

CONFIDENTIAL

**PHASE I ENVIRONMENTAL ASSESSMENT
1438 CAPITOLA ROAD
SANTA CRUZ, CALIFORNIA**

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6 June 1994

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1.0 INTRODUCTION

At the request of Robert Lee, of the Santa Cruz County Redevelopment Agency (SCCRA), Remediation Risk Management, Inc. (RRM) conducted a Level I Environmental Assessment regarding the soil and groundwater at the subject site located at 1438 Capitola Road in Santa Cruz, California. Any and all information obtained in this investigation is highly confidential and shall not be released or disclosed to, or relied upon by a third party other than SCCRA without the prior written consent of either party.

1.1 Purpose and Scope

The Level I Environmental Assessment is a phased investigation conducted by RRM. The investigation was conducted in three phases. The objective of the first phase was to outline a chronological history of site use and thereby determine whether any past or present use of the site indicates a threat to the integrity of the soil and groundwater resources at the subject site. The second phase consisted of reviews of certain limited federal, state, regional, county, and local records and documents and interviews with the available officers of these agencies. The purpose of this phase of the investigation was to determine whether there have been any reported contamination events occurring on-site, or within a one-half mile radius of the subject site, or any Environmental Protection Agency (EPA) CERCLIS sites within a one mile radius of the subject site that indicate a threat to the integrity of the soil and groundwater resources at the subject site. The third phase consisted of a brief inspection of the site as it currently exists.

This report is based solely on the work performed and no other work or investigation was performed without a written request from the client. No subsurface exploration, sampling, or testing was performed.

The findings in this report are only concerning the condition of the site as of 2 June 1994. Site conditions may change with the passage of time, or due to natural processes or human intervention which can materially affect the findings in this report.

Further, more detailed and extensive testing, sampling, and research is always recommended to the client to provide greater comfort regarding the integrity of the site. All representations are limited solely to the work indicated and the findings made in this report.

The completeness and accuracy of the information contained in this report is based on the availability, accuracy and completeness of reports regarding the subject site and other sites in the public domain.

2.0 SITE OVERVIEW

2.1 Location

The subject site is located at 1438 Capitola Road in Santa Cruz, California. The nearest cross-street is 15th Avenue. The Assessors Parcel Number for the property is 026-193-41. The property is located on the Soquel Quadrangle of the United States Geologic Survey 7.5 minute topographic map series (1). The generalized location of the subject site is given in Figure 1.

2.2 Adjacent Properties

The surrounding area consists primarily of residential structures with some retail/offices. The topography of the area is generally flat. The subject site is located on the south side of Capitola Road. The subject site is bordered to the north by Capitola Road and Decor Company, to the east by a residence, to the south by a residence and to the west by a residence. An extended site plan of the subject property and the local vicinity is given in Figure 2.

2.3 Site Description

The total area of the subject parcel is approximately 43,550 square feet. The subject site is occupied by one houses, two small wood storage sheds and a wood barn currently in the process of being torn down. The area surrounding the house extending to Capitola Road is covered with grass, trees and other vegetation. Much of the remaining parcel is asphalted with the area around the barn covered with a concrete pad. The southern portion of the parcel is mostly with grass and weeds and is used for the storage of concrete and PVC pipes, heavy road construction equipment, steel beams, etc. An above ground storage tank is located approximately 100 feet south of the barn.

3.0 SITE HISTORY AND OPERATIONS

Compilation of the history of site use consisted of a review of records and directories. Information regarding prior ownership of the property was obtained from records at the Santa Cruz County Assessors Office.

3.1 Record and Directory Review

The following is a summary of site use based on information obtained during the first phase of the Level I Environmental Assessment. The names of owners and occupants, both current and past, were gathered from records at the Santa Cruz County Records Office. The current owner of the property is recorded as James L. and Gertie M. Johnson. The Johnson's acquired the property from Herbert J. and Rose M. Lacki on 2 June 1985. The Lacki's acquired the property from Walter Garland on 30 August 1978. No further information was found regarding prior ownership.

The names of present and past occupants of the property, as well as occupants of nearby properties, were gathered from prior city directories, Santa Cruz County Assessors Office and information provided by the client. Directories used were compiled by the Haines (2) and Polk Companies (3). The following list of the subject site and nearby properties is presented from the most recent occupant to the earliest known occupant of each property. It should be noted that the listings are only as accurate as the information in the directories. The following is a reverse chronological listing of occupants of the subject site and nearby sites:

1438 Capitola Road, Santa Cruz, CA: (Subject Site)

- 1992-1993 Residence
- 1990-1991 There is no listing for this address.
- 1988-1989 Residence
- 1986-1987 There is no listing for this address.
- 1984-1985 Drydock Boat Storage
- 1980-1985 Lacki Electric
- 1950-1979 Residence

1412 Capitola Road, Santa Cruz, CA: (Located adjacent west of the subject site)

- 1950-1993 Residence

1441 Capitola Road, Santa Cruz, CA: (Located approximately 60 feet north of the subject site)

- 1965-1993 Decor Company
- 1962-1964 Bob Perry Radio and TV Repair
- 1959-1961 Miller's Mansions Building Contractors
- 1950-1958 There is no listing for this address.

1500 Capitola Road, Santa Cruz, CA: (Located adjacent east of the subject site)

- 1980-1993 Residence
- 1978-1979 Circle Mobile Foods
- Exchange SLS and LSS
- 1973-1977 Cater Care Union Lunch
- 1950-1972 Residence

1417 Harper Court, Santa Cruz, CA: (Located immediately southwest of the subject site)

1950-1993 Residence

1419 Harper Court, Santa Cruz, CA: (Located adjacent south of the subject site)

1976-1993 Vacant

1956-1975 Residence

1950-1955 Vacant

1587 Linea Court, Santa Cruz, CA: (Located adjacent south of the subject site)

1978-1993 Residence

1973-1977 There is no listing for this address

1967-1972 Residence

1950-1966 There is no listing for this address.

The above information is based on the availability of city directories for this area.

4.0 ENVIRONMENTAL SETTING

4.1 Regional Physiography

The subject site is located in the County of Santa Cruz. Santa Cruz is located on the Monterey Bay along the central California Coast. Subsurface investigations conducted in the area have revealed that the groundwater is at a depth of approximately 10 to 20 feet with an inferred groundwater gradient to the southwest. The area is underlain by lowest emergent coastal terrace deposits. Based upon a geologic map of Santa Cruz County (Earl E. Brabb, 1989) the lowest emergent coastal terrace deposits (Pleistone) consist of semi-consolidated generally well-sorted sands with a few thin, relatively continuous layers of gravels, deposited in near shore high-energy marine environment. The stratigraphy shows alluvial sediments to be generally deposited as an unsaturated upper silty layer, underlain by a clean sand and a deeper gravel layer.

