
REPORT
INTERIM REMEDIAL MEASURES
LOTS ADJACENT TO
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

 **DAMES & MOORE**

FEBRUARY 1992

SAC30.004



DAMES & MOORE A PROFESSIONAL LIMITED PARTNERSHIP

8801 FOLSOM BLVD., SUITE 200, SACRAMENTO, CA 95826 (916) 387-8800
FAX NO. (916) 387-0802

February 6, 1992

Mr. Val L. Siebal
Region 1, Department of Toxic Substances Control
California Environmental Protection Agency
10151 Croydon Way, Suite 3
Sacramento, CA 95827

Attention: Mr. James L. Tjosvold, P.E., Chief
Sacramento Responsible Party Unit
Site Mitigation Branch

Re: Transmittal of Report
Interim Remedial Measures
Lots Adjacent to
Union Pacific Railroad Yard
Sacramento, California
Job No. 00173-064-044

Dear Mr. Tjosvold:

Union Pacific Railroad Company (UPRR) has requested Dames & Moore transmit the enclosed Report. Presented in the Report is a summary and conclusions of the interim remedial measures conducted in the lots adjacent to and west of the UPRR Sacramento yard. UPRR requests the DTSC issue a letter regarding the suitability of Lots 1, 2, 3, and 4, and 2206 Sixth Avenue for unrestricted future use.

If you have any questions or require further clarification, please contact Tim Parker at (916) 387-7527.

Sincerely,

DAMES & MOORE

Timothy K. Parker
Project Manager

William R. Short
Senior Geologist

Enclosure

cc: Distribution List

SAC30.004

REPORT
INTERIM REMEDIAL MEASURES
LOTS ADJACENT TO
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
0.0 <u>EXECUTIVE SUMMARY</u>	I
1.0 <u>INTRODUCTION</u>	1
2.0 <u>BACKGROUND</u>	2
2.1 <u>INVESTIGATIVE HISTORY</u>	2
3.0 <u>REMEDIAL ACTIVITIES</u>	4
3.1 <u>EXCAVATION AND LOADING ACTIVITIES</u>	4
3.2 <u>CONFIRMATORY SAMPLING AND RESULTS</u>	4
3.3 <u>DISPOSAL OF SOIL</u>	5
3.4 <u>LOT RESTORATION AND CONSTRUCTION ACTIVITIES</u>	6
3.4.1 <u>Lot 1 & 2206 6th Avenue</u>	6
3.4.2 <u>Lot 2</u>	6
3.4.3 <u>Lot 3</u>	6
3.4.4 <u>Installation of Permanent Fence</u>	7
4.0 <u>WORKER AND COMMUNITY HEALTH AND SAFETY</u>	8
4.1 <u>HEALTH AND SAFETY MEASURES</u>	8
4.2 <u>AIR MONITORING</u>	8
4.2.1 <u>Industrial Hygiene Sampling Activities</u>	8
4.2.1.1 <u>Standards</u>	8
4.2.1.2 <u>Sampling and Analytical Methods</u>	9
4.2.2 <u>Real-time Dust Emission Monitoring</u>	10
5.0 <u>CONCLUSIONS</u>	11
6.0 <u>REFERENCES</u>	12

LIST OF TABLES, FIGURES AND APPENDICES

LIST OF TABLES

- 1 - EXCAVATED SOIL DATA
- 2 - METAL ANALYTICAL RESULTS FOR IMPORTED SOIL
- 3 - COMPACTION TEST RESULTS

LIST OF FIGURES

- 1 - LOT LOCATIONS
- 2 - LOT 1 SOIL SAMPLE ANALYTICAL RESULTS
- 3 - LOT 2 SOIL SAMPLE ANALYTICAL RESULTS
- 4 - LOT 3 SOIL SAMPLE ANALYTICAL RESULTS
- 5 - LOT 4 SOIL SAMPLE ANALYTICAL RESULTS
- 6 - 2206 SIXTH AVENUE SOIL SAMPLE ANALYTICAL RESULTS
- 7 - LOT 1 AND 2206 SIXTH AVENUE SOIL REMOVAL AREA
- 8 - LOT 3 SOIL REMOVAL AREA
- 9 - LOT 1 AND 2206 SIXTH AVENUE CONFIRMATORY SOIL SAMPLE LOCATIONS AND RESULTS
- 10 - LOT 1 AND 2206 SIXTH AVENUE RESTORATION
- 11 - LOT 2 RESTORATION
- 12 - LOT 3 RESTORATION

LIST OF APPENDICES

- A - CHEMICAL AND PHYSICAL ANALYTICAL LABORATORY REPORTS
- B - SOIL MANIFESTS

REPORT
INTERIM REMEDIAL MEASURES
LOTS ADJACENT TO
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

0.0 EXECUTIVE SUMMARY

Presented in this Report is a summary of the Interim Remedial Measures (IRMs) conducted at one residential and two vacant lots adjacent to and west of the Union Pacific Railroad Yard, Sacramento, California (See Figure 1). The IRMs were conducted at the direction of the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), in accordance with the DTSC-approved Work Plans (Dames & Moore, 1991a and 1991b).

In January, May, June, and July 1991, soil samples were collected from four vacant lots, three residential lots, and one commercial lot and analyzed for metals. Results of the analyses indicated levels of metals elevated above naturally occurring (background) concentrations in two of the vacant lots (Lots 1 and 3, Figure 1), one residential lot (2206 Sixth Avenue, Figure 1), and the commercial lot (2177 Perkins Way, Figure 1). The data indicated that metal impacted soil was limited to the upper one-half to one foot of soil. The DTSC directed UPRR to conduct an IRM to remove the metal impacted soil from Lot 1 and 2206 Sixth Avenue. The DTSC further directed UPRR conduct measures to minimize potential exposure to metal impacted soil along the west side of Lot 3.

The upper one foot of soil from Lot 1, from a portion of Lot 3, and from a portion of 2206 Sixth Avenue was excavated and loaded into UPRR gondola cars by a licensed excavation contractor using front-end mechanical loaders, shovels and manual labor as necessary. Excavation and loading activities were conducted October 9, 10, 11, 14, 15, and 17, 1991.

On the basis of total metals analyses and TCLP results of waste characterization samples collected from Lot 1, the excavated soil was handled as non-hazardous solid waste. Approximately 912 tons of soil were transported by rail in nine UPRR gondola cars to USPCI's Grassy Mountain disposal facility near Clive, Utah where the material was disposed of in a Class 2 industrial landfill cell.

Subsequent to soil excavation, confirmation sampling was conducted in Lot 1 and 2206 Sixth Avenue. Soil samples were collected from the freshly exposed soil and analyzed for the metals arsenic and lead. Results of the analyses indicated that metal impacted soil had been removed from the lots.

Health and safety measures conducted during the excavation and loading activities to minimize potential exposure to metal impacted soil included the use of standard safe work practices, and continuously applying a water mist to the area of soil being disturbed to eliminate visible dust emissions. Additionally, industrial hygiene air sampling and real-time dust emissions monitoring was conducted. Results of industrial hygiene air sampling and real-time dust emissions monitoring indicate that dust levels did not reach or exceed the dust exposure criteria established in the DTSC-approved Work Plan (Dames & Moore 1991a). All air monitoring samples collected were below the detection limits for arsenic and lead.

Lot restoration construction activities consisted of importing and compacting clean fill soil to Lot 1 and 2206 Sixth Avenue, placement and compaction of a gravel cover on Lot 2, and placement of an aggregate base and bituminous sealcoat over Lot 3.

Subsequent to completion of the IRM, an industrial grade, chain-link cyclone fence with slats was installed adjacent to the railroad right-of-way from the U.S. Cold Storage building north to within approximately 300 feet of Freeport Boulevard. The cyclone fence was installed along the UPRR property boundary and includes Lot 4. The fence was installed for safety reasons to restrict public access to the UPRR Sacramento active switching yard.

Results of the previous soil investigations, the removal activities, the confirmatory sampling, and restoration activities on Lot 1 indicate that metal impacted soil has been removed. Results of the previous soil investigations indicate no remedial measures were necessary at Lots 2 and 4.

Lot 3 may contain some elevated levels of metals on the west side; however, these metals may have originated from the handling of hazardous substances at the adjacent lot to the west (2177 Perkins Way, previously a painting contractor's warehouse and neon sign warehouse). We understand the DTSC has contacted the owner of 2177 Perkins Way and is directing an investigation.

Metal impacted soil was removed from 2206 Sixth Avenue where present and not obstructed by existing structures. Soil was not sampled beneath the house at 2206 Sixth Avenue, and metal impacted soil, if present, is covered with concrete and potential exposure is currently, therefore, negligible.

REPORT
INTERIM REMEDIAL MEASURES
LOTS ADJACENT TO
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

1.0 INTRODUCTION

Presented in this Report is a summary of the Interim Remedial Measure (IRM) and other activities conducted adjacent to and west of the Union Pacific Railroad Yard, Sacramento, California in October and November 1991 (Figure 1). The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) directed Union Pacific Railroad Company (UPRR) to conduct the interim remedial activities. The interim remedial activities were conducted in accordance with the DTSC-approved Work Plans (Dames & Moore, 1991a and 1991b).

The IRM consisted of the removal of the upper one-foot of soil containing elevated levels of metals from portions of two vacant lots (Lots 1 and 3, Figure 1), and one residential lot (2206 Sixth Avenue, Figure 1). Subsequent to the soil removal activities, confirmation sampling was conducted, and clean fill soil was imported and compacted. Additional construction activities included placement of a gravel cover on Lot 2 and placement of an aggregate base and bituminous seal cover on Lot 3. Following completion of the IRM, a cyclone fence was installed along the UPRR western property from the U. S. Cold Storage building north to within approximately 300 feet of Freeport Boulevard.

A summary of the previous soil investigations is provided in Section 2.0. A discussion of the construction activities, confirmatory sampling and results, soil disposal, and lot restoration activities is provided in Section 3.0. Health and safety measures conducted during the remedial activities and results of air monitoring are discussed in Section 4.0. Conclusions are provided at the end of this Report in Section 5.0.

Soil excavation and construction activities were performed by subcontractors. Dames & Moore performed oversight of the operation, soil sampling, and air monitoring.

2.0 BACKGROUND

The IRM was conducted on UPRR and private property directly adjacent to and west of the UPRR Yard, approximately 1/2 mile south of downtown Sacramento, California. Elevated levels of metals were detected in one of four samples collected from two vacant UPRR lots adjacent to the railroad yard to the west during the Phase 2 Remedial Investigation in August 1989. Additional soil investigation of the vacant lots and the adjacent property to the west were conducted in January, May, June and July, 1991. The soil investigations are discussed in the following section.

2.1 INVESTIGATIVE HISTORY

Presented below is a summary of the soil investigations conducted in the vacant and residential lots to the west of the railroad yard. Lot locations are provided in Figure 1, and pertinent summary analytical results are presented in Figures 2, 3, 4, 5, and 6.

- August 1989 - As part of the Remedial Investigation of the adjacent former railroad maintenance yard, two test pits were completed in adjacent vacant lots on the west side of the railroad yard (Lots 1 and 2 on Figure 1). Soil samples were collected and analyzed for the California Code of Regulations - Title 22 metals.

Results of the analyses indicated that the surface soil sample from the test pit completed in Lot 1 contained elevated levels of arsenic, copper, lead and zinc. Analytical results were transmitted to the DTSC in draft tables December 12, 1989. Additionally, results were submitted to the DTSC in the Draft RI Report (Dames & Moore, 1990) in February 1990, and summarized in the RI/FS Report (Dames & Moore, 1991c).

- January 1991 - Systematic random sampling was conducted by Dames & Moore in Lot 1. Soil samples were collected from the ground surface and 0.5 feet below ground surface at 35 sample locations. Soil samples were composited into 12 samples and analyzed for arsenic, copper, and lead.

Analytical results indicated that arsenic, copper, and lead levels were above background, and suggested that the metals may be associated with a slag containing gravel present in the surface of the lot. Additional potential sources of metals include automotive exhaust, insecticides, herbicides, pesticides, and paint. Results were provided to the DTSC and reported in the DTSC Fact Sheet, July 1991.

- May/June/July 1991 - At the direction of the DTSC, soil samples were collected randomly from two UPRR vacant lots (Lots 3 and 4, Figure 1), three residential lots (2207 Seventh Avenue, 2212 Seventh Avenue, and 2206 Sixth Avenue on Figure 1), and one commercial lot (2177 Perkins Way, Figure 1). Samples were collected at a depth of 0 to 0.5 feet below ground surface by Dames & Moore and the DTSC. Soil samples were analyzed for arsenic and lead. Additionally, soil samples collected by the DTSC were analyzed for the complete list of Title 22 metals.

Results were provided to the DTSC and reported in the DTSC Fact Sheet, July 1991. The results of the sampling and analyses are also reported in the Addendum RI/FS Report (Dames & Moore, 1991d). Results of the analyses indicated that 2206 Sixth Avenue and Lot 3 contained concentrations of arsenic and lead elevated above the DTSC level of concern (DTSC Fact Sheet, July 1991).

Results of the analyses indicated that 2177 Perkins Way also contained elevated levels of arsenic and lead. The source of the elevated metals in soils at 2177 Perkins Way appeared related to the former presence of a paint warehouse and neon sign storage.

- October 1991 - Additional soil samples were collected from Lots 2 and 4 by Dames & Moore. Soil sample locations are provided in Figures 3 and 5. Soil samples collected from Lot 2 were analyzed for arsenic, lead and volatile organic compounds. Soil samples collected from Lot 4 were analyzed for volatile organic compounds.

Results of the analyses indicated that the lot-wide average of soils in Lot 2 contained metals below the adjacent site clean-up levels for unrestricted land use. Results of the analyses indicated that Lot 4 contained metals at concentrations which reflect background levels. Results of the volatile organic compound analyses for soil collected from Lots 2 and 4 indicated the presence of toluene and tetrachloroethylene. However, the same two constituents were detected in the analytical laboratory blanks, suggesting the detections were a result of laboratory contamination. Summary analytical results are provided in Figure 3. Copies of the analytical laboratory reports are included in Appendix A.

- November 1991 - Lots 2 and 4 were resampled by Dames & Moore for volatile organic compounds. Additionally, five soil samples were collected from Lot 1 at a depth of one foot below ground surface in native soils. Soil sample locations are provided in Figures 2, 3, and 5.
- Toluene and methylene chloride were detected in several of the soil samples. The presence of methylene chloride in the soil samples has been acknowledged by the analytical testing laboratory as a laboratory contamination problem. The detection of toluene in the soil samples has been suggested by two analytical testing laboratories as potentially related to the electrical tape used to seal the soil sample sleeve end caps, as electrical tape is known to contain toluene. Copies of the analytical laboratory reports are included in Appendix A.

3.0 REMEDIAL ACTIVITIES

Remedial activities were conducted at the direction of the DTSC, in accordance with the DTSC-approved Work Plans (Dames & Moore, 1991a and 1991b). On the basis of the results of the soils investigations, soils containing elevated levels of metals appeared limited to the upper one-foot of soils. The upper one-foot of soil was removed from Lot 1, and from a portion of Lot 3 and 2206 Sixth Avenue. The remedial activities are discussed in the following sections.

3.1 EXCAVATION AND LOADING ACTIVITIES

Soil excavation was conducted by U.S.P.C.I., a licensed excavation contractor using front-end mechanical loaders, shovels and manual labor as necessary. Soil excavation commenced October 9, 1991 at the northeast corner of 2206 6th Avenue and progressed south and west until the removal of the upper one foot of soil from Lot 1 was completed (Figure 7). In addition, a small portion along the western edge of Lot 3 was also excavated (Figure 8). Soil excavation was completed October 14, 1991. The depth, area, and quantity of soil excavated are listed in Table 1.

Excavation was conducted in a manner which minimized dust generation. Potable water was applied as necessary to suppress visible dust emissions. The excavated soil was stockpiled in the south-east corner of Lot 1 adjacent to the tracks prior to loading.

Excavated soil was loaded October 15 and 17, 1991, into lined UPRR gondola cars for transport. The gondola cars were placed on the mainline track immediately adjacent to Lot 1 and 2206 6th Avenue (Figure 7). A total of nine gondola cars were loaded for transport to USPCI Grassy Mountain Facility, near Clive, Utah.

3.2 CONFIRMATORY SAMPLING AND RESULTS

Confirmatory soil sampling was conducted in Lot 1 and 2206 Sixth Avenue on October 10 and 11, 1991, subsequent to soil excavation activities.

Sample locations were selected as follows:

- Each lot was drawn to scale from an aerial photograph and the diagram subdivided into four sublots of roughly equal size;
- A five-foot square grid was overlain on each diagram, and the grid numbered in each subplot. Both site drawings, including the grid overlay, are presented in Figure 9;

- Sample locations in each subplot were chosen by a random number generator programmed with the number of grid squares in that subplot;
- Sample locations were located in the field by scaled measurements from site boundaries and landmarks shown on the drawings.

Soil samples were collected in 2.5-inch-diameter by 6-inch-long stainless steel rings, hand-driven vertically into the soil to a total depth of 0.5 feet below ground surface. Upon extracting the sample-containing ring from the ground, each end of the ring was covered with a clean sheet of teflon, capped, sealed with electrical tape and labeled. Soil samples were placed in an iced cooler, and transported under proper chain-of-custody procedures to Enseco Laboratories in West Sacramento, California.

Confirmatory sample results indicate levels of arsenic and lead below or in the range of expected background concentrations. Confirmatory sample locations, analytical results for lead and arsenic, and areas where soil was removed from 2206 6th Avenue and Lot 1 are presented in Figure 9. Copies of the laboratory analytical reports are provided in Appendix A.

3.3 DISPOSAL OF SOIL

Samples previously collected from Lot 1 and analyzed for metals indicated that shallow soils in Lot 1 contained higher metal concentrations than shallow soils in the 2206 Sixth Avenue lot. Therefore, in order to conservatively characterize the soil to be removed for disposal, five samples of the soil in Lot 1 were collected at random locations across Lot 1. The five soil samples were collected by Dames & Moore in August 1991.

Samples were collected with a clean pick and shovel. A one-foot vertical profile of soil was collected from each random sample location. The soil was collected so as to best represent the soil to be removed from Lot 1.

The five soil samples were analyzed for soluble arsenic, lead and copper by the EPA Toxicity Characteristic Leaching Procedure (TCLP). Results of the TCLP analyses are provided in Figure 2, and copies of analytical laboratory reports are provided Appendix A. Analytical results indicate the soil contains very little leachable metals. None of the samples exceeded the TCLP concentration.

On the basis of the TCLP results and the previous total metals results, the soil was handled and disposed of as non-hazardous. The soil removed from Lot 1, 2206 Sixth Avenue, and Lot 3 (approximately 912 tons) was loaded into covered gondola cars and transported by rail to USPCI's Grassy Mountain Facility near Clive, Utah. The soil was disposed of in a Class 2 industrial waste landfill cell.

The transported soil was manifested as non-RCRA solid waste. Copies of the manifests are provided in Appendix B.

3.4 LOT RESTORATION AND CONSTRUCTION ACTIVITIES

As described in Section 3.2, the results obtained from the post excavation confirmatory sampling indicated levels of arsenic and lead below or in the range of expected background concentrations and no additional excavation was deemed necessary.

3.4.1 Lot 1 & 2206 6th Avenue

Both lots were backfilled with imported topsoil in accordance with CALTRANS Standard Specifications Section 20-2.01, for imported topsoil.

Topsoil was obtained locally. A sample of the topsoil was collected and analyzed for CCR Title 22 Metals. Results of the analysis are provided in Table 2, and copies of laboratory reports are provided in Appendix A. Analytical results indicate levels of metals at naturally occurring (background) concentrations.

The topsoil was brought to the site via dump trucks. The topsoil was graded to be consistent with local drainage conditions (Figure 10), and compacted 80 to 90 percent relative maximum density (Table 3). Copies of the laboratory physical testing results are provided in Appendix A.

3.4.2 Lot 2

Subsequent to the removal of debris strewn over various parts of Lot 2, a minimum four inch thick layer of Class II aggregate base was placed over the entire lot (Figure 11). The base was graded to maintain existing surface drainage patterns and compacted to 85% relative density (Table 3).

3.4.3 Lot 3

After the removal of several patches of deteriorating bituminous surface, Class II aggregate base was added as necessary and the lot was graded to effect positive site drainage to the north. The lot was subsequently compacted to 95% relative density (Table 3), and a double bituminous seal coat applied to the entire lot. The existing asphalt curb at the north end was partially removed and replaced along the northern boundary of the lot as shown in Figure 12. The remaining existing curb to the north was repaired and extended to the end of Weller Way where it feeds into a new 8-inch diameter galvanized down drain which drops into the existing storm drain on Weller Way.

3.4.4 Installation of Permanent Fence

Subsequent to completion of the IRM, a chain-link cyclone fence was installed along the western UPRR property boundary as shown in Figure 1. The fence was installed for safety reasons to restrict public access to the active portion of the railroad yard, as well as to improve the aesthetics of the adjacent area to the west.

4.0 WORKER AND COMMUNITY HEALTH AND SAFETY

Described in the following sections are measures which were taken to minimize potential exposures of workers and the community from metal impacted soil during excavation and loading activities. Additionally provided is a discussion of the air monitoring conducted during excavation and loading activities and the analytical results. These measures were conducted under the supervision of the Site Safety Officer, an industrial hygienist, in conformance with the Health and Safety Plan provided as Appendix A of the Work Plan (Dames & Moore, 1991a).

4.1 HEALTH AND SAFETY MEASURES

Health and safety measures employed during excavation and loading activities included standard safe work practices, and utilization only of site personnel fully trained and qualified to conduct the potentially hazardous work. Site personnel are participants in medical surveillance programs that meet the requirements of 29 Code of Federal Regulations 1910.120.

All site activities were performed in a manner to minimize potential exposure to contaminants in soil. To minimize the potential for exposure, dust control measures were used to reduce visible dust emissions. Dust control measures consisted of applying a water mist continuously where soil was being disturbed during excavation and loading activities.

4.2 AIR MONITORING

Air monitoring consisted of industrial hygiene sampling and real-time dust emissions monitoring. Sampling activities and results are described in the following sections.

4.2.1 Industrial Hygiene Sampling Activities

Industrial hygiene samples were collected on October 9, 10, 11, 14, 15, and 17, 1991 during excavation and loading activities on the lots. The purpose of the sampling activities was to assess the potential exposure of site workers and the public to lead and arsenic and to assess if airborne concentrations of lead and arsenic were being carried off site during excavation and loading activities.

4.2.1.1 Standards

The Occupational Safety and Health Administration (OSHA) publishes 8-hour time weighted averages called Permissible Exposure Limits (PELs). PELs are Time Weighted Average (TWA) concentrations that must not be exceeded during any 8-hour work shift or a 40-hour work week. The

American Conference of Governmental Industrial Hygienists (ACGIH) has published Threshold Limit Values (TLVs) for certain substances. TLVs - TWA values refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects. PELs are enforceable by law, while TLVs are recommendations only. The following limits are published by OSHA and ACGIH.

