE RECEIPT Total Number of Containers Chain of Custody Seals Rec'd Good Condition/Cold Conforms to Record Lab No.
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Met. Lab. Services, Inc.
 E. Spring St.
 Long Beach, CA 90807
 Telephone (213) 595-4555
 FAX (213) 427-8420

SAMPLE SUBMITTAL FORM/CHAIN OF CUSTODY RECORD

of 2

SITE JPL PASADENA

MES PROJECT NO. 805-14

PLEASE REPORT DATE ANALYZED (AND TIME WHERE NECESSARY) WITH ANALYTICAL RESULTS

DO NOT EXCEED THESE HOLDING TIMES				MUST BE ANALYZED WITHIN 40 DAYS AFTER EXTRACTION										MUST BE ANALYZED WITHIN 28 DAYS				
HALOGEN VOLATILES 601/8010	MUST BE ANALYZED BY THIS DATE	AROM VOLATILES 602/8020	MUST BE ANALYZED BY THIS DATE	PURGEABLES GC/MS 624/8240	MUST BE ANALYZED BY THIS DATE	418.1	MUST BE EXTRACTED BY THIS DATE	BASE/NEUTRAL/ACIDS GC/MS 625/8270	MUST BE EXTRACTED BY THIS DATE	PESTICIDES/PCB 608/8080	MUST BE EXTRACTED BY THIS DATE	805-14 MUST BE ANAL. EXT. BY THIS DATE	MUST BE ANAL. EXT. BY THIS DATE	MUST BE ANAL. EXT. BY THIS DATE	PRIORITY POLLUTANT METALS (13)	CAM METALS (17) TTL/STLC	EP TOX METALS (8)	NUMBER OF SAMPLE CONTAINERS
DISPOSE OF SAMPLES 30 DAYS AFTER REPORTING ANALYSIS	SEND RESULTS ATTN <u>DAVID/GAB</u>																	
SAMPLE NUMBER	DATE M-D	24 HR. TIME	LAB ID															
SP-23 (A-E)	9/10			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
SP-24 (A-E)	/			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
SP-25 (A-E)	/			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
SP-26 (A-E)	/			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

REMARKS: Regular Turnaround Composites from A through E of Each Sample

COLLECTED/RELINQUISHED BY <u>G. Trader</u> Signature <u>G. TRADER Spm</u> Printed Name <u>MES</u> 9/14/91 Company Date	RECEIVED BY Signature Printed Name Date Company	RELINQUISHED BY Signature Printed Name Date Company	RECEIVED BY (LABORATORY) <u>Lionel Rojo</u> 10:15 Signature Time <u>Lionel Rojo</u> 9/14/91 Printed Name Date <u>GeoTest</u> Company	SAMPLE RECEIPT Total Number of Containers Chain of Custody Seals Rec'd Good Condition/Cold Conforms to Record Lab No.
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WHITE COPY-LABORATORY

CANARY COPY-JOB FILE

W.O. 4035



1101 E. Spring St.
Long Beach, CA 90807
Telephone (213) 595-4555
FAX (213) 427-8420

SAMPLE SUBMITTAL FORM/CHAIN OF CUSTODY RECORD

PLEASE REPORT DATE ANALYZED (AND TIME WHERE NECESSARY) WITH ANALYTICAL RESULTS

SITE JPL PASADENA

MES PROJECT NO. 805-14

DISPOSE OF SAMPLES 30 DAYS AFTER REPORTING ANALYSIS	SEND RESULTS ATTN. <u>DAVID/GABI</u>			DO NOT EXCEED THESE HOLDING TIMES						MUST BE ANALYZED WITHIN 40 DAYS AFTER EXTRACTION						MUST BE ANALYZED WITHIN 28 DAYS			NUMBER OF SAMPLE CONTAINERS			
	SAMPLE NUMBER	DATE M/D	24 HR. TIME	LAB ID	HALOGEN VOLATILES 601/8010	MUST BE ANALYZED BY THIS DATE	AROM. VOLATILES 602/8020	MUST BE ANALYZED BY THIS DATE	PURGEABLES GC/MS 624/8240	MUST BE ANALYZED BY THIS DATE	<u>7015 H. DIESEL</u> MUST BE EXTRACTED BY THIS DATE	BASE/NEUTRAL/ACIDS GC/MS 625/8270	MUST BE EXTRACTED BY THIS DATE	PESTICIDES/PCB 608/8080	MUST BE EXTRACTED BY THIS DATE	<u>418.1</u> MUST BE ANAL/EXT. BY THIS DATE	MUST BE ANAL/EXT. BY THIS DATE	MUST BE ANAL/EXT. BY THIS DATE		PRIORITY POLLUTANT METALS (13)	CAM METALS (17) TTLIC/STLC	EP TOX METALS (8)
<u>SP-27</u> <u>(A through E)</u>	<u>9/12</u>	<u>9:45</u>		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	<u>5</u>
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
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/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

REMARKS: Regular turnaround, please include in Report for Sample # 15 through 26, received on 9/10/91. 1 Composite sample

COLLECTED/RELINQUISHED BY <u>G. BARDER</u> Signature <u>G. BARDER</u> Printed Name <u>MES</u> Company <u>9/12/91</u> Date	RECEIVED BY <u>[Signature]</u> Signature <u>[Printed Name]</u> Printed Name <u>[Company]</u> Company	RELINQUISHED BY <u>[Signature]</u> Signature <u>[Printed Name]</u> Printed Name <u>[Company]</u> Company	RECEIVED BY (LABORATORY) <u>Lionel [Signature]</u> Signature <u>Lionel [Printed Name]</u> Printed Name <u>[Company]</u> Company <u>12:45 p.m. 9/12/91</u> Time Date	SAMPLE RECEIPT Total Number of Containers <u>1</u> Chain of Custody Seals <u>NO</u> Rec'd Good Condition/Cold <u>YES</u> Conforms to Record Lab No.
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APPENDIX H

LOS ANGELES REGIONAL WATER

QUALITY CONTROL BOARD

NON-HAZARDOUS WASTE

DISCHARGE APPROVAL LETTERS

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LOS ANGELES REGION**

1 CENTRE PLAZA DRIVE
MONTEREY PARK, CA 91754-2156
(213) 266-7500



September 12, 1991

Paul David Herrera
Project Director
Maness Environmental Services, Inc.
P. O. Box 7917
Long Beach, CA 90807-0917

WASTE DISCHARGE REQUIREMENTS FOR DISCHARGE OF EXCAVATED SOIL -
JET PROPULSION LABORATORY AT 4800 OAK GROVE DRIVE, PASADENA -
File No. 88-57-036(91)

On September 6, 1991, you filed with this Board a report of waste discharge to discharge up to 5,000 cubic yards of excavated soil in a Class III Landfill in this Region.

The Executive Officer has reviewed the information provided and have determined that the proposed discharge of this material meets the conditions specified in Order No. 91-93, "General Waste Discharge Requirements for Discharge of Non-Hazardous Contaminated Soils and Other Wastes in Los Angeles River and Santa Clara River Basins", adopted by this Board on July 22, 1991.

Enclosed are Waste Discharge Requirements, comprising:

1. General Waste Discharge Requirements
2. Monitoring and Reporting Program

Please note that the Monitoring and Reporting Program require that a report be submitted to this Board within 10 days of the completion of disposal operations. The report shall reference the above file number.

If you have any questions, please contact Juan Gonzalez at (213) 266-7555.

John L. Lewis

JOHN L. LEWIS, Unit Chief
Technical Support Unit

J. FILIPOFF JOB NO.
D. HERRERA ACCT. NO.

SEP 16 1991

Enclosures

MANESS ENVIRONMENTAL

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM
for
DISCHARGE OF NON-HAZARDOUS CONTAMINATED SOILS
AND OTHER WASTES

JET PROPULSION LABORATORY - 4800 OAK GROVE DRIVE, PASADENA

File No. 88-57-036(91)

I. Reporting

- A. The discharger shall implement this monitoring and reporting program on the date of issuance of the Waste Discharge Requirements.
- B. The monitoring report shall be submitted within ten (10) days following the completion of disposal operations at the final point of disposal.
- C. All analytical samples obtained for this program shall be grab samples.
- D. In the event that hazardous or other unacceptable wastes are detected during disposal, the type, source, and final disposition of these wastes shall be reported.

II. Waste Disposal Reporting

- A. A report containing the following information shall be filled with this Regional Board after completion of all waste disposal:
 - 1. A tabular list of the estimated average quantities (in cubic yards) and types of materials deposited.
 - 2. Where the material was deposited (landfill name).
 - 3. A certification that all wastes deposited were in compliance with the Regional Board's requirements and that no wastes have been deposited outside of the boundaries of the site as specified in the Regional Board's requirements.
 - 4. In those cases where approval is given for the partial disposal of contaminated soils or other wastes, the ultimate disposal point of the remaining contaminated soils or other wastes must be reported, including the quantity of material disposed of at the different location.

General Waste Discharge Requirements
Discharge of Non-Hazardous Contaminated Soils

File No. 88-57

B. Monitoring reports shall be signed by:

1. In the case of corporations, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of discharge;
2. In the case of a partnership, by a general partner;
3. In the case of a sole proprietorship, by the proprietor;
4. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

C. The report shall contain the following completed declaration:

"I declare under penalty of perjury that the foregoing is true and correct.

Executed on the ___ day of _____ at _____

_____ (Signature)

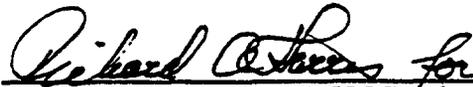
_____ (Title)"

D. The discharger shall mail a copy of the monitoring report to the following:

California Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Attn: Technical Support Unit

Ordered by:


ROBERT P. GHIRELLI D.Env.
Executive Officer

Date:

SEP 12 1991

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LOS ANGELES REGION**

101 CENTRE PLAZA DRIVE
MONTEREY PARK, CA 91754-2156
(213) 266-7500



October 23, 1991

Paul David Herrera
Project Director
Maness Environmental Services, Inc.
P. O. Box 7917
Long Beach, CA 90807-0917

WASTE DISCHARGE REQUIREMENTS FOR DISCHARGE OF EXCAVATED SOIL -
JET PROPULSION LABORATORY AT 4800 OAK GROVE DRIVE, PASADENA -
File No. 88-57-093(91)

On October 14, 1991, you filed with this Board a report of waste discharge to discharge up to 2,500 cubic yards of excavated soil in a Class III Landfill in this Region.

The Executive Officer has reviewed the information provided and have determined that the proposed discharge of this material meets the conditions specified in Order No. 91-93, "General Waste Discharge Requirements for Discharge of Non-Hazardous Contaminated Soils and Other Wastes in Los Angeles River and Santa Clara River Basins", adopted by this Board on July 22, 1991.

Enclosed are Waste Discharge Requirements, comprising:

1. General Waste Discharge Requirements
2. Monitoring and Reporting Program

Please note that the Monitoring and Reporting Program require that a report be submitted to this Board within 10 days of the completion of disposal operations. The report shall reference the above file number.

If you have any questions, please contact Juan Gonzalez at (213) 266-7555.

A handwritten signature in cursive script that reads "John L. Lewis".

JOHN L. LEWIS, Unit Chief
Technical Support Unit

Enclosures

MANESS ENVIRONMENTAL

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM
for
DISCHARGE OF NON-HAZARDOUS CONTAMINATED SOILS
AND OTHER WASTES

JET PROPULSION LABORATORY - 4800 OAK GROVE DRIVE, PASADENA

File No. 88-57-093(91)

I. Reporting

- A. The discharger shall implement this monitoring and reporting program on the date of issuance of the Waste Discharge Requirements.
- B. The monitoring report shall be submitted within ten (10) days following the completion of disposal operations at the final point of disposal.
- C. All analytical samples obtained for this program shall be grab samples.
- D. In the event that hazardous or other unacceptable wastes are detected during disposal, the type, source, and final disposition of these wastes shall be reported.

II. Waste Disposal Reporting

- A. A report containing the following information shall be filled with this Regional Board after completion of all waste disposal:
 - 1. A tabular list of the estimated average quantities (in cubic yards) and types of materials deposited.
 - 2. Where the material was deposited (landfill name).
 - 3. A certification that all wastes deposited were in compliance with the Regional Board's requirements and that no wastes have been deposited outside of the boundaries of the site as specified in the Regional Board's requirements.
 - 4. In those cases where approval is given for the partial disposal of contaminated soils or other wastes, the ultimate disposal point of the remaining contaminated soils or other wastes must be reported, including the quantity of material disposed of at the different location.

General Waste Discharge Requirements
Discharge of Non-Hazardous Contaminated Soils

File No. 88-57

B. Monitoring reports shall be signed by:

1. In the case of corporations, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of discharge;
2. In the case of a partnership, by a general partner;
3. In the case of a sole proprietorship, by the proprietor;
4. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

C. The report shall contain the following completed declaration:

"I declare under penalty of perjury that the foregoing is true and correct.

Executed on the ___ day of _____ at _____

(Signature)

" (Title)"

D. The discharger shall mail a copy of the monitoring report to the following:

California Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Attn: Technical Support Unit

Ordered by:

Richard [Signature] for
ROBERT P. GHIRELLI D.Env.
Executive Officer

Date:

OCT 23 1991

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LOS ANGELES REGION**

101 CENTRE PLAZA DRIVE
MONTEREY PARK, CA 91754-2156
(213) 266-7500



January 2, 1992

Paul David Herrera
Maness Environmental Services Inc.
1101 East Spring Street
P.O. Box 7917
Long Beach, CA 90807-0917

WASTE DISCHARGE REQUIREMENTS FOR DISCHARGE OF HYDROCARBON
CONTAMINATED SOIL - JET PROPULSION LABORATORY, AT 4800 OAK GROVE
DR., PASADENA -File No. 88-57-001(92)

On December 30, 1991, you filed with this Board a report of waste
discharge to dispose of 3500 cubic yards of hydrocarbon
contaminated soil in a Class III Landfill, in this Region.

The Executive Officer has reviewed the information provided and
has determined that partial portion of the proposed discharge of
this material meets the conditions specified in Order No. 91-93,
"General Waste Discharge Requirements for Discharge of Non-
Hazardous Contaminated Soils and Other Wastes in Los Angeles River
and Santa Clara River Basins", adopted by this Board on July 22,
1991.