5.0 RESULTS OF INVESTIGATION

5.1 Site Inspection Observations

A brief site inspection was conducted at the subject site on 2 June 1994. The following is a description of observations made during the inspection.

5.11 Exterior Inspection

The site has been used for storage of equipment and materials for The Road Company. Some surface staining was noted in the area where the heavy equipment is parked, along the western portion of the property. There was no staining near the above ground storage tank. At the time of the inspection, the barn was in the process of being torn down. A dumpster was located adjacent to the barn for debris and wood was piled near the barn. A rusty open 55-gallon drum contained what appeared to be asphalt slurry. No other drums or containers were noted on the property.

5.12 Interior Inspection

The house was likely built prior to 1940. Due to the time period in which the house was built, it is likely that some of the building materials used in the roof, walls, ceiling and flooring contain asbestos and that some of the paint may be lead-based.

Storage shed #1 is used for storing welding equipment including: welder, compressed air, 5-gallon gasoline can, and miscellaneous oils, degreasers and brake fluid. Some surface staining was noted on the concrete floor. During a telephone interview with James Johnson, he indicated that a 550-gallon diesel tank and a 350-gallon motor oil tank were in Storage shed #1. The diesel and motor oil tanks were removed in approximately January and May 1994.

Storage shed #2 is used for storing safety equipment including: orange cones, safety flags, ropes and safety signs. No staining was noted on the concrete floor in this shed.

Other than the possibility of asbestos being present in the building materials of the house, no other environmental concerns were noted during the interior inspection.

5.2 Project Vicinity

A walk around the project vicinity was conducted on 2 June 1994. The subject site is bordered to the north by Capitola Road and Decor Company, to the east by a residence, to the south by a residence and to the west by a residence. No environmental concerns were raised regarding the adjacent properties.

5.3 Results of Regulatory Agency Contacts

During this phase of the investigation, reviews of certain limited federal, state, regional, county, and local records and documents, and where available, interviews with agents of those offices were conducted. The following is a compilation of the information obtained during this phase of the investigation categorized by the agency involved.

5.31 Environmental Protection Agency CERCLIS Listing

No EPA recognized contamination events have occurred within one mile of the subject site (4).

5.32 Department of Health Services

There are four sites located within one-half mile of the subject site reported in the Hazardous Waste Substance List (5). Since each of these sites have/had underground storage tanks, they are described in the SCCEH Department section 5.34 of this report.

5.33 Regional Water Quality Control Board (RWQCB)

There are four sites located within a one-half mile radius of the subject site as reported in the RWQCB Central Coast Region Leaking Underground Storage Tank (6) list. As files existed for each of these sites at the SCCEH Department, they will be described in Section 5.34 of this report.

5.34 Santa Cruz County Environmental Health Department

The Environmental Health Department does have a Hazardous Material Management Plan (HMMP) on file for the subject site listed under The Road Company. No incident files were located or hazardous spill/releases have been recorded for the subject site. The SCCEHD had files of contamination events occurring within a one-half mile radius of the subject site (7). The following are summaries of the information found in those files:

1. Live Oak Texaco, 1670 Capitola Road, Santa Cruz, California. This site is currently a U-Haul and auto maintenance facility. In February 1990, six underground storage tanks (USTs), four 4,000-gallon gasoline and one 6,000-gallon gasoline, and one 300-gallon waste oil UST were removed from the site. Light hydrocarbon odors were noted by the inspector present. Soil samples collected confirmed a release had occurred. Laboratory analyses of the soil samples detected total petroleum hydrocarbon-as-gasoline (TPHg) concentrations ranging to 3,600 parts per million (ppm). Seven borings were drilled in April 1991. Two of the borings were converted to monitoring wells. From data obtained by the site investigations, the depth to groundwater is approximately 27 feet. No additional information was available in the files. Per telephone interview with the current contractor (Romar, Inc., Santa Cruz, CA), the groundwater has been impacted with gasoline. Some of the gasoline contaminated soils were excavated in early 1994. The site is located approximately 700 feet east of the subject site.
2. Shell Service Station, 705 Capitola Road, Santa Cruz, California. This site is an operating service station. Between 1986 and 1988, 19 groundwater monitoring wells and 6 recovery wells were installed at the site. A groundwater recovery system was installed and initiated in June 1987 to remove floating product. In April 1988, the USTs were replaced. Groundwater has been monitored quarterly since 1989. The April 1993 monitoring event indicated floating product was present from 0.01 to 0.78 feet thick, as measured at the site's groundwater monitoring wells.

Depth to groundwater is approximately 9 feet below ground surface and gradient is to the southwest. No additional information was available in the files. The site is located approximately 2,000 feet west of the subject site.

3. El Dorado Meat Company, 1037/1045 17th Avenue, Santa Cruz, California. In December 1989, two gasoline underground storage tanks (USTs), 1-550 gallon and 1-1,000 gallon, were removed from the site. Soil samples collected indicated a release had occurred. In December 1990, three soil borings were drilled and soil samples were collected for analysis. Laboratory analysis of the soil samples detected total petroleum hydrocarbon-as-gasoline (TPHg) concentrations ranging to 2,100 parts per million (ppm). One of the borings was converted to a monitoring well. A groundwater sample was collected and analyzed. Laboratory analysis indicated concentrations of TPHg of 5,400 parts per billion (ppb) and benzene of 1,100 ppb. A soil vapor survey was conducted in September 1992 to determine the location of additional monitoring wells. At this time the groundwater was sampled from the existing monitoring well. Concentrations of 310 ppb and 51 ppb of TPHg and benzene were detected in the groundwater sample. In November 1992, three monitoring wells were installed. All soil samples obtained from the well installations had no detectable concentrations of TPHg. Groundwater samples were collected from each of the newly installed wells. Concentrations of 230 ppb, 56 ppb and 52 ppb of TPHg were detected in samples from MW-1, MW-2 and MW-3, respectively. The highest concentration was detected at MW-1 which was installed approximately 10 feet south of the former tank location. From data obtained from the site investigations, the depth to groundwater is approximately 21 feet bgs and the inferred groundwater gradient appears to be southwest. The site is located approximately 2,100 feet south of the subject site.