Substance	OSHA PEL	ACGIH TLV
Lead	0.05 mg/m ³	0.15 mg/m ³
Arsenic	0.01 mg/m ³	0.2 mg/m ³

4.2.1.2 Sampling and Analytical Methods

The methods used for sampling and analysis were in accordance with those recognized and approved by the National Institute for Occupational Safety and Health (NIOSH). The NIOSH Analytical Method used for this survey was method number 7300 for lead and arsenic.

Sampling activities for lead and arsenic included drawing a known volume of air through a 0.8 micron Mixed Cellulose-Ester Filter (MCEF) utilizing SKC sampling pumps. The SKC sampling pump was calibrated before and after each use to provide a constant flow rate of 2 liters per minute through the sampling media. To collect the recommended maximum volume of air (480 liters), the sampling pumps were run for 240 minutes per sample. Samples for both lead and arsenic were collected on the same sampling media.

Personal sampling activities were performed by having the Site Safety Officer from Dames & Moore wear one of the SKC sampling pumps during the excavation and loading activities. Area samples were collected downwind of the excavation or loading activities. During the six days of sampling, a total of 17 samples were collected. The first day of sampling took place on October 9, 1991 during the excavation of 2206 Sixth Avenue and Lot 1. The final day of sampling took place on October 17, 1991 during excavated soil loading activities.

Samples collected were analyzed by D&M Laboratory, which is an American Industrial Hygiene Association Accredited laboratory. Copies of analytical laboratory reports are provided in Appendix A. Analytical results indicate that all samples collected were below the OSHA Permissible Exposure Levels (PEL) as well as the ACGIH Threshold Limit Values (TLV) for lead and arsenic. In fact, all samples collected produced results below the detection limit.

4.2.2 Real-time Dust Emission Monitoring

Real-time dust monitoring was performed at the site using MIE "Mini-ram" Particulate Counters (Model PDM-3) during all excavation and loading activities. The monitoring instruments were set up at three locations at the site, one upwind of the work area, one downwind of excavation and loading operations, and one in the work area.

Before work activities began, Dames & Moore developed operational criteria for dust emissions at the site. These action levels were developed by estimating how many milligrams (mg) of soil must be suspended in each cubic meter (m^3) of air to exceed the action levels for lead and arsenic. To generate this number, the greatest reported soil concentrations of both arsenic and lead were used and expressed in percentages in soil by weight. The percentages were then divided by the action levels to give total numbers of suspended particulates to create an exposure at the action level. These numbers were then divided by ten to give a safety factor of ten. The level of emissions at the downwind fenceline was to be controlled to maintain levels below $2.9 \text{ mg}/m^3$, and the work area was to be controlled to maintain levels below $5.8 \text{ mg}/m^3$. If the levels yielded $5.8 \text{ mg}/m^3$ in the work area, personnel were to don half-face respirators, and if site operations initiated dust levels at $2.9 \text{ mg}/m^3$ or greater at the downwind fenceline, work would be stopped until appropriate engineering controls could be implemented to reduce dust emissions.

During the operations, dust levels did not reach or exceed any of the dust exposure criteria mentioned above. The reading from the Mini-rams during site operations ranged from $0.00 \text{ mg}/m^3$ to $0.04 \text{ mg}/m^3$ at the upwind position, $0.00 \text{ mg}/m^3$ to $1.07 \text{ mg}/m^3$ in the work area, and $0.00 \text{ mg}/m^3$ to $0.27 \text{ mg}/m^3$ downwind from site operations.

5.0 CONCLUSIONS

Based on the results of the previous soil investigations, the removal activities, the confirmatory sampling, and restoration activities, the conclusions are as follows:

- Lot 1 - Metal impacted soil has been removed to background levels. On the basis of the available information, no materials are present in Lot 1 which could potentially limit future land use;
- Lot 2 - The site wide average level of metals is below the cleanup levels for the adjacent railroad yard site. On the basis of the available information, further remedial actions do not appear necessary on Lot 2 for unrestricted future land use;
- Lot 3 - Some metal impacted soil on the western side of Lot 3 was removed. However, metals appear to have originated from the adjacent property to the west (2177 Perkins Way), formerly a paint and neon sign warehouse. We understand the DTSC has directed the owner of 2177 Perkins Way to characterize the metal impacted soils. The bituminous seal cover placed on Lot 3 should minimize the potential for exposure to metals from this lot until the adjacent property contamination has been investigated and mitigated;
- 2206 Sixth Avenue - Exposed metal impacted soil has been removed from the lot. On the basis of the available information, metal impacted soil, if present under the house foundation slab, is covered with concrete.

6.0 REFERENCES

- Dames & Moore 1991a. Work Plan Interim Remedial Measures, Vacant Lots Adjacent to Union Pacific Railroad Yard, Sacramento, California.
- Dames & Moore 1991b. Addendum Work Plan Interim Remedial Measures, 2206 Sixth Avenue - Adjacent to Union Pacific Railroad Yard, Sacramento, California.
- Dames & Moore 1991c. Remedial Investigation Feasibility Study Report, Union Pacific Railroad Yard, Sacramento, California.
- Dames & Moore 1991d. Addendum Remedial Investigation/Feasibility Study Report, Union Pacific Railroad Yard, Sacramento, California.
- Dames & Moore 1990. Draft Remedial Investigation Report, Union Pacific Railroad Yard, Sacramento, California.

TABLES

TABLE 1
EXCAVATED SOIL DATA
(Approximate)

LOCATION	AREA (SQUARE FEET)	DEPTH (FEET)	VOLUME (CUBIC YARDS)
Lot 1	10,600	1	≈ 400
2206 Sixth Avenue	1,800	1	≈ 70
Lot 3	600	1	≈ 25

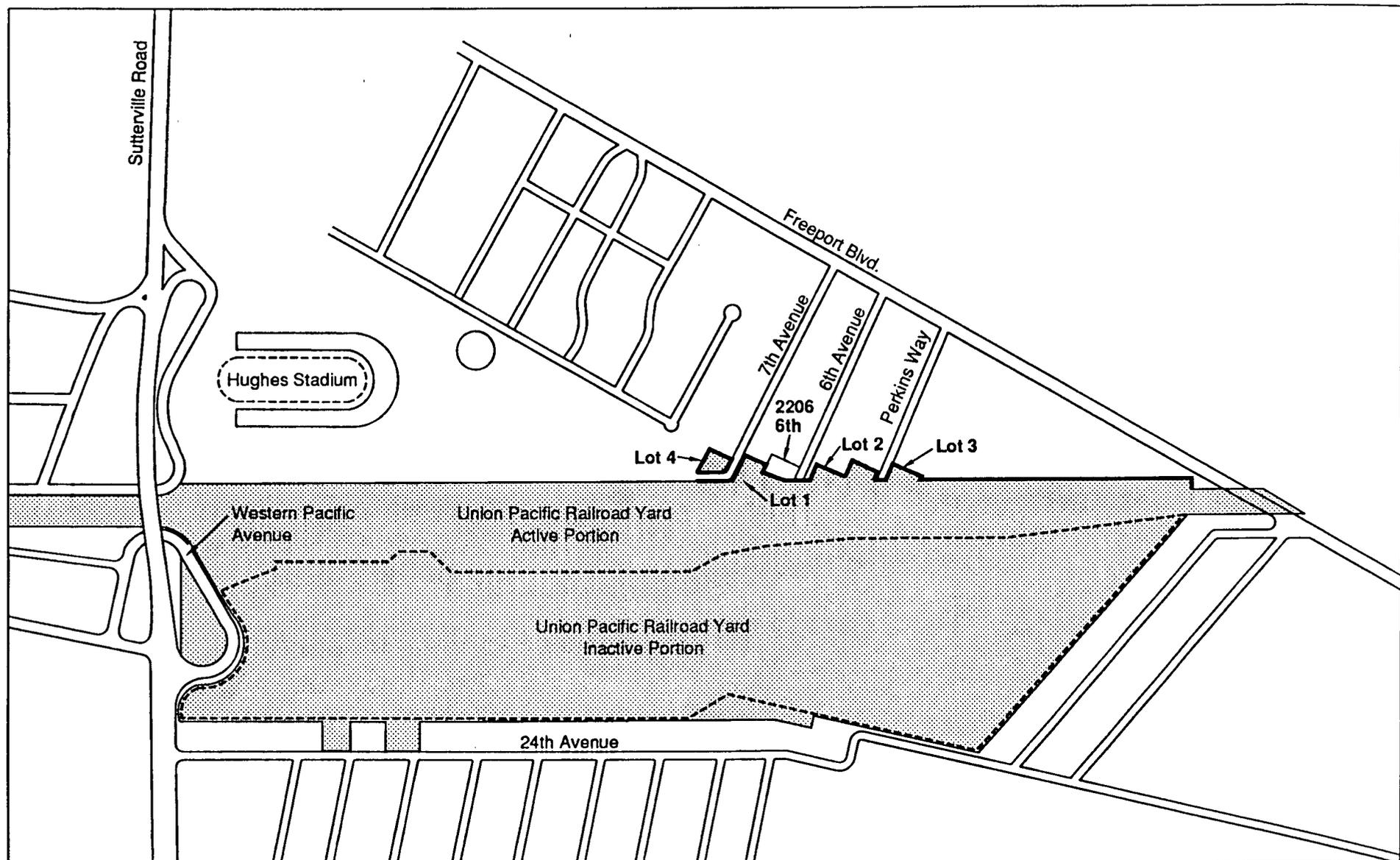
TABLE 2
METAL ANALYTICAL RESULTS
FOR IMPORTED SOIL
(mg/kg)

SAMPLE ID: IMPORT SOIL-1		
ANALYTE	DETECTION LIMIT	RESULT
Antimony	3.0	ND
Arsenic	0.4	2.6
Barium	0.5	163.0
Beryllium	0.5	0.8
Cadmium	1.0	ND
Chromium	0.5	37.3
Cobalt	1.0	16.6
Copper	0.5	45.9
Lead	3.0	11.9
Mercury	0.1	0.1
Molybdenum	1.0	ND
Nickel	2.0	33.5
Selenium	0.3	ND
Silver	0.5	ND
Thallium	5.0	82.5
Vanadium	0.5	65.5
Zinc	0.5	63.6

TABLE 3
COMPACTION TEST RESULTS
(Percent Relative Maximum Density)

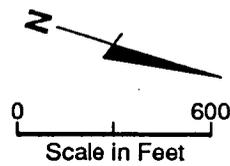
LOCATION	RESULTS
Lot 1	80
City Right-of-Way - Lot 1	90
Lot 2	85
Lot 3	95

Figures



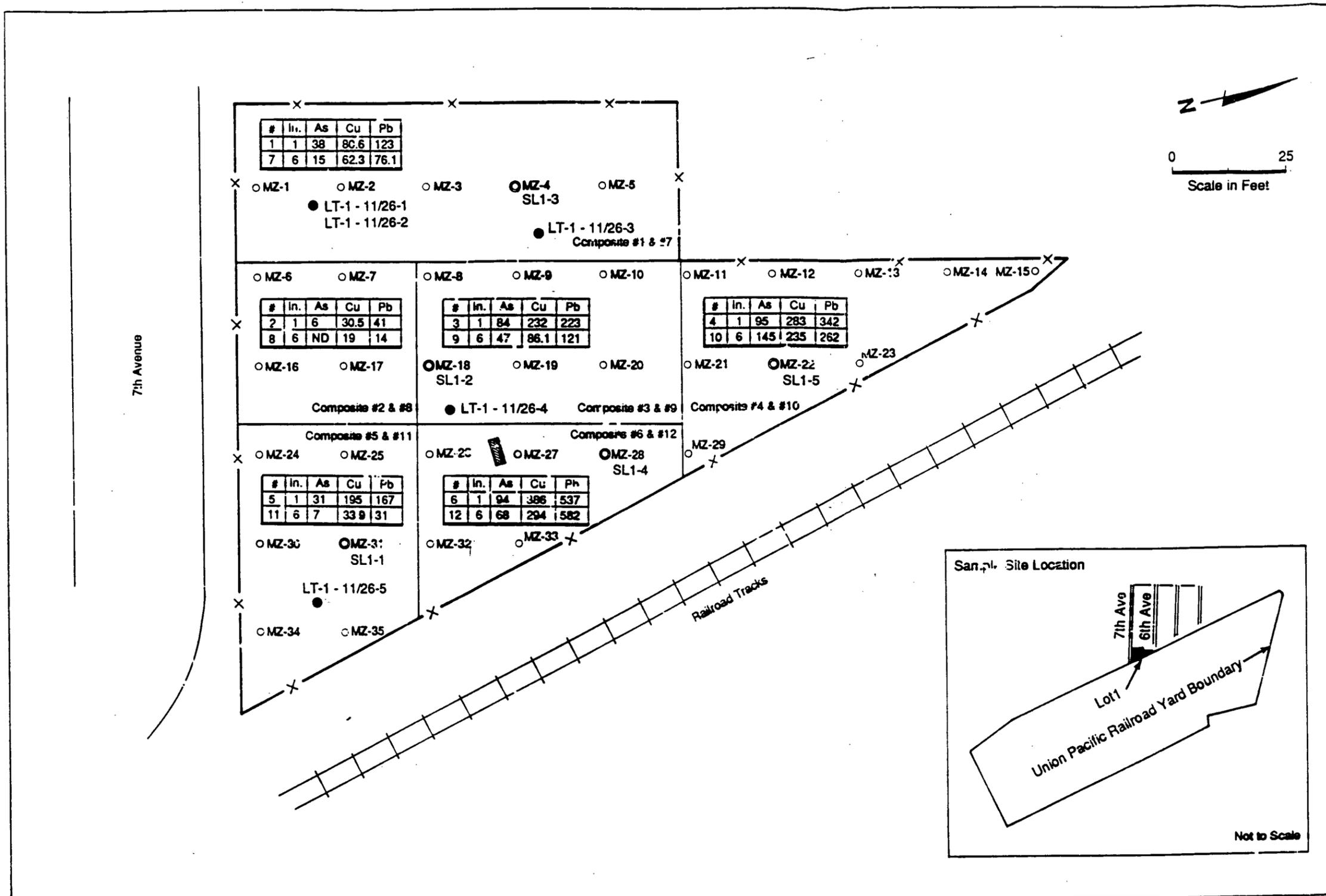
EXPLANATION

-  UPRR Property
-  Inactive Yard Fence
-  New Cyclone Fence



 **DAMES & MOORE**

LOT LOCATIONS
 Union Pacific Railroad Yard
 Sacramento, California
 JANUARY 1992



#	In.	As	Cu	Pb
1	1	38	80.6	123
7	6	15	62.3	76.1

#	In.	As	Cu	Pb
2	1	6	30.5	41
8	6	ND	19	14

#	In.	As	Cu	Pb
3	1	84	232	223
9	6	47	86.1	121

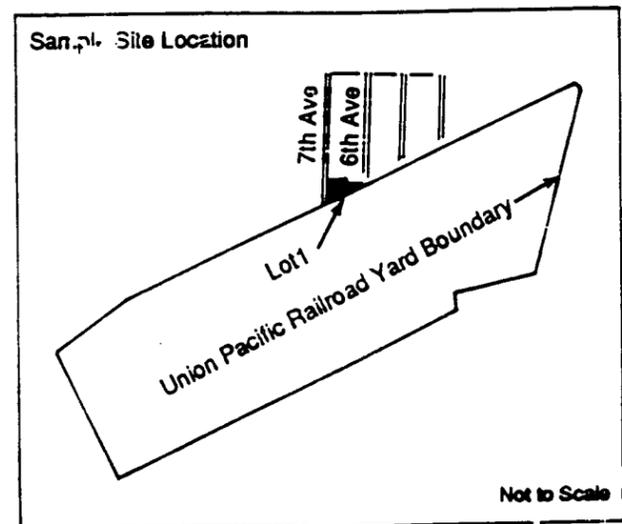
#	In.	As	Cu	Pb
4	1	95	283	342
10	6	145	235	262

#	In.	As	Cu	Pb
5	1	31	195	167
11	6	7	33	31

#	In.	As	Cu	Pb
6	1	94	366	537
12	6	68	294	582

#	In.	As	Cu	Pb
1	1	38	80.6	123
7	6	15	62.3	76.1

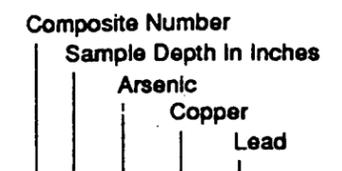
ND = Not Detected



EXPLANATION

- - x - - Fence
- ▨ Test Pit #163 (Completed August 1989)
- MZ-1 Soil Sample Location (Collected January 1991)
- Boundary of Composite Parcel

Analytical Results in Mg/Kg



#	In.	As	Cu	Pb
1	1	38	80.6	123
7	6	15	62.3	76.1

- SL1-1 Waste Characterization Sample Location (Collected September 1991)

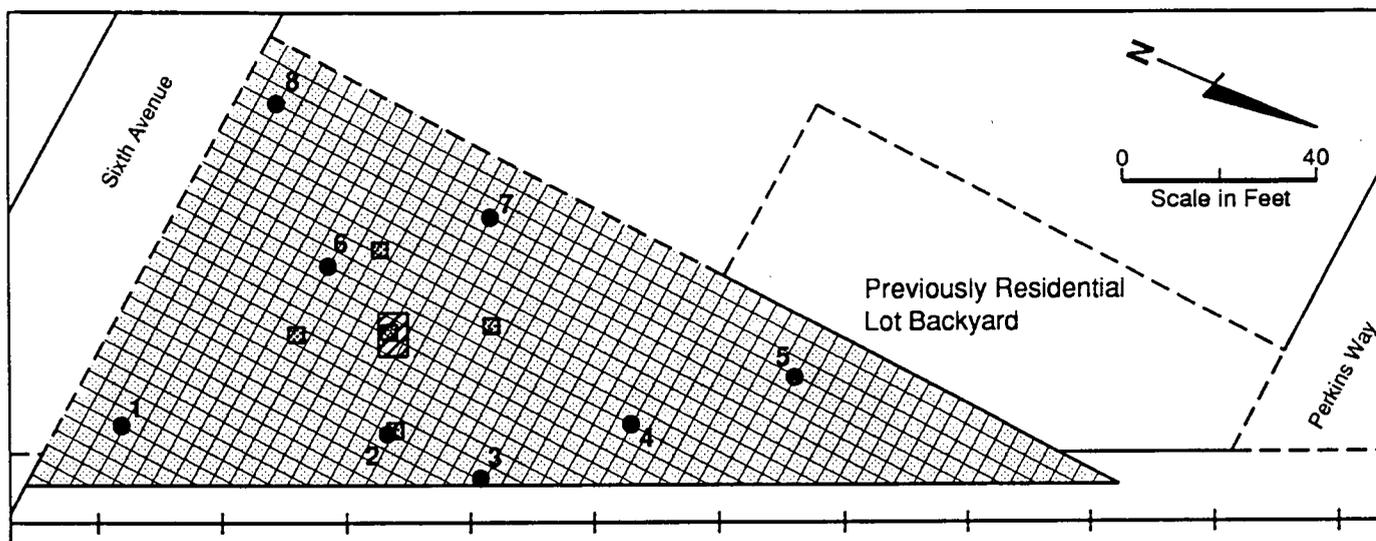
Toxicity Characteristic Leaching Potential Analytical Results in mg/L

Sample ID	Arsenic	Copper	Lead	Zinc
SL1-1	ND	ND	ND	0.17
SL1-2	ND	ND	ND	0.13
SL1-3	ND	ND	ND	0.521
SL1-4	0.10	0.08	0.68	1.07
SL1-5	0.10	ND	ND	0.47

ND = Not Detected

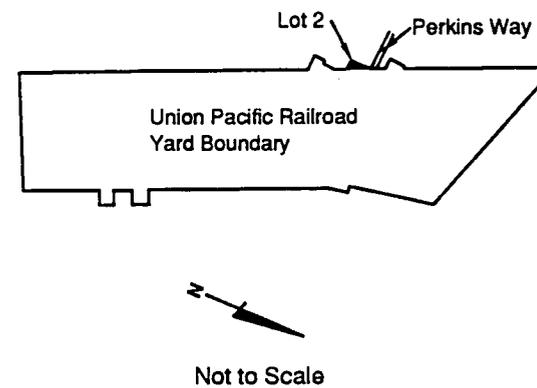
- LT 1 - 11/26-1 Additional Sampling for Organic Compounds - Collected 11/26/91.