Enclosed are Waste Discharge Requirements, comprising:

1. General Waste Discharge Requirements
2. Monitoring and Reporting Program

All material from stockpiled soil corresponding to SP8, SP9, SP10,
SP11, SP12, SP13 and SP14 (250 cubic yards) and from proposed
excavated soil corresponding to D6C, D8C, D10C, D15C, D17C, D6D,
D17E and D2, for a total of 3000 cubic yards may be disposed of at
any Class III, landfill, provided the analyses are representative
of the entire volume of material and with the concurrence of the
site operator.

over

Paul David Herrera
Maness Environmental Services, Inc.
Page 2

Material from stockpiled soil corresponding to SP15, SP16, SP17, SP18 and SP19 (approximately 250 cubic yards) and from proposed excavated soil corresponding to D13C and D1, may not be disposed of at any Class III Landfill in this Region. It may be acceptable at a Class I or Class II Landfill, however, there are no active Class I or II facilities in this Region.

Please note that the Monitoring and Reporting Program require that a report be submitted to this Board within 10 days of the completion of disposal operations. The report shall reference the above file number.

If you have any questions, please contact Hiam Tan at (213) 266-7567.


for JOHN L. LEWIS, Unit Chief
Technical Support Unit

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM
for
DISCHARGE OF NON-HAZARDOUS CONTAMINATED SOILS
AND OTHER WASTES

JET PROPULSION LABORATORY, PASADENA

File No. 88-57-001(92)

I. Reporting

- A. The discharger shall implement this monitoring and reporting program on the date of issuance of the Waste Discharge Requirements.
- B. The monitoring report shall be submitted within ten (10) days following the completion of disposal operations at the final point of disposal.
- C. All analytical samples obtained for this program shall be grab samples.
- D. In the event that hazardous or other unacceptable wastes are detected during disposal, the type, source, and final disposition of these wastes shall be reported.

II. Waste Disposal Reporting

- A. A report containing the following information shall be filled with this Regional Board after completion of all waste disposal:
 - 1. A tabular list of the estimated average quantities (in cubic yards) and types of materials deposited.
 - 2. Where the material was deposited (landfill name).
 - 3. A certification that all wastes deposited were in compliance with the Regional Board's requirements and that no wastes have been deposited outside of the boundaries of the site as specified in the Regional Board's requirements.
 - 4. In those cases where approval is given for the partial disposal of contaminated soils or other wastes, the ultimate disposal point of the remaining contaminated soils or other wastes must be reported, including the quantity of material disposed of at the different location.

General Waste Discharge Requirements
Discharge of Non-Hazardous Contaminated Soils

File No. 88-57

B. Monitoring reports shall be signed by:

1. In the case of corporations, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of discharge;
2. In the case of a partnership, by a general partner;
3. In the case of a sole proprietorship, by the proprietor;
4. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

C. The report shall contain the following completed declaration:

"I declare under penalty of perjury that the foregoing is true and correct.

Executed on the ___ day of _____ at _____

(Signature)

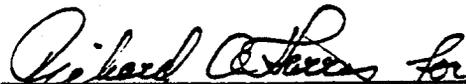
(Title)"

D. The discharger shall mail a copy of the monitoring report to the following:

California Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Attn: Technical Support Unit

Ordered by:

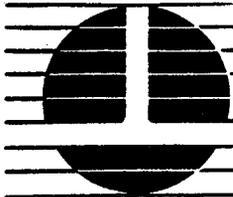


ROBERT P. GHIRELLI D.Env.
Executive Officer

Date: JAN 2 1992

APPENDIX I

**LABORATORY REPORTS AND ASSOCIATED
CHAIN-OF-CUSTODY DOCUMENTS
FOR SOIL SCREENING SAMPLES**



GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 11/05/91
DATE RECEIVED: 11/05/91
DATE ANALYZED: 11/05/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP 11/5-1	370	10
SP 11/5-2	1400	10
SP 11/5-3	100	10
SP 11-5-4	280	10

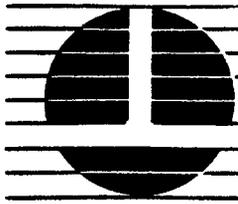
ND - Not detected below indicated limit of detection.

Analyst: DR

Reviewed and Approved: 

Report date: 11/6/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

DATE SAMPLED : 11/06/91
DATE RECEIVED: 11/06/91
DATE ANALYZED: 11/06/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

ATTENTION: GABRIELE BAADER

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP 11/6-1	450	10
SP 11/6-2-3'	26	10
SP 11/6-3-6'	34	10
SP 11/6-4-5'	110	10
SP 11/6-5(PILE 39)	50	10
SP 11/6-6	140	10
SP 11/6-7(PILE 37)	300	10
SP 11/6-8	300	10
SP 11/6-9	300	10
SP 11/6-10 5'	960	10
SP 11/6-11 5'	200	10
SP 11/6-12 5'	180	10
SP 11/6-13 5'	20	10

ND - Not detected below indicated limit of detection.

Analyst: SB, RV

Reviewed and Approved: 

Report date: 11/12/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P. O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 11/12/91
DATE RECEIVED: 11/12/91
DATE ANALYZED: 11/12/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

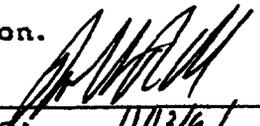
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP 29/22	460	10
SP 31/22A-SS	570	10
SP 31/23B-SS	500	10
SP 33/23	130	10
SP 35/23	510	10
SP 37/23	410	10
SP 39/22	700	10
SP 41/22	210	10
SP 43/24	320	10
SP 45/23	260	10

ND - Not detected below indicated limit of detection.

Analyst: PT

Reviewed and Approved: 

Report date: 11/13/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 11/12/91
DATE RECEIVED: 11/12/91
DATE ANALYZED: 11/12/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

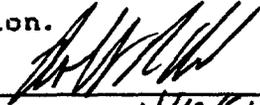
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP-42/24	150	10
SP-40/24	210	10
SP-38/24	80	10
SP-36/24A	ND	10
SP-34/24	100	10
SP-32/24	110	10
SP-30/24	270	10
SP-36/24B	47	10
SP-28/24	180	10

ND - Not detected below indicated limit of detection.

Analyst: PT

Reviewed and Approved: 

Report date: 11/12/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 11/13/91
DATE RECEIVED: 11/13/91
DATE ANALYZED: 11/13/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP 37/24	150	10
SP 31/26	30	10
SP 33/26	210	10
SP 35/26	400	10
SP 37/26	18	10
SP 39/26	110	10
SP 41/26	3400	10
SP 43/26	120	10
SP 45/26	230	10
SP 31/26-B	47	10
SP 37/26-B	48	10
SP 47/26	120	10
SP 49/26	170	10

ND - Not detected below indicated limit of detection.

Analyst: SB

Reviewed and Approved: 

Report date: 11/14/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 11/14/91
DATE RECEIVED: 11/14/91
DATE ANALYZED: 11/14/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP 40-26	260	10
SP 43-26	65	10
SP 44-26	680	10
SP 45-26	290	10
SP 43/25-B	300	10
SP 43/26-B	480	10

ND - Not detected below indicated limit of detection.

Analyst: SB

Reviewed and Approved: 

Report date: 11/18/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

LABORATORY REPORT

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 11/16/91
DATE RECEIVED: 11/16/91
DATE ANALYZED: 11/18/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP 12/13 11-16-91	24	10
SP 14/15 11-16-91	ND	10

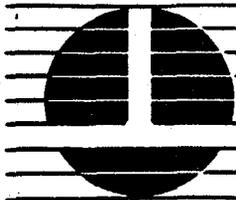
ND - Not detected below indicated limit of detection.

Analyst: SC, TR

Reviewed and Approved: 

Report date: 11/18/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 11/18/91
DATE RECEIVED: 11/18/91
DATE ANALYZED: 11/18/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP 31/ ²⁶ 11-18-91	ND	10
SP 28/24 11-18-91	200	10
SP 29/25 11-18-91	ND	10
SP 31/25 11-18-91	ND	10
SP 33/25 11-18-91	230	10
SP 34/25 11-18-91	310	10
SP 34/26 11-18-91	580	10
SP 34/22 11-18-91	390	10
SP 35/23 11-18-91	190	10

ND - Not detected below indicated limit of detection.

Analyst: SC, TR

Reviewed and Approved: *[Signature]*
Report date: 11/18/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.

DAVID HERRERA
PROJECT NO. 92851-09
11/18/91
MANESS ENVIRONMENTAL



Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 11/18/91
DATE RECEIVED: 11/18/91
DATE ANALYZED: 11/18/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

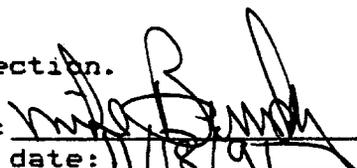
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP 32 11-18-91	38	10
SP 34 11-18-91	130	10
SP 36 11-18-91	ND	10
SP 38 11-18-91	66	10
SP 40 11-18-91	20	10
SP 42 11-18-91	53	10
SP 44 11-18-91	72	10
SP 28/26 11-18-91	ND	10
SP 30/26 11-18-91	82	10

ND - Not detected below indicated limit of detection.

Analyst: SC, TR

Reviewed and Approved: 

Report date: 11/18/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



GEOTEST
An Environmental Monitoring
and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

NOV 27 1991

MANESS ENVIRONMENTAL

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 11/21/91
DATE RECEIVED: 11/21/91
DATE ANALYZED: 11/21/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP1-1 11-21-91	710	10
SP1-2 11-21-91	610	10
SP2-1 11-21-91	260	10
SP2-2 11-21-91	75	10
SP2-3 11-21-91	68	10
SP2-4 11-21-91	200	10
SP3-1 11-21-91	19	10
SP4-1 11-21-91	680	10
SP4-2 11-21-91	780	10

ND - Not detected below indicated limit of detection.

Analyst: SC

Reviewed and Approved: 

Report date: 11/22/91

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and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 12/12/91
DATE RECEIVED: 12/12/91
DATE ANALYZED: 12/12/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

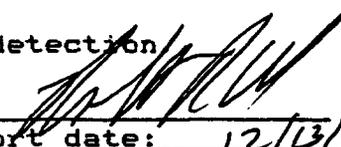
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
P49 E	510	10
P02 S	ND	10
P2 S	ND	10
P05 S	64	10
P38 S	550	10
P42 S	ND	10
P44 S	ND	10
P47 S	20	10
SP1-1	59	10

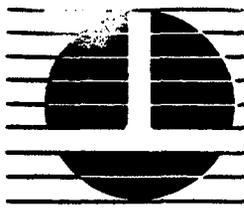
ND - Not detected below indicated limit of detection

Analyst: DR

Reviewed and Approved: 

Report date: 12/13/91

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

DATE SAMPLED : 12/12/91
DATE RECEIVED: 12/12/91
DATE ANALYZED: 12/12/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

ATTENTION: DAVID HERRERA

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP1-2	69	10
SP1-3	74	10
SP1-4	670	10
SP1-5	ND	10
SP6	ND	10
P34 N	ND	10
P37 N	ND	10
SP7	140	10
P40 N	170	10

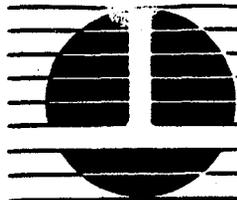
ND - Not detected below indicated limit of detection.

Analyst: DR

Reviewed and Approved: 

Report date: 12/13/91

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 12/12/91
DATE RECEIVED: 12/12/91
DATE ANALYZED: 12/12/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

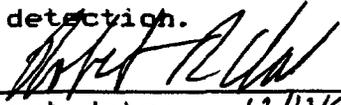
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
P43 N	11	10
P46 N	ND	10
P49 N	ND	10
SP-8	ND	10
SP-9	21	10
SP-10	140	10
SP-11	66	10
SP-12	87	10
SP-13	830	10

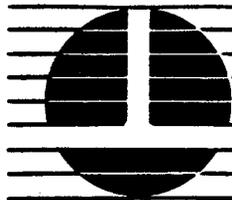
ND - Not detected below indicated limit of detection.

Analyst: DR

Reviewed and Approved: 

Report date: 12/13/91

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 12/12/91
DATE RECEIVED: 12/12/91
DATE ANALYZED: 12/12/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

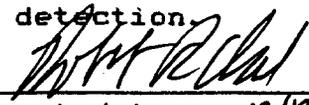
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP-14	780	10
SP-15	1400	10
SP-16	2400	10
SP-17	1900	10
SP-18	2300	10
SP-19	1600	10
P6-1	ND	10
P6-02	ND	10
P8-1	ND	10

ND - Not detected below indicated limit of detection.

Analyst: DR

Reviewed and Approved: 

Report date: 12/13/91

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LABORATORY REPORT

MANESS
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LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 12/12/91
DATE RECEIVED: 12/12/91
DATE ANALYZED: 12/12/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

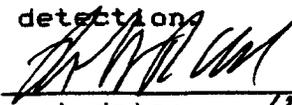
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
P8-02	ND	10 ⁻
P10-1	ND	10 ⁻
P10-02	ND	10 ⁻
P12-1	ND	10 ⁻
P12-02	ND	10 ⁻
P14-1	ND	10 ⁻
P14-02	ND	10 ⁻
P16-1	ND	10 ⁻
P16-02	ND	10 ⁻

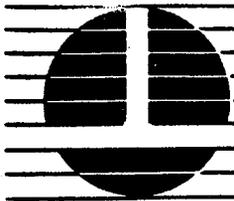
ND - Not detected below indicated limit of detection

Analyst: DR

Reviewed and Approved: 

Report date: 12/13/91

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

DATE SAMPLED : 12/12/91
DATE RECEIVED: 12/12/91
DATE ANALYZED: 12/12/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

ATTENTION: DAVID HERRERA

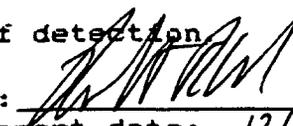
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
4LDL	790	10
4LP24	1400	10
4LP26	390	10

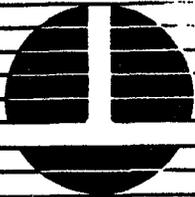
ND - Not detected below indicated limit of detection

Analyst: DR

Reviewed and Approved: 

Report date: 12/13/91

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807

ATTENTION: DAVID HERRERA

DATE SAMPLED : 12/12/91
DATE RECEIVED: 12/12/91
DATE ANALYZED: 12/18/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: TPH-D

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DR.
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY GAS CHROMATOGRAPHY
CAL/DOHS TPH FOR DIESEL**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP-7	ND	10
SP-10	ND	10
SP-13	910	10
SP-14	1500	10
SP-15	880	10
SP-16	1500	10
SP-17	1200	10
SP-18	1900	10
SP-19	1600	10

ND - Not detected below indicated limit of detection.