4. Ledyard Company, 1005 17th Avenue, Santa Cruz, California. In January 1992, 1-1,000 gallon diesel and 1-1,000 gallon gasoline USTs were removed from the site. Two soil samples were collected from beneath each tank and analyzed at a laboratory. Concentrations of 2 ppm and 8.5 ppm of TPH-as-diesel (TPHd) were detected from soil samples collected beneath the diesel tank and concentrations of 3.8 ppm and 714 ppm of TPHg were detected from soil samples collected beneath the gasoline tank. In November 1992, 7 soil borings were advanced in the area of the former USTs. Soil samples retrieved and analyzed (from a depth of 17-19 feet bgs) indicated concentrations from non-detect to 536 ppm TPHg. In a workplan, dated 5 May 1993, Environmental Technical Services proposes to install a groundwater monitoring well and a soil boring downgradient (southwest) of the former tank location. No additional information was available in the files. The site is located approximately 2,300 feet south of the subject site.

5.35 Monterey Bay Unified Air Quality Management District

According to Greg Chee, a representative of the Monterey Bay Unified Air Quality Management District (MBAQMD), there are no current or past air quality permits for the subject site.

5.36 Results of Aerial Photograph Review

An aerial photograph search was conducted on 3 June 1994 at McHenry Library on the campus of the University of California, Santa Cruz. The conditions at the subject site at random points in time were determined using a high magnification lens. The following descriptions of the property and local vicinity as observed on each aerial photograph. The date of the photograph precedes the description of that photograph.

12 October 1989: This is the most current photograph reviewed of the subject site. The subject site appears visually the same as it did at the time of the inspection 2 June 1994. The southern half of the property appears to be used for the storage of pipes and equipment. The vicinity appears visually the same as it did at the time of the inspection. The photograph confirms that the surrounding area is comprised primarily of residential structures with some retail businesses and offices located along Capitola Road.

14 October 1975: The southern portion of the subject site appears to be vacant and covered with vegetation. It appears the two storage sheds are not present. The local vicinity appears visually the same as compared to the 1989 photograph.

2 April 1970: The subject site appears to have a long narrow structure in the location of the barn. The surrounding vicinity is visually very similar to the 1975 photograph.

2 June 1956: The subject site appears the same as the 1970 photograph. The area across Capitola Road appears to be farmland and homes. The surrounding area is much more rural, and agricultural.

25 April 1948: The subject site appears to be a farm. Only the house appears to be present. The vicinity land use now is predominantly agricultural with some residential.

April 1931: The subject site appears to have a different narrow barn present in the current area of the barn. Few if any trees are present on the subject site or the surrounding area. The area is predominantly farmland.

The above were the only aerial photographs reviewed at the UCSC map library regarding the subject site.

5.37 Previous Environmental Investigations at the subject site

No previous environmental investigations have been conducted at the subject site.

6.0 DISCUSSION

Asbestos - No suspect asbestos-containing material was found during the exterior inspection conducted 2 June 1994. However, due to the age of the house (built in approximately the 1930's), asbestos-containing building materials may be present in the roofing, wall board, ceiling, and flooring materials.

PCB's - According to Jim Maritch, a Pacific Gas & Electric representative, there are no transformers located on the subject property (located in the Capitola Road right-of-way).

Landfills - The California Integrated Waste Management Board reports the following landfills in the area:

Active Landfills: A review of the list of active landfills revealed no active landfills within one mile of the subject site.

Closed and Inactive Landfills: A review of the list of closed or inactive landfills revealed none within a one mile radius of the subject site.

Above ground storage tanks - There is one approximately 1,500-gallon above ground storage tank located in the south central portion of the property (See Site Map, Figure 2). Jim Johnson stated that the tank is used to haul asphalt slurry from a supplier to the job site. The tank is used as a mobile tank and normally is empty when it is returned to the sight. No stains were noted surrounding the tank area. The tank appears newer and in good condition.

In addition, a 550-gallon diesel and 350-gallon motor oil above ground storage tanks were located within Storage Shed #1 until 1994. Some staining was noted on the concrete floor of the storage shed.

Underground storage tanks - There are no records with the Santa Cruz County Environmental Health Department regarding the use of underground storage tanks at the subject site.

Air Emissions - According to Greg Chee, of the MBAQMD, there are no permitted air emissions from the subject site.

Water Supplies - Public water supply.

Wastewater - No wastewater has been generated at the site.

Waste Generation, Storage, and Disposal - There is a Hazardous Materials Management Plan on file at the Santa Cruz County Environmental Health Department for the storage of diesel and motor oil at the subject site.

Pesticides/Herbicides - There was no documented use of pesticides or herbicides at the site. According to the site photographs, the area has been used for farming, indicating the use of pesticides/herbicides was possible.

Regional or Adjacent Problems - Potential adjacent problems are discussed in the Results of Regulatory Agency Contacts section (6.5) of this report.

7.0 CONCLUSIONS

The earliest aerial photographs regarding the subject site and vicinity indicate that the area was primarily farmland in the 1930's. A list of occupants of the subject site and other nearby properties is given in section 3.1 of this report.

A title search conducted at the Santa Cruz County Assessors Office revealed that the current owner of the property is James L. and Gertie M. Johnson. A list of owners prior to the Johnson's is given in the Record and Directory Review section 3.1 of this report.

The public record and document review revealed that there are four sites within a one-half mile radius of the subject site where contamination events have occurred. The site located at 1670 Capitola Road is located up- and cross-gradient of the subject site. Based on the proximity to the subject site and the inferred groundwater gradient (established to be southwest at nearby sites, 1035 17th Avenue and 705 Capitola Road), it is slightly possible this site would have impacted the subject site. The other three sites are located down gradient of the subject would not likely impact the subject site.

Inquires made with the Santa Cruz County Environmental Health Department (SCCEHD) and the Monterey Bay Unified Air Pollution Control District revealed that no soil or groundwater contamination events have been reported at the subject site, nor have any permits been issued to the subject site for air emissions. An HMMP is on file with the SCCEHD for the storage of hazardous materials.

Surface staining was noted in the area of the storage yard where the heavy equipment is stored. In addition, surface staining was also noted inside the storage shed.

Based on the information presented above, there is only a slight chance that soil and/or groundwater resources at the subject site have been impacted by contamination originating off-site, from the U-Haul facility. There appears to be no evidence of underground storage tank usage at the subject site, based on this investigation. Several environmental concerns have been identified on-site: the surface staining on the ground and asphalt in the area of the heavy equipment storage, and possible asbestos-containing building materials and/or lead-based paint in the house.