LOT 1 - SOILSAMPLE ANALYTICAL RESULTS
 Union Pacific Railroad Yard
 Sacramento, California
 JANUARY 1992



Sample Location No.	Sample I.D.	Depth	Analyte	D & M
1	LT-2-1	0-0.5	As Pb	ND 18
2	LT-2-5	0-0.5	As Pb	37.6 77
3	LP-2-6	0-0.5	As Pb	10.6 110
	LT-2-6	0-0.5	As Pb	NA NA
	LT2-11/26-4	0.5-1.0	VOC	*
4	LT-2-7	0-0.5	As Pb	12 333
5	LT-2-8	0-0.5	As Pb	5.4 217
	LT2-11/26-5	0.5-1.0	VOC	*
6	LT-2-3	0-0.5	As Pb	14.9 25
7	LP-2-4	0-0.5	As Pb	5.1 14
	LT-2-4	0-0.5	As Pb	NA NA
	LT2-11/26-3	0.5-1.0	VOC	*
8	LT-2-2	0-0.5	As Pb	ND 16
	LT2-11/26-1	0.5-1.0	VOC	*
	LT2-11/26-2	0.5-1.0	VOC	*
Composite	TP-162	0-0.5	As Pb	11 60.2
TP-162	TP-162	0.5-1.0	As Pb	8.9 ND

Sample Site Location



EXPLANATION

---	UPRR Property Line	D & M	Dames & Moore Samples	*	See Table 1
▨	Lot 2	As	Arsenic		Analytical Results in mg/kg
●	Soil Sample Locations	Pb	Lead		
▧	Test Pit Location	VOC	Volatile Organic Compounds		
⊠	Phase 2 Composite Sample Location	NA	Not Analyzed - Sample Container Broken		
		ND	Non Detect		

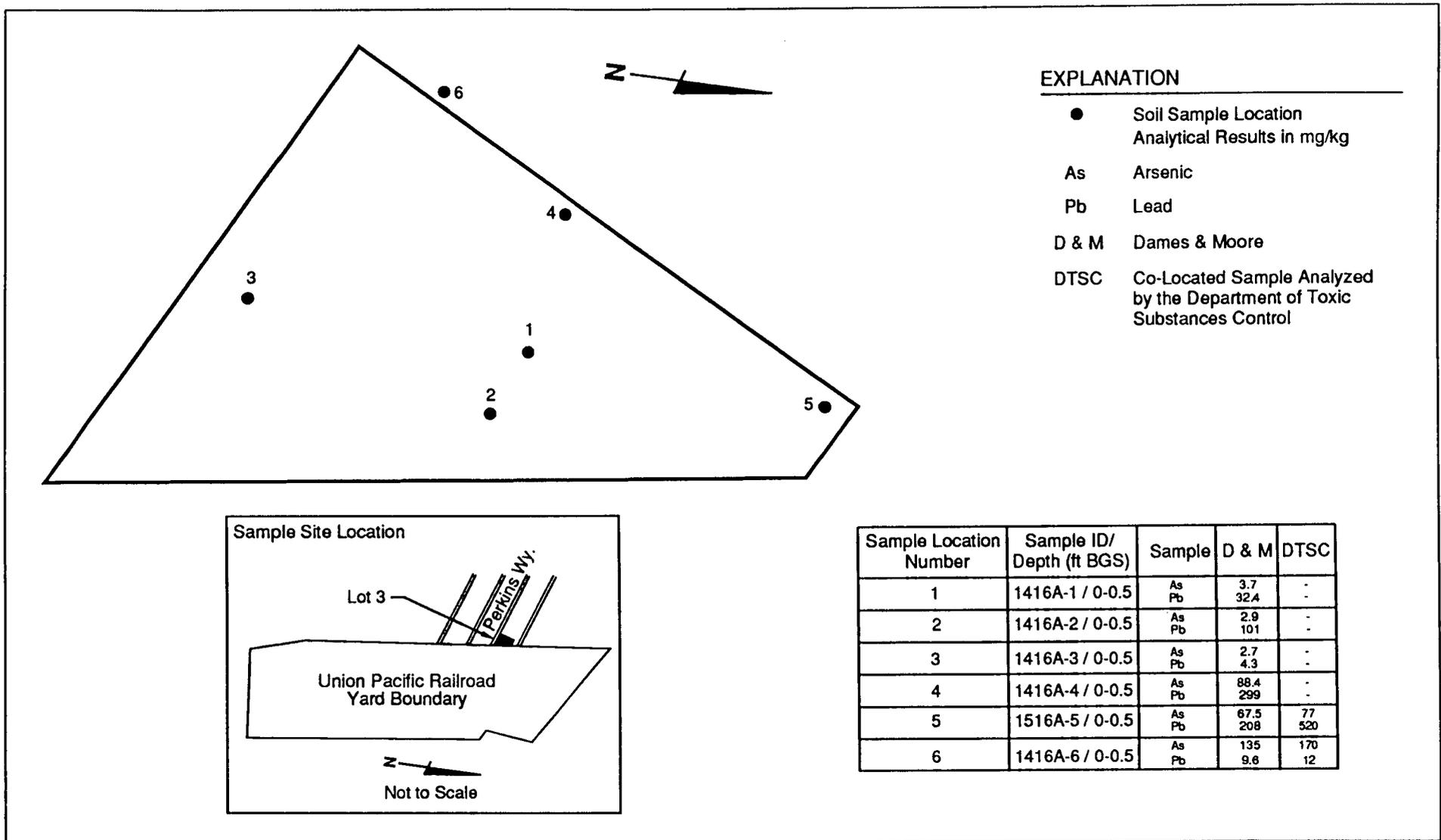
LOT 2 - SOIL SAMPLE ANALYTICAL RESULTS

Union Pacific Railroad Yard
Sacramento, California
JANUARY 1992

DAMES & MOORE

00173-064-044 UPOS-7

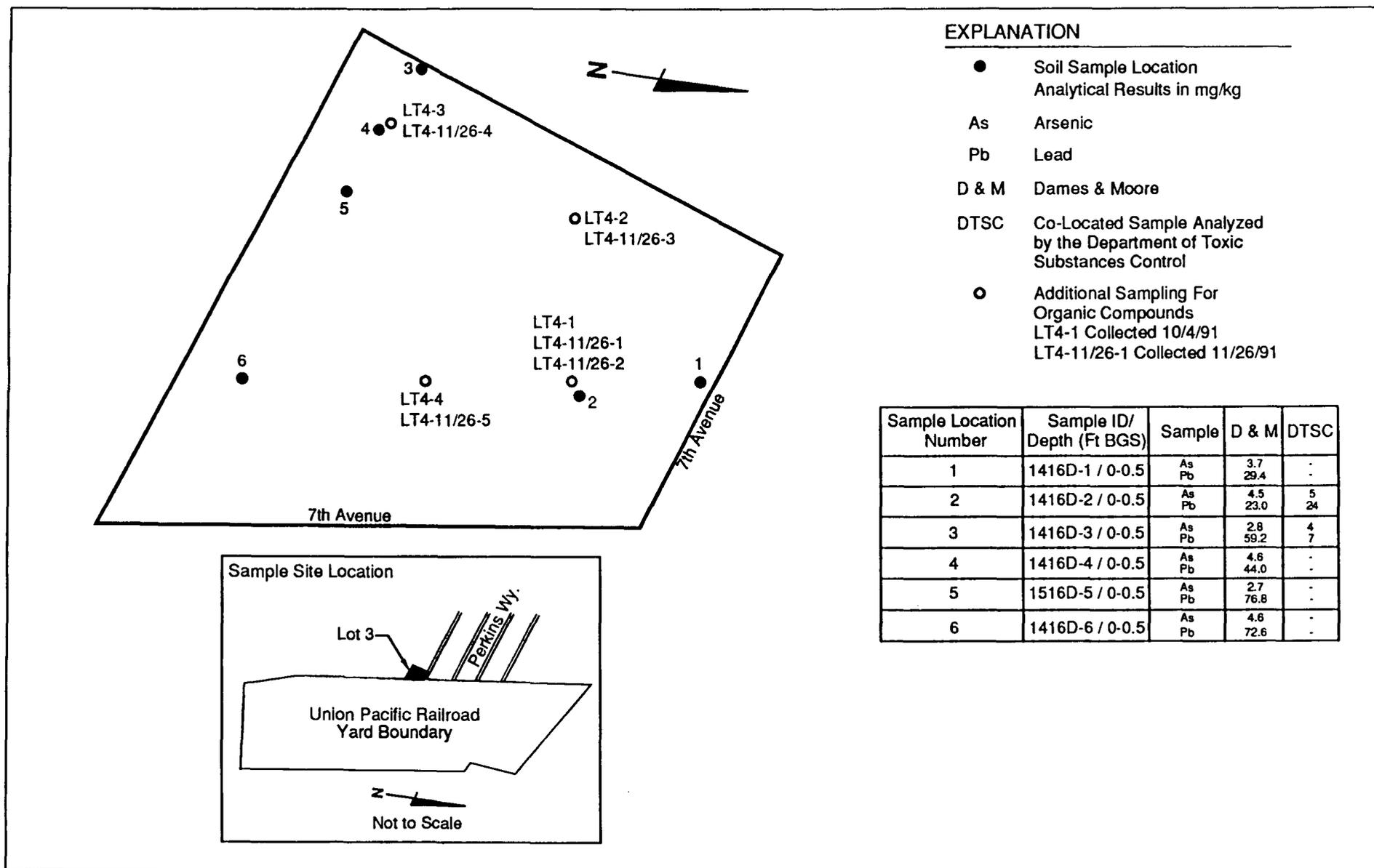
FIGURE 3



0 30
Scale in Feet

LOT 3 SOIL SAMPLE ANALYTICAL RESULTS

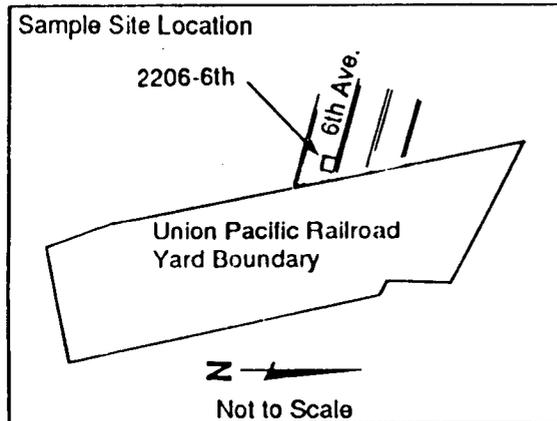
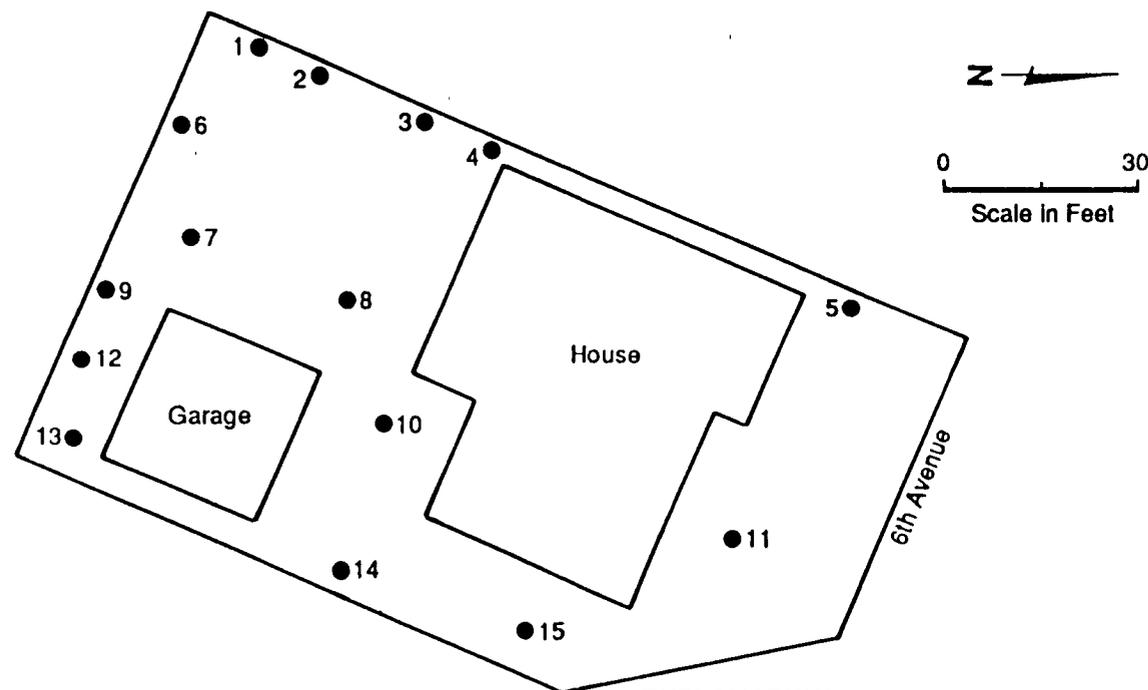
Union Pacific Railroad Yard
Sacramento, California
JANUARY 1992



0 30
Scale in Feet

LOT 4 SOIL SAMPLE ANALYTICAL RESULTS

Union Pacific Railroad Yard
Sacramento, California
JANUARY 1992



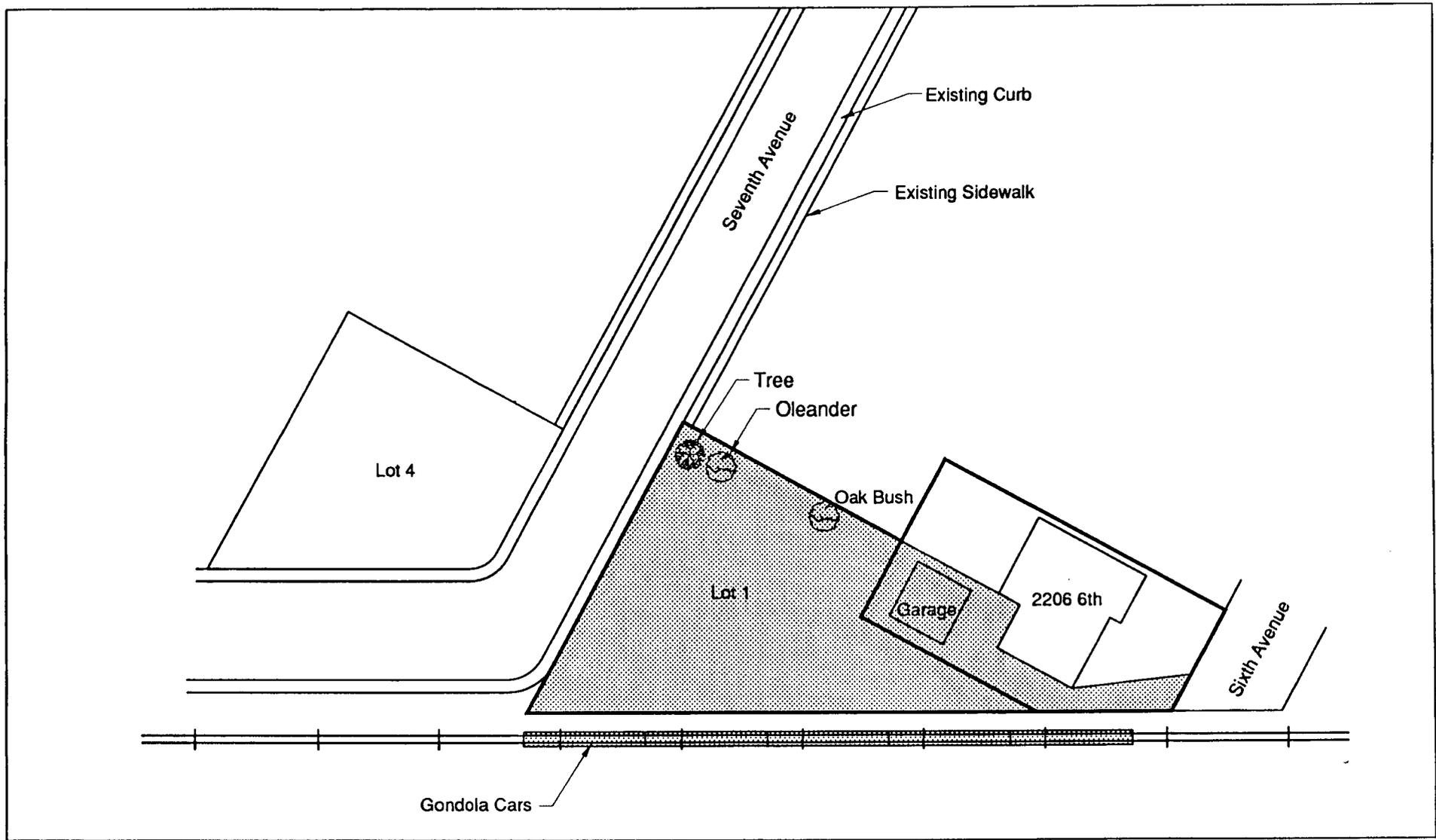
EXPLANATION

- Soil Sample Locations
- Analytical Results in mg/kg
- D & M Dames & Moore Samples
- DTSC Co - Located Samples Analyzed by the Department of Toxic Substances Control
- As Arsenic
- Pb Lead

Sample Location Number	Sample ID / Depth (Ft BGS)	Analyte	D & M	DTSC
1	2206-10/ 0.5-1.0	As	5.2	-
		Pb	58.2	-
2	2206-11/ 0.5-1.0	As	4.8	6
		Pb	70.5	41
3	2206-2/ 0-0.5	As	5.0	-
		Pb	32.6	-
4	2206-9/ 0.5-1.0	As	4.2	-
		Pb	70.0	-
5	2206-8/ 0-0.5	As	2.8	-
		Pb	11.9	-
6	2206-12/ 0.5-1.0	As	6.1	5
		Pb	53.4	17
7	2206-4/ 0-0.5	As	5.2	6.9
		Pb	614	396
8	2206-14/ 0.5-1.0	As	12.5	11
		Pb	52.8	35
9	2206-3/ 0-0.5	As	5.7	-
		Pb	51.4	-
9	2206-5/ 0-0.5	As	7.5	-
		Pb	57.0	-
10	2206-6/ 0-0.5	As	5.8	-
		Pb	22.7	-
10	2206-13/ 0.5-1.0	As	99.2	-
		Pb	108	-
11	2206-15/ 0.5-1.0	As	140	-
		Pb	190	-
11	2206-7/ 0-0.5	As	28.8	9
		Pb	43.5	47
12	2206-15/ 0-0.5	As	74.0	133
		Pb	265	268
13	2206-15/ 0.5-1.0	As	1.9	-
		Pb	5.3	-
13	2206-16/ 0-0.5	As	152	-
		Pb	392	-
14	2206-16/ 0.5-1.0	As	2.8	-
		Pb	8.0	-
14	2206-17/ 0-0.5	As	138	160.4
		Pb	414	350
15	2206-17/ 0.5-1.0	As	142	163
		Pb	328	338
15	2206-18/ 0-0.5	As	148	-
		Pb	211	-
15	2206-18/ 0.5-1.0	As	222	-
		Pb	214	-

2206 SIXTH AVENUE SOIL SAMPLE ANALYTICAL RESULTS

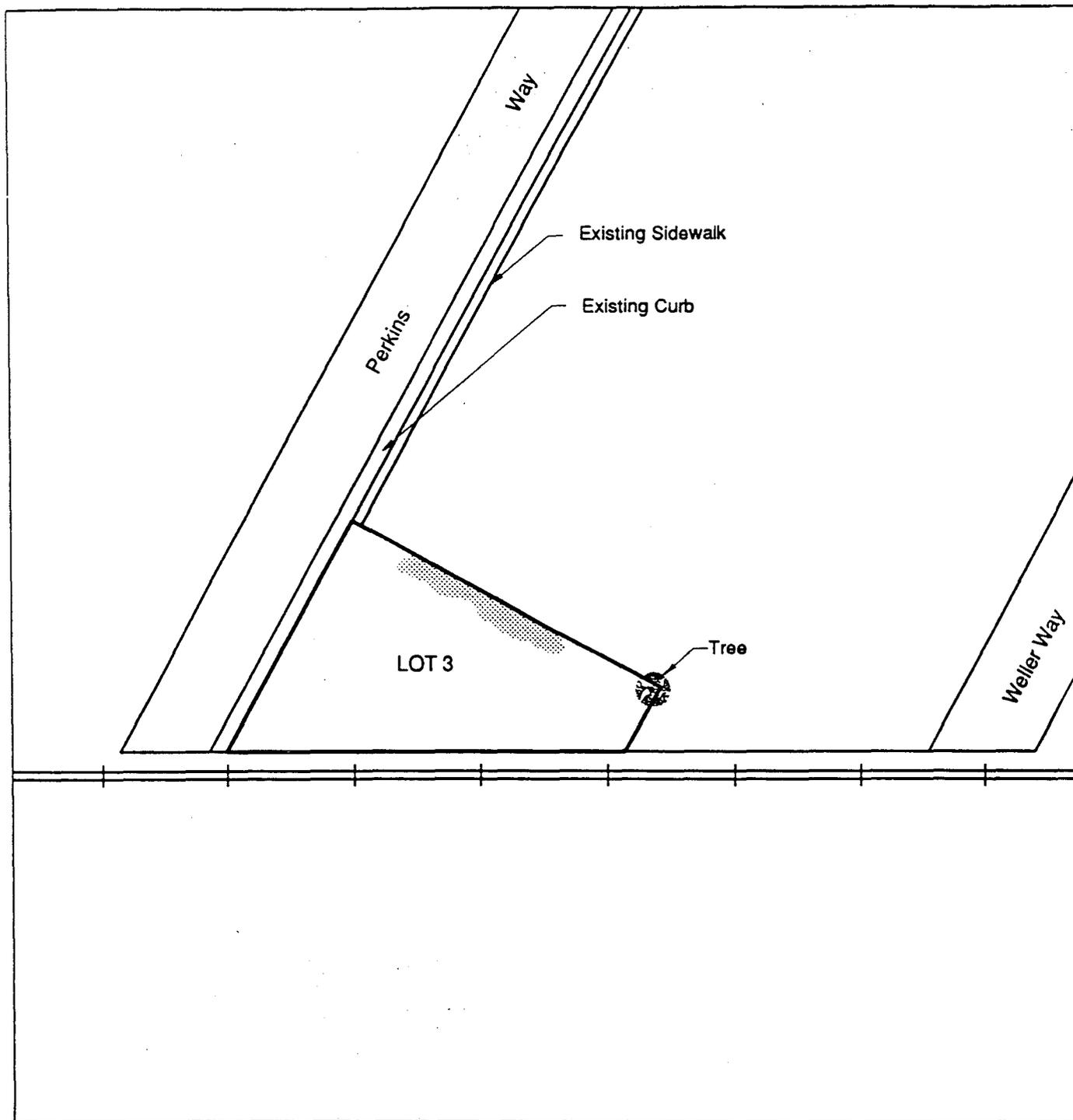
Union Pacific Railroad Yard
Sacramento, California
JANUARY 1992



EXPLANATION

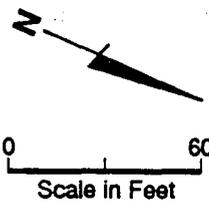
	Lot Boundary
	1 Foot Soil Excavation

**LOT 1 & 2206 SIXTH AVENUE
SOIL REMOVAL AREA**
 Union Pacific Railroad Yard
 Sacramento, California
 JANUARY 1992



EXPLANATION

- Lot Boundary
- ▨ 1 Foot Soil Excavation



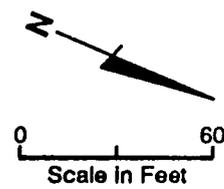
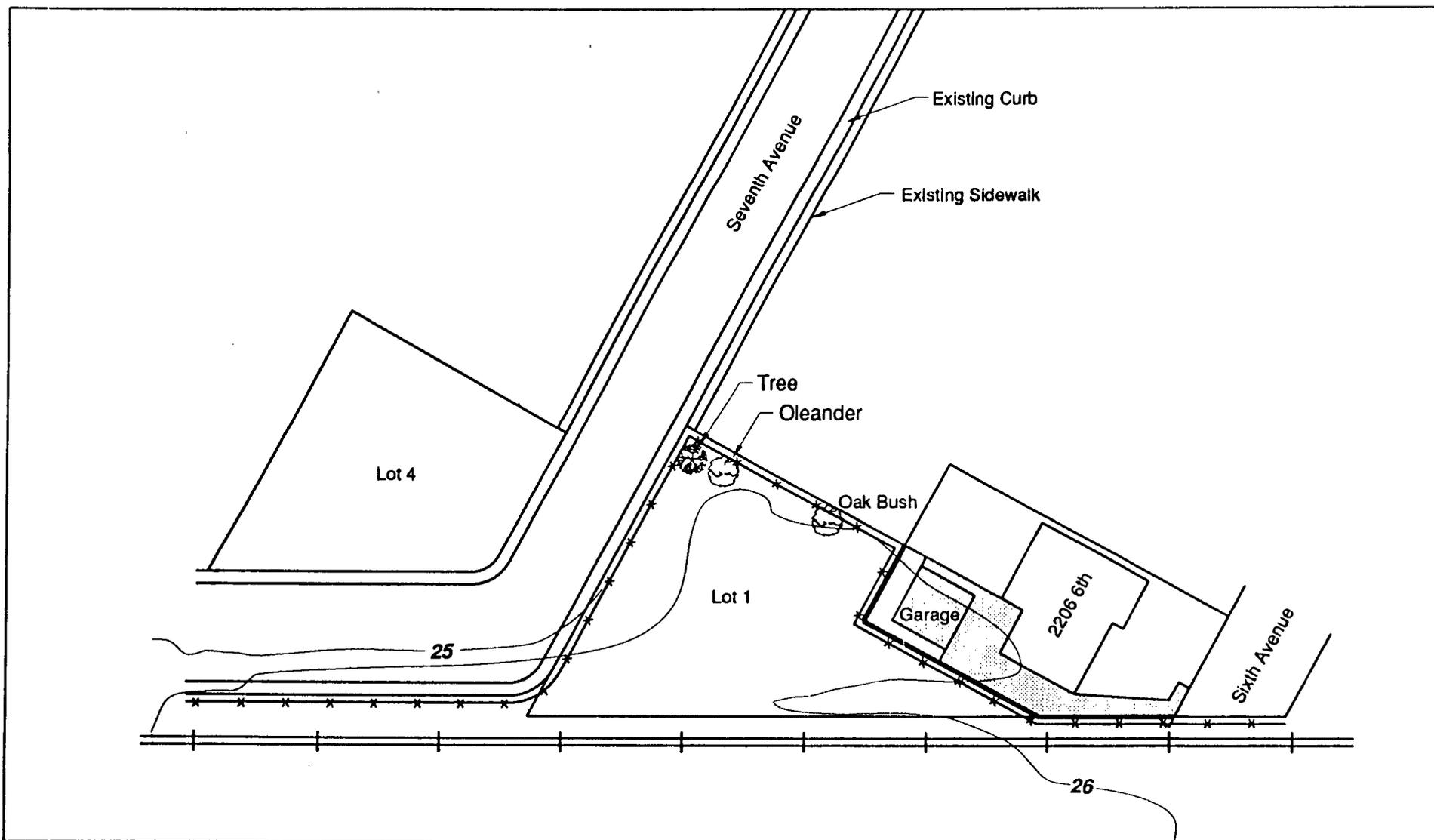
LOT - 3 SOIL REMOVAL AREA