Analyst: MB

Reviewed and Approved: 

Report date: 12/19/91

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

DATE SAMPLED : 12/12/91
DATE RECEIVED: 12/13/91
DATE ADDITIONAL
ANALYSES REQUESTED: 12/16/91
DATE ANALYZED: 12/17/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: BTEX

ATTENTION: DAVID HERRERA

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE
PASADENA, CA

**ANALYSIS OF ORGANIC AROMATICS
EPA METHOD 8020**

COMPONENTS	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
DETECTION LIMITS	0.005	0.005	0.005	0.015

SAMPLE ID

SP-7	ND	ND	ND	ND
SP-10	ND	ND	ND	ND
SP-13	ND	ND	ND	ND
SP-14	ND	ND	ND	ND
SP-15	ND	ND	ND	ND
SP-16	ND	ND	ND	ND
SP-17	ND	0.007	ND	ND
SP-18	ND	ND	ND	ND
SP-19	ND	ND	ND	ND

ND - Not detected below indicated limit of detection.

Analyst: MG

Reviewed and Approved: 
Report date: 12/19/91

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EOTEST

3960 Gilman Street
 Long Beach, CA 90815
 Telephone: (310) 498-9515 (800) 624-5744

CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO:

92851-09

DATE

11-5-91

PAGE 1 OF 1

PROJECT NAME <u>JPL - Pasadena</u>				METHODS										MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS									
SP 11/5-1	11-5-91	1:05	Pile 47				X							Soil	1		
SP 11/5-2	11-5-91	2:30	Pile 41				X							Soil	1		
SP 11/5-3	11-5-91	2:30	Pile 36				X							Soil	1		
SP 11-5-4	11-5-91	3:15	Pile 31				X							Soil	1		

1 RELINQUISHED BY
 SIGNATURE [Signature]
 PRINTED NAME GABRIELE BAADER
 COMPANY MES

DATE 11/5/91
 TIME 3:50 pm

2 RELINQUISHED BY
 SIGNATURE
 PRINTED NAME
 COMPANY

DATE
 TIME

3 RELINQUISHED BY
 SIGNATURE
 PRINTED NAME
 COMPANY

DATE
 TIME

SAMPLE CONDITIONS
 RECEIVED ON ICE YES NO
 CHAIN OF CUSTODY SEAL YES NO

4 RECEIVED BY
 SIGNATURE [Signature]
 PRINTED NAME DAVID T. RICE
 COMPANY GEOTEST

DATE 11/5/91
 TIME 3:50

5 RECEIVED BY
 SIGNATURE
 PRINTED NAME
 COMPANY

DATE
 TIME

6 RECEIVED BY (LAB)
 SIGNATURE [Signature]
 PRINTED NAME Lione [Signature]
 COMPANY GEOTEST

DATE 11/6/91
 TIME 8:50 AM

PROJECT COMMENTS
on site analysis



GEOTEST

3960 Gilman Street
 Long Beach, CA 90815
 Telephone: (310) 498-9515 (800) 624-5744

CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: 92851-09

DATE 11/6/91 PAGE 1 OF

PROJECT NAME <u>JPL - PASADENA</u>				METHODS							MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4800 Oak Drive, Pasadena Ca</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
SAMPLER'S SIGNATURE _____														
PRINTED NAME _____														
CLIENT PROJECT NO. <u>92851-09</u>														
PROJECT MANAGER _____														

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
SP 11/6-1	11/6/91	0800					X					Soil	1	125mL I-Changjus
SP 11/6-2-3'	11/6/91	0850					X					S	1	
SP 11/6-3-6'	11/6/91	0850					X					S	1	
SP 11/6-4-5'	11/6/91	0850					X					S	1	
SP 11/6-5 (Pile 39)	11/6/91	0900					X					S	1	
SP 11/6-6	11/6/91	0910					X					S	1	
SP 11/6-7 (Pile 37)	11/6/91	0930					X					S	1	
SP 11/6-8	11/6/91	0945					X					S	1	
SP 11/6-9	11/6/91	1015					X					S	1	

1 RELINQUISHED BY		DATE	2 RELINQUISHED BY		DATE	3 RELINQUISHED BY		DATE	SAMPLE CONDITIONS	
SIGNATURE <u>[Signature]</u>		11/6/91	SIGNATURE <u>[Signature]</u>			SIGNATURE <u>[Signature]</u>			RECEIVED ON ICE <u>YES/NO</u>	
PRINTED NAME <u>G. SAMBER</u>		TIME	PRINTED NAME <u>Scott Brette</u>			PRINTED NAME <u>[Signature]</u>			CHAIN OF CUSTODY SEAL <u>YES/NO</u>	
COMPANY <u>GES</u>		11:50	COMPANY <u>Geotest</u>			COMPANY <u>[Signature]</u>			PROJECT COMMENTS	
		<u>an</u>								
4 RECEIVED BY		DATE	5 RECEIVED BY		DATE	6 RECEIVED BY (LAB)		DATE		
SIGNATURE <u>[Signature]</u>		11/6/91	SIGNATURE <u>[Signature]</u>			SIGNATURE <u>[Signature]</u>		11/7/91		
PRINTED NAME <u>Geotest</u>		TIME	PRINTED NAME <u>[Signature]</u>			PRINTED NAME <u>Geotest</u>		TIME		
COMPANY <u>Geotest</u>		11:50	COMPANY <u>[Signature]</u>			COMPANY <u>Geotest</u>		8:55		
		<u>an</u>						A.M.		



GEOTEST

3960 Gilman Street
Long Beach, CA 90815
Telephone: (310) 498-9515 (800) 624-5744

CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO:

93851-09

DATE

11/2/91

PAGE 1 OF

PROJECT NAME <u>JPL - Power Plant</u>				METHODS								MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4200 Oak Point Blvd, Long Beach, CA</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS							
SAMPLER'S SIGNATURE _____															
PRINTED NAME _____															
CLIENT PROJECT NO. <u>93851-09</u>															
PROJECT MANAGER _____															
SAMPLE NO.	DATE	TIME	LOCATION												
SP 11/6-10 5'	11/6/91	1045					X					1	125 mL I change		
SP 11/6-11 5'	11/6/91	1045					X					1			
SP 11/6-12 5'	11/6/91	1100					Y					1			
SP 11/6-13 5'	11/6/91	1100					X					1			

1 RELINQUISHED BY		DATE	2 RELINQUISHED BY		DATE	3 RELINQUISHED BY		DATE	SAMPLE CONDITIONS RECEIVED ON ICE YES/NO CHAIN OF CUSTODY SEAL YES/NO	
SIGNATURE <u>[Signature]</u>		11/1	SIGNATURE _____			SIGNATURE _____				
PRINTED NAME <u>CHADDER</u>		TIME	PRINTED NAME _____		TIME	PRINTED NAME _____		TIME	PROJECT COMMENTS	
COMPANY <u>ADDRESS</u>		11:50	COMPANY _____			COMPANY _____				
4 RECEIVED BY		DATE	5 RECEIVED BY		DATE	6 RECEIVED BY (LAB)		DATE		
SIGNATURE <u>[Signature]</u>		11/6/91	SIGNATURE _____			SIGNATURE _____				
PRINTED NAME <u>Geotest</u>		TIME	PRINTED NAME _____		TIME	PRINTED NAME _____		TIME		
COMPANY		11:50	COMPANY _____			COMPANY _____				



GeoResearch

1860 Obispo Avenue, Suite A
Long Beach, California 90804
Telephone: (213) 597-3977, (209) 264-0444

CHAIN-OF-CUSTODY RECORD

PROJECT NO: 92857-09
DATE 11/12/91 PAGE 1 OF 2

PROJECT NAME <u>JPL - Pasadena</u>				METHODS							NUMBER OF CONTAINERS	COMMENTS/ CONTAINER TYPE			
REFERENCE				PETROLEUM HYDROCARBONS 8015	PETROLEUM HYDROCARBONS 418.1	BTXE (8020/802)	CAC METALS	HALOGENATED VOLATILE ORGANICS 8070	418.1						
ADDRESS <u>4800 Oak Grove Dr. Pasadena, CA</u>															
SAMPLERS (SIGNATURE) <u>G. Baader</u>															
LABORATORY <u>NPL 103 - 600 test</u>															

SAMPLE NO.	DATE	TIME	LOCATION	PETROLEUM HYDROCARBONS 8015	PETROLEUM HYDROCARBONS 418.1	BTXE (8020/802)	CAC METALS	HALOGENATED VOLATILE ORGANICS 8070	418.1									
SP 29/22	11/12/91								X									Quarpack jars
SP 31/22A-SS	11/12/91								X									/
SP 31/23B-SS	11/12/91								X									
SP 33/23	11/12/91								X									
SP 35/23	11/12/91								X									
SP 37/23	11/12/91								X									
SP 39/22	11/12/91								X									
SP 41/22	11/12/91								X									
SP 43/24	11/12/91								X									
SP 45/23	11/12/91								X									

1 RELINQUISHED BY		DATE	3 RELINQUISHED BY		DATE	5 RELINQUISHED BY		DATE	10	TOTAL NUMBER OF CONTAINERS
SIGNATURE <u>G. Baader</u>		11-12-91	SIGNATURE			SIGNATURE			SAMPLE CONDITIONS	
PRINTED NAME <u>G. BAADER</u>			PRINTED NAME			PRINTED NAME			RECEIVED ON ICE <input checked="" type="checkbox"/> YES / <input type="checkbox"/> NO	
COMPANY <u>RES</u>		16:54	COMPANY			COMPANY			SEALED <input checked="" type="checkbox"/> YES / <input type="checkbox"/> NO	
2 RECEIVED BY		DATE	4 RECEIVED BY		DATE	6 RECEIVED BY (LAB)		DATE	SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS:	
SIGNATURE <u>[Signature]</u>			SIGNATURE			SIGNATURE <u>[Signature]</u>		11/12/91		
PRINTED NAME			PRINTED NAME			PRINTED NAME <u>Paul Tobias</u>				
COMPANY			COMPANY			COMPANY <u>Geotest</u>		16:54		



GeoResearch

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Long Beach, California 90804
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CHAIN-OF-CUSTODY RECORD

PROJECT NO: 92851-09
DATE 11/2/91 PAGE 2 OF 2

PROJECT NAME <u>JPL - Pasadena</u>				METHODS								NUMBER OF CONTAINERS	COMMENTS/ CONTAINER TYPE	
REFERENCE	ADDRESS	SAMPLERS (SIGNATURE)	LABORATORY	PETROLEUM HYDROCARBONS 8015	PETROLEUM HYDROCARBONS 418.1	BTXE (8020/802)	CAC METALS	HALOGENATED VOLATILE ORGANICS 8010						
SP-42/24	11/12/91								X					Quar-pak jar
sp-40/24	11/12/91								X					
sp-38/24	11/12/91								X					
Sp-36/24 A	11/12/91								X					
Sp-34/24	11/12/91								X					
Sp-32/24	11/12/91								X					
SP-30/24	11/12/91								X					
Sp-36/24 B	11/12/91								X					
Sp-28/24	11/12/91								X					

1 RELINQUISHED BY		DATE	3 RELINQUISHED BY		DATE	5 RELINQUISHED BY		DATE	9 TOTAL NUMBER OF CONTAINERS
SIGNATURE <u>G. Baader</u>		11-12-91	SIGNATURE			SIGNATURE			
PRINTED NAME <u>G. BAADER</u>		TIME <u>16:51</u>	PRINTED NAME			PRINTED NAME			
COMPANY <u>RES</u>			COMPANY			COMPANY			SAMPLE CONDITIONS RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO SEALED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 RECEIVED BY		DATE	4 RECEIVED BY		DATE	6 RECEIVED BY (LAB)		DATE	
SIGNATURE			SIGNATURE			SIGNATURE <u>Paul Tobmes</u>		11/2/91	
PRINTED NAME		TIME	PRINTED NAME		TIME	PRINTED NAME <u>GeoTest</u>		TIME <u>16:50</u>	
COMPANY			COMPANY			COMPANY			SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS:



GEOTEST

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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: 92851-09

DATE 11/13/91 PAGE 1 OF 2

PROJECT NAME <u>JPL - PASADENA</u> ADDRESS <u>4800 Oak Grove Pasadena</u> SAMPLER'S SIGNATURE <u>[Signature]</u> PRINTED NAME _____ CLIENT PROJECT NO. <u>92851-09</u> PROJECT MANAGER _____				METHODS								MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS							
SP 37/24 11-13-91	11-13-91	1000					X					Soil	1		
SP 31/26 11-13-91	11-13-91	1245					X					S	1		
SP 33/26 11-13-91	11-13-91	1245					X					S	1		
SP 35/26 11-13-91	11-13-91	1300					X					S	1		
SP 37/26	11-13-91	1300					X					S	1		
SP 39/26	11-13-91	1300					X					S	1		
SP 41/26	11-13-91	1300					X					S	1		
SP 43/26	11-13-91	1550					X					S	1		
SP 45 44/26	11-13-91	1550					X					S	1		

1 RELINQUISHED BY <u>[Signature]</u> SIGNATURE <u>C. J. KADOC</u> PRINTED NAME <u>HEJ</u> COMPANY	DATE <u>11/13/91</u>	2 RELINQUISHED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY	DATE <u>11/13/91</u>	3 RELINQUISHED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY	DATE <u>11/13/91</u>	SAMPLE CONDITIONS RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 RECEIVED BY <u>[Signature]</u> SIGNATURE <u>SCOTT BREFFLE</u> PRINTED NAME <u>GEOTEST</u> COMPANY	DATE <u>11/13/91</u>	5 RECEIVED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY	DATE <u>11/13/91</u>	6 RECEIVED BY (LAB) <u>[Signature]</u> SIGNATURE <u>Linda Rojas</u> PRINTED NAME <u>Geotest</u> COMPANY	DATE <u>11/14/91</u>	PROJECT COMMENTS



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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: 92851-09
DATE 11/13/91 PAGE 2 OF 2

PROJECT NAME <u>JPL - PASADENA</u>				METHODS							MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4800 Oak Grove Pasadena</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
SAMPLER'S SIGNATURE <u>[Signature]</u>														
PRINTED NAME _____														
CLIENT PROJECT NO. <u>92851-09</u>														
PROJECT MANAGER _____														
SAMPLE NO.	DATE	TIME	LOCATION											
SP 31/26-B	11/13/91	1600				X				soil		1		
SP 37/26-B	11/13/91	1600				X				S		1		
SP 47/26	11/13/91	1620				X				S		1		
SP 49/26	11/13/91	1620				X				S		1		

1 RELINQUISHED BY
 SIGNATURE [Signature]
 PRINTED NAME G. J. ADER
 COMPANY R. E. J.

DATE 11/3/91
TIME 16:50

2 RELINQUISHED BY
 SIGNATURE [Signature]
 PRINTED NAME _____
 COMPANY _____

DATE _____
TIME _____

3 RELINQUISHED BY
 SIGNATURE _____
 PRINTED NAME _____
 COMPANY _____

DATE _____
TIME _____

SAMPLE CONDITIONS
 RECEIVED ON ICE YES/NO
 CHAIN OF CUSTODY SEAL YES/NO

4 RECEIVED BY
 SIGNATURE [Signature]
 PRINTED NAME SWITT BREFFLE
 COMPANY GEOTEST

DATE 11/13/91
TIME 16:50

5 RECEIVED BY
 SIGNATURE [Signature]
 PRINTED NAME _____
 COMPANY _____

DATE _____
TIME _____

6 RECEIVED BY (LAB)
 SIGNATURE [Signature]
 PRINTED NAME Geotest
 COMPANY Geotest

DATE 11/14/91
TIME 12:00 p.m.