8.0 RECOMMENDATIONS

Based only on the discovered information above, the only environmental concerns originating from on-site that may have impacted the soil and/or groundwater resources at the subject site are the surface staining in the area of the heavy equipment storage and Storage Shed #1. Surface sampling in these areas is recommended.

Prior to demolition of the main house, it is recommended that a destructive asbestos inspection and sampling event be conducted.

It appears to be only slightly likely that soil and/or groundwater resources have been impacted by activities originating from off-site sources. No further investigation regarding contamination originating off-site is recommended at this time.

9.0 LIMITATIONS

This summary is based strictly on the information obtained in this investigation. It is always recommended, for a greater level of confidence, that sampling of soil and groundwater be performed to verify the accuracy of the information relied upon in this report.

Sincerely,

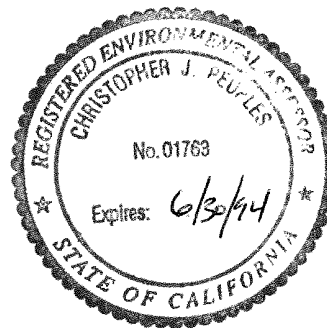
Remediation Risk Management, Inc.



Katherine M. Sharp
Site Assessor



Christopher J. Peoples
Project Manager



LIST OF REFERENCES

- (1) U.S.G.S. Topographic Map. Soquel Quadrangle.
1980PR.
- (2) Haines City Directory 1978-1993, not inclusive.
- (3) Polk City Directory 1950-1977, not inclusive.
- (4) U.S. Environmental Protection Agency, Region 9, CERCLIS
Listing. Proposed and Final National Priority List.
8pp. 1993.
- (5) Office of Planning and Research. State of California
Hazardous Waste and Substances Sites List. November
1993.
- (6) State Water Resources Control Board. Report on
Releases of Hazardous Substances From Underground
Storage Tanks. Central Coast Region. Updated November
1993.
- (7) Santa Cruz County Department of Environmental Health.
Hazardous Materials Incidents & Spills. Updated May 1994.

REMEDIAL ACTION SUMMARY REPORT

**1438 Capitola Road
Santa Cruz, California**

Prepared for:

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3 October, 1994

REMEDIAL ACTION SUMMARY REPORT


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Santa Cruz, California

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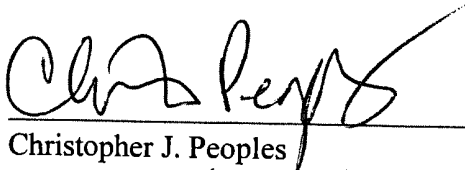
03 October 1994

APPROVALS:



David Glick
Senior Geologist

10/5/94
Date



Christopher J. Peoples
Project Manager

10/5/94
Date

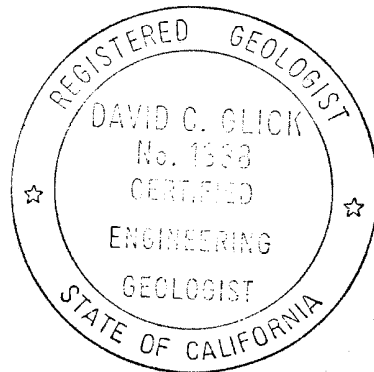


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- 2 - Site Map
- 3 - Soil Excavation Details

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- 1 - Summary of Soil Sample Analysis

APPENDICES

- A - Soil Disposal Receipts
- B - Certified Analytical Reports and Chain of Custody Documentation

REMEDIAL ACTION SUMMARY REPORT
1438 CAPITOLA ROAD
SANTA CRUZ, SANTA CRUZ, CALIFORNIA

This report summarizes the procedures and findings of the soil excavation and removal work conducted at 1438 Capitola Road in Santa Cruz, California (see figure 1). All work described herein was performed on September 2 and 21, 1994 by the owner under the direct observation of Remediation Risk Management, Inc. (RRM) of Aptos, California

1.0 BACKGROUND INFORMATION

1.1 Site Description

The subject site is a construction and paving equipment storage yard located at 1438 Capitola Road in Santa Cruz, Santa Cruz County, California. The site is currently being used by The Road Company for the storage of heavy construction equipment and materials. According to a representative of the Road Company, the company has used the yard to store and dispense diesel fuel for its vehicles and for the storage of containers of hydraulic and motor oil for its vehicle maintenance. The main areas of concern have been referred to in the Phase I Assessment report prepared by RRM, dated June 6, 1994 (see figure 2). These areas included the storage shed area located near the southwest corner of the house, a concrete slab drum storage area located approximately 40-feet south of the storage sheds, and several dirt and asphalt areas containing surface soil staining in the heavy equipment parking area, located along the south edge of the property. As indicated in the Phase I report, a 550-gallon diesel tank and a 350-gallon motor oil tank were previously located in the Storage Shed area. The diesel tank and motor oil tank were removed in January and May, 1994, respectively.

In July 1994, RRM collected soil samples from the areas most suspect of being impacted by motor oil and/or diesel products (Storage Shed area and the heavy equipment storage area, see figure 2). Soil sample depths ranged from 6-inches to 3-feet below surface grade. Laboratory analysis results of the samples showed Total Oil and Grease (TOG) concentrations up to 3,400 parts per million (ppm) and Total Petroleum Hydrocarbons as Diesel (TPHg) up to 9.9 ppm.

2.0 PROJECT OBJECTIVES AND REMEDIAL WORK SCOPE

2.1 Objectives

The objective of the workscope was as follows:

1. Excavate and dispose of all soils containing petroleum hydrocarbon products.

2.2 Workscope

In an effort to complete the objective as set forth above, RRM conducted the following activities:

1. Provided oversight for excavating and removal of all visually contaminated soils from the areas of concern.
2. Collected soil samples from the sidewalls and/or bottoms of each excavation, as necessary, and submitted them for laboratory analysis.

Details of these activities are presented below:

3.0 METHODOLOGY

3.1 Soil Excavation

A licensed backhoe operator contracted by the owner, excavated and removed soils from the previously identified impacted areas and areas where surface staining was evident. Excavation activities were supervised by an RRM staff geologist. Excavations were conducted in five areas, designated as excavations #1, #2, #3, #4, and #5 in Figure 3. Soils were scraped/and or removed from each area until there was no visual or olfactory evidence of petroleum hydrocarbon contamination. Jose DeAnda, with Santa Cruz County Environmental Health Department, inspected the site during excavation and soil sampling activities. Approximately 130 tons of contaminated soil was excavated. The soils were stockpiled on-site, and covered with visqueen sheeting. Following acceptance approval by the county of Santa Cruz the owner hauled all excavated soils to Buena Vista Sanitary landfill in Watsonville, California for disposal. The disposal receipts are provided in Appendix A. The excavations were reportedly backfilled by the client with clean fill material.