Union Pacific Railroad Yard
 Sacramento, California
 JANUARY 1992

 **DAMES & MOORE**

00173-064-044 UPOS-42

FIGURE 8

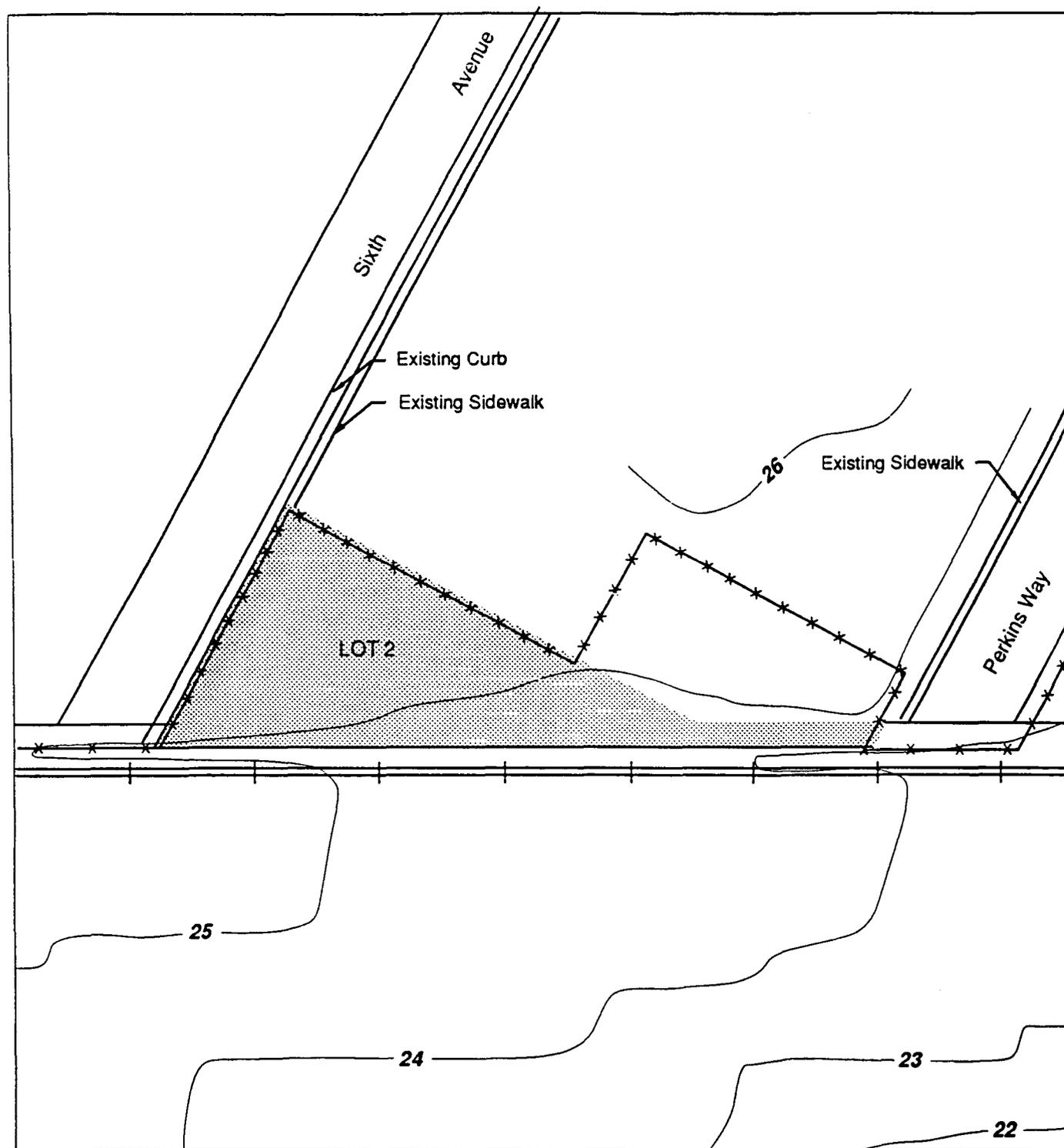


EXPLANATION

- New Wood Fence
- x-x- New Chain Link Cyclone Fence
- Concrete
- 25 - Elevation Contours (in feet)

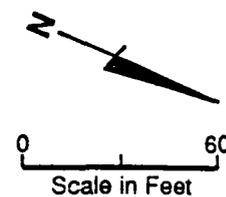
**LOT 1 & 2206 SIXTH AVENUE
LOT LOCATIONS**

Union Pacific Railroad Yard
Sacramento, California
JANUARY 1992



EXPLANATION

-  4" Crushed Aggregate Base Cover
-  25 — Elevation Contours (in feet)
-  x x — New Chain Link Cyclone Fence



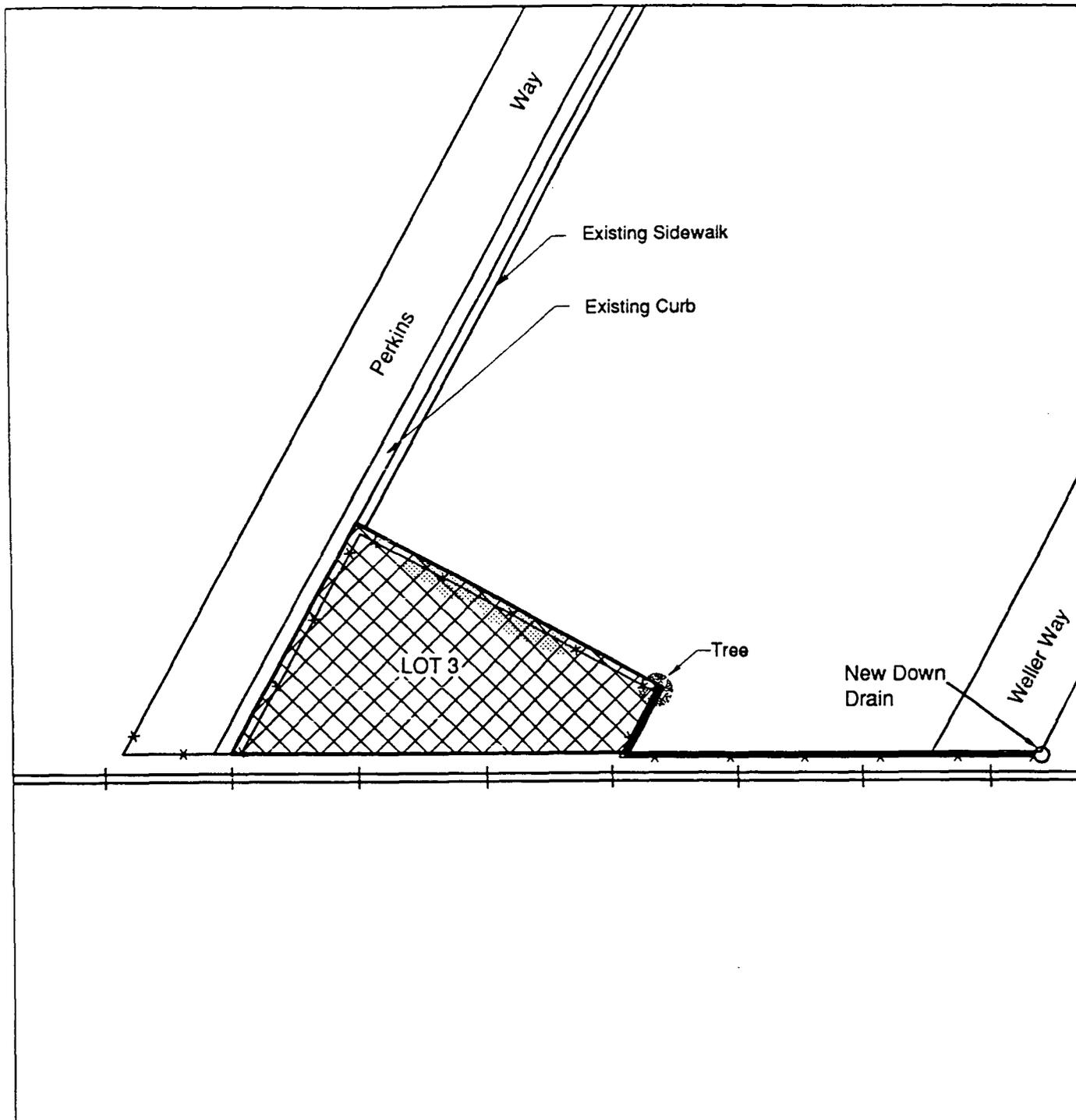
LOT 2 - RESTORATION

Union Pacific Railroad Yard
 Sacramento, California
 JANUARY 1992

 **DAMES & MOORE**

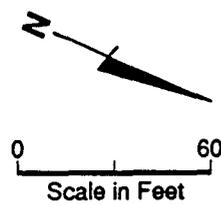
00173-064-044 UPOS-43

FIGURE 11



EXPLANATION

- *— New Chain Link Cyclone Fence
- New Curb
- Lot Boundary
- ▨ 1 Foot Soil Excavation
- ▩ Aggregate Base and Double Bituminous Seal Coat



LOT 3 - RESTORATION

Union Pacific Railroad Yard
 Sacramento, California
 JANUARY 1992

 **DAMES & MOORE**

00173-064-044 UPOS-45

FIGURE 12

Appendix

A

APPENDIX A
CHEMICAL AND PHYSICAL
ANALYTICAL LABORATORY REPORTS

SAC30.004

11 JS



3700 Lakeville Highway, Petaluma, CA 94952
 P.O. Box 808024, Petaluma, CA. 94975-8024
 Telephone: (707)763-8245 FAX: (707)763-4065

D+M 9/ -531/6

OCT 1 1991

SAMPLE CHAIN OF CUSTODY / WORK ORDER

Client's Name V Dames & Moore Sacramento Phone 916-387-8800
 Address 8801 Folsom Boulevard #200
 City, State, Zip Sacramento, CA 95826
 Client's or Representative's Signature [Signature]
 (signature authorizes the work and terms listed below)

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pick up samples.

PROJ. NO.		PROJECT NAME								REMARKS		LAB USE ON LAB NC	
00173-064 044		UP Railroad Sacramento											
SAMPLERS (Signature)						NO. OF CONTAINERS							
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION								
LT2-1	10/4	1400	X		LT2-1	1	✓	✓					
LT2-2			X		LT2-2	1	✓	✓	✓				
LT2-3			X		LT2-3	1	✓	✓					
LT2-4			X		LT2-4 *	1	✓	✓	✓		broken		
LT2-5			X		LT2-5	1	✓	✓					
LT2-6			X		LT2-6 *	1	✓	✓	✓		broken		
LT2-7			X		LT2-7	1	✓	✓					
LT2-8		↓	X		LT2-8	1	✓	✓	✓				
LT4-1		1500	X		LT4-1	1			✓				
LT4-2			X		LT4-2	1			✓				
LT4-3			X		LT4-3	1			✓				
LT4-4	↓	↓	X		LT4-4 *	1			✓		broken		

RECEIVED
OCT 5 AM 10:15

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	General Remarks: Results to: Tim Parker % D&N 8801 Folsom Blvd #200 Sacramento, CA 95826
[Signature]	10/4/91	17:00	Jane B Anderson	
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	

NOTE one sample broken in 10



3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

Tim Parker
Dames & Moore
8801 Folsom Blvd., Suite 200
Sacramento, CA 95826

Client Code: DAMM7
Survey #
UPRR/Sacramento
Project/Release # 00173-064-044

THIS IS A REVISED REPORT - 10/24/91
L A B O R A T O R Y R E S U L T S

Page 1

Date Collected: 10/04/91
Date Analyzed: 10/17/91

Laboratory Job No.: 915316
Date Received: 10/05/91
Date Reported: 10/21/91

ASSAY:
ARSENIC (EPA 7060), 3050 ACID DIGEST
LEAD (EPA 7421), 3050 ACID DIGEST

MATRIX: SOIL, ACID DIGEST

LABNO	SMPLNO	COMPOUND	FOUND mg/kg	CA TTLC LEV	DET.LIM. mg/kg
36967	LT2-1	AS	ND	500	2.5
		PB	18	1,000	1
36968	LT2-2	AS	ND	500	2.5
		PB	16	1,000	0.5
36969	LT2-3	AS	14.9	500	2.5
		PB	25	1,000	1
36970	LT2-5	AS	37.6	500	12.5
		PB	77	1,000	5
36971	LT2-7	AS	12.0	500	2.5
		PB	333	1,000	25
36972	LT2-8	AS	5.4	500	2.5
		PB	217	1,000	10

THIS REPORT HAS BEEN REVIEWED
AND APPROVED FOR RELEASE.

DUF



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

LABORATORY RESULTS

Laboratory Job No.: 915316

LABNO	SAMPLNO	COMPOUND	FOUND mg/kg	CA TTLC LEV	DET.LIM. mg/kg
36977	MB	AS	ND		2.5
		PB	ND		0.5
				SPIKE LEVELS	
36978	MBS	AS	10.5	12.5 mg/kg	2.5
		PB	4.1	5.0 mg/kg	0.3
36979	MX	AS	14.9		2.5
		PB	25		1
				SPIKE LEVELS	
36980	MS	AS	23.6	12.5 mg/kg	5.0
		PB	30	5.0 mg/kg	3
36981	MSD	AS	23.6	12.5 mg/kg	5.0
		PB	27	5.0 mg/kg	3



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 3

LABORATORY RESULTS

Date Collected: 10/04/91
 Date Extracted: 10/14/91
 Date Analyzed: 10/15/91

Laboratory Job No.: 915316
 Date Received: 10/05/91
 Date Reported: 10/21/91

ASSAY:
 PURGEABLES IN SOIL (EPA 5030/8010)

COMPOUNDS:	LAB#	36968	DET.	36972	DET.	36973	DET.
	SMP#	LT2-2	LIM.	LT2-8	LIM.	LT4-1	LIM.
	dil.	40		40		40	
PURGEABLES		ug/kg		ug/kg		ug/kg	
BROMODICHLOROMETHANE	ND	20	ND	20	ND	20	
BROMOFORM	ND	20	ND	20	ND	20	
BROMOMETHANE	ND	40	ND	40	ND	40	
CARBON TETRACHLORIDE	ND	20	ND	20	ND	20	
CHLORO BENZENE	ND	20	ND	20	ND	20	
CHLOROETHANE	ND	40	ND	40	ND	40	
CHLOROFORM	ND	20	ND	20	ND	20	
CHLOROMETHANE	ND	40	ND	40	ND	40	
DIBROMOCHLOROMETHANE	ND	20	ND	20	ND	20	
1,4-DICHLOROBENZENE	ND	20	ND	20	ND	20	
1,3-DICHLOROBENZENE	ND	20	ND	20	ND	20	
1,2-DICHLOROBENZENE	ND	20	ND	20	ND	20	
1,1-DICHLOROETHANE	ND	20	ND	20	ND	20	
1,2-DICHLOROETHANE	ND	20	ND	20	ND	20	
1,1-DICHLOROETHENE	ND	20	ND	20	ND	20	
CIS-1,2-DICHLOROETHENE	ND	20	ND	20	ND	20	
TRANS-1,2-DICHLOROETHENE	ND	20	ND	20	ND	20	
1,2-DICHLOROPROPANE	ND	20	ND	20	ND	20	
CIS-1,3-DICHLOROPROPENE	ND	20	ND	20	ND	20	
TRANS-1,3-DICHLOROPROPENE	ND	20	ND	20	ND	20	
METHYLENE CHLORIDE	ND	20	ND	20	ND	20	
1,1,2,2-TETRACHLOROETHANE	ND	20	ND	20	ND	20	
TETRACHLOROETHENE	20	20	22	20	ND	20	
1,1,1-TRICHLOROETHANE	ND	20	ND	20	ND	20	
1,1,2-TRICHLOROETHANE	ND	20	ND	20	ND	20	
TRICHLOROETHENE	ND	20	ND	20	ND	20	
TRICHLOROFLUOROMETHANE	ND	40	ND	40	ND	40	
VINYL CHLORIDE	ND	40	ND	40	ND	40	



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 4

LABORATORY RESULTS

Laboratory Job No.: 915316

COMPOUNDS:	LAB#	36974	DET.	36975	DET.	36976	DET.
	SMP#	LT4-2	LIM.	LT4-3	LIM.	LT4-4	LIM.
	dil.	40		40		40	
PURGEABLES		ug/kg		ug/kg		ug/kg	
BROMODICHLOROMETHANE	ND	20	ND	20	ND	20	
BROMOFORM	ND	20	ND	20	ND	20	
BROMOMETHANE	ND	40	ND	40	ND	40	
CARBON TETRACHLORIDE	ND	20	ND	20	ND	20	
CHLOROENZENE	ND	20	ND	20	ND	20	
CHLOROETHANE	ND	40	ND	40	ND	40	
CHLOROFORM	ND	20	ND	20	ND	20	
CHLOROMETHANE	ND	40	ND	40	ND	40	
DIBROMOCHLOROMETHANE	ND	20	ND	20	ND	20	
1,4-DICHLOROENZENE	ND	20	ND	20	ND	20	
1,3-DICHLOROENZENE	ND	20	ND	20	ND	20	
1,2-DICHLOROENZENE	ND	20	ND	20	ND	20	
1,1-DICHLOROETHANE	ND	20	ND	20	ND	20	
1,2-DICHLOROETHANE	ND	20	ND	20	ND	20	
1,1-DICHLOROETHENE	ND	20	ND	20	ND	20	
CIS-1,2-DICHLOROETHENE	ND	20	ND	20	ND	20	
TRANS-1,2-DICHLOROETHENE	ND	20	ND	20	ND	20	
1,2-DICHLOROPROPANE	ND	20	ND	20	ND	20	
CIS-1,3-DICHLOROPROPENE	ND	20	ND	20	ND	20	
TRANS-1,3-DICHLOROPROPENE	ND	20	ND	20	ND	20	
METHYLENE CHLORIDE	ND	20	ND	20	ND	20	
1,1,2,2-TETRACHLOROETHANE	ND	20	ND	20	ND	20	
TETRACHLOROETHENE	ND	20	ND	20	ND	20	
1,1,1-TRICHLOROETHANE	ND	20	ND	20	ND	20	
1,1,2-TRICHLOROETHANE	ND	20	ND	20	ND	20	
TRICHLOROETHENE	ND	20	ND	20	ND	20	
TRICHLOROFLUOROMETHANE	ND	40	ND	40	ND	40	
VINYL CHLORIDE	ND	40	ND	40	ND	40	



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 5

LABORATORY RESULTS

Laboratory Job No.: 915316

COMPOUNDS:	LAB#	36977	DET.	36978	DET.	36979	DET.
	SMP#	MB	LIM.	MBS	LIM.	MX	LIM.
	dil.	40		40		40	
PURGEABLES		ug/kg		ug/kg		ug/kg	
BROMODICHLOROMETHANE		ND	20	ND	20	ND	20
BROMOFORM		ND	20	ND	20	ND	20
BROMOMETHANE		ND	40	ND	40	ND	40
CARBON TETRACHLORIDE		ND	20	ND	20	ND	20
CHLOROENZENE		ND	20	ND	20	ND	20
CHLOROETHANE		ND	40	ND	40	ND	40
CHLOROFORM		ND	20	ND	20	ND	20
CHLOROMETHANE		ND	40	ND	40	ND	40
DIBROMOCHLOROMETHANE		ND	20	ND	20	ND	20
1,4-DICHLOROENZENE		ND	20	ND	20	ND	20
1,3-DICHLOROENZENE		ND	20	230	20	ND	20
1,2-DICHLOROENZENE		ND	20	ND	20	ND	20
1,1-DICHLOROETHANE		ND	20	210	20	ND	20
1,2-DICHLOROETHANE		ND	20	ND	20	ND	20
1,1-DICHLOROETHENE		ND	20	ND	20	ND	20
CIS-1,2-DICHLOROETHENE		ND	20	ND	20	ND	20
TRANS-1,2-DICHLOROETHENE		ND	20	ND	20	ND	20
1,2-DICHLOROPROPANE		ND	20	ND	20	ND	20
CIS-1,3-DICHLOROPROPENE		ND	20	ND	20	ND	20
TRANS-1,3-DICHLOROPROPENE		ND	20	ND	20	ND	20
METHYLENE CHLORIDE		ND	20	ND	20	ND	20
1,1,2,2-TETRACHLOROETHANE		ND	20	ND	20	ND	20
TETRACHLOROETHENE		ND	20	ND	20	ND	20
1,1,1-TRICHLOROETHANE		ND	20	ND	20	ND	20
1,1,2-TRICHLOROETHANE		ND	20	ND	20	ND	20
TRICHLOROETHENE		ND	20	210	20	ND	20
TRICHLOROFLUOROMETHANE		ND	40	ND	40	ND	40
VINYL CHLORIDE		ND	40	ND	40	ND	40



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 6

LABORATORY RESULTS

Laboratory Job No.: 915316

COMPOUNDS:	LAB#	36980	DET.	36981	DET.
	SMP#	MS	LIM.	MSD	LIM.
	dil.	40		40	
PURGEABLES		ug/kg		ug/kg	
BROMODICHLOROMETHANE		ND	20	ND	20
BROMOFORM		ND	20	ND	20
BROMOMETHANE		ND	40	ND	40
CARBON TETRACHLORIDE		ND	20	ND	20
CHLORO BENZENE		ND	20	ND	20
CHLOROETHANE		ND	40	ND	40
CHLOROFORM		ND	20	ND	20
CHLOROMETHANE		ND	40	ND	40
DIBROMOCHLOROMETHANE		ND	20	ND	20
1,4-DICHLOROBENZENE		ND	20	ND	20
1,3-DICHLOROBENZENE		220	20	220	20
1,2-DICHLOROBENZENE		ND	20	ND	20
1,1-DICHLOROETHANE		200	20	170	20
1,2-DICHLOROETHANE		ND	20	ND	20
1,1-DICHLOROETHENE		ND	20	ND	20
CIS-1,2-DICHLOROETHENE		ND	20	ND	20
TRANS-1,2-DICHLOROETHENE		ND	20	ND	20
1,2-DICHLOROPROPANE		ND	20	ND	20
CIS-1,3-DICHLOROPROPENE		ND	20	ND	20
TRANS-1,3-DICHLOROPROPENE		ND	20	ND	20
METHYLENE CHLORIDE		ND	20	ND	20
1,1,2,2-TETRACHLOROETHANE		ND	20	ND	20
TETRACHLOROETHENE		ND	20	ND	20
1,1,1-TRICHLOROETHANE		ND	20	ND	20
1,1,2-TRICHLOROETHANE		ND	20	ND	20
TRICHLOROETHENE		230	20	210	20
TRICHLOROFLUOROMETHANE		ND	40	ND	40
VINYL CHLORIDE		ND	40	ND	40

NOTE: MBS, MS AND MSD WERE SPIKED AT 200 ug/kg.