PROJECT COMMENTS



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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: 92851-09

DATE 11/14/91 PAGE 1 OF 1

PROJECT NAME <u>JPL - Pasadena</u>				METHODS										MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4800 Oak Grove Pasadena</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS									
SAMPLER'S SIGNATURE <u>L. Bader</u>																	
PRINTED NAME <u>L. Bader</u>																	
CLIENT PROJECT NO. <u>92851-09</u>																	
PROJECT MANAGER																	

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS									
SP40-26	11/14/91	11:50					X						soil				
SP43-26	11/14/91	11:50					X						soil				
SP44-26	11/14/91	14:00					Y						soil				
SP45-26	11/14/91	14:00					X						soil				
SP43/25-B	11/14/91	16:20					X						soil				
SP43/26-B	11/14/91	16:20					X						soil				

1 RELINQUISHED BY <u>L. Bader</u> SIGNATURE <u>L. BADER</u> PRINTED NAME <u>L. B.</u> COMPANY		DATE: <u>11/14/91</u> TIME: <u>16:44</u>	2 RELINQUISHED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY		DATE: <u>[Date]</u> TIME: <u>[Time]</u>	3 RELINQUISHED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY		DATE: <u>[Date]</u> TIME: <u>[Time]</u>	SAMPLE CONDITIONS RECEIVED ON ICE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO CHAIN OF CUSTODY SEAL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
4 RECEIVED BY <u>[Signature]</u> SIGNATURE <u>SCOTT BREFFI</u> PRINTED NAME <u>GEOTEST</u> COMPANY		DATE: <u>11/14/91</u> TIME: <u>6:45</u>	5 RECEIVED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY		DATE: <u>[Date]</u> TIME: <u>[Time]</u>	6 RECEIVED BY (LAB) <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>GEOTEST</u> COMPANY		DATE: <u>11/15/91</u> TIME: <u>12:34 P.M.</u>	PROJECT COMMENTS <u>[Handwritten]</u>	



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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: _____

DATE _____ PAGE _____ OF _____

PROJECT NAME <u>DPL / MITCHELL</u>				METHODS							MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4500 OAK GROVE DR.</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
SAMPLER'S SIGNATURE <u>[Signature]</u>														
PRINTED NAME <u>C. BAADER</u>														
CLIENT PROJECT NO. <u>1101-1H</u>														
PROJECT MANAGER <u>DAVID HERRERA</u>														

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS					
SP 31/26 11-18-91	11-18-91		DPL				X					S	1
SP 28/24 11-18-91													1
SP 29/25 11-18-91													1
SP 31/25 11-18-91													1
SP 33/25 11-18-91													1
SP 34/25 11-18-91													1
SP 34/26 11-18-91													1
SP 34/22 11-18-91													1
SP 35/23 11-18-91													1

1 RELINQUISHED BY		DATE	2 RELINQUISHED BY		DATE	3 RELINQUISHED BY		DATE	SAMPLE CONDITIONS	
SIGNATURE <u>[Signature]</u>		11-18-91	SIGNATURE			SIGNATURE			RECEIVED ON ICE YES/NO	
PRINTED NAME <u>C. BAADER</u>			PRINTED NAME			PRINTED NAME			CHAIN OF CUSTODY SEAL YES/NO	
COMPANY <u>GES</u>		9:30	COMPANY			COMPANY			PROJECT COMMENTS RUSH RUSH RUSH	
4 RECEIVED BY		DATE	5 RECEIVED BY		DATE	6 RECEIVED BY (LAB)		DATE		
SIGNATURE <u>[Signature]</u>		11/18/91	SIGNATURE			SIGNATURE				
PRINTED NAME <u>ERENA MAGALLANES</u>			PRINTED NAME			PRINTED NAME				
COMPANY <u>GEOTEST</u>		11:00	COMPANY			COMPANY				



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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: _____

DATE _____ PAGE _____ OF _____

PROJECT NAME <u>JPL/KITCHELL</u>				METHODS						MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4800 OAK GROVE DR.</u>													
SAMPLER'S SIGNATURE <u>G. Baader</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS					
PRINTED NAME <u>G. BAADER</u>													
CLIENT PROJECT NO. <u>1101-14</u>													
PROJECT MANAGER <u>DAVID HERRERA</u>													

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS			MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
SP 32 11-18-91	11-18-91		JPL				X				S		1	
SP 34 11-18-91											S		1	
SP 36 11-18-91											S		1	
SP 38 11-18-91											S		1	
SP 40 11-18-91											S		1	
SP 42 11-18-91											S		1	
SP 44 11-18-91											S		1	
SP 28/26 11-18-91											S		1	
SP 30/26 11-18-91											S		1	

1 RELINQUISHED BY <u>G. Baader</u> SIGNATURE <u>G. BAADER</u> PRINTED NAME <u>GES</u> COMPANY		DATE 11-18-91 TIME 9:30	2 RELINQUISHED BY SIGNATURE PRINTED NAME COMPANY		DATE TIME	3 RELINQUISHED BY SIGNATURE PRINTED NAME COMPANY		DATE TIME	SAMPLE CONDITIONS RECEIVED ON ICE YES/NO CHAIN OF CUSTODY SEAL YES/NO PROJECT COMMENTS <u>RUSH</u> <u>RUSH</u> <u>RUSH</u>
4 RECEIVED BY <u>Gloria A.</u> SIGNATURE <u>ERENA MAGALLANES</u> PRINTED NAME <u>GEOTEST</u> COMPANY		DATE 11/18/91 TIME 9:30	5 RECEIVED BY SIGNATURE PRINTED NAME COMPANY		DATE TIME	6 RECEIVED BY (LAB) SIGNATURE PRINTED NAME COMPANY		DATE TIME	



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CHAIN-OF-CUSTODY RECORD

GEOTEST PROJECT NO: 92851-09
DATE 11-21-91 PAGE 1 OF 1

PROJECT NAME <u>JPL / KITCHEN</u> ADDRESS <u>4800 Oak Grove Dr., Pasadena, CA 91109</u> SAMPLER'S SIGNATURE <u>G. Heade</u> PRINTED NAME <u>GABI BAADOR</u> CLIENT PROJECT NO. <u>1101-H</u> PROJECT MANAGER <u>DAVID HOFFERMAN</u>				METHODS										MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS									
SP1-1 11-21-91	11-21-91		JPL				X							S	1		
SP1-2 11-21-91															1		
SP2-1 11-21-91															1		
SP2-2 11-21-91															1		
SP2-3 11-21-91															1		
SP2-4 11-21-91															1		
SP3-1 11-21-91															1		
SP4-1 11-21-91															1		
SP4-2 11-21-91															1		

1 RELINQUISHED BY <u>G. Heade</u> SIGNATURE <u>G. BAADOR</u> PRINTED NAME <u>GES</u> COMPANY		DATE <u>11-21-91</u>	2 RELINQUISHED BY <u>Barbara Altavilla</u> SIGNATURE <u>B. Altavilla</u> PRINTED NAME <u>GEOTEST</u> COMPANY		DATE <u>11/24/91</u>	3 RELINQUISHED BY _____ SIGNATURE _____ PRINTED NAME _____ COMPANY		DATE	SAMPLE CONDITIONS RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
		TIME <u>3:20 PM</u>			TIME <u>4:20 PM</u>			TIME	PROJECT COMMENTS <u>Rush</u> <u>Rush</u> <u>Rush</u>	
4 RECEIVED BY <u>B. Altavilla</u> SIGNATURE <u>Barbara Altavilla</u> PRINTED NAME <u>GEOTEST</u> COMPANY		DATE <u>11/21/91</u>	5 RECEIVED BY _____ SIGNATURE _____ PRINTED NAME _____ COMPANY		DATE	6 RECEIVED BY (LAB) <u>Lionel Rejo</u> SIGNATURE <u>Lionel Rejo</u> PRINTED NAME <u>Geotest</u> COMPANY		DATE <u>11/25/91</u>		
		TIME <u>3:25 PM</u>			TIME			TIME <u>4:00 PM</u>		



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CHAIN-OF-CUSTODY RECORD

GEOTEST PROJECT NO: 92851-09
DATE 12-12-91 PAGE 1 OF 6

PROJECT NAME <u>JPL - Pasadena</u>				METHODS							MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4800 Oak Grove Dr, Pasadena CA</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
SAMPLER'S SIGNATURE														
PRINTED NAME														
CLIENT PROJECT NO.														
PROJECT MANAGER														

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS					
P49 E	12/12/91						X					SOIL	JAR
P02 S							X						
P2 S							X						
P05 S							X						
P38 S							X						
P42 S							X						
P44 S							X						
P47 S							X						
SPI-1							X						

1 RELINQUISHED BY <u>S. Bader</u> SIGNATURE <u>S. BADER</u> PRINTED NAME <u>MES</u> COMPANY		DATE <u>12-12-91</u> TIME <u>5:50 pm</u>	2 RELINQUISHED BY <u>David T. Rice</u> SIGNATURE <u>David T. Rice</u> PRINTED NAME <u>Geotest</u> COMPANY		DATE <u>12/13/91</u> TIME <u>9:00</u>	3 RELINQUISHED BY _____ SIGNATURE _____ PRINTED NAME _____ COMPANY		DATE _____ TIME _____	SAMPLE CONDITIONS RECEIVED ON ICE <u>YES/NO</u> CHAIN OF CUSTODY SEAL <u>YES/NO</u>	
4 RECEIVED BY <u>David T. Rice</u> SIGNATURE <u>David T. Rice</u> PRINTED NAME <u>Geotest</u> COMPANY		DATE <u>12/12/91</u> TIME <u>5:50 pm</u>	5 RECEIVED BY _____ SIGNATURE _____ PRINTED NAME _____ COMPANY		DATE _____ TIME _____	6 RECEIVED BY (LAB) <u>Walt Ford</u> SIGNATURE <u>Lone Ford</u> PRINTED NAME <u>Geotest</u> COMPANY		DATE <u>12/13/91</u> TIME <u>7:00 A.M.</u>	PROJECT COMMENTS	



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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO:

92851-09

DATE

12-12-91

PAGE 2 OF 6

PROJECT NAME <u>JPL - Pasadena</u> ADDRESS <u>4800 Oak Grove Dr. Pasadena, CA</u> SAMPLER'S SIGNATURE _____ PRINTED NAME _____ CLIENT PROJECT NO. _____ PROJECT MANAGER _____				METHODS										MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS									
SP1-2	12/12/91						X							Soil	JAR	1	
SP1-3							X									1	
SP1-4							X									1	
SP1-5							X									1	
SP6							X									1	
P 34N							X									1	
P 37N							X									1	
SP7						X	X									1	
P40N							X									1	

1 RELINQUISHED BY <u>S. Jaeder</u> SIGNATURE <u>G. BHADER</u> PRINTED NAME <u>GES</u> COMPANY	DATE 12-12-91 TIME 5:50	2 RELINQUISHED BY <u>David T. Rice</u> SIGNATURE <u>David T. Rice</u> PRINTED NAME <u>David T. Rice</u> COMPANY <u>Geotest</u>	DATE 12/13/91 TIME 9:00 AM	3 RELINQUISHED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY	DATE TIME	SAMPLE CONDITIONS RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 RECEIVED BY <u>David T. Rice</u> SIGNATURE <u>David T. Rice</u> PRINTED NAME <u>Geotest</u> COMPANY	DATE 12/12/91 TIME 5:50	5 RECEIVED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY	DATE TIME	6 RECEIVED BY (LAB) <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY	DATE 12/13/91 TIME 9:00 A.M.	PROJECT COMMENTS <u>(X) Additional analyses requested 12/16/91 via fax.</u>



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CHAIN-OF-CUSTODY RECORD

GEOTEST PROJECT NO: 92851-09
 DATE 12-12-91 PAGE 3 OF 6

PROJECT NAME <u>JPL - Pasadena</u> ADDRESS <u>4800 Oak Grove Dr, Pasadena, CA</u> SAMPLER'S SIGNATURE _____ PRINTED NAME _____ CLIENT PROJECT NO. _____ PROJECT MANAGER _____				METHODS										MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS									
<u>P43N</u>	<u>12/12/91</u>						X						<u>Soil</u>	<u>JAR</u>	<u>1</u>		
<u>P46N</u>							X								<u>1</u>		
<u>P49N</u>							X								<u>1</u>		
<u>SP-8</u>							X								<u>1</u>		
<u>SP-9</u>							X								<u>1</u>		
<u>SP-10</u>					X	X	X								<u>1</u>		
<u>SP-11</u>							X								<u>1</u>		
<u>SP-12</u>							X								<u>1</u>		
<u>SP-13</u>					X	X	X								<u>1</u>		