3.2 Soil Sampling and Analyses

Following soil excavation activities, RRM collected confirmation soil samples from the sidewalls and bottoms of excavations #1 and #2. Confirmation soil samples were used to substantiate that the soil contamination had been effectively removed. Excavated soils were logged by a staff geologist. RRM collected 8 soil samples from excavation #1, and 3 soil samples from excavation #2. Soil samples were not collected from excavations #3, #4, and #5 because there was no visual evidence of hydrocarbon impacts beneath the surface staining. RRM also collected one composite soil sample from four different areas in the stockpile. All samples were collected and sealed in 2-inch diameter brass liners, labeled, and placed into a cooler with ice. Following the completion of field activities, the samples were transported under chain of custody documentation to Hull Developmental Labs, Inc. of San Jose, California. Samples were analyzed for Total Petroleum Hydrocarbons as Diesel (TPHD) by EPA Method 8015M, and Total Oil and

Grease (TOG) by method SM 5520F. The laboratory analyses reports and chains of custody are included in Appendix B.

4.0 CONCLUSIONS

The initial excavation activities conducted on September 2, 1994 removed 130 tons of soils. However results from the soil sample collected from the west sidewall of the excavation indicated concentrations of 700 ppm as diesel were present. Additional excavation was completed at excavation #1 on September 21, 1994 to remove the remaining contamination. Additional confirmation soil samples were collected and submitted to Hull Developmental Labs.

Refer to Table 1 for a summary of the soil sample analysis results, and Figure 3 for the scaled dimensions and locations of the excavation and soil sample areas.

Soil sampling analyses indicate that the contaminated soils have been removed to non-detectable levels in the areas of concern.

TABLES

TABLE 1
SUMMARY OF SOIL ANALYSIS
 1438 Capitola Road
 Santa Cruz, California

WELL I.D.	SAMPLE DATE	TPH-Diesel (ppm)	Total Oil & Grease (ppm)
1-EAST	09/02/94	ND	ND
1-NORTH	09/02/94	ND	ND
1-SOUTH	09/02/94	ND	ND
1-WEST	09/02/94	700	ND
1-BOTTOM	09/02/94	47	ND
2-NORTH	09/02/94	ND	ND
2-SOUTH	09/02/94	ND	ND
2-EAST	09/02/94	ND	ND
1-SW	09/21/94	ND	NA
1-NW	09/21/94	ND	NA
2-BOTTOM	9/21/94	ND	NA
COMPOSITE	09/2/94	22	1,608

NOTE: TPH = Total Petroleum Hydrocarbons-as-Diesel
 ppm = Parts Per Million (mg/kg)
 ND = Not Detected
 NA = Not Analyzed