NOTE: THE PRESENCE OF TETRACHLOROETHENE IN THE METHOD BLANK AT A VALUE BELOW THE DETECTION LIMIT INDICATES POSSIBLE LAB CONTAMINATION IN SAMPLES LT2-2, LT2-8 AND LT4-3.



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 7

L A B O R A T O R Y R E S U L T S

Date Collected: 10/04/91
 Date Extracted: 10/14/91
 Date Analyzed: 10/15/91

Laboratory Job No.: 915316
 Date Received: 10/05/91
 Date Reported: 10/21/91

ASSAY:
 PURGEABLE AROMATICS IN SOIL (EPA 8020)

COMPOUNDS:	LAB#	36968	DET.	36972	DET.	36973	DET.	36974	DET.
	SMP#	LT2-2	LIM.	LT2-8	LIM.	LT4-1	LIM.	LT4-2	LIM.
	dil.		40		40		40		40
PURGEABLES		ug/kg		ug/kg		ug/kg		ug/kg	
BENZENE		ND	20	ND	20	ND	20	ND	20
CHLOROBENZENE		ND	20	ND	20	ND	20	ND	20
1,2-DICHLOROBENZENE		ND	20	ND	20	ND	20	ND	20
1,3-DICHLOROBENZENE		ND	20	ND	20	ND	20	ND	20
1,4-DICHLOROBENZENE		ND	20	ND	20	ND	20	ND	20
ETHYL BENZENE		ND	20	ND	20	ND	20	ND	20
TOLUENE		ND	20	ND	20	ND	20	ND	20
XYLENE		ND	20	ND	20	ND	20	ND	20

COMPOUNDS:	LAB#	36975	DET.	36976	DET.	36977	DET.	36978	DET.
	SMP#	LT4-3	LIM.	LT4-4	LIM.	MB	LIM.	MBS	LIM.
	dil.		40		40		40		40
PURGEABLES		ug/kg		ug/kg		ug/kg		ug/kg	
BENZENE		ND	20	ND	20	ND	20	180	20
CHLOROBENZENE		ND	20	ND	20	ND	20	210	20
1,2-DICHLOROBENZENE		ND	20	ND	20	ND	20	220	20
1,3-DICHLOROBENZENE		ND	20	ND	20	ND	20	ND	20
1,4-DICHLOROBENZENE		ND	20	ND	20	ND	20	ND	20
ETHYL BENZENE		ND	20	ND	20	ND	20	ND	20
TOLUENE		ND	20	ND	20	ND	20	ND	20
XYLENE		ND	20	ND	20	ND	20	ND	20



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 8

LABORATORY RESULTS

Laboratory Job No.: 915316

COMPOUNDS:	LAB#	36979	DET.	36980	DET.	36981	DET.
	SMP#	MX	LIM.	MS	LIM.	MSD	LIM.
	dil.		40		40		40
PURGEABLES			ug/kg		ug/kg		ug/kg
BENZENE		ND	20	200	20	190	20
CHLOROBENZENE		ND	20	240	20	230	20
1,2-DICHLOROBENZENE		ND	20	260	20	220	20
1,3-DICHLOROBENZENE		ND	20	ND	20	ND	20
1,4-DICHLOROBENZENE		ND	20	ND	20	ND	20
ETHYL BENZENE		ND	20	ND	20	ND	20
TOLUENE		ND	20	ND	20	ND	20
XYLENE		ND	20	ND	20	ND	20

NOTE: MBS, MS AND MSD WERE SPIKED AT 200 ug/kg.



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Tim Parker
 Dames & Moore
 8801 Folsom Blvd., Suite 200
 Sacramento, CA 95826

Client Code: DAMM7
 Survey # UPRR/Sacramento
 Project/Release # 00173-064-044

Page 1

L A B O R A T O R Y R E S U L T S

Date Collected: 10/09/91
 Date Analyzed: 10/17/91

Laboratory Job No.: 915417
 Date Received: 10/11/91
 Date Reported: 10/18/91

ASSAY:
 ARSENIC (EPA 7060), 3050 ACID DIGEST
 LEAD (EPA 7421), 3050 ACID DIGEST

MATRIX: SOIL, ACID DIGEST

LABNO	SMPLNO	COMPOUND	FOUND mg/kg	CA TTLC LEV	DET.LIM. mg/kg
37759	LP-2-4	AS	5.1	500	2.5
		PB	14	1,000	1
37760	LP-2-6	AS	10.6	500	2.5
		PB	110	1,000	5
37761	MB	AS	ND		2.5
		PB	ND		0.5
37762	MBS	AS	11.0	SPIKE LEVELS 12.5 mg/kg	2.5
		PB	4.1	5.0 mg/kg	
37763	MX	AS	14.9		2.5
		PB	25		1
37764	MS	AS	23.6	SPIKE LEVELS 12.5 mg/kg	5.0
		PB	30	5.0 mg/kg	3
37765	MSD	AS	23.5	12.5 mg/kg	5.0
		PB	27	5.0 mg/kg	3

THIS REPORT HAS BEEN REVIEWED
 AND APPROVED FOR RELEASE.

DF



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Tim Parker
 Dames & Moore
 8801 Folsom Blvd., Suite 200
 Sacramento, CA 95826

Client Code: DAMM7
 Survey #
 UPRR-SACRAMENTO
 Project/Release # 00173-064-044

REVISED REPORT - 01/16/92

Page 1

L A B O R A T O R Y R E S U L T S

Date Collected: 10/09/91
 Date Extracted: 10/17/91
 Date Analyzed: 10/19/91

Laboratory Job No.: 915360
 Date Received: 10/11/91
 Date Reported: 10/25/91

ASSAY:
 PURGEABLES IN SOIL (EPA 5030/8010)

COMPOUNDS:	LAB# SMP# dil.	37314 DET. LP-2-4 LIM.		37315 DET. LP-2-6 LIM.		37316 DET. MB LIM.	
		40 ug/kg		40 ug/kg		40 ug/kg	
PURGEABLES							
BROMODICHLOROMETHANE		ND	20	ND	20	ND	20
BROMOFORM		ND	20	ND	20	ND	20
BROMOMETHANE		ND	40	ND	40	ND	40
CARBON TETRACHLORIDE		ND	20	ND	20	ND	20
CHLOROBENZENE		ND	20	ND	20	ND	20
CHLOROETHANE		ND	40	ND	40	ND	40
CHLOROFORM		ND	20	ND	20	ND	20
CHLOROMETHANE		ND	40	ND	40	ND	40
DIBROMOCHLOROMETHANE		ND	20	ND	20	ND	20
1,4-DICHLOROBENZENE		ND	20	ND	20	ND	20
1,3-DICHLOROBENZENE		ND	20	ND	20	ND	20
1,2-DICHLOROBENZENE		ND	20	ND	20	ND	20
1,1-DICHLOROETHANE		ND	20	ND	20	ND	20
1,2-DICHLOROETHANE		ND	20	ND	20	ND	20
1,1-DICHLOROETHENE		ND	20	ND	20	ND	20
CIS-1,2-DICHLOROETHENE		ND	20	ND	20	ND	20
TRANS-1,2-DICHLOROETHENE		ND	20	ND	20	ND	20
1,2-DICHLOROPROPANE		ND	20	ND	20	ND	20
CIS-1,3-DICHLOROPROPENE		ND	20	ND	20	ND	20
TRANS-1,3-DICHLOROPROPENE		ND	20	ND	20	ND	20
METHYLENE CHLORIDE		ND	20	ND	20	ND	20
1,1,2,2-TETRACHLOROETHANE		ND	20	ND	20	ND	20
TETRACHLOROETHENE		ND	20	ND	20	ND	20
1,1,1-TRICHLOROETHANE		ND	20	ND	20	ND	20

THIS REPORT HAS BEEN REVIEWED
 AND APPROVED FOR RELEASE.



3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

Page 2

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 915360

COMPOUNDS:	LAB#	37314	DET.	37315	DET.	37316	DET.
	SMP#	LP-2-4	LIM.	LP-2-6	LIM.	MB	LIM.
	dil.	40		40		40	
PURGEABLES		ug/kg		ug/kg		ug/kg	
1,1,2-TRICHLOROETHANE		ND	20	ND	20	ND	20
TRICHLOROETHENE		ND	20	ND	20	ND	20
TRICHLOROFLUOROMETHANE		ND	40	ND	40	ND	40
VINYL CHLORIDE		ND	40	ND	40	ND	40



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 3

LABORATORY RESULTS

Laboratory Job No.: 915360

COMPOUNDS:	LAB#	37317	DET.	37318	DET.	37319	DET.
	SMP#	MBS	LIM.	MX	LIM.	MS	LIM.
	dil.	40		40		40	
PURGEABLES		ug/kg		ug/kg		ug/kg	
BROMODICHLOROMETHANE		ND	20	ND	20	ND	20
BROMOFORM		ND	20	ND	20	ND	20
BROMOMETHANE		ND	40	ND	40	ND	40
CARBON TETRACHLORIDE		ND	20	ND	20	ND	20
CHLOROENZENE		ND	20	ND	20	ND	20
CHLOROETHANE		ND	40	ND	40	ND	40
CHLOROFORM		ND	20	ND	20	ND	20
CHLOROMETHANE		ND	40	ND	40	ND	40
DIBROMOCHLOROMETHANE		ND	20	ND	20	ND	20
1,4-DICHLOROENZENE		ND	20	ND	20	ND	20
1,3-DICHLOROENZENE		210	20	ND	20	210	20
1,2-DICHLOROENZENE		ND	20	ND	20	ND	20
1,1-DICHLOROETHANE		170	20	ND	20	160	20
1,2-DICHLOROETHANE		ND	20	ND	20	ND	20
1,1-DICHLOROETHENE		ND	20	ND	20	ND	20
CIS-1,2-DICHLOROETHENE		ND	20	ND	20	ND	20
TRANS-1,2-DICHLOROETHENE		ND	20	ND	20	ND	20
1,2-DICHLOROPROPANE		ND	20	ND	20	ND	20
CIS-1,3-DICHLOROPROPENE		ND	20	ND	20	ND	20
TRANS-1,3-DICHLOROPROPENE		ND	20	ND	20	ND	20
METHYLENE CHLORIDE		ND	20	ND	20	ND	20
1,1,2,2-TETRACHLOROETHANE		ND	20	ND	20	ND	20
TETRACHLOROETHENE		ND	20	ND	20	ND	20
1,1,1-TRICHLOROETHANE		ND	20	ND	20	ND	20
1,1,2-TRICHLOROETHANE		ND	20	ND	20	ND	20
TRICHLOROETHENE		220	20	ND	20	200	20
TRICHLOROFLUOROMETHANE		ND	40	ND	40	ND	40
VINYL CHLORIDE		ND	40	ND	40	ND	40



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 4

LABORATORY RESULTS

Laboratory Job No.: 915360

COMPOUNDS:	LAB#	37320	DET.
	SMP#	MSD	LIM.
	dil.	40	
PURGEABLES		ug/kg	
BROMODICHLOROMETHANE		ND	20
BROMOFORM		ND	20
BROMOMETHANE		ND	40
CARBON TETRACHLORIDE		ND	20
CHLOROBENZENE		ND	20
CHLOROETHANE		ND	40
CHLOROFORM		ND	20
CHLOROMETHANE		ND	40
DIBROMOCHLOROMETHANE		ND	20
1,4-DICHLOROBENZENE		ND	20
1,3-DICHLOROBENZENE		200	20
1,2-DICHLOROBENZENE		ND	20
1,1-DICHLOROETHANE		160	20
1,2-DICHLOROETHANE		ND	20
1,1-DICHLOROETHENE		ND	20
CIS-1,2-DICHLOROETHENE		ND	20
TRANS-1,2-DICHLOROETHENE		ND	20
1,2-DICHLOROPROPANE		ND	20
CIS-1,3-DICHLOROPROPENE		ND	20
TRANS-1,3-DICHLOROPROPENE		ND	20
METHYLENE CHLORIDE		ND	20
1,1,2,2-TETRACHLOROETHANE		ND	20
TETRACHLOROETHENE		ND	20
1,1,1-TRICHLOROETHANE		ND	20
1,1,2-TRICHLOROETHANE		ND	20
TRICHLOROETHENE		220	20
TRICHLOROFLUOROMETHANE		ND	40
VINYL CHLORIDE		ND	40

NOTE: MBS, MS AND MSD WERE SPIKED AT 200 ug/kg.



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 5

LABORATORY RESULTS

Date Collected: 10/09/91
 Date Extracted: 10/17/91
 Date Analyzed: 10/19/91

Laboratory Job No.: 915360
 Date Received: 10/11/91
 Date Reported: 10/25/91

ASSAY:
 PURGEABLE AROMATICS IN SOIL (EPA 8020)

COMPOUNDS:	LAB#	37314 DET.	37315 DET.	37316 DET.	37317 DE'
	SMP#	LP-2-4 LIM.	LP-2-6 LIM.	MB LIM.	MBS LI
	dil.	40	40	40	40
PURGEABLES		ug/kg	ug/kg	ug/kg	ug/kg
BENZENE		ND 20	ND 20	ND 20	180 20
CHLOROBENZENE		ND 20	ND 20	ND 20	220 20
1,2-DICHLOROBENZENE		ND 20	ND 20	ND 20	180 20
1,3-DICHLOROBENZENE		ND 20	ND 20	ND 20	ND 20
1,4-DICHLOROBENZENE		ND 20	ND 20	ND 20	ND 20
ETHYL BENZENE		ND 20	ND 20	ND 20	ND 20
TOLUENE		28 20	45 20	ND 20	ND 20
XYLENE		ND 20	ND 20	ND 20	ND 20

COMPOUNDS:	LAB#	37318 DET.	37319 DET.	37320 DET.
	SMP#	MX LIM.	MS LIM.	MSD LIM.
	dil.	40	40	40
PURGEABLES		ug/kg	ug/kg	ug/kg
BENZENE		ND 20	170 20	160 20
CHLOROBENZENE		ND 20	200 20	190 20
1,2-DICHLOROBENZENE		ND 20	170 20	150 20
1,3-DICHLOROBENZENE		ND 20	ND 20	ND 20
1,4-DICHLOROBENZENE		ND 20	ND 20	ND 20
ETHYL BENZENE		ND 20	ND 20	ND 20
TOLUENE		ND 20	ND 20	ND 20
XYLENE		ND 20	ND 20	ND 20

NOTES: (1) MBS, MS AND MSD WERE SPIKED AT 200 ug/kg.

(2) THE ELECTRICAL TAPE USED ON SAMPLES IN FIELD MAY BE A SOURCE OF TOLUENE.

(3) THE BLANK (MB) HAS AN ESTIMATED VALUE OF TOLUENE AT 16 ug/kg, WHICH IS BELOW THE DETECTION LIMIT.



91-5953

3700 Lakeville Highway, Petaluma, CA 94952
P.O. Box 808024, Petaluma, CA. 94978-8024
Telephone: (707) 763-8245 FAX: (707) 763-4065

SAMPLE CHAIN OF CUSTODY / WORK ORDER

Client's Name DAMES & MOORE Phone 716-387-8800
Address 8801 PASON BLVD, SUITE 200
City, State, Zip SACRAMENTO, CA 95826

Client's or Representative's Signature [Signature]
(signature authorizes the work and terms listed below)

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pick up samples.

PROJ. NO.		PROJECT NAME										REMARKS		LAB USE OF LAB N	
		<u>UPR - SACTO</u>													
		<u>00173-264-044-58XX</u>													
SAMPLERS (Signature)						NO. OF CON-TAINERS									
<u>[Signature]</u>															
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION										
	<u>11/26/91</u>				<u>LT2</u>	<u>1</u>									
	<u>1310</u>				<u>LT4 - 11/26 - 2</u>	<u>1</u>	<u>X</u>	<u>X</u>							
	<u>1320</u>				<u>LT4 - 11/26 - 3</u>	<u>1</u>	<u>X</u>	<u>X</u>							
	<u>1330</u>				<u>LT4 - 11/26 - 4</u>	<u>1</u>	<u>X</u>	<u>X</u>							
	<u>1340</u>				<u>LT4 - 11/26 - 5</u>	<u>1</u>	<u>X</u>	<u>X</u>							
	<u>1400</u>				<u>LT1 - 11/26 - 2</u>	<u>1</u>	<u>X</u>	<u>X</u>							
	<u>1410</u>				<u>LT1 - 11/26 - 3</u>	<u>1</u>	<u>X</u>	<u>X</u>							
	<u>1420</u>				<u>LT1 - 11/26 - 4</u>	<u>1</u>	<u>X</u>	<u>X</u>							
	<u>1430</u>				<u>LT1 - 11/26 - 5</u>	<u>1</u>	<u>X</u>	<u>X</u>							
	<u>1450</u>				<u>LT2 - 11/26 - 2</u>	<u>1</u>	<u>X</u>	<u>X</u>							
	<u>1500</u>				<u>LT2 - 11/26 - 3</u>	<u>1</u>	<u>X</u>	<u>X</u>							
	<u>1510</u>				<u>LT2 - 11/26 - 4</u>	<u>1</u>	<u>X</u>	<u>X</u>							
	<u>1520</u>				<u>LT2 - 11/26 - 5</u>	<u>1</u>	<u>X</u>	<u>X</u>							

REMARKS: 91 NOV 27 AM 10:53

LAB USE OF LAB N

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	General Remarks:
<u>[Signature]</u>	<u>11/26/91</u>	<u>5pm</u>	<u>[Signature]</u>	<u>11-27-91</u>
				<u>10:53 A.M.</u>



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Tim Parker
 Dames & Moore
 8801 Folsom Blvd., Suite 200
 Sacramento, CA 95826

Client Code: DAMM7
 Survey # UPRR-SACTO.
 Project/Release #
 00173-064-044-58XX

REVISED REPORT - 01/16/92

Page 1

L A B O R A T O R Y R E S U L T S

Date Collected: 11/26/91
 Date Extracted: 12/05/91
 Date Analyzed: 12/05/91

Laboratory Job No.: 915953
 Date Received: 11/27/91
 Date Reported: 12/16/91

ASSAY:
 PURGEABLES IN SOIL (EPA 5030/8010)

COMPOUNDS:	LAB#	42690	DET.	42691	DET.
	SMP#	LT4-11/26-2	LIM.	LT4-11/26-3	LIM.
	dil.	1		1	
PURGEABLES		ug/kg		ug/kg	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50
CIS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
TRANS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	0.50	ND	0.50
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50

THIS REPORT HAS BEEN REVIEWED
 AND APPROVED FOR RELEASE.

DU



3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

Page 2

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 915953

COMPOUNDS:	LAB#	42690	DET.	42691	DET.
	SMP#	LT4-11/26-2	LIM.	LT4-11/26-3	LIM.
	dil.	1		1	
PURGEABLES		ug/kg		ug/kg	
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 3

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 915953

COMPOUNDS:	LAB#	42692	DET.	42693	DET.
	SMP#	LT4-11/26-4	LIM.	LT4-11/26-5	LIM.
	dil.	1		1	
PURGEABLES		ug/kg		ug/kg	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50
CIS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
TRANS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
METHYLENE CHLORIDE		3.3	0.50	3.1	0.50
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 4

LABORATORY RESULTS

Laboratory Job No.: 915953

COMPOUNDS:	LAB#	42694	DET.	42695	DET.
	SMP#	LT1-11/26-2	LIM.	LT1-11/26-3	LIM.
	dil.	1		1	
PURGEABLES		ug/kg		ug/kg	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50
CIS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
TRANS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
METHYLENE CHLORIDE		4.8	0.50	5.0	0.50
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 5

LABORATORY RESULTS

Laboratory Job No.: 915953

COMPOUNDS:	LAB#	42696	DET.	42697	DET.
	SMP#	LT1-11/26-4	LIM.	LT1-11/26-5	LIM.
	dil.	1		1	
PURGEABLES		ug/kg		ug/kg	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50
CIS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
TRANS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	0.50	ND	0.50
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 6

LABORATORY RESULTS

Laboratory Job No.: 915953

COMPOUNDS:	LAB#	42698	DET.	42699	DET.
	SMP#	LT2-11/26-2	LIM.	LT2-11/26-3	LIM.
	dil.	1		1	
PURGEABLES		ug/kg		ug/kg	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50
CIS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
TRANS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
METHYLENE CHLORIDE		2.5	0.50	3.5	0.50
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 7

LABORATORY RESULTS

Laboratory Job No.: 915953

COMPOUNDS:	LAB#	42700	DET.	42701	DET.
	SMP#	LT2-11/26-4	LIM.	LT2-11/26-5	LIM.
	dil.	1		1	
PURGEABLES		ug/kg		ug/kg	
BROMODICHLOROMETHANE	ND	0.50	ND	0.50	
BROMOFORM	ND	0.50	ND	0.50	
BROMOMETHANE	ND	1.0	ND	1.0	
CARBON TETRACHLORIDE	ND	0.50	ND	0.50	
CHLOROBENZENE	ND	0.50	ND	0.50	
CHLOROETHANE	ND	1.0	ND	1.0	
CHLOROFORM	ND	0.50	ND	0.50	
CHLOROMETHANE	ND	1.0	ND	1.0	
DIBROMOCHLOROMETHANE	ND	0.50	ND	0.50	
1,4-DICHLOROBENZENE	ND	0.50	ND	0.50	
1,3-DICHLOROBENZENE	ND	0.50	ND	0.50	
1,2-DICHLOROBENZENE	ND	0.50	ND	0.50	
1,1-DICHLOROETHANE	ND	0.50	ND	0.50	
1,2-DICHLOROETHANE	ND	0.50	ND	0.50	
1,1-DICHLOROETHENE	ND	0.50	ND	0.50	
CIS-1,2-DICHLOROETHENE	ND	0.50	ND	0.50	
TRANS-1,2-DICHLOROETHENE	ND	0.50	ND	0.50	
1,2-DICHLOROPROPANE	ND	0.50	ND	0.50	
CIS-1,3-DICHLOROPROPENE	ND	0.50	ND	0.50	
TRANS-1,3-DICHLOROPROPENE	ND	0.50	ND	0.50	
METHYLENE CHLORIDE	3.0	0.50	3.4	0.50	
1,1,2,2-TETRACHLOROETHANE	ND	0.50	ND	0.50	
TETRACHLOROETHENE	ND	0.50	ND	0.50	
1,1,1-TRICHLOROETHANE	ND	0.50	ND	0.50	
1,1,2-TRICHLOROETHANE	ND	0.50	ND	0.50	
TRICHLOROETHENE	ND	0.50	ND	0.50	
TRICHLOROFLUOROMETHANE	ND	1.0	ND	1.0	
VINYL CHLORIDE	ND	1.0	ND	1.0	



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 8

LABORATORY RESULTS

Laboratory Job No.: 915953

COMPOUNDS:	LAB#	42702	DET.	42703	DET.	42704	DET.
	SMP#	MB	LIM.	MBS	LIM.	MX	LIM.
	dil.	1		1		1	
PURGEABLES		ug/kg		ug/kg		ug/kg	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	8.1	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	9.5	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	8.7	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	9.4	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
CIS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	0.50	5.8	0.50	5.0	0.50
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	9.0	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 9

LABORATORY RESULTS

Laboratory Job No.: 915953

COMPOUNDS:	LAB#	42705	DET.	42706	DET.
	SMP#	MS	LIM.	MSD	LIM.
	dil.	1		1	
PURGEABLES		ug/kg		ug/kg	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50
CHLOROBENZENE		45	0.50	41	0.50
CHLOROETHANE		ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		47	0.50	42	0.50
1,2-DICHLOROBENZENE		53	0.50	41	0.50
1,1-DICHLOROETHANE		54	0.50	48	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50
CIS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
TRANS-1,2-DICHLOROETHENE		ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
METHYLENE CHLORIDE		32	0.50	34	0.50
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50
TRICHLOROETHENE		57	0.50	56	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0

NOTES: MBS WAS SPIKED AT 9.6 ug/L. MS AND MSD WERE SPIKED AT 48 ug/kg.
 SPIKING COMPOUNDS ARE: CHLOROBENZENE, 1,3- and 1,2-DICHLOROBENZENE,
 1,1-DICHLOROETHANE AND TRICHLOROETHENE.