1 RELINQUISHED BY SIGNATURE <u>G. Brach</u> PRINTED NAME <u>G. Brach</u> COMPANY <u>GES</u>	DATE <u>12-12-91</u>	2 RELINQUISHED BY SIGNATURE <u>David T. Rice</u> PRINTED NAME <u>David T. Rice</u> COMPANY <u>Geotest</u>	DATE <u>12/13/91</u>	3 RELINQUISHED BY SIGNATURE _____ PRINTED NAME _____ COMPANY _____	DATE _____	SAMPLE CONDITIONS RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 RECEIVED BY SIGNATURE <u>David T. Rice</u> PRINTED NAME <u>David T. Rice</u> COMPANY <u>Geotest</u>	DATE <u>12-12-91</u>	5 RECEIVED BY SIGNATURE _____ PRINTED NAME _____ COMPANY _____	DATE _____	6 RECEIVED BY (LAB) SIGNATURE <u>Wendy...</u> PRINTED NAME <u>Wendy...</u> COMPANY <u>Geotest</u>	DATE <u>12/13/91</u>	PROJECT COMMENTS <u>(X) Additional analyses requested 12/16/91 via fax</u>
	TIME <u>5:55 PM</u>		TIME <u>9:00 AM</u>		TIME <u>9:00 A.M.</u>	



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PROJECT NO:

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PROJECT NAME <u>JPL - Pasadena</u> ADDRESS <u>4800 Oak Grove Dr. Pasadena, CA</u> SAMPLER'S SIGNATURE _____ PRINTED NAME _____ CLIENT PROJECT NO. _____ PROJECT MANAGER _____				METHODS										MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS									
SP-14	12/12/91				(X)	(X)	X							Soil	JAR	1	
SP-15					(X)	(X)	X									1	
SP-16					(X)	(X)	X									1	
SP-17					(X)	(X)	X									1	
SP-18					(X)	(X)	X									1	
SP-19					(X)	(X)	X									1	
P6-1							X									1	
P6-02							X									1	
P8-1							X									1	

1 RELINQUISHED BY <i>G. Bracke</i> SIGNATURE <i>G. BRACKER</i> PRINTED NAME RJS COMPANY	DATE 12-12-91 TIME 5:55	2 RELINQUISHED BY <i>David Rice</i> SIGNATURE <i>David T. Rice</i> PRINTED NAME David T. Rice COMPANY Geotest	DATE 12/13/91 TIME 9:00 AM	3 RELINQUISHED BY _____ SIGNATURE _____ PRINTED NAME _____ COMPANY	DATE _____ TIME _____	SAMPLE CONDITIONS RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 RECEIVED BY <i>David Rice</i> SIGNATURE <i>David T. Rice</i> PRINTED NAME David T. Rice COMPANY	DATE 12/12/91 TIME 5:55	5 RECEIVED BY _____ SIGNATURE _____ PRINTED NAME _____ COMPANY	DATE _____ TIME _____	6 RECEIVED BY (LAB) <i>Wendy Top</i> SIGNATURE <i>Lionel Rojas</i> PRINTED NAME Geotest COMPANY	DATE 12/13/91 TIME 9:00 AM	PROJECT COMMENTS ⊗ Additional analyses requested 12/16/91 via fax.



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CHAIN-OF-CUSTODY RECORD

GEOTEST
PROJECT NO. 72851-09
DATE 12-12-91 PAGE 5 OF 6

PROJECT NAME <u>7PL - Pasadena</u>				METHODS								MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4800 Oak Grove Dr., Pasadena, CA</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS							
SAMPLER'S SIGNATURE															
PRINTED NAME															
CLIENT PROJECT NO.															
PROJECT MANAGER															

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
P8-02	12/12/91						X						5	5
P10-1							X						1	
P10-02							X						1	
P12-1							X						1	
P12-02							X						1	
P14-1							X						1	
P14-02							X						1	
P16-1							X						1	
P16-02							X						1	

1 RELINQUISHED BY		DATE	2 RELINQUISHED BY		DATE	3 RELINQUISHED BY		DATE	SAMPLE CONDITIONS RECEIVED ON ICE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO CHAIN OF CUSTODY SEAL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
SIGNATURE <u>G. Brader</u>		12-12-91	SIGNATURE <u>David T. Rice</u>		12/13/91	SIGNATURE <u>[Signature]</u>			
PRINTED NAME <u>G. BRADER</u>		TIME	PRINTED NAME <u>David T. Rice</u>		TIME	PRINTED NAME		TIME	PROJECT COMMENTS
COMPANY <u>GES</u>		5:55	COMPANY <u>Geotest</u>		9:00 AM	COMPANY			
4 RECEIVED BY		DATE	5 RECEIVED BY		DATE	6 RECEIVED BY (LAB)		DATE	
SIGNATURE <u>David T. Rice</u>		12/12/91	SIGNATURE <u>[Signature]</u>			SIGNATURE <u>Wm R. Rojo</u>		12/13/91	
PRINTED NAME <u>David T. Rice</u>		TIME	PRINTED NAME		TIME	PRINTED NAME <u>Wm R. Rojo</u>		TIME	
COMPANY <u>Geotest</u>		5:55	COMPANY			COMPANY <u>Geotest</u>		9:00 AM	



GEOTEST
 3960 Gilman Street
 Long Beach, CA 90815
 Telephone: (310) 498-9515 (800) 624-5744

CHAIN-OF-CUSTODY RECORD

GEOTEST
 PROJECT NO: 92061
 DATE 12-91 PAGE 6 OF 6

PROJECT NAME <u>JPL - 1234 Ave</u>				METHODS										MATRIX	CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4800 Oak Grove Dr</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS								
SAMPLER'S SIGNATURE _____																
PRINTED NAME _____																
CLIENT PROJECT NO. _____																
PROJECT MANAGER _____																
SAMPLE NO.	DATE	TIME	LOCATION													
4L DL	12/12/91						X							Soil	1	D. HESSELY
4LP24							X								1	
4LP26							X								1	

1 RELINQUISHED BY	DATE	2 RELINQUISHED BY	DATE	3 RELINQUISHED BY	DATE	SAMPLE CONDITIONS RECEIVED ON ICE <input checked="" type="checkbox"/> YES/NO CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES/NO
SIGNATURE <u>G. Bracke</u>	12-12-91	SIGNATURE <u>David T. Rice</u>	12/13/91	SIGNATURE <u>[Signature]</u>		
PRINTED NAME <u>G. Bracke</u>	TIME	PRINTED NAME <u>David T. Rice</u>	TIME	PRINTED NAME	TIME	PROJECT COMMENTS
COMPANY <u>HES</u>	5:35	COMPANY <u>Geotest</u>	9:00 AM	COMPANY		
4 RECEIVED BY	DATE	5 RECEIVED BY	DATE	6 RECEIVED BY (LAB)	DATE	
SIGNATURE <u>David T. Rice</u>	12/12/91	SIGNATURE <u>[Signature]</u>		SIGNATURE <u>Lionel Rojas</u>	12/13/91	
PRINTED NAME <u>David T. Rice</u>	TIME	PRINTED NAME	TIME	PRINTED NAME <u>Geotest</u>	TIME	
COMPANY <u>Geotest</u>	5:55	COMPANY		COMPANY	9:00 A.M.	

APPENDIX J

**LABORATORY REPORTS AND ASSOCIATED
CHAIN-OF-CUSTODY DOCUMENTS
FOR CONFIRMATION SAMPLING**



Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

DATE SAMPLED : 12/12/91
DATE RECEIVED: 12/12/91
DATE ANALYZED: 12/12/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

ATTENTION: DAVID HERRERA

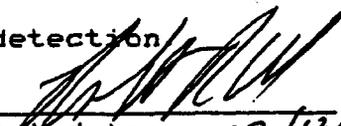
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
P49 E	510	10
P02 S	ND	10
P2 S	ND	10
P05 S	64	10
P38 S	550	10
P42 S	ND	10
P44 S	ND	10
P47 S	20	10
SP1-1	59	10

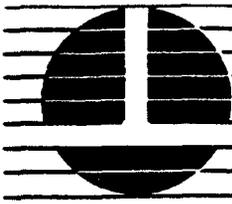
ND - Not detected below indicated limit of detection

Analyst: DR

Reviewed and Approved: 

Report date: 12/13/91

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 12/12/91
DATE RECEIVED: 12/12/91
DATE ANALYZED: 12/12/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
SP-14	780	10
SP-15	1400	10
SP-16	2400	10
SP-17	1900	10
SP-18	2300	10
SP-19	1600	10
P6-1	ND	10
P6-02	ND	10
P8-1	ND	10

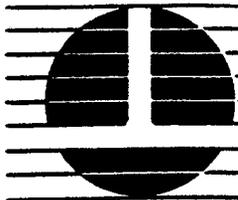
ND - Not detected below indicated limit of detection.

Analyst: DR

Reviewed and Approved: *[Signature]*

Report date: 12/13/91

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 12/12/91
DATE RECEIVED: 12/12/91
DATE ANALYZED: 12/12/91
SAMPLE MATRIX: SOIL
CLIENT ID :
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
P8-02	ND	10 ⁻
P10-1	ND	10 ⁻
P10-02	ND	10 ⁻
P12-1	ND	10 ⁻
P12-02	ND	10 ⁻
P14-1	ND	10 ⁻
P14-02	ND	10 ⁻
P16-1	ND	10 ⁻
P16-02	ND	10 ⁻

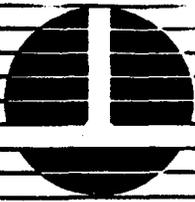
ND - Not detected below indicated limit of detection

Analyst: DR

Reviewed and Approved: 

Report date: 12/13/91

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 01/16/92
DATE RECEIVED: 01/16/92
DATE ANALYZED: 01/16/92
SAMPLE MATRIX: SOIL
CLIENT ID : 1101-IH
GEOTEST PROJECT NO. : 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
6/33	ND	10
9/33	ND	10
12/33	ND	10
15/33	20	10
19/33	ND	10
26/31	750	10
26/33	ND	10
26/37	ND	10
D/33	190	10

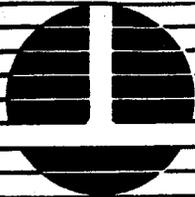
ND - Not detected below indicated limit of detection.

Analyst: SB

Reviewed and Approved: 

Report date: 1/17/92

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 01/16/92
DATE RECEIVED: 01/16/92
DATE ANALYZED: 01/16/92
SAMPLE MATRIX: SOIL
CLIENT ID : 1101-IH
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
9/43	ND	10
15/36	590	10
9/40	83	10
9/36	ND	10
D/37	180	10
19/36	ND	10
15/38	ND	10
12/36	55	10
12/38	ND	10

ND - Not detected below indicated limit of detection.

Analyst: SB

Reviewed and Approved: 

Report date: 1/17/92

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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 01/16/92
DATE RECEIVED: 01/16/92
DATE ANALYZED: 01/16/92
SAMPLE MATRIX: SOIL
CLIENT ID : 1101-IH
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

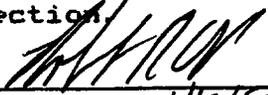
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
K37	620	10
D43	ND	10
19/44	ND	10
D/40	70	10
15/44	220	10
19/42	89	10
15/42	28	10
19/38	ND	10
12/44	ND	10
12/42	ND	10

ND - Not detected below indicated limit of detection.

Analyst: SB

Reviewed and Approved: 

Report date: 1/17/92

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LABORATORY REPORT

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 01/17/92
DATE RECEIVED: 01/17/92
DATE ANALYZED: 01/17/92
SAMPLE MATRIX: SOIL
CLIENT ID : 1101-IH
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

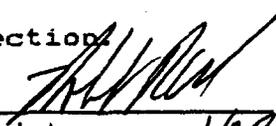
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
12/36-2	ND	10
15/36-2	ND	10
19/42-2	ND	10
D/33-2	ND	10

ND - Not detected below indicated limit of detection.

Analyst: EB

Reviewed and Approved: 

Report date: 1/20/92

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An Environmental Monitoring
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LABORATORY REPORT

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

ATTENTION: DAVID HERRERA

DATE SAMPLED : 01/21/92
DATE RECEIVED: 01/22/92
DATE ANALYZED: 01/22/92
SAMPLE MATRIX: SOIL
CLIENT ID : 1101-IH
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
22/29	ND	10
19/29	ND	10

ND - Not detected below indicated limit of detection.

Analyst: SB

Reviewed and Approved: 

Report date: 1/27/92

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



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LABORATORY REPORT

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

REPORT TO: G. BAADER
COPIES TO: DAVID HERRERA

PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

DATE SAMPLED : 02/06/92
DATE RECEIVED: 02/06/92
DATE ANALYZED: 02/07/92
SAMPLE MATRIX: SOIL
CLIENT ID : 1101-IH
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY EPA METHOD 418.1

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
PL-19/56	15	10
PL-15/50	ND	10
PL-15/53	ND	10
PL-15/56	15	10
PL-12/50	ND	10
PL-12/53	ND	10
PL-12/56	24	10
PL-K/44	32	10
PL-K/47	ND	10
PL-3/44	190	10
PL-3/47	67	10

ND - Not detected below indicated limit of detection.

Analyst: SB

Reviewed and Approved: 
Report date: 2/10/92

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



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L A B O R A T O R Y R E P O R T

MANESS
P.O. BOX 7917
LONG BEACH, CA 90807-0917

REPORT TO: G. BAADER
COPIES TO: DAVID HERRERA

DATE SAMPLED : 02/06/92
DATE RECEIVED: 02/06/92
DATE ANALYZED: 02/07/92
SAMPLE MATRIX: SOIL
CLIENT ID : 1101-IH
GEOTEST PROJECT NO.: 92851-09
ANALYSES: 418.1

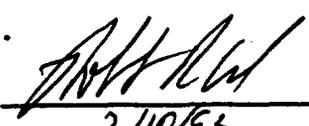
PROJECT NAME: JPL - PASADENA
LOCATION: 4800 OAK GROVE DRIVE
PASADENA, CA

**ANALYSIS OF HYDROCARBON CONTENT BY INFRARED SPECTROMETRY
EPA METHOD 418.1**

<u>SAMPLE ID</u>	<u>RESULTS</u> (mg/kg)	<u>DETECTION LIMIT</u> (mg/kg)
PL-26/41	ND	10
PL-26/44	360	10
PL-26/48	40	10
PL-26/52	590	10
PL-D/49	20	10
PL-D/53	460	10
PL-D/56	340	10
PL-19/50	19	10
PL-19/53	ND	10

ND - Not detected below indicated limit of detection.