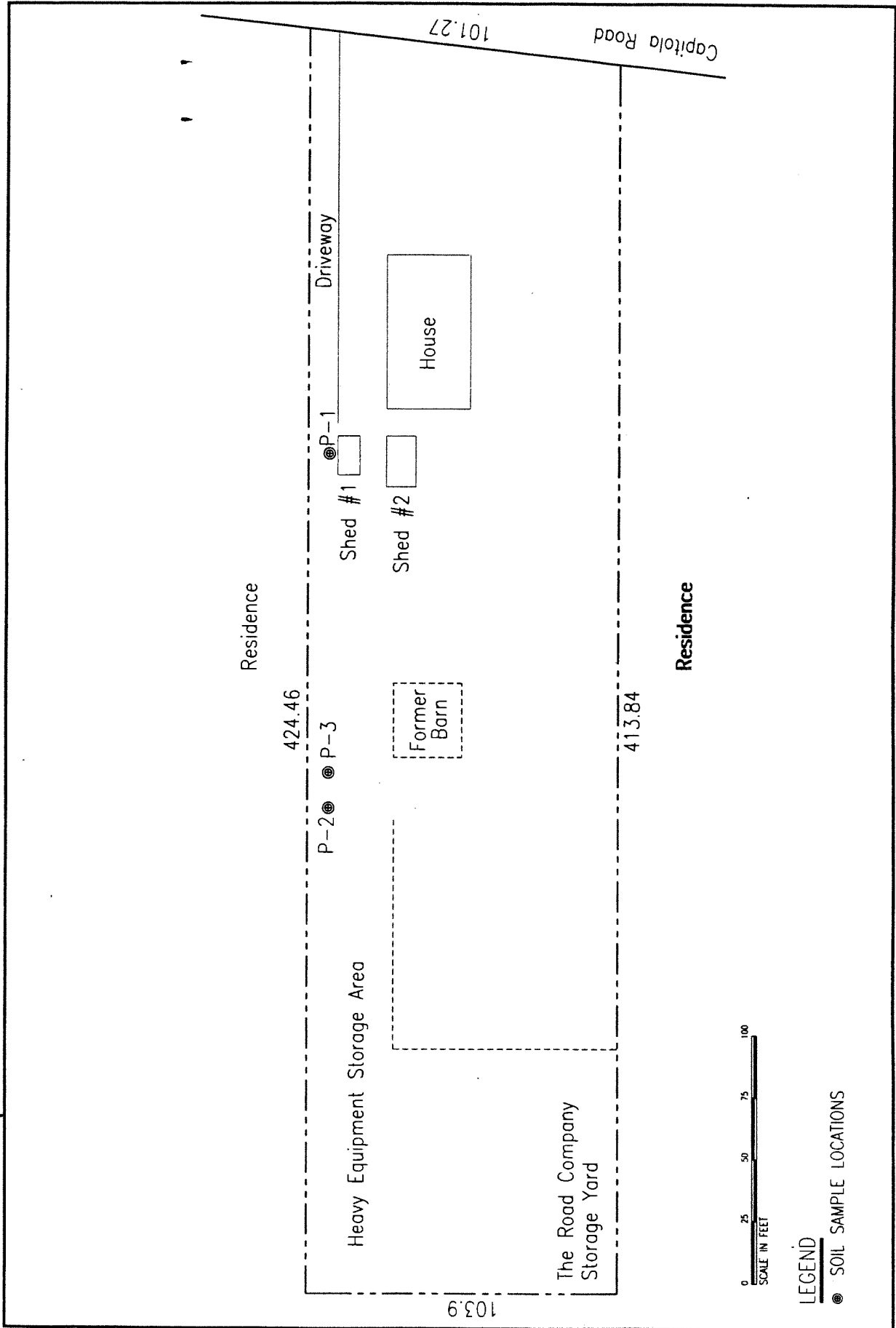
FIGURES



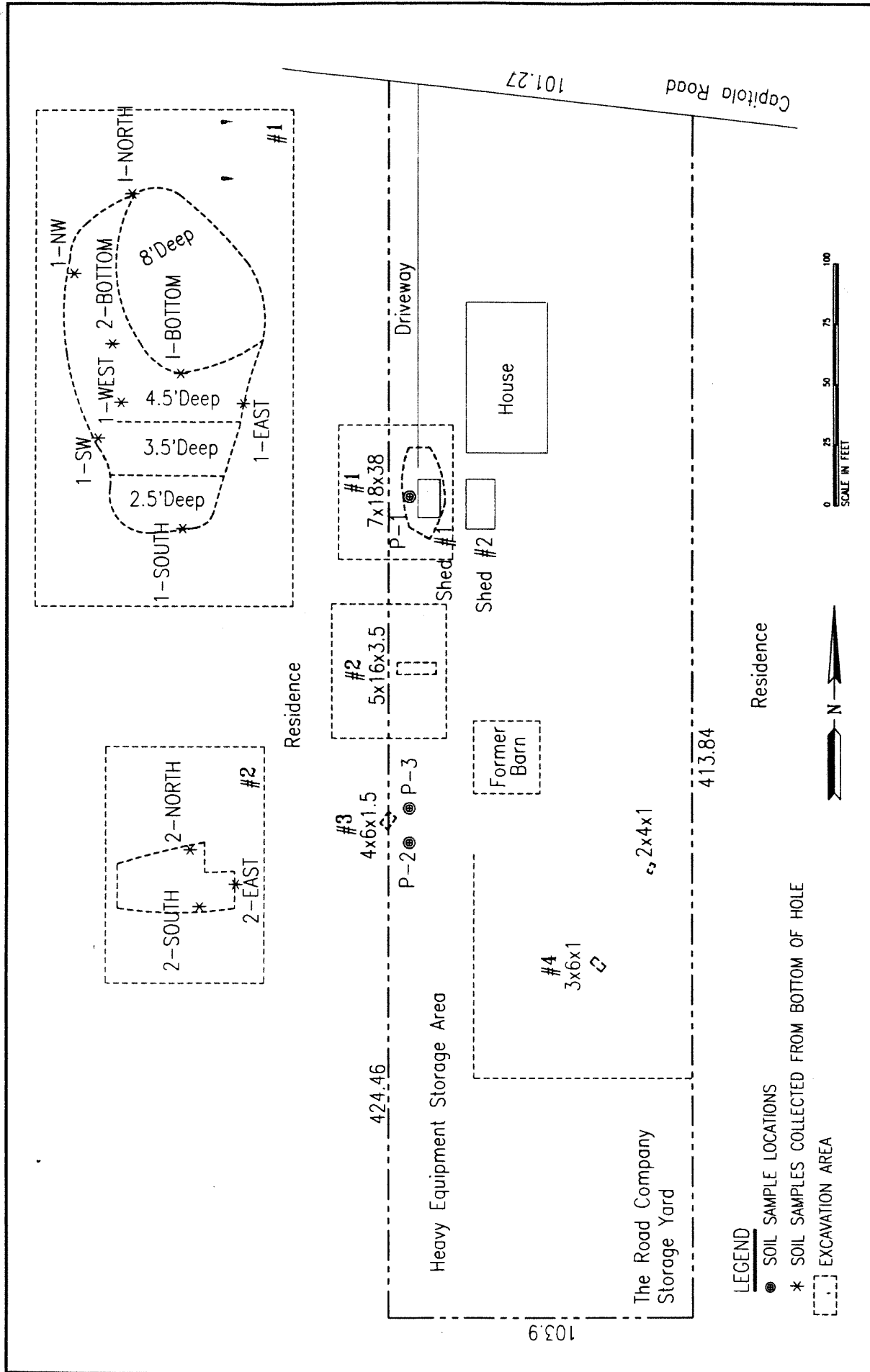
Figure 1

Generalized Site Map
 1438 Capitola Road
 Santa Cruz, CA

Remediation Risk Management, Inc.



EXTENDED SITE PLAN
 1438 Capitola Road
 Capitola, California



LEGEND
 ● SOIL SAMPLE LOCATIONS
 * SOIL SAMPLES COLLECTED FROM BOTTOM OF HOLE
 [---] EXCAVATION AREA

EXCAVATION SITE
 1438 Capitola Road
 Capitola, California



Appendix A

Soil Disposal Receipts

Cnty of Santa Cruz Buena Vista
1231 Buena Vista Dr.
Watsonville, Ca.

Job Site
Truck No. 5004 Box No.

TICKET NO.: 78731
DATE: 9/22/94 12:03

ACCOUNT: 1068
ROAD COMPANY, THE

-199 HELEN COURT

-SANTA CRUZ

, CA

Net Wt. Material
41480 W24-GENERAL REFUSE
Units Additional Items
0.0
0.0
0.0
0.0

Price/Unit Charge
\$39.50 \$819.23
\$0.00 \$0.00
\$0.00 \$0.00
\$0.00 \$0.00
\$0.00 \$0.00

Grand Total: \$819.23
Charged: \$819.23
Change: \$0.00

71700 Gross Weight Lbs.
30220 (M) Tare Weight Lbs.
41480 Net Weight Lbs.

Last Tare: 9/22/94

Driver: 

ROBERT

Cnty of Santa Cruz Buena Vista
1231 Buena Vista Dr.
Watsonville, Ca.

Job Site
Truck No. 5004 Box No.

TICKET NO.: 78653
DATE: 9/22/94 10:32

ACCOUNT: 1068
ROAD COMPANY, THE

-199 HELEN COURT

-SANTA CRUZ

, CA

Net Wt. Material
44080 W24-GENERAL REFUSE
Units Additional Items
0.0
0.0
0.0
0.0

Price/Unit Charge
\$39.50 \$870.58
\$0.00 \$0.00
\$0.00 \$0.00
\$0.00 \$0.00
\$0.00 \$0.00

Grand Total: \$870.58
Charged: \$870.58
Change: \$0.00

74300 Gross Weight Lbs.
30220 (M) Tare Weight Lbs.
44080 Net Weight Lbs.

Last Tare: 9/22/94

Driver: 

KAREN

Temp #

5004

Cnty of Santa Cruz Buena Vista
1231 Buena Vista Dr.
Watsonville, Ca.