THERE IS A STRONG INDICATION THAT THE PRESENCE OF METHYLENE CHLORIDE
 IN SAMPLES IS DUE TO LABORATORY CONTAMINATION.



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 10

L A B O R A T O R Y R E S U L T S

Date Collected: 11/26/91
 Date Extracted: 12/05/91
 Date Analyzed: 12/05/91

Laboratory Job No.: 915953
 Date Received: 11/27/91
 Date Reported: 12/16/91

ASSAY:
 PURGEABLE AROMATICS IN SOIL (EPA 8020)

COMPOUNDS:	LAB#	42690 DET.		42691 DET.	
		SMP#	LIM.	SMP#	LIM.
	dil.	1		1	
PURGEABLES		ug/kg		ug/kg	
BENZENE		ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50
TOLUENE		140	0.50	100	0.50
XYLENE		ND	0.50	ND	0.50

COMPOUNDS:	LAB#	42692 DET.		42693 DET.	
		SMP#	LIM.	SMP#	LIM.
	dil.	2		5	
PURGEABLES		ug/kg		ug/kg	
BENZENE		ND	1.0	ND	2.5
CHLOROBENZENE		ND	1.0	ND	2.5
1,2-DICHLOROBENZENE		ND	1.0	ND	2.5
1,3-DICHLOROBENZENE		ND	1.0	ND	2.5
1,4-DICHLOROBENZENE		ND	1.0	ND	2.5
ETHYL BENZENE		ND	1.0	ND	2.5
TOLUENE		530	1.0	820	2.5
XYLENE		ND	1.0	ND	2.5



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 11

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 915953

COMPOUNDS:	LAB#	42694	DET.	42695	DET.
SMP#	LT1-11/26-2	LIM.	LT1-11/26-3	LIM.	
dil.		5		1	
PURGEABLES		ug/kg		ug/kg	
BENZENE		ND	2.5	ND	0.50
CHLOROBENZENE		ND	2.5	ND	0.50
1,2-DICHLOROBENZENE		ND	2.5	ND	0.50
1,3-DICHLOROBENZENE		ND	2.5	ND	0.50
1,4-DICHLOROBENZENE		ND	2.5	ND	0.50
ETHYL BENZENE		ND	2.5	ND	0.50
TOLUENE		830	2.5	150	0.50
XYLENE		ND	2.5	ND	0.50

COMPOUNDS:	LAB#	42696	DET.	42697	DET.
SMP#	LT1-11/26-4	LIM.	LT1-11/26-5	LIM.	
dil.		1		1	
PURGEABLES		ug/kg		ug/kg	
BENZENE		ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50
TOLUENE		16	0.50	47	0.50
XYLENE		ND	0.50	ND	0.50



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 12

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 915953

COMPOUNDS:	LAB#	42698	DET.	42699	DET.
	SMP#	LT2-11/26-2	LIM.	LT2-11/26-3	LIM.
	dil.	1		1	
PURGEABLES		ug/kg		ug/kg	
BENZENE		ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50

COMPOUNDS:	LAB#	42700	DET.	42701	DET.	42702	DET.
	SMP#	LT2-11/26-4	LIM.	LT2-11/26-5	LIM.	MB	LIM.
	dil.	1		1		1	
PURGEABLES		ug/kg		ug/kg		ug/kg	
BENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 13

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 915953

COMPOUNDS:	LAB#	42703	DET.	42704	DET.	42705	DET.	42706	DET.
	SMP#	MBS	LIM.	MX	LIM.	MS	LIM.	MSD	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/kg		ug/kg		ug/kg	
BENZENE		8.2	0.50	ND	0.50	52	0.50	49	0.50
CHLOROBENZENE		8.8	0.50	ND	0.50	51	0.50	48	0.50
1,2-DICHLOROBENZENE		8.6	0.50	ND	0.50	48	0.50	46	0.50
1,3-DICHLOROBENZENE		9.7	0.50	ND	0.50	47	0.50	43	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	150	0.50	110	0.50	110	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

NOTES: MBS WAS SPIKED AT 9.6 ug/L. MS AND MSD WERE SPIKED AT 48 ug/kg.
 SPIKING COMPOUNDS ARE: CHLOROBENZENE, 1,2- and 1,3-DICHLOROBENZENE,
 AND BENZENE.

NOTES: THE ELECTRICAL TAPE USED ON THE SAMPLES IN FIELD MAY BE A SOURCE OF
 TOLUENE.



Superior Precision Analytical, Inc.

335 Arnold Drive, Suite 106 • Martinez, California 94553 • (510) 229-0166 / fax (510) 229-0916

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 20299
CLIENT: DAMES & MOORE
CLIENT JOB NO.: UPRR-SACTO

DATE RECEIVED: 11/26/91
DATE REPORTED: 12/04/91

EPA SW-846 METHOD 8020 AROMATIC VOLATILE ORGANICS

LAB #: 1
SAMPLE: LT4-11/26-1

Analyte -----	MDL (ug/Kg) -----	(ug/Kg) -----
Benzene	3	ND
Toluene	3	84
Ethyl Benzene	3	ND
Chlorobenzene	3	ND
1,4-dichlorobenzene	3	ND
1,3-dichlorobenzene	3	ND
1,2-dichlorobenzene	3	ND
Xylenes	3	ND

* SAMPLE TUBES WERE WRAPPED WITH ELECTRICAL TAPE , WHICH IS KNOWN TO CONTAIN LEVELS OF TOLUENE.

Method Detection Limit in Soil: 3 ug/kg

QAQC Summary:

Daily Standard run at 20mg/L: RPD = <15%
MS/MSD Average Recovery =97%: Duplicate RPD =<19

Richard Srna, Ph.D.

Garnett Nelson for
Laboratory Manager



Superior Precision Analytical, Inc.

635 Arnold Drive, Suite 106 • Martinez, California 94553 • (510) 229-0166 / fax (510) 229-0916

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 20299
CLIENT: DAMES & MOORE
CLIENT JOB NO.: UPRR-SACTO

DATE RECEIVED: 11/26/91
DATE REPORTED: 12/04/91

EPA SW-846 METHOD 8020
AROMATIC VOLATILE ORGANICS

LAB #: 2
SAMPLE: LT1-11/26-1

<u>Analyte</u>	<u>MDL (ug/Kg)</u>	<u>(ug/Kg)</u>
Benzene	3	ND
Toluene	3	400
Ethyl Benzene	3	ND
Chlorobenzene	3	ND
1,4-dichlorobenzene	3	ND
1,3-dichlorobenzene	3	ND
1,2-dichlorobenzene	3	ND
Xylenes	3	ND

* SAMPLE TUBES WERE WRAPPED WITH ELECTRICAL TAPE, WHICH IS KNOWN TO CONTAIN LEVELS OF TOLUENE.

Method Detection Limit in Soil: 3 ug/kg

QAQC Summary:

Daily Standard run at 20mg/L: RPD = <15%
MS/MSD Average Recovery =97 %: Duplicate RPD = <19

Richard Srna, Ph.D.

Nancy A. Nelson
Laboratory Manager



Superior Precision Analytical, Inc.

335 Arnold Drive, Suite 106 • Martinez, California 94553 • (510) 229-0166 / fax (510) 229-0916

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 20299
CLIENT: DAMES & MOORE
CLIENT JOB NO.: UPRR-SACTO

DATE RECEIVED: 11/26/91
DATE REPORTED: 12/04/91

EPA SW-846 METHOD 8020 AROMATIC VOLATILE ORGANICS

LAB #: 3
SAMPLE: LT2-11/26-1

<u>Analyte</u>	<u>MDL (ug/Kg)</u>	<u>(ug/Kg)</u>
Benzene	3	ND
Toluene	3	31
Ethyl Benzene	3	ND
Chlorobenzene	3	ND
1,4-dichlorobenzene	3	ND
1,3-dichlorobenzene	3	ND
1,2-dichlorobenzene	3	ND
Xylenes	3	ND

* SAMPLE TUBES WERE WRAPPED WITH ELECTRICAL TAPE, WHICH IS KNOWN TO CONTAIN LEVELS OF TOLUENE.

Method Detection Limit in Soil: 3 ug/kg

QAQC Summary:

Daily Standard run at 20mg/L: RPD = <15%
MS/MSD Average Recovery =97: Duplicate RPD =<19

Richard Srna, Ph.D.

Nancy A. Nelson
Laboratory Manager



Superior Precision Analytical, Inc.

335 Arnold Drive, Suite 106 • Martinez, California 94553 • (510) 229-0166 / fax (510) 229-0916

CERTIFICATE OF ANALYSIS

LABORATORY NO: 20299
CLIENT: Dames & Moore
JOB NO: UPRR-SACTO

DATE SAMPLED: 11/26/91
DATE RECEIVED: 11/26/91
DATE REPORTED: 12/04/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 1
SAMPLE: LT4-11/26-1

ANALYTE	MDL (ug/kg)	RESULT (ug/kg)
Chloromethane/Vinyl Chloride	10	ND
Bromomethane/Chloroethane	10	ND
Trichlorofluoromethane	5	ND
1,1-Dichloroethene	5	ND
Dichloromethane	5	ND
t-1,2-Dichloroethene	5	ND
1,1-Dichloroethane	5	ND
c-1,2-Dichloroethene	5	ND
Chloroform	5	ND
1,1,1-Trichloroethane	5	ND
Carbontetrachloride	5	ND
1,2-Dichloroethane	5	ND
Trichloroethene (TCE)	5	ND
1,2-Dichloropropane	5	ND
Bromodichloromethane	5	ND
2-Chloroethylvinylether	5	ND
c-1,3-Dichloropropene	5	ND
t-1,3-Dichloropropene	5	ND
1,1,2-Tetrachloroethane	5	ND
Tetrachloroethene (PCE)	5	ND
Dibromochloromethane	5	ND
Chlorobenzene	5	ND
Bromoform	5	ND
1,1,2,2-Tetrachloroethane	5	ND
1,3-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND
1,2-Dichlorobenzene	5	ND

MDL: Method Detection Limit
*Second Column confirmation available upon request.

QA/QC Summary: Soil Matrix
MS/MSD Average Recovery: 88%
MS/MSD %RPD: 8%


Senior Analyst



Superior Precision Analytical, Inc.

835 Arnold Drive, Suite 106 • Martinez, California 94553 • (510) 229-0166 / fax (510) 229-0916

CERTIFICATE OF ANALYSIS

LABORATORY NO: 20299
CLIENT: Dames & Moore
JOB NO: UPRR-SACTO

DATE SAMPLED: 11/26/91
DATE RECEIVED: 11/26/91
DATE REPORTED: 12/04/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 2
SAMPLE: LT1-11/26-1

ANALYTE	MDL (ug/kg)	RESULT (ug/kg)
Chloromethane/Vinyl Chloride	10	ND
Bromomethane/Chloroethane	10	ND
Trichlorofluoromethane	5	ND
1,1-Dichloroethene	5	ND
Dichloromethane	5	ND
t-1,2-Dichloroethene	5	ND
1,1-Dichloroethane	5	ND
c-1,2-Dichloroethene	5	ND
Chloroform	5	ND
1,1,1-Trichloroethane	5	ND
Carbontetrachloride	5	ND
1,2-Dichloroethane	5	ND
Trichloroethene (TCE)	5	ND
1,2-Dichloropropane	5	ND
Bromodichloromethane	5	ND
2-Chloroethylvinylether	5	ND
c-1,3-Dichloropropene	5	ND
t-1,3-Dichloropropene	5	ND
1,1,2-Tetrachloroethane	5	ND
Tetrachloroethene (PCE)	5	ND
Dibromochloromethane	5	ND
Chlorobenzene	5	ND
Bromoform	5	ND
1,1,2,2-Tetrachloroethane	5	ND
1,3-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND
1,2-Dichlorobenzene	5	ND

MDL: Method Detection Limit

*Second Column confirmation available upon request.

QA/QC Summary: Soil Matrix

MS/MSD Average Recovery: 88%

MS/MSD %RPD: 8%


Senior Analyst



Superior Precision Analytical, Inc.

335 Arnold Drive, Suite 106 • Martinez, California 94553 • (510) 229-0166 / fax (510) 229-0916

CERTIFICATE OF ANALYSIS

LABORATORY NO: 20299
CLIENT: Dames & Moore
JOB NO: UPRR-SACTO

DATE SAMPLED: 11/26/91
DATE RECEIVED: 11/26/91
DATE REPORTED: 12/04/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 3
SAMPLE: LT2-11/26-1

ANALYTE	MDL (ug/kg)	RESULT (ug/kg)
Chloromethane/Vinyl Chloride	10	ND
Bromomethane/Chloroethane	10	ND
Trichlorofluoromethane	5	ND
1,1-Dichloroethene	5	ND
Dichloromethane	5	ND
t-1,2-Dichloroethene	5	ND
1,1-Dichloroethane	5	ND
c-1,2-Dichloroethene	5	ND
Chloroform	5	ND
1,1,1-Trichloroethane	5	ND
Carbontetrachloride	5	ND
1,2-Dichloroethane	5	ND
Trichloroethene (TCE)	5	ND
1,2-Dichloropropane	5	ND
Bromodichloromethane	5	ND
2-Chloroethylvinylether	5	ND
c-1,3-Dichloropropene	5	ND
t-1,3-Dichloropropene	5	ND
1,1,2-Tetrachloroethane	5	ND
Tetrachloroethene (PCE)	5	ND
Dibromochloromethane	5	ND
Chlorobenzene	5	ND
Bromoform	5	ND
1,1,2,2-Tetrachloroethane	5	ND
1,3-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND
1,2-Dichlorobenzene	5	ND

MDL: Method Detection Limit

*Second Column confirmation available upon request.

QA/QC Summary: Soil Matrix
MS/MSD Average Recovery: 88%
MS/MSD %RPD: 8%


Senior Analyst



3700 Lakeville Highway, Petaluma, CA 94952
 P.O. Box 808024, Petaluma, CA. 94975-8024
 Telephone: (707) 763-8245 FAX: (707) 763-4065

91-4645

Gary Dickman

Ann

SAMPLE CHAIN OF CUSTODY / WORK ORDER

Client's Name Dames + Moore Phone (916) 397-8000
 Address 801 Folsom Blvd. #200
 City, State, Zip Sacramento, CA 95826

Client's or Representative's Signature Gary Dickman
 (signature authorizes the work and terms listed below)

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client i
 to pick up samples.

PROJ. NO.		PROJECT NAME				NO. OF CONTAINERS	REMARKS
C0173-064-044		UPRR SAC.					
SAMPLERS (Signature)							
<u>Gary Dickman</u>							
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION		LA USE LAB
SLI-1	8/27/01	14:20			SLI-1 032440	1	As, Pb by
SLI-2		14:35			SLI-2 032441	1	Graphite Furnace
SLI-3		14:45			SLI-3 032442	1	Cu, Zn Flux
SLI-4		20:00			SLI-4 032443	1	ICP ICP
SLI-5		20:15			SLI-5 032444	1	
					032445		
					032446		
					032447		
					032448		
					032449		

ICP Cu, Pb, As, Zn
 (5010, 7021, 2060, 6010)

RECEIVED
 D & M LABORATORIES
 1991 AUG 29 AM 10:04

Called 083091 / 1305 for
 V. mail (Tim Parker)

Relinquished by: (Signature) <u>Gary Dickman</u>	DATE 8/28/01	TIME 8:10	Received by: (Signature) <u>Ann Parker</u>
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)

General Remarks:
Send Results to Sac office.
Ann. Tim Parker
Please Return ice chest & Blue Ice

UPRR SAC



3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

Tim Parker
Dames & Moore
8801 Folsom Blvd., Suite 200
Sacramento, CA 95826

Client Code: DAMM7
Survey # UPRR SAC.
Project/Release # 00173-064-044

Page 1

L A B O R A T O R Y R E S U L T S

Date Collected: 08/27/91
Date Extracted: 09/05/91
Date Analyzed: 09/13/91

Laboratory Job No.: 914645
Date Received: 08/29/91
Date Reported: 09/16/91

ASSAY:
ARSENIC (EPA 7060)
LEAD (EPA 7421)

MATRIX: SOIL, TCLP EXTRACT

LABNO	SMPLNO	COMPOUND	FOUND mg/L	TCLP LEVEL	DET.LIM. mg/L
32440	SL1-1	AS	ND	5.0	0.05
32441	SL1-2	AS	ND	5.0	0.05
32442	SL1-3	AS	ND	5.0	0.05
32443	SL1-4	AS	0.10	5.0	0.05
32444	SL1-5	AS	0.10	5.0	0.05
32445	MB	AS	ND		0.05
32446	MBS	AS	0.28		0.05
32447	MX	AS	ND		0.05
32448	MS	AS	0.27		0.05
32449	MSD	AS	0.29		0.05

NOTE: MBS, MS AND MSD WERE SPIKED AT 0.25 mg/L.

THIS REPORT HAS BEEN REVIEWED
AND APPROVED FOR RELEASE.

DX



3700 Lakeville Highway, Petaluma, CA 94954
 P.O. Box 808024, Petaluma, CA 94975-8024
 Telephone: (707) 763-8245
 FAX (707) 763-4065

Page 2

LABORATORY RESULTS

Date Collected: 08/27/91
 Date Extracted: 09/05/91
 Date Analyzed: 09/11/91

Laboratory Job No.: 914645
 Date Received: 08/29/91
 Date Reported: 09/16/91

ASSAY: METAL SCAN BY ICP (EPA 6010)
 TCLP EXTRACT

LABNO	SMPLNO-ID	RESULTS	DET. LIM.
-----	-----	-----	-----
32440	SL1-1 SOIL		TCLP LEVELS
	CU	ND	0.050 mg/L
	PB	ND	0.15 mg/L
	ZN	0.17 mg/L	0.050 mg/L
32441	SL1-2 SOIL		TCLP LEVELS
	CU	ND	0.050 mg/L
	PB	ND	0.15 mg/L
	ZN	0.13 mg/L	0.050 mg/L
32442	SL1-3 SOIL		TCLP LEVELS
	CU	ND	0.050 mg/L
	PB	ND	0.15 mg/L
	ZN	0.521 mg/L	0.050 mg/L
32443	SL1-4 SOIL		TCLP LEVELS
	CU	0.080 mg/L	0.050 mg/L
	PB	0.68 mg/L	0.15 mg/L
	ZN	1.07 mg/L	0.050 mg/L
32444	SL1-5 SOIL		TCLP LEVELS
	CU	ND	0.050 mg/L
	PB	ND	0.15 mg/L
	ZN	0.47 mg/L	0.050 mg/L
32445	MB SOIL		
	CU	ND	0.050 mg/L
	PB	ND	0.15 mg/L
	ZN	ND	0.050 mg/L



3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

Page 3

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 914645

LABNO SMPLNO-ID	RESULTS		DET. LIM.
-----	-----		-----
32446 MBS SOIL		SPIKE LEVELS	
CU	0.516 mg/L	0.5 mg/L	0.050 mg/L
PB	1.00 mg/L	1.0 mg/L	0.15 mg/L
ZN	0.49 mg/L	0.5 mg/L	0.050 mg/L
32447 MX SOIL			
CU	0.080 mg/L		0.050 mg/L
PB	0.68 mg/L		0.15 mg/L
ZN	1.07 mg/L		0.050 mg/L
32448 MS SOIL		SPIKE LEVELS	
CU	0.608 mg/L	0.5 mg/L	0.050 mg/L
PB	1.58 mg/L	1.0 mg/L	0.15 mg/L
ZN	1.50 mg/L	0.5 mg/L	0.050 mg/L
32449 MSD SOIL		SPIKE LEVELS	
CU	0.600 mg/L	0.5 mg/L	0.050 mg/L
PB	1.60 mg/L	1.0 mg/L	0.15 mg/L
ZN	1.55 mg/L	0.5 mg/L	0.050 mg/L

ND=Not Detected

X 24 hours RUSH X
CHAIN OF CUSTODY RECORD

JOB NO. 00173-664-04

GENERATOR INFORMATION

91-10-107

SAMPLE INFORMATION

Facility VACANT LOT No. F-71 DEPTH 10 TYPE SOIL DATE 10/10/91 TIME 12 NOON
Address 102-33 SYSTEMS PKWY
SACRAMENTO
Telephone () 386-8177

ATTN: TAMARA
Run for TITLE 22
CCR - 17 metals
24 hr turnaround

COLLECTOR INFORMATION

Collected by TOM CHERRIX
USPCI, INC.
Address 731-M NORTH MARKET BLVD.
SACRAMENTO, CA 95834
Telephone (916) 921-2202

Analyses AS, Se - AA
Hg - CV
all other metals
by ICP

Suspected Waste Constituents NONE

Field Conditions/Remarks SAMPLE OF CLEAN APPEARING
STOCKPILED SOIL

SAMPLE ALLOCATION

Name EUREKA LABS sample received intact
Address _____ sample received damaged or missing
(describe on back)
Telephone () _____
(Signature) _____ (Date) _____

CHAIN OF POSSESSION

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
<u>Tom Cherrix</u>	<u>10/10/91</u>	<u>11:00pm</u>	<u>Tom Park</u>	<u>10/10/91</u>	<u>1:00pm</u>
<u>Tom Park</u>	<u>10/14/91</u>	<u>14:15</u>	<u>Tom Park</u>		
			<u>B2/EK</u>	<u>10/14/91</u>	<u>14:15</u>

Distribution

White-w/shipment-for consignee files
Blue-w/shipment-forward to Dames & Moore
Pink-with report
Goldenrod-Dames & Moore - Job File
Attn: TIM PARKER 211 207 7557 207 287
Dames & Moore



EUREKA LABORATORIES, INC.