Analyst: SB

Reviewed and Approved: 
Report date: 2/10/92

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed.



GEOTEST

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 Long Beach, CA 90815
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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO:

92851-09

DATE

12-12-91 PAGE 1 OF 6

PROJECT NAME: <u>JPL - Pasadena</u>				METHODS										MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS: <u>4800 Oak Grove Dr, Pasadena CA</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS									
SAMPLER'S SIGNATURE																	
PRINTED NAME																	
CLIENT PROJECT NO.																	
PROJECT MANAGER																	
SAMPLE NO.	DATE	TIME	LOCATION														
P19E	12/12/91						X								SOIL	J ₂	1
P02 S							X										1
P2 S							X										1
P05 S							X										1
P38 S							X										1
P42 S							X										1
P44 S							X										1
P47 S							X										1
SPI-1							X										1

1 RELINQUISHED BY	DATE	2 RELINQUISHED BY	DATE	3 RELINQUISHED BY	DATE	SAMPLE CONDITIONS RECEIVED ON ICE YES/NO CHAIN OF CUSTODY SEAL YES/NO
SIGNATURE	12-12-91	SIGNATURE	12/13/91	SIGNATURE		
PRINTED NAME		PRINTED NAME		PRINTED NAME		
COMPANY		COMPANY		COMPANY		
4 RECEIVED BY	DATE	5 RECEIVED BY	DATE	6 RECEIVED BY (LAB)	DATE	PROJECT COMMENTS
SIGNATURE	12/12/91	SIGNATURE		SIGNATURE	12/13/91	
PRINTED NAME		PRINTED NAME		PRINTED NAME		
COMPANY		COMPANY		COMPANY		



EOTEST

3960 Gilman Street
 Long Beach, CA 90815
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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO:

92851-09

DATE

12-12-91

PAGE

4 OF 6

PROJECT NAME <u>JPL - Pasadena</u> ADDRESS <u>4800 Oak Grove Dr. Pasadena, CA</u> SAMPLER'S SIGNATURE _____ PRINTED NAME _____ CLIENT PROJECT NO. _____ PROJECT MANAGER _____				METHODS							MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
SP-14	12/12/91				(X)	(X)	X				Soil Jar	1		
SP-15					(X)	(X)	X					1		
SP-16					(X)	(X)	X					1		
SP-17					(X)	(X)	X					1		
SP-18					(X)	(X)	X					1		
SP-19					(X)	(X)	X					1		
P6-1							X					1		
P6-02							X					1		
P8-1							X					1		

1 RELINQUISHED BY <u>G. Bando</u> SIGNATURE <u>G. BANDO</u> PRINTED NAME <u>G. B</u> COMPANY	DATE <u>12-12-91</u> TIME <u>5:55</u>	2 RELINQUISHED BY <u>David Rice</u> SIGNATURE <u>David T. Rice</u> PRINTED NAME <u>David T. Rice</u> COMPANY <u>Geotest</u>	DATE <u>12/13/91</u> TIME <u>9:00 AM</u>	3 RELINQUISHED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY	DATE <u>[Date]</u> TIME <u>[Time]</u>	SAMPLE CONDITIONS RECEIVED ON ICE <u>YES</u> CHAIN OF CUSTODY SEAL <u>YES</u>
4 RECEIVED BY <u>David Rice</u> SIGNATURE <u>David T. Rice</u> PRINTED NAME <u>David T. Rice</u> COMPANY	DATE <u>12/12/91</u> TIME <u>5:55</u>	5 RECEIVED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY	DATE <u>[Date]</u> TIME <u>[Time]</u>	6 RECEIVED BY (LAB) <u>[Signature]</u> SIGNATURE <u>Liane [Signature]</u> PRINTED NAME <u>Geotest</u> COMPANY	DATE <u>12/13/91</u> TIME <u>9:00 AM</u>	PROJECT COMMENTS <u>(X) Additional analyses requested 12/10/91 via fax.</u>



GEOTEST

3960 Gilman Street
 Long Beach, CA 90815
 Telephone: (310) 498-9515 (800) 624-5744

CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO. 92851-09

DATE 12-12-91

PAGE 5 OF 6

PROJECT NAME <u>711 - Pasadena</u>				METHODS								MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4800 Oak Grove Dr., Pasadena CA</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS							
SAMPLER'S SIGNATURE _____															
PRINTED NAME _____															
CLIENT PROJECT NO. _____															
PROJECT MANAGER _____															
SAMPLE NO.	DATE	TIME	LOCATION												
P8-02	12/12/91						X								
P10-1							X								
P10-02							X								
P12-1							X								
P12-02							X								
P14-1							X								
P14-02							X								
P16-1							X								
P16-02							X								

1 RELINQUISHED BY		DATE	2 RELINQUISHED BY		DATE	3 RELINQUISHED BY		DATE	SAMPLE CONDITIONS	
SIGNATURE <u>[Signature]</u>		12-12-91	SIGNATURE <u>[Signature]</u>		12/13/91	SIGNATURE <u>[Signature]</u>			RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
PRINTED NAME <u>G. BILADER</u>		TIME	PRINTED NAME <u>David T. Rice</u>		TIME	PRINTED NAME <u>[Signature]</u>			CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
COMPANY <u>GES</u>		5:55	COMPANY <u>Geotest</u>		9:00 AM	COMPANY <u>[Signature]</u>			PROJECT COMMENTS	
4 RECEIVED BY		DATE	5 RECEIVED BY		DATE	6 RECEIVED BY (LAB)		DATE		
SIGNATURE <u>[Signature]</u>		12/12/91	SIGNATURE <u>[Signature]</u>			SIGNATURE <u>[Signature]</u>		12/13/91		
PRINTED NAME <u>David T. Rice</u>		TIME	PRINTED NAME <u>[Signature]</u>		TIME	PRINTED NAME <u>Geotest</u>		TIME		
COMPANY <u>[Signature]</u>		5:55	COMPANY <u>[Signature]</u>			COMPANY <u>[Signature]</u>		9:00 AM		



GEOTEST

3960 Gilman Street
Long Beach, CA. 90815
Telephone: (310) 498-9515 (800) 624-5744

CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: 92851-09

DATE 16 JAN 92 PAGE 1 OF 4

PROJECT NAME <u>JPL Decadon Mitchell</u>				METHODS							MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4500 Ch. 16 Ave</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
SAMPLER'S SIGNATURE <u>[Signature]</u>														
PRINTED NAME <u>[Name]</u>														
CLIENT PROJECT NO. <u>1101-14</u>														
PROJECT MANAGER <u>[Name]</u>														

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS					
6/33	16 JAN 92	8:10					X					S	1
9/33							X						
12/33							X						
15/33							X						
17/33							X						
26/31							X						
26/33							X						
26/34							X						
12/33							X						

1 RELINQUISHED BY		DATE	2 RELINQUISHED BY		DATE	3 RELINQUISHED BY		DATE	SAMPLE CONDITIONS	
SIGNATURE <u>[Signature]</u>		1/16/92	SIGNATURE <u>[Signature]</u>		1/16/92	SIGNATURE <u>[Signature]</u>			RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
PRINTED NAME <u>[Name]</u>		TIME	PRINTED NAME <u>[Name]</u>		TIME	PRINTED NAME <u>[Name]</u>		TIME	CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
COMPANY <u>[Company]</u>		11:45	COMPANY <u>[Company]</u>		11:00 P.M.	COMPANY <u>[Company]</u>			PROJECT COMMENTS	
4 RECEIVED BY		DATE	5 RECEIVED BY		DATE	6 RECEIVED BY (LAB)		DATE		
SIGNATURE <u>[Signature]</u>		1/16/92	SIGNATURE <u>[Signature]</u>			SIGNATURE <u>[Signature]</u>		1/16/92		
PRINTED NAME <u>[Name]</u>		TIME	PRINTED NAME <u>[Name]</u>		TIME	PRINTED NAME <u>[Name]</u>		TIME		
COMPANY <u>[Company]</u>		11:45	COMPANY <u>[Company]</u>			COMPANY <u>[Company]</u>		11:00 P.M.	11183 (105)	



GEOTEST

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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: 92851-09

DATE 16 JAN 92 PAGE 2 OF 4

PROJECT NAME <u>JPL - PALMDENA 11101074</u>				METHODS							MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4800 O. L. Blvd</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
SAMPLER'S SIGNATURE <u>[Signature]</u>														
PRINTED NAME <u>[Name]</u>														
CLIENT PROJECT NO. <u>1101-111</u>														
PROJECT MANAGER <u>D. H. [Name]</u>														

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS					
9/43	16 JAN 92	8:50					X						
15/36							X						
9/40							X						
9/36							X						
10/37							X						
19/36							X						
15/38							X						
12/36							X						
12/38							X						

1 RELINQUISHED BY		DATE	2 RELINQUISHED BY		DATE	3 RELINQUISHED BY		DATE	SAMPLE CONDITIONS	
SIGNATURE <u>[Signature]</u>		1/16/92	SIGNATURE <u>[Signature]</u>		1/16/92	SIGNATURE <u>[Signature]</u>			RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
PRINTED NAME <u>[Name]</u>		TIME	PRINTED NAME <u>[Name]</u>		TIME	PRINTED NAME		TIME	CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
COMPANY <u>[Company]</u>		11:45	COMPANY <u>GEOTEST</u>		1:10 p.m.	COMPANY			PROJECT COMMENTS	
4 RECEIVED BY		DATE	5 RECEIVED BY		DATE	6 RECEIVED BY (LAB)		DATE		
SIGNATURE <u>[Signature]</u>		1/16/92	SIGNATURE <u>[Signature]</u>			SIGNATURE <u>[Signature]</u>		1/16/92		
PRINTED NAME <u>[Name]</u>		TIME	PRINTED NAME <u>[Name]</u>			PRINTED NAME <u>[Name]</u>		TIME		
COMPANY <u>[Company]</u>		11:45	COMPANY <u>[Company]</u>			COMPANY <u>[Company]</u>		4:00 p.m.		



GEOTEST

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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: 92851-09

DATE 16 JAN 92 PAGE 3 OF 4

PROJECT NAME <u>JPL/KITCHELL</u>				METHODS						MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4800 OAK GROVE DR PASADENA</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS					
SAMPLER'S SIGNATURE <u>G. Boach</u>													
PRINTED NAME _____													
CLIENT PROJECT NO. <u>1101-1H</u>													
PROJECT MANAGER <u>D. HERRERA</u>													

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS	MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
V37 ^{K37}	16 JAN 92	8:50					X		S	5	1	
D43		9:00					X					
19/44							X					
D/40							X					
D/37			Duplicated (page 2)									
15/44							X					
19/42							X					
15/42							X					
19/38							X					

1 RELINQUISHED BY SIGNATURE <u>G. Boach</u> PRINTED NAME <u>G. Boach</u> COMPANY <u>GES</u>		DATE <u>1/16/92</u>	2 RELINQUISHED BY SIGNATURE <u>Scott Breffle</u> PRINTED NAME <u>SCOTT BREFFLE</u> COMPANY <u>GEOTEST</u>		DATE <u>1/16/92</u>	3 RELINQUISHED BY SIGNATURE _____ PRINTED NAME _____ COMPANY _____		DATE _____	SAMPLE CONDITIONS RECEIVED ON ICE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO CHAIN OF CUSTODY SEAL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 RECEIVED BY SIGNATURE <u>Scott Breffle</u> PRINTED NAME <u>SCOTT BREFFLE</u> COMPANY <u>Geotest</u>		DATE <u>1/16/92</u>	5 RECEIVED BY SIGNATURE _____ PRINTED NAME _____ COMPANY _____		DATE _____	6 RECEIVED BY (LAB) SIGNATURE <u>Wm. P. ...</u> PRINTED NAME <u>Liane L. ...</u> COMPANY <u>Geotest</u>		DATE <u>1/14/92</u>	PROJECT COMMENTS
		TIME <u>11:45</u>			TIME <u>4:00 P.M.</u>			TIME <u>4:00 P.M.</u>	



GEOTEST

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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: 92851-01
DATE: 16 JAN 92 **PAGE 4 OF 4**

PROJECT NAME JPL-PASADENA KITCHELL				METHODS							MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS 4809 OAK CREEK DR.				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
SAMPLER'S SIGNATURE G. Wood														
PRINTED NAME														
CLIENT PROJECT NO. 1101-1H														
PROJECT MANAGER D. HEERER A														

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS							
12/44	16 JAN 92	9:10					X						U	20	1
12/42	1	1					X						↓	↓	↓

1 RELINQUISHED BY SIGNATURE: G. Wood PRINTED NAME: G. Wood COMPANY: GES	DATE 1-16-92	2 RELINQUISHED BY SIGNATURE: Scott Brettle PRINTED NAME: Scott Brettle COMPANY: Geotest	DATE 1/16/92	3 RELINQUISHED BY SIGNATURE: [Signature] PRINTED NAME: [Name] COMPANY: [Company]	DATE	SAMPLE CONDITIONS RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
	TIME 11:45		TIME 11:00 P.M.		TIME	
	4 RECEIVED BY SIGNATURE: Scott Brettle PRINTED NAME: Scott Brettle COMPANY: Geotest		DATE		5 RECEIVED BY SIGNATURE: [Signature] PRINTED NAME: [Name] COMPANY: [Company]	DATE
TIME	TIME	TIME	TIME 4:00 P.M.			