Job Site
License No.: 9C41703

TICKET NO.: 78593
DATE: 9/22/94 9:21

ACCOUNT: 1068
ROAD COMPANY, THE

-199 HELEN COURT

-SANTA CRUZ


, CA

Net Wt. Material
45700 W24-GENERAL REFUSE
Units Additional Items
0.0
0.0
0.0
0.0

Price/Unit Charge
\$39.50 \$902.58
\$0.00 \$0.00
\$0.00 \$0.00
\$0.00 \$0.00
\$0.00 \$0.00

Grand Total: \$902.58
Charged: \$902.58
Change: \$0.00

75920 (M) Gross Weight Lbs.
30220 Tare Weight Lbs.

Driver: 

Cnty of Santa Cruz Buena Vista
1231 Buena Vista Dr.
Watsonville, Ca.
ACCOUNT:1068

Job Site
Truck No.5002 Box No.

TICKET NO.: 78666
DATE: 9/22/94 10:57

ROAD COMPANY, THE

-199 HELEN COURT

-SANTA CRUZ

, CA

Net Wt.	Material	Price/Unit	Charge	Grand Total:
46700	W24-GENERAL REFUSE	\$39.50	\$922.33	\$922.33
Units	Additional Items			Charged: \$922.33
0.0		\$0.00	\$0.00	: \$0.00
0.0		\$0.00	\$0.00	Change: \$0.00
0.0		\$0.00	\$0.00	
0.0		\$0.00	\$0.00	

75240 Gross Weight Lbs.
28540 (M) Tare Weight Lbs. Last Tare: 9/22/94
46700 Net Weight Lbs.

Driver: *Jerry [Signature]*
KAREN

Cnty of Santa Cruz Buena Vista
1231 Buena Vista Dr.
Watsonville, Ca.
ACCOUNT:1068

Job Site
Truck No.5002 Box No.

TICKET NO.: 78615
DATE: 9/22/94 9:40

ROAD COMPANY, THE

-199 HELEN COURT

-SANTA CRUZ

, CA

Net Wt.	Material	Price/Unit	Charge	Grand Total:
40500	W24-GENERAL REFUSE	\$39.50	\$799.88	\$799.88
Units	Additional Items			Charged: \$799.88
0.0		\$0.00	\$0.00	: \$0.00
0.0		\$0.00	\$0.00	Change: \$0.00
0.0		\$0.00	\$0.00	
0.0		\$0.00	\$0.00	

69040 Gross Weight Lbs.
28540 (M) Tare Weight Lbs. Last Tare: 9/22/94
40500 Net Weight Lbs.

Driver: *Jerry [Signature]*
ROBERT

Cnty of Santa Cruz Buena Vista
1231 Buena Vista Dr.
Watsonville, Ca.
ACCOUNT:1068

Job Site
License No. 13B63974

TICKET NO.: 78562
DATE: 9/22/94 8:30

ROAD COMPANY, THE

-199 HELEN COURT

-SANTA CRUZ

, CA

Net Wt.	Material	Price/Unit	Charge	Grand Total:
42780	W24-GENERAL REFUSE	\$39.50	\$844.91	\$844.91
Units	Additional Items			Charged: \$844.91
0.0		\$0.00	\$0.00	: \$0.00
0.0		\$0.00	\$0.00	Change: \$0.00
0.0		\$0.00	\$0.00	
0.0		\$0.00	\$0.00	

71320 (M) Gross Weight Lbs.
28540 Tare Weight Lbs.
42780 Net Weight Lbs.

Driver: *Jerry [Signature]*
KAREN

5002



Hull Development Labs, Inc.

Remediation Risk Management
P.O. Box 1362
Aptos, CA 95001
Attn: Chris Peoples

Date:	9/12/94
Date Received:	9/6/94
Date Analyzed:	9/8/94
Lab #:	See Table
P.O #:	
Sampled By:	Client

Certified Analytical Report


Soil Sample Analysis (1438 Capitola Road):

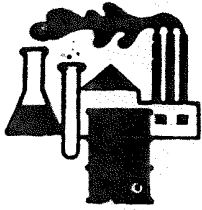
Sample ID	Sample Date	Sample Time	Lab #	TPH-Diesel	Total Oil & Grease
#1-East	9/2/94	11:50	A5230	None detected	None detected
#1-North	9/2/94	11:50	A5231	None detected	None detected
#1-South	9/2/94	11:50	A5232	None detected	None detected
#1-West	9/2/94	11:50	A5233	700.0	None detected
#1-Bottom	9/2/94	11:50	A5234	47.0	None detected
#2-North	9/2/94	14:50	A5235	None detected	None detected
#2-South	9/2/94	14:50	A5236	None detected	None detected
#2-East	9/2/94	14:50	A5237	None detected	None detected
SP#1 & SP#2 Composite	9/2/94	15:20	A5238	22.0	1608.0

1. Analysis performed by Hull Development Labs, Inc. (CAELAP #1369)
2. Above values in mg/kg (ppm).

Summary of Methods and Detection Limits:

	TPH-Diesel	Total Oil & Grease
Method #	EPA 8015M	SM 5520F
Units	mg/kg	mg/kg
Detection Limit	1.0 mg/kg	50.0 mg/kg


Michael N. Golden, Lab Director



Hull Development Labs, Inc.

Remediation Risk Management
P.O. Box 1362
Aptos, CA 95001
Attn: Chris Peoples

Date:	9/27/94
Date Received:	9/23/94
Date Analyzed:	9/26/94
Lab #:	See Table
Project:	Road Company
Sampled By:	Client

Certified Analytical Report

Soil Sample Analysis:

Sample ID	Sample Date	Sample Time	Lab #	TPH-Diesel
#2-Bottom	9/21/94	11:00	A5671	None detected
#1-SW	9/21/94	10:50	A5672	None detected
#1-NW	9/22/94	10:30	A5673	None detected

1. Analysis performed by Hull Development Labs, Inc. (CAELAP #1369)
2. Above values in mg/kg (ppm).

Summary of Methods and Detection Limits:

	TPH-Diesel
Method #	EPA 8015M
Units	mg/kg
Detection Limit	1.0 mg/kg

Michael N. Golden, Lab Director

Hull Development Labs, Inc.

11409 Minnesota Ave.
San Jose, CA 95125

QUALITY CONTROL RESULTS SUMMARY

METHOD: SM5520F

QC Sample No.: A5236

Date Analyzed:

9/8/94

Matrix: Soil

Units: mg/kg

PARAMETER	SA mg/kg	SR mg/kg	MS mg/kg	MSD PR	MSD mg/kg	MSD PR	RPD	QC LIMITS RPD	PR
Oil & Grease	100	0	95	95	110	110	15%	25	70-130

LAB DIRECTOR:


M. Golden

HULL DEVELOPMENT LABS INC.