Corporate Office:
6790 FLORIN PERKINS ROAD
SACRAMENTO, CA 95828
TEL: (916) 381-7953
FAX: (916) 381-4013

Branch Office:
17403 N.E. 28th STREET
REDMOND, WA 90852
TEL: (206) 885-0284
FAX: (206) 885-0284
October 16, 1991

Air Pollution
Chemical Analysis.
Research & Testing
Environmental Studies
Robotics
Toxicology

Mr. Timothy Parker
DAMES & MOORE
8801 Folsom Blvd. Suite #200
Sacramento, CA 95826

Reference: Job #: 00173-064-044
ELI Order No.: 91-10-107

Dear Mr. Parker:

Eureka Laboratories, Inc. is pleased to submit a laboratory report for the subject project. This report presents analytical results for four (4) soil samples -EMERGENCY SERVICE- for the following analyses:

<u>ANALYSIS</u>	<u>METHOD</u>	<u>SAMPLE ID.</u>
Arsenic	EPA 7060	IMPORT SOIL-1, 2206-20C, LP-1-7C, LP-1-8C
Lead	EPA 7421	2206-20C, LP-1-7C, LP-1-8C
Selenium	EPA 7740	IMPORT SOIL-1
Mercury	EPA 7471	same as above
TTLIC/CAM Metals	EPA 6010	same as above

Sincerely,
EUREKA LABORATORIES, INC.

By: Shao-Pin Yo
Shao-Pin Yo, Ph.D.
Laboratory Director

SPY/hft
Attachment

ARSENIC
EPA METHOD 7060

COPY

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-10-107
Hazardous Waste Testing
Certification: E765

CLIENT: DAMES & MOORE
JOB #: 00173-064-044

DATE SAMPLED: 10/10/1991
DATE RECEIVED: 10/14/1991
DATE EXTRACTED: 10/14/1991
DATE ANALYZED: 10/15/1991
INSTRUMENT ID: V400
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 1 g
DILUTION FACTOR: 100

<u>ELI SAMPLE ID</u>	<u>CLIENT SAMPLE ID</u>	<u>UNITS [mg/Kg (ppm)]</u>
9110107-01A	IMPORT SOIL-1	2.6
9110107-02A	2206-20C	1.7
9110107-03A	LP-1-7C	2.2
9110107-04A	LP-1-8C	2.2
9110107-05A	METHOD BLANK	<0.4
DETECTION LIMIT [mg/Kg (ppm)]:		0.4
9110107-09A	REAGENT SPIKE RECOVERY	95% *
9110107-10A	REAGENT SPIKE RECOVERY DUPLICATE	99% *

* Reagent spike set is used due to matrix interference.

Robert M. Campi for
Benjamin Mendoza
Chemist

October 16, 1991
Date

SELENIUM
EPA METHOD 7740

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-10-107
Hazardous Waste Testing
Certification: E765

CLIENT: DAMES & MOORE
JOB #: 00173-064-044

DATE SAMPLED: 10/10/1991
DATE RECEIVED: 10/14/1991
DATE EXTRACTED: 10/14/1991
DATE ANALYZED: 10/15/1991
INSTRUMENT ID: V400
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 1 g
DILUTION FACTOR: 100

<u>ELI SAMPLE ID</u>	<u>CLIENT SAMPLE ID</u>	<u>CONCENTRATION</u> <u>[mg/Kg (ppm)]</u>
9110107-01A	IMPORT SOIL-1	<0.3
9110107-05A	METHOD BLANK	<0.3
DETECTION LIMIT [mg/Kg (ppm)]:		0.3
9110107-09A	REAGENT SPIKE RECOVERY	116% *
9110107-10A	REAGENT SPIKE RECOVERY DUPLICATE	111% *

* Reagent spike set is used due to matrix interference.

Robert M. Cimpri for
Benjamin Mendoza
Chemist

October 16, 1991
Date

LEAD
EPA METHOD 7421

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-10-107
Hazardous Waste Testing
Certification: E765

CLIENT: DAMES & MOORE
JOB #: 00173-064-044

DATE SAMPLED: 10/10/1991
DATE RECEIVED: 10/14/1991
DATE EXTRACTED: 10/14/1991
DATE ANALYZED: 10/15/1991
INSTRUMENT ID: V400
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 1 g
DILUTION FACTOR: 100

<u>ELI SAMPLE ID</u>	<u>CLIENT SAMPLE ID</u>	<u>UNITS [mg/Kg (ppm)]</u>	<u>D/L</u>
9110107-02A	2206-20C	5.4	0.6 *
9110107-03A	LP-1-7C	4.9	0.6 *
9110107-04A	LP-1-8C	11.3	1.5 *
9110107-05A	METHOD BLANK	<0.3	0.3
9110107-09A	REAGENT SPIKE RECOVERY	94% **	
9110107-10A	REAGENT SPIKE RECOVERY DUPLICATE	94% **	

* Higher detection limit is due to high analyte concentration.

** Reagent spike set is used due to matrix interference.

Robert M. Cenci for October 16, 1991
Benjamin Mendoza Date
Chemist

MERCURY
EPA METHOD 7471

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-10-107
Hazardous Waste Testing
Certification: E765

CLIENT: DAMES & MOORE
JOB #: 00173-064-044

DATE SAMPLED: 10/10/1991
DATE RECEIVED: 10/14/1991
DATE EXTRACTED: 10/15/1991
DATE ANALYZED: 10/15/1991
INSTRUMENT ID: V30
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 0.2 g
DILUTION FACTOR: 500

<u>ELI SAMPLE ID</u>	<u>CLIENT SAMPLE ID</u>	<u>CONCENTRATION</u> <u>[mg/Kg (ppm)]</u>
9110107-01A	IMPORT SOIL-1	0.1
9110107-05A	METHOD BLANK	<0.1
DETECTION LIMIT [mg/Kg (ppm)]:		0.1
9110107-07A	IMPORT SOIL-1 MATRIX SPIKE RECOVERY	86%
9110107-08A	IMPORT SOIL-1 MATRIX SPIKE RECOVERY	83%
	DUPLICATE	

Robert M. Campi for
Benjamin Mendoza
Chemist

October 16, 1991
Date

TTLIC/CAM METALS
EPA Method 6010

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-10-107
Hazardous Waste Testing
Certification: E765

CLIENT: DAMES & MOORE
JOB #: 00173-064-044
ELI SAMPLE ID: 9110107-05A
SAMPLE ID: METHOD BLANK

DATE SAMPLED: NA
DATE RECEIVED: 10/14/1991
DATE EXTRACTED: 10/14/1991
DATE ANALYZED: 10/15/1991
INSTRUMENT ID: ICAP 9000
MATRIX: NA
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: NA
DILUTION FACTOR: NA

<u>METALS</u>	<u>RESULT</u> <u>[mg/Kg (ppm)]</u>	<u>DETECTION LIMIT</u> <u>[mg/Kg (ppm)]</u>
Silver	<0.5	0.5
Barium	<0.5	0.5
Beryllium	<0.5	0.5
Cadmium	<1.0	1.0
Cobalt	<1.0	1.0
Chromium	<0.5	0.5
Copper	<0.5	0.5
Molybdenum	<1.0	1.0
Nickel	<2.0	2.0
Lead	<3.0	3.0
Antimony	<3.0	3.0
Thallium	<5.0	5.0
Vanadium	<0.5	0.5
Zinc	<0.5	0.5

Robert M. Ciampi
Robert Ciampi
Chemist

October 16, 1991
Date

TTLIC/CAM METALS
EPA Method 6010

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-10-107
Hazardous Waste Testing
Certification: E765

CLIENT: DAMES & MOORE
JOB #: 00173-064-044
ELI SAMPLE ID: 9110107-01A
SAMPLE ID: IMPORT SOIL-1

DATE SAMPLED: 10/10/1991
DATE RECEIVED: 10/14/1991
DATE EXTRACTED: 10/14/1991
DATE ANALYZED: 10/15/1991
INSTRUMENT ID: ICAP 9000
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 1 g
DILUTION FACTOR: 100

<u>METALS</u>	<u>RESULT</u> <u>[mg/Kg (ppm)]</u>	<u>DETECTION LIMIT</u> <u>[mg/Kg (ppm)]</u>
Silver	<0.5	0.5
Barium	163.0	0.5
Beryllium	0.8	0.5
Cadmium	<1.0	1.0
Cobalt	16.6	1.0
Chromium	37.3	0.5
Copper	45.9	0.5
Molybdenum	<1.0	1.0
Nickel	33.5	2.0
Lead	11.9	3.0
Antimony	<3.0	3.0
Thallium	82.5	5.0
Vanadium	65.5	0.5
Zinc	63.6	0.5

The determinations of Thallium by methods 6010 or 200.7 are subjected to many interferences. For more accurate determinations for the above metal, Atomic Absorption Spectrometric methods are recommended. ICP may be used for scanning or for reference purposes for this metal only.

Robert M. Ciampi
Robert Ciampi
Chemist

October 16, 1991
Date

TTL/CAM METALS
EPA Method 6010

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-10-107
Hazardous Waste Testing
Certification: E765

CLIENT: DAMES & MOORE
JOB #: 00173-064-044
ELI SAMPLE ID: 9110107-07A
SAMPLE ID: MATRIX SPIKE RECOVERY *

DATE SAMPLED: NA
DATE RECEIVED: 10/14/1991
DATE EXTRACTED: 10/14/1991
DATE ANALYZED: 10/15/1991
INSTRUMENT ID: ICAP 9000
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 1 g
DILUTION FACTOR: 100

<u>COMPOUND</u>	<u>SPIKE RECOVERY</u>
Silver	80%
Barium	88%
Beryllium	92%
Cadmium	83%
Cobalt	85%
Chromium	86%
Copper	100% **
Molybdenum	90%
Nickel	81%
Lead	77%
Antimony	103%
Thallium	83%
Vanadium	86%
Zinc	97%

* This set of matrix spike is from another sample of the same matrix and of the same analytical batch.

** Reagent spike set is used due to matrix interference.

Robert M. Ciampi
Robert Ciampi
Chemist

October 16, 1991
Date

TTL/CAM METALS
EPA Method 6010

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-10-107
Hazardous Waste Testing
Certification: E765

CLIENT: DAMES & MOORE
JOB #: 00173-064-044
ELI SAMPLE ID: 9110107-08A
SAMPLE ID: MATRIX SPIKE RECOVERY *
DUPLICATE

DATE SAMPLED: NA
DATE RECEIVED: 10/14/1991
DATE EXTRACTED: 10/14/1991
DATE ANALYZED: 10/15/1991
INSTRUMENT ID: ICAP 9000
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 1 g
DILUTION FACTOR: 100

<u>COMPOUND</u>	<u>SPIKE RECOVERY</u>
Silver	82%
Barium	116%
Beryllium	95%
Cadmium	86%
Cobalt	91%
Chromium	98%
Copper	99% **
Molybdenum	91%
Nickel	102%
Lead	92%
Antimony	104%
Thallium	118%
Vanadium	101%
Zinc	98%

* This set of matrix spike is from another sample of the same matrix and of the same analytical batch.

** Reagent spike set is used due to matrix interference.

Robert M. Ciampi
Robert Ciampi
Chemist

October 16, 1991
Date

Enseco, Inc. - Cal Lab Analytical
2544 Industrial Blvd.

West Sacramento, California 95691
(916) 372-1393

Mr. Tim Parker
Dames & Moore -
8801 Folsom Boulevard
Suite 200
Sacramento, California 95826

(916) 387-8800

CALLAB-060887

OCT 16 1991

Date Received : 10 OCT 91 16:50

Project ID,
EPA Case, RMA Lot : DAMCA03 00173-064-044
Soil As/Pb RUSH 10/10/91
P.O. Number : 00173-064-044

Delivered By :

Storage Location : R12

Logged in by : MDYAS

Four soil samples received under Chain-of-Custody in good condition.
Delivered over the counter by client.

Sample ID	Enseco ID	Client's label info	Date/Time	Samp. Containers
060887-0001-SA	213853	2206-19C	10 OCT 91	6"CT
060887-0002-SA	213854	2206-20C	10 OCT 91	6"CT
060887-0003-SA	213855	2206-21C	10 OCT 91	6"CT
060887-0004-SA	213856	2206-22C	10 OCT 91	6"CT

Samples not destroyed in testing are retained a maximum
of thirty (30) days unless otherwise requested.

Client Manager: Janet Harlan

CALLAB-060887

Enseco, Inc. - Cal Lab Analytical
2544 Industrial Blvd.

West Sacramento, California 95691
(916) 372-1393

Date Received : 10 OCT 91 16:50

Mr. Tim Parker
Dames & Moore -
8801 Folsom Boulevard
Suite 200
Sacramento, California 95826

Project ID,
EPA Case, RMA Lot : DAMCA03 00173-064-044
Soil As/Pb RUSH 10/10/91
P.O. Number : 00173-064-044

Delivered By :

Storage Location : R12

Logged in by : MDYAS

(916) 387-8800

Four soil samples received under Chain-of-Custody in good condition.
Delivered over the counter by client. 2nd set rec'd on 10/11/91.

Sample ID	Enseco ID	Client's label info	Date/Time Samp.	Containers
060887-0001-SA	213853	2206-19C	10 OCT 91	6"CT
060887-0002-SA	213854	2206-20C	10 OCT 91	6"CT
060887-0003-SA	213855	2206-21C	10 OCT 91	6"CT
060887-0004-SA	213856	2206-22C	10 OCT 91	6"CT
060887-0005-SA	214029	LP-1-6C	11 OCT 91	6"CT
060887-0006-SA	214030	LP-1-7C	11 OCT 91	6"CT
060887-0007-SA	214031	LP-1-8C	11 OCT 91	6"CT
060887-0008-SA	214032	LP-1-9C	11 OCT 91	6"CT

Samples not destroyed in testing are retained a maximum
of thirty (30) days unless otherwise requested.

Client Manager: Calvin Tanaka



October 16, 1991
Lab ID: 060887

Tim Parker
Dames & Moore
8801 Folsom Blvd.
Suite 200
Sacramento, CA 95826

Dear Mr. Parker:

Enclosed is the report for the four soil samples for your UPRR Project, Number 00173-064-044, which were received at Enseco-Cal Lab on 10 October 1991. Four additional soil samples for this project were received on 11 October 1991.

The report consists of the following sections:

- I Sample Description
- II Analysis Request
- III Quality Control Report
- IV Analysis Results

Samples were analyzed on a Rush basis as requested. Preliminary results were sent by facsimile on 14 October 1991. As per your request, subsamples of 060887-0002, -0006, and -0007 were sent to Eureka Laboratories.

If you have any questions, please feel free to call.

Sincerely,

A handwritten signature in cursive script that reads "Calvin K. Tanaka".

Calvin K. Tanaka
Program Administrator

svf

I Sample Description

See the attached Sample Description Information.

The samples were received under chain-of-custody.

II Analysis Request

The following analytical tests were requested.

<u>Lab ID</u>	<u>Analysis Description</u>
060887-1 thru 8	Arsenic Lead

III Quality Control

A. Project Specific QC. No project specific QC (i.e., spikes and/or duplicates) was requested.

B. Method Blank Results. A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

No target parameters were detected in the method blanks associated with your samples at the reporting limit levels noted on the Method Blank Report.

C. Laboratory Control Samples - The LCS Program

Duplicate Control Samples. A DCS is a well-characterized matrix (blank water, sand or celite) which is spiked with certain target parameters and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The DCS results associated with your samples are on the attached Duplicate Control Sample Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{(\text{measured concentration})}{(\text{actual concentration})} \times 100$$

Precision is measured using duplicate tests by Relative Percent Difference (RPD) as in:

$$\text{RPD} = \frac{(\% \text{ recovery test 1} - \% \text{ recovery test 2})}{(\% \text{ recovery test 1} + \% \text{ recovery test 2})/2} \times 100$$

Control limits for accuracy (percent recovery) are based on the average, historical percent recovery ± 3 standard deviation units. Control limits for precision (relative percent difference) range from 0 (identical duplicate DCS results) to the average, historical relative percent difference $+ 3$ standard deviation units. In cases where there is not enough historical data, EPA limits or advisory limits are set, with the approval of the Quality Assurance department.

IV Analysis Results

Test methods may include minor modifications of published EPA Methods such as reporting limits or parameter lists. Reporting limits are adjusted to reflect dilution of the sample, when appropriate. Solid and waste samples are reported on an "as received" basis, i.e., no correction is made for moisture content, unless the method requires or the client requests that such correction be made.

Results are on the attached data sheets.

SAMPLE DESCRIPTION INFORMATION
for
Dames & Moore

Lab ID	Client ID	Matrix	Sampled		Received
			Date	Time	Date
060887-0001-SA	2206-19C	SOIL	10 OCT 91		10 OCT 91
060887-0002-SA	2206-20C	SOIL	10 OCT 91		10 OCT 91
060887-0003-SA	2206-21C	SOIL	10 OCT 91		10 OCT 91
060887-0004-SA	2206-22C	SOIL	10 OCT 91		10 OCT 91
060887-0005-SA	LP-1-6C	SOIL	11 OCT 91		11 OCT 91
060887-0006-SA	LP-1-7C	SOIL	11 OCT 91		11 OCT 91
060887-0007-SA	LP-1-8C	SOIL	11 OCT 91		11 OCT 91
060887-0008-SA	LP-1-9C	SOIL	11 OCT 91		11 OCT 91

QC LOT ASSIGNMENT REPORT
 Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
060887-0001-SA	SOIL	AS-FAA-S	11 OCT 91-B	11 OCT 91-B
060887-0001-SA	SOIL	PB-FAA-S	11 OCT 91-B	11 OCT 91-B
060887-0002-SA	SOIL	AS-FAA-S	11 OCT 91-B	11 OCT 91-B
060887-0002-SA	SOIL	PB-FAA-S	11 OCT 91-B	11 OCT 91-B
060887-0003-SA	SOIL	AS-FAA-S	11 OCT 91-B	11 OCT 91-B
060887-0003-SA	SOIL	PB-FAA-S	11 OCT 91-B	11 OCT 91-B
060887-0004-SA	SOIL	AS-FAA-S	11 OCT 91-B	11 OCT 91-B
060887-0004-SA	SOIL	PB-FAA-S	11 OCT 91-B	11 OCT 91-B
060887-0005-SA	SOIL	AS-FAA-S	11 OCT 91-P	11 OCT 91-P
060887-0005-SA	SOIL	PB-FAA-S	11 OCT 91-P	11 OCT 91-P
060887-0006-SA	SOIL	AS-FAA-S	11 OCT 91-P	11 OCT 91-P
060887-0006-SA	SOIL	PB-FAA-S	11 OCT 91-P	11 OCT 91-P
060887-0007-SA	SOIL	AS-FAA-S	11 OCT 91-P	11 OCT 91-P
060887-0007-SA	SOIL	PB-FAA-S	11 OCT 91-P	11 OCT 91-P
060887-0008-SA	SOIL	AS-FAA-S	11 OCT 91-P	11 OCT 91-P
060887-0008-SA	SOIL	PB-FAA-S	11 OCT 91-P	11 OCT 91-P

METHOD BLANK REPORT
 Metals Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: AS-FAA-S Matrix: SOIL QC Lot: 11 OCT 91-B QC Run: 11 OCT 91-B			
Arsenic	ND	mg/kg	0.50
Test: PB-FAA-S Matrix: SOIL QC Lot: 11 OCT 91-B QC Run: 11 OCT 91-B			
Lead	ND	mg/kg	0.50
Test: AS-FAA-S Matrix: SOIL QC Lot: 11 OCT 91-P QC Run: 11 OCT 91-P			
Arsenic	ND	mg/kg	0.50
Test: PB-FAA-S Matrix: SOIL QC Lot: 11 OCT 91-P QC Run: 11 OCT 91-P			
Lead	ND	mg/kg	0.50

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average(%)		Precision (RPD)		
		DCS1	DCS2		DCS	Limits	DCS	Limit	
Category: AS-FAA-S Matrix: SOIL QC Lot: 11 OCT 91-B Concentration Units: mg/kg									
Arsenic	4.0	3.85	3.67	3.76	94	80-120	4.8	15	
Category: PB-FAA-S Matrix: SOIL QC Lot: 11 OCT 91-B Concentration Units: mg/kg									
Lead	2.0	1.99	2.01	2.00	100	80-120	1.0	20	
Category: AS-FAA-S Matrix: SOIL QC Lot: 11 OCT 91-P Concentration Units: mg/kg									
Arsenic	4.0	3.98	4.05	4.02	100	80-120	1.7	15	
Category: PB-FAA-S Matrix: SOIL QC Lot: 11 OCT 91-P Concentration Units: mg/kg									
Lead	2.0	2.15	2.05	2.10	105	80-120	4.8	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Arsenic, Furnace AA

Method 7060

Client Name: Dames & Moore
 Matrix: SOIL
 Units: mg/kg

Received: 10 OCT 91
 Authorized: 10 OCT 91

Lab ID	Client ID	Result	Reporting Limit	Date Prepared	Date Analyzed	
060887-0001-SA	2206-19C	2.1	0.50	11 OCT 91	11 OCT 91	
060887-0002-SA	2206-20C	1.4	0.50	11 OCT 91	11 OCT 91	
060887-0003-SA	2206-21C	2.9	1.0	11 OCT 91	11 OCT 91	G
060887-0004-SA	2206-22C	2.3	0.50	11 OCT 91	11 OCT 91	
060887-0005-SA	LP-1-6C	2.6	0.50	11 OCT 91	13 OCT 91	
060887-0006-SA	LP-1-7C	3.3	1.0	11 OCT 91	13 OCT 91	G
060887-0007-SA	LP-1-8C	3.4	1.0	11 OCT 91	13 OCT 91	G
060887-0008-SA	LP-1-9C	3.3	2.0	11 OCT 91	13 OCT 91	G

Note G : Reporting Limit raised due to matrix interference.

ND = Not detected
 NA = Not applicable

Reported By: Gara Sahakian

Approved By: Barry Votaw

The cover letter is an integral part of this report.

Rev 230787

Lead, Furnace AA

Method 7421

Client Name: Dames & Moore
Matrix: SOIL
Units: mg/kg

Received: 10 OCT 91
Authorized: 10 OCT 91

Lab ID	Client ID	Result	Reporting Limit	Date Prepared	Date Analyzed	
060887-0001-SA	2206-19C	6.1	1.0	11 OCT 91	13 OCT 91	R
060887-0002-SA	2206-20C	5.7	1.0	11 OCT 91	13 OCT 91	t
060887-0003-SA	2206-21C	6.4	1.0	11 OCT 91	13 OCT 91	R
060887-0004-SA	2206-22C	7.4	1.0	11 OCT 91	13 OCT 91	R
060887-0005-SA	LP-1-6C	6.3	0.50	11 OCT 91	13 OCT 91	
060887-0006-SA	LP-1-7C	5.5	0.50	11 OCT 91	13 OCT 91	
060887-0007-SA	LP-1-8C	32.2	5.0	11 OCT 91	13 OCT 91	R
060887-0008-SA	LP-1-9C	6.4	1.0	11 OCT 91	13 OCT 91	R

Note R : Raised reporting limit(s) due to high analyte level(s).

Note t : Analyte diluted due to high frequency of overrange analyses.