GEOTEST

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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: 92851-09

DATE 1/17/92 PAGE 1 OF 1

PROJECT NAME <u>JPL - PASADENA</u>				METHODS								MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>4800 Oak Grove Pasadena, CA</u>															
SAMPLER'S SIGNATURE <u>[Signature]</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS							
PRINTED NAME <u>UG. BAADER</u>															
CLIENT PROJECT NO. <u>1101-14</u>															
PROJECT MANAGER <u>DAVID HERROGA</u>															

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
12/36-2	17 JAN 92	8:00					X					S	5/8	1
15/36-2	17 JAN 92	8:00					X							
17/42-2		8:15					X							
D/33-2		8:40					X							

1 RELINQUISHED BY		DATE	2 RELINQUISHED BY		DATE	3 RELINQUISHED BY		DATE	SAMPLE CONDITIONS RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
SIGNATURE <u>[Signature]</u>		1/17/92	SIGNATURE <u>[Signature]</u>		1/17/92	SIGNATURE <u>[Signature]</u>			
PRINTED NAME <u>UG. BAADER</u>		TIME	PRINTED NAME <u>SCOTT BREFFEL</u>		TIME	PRINTED NAME		PROJECT COMMENTS	
COMPANY <u>HES</u>		9:00 AM	COMPANY <u>GEOTEST</u>		3:00 PM	COMPANY			
4 RECEIVED BY		DATE	5 RECEIVED BY		DATE	6 RECEIVED BY (LAB)			DATE
SIGNATURE <u>[Signature]</u>		17 JAN 92	SIGNATURE <u>[Signature]</u>			SIGNATURE <u>[Signature]</u>		1/17/92	
PRINTED NAME <u>SCOTT BREFFEL</u>		TIME	PRINTED NAME		TIME	PRINTED NAME <u>[Signature]</u>		TIME	
COMPANY <u>GEOTEST</u>		9:00 AM	COMPANY			COMPANY <u>GEOTEST</u>		3:00 PM	

GEOTEST

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CHAIN-OF-CUSTODY RECORD

GEOTEST
 PROJECT NO: 92831-04
 DATE: 1/22/92 PAGE 1 OF 1

PROJECT NAME: JPL PASADENA WITCHELL				METHODS										MATRIX	CONTAINER TYPE	EVAL OF CONTAINERS	SPECIAL HANDLING
ADDRESS: 4800 Oak Grove Pasadena, CA				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS									
SAMPLER'S SIGNATURE: <i>[Signature]</i>																	
PRINTED NAME: G. BANDER																	
CLIENT PROJECT NO: 1106-14																	
PROJECT MANAGER: D. HERRERA																	

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS									
22/29	1-21-92						X							S			
17/27	1-21-92						X							S			

1 RELINQUISHED BY		DATE	2 RELINQUISHED BY		DATE	3 RELINQUISHED BY		DATE	SAMPLE CONDITIONS	
SIGNATURE: <i>[Signature]</i>		1/22/92	SIGNATURE: _____			SIGNATURE: _____			RECEIVED ON ICE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
PRINTED NAME: G. BANDER		TIME	PRINTED NAME: _____			PRINTED NAME: _____			CHAIN OF CUSTODY SEAL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
COMPANY: HES		2:00 PM	COMPANY: _____			COMPANY: _____			PROJECT COMMENTS	
4 RECEIVED BY		DATE	5 RECEIVED BY		DATE	6 RECEIVED BY (LAB)		DATE		
SIGNATURE: <i>[Signature]</i>		1-22-92	SIGNATURE: _____			SIGNATURE: <i>[Signature]</i>		1/23/92		
PRINTED NAME: Scott Baffle		TIME	PRINTED NAME: _____			PRINTED NAME: _____		TIME		
COMPANY: Centert			COMPANY: _____			COMPANY: _____		4:00 PM		



GEOTEST

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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO: 92851-09
 DATE 2-6-92 PAGE 1 OF 3

PROJECT NAME	<u>JPL/KITCHER</u>									
ADDRESS	<u>4800 DAK GROVE, PASADENA</u>									
SAMPLER'S SIGNATURE	<u>Gabi Baader</u>									
PRINTED NAME	<u>GABI BAADER</u>									
CLIENT PROJECT NO.	<u>1101-1H</u>									
PROJECT MANAGER	<u>DAVID HERPERA</u>									

SAMPLE NO.	DATE	TIME	LOCATION	METHODS										MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS									
PL-26/41	2/6/92						X							S	SM-6311	1	
PL-26/44							X							S		1	
PL-26/48							X							S		1	
PL-26/52							X							S		1	
PL-D/49							X							S		1	
PL-D/53							X							S		1	
PL-D/56							X							S		1	
PL-19/50							X							S		1	
PL-19/53							X							S		1	

1 RELINQUISHED BY <u>Gabi Baader</u> SIGNATURE <u>GABI BAADER</u> PRINTED NAME <u>GABI</u> COMPANY	DATE	2 RELINQUISHED BY	DATE	3 RELINQUISHED BY	DATE	SAMPLE CONDITIONS RECEIVED ON ICE <input checked="" type="checkbox"/> YES/NO CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES/NO PROJECT COMMENTS <u>ORIGINAL REPORT TO GABI</u> <u>PROBABLY 24hr.</u> <u>PUSH, but wait</u> <u>for Gabi to call</u> <u>w.o. 4605</u>	
	TIME	SIGNATURE	TIME	SIGNATURE	TIME		
	<u>1:50 pm</u>	PRINTED NAME	TIME	PRINTED NAME	TIME		
4 RECEIVED BY	DATE	5 RECEIVED BY	DATE	6 RECEIVED BY (LAB)	DATE		
	TIME		SIGNATURE		TIME	SIGNATURE	TIME
			PRINTED NAME		TIME	PRINTED NAME	TIME



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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO:

92851-09

DATE

2-6-92

PAGE

2 OF 3

PROJECT NAME <u>PL / MITCHELL</u>				METHODS							MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
ADDRESS <u>1700 OAK GROVE, PHOENIX</u>				TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS						
SAMPLER'S SIGNATURE <u>Gabi Baader</u>														
PRINTED NAME <u>GABI BAADER</u>														
CLIENT PROJECT NO. <u>1101-1H</u>														
PROJECT MANAGER <u>DAVID HEYRER</u>														

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTEX	418.1	OTHERS					
PL-19/56	2/6/92						X					S	1
PL-15/50							X					S	1
PL-15/53							X					S	1
PL-15/56							X					S	1
PL-12/50							X					S	1
PL-12/53							X					S	1
PL-12/56							X					S	1
PL-k/44							X					S	1
PL-k/47							X					S	1

1 RELINQUISHED BY <u>Gabi Baader</u> SIGNATURE <u>GABI BAADER</u> PRINTED NAME <u>RES</u> COMPANY		DATE <u>2/6/92</u> TIME <u>1:50 PM</u>	2 RELINQUISHED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY		DATE <u>[Signature]</u> TIME <u>[Signature]</u>	3 RELINQUISHED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY		DATE <u>[Signature]</u> TIME <u>[Signature]</u>	SAMPLE CONDITIONS RECEIVED ON ICE <u>YES/NO</u> CHAIN OF CUSTODY SEAL <u>YES/NO</u>	
4 RECEIVED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY		DATE <u>[Signature]</u> TIME <u>[Signature]</u>	5 RECEIVED BY <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY		DATE <u>[Signature]</u> TIME <u>[Signature]</u>	6 RECEIVED BY (LAB) <u>[Signature]</u> SIGNATURE <u>[Signature]</u> PRINTED NAME <u>[Signature]</u> COMPANY		DATE <u>2/6/92</u> TIME <u>1:50 PM</u>	PROJECT COMMENTS <u>ORIGINAL REPORT TO GABI / PROBABLY 2LHR PUSH, BUT WAIT FOR GABI TO CALL IN</u>	



GEOTEST

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CHAIN-OF-CUSTODY RECORD

GEOTEST

PROJECT NO:

92851-07

DATE

PAGE 3 OF 3

PROJECT NAME	JPL / MITCHELL										
ADDRESS	4800 Oak Grove (Pasadena)										
SAMPLER'S SIGNATURE	<i>Gabi Baader</i>										
PRINTED NAME	GABI BAADER										
CLIENT PROJECT NO.	1101-1H										
PROJECT MANAGER	DAVID HERRERA										

SAMPLE NO.	DATE	TIME	LOCATION	TPH GASOLINE	TPH DIESEL	BTX	418.1	OTHERS						MATRIX	CONTAINER TYPE	# OF CONTAINERS	SPECIAL HANDLING
PL-3/44	7/6/92						X							S		1	
PL-3/47	7/6/92						X							S		1	

1 RELINQUISHED BY <i>Gabi Baader</i> SIGNATURE GABI BAADER PRINTED NAME GIES COMPANY	DATE	2 RELINQUISHED BY	DATE	3 RELINQUISHED BY	DATE	SAMPLE CONDITIONS RECEIVED ON ICE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO CHAIN OF CUSTODY SEAL <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
	TIME	SIGNATURE	TIME	SIGNATURE	TIME	
	1:50 PM	PRINTED NAME	TIME	PRINTED NAME	TIME	
4 RECEIVED BY	DATE	5 RECEIVED BY	DATE	6 RECEIVED BY (LAB)	DATE	PROJECT COMMENTS ORIGINAL REPORT TO GABI PROBABLY 24 hr RUSH, BUT WAIT FOR GABI TO CALL
	TIME	SIGNATURE	TIME	SIGNATURE	TIME	
		PRINTED NAME	TIME	PRINTED NAME	TIME	
		COMPANY		COMPANY		

APPENDIX K

NON - HAZARDOUS WASTE DATA FORMS

CLASS II DISPOSAL

NO. 00167

WO #2850

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A
 ADDRESS 4800 Oak Grove Drive
 CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT approx 23 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION <u>Non-Haz Waste Solid</u>			GENERATING PROCESS <u>Site Clean up</u>		
COMPONENTS OF WASTE	PPM	%	COMPONENTS OF WASTE	PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage M-989

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chirino 11-7-91
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE 11-7-91

PHONE NO. 213 531-0030

TRUCK UNIT I.D. NO. 921 Gregory Master 11-7-91
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. Q A I D 1 9 1 8 1 0 1 6 1 7 5 1 2 1 7 1 6

ADDRESS 2500 Lokern Road LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. 805 762-7372

HIVANIO CASARUS 11-7-91
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS <u>45060 lbs</u>	DISCREPANCY
TRANS		S	B		
C/O		RT	HWDF		

22.53 Tons

NO. 00168

Watt 22851

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. (818) 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT 22 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage M-989

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chicino TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE 11-7-91

PHONE NO. (213) 531-0030

TRUCK UNIT I.D. NO. 77 Tom Anderson TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

DISPOSAL FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. Q A I D I 9 1 8 1 0 6 1 7 5 1 2 1 7 6

ADDRESS 2500 Lokern Road DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. (805) 762-7372

Huanuo CAVALI TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

GEN	OLD/NEW	L	A	TONS
TRANS		S	B	<u>44420</u>
C/O		T/CD	HWDF	<u>NONE</u>

DISCREPANCY 22.21 Tons

NO. 00169

WO# 2855

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT 22 lbs

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage M-989

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Fuistino Chirino TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. (213) 531-0030

TRUCK UNIT, I.D. NO. _____ TYPED OR PRINTED FULL NAME & SIGNATURE RAY GROSSMAN DATE 11-7-91

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. Q A D 9 1 8 0 6 1 7 5 1 2 1 1

ADDRESS 2500 Lokern Road LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. (805) 762-7372

Paul Puro TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11/7/91

GEN	OLD/NEW	L	A	TONS <u>105</u>
TRANS		S	B	<u>5080</u>
OC		RT/CD	HWDF NONE	

25.04 Tons

DISCREPANCY

NO. 00185

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JPL EPA I.D. NO. N/A

ADDRESS 4800 OAK GROVE DR.

CITY, STATE, ZIP PASADENA, CA 91109 PHONE NO. 818 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT _____

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION NON-HAZ WASTE SOLID GENERATING PROCESS SITE CLEAN UP

COMPONENTS OF WASTE		PPM	COMPONENTS OF WASTE		PPM
1. <u>SOIL</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: PERSONNEL PROTECTIVE EQUIPMENT

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Lewis A. Brown, Lewis A. Brown FOR JPL 11-8-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE TRANSPORT EPA I.D. NO. N/A

ADDRESS P.O. BOX 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP LAKEWOOD, CA 90714-1267 PICK UP DATE _____

PHONE NO. 713 531-0030

TRUCK UNIT I.D. NO. 362 Don Brown 11-8-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TSD FACILITY

NAME LIDLAW ENV. SER. EPA I.D. NO. CA1D91810675276

ADDRESS 2500 LOKERN RD. DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP BUTTONWILLOW, CA 93206 # 9989 B-29378

PHONE NO. 805 762-7372 Susan Dethoff 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS <u>65</u>
TRANS		S	B	<u>47,220</u>
C/O		RT/CD	HWDF <u>NONE</u>	

23.61 Tons

DISCREPANCY

WO# 2-2857

Profile #

M-989

NO. 00202

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL)

EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109

PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~20 1/2 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER 33

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chicino 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC.

EPA I.D. NO. N/A

ADDRESS P.O. Box 1267

SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267

PICK UP DATE _____

PHONE NO. 213 531-0030

TRUCK UNIT, I.D. NO. _____ Stan Watson STAN WATSON 11/7/91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

DISPOSAL FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC.

EPA I.D. NO. 04D1918016175121716

ADDRESS 2500 Lokern Road

DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. 805 762-7372

Harold Contreras 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS <u>38,440</u>	DISCREPANCY <u>19.22 Tons</u>
TRANS		S	B		
C/Q		RT/CD	HWDF NONE		

WO# Z 2858

Trailer #
M989

NO. 00203

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A
 ADDRESS 4800 Oak Grove Drive
 CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~ 20 1/2

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up
 COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE PPM %

1. <u>Soil</u> _____ <u>100</u>	5. _____
2. _____	6. _____
3. _____	7. _____
4. _____	8. _____

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chirino 11-7-91
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A
 ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____
 CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. 213 531-0030
MARK MITCHELLE mark mitchell 11/7/91
 TRUCK UNIT I.D. NO. _____ TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. CAD980675276
 ADDRESS 2500 Lokern Road DISPOSAL METHOD LANDFILL OTHER _____
 CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. 805 762-7372
Steve Nido 11-7-91
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS <u>CB5</u>
TRANS		S	B	<u>40480</u>
C/Q		RT/CD		HWDF <u>NONE</u>

20.24 Tons

DISCREPANCY

W07 22859

PROFILE #
M989

NO. 00204

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~ 20 1/2 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chicino 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. 213 531-0030

TRUCK UNIT. I.D. NO. _____ [Signature] 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

DISPOSAL FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. G A D 9 1 8 0 6 7 5 2 7 6

ADDRESS 2500 Lokern Road DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. 805 762-7372

HILAN CASALLO 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS <u>42.860</u> <u>21.43 Tons</u>
TRANS		S	B	
C/O		RT/CS		

DISCREPANCY _____

W04-22865

MOBILE #
M-989

NO. 00205

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL)

EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109

PHONE NO. 818-354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~2000-5

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chirino
TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC.