1149 Minnesota ave
San Jose. CA 95125

QUALITY CONTROL RESULTS SUMMARY
FOR DIESEL ANALYSIS

DIESEL
QC sample No.: BLANK SPIKE & DUP Date analyzed: 09-07-94

Matrix: SOIL

Units: mg/Kg

Dilution factor: 1

COMPOUND	SA	SR	MS	MS	MSD	MSD	RPD	QC LIMITS	
	mg/Kg	mg/Kg	mg/Kg	PR	mg/Kg	PR		RPD	PR
DIESEL	20	0	16	80	15	75	7	25	50-150

MS = Spike sample
MSD = Spike sample duplicate
SR = Sample result
SA = Spike added

NC = Not calculated

** = Out of limits

$$RPD = 100 \times (MS - MSD) / ((MS + MSD) / 2)$$

$$PR = 100 \times ((MS \text{ or } MSD) - SR) / SA$$

QUALITY CONTROL RESULTS SUMMARY
FOR DIESEL ANALYSIS

DIESEL
QC sample No.: BLANK SPIKE & DUP Date analyzed: 09-23-94

Matrix: SOIL

Units: mg/Kg

Dilution factor: 1

COMPOUND	SA	SR	MS	MS	MSD	MSD	RPD	QC LIMITS (ADVISORY)	
	mg/Kg	mg/Kg	mg/Kg	PR	mg/Kg	PR		RPD	PR
DIESEL	20	0	17	85	17	85	0	25	50-150

MS = Spike sample
MSD = Spike sample duplicate
SR = Sample result
SA = Spike added

NC = Not calculated
** = Out of limits

$$RPD = 100 \times (MS - MSD) / ((MS + MSD) / 2)$$

$$PR = 100 \times ((MS \text{ or } MSD) - SR) / SA$$

Appendix B

Certified Analytical Reports

Chain of Custody Documentation

Hull Development Labs

1149 Minnesota Ave., San Jose, CA 95125 Tel: (408) 287-1777 Fax: (408) 287-1786

Chain of Custody/Analysis Work Order

Client: Remediation Risk Mgmt. (RRM)

Project ID: 1438 Capitola Rd.

Address: PO Box 1302

Purchase Order #:

Contact: Apts. Ct. 95001

Telephone #: 408-662-6411

Date Received:

Due Date: Please call Mr. Chris Peoples immediately to establish turnaround time.

LAB USE ONLY

Samples arrived chilled and intact:

Yes No

Notes: _____

Sample Information								Requested Analysis					
Lab #	Sample ID	Grab/Composite	Matrix	Date Collected	Time Collected	Pres.	Sample Container	TOH	1250p	PC			
AS230	#1 - east		SOIL	9/2/94	1150		None ↑						
AS231	#1 - north				1150		SS Liner						
AS232	#1 - south				1150								
AS233	#1 - west				1150								
AS234	#1 - bottom				1450								
AS235	#2 - north				1450								
AS236	#2 - south				1450								
AS237	#2 - east				1450								
Relinq. By: <u>[Signature]</u>								Received By: <u>GW King</u>		Date: <u>9-6-94</u>		Time: <u>1:30</u>	
Relinq. By: _____								Received By: _____		Date: _____		Time: _____	
Relinq. By: _____								Received By: _____		Date: _____		Time: _____	

Hull Development Labs

1149 Minnesota Ave., San Jose, CA 95125 Tel: (408) 287-1777 Fax: (408) 287-1786

Chain of Custody/Analysis Work Order

Client: RRM

Address: Pc Box 1362

Aptos, CA. 95011

Contact: Chris Peoples

Telephone #: 408-662-9411

Date Received: _____

Due Date: 9/2/94

Project ID: 1438 Capitola Rd.

Purchase Order #: _____

LAB USE ONLY

Samples arrived chilled and intact:

Yes No

Notes: _____

Sample Information							Requested Analysis							
Lab #	Sample ID	Grab/Composite	Matrix	Date Collected	Time Collected	Pres.	Sample Container	THH	diesel	TOG				
A5238	COMPOSITE - SP#14 SP#2		Soil	9/2/94	1520		Brass liner	X		X				
Relinq By: <u>Mark Klemm</u>							Received By: <u>Del Ruy</u>							
Relinq By:							Received By:							
Relinq/By:							Received By:							
							Date: <u>9-6-94</u> Time: <u>1:30</u>							
							Date: _____ Time: _____							
							Date: _____ Time: _____							

Hull Development Labs

1149 Minnesota Ave., San Jose, CA 95125 Tel: (408) 287-1777 Fax: (408) 287

Chain of Custody/Analysis Work Order

Chain of Custody

IE: 9/23/94 PAGE: 1 of 1

PROJECT MOR: Chris Peoples
 COMPANY: Remediation Risk Mgmt.
 ADDRESS: PO Box 1362
 Aptos CA 95001
 PHONE: 662-9411 FAX: 684-2454
 SIGNATURE: [Signature]

ANALYSIS REPORT

SAMPLE ID.	DATE	TIME	MATRIX	ANALYSIS										RELINQUISHED BY:	RECEIVED BY:															
				TPH-Gasoline (EPA 5030.8015)	TPH-Gasoline (5030.8015) w/BTEX(EPA 602.8020)	TPH-Diesel (EPA 3510/3550.8015)	PURGEABLE AROMATICS (EPA 3510/3550.8015)	BTEX (EPA 602.8020)	TOTAL OIL & GREASE (EPA 5520 C.DAT)	PESTICIDES/PCB (EPA 608.8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418)	CHLORINATED HYDROCARBONS (EPA 601.8010)	RECEIVED BY: 1			RECEIVED BY: 2														
NUMBER OF CONTAINERS												SIGNATURE:	SIGNATURE:	Date:	Date:	Time:	Time:	COMPANY:	COMPANY:											
#1 - bottom	9/21	1100	Soil			X										A-5671														
#1 - SW	9/21	1050														A-5672														
#1 - NW	9/22	1030														A-5673														
				SAMPLE RECEIPT		TOTAL # OF CONTAINERS		RECD. GOOD COND./COLD																						
PROJECT INFORMATION				Road Company		3				RELINQUISHED BY: Matt Rempt		RECEIVED BY:		SIGNATURE:		SIGNATURE:		Date:		Date:		Time:		Time:						
INSTRUCTIONS & COMMENTS:										9/23/94		8:30		RRM, Inc.																