ND = Not detected
NA = Not applicable

Reported By: Fely Francis

Approved By: Barry Votaw

The cover letter is an integral part of this report.
Rev 230787

Appendix

B

APPENDIX B
SOIL MANIFESTS

SAC30.004

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
2. Generator's Name and Mailing Address Union Pacific Railroad 1415 Dodge Street, Room 930 Omaha, NE 68179		3. Generator's US EPA ID No. GA440000295000101011		A. State Manifest Document Number 89869468	
4. Generator's Phone (402) 271-4922		6. US EPA ID Number NED001792910		B. State Generator's ID HISBQ3602072141	
5. Transporter 1 Company Name Union Pacific Railroad		8. US EPA ID Number 1710111111111111		C. State Transporter's ID	
7. Transporter 2 Company Name <i>Conduct</i>		10. US EPA ID Number UTD994301748		D. Transporter's Phone (402) 271-2234	
9. Designated Facility Name and Site Address USPCI Grassy Mountain Facility 3 miles east, 7 miles north of Knolls, UT - Exit 41 off I-80 near Clive, UT		12. Containers		E. State Transporter's ID	
		13. Total Quantity		F. Transporter's Phone (402) 271-2234	
		14. Unit Wt/Vol		G. State Facility's ID	
		1. Waste No.		H. Facility's Phone (801) 595-3900	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		No.	Type		
a. Non-RCRA Waste Solid		0011	CM	0101910	T
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above Non-RCRA Waste Solid Profile #GM 91-2097 Gorobla # 32041		K. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information Site address: Union Pacific Railroad; Sacramento, CA Project #: 94799					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name Glenn Thomas		Signature		Month Day Year 11/11/91	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name THOMAS CHERRIX FOR UPRR		Signature Thomas Cherrix		Month Day Year 11/02/91	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name X Bill Stuckard		Signature Bill Stuckard		Month Day Year 11/21/91	
19. Discrepancy Indication Space					
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.					
Printed/Typed Name A.C. Romano		Signature		Month Day Year 11/03/91	

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550
 GENERATOR
 TRANSPORTER
 FACILITY

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. CA121010101021915101010101012		Manifest Document No. 10101012		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address Union Pacific Railroad 1416 Dodge Street, Room 930 Omaha, NE 68179						A. State Manifest Document Number 89869469							
4. Generator's Phone (402) 271-4922						B. State Generator's ID HLS/H/036/02/07/24							
5. Transporter 1 Company Name Union Pacific Railroad			6. US EPA ID Number NEID1010117929110			C. State Transporter's ID (402) 271-2234							
7. Transporter 2 Company Name McFarland			8. US EPA ID Number UTD991191791			D. Transporter's Phone 701-882-0113							
9. Designated Facility Name and Site Address USPCI Grassy Mountain Facility 3 miles east, 7 miles north of Knolls, UT - Exit 41 off I-80 near Clive, UT						E. State Transporter's ID							
10. US EPA ID Number UTD991130117148						F. Transporter's Phone							
G. State Facility's ID						H. Facility's Phone (801) 595-3900							
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. Non-RCRA Waste Solid						01011 CIM		010101910		T		State 611 EPA/Other none	
b.												State EPA/Other	
c.												State EPA/Other	
d.												State EPA/Other	
J. Additional Descriptions for Materials Listed Above Profile # GM 91-2097						K. Handling Codes for Wastes Listed Above a. 081 b. c. d.							
15. Special Handling Instructions and Additional Information Site address: Union Pacific Railroad; Sacramento, CA Project #: 94799						v Garth 31905							
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name Glenn Thomas						Signature				Month Day Year 11/17/91			
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name THOMAS CHERRIX FOR UPRR						Signature				Month Day Year 11/02/91			
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name Robert E MASTNER						Signature				Month Day Year 11/21/91			
19. Discrepancy Indication Space													
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.													
Printed/Typed Name SCOTT ANDERSON						Signature				Month Day Year 12/03/91			

UJ0003410
 IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802, WITHIN CALIFORNIA CALL 1-800-852-7550
 GENERATOR
 TRANSPORTER
 FACILITY

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. CAL 01 01 01 21 91 51 01 00 10 10 13	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Union Pacific Railroad 1416 Dodge Street, Room 930 Omaha, NE 68179			A. State Manifest Document Number 89869470		B. State Generator's ID HSHDBBDRD7241	
4. Generator's Phone (402) 271-4922			C. State Transporter's ID		D. Transporter's Phone (402) 271-223A	
5. Transporter 1 Company Name Union Pacific Railroad		6. US EPA ID Number NEID001179129110		E. State Transporter's ID		F. Transporter's Phone 201-562-7718
7. Transporter 2 Company Name Conoco		8. US EPA ID Number MTHA98R130117		G. State Facility's ID		H. Facility's Phone (801) 595-3900
9. Designated Facility Name and Site Address USPCI Grassy Mountain Facility 3 miles east, 7 miles north of Knolls, UT - Exit 41 off I-80 near Clive, UT			10. US EPA ID Number UTID991131011748			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers	13. Total Quantity	14. Unit	1. Waste No.	
a. Non-RCRA Waste Solid		No. Type		Wt/Vol	State EPA/Other	
		01011 CIM	010101910	T	611 None	
b.					State EPA/Other	
c.					State EPA/Other	
d.					State EPA/Other	
J. Additional Descriptions for Materials Listed Above Profile # GM 91-2097 (soil)			K. Handling Codes for Wastes Listed Above			
			a. D81		b. 7	
			c.		d.	
15. Special Handling Instructions and Additional Information Site address: Union Pacific Railroad; Sacramento, CA Project #: 94799			Goubla 32067			
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name Glenn Thomas		Signature		Month Day Year 11 11 91		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Thomas Cherrix		Signature		Month Day Year 11 02 91		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name George Gardner		Signature		Month Day Year 11 21 91		
19. Discrepancy Indication Space						
20. Facility, Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. 916-19943						
Printed/Typed Name Arlene Halladay		Signature		Month Day Year 11 21 91		

M E M O R A N D U M

TO: OPERATING RECORD

DATE: 12/16/91 UPRR

RE: LOADS RECEIVED BY RAIL

MEMO #: 12-16-2067

Railcar # UP 32067 was manifested to Grassy Mountain use manifest numbers in column A. The railcar was unloaded received at the facility using the load #s in column B.

A	Weight	B	Weight
Manifest	Weight	Load	Weight
<u>00003</u>	<u>90 T</u>	<u>19926</u>	<u>52380</u>
<u> </u>	<u> </u>	<u>19931</u>	<u>78120</u>
<u> </u>	<u> </u>	<u>19934</u>	<u>49240</u>
<u> </u>	<u> </u>	<u>19943</u>	<u>14300</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u>TOTAL</u>	<u>90 T</u>	<u>TOTAL</u>	<u>97.27</u>

Weight Discrepancy Yes/No (No)

Load Controller's Initials AP

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. CA12101010121915101010101014		Manifest Document No. 10101014		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Union Pacific Railroad 1416 Dodge Street, Room 930 Omaha, NE 68179						A. State Manifest Document Number 89869471			
4. Generator's Phone (402 271-4922)						B. State Generator's ID H18H03602107214			
5. Transporter 1 Company Name Union Pacific Railroad			6. US EPA ID Number NE1010117929110			C. State Transporter's ID			
7. Transporter 2 Company Name <i>M. Ferland HULLOCK</i>						D. Transporter's Phone (402 271-2234)			
8. US EPA ID Number UT101011301171418						E. State Transporter's ID			
9. Designated Facility Name and Site Address USPCI Grassy Mountain Facility 3 miles east, 7 miles north of Knolls, UT - Exit 41 off I-80 near Clive, UT						F. Transporter's Phone <i>801-882-0102</i>			
10. US EPA ID Number						G. State Facility's ID			
						H. Facility's Phone (801) 595-3900			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. Non-RCRA Waste Solid		1 No. 1 Type C1X		0101910		T		State 611 EPA/Other none	
b.								State EPA/Other	
c.								State EPA/Other	
d.								State EPA/Other	
J. Additional Descriptions for Materials Listed Above Profile # GM 91-2097 (soil)						K. Handling Codes for Wastes Listed Above a. <i>OSP 81</i> b. c. d.			
15. Special Handling Instructions and Additional Information Site address: Union Pacific Railroad; Sacramento, CA Project #: 94799 <i>Lot 1 of 5</i>									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name Glenn Thomas					Signature <i>Glenn Thomas</i>			Month Day Year 11/17/91	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name THOMAS CHERRIX EX UPRR					Signature <i>Thomas Cherrix</i>			Month Day Year 11/02/1991	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name <i>Glenn Thomas</i>					Signature <i>Glenn Thomas</i>			Month Day Year 11/21/1991	
19. Discrepancy/Indication Space									
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.									
Printed/Typed Name <i>Glenn Thomas</i>					Signature <i>Glenn Thomas</i>			Month Day Year 11/21/1991	

M E R C H A N D I S E

TO: OPERATING RECORD

DATE: 12/17/91

RE: LOADS RECEIVED BY RAIL

MEMO #: 12.17.2018

Railcar # UP32019 was manifested to Grassy Mountain using manifest numbers in column A. The railcar was unloaded at the facility using the load # in column B.

A	B	Weight	Load	Manifest	Weight
00004	✓20023	101380	✓30028	90 J	181380
	✓20052	181680	✓20016		29120
	✓20016	42620	✓20016		181380
	✓20016	29120	✓20016		9.069 T
TOTAL	TOTAL		TOTAL		

Weight Discrepancy Yes/No No

Load Controller's Initials AP

03003412
 IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550
 GENERATOR
 TRANSPORTER
 FACILITY

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.							
3. Generator's Name and Mailing Address Union Pacific Railroad 1416 Dodge Street, Room 930 Omaha, NE 68179		4. Generator's Phone (402) 271-4922		A. State Manifest Document Number 89869472		B. State Generator's ID H S H Q 3 6 0 2 0 7 2 4						
5. Transporter 1 Company Name Union Pacific Railroad		6. US EPA ID Number N E D 0 0 1 7 9 2 9 1 0		C. State Transporter's ID		D. Transporter's Phone (402) 271-2234						
7. Transporter 2 Company Name <i>McFarland Hallinger</i>		8. US EPA ID Number U T 0 9 8 0 9 5 4 7 9 6		E. State Transporter's ID		F. Transporter's Phone 801-882-0103						
9. Designated Facility Name and Site Address USPCI Grassy Mountain Facility 3 miles east, 7 miles north of Knolls, UT - Exit 41 off I-80 near Clive, UT		10. US EPA ID Number U T D 9 9 1 3 0 1 7 4 8		G. State Facility's ID		H. Facility's Phone (801) 595-3900						
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.						
a. Non-RCRA Waste Solid		0	1	C	M	0	0	0	9	0	T	State 611 EPA/Other None
b. RECEIVED							State EPA/Other					
c. DEC 30 1991							State EPA/Other					
d. ENVIRONMENT							State EPA/Other					
J. Additional Descriptions for Materials Listed Above Profile # GM 91-2097 (soil)				K. Handling Codes for Wastes Listed Above								
				a. 03M	b.							
				c.	d.							
15. Special Handling Instructions and Additional Information Site address: Union Pacific Railroad; Sacramento, CA Project #: 94799 <i>Just had 1 of 5</i>				16. Generator's Certification: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.								
Printed/Typed Name Glenn Thomas		Signature <i>[Signature]</i>		Month Day Year 11/11/91								
17. Transporter 1 Acknowledgement of Receipt of Materials												
Printed/Typed Name THOMAS CHERRY / For UPRR		Signature <i>[Signature]</i>		Month Day Year 11/02/91								
18. Transporter 2 Acknowledgement of Receipt of Materials												
Printed/Typed Name Red Stewart		Signature <i>[Signature]</i>		Month Day Year 11/21/91								
19. Discrepancy Indication Space												
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.												
Printed/Typed Name <i>[Signature]</i>		Signature <i>[Signature]</i>		Month Day Year 11/11/91								

M E M O R A N D U M

TO: OPERATING RECORD
 DATE: 12/20/91
 RE: LOADS RECEIVED BY RAIL
 MEMO #: 12171971

Railcar # UP31971 was manifested to Grassy Mountain using manifest numbers in column A. The railcar was unloaded received at the facility using the load #s in column B.

A	Weight	B	Weight
Manifest		Load	
<u>00005</u>	<u>90T</u>	<u>20036</u>	<u>76860</u>
<u> </u>	<u> </u>	<u>20038</u>	<u>89580</u>
<u> </u>	<u> </u>	<u>20053</u>	<u>48400</u>
<u> </u>	<u> </u>	<u>20144</u>	<u>38340</u>
<u> </u>	<u> </u>	<u>20102</u>	<u>35940</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u>TOTAL</u>	<u>90T</u>	<u>TOTAL</u>	<u>149.56T</u>

Weight Discrepancy Yes/No

Load Controller's Initials AP

03003410
 IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550
 GENERATOR
 TRANSPORTER
 FACILITY

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. CA L 0 0 0 0 2 9 5 0 0 0 0 0 6	Manifest Document No. 0 0 0 0 6	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Union Pacific Railroad 1416 Dodge Street, Room 930 Omaha, NE 68179			A. State Manifest Document Number 89869473		B. State Generator's ID 2 5 8 0 1 3 6 0 1 2 1 0 1 2 1 1
4. Generator's Phone (402) 271-4922			C. State Transporter's ID		D. Transporter's Phone (402) 271-2234
5. Transporter 1 Company Name Union Pacific Railroad			6. US EPA ID Number N E D 0 0 1 7 9 2 9 1 1 0		E. State Transporter's ID
7. Transporter 2 Company Name <i>McIntosh & H</i>			8. US EPA ID Number W 1 0 9 2 1 1 1 1 1 1 1 1		F. Transporter's Phone 201-225-1117
9. Designated Facility Name and Site Address USPCI Grassy Mountain Facility 3 miles east, 7 miles north of Knolls, UT - Exit 41 off I-80 near Clive, UT			10. US EPA ID Number		G. State Facility's ID
					H. Facility's Phone (801) 595-3900
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)			12. Containers No.	13. Total Quantity	14. Unit Wt/Vol
a. Non-RCRA Waste Solid			0 1 0 1 1	0 0 0 9 0	T
J. Additional Descriptions for Materials Listed Above Profile # GM 91-2097 (soil)			K. Handling Codes for Wastes Listed Above a. D81 b. c. d.		
15. Special Handling Instructions and Additional Information Site address: Union Pacific Railroad; Sacramento, CA Project #: 94799			Gondola 32011 Fed 32096 121691		
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name Glenn Thomas			Signature		Month Day Year 11/11/91
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name THOMAS CHERRIX For UPRR			Signature <i>Thomas Cherrix</i>		Month Day Year 11/02/1991
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name X James W Day			Signature <i>James W Day</i>		Month Day Year 11/21/1991
19. Discrepancy Indication Space					
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.					
Printed/Typed Name SCOTT ANDERSON			Signature <i>Scott Anderson</i>		Month Day Year 9/16-1992 10/21/91

Do Not Write Below This Line

Please print or type. (Form designed for use on elite (12-pitch typewriter).)

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550
 GENERATOR
 TRANSPORTER
 FACILITY

89869474

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. C A L 0 0 0 0 2 9 5 0 0 0 1 0 1 0 1 7	Manifest Document No. 0 1 0 1 0 1 7	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Union Pacific Railroad 1416 Dodge Street, Room 930 Omaha, NE 68179				A. State Manifest Document Number 89869474	
4. Generator's Phone (402) 271-4922				B. State Generator's ID H S H Q 3 6 0 2 0 7 2 4	
5. Transporter 1 Company Name Union Pacific Railroad		6. US EPA ID Number N E D 0 0 1 7 9 2 9 1 0		C. State Transporter's ID	
7. Transporter 2 Company Name <i>McFarland Hallinger</i>		8. US EPA ID Number <i>VI T 0 9 8 0 9 5 4 7 9 6</i>		D. Transporter's Phone (402) 271-22	
9. Designated Facility Name and Site Address USPCI Grassy Mountain Facility 3 miles east, 7 miles north of Knolls, UT - Exit 41 off I-80 near Clive, UT		10. US EPA ID Number U T D 9 9 1 3 0 1 7 4 8		E. State Transporter's ID	
				F. Transporter's Phone <i>801-882-211</i>	
				G. State Facility's ID	
				H. Facility's Phone (801) 595-39	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No.	13. Total Quantity	14. Unit Wt/Vol	15. Waste No.
a. Non-RCRA Waste Solid		0 0 1 CM	0 0 0 9 0	T	State 611 EPA/Other none
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other
J. Additional Descriptions for Materials Listed Above Profile # GM 91-2097 (soil) Gonzola 31976				K. Handling Codes for Wastes Listed Above a. <i>DS1</i> b. c. d.	
15. Special Handling Instructions and Additional Information Site address: Union Pacific Railroad; Sacramento, CA Project #: 94799					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment: OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name Glenn Thomas		Signature <i>Glenn Thomas</i>		Month Day 11/17/81	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name THOMAS Cherrix For UPRR		Signature <i>Thomas Cherrix</i>		Month Day 11/24/81	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name <i>X Robert E Mautner</i>		Signature <i>Robert E Mautner</i>		Month Day 1/21/81	
19. Discrepancy Indication Space Line 13: Actual weight is 11.24 T per TCW (Rick Estes 12.31)					
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. <i>916-20078</i>					
Printed/Typed Name <i>Arlene Halladay</i>		Signature <i>Arlene Halladay</i>		Month Day 1/21/81	

M E M O R A N D U M

TO: OPERATING RECORD
 DATE: 12/20/91
 RE: LOADS RECEIVED BY RAIL
 MEMO #: 12181976

Railcar # UP31976 was manifested to Grassy Mountain using manifest numbers in column A. The railcar was unloaded received at the facility using the load #s in column B.

A	B	
Manifest	Load	Weight
20078 100007	20078	71320
90T	20083	71020
_____	20127	23820
_____	20096	37720
_____	20151	18400
_____	_____	_____
_____	_____	_____
<u>TOTAL</u>	<u>TOTAL</u>	<u>11144</u>

Weight Discrepancy: Yes/No *non haz material*

Load Controller's Initials AP

Please print or type. (Form designed for use on elite (12-pitch typewriter).)

89869476
 IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. C A L 0 0 0 0 2 9 5 0 0 0 9 9 9 8		2. Page 1 of 1		3. Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Union Pacific Railroad 1416 Dodge Street, Room 930 Omaha, NE 68179				A. State Manifest Document Number 89869476			
4. Generator's Phone (402) 271-4922				B. State Generator's ID H S H Q 3 6 0 2 0 7 2 4			
5. Transporter 1 Company Name Union Pacific Railroad		6. US EPA ID Number N E D 0 0 1 7 9 2 9 1 0		C. State Transporter's ID		D. Transporter's Phone (402) 271-22	
7. Transporter 2 Company Name McFarland Hullinger		8. US EPA ID Number N T 0 9 8 0 9 5 4 7 9 6		E. State Transporter's ID		F. Transporter's Phone 801-992-010	
9. Designated Facility Name and Site Address USPCI Grassy Mountain Facility 3 miles east, 7 miles north of Knolls, UT - Exit 41 off I-80 near Clive, UT				10. US EPA ID Number U T D 9 9 1 3 0 1 7 4 8		G. State Facility's ID	
				H. Facility's Phone (801) 595-390			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No. Type		13. Total Quantity		14. Unit Wt/Vol	
a. Non-RCRA Waste Solid		0 0 1 C M		0 0 0 9 0 T		L Waste No. State 611 EPA/Other none	
b.						State EPA/Other	
c.						State EPA/Other	
d.						State EPA/Other	
J. Additional Descriptions for Materials Listed Above Profile # GM 91-2097 (soil)				K. Handling Codes for Wastes Listed Above a. Gondola 31903 b. c. d.			
15. Special Handling Instructions and Additional Information Site address: Union Pacific Railroad; Sacramento, CA Project #: 94799							
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.							
Printed/Typed Name Glenn Thomas		Signature <i>Glenn Thomas</i>		Month Day Year 11/17/91			
17. Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name THOMAS CHERRIX For UPRR		Signature <i>Thomas Cherrix</i>		Month Day Year 11/02/91			
18. Transporter 2 Acknowledgement of Receipt of Materials							
Printed/Typed Name X Rod Stewart		Signature <i>Rod Stewart</i>		Month Day Year 11/21/91			
19. Discrepancy Indication Space Line 13: Actual weight was 108.72 T per TOW/RICK E 12/28/91 VA							
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19							
Printed/Typed Name <i>W. K. Karp</i>		Signature <i>W. K. Karp</i>		Month Day Year 11/21/91			

M E M O R A N D U M

TO: OPERATING RECORD
 DATE: 12/18/91
 RE: LOADS RECEIVED BY RAIL
 MEMO #: 12-18-1903

Railcar # 11P31903 was manifested to Grassy Mountain via manifest numbers in column A. The railcar was unloaded received at the facility using the load #s in column B.

A Manifest	Weight	B Load	Weight
00008	901	20120	43860
_____	_____	20130	107320
_____	_____	20133	100540
_____	_____	20152	370100
_____	_____	20184	81060
_____	_____	_____	_____
TOTAL	901	TOTAL	108,720

Weight Discrepancy? Yes No

Load Controller's Initials AP

00003404
 IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550
 GENERATOR
 TRANSPORTER
 FACILITY

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. CAL0000295000101019		Manifest Document No. 0101019		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Union Pacific Railroad 1416 Dodge Street, Room 930 Omaha, NE 68179						A. State Manifest Document Number 89869484			
4. Generator's Phone (402) 271-4922						B. State Generator's ID HSHQ360207241			
5. Transporter 1 Company Name Union Pacific Railroad						C. State Transporter's ID			
6. US EPA ID Number NE001792910						D. Transporter's Phone (402) 271-2234			
7. Transporter 2 Company Name McFarland Hall						E. State Transporter's ID			
8. US EPA ID Number UT09804547916						F. Transporter's Phone 402-820-0105			
9. Designated Facility Name and Site Address USPCI Grassy Mountain Facility 3 miles east, 7 miles north of Knolls, UT - Exit 41 off I-80 near Clive, UT						G. State Facility's ID			
10. US EPA ID Number UTD991301748						H. Facility's Phone (801) 595-3900			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)				12. Containers		13. Total Quantity		14. Unit Wt/Vol	
a. Non-RCRA Waste Solid				No. Type		Quantity		Waste No.	
				D D L C M D D D D T				State 611 EPA/Other none	
b.								State EPA/Other	
c.								State EPA/Other	
d.								State EPA/Other	
J. Additional Descriptions for Materials Listed Above Profile # GM 91-2097 (soil)						K. Handling Codes for Wastes Listed Above			
						a. D87		b.	
Gomph 32073						c.		d.	
15. Special Handling Instructions and Additional Information Site address: Union Pacific Railroad; Sacramento, CA Project #: 94799									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name Glenn Thomas				Signature <i>[Signature]</i>				Month Day Year 11/17/91	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name THOMAS Cheryl Fm UPRR				Signature <i>[Signature]</i>				Month Day Year 10/24/91	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name DAVID JACK				Signature <i>[Signature]</i>				Month Day Year 11/21/91	
19. Discrepancy Indication Space									
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. 916-20198									
Printed/Typed Name Arlene Halladay				Signature <i>[Signature]</i>				Month Day Year 11/21/91	