EPA I.D. NO. N/A

ADDRESS P.O. Box 1267

SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267

PICK UP DATE _____

PHONE NO. 213 531-0030

William J. Morse
TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11/7/91

TRUCK UNIT I.D. NO. _____

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC.

EPA I.D. NO. Q A D 9 1 8 0 1 6 7 5 1 2 1 6

ADDRESS 2500 Lokern Road

DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. 805 762-7372

Susan Dethloff
TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

GEN	OLD/NEW	L	A	TONS <u>18.85</u>
TRANS		S	B	<u>37,700</u>
C/O		RT/CD	HWDF	NONE

18.85 Tons

DISCREPANCY

WO# Z2860

Profile# M989

NO. 00206

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~ 2 1/2 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Forstino Chirino TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. (213) 531-0030

TRUCK, UNIT, I.D. NO. _____ TYPED OR PRINTED FULL NAME & SIGNATURE Sam Morse DATE 11-7-91

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. CA D 9 8 0 6 7 5 2 2

ADDRESS 2500 Lokern Road DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206 M 989

PHONE NO. (805) 762-7372

TYPED OR PRINTED FULL NAME & SIGNATURE Dave Jenkins DATE 11-7-91

GEN	OLD/NEW	L	A	TONS
TRANS		S	B	<u>41,900</u>
C/O		HWDF NONE		DISCREPANCY

20.95 Tons

W0# 22861

Profile #
M989

NO. 00207

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~26 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustina Chirino 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. (213) 531-0030

TRUCK UNIT, I.D. NO. _____ Robert Wheeler 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. G A D 9 1 8 0 6 7 5 2 7 6

ADDRESS 2500 Lokern Road DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206 DAH 989

PHONE NO. (805) 762-7372

Dave Hankins 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS <u>51,980 lbs</u>	<u>25.99 Tons</u>
TRANS		S	B		
C/O		ST/CO	HWDF NONE		

WO# Z 2864

NO. 00208

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~ 20 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chiripio
TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. 213 531-0030

TRUCK UNIT. I.D. NO. _____ TYPED OR PRINTED FULL NAME & SIGNATURE Kenny Sky DATE 11/7/91

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. Q A D 1 9 1 8 0 6 7 5 1 2 7 6

ADDRESS 2500 Lokern Road DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206 D # 1989

PHONE NO. 805 762-7372

JUSAN DETHLOFF
TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

GEN	OLD/NEW	L	A	TONS <u>LBS</u>
TRANS		S	B	<u>37820</u>
C/O		RT/CD	HWDF	<u>NONE</u>

DISCREPANCY 18.51 Tons

WO# 22862

Profile #
M 989

NO. 00209

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818,354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~22 lbs

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Frustrino Chirino 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. (213) 531-0030

DAVID WATTS 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRUCK, UNIT, I.D. NO. _____

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. C1A1D1918106171521716

ADDRESS 2500 Lokern Road DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206 ID # 81989

PHONE NO. (805) 762-7372

SUSAN DETHLOFF 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TSD FACILITY

GEN#	OLD/NEW	L	A	TONS
TRANS		S	B	<u>42,740</u>
C/O		RT/CD	NWDF	<u>NONE</u>

21.37 Tons
DISCREPANCY

WO# 2 2863

NO. 00210

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A
ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO 818,354-7598

CONTAINERS: No 1 VOLUME _____ WEIGHT 20 drums

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5		
2. _____			6		
3. _____			7		
4. _____			8		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Jose Chirino TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. 213 531-0030

TRUCK UNIT. I.D. NO. _____ TYPED OR PRINTED FULL NAME & SIGNATURE Joe Adinari DATE 11-7-91

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. CA D 9 8 0 6 7 5 2 7 6 3

ADDRESS 2500 Lokern Road DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206 # 11 989

PHONE NO. 805 762-7372 TYPED OR PRINTED FULL NAME & SIGNATURE Susan Dethlefsen DATE 11-7-91

GEN	OLD/NEW	L	A	TONS <u>18.87</u>
TRANS		S	B	<u>37740</u>
C/D		PTSD	HWDF	<u>NONE</u>

DISCREPANCY 18.87 Tons

W0# 22866

NO. 00211

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT 22 1/2 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chirino Faustino Chirino 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. (213) 531-0030 Delbert Humphrey Delbert Humphrey

TRUCK UNIT, I.D. NO. _____ Humphrey Trucking 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. GA1D918106175121716

ADDRESS 2500 Lokern Road DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206 ID # 989

PHONE NO. (805) 762-7372 Damon Weather Damon Weather 11-7-91

TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS <u>43,340</u>	lbs <u>21.67 Tons</u>
TRANS		S	B		
C/G		RT/CS	HWDF	NONE	DISCREPANCY

NO. 00373

W07 2 2853

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT 22 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage M-989

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chicino TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. 213 531-0030

TRUCK UNIT, I.D. NO. JT2 LARRY LEE TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. Q A D 9 1 8 0 1 6 7 5 1 2 7 1 6

ADDRESS 2500 Lokern Road LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. 805 762-7372

HUANRIO CAJAVARCS TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

GEN	OLD/NEW	L	A	TONS <u>48700</u>
TRANS		S	B	
C/D		RT/CD	HWDF NONE	

24.35 Tons DISCREPANCY

NO. 00375

Wb# Z 2852

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~22 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage M-989

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Frustrino Chirino TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. 213 531-0030

TRUCK UNIT. I.D. NO. _____ TYPED OR PRINTED FULL NAME & SIGNATURE Donna B... DATE 11-7-91

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. QA1D191810161715121716

ADDRESS 2500 Lokern Road LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. 805 762-7372

Hilario CAVALOS TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

GEN	OLD/NEW	L	A	TONS <u>48440</u>	DISCREPANCY
TRANS		S	B		
C/O		RT/CD	HWDF NONE		

24.22 Tons

NO. 00376
W0722854

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT _____

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER 

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage M-989

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chirino 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. (213) 531-0030

TRUCK UNIT I.D. NO. _____

Curtis Dossay 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. GAID91016171512171

ADDRESS 2500 Lokern Road LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. (805) 762-7372

Armando CAVARO 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS
TRANS		S	B	
C/Q		PT/CD	HWDF NONE	

47620 LBS. 23.81 Tons

NO. 00377

W0# 22855

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL)

EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109

PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~22 1/2 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage M-989

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chirino 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC.

EPA I.D. NO. N/A

ADDRESS P.O. Box 1267

SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267

PICK UP DATE _____

PHONE NO. 213 531-0030

Donald Lee Randall 11/7/91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRUCK UNIT I.D. NO. _____

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC.

EPA I.D. NO. GA D1918 01617 5121716

ADDRESS 2500 Lokern Road

DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttontonwillow, CA 93206

PHONE NO. 805 762-7372

David Hawkins 11-7-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS <u>155</u> <u>44,940</u>
TRANS		S	B	
C/O		RT/CD		HWDF <u>NONE</u>

22.47 Tons

DISCREPANCY

NO. 00378

WO# 2286

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL) EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109 PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~21 tons

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage M-989

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chirino 11-7-91
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC. EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267 PICK UP DATE _____

PHONE NO. 213 531-0030

TRUCK UNIT. I.D. NO. _____

John Joe Larry Jones 11/7/91
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC. EPA I.D. NO. G A D 9 1 8 0 6 7 5 2 7 6

ADDRESS 2500 Lokern Road LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. 805 762-7372

ROGER BARBERAZ JR 11-9-91
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS	DISCREPANCY
TRANS		S	B	<u>46.520</u>	
C/O		RT/CD	HWDF	<u>NONE</u>	

165 22.76 Tons

NO. 00379

WOFF 2 2856

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JET PROPULSION LABORATORY (JPL)

EPA I.D. NO. N/A

ADDRESS 4800 Oak Grove Drive

CITY, STATE, ZIP Pasadena, CA 91109

PHONE NO. 818, 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT v2/bus

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION Non-Haz Waste Solid GENERATING PROCESS Site Clean up

COMPONENTS OF WASTE			COMPONENTS OF WASTE		
	PPM	%		PPM	%
1. <u>Soil</u>		<u>100</u>	5		
2. _____			6		
3. _____			7		
4. _____			8		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER M-989

HANDLING INSTRUCTIONS: Personnel protection equipment, avoid spillage

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Faustino Chirino TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

TRANSPORTER

NAME GOLDEN STATE SPECIALIZED TRANSPORTATION, INC.

EPA I.D. NO. N/A

ADDRESS P.O. Box 1267

SERVICE ORDER NO. _____

CITY, STATE, ZIP Lakewood, CA 90714-1267

PICK UP DATE _____

PHONE NO. 213 531-0030

STEVEN SILVA TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

TRUCK UNIT. I.D. NO. _____

TSD FACILITY

NAME LIDLAW ENVIRONMENTAL SERVICES, INC.

EPA I.D. NO. G A I D 1 9 1 8 1 0 1 6 1 7 1 5 1 2 1 7 1 6

ADDRESS 2500 Lokern Road

DISPOSAL METHOD LANDFILL OTHER _____

CITY, STATE, ZIP Buttonwillow, CA 93206

PHONE NO. 805 762-7372

Dave Hawkins TYPED OR PRINTED FULL NAME & SIGNATURE DATE 11-7-91

GEN	OLD/NEW	L	A	TONS <u>165</u>
TRANS		S	B	<u>39,720</u>
C/Q		RI, CD		HWDF <u>NONE</u>

DISCREPANCY 19.86 Tons

NO. 00183

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JPL ADDRESS 4800 OAK GROVE DR. CITY, STATE, ZIP PASADENA, CA 91109 EPA I.D. NO. N/A PHONE NO. 818 354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~214

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION NON-HAZ WASTE SOLID GENERATING PROCESS SITE CLEAN UP

COMPONENTS OF WASTE		PPM	%	COMPONENTS OF WASTE		PPM	%
1.	<u>SOIL</u>		<u>100</u>	5.			
2.				6.			
3.				7.			
4.				8.			

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: PERSONNEL PROTECTIVE EQUIPMENT

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

LEWIS A. BROWN, Lewis A. Brown FOR JPL 11-8-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE TRANSPORT ADDRESS P.O. BOX 1267 CITY, STATE, ZIP LAKEWOOD, CA 90714-1267 EPA I.D. NO. N/A SERVICE ORDER NO. _____ PHONE NO. 213, 531-0030 PICK UP DATE _____ TRUCK UNIT, I.D. NO. 2 RAY GORSSMAN Ray Gorssman 11-8-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TSD FACILITY

NAME LIDLAW ENV. SERV. ADDRESS 2500 LOKERN RD. CITY, STATE, ZIP BURTONWILLOW, CA 93206 EPA I.D. NO. CA1D98106751276 DISPOSAL METHOD LANDFILL OTHER _____ PHONE NO. 805 762-7372 SUSAN DETHLOFF Susan Dethloff 11-08-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS <u>21.40</u>
TRANS		S	B	<u>42,800</u>
C/O		RT/CO	KWOF	NONE

21.40 TONS
DISCREPANCY

NO. 00184

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JPL EPA I.D. NO. N/A

ADDRESS 4800 OAK GROVE DR.

CITY, STATE, ZIP PASADENA, CA. 91109 PHONE NO. 818.354-7598

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~246

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION NON-HAZ WASTE SOLID GENERATING PROCESS SITE CLEAN UP

COMPONENTS OF WASTE		PPM	COMPONENTS OF WASTE		PPM
1. <u>SOIL</u>		<u>100</u>	5. _____		
2. _____			6. _____		
3. _____			7. _____		
4. _____			8. _____		

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: PERSONNEL PROTECTIVE EQUIPMENT

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Lewis A. Brown, Lewis A. Brown FOR JPL 11-8-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE TRANSPORT EPA I.D. NO. N/A

ADDRESS P.O. Box 1267 SERVICE ORDER NO. _____

CITY, STATE, ZIP LAKEWOOD, CA. 90714-1267 PICK UP DATE _____

PHONE NO. 213 531-0030

TRUCK UNIT, I.D. NO. FT2 LARRY LEE 11-8-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TSD FACILITY

NAME LAWDLAW ENV. SERV. EPA I.D. NO. CA 298106752716

ADDRESS 2500 LOKERN RD. LANDFILL OTHER _____

CITY, STATE, ZIP BUTTON WILLOW, CA. 93206 # H989 B-29377

PHONE NO. 805 762-7372 SUSAN DETHLEFSEN 11-08-91
TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS <u>25.37</u>
TRANS		S	B	<u>50,740</u>
C/O		RT/CD	HWDF NONE	

25.37 Tons

DISCREPANCY

NO. 00186

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME JPL EPA I.D. NO. N/A
 ADDRESS 4800 OAK GROVE DR.
 CITY, STATE, ZIP PASADENA, CA. 91109 PHONE NO. 818 354-7595

CONTAINERS: No. 1 VOLUME _____ WEIGHT ~19.5t

TYPE: TANK TRUCK DUMP TRUCK DRUMS CARTONS OTHER _____

WASTE DESCRIPTION NON-HAZ WASTE SOLID GENERATING PROCESS SITE CLEAN UP
 COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE PPM %
 1. SOIL _____ 100 5. _____
 2. _____ 6. _____
 3. _____ 7. _____
 4. _____ 8. _____

PROPERTIES: pH _____ SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: PERSONNEL PROTECTIVE EQUIPMENT

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

LEWIS A. BROWN, Lewis A. Brown FOR JPL 11-8-91
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TRANSPORTER

NAME GOLDEN STATE TRANSPORT EPA I.D. NO. N/A
 ADDRESS P.O. BOX 1267 SERVICE ORDER NO. _____
 CITY, STATE, ZIP LAKEWOOD, CA. 90714-1267 PICK UP DATE _____
 PHONE NO. 713 531-0030
 TRUCK UNIT, I.D. NO. B-1 Tom Boots 11-8-91
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

TSD FACILITY

NAME LAIDLAW ENV. SERV. EPA I.D. NO. CA1D980675271G
 ADDRESS 2500 LOKERN RD. LANDFILL OTHER _____
 CITY, STATE, ZIP BUTTONWILLOW, CA. 93206 # H989 B-29379
 PHONE NO. 805 762-7372 Susan DeHuff 11-08-91
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS <u>20.56</u>
TRANS		S	B	<u>41.20</u>
C/O		ET/CD	HWDF NONE	

20.56 Tons
DISCREPANCY