E2C INC.

Environmental/Engineering Consultants

August 24, 1992
Job No. 4210100

Diocese of Oakland
2900 Lakeshore Avenue
Oakland, CA 94610

ATTN: Mr. Clement J. Finney, Jr.
SUBJECT: Environmental Site Assessment, Soil Sampling, Analysis and Remediation Work Plan
Walpert Ridge Lands of the Y. Charles Soda Trust
180 Acres
Hayward, California

Gentlemen:

Pursuant to our proposal dated April 15, 1992, E_2C, Inc. has conducted an Environmental Site Assessment (*ESA*) including soil sampling and analysis at the aforementioned subject site. The purpose of this ESA was to assess the potential for contamination to have been created by past or present site specific activities as well as the potential for contamination to have been created by its migration onto the subject site from an off-site source.

Our initial phase of investigation has concluded that the subject site has been adversely impacted by the release of hazardous materials into the soils of the site as a result of leakage from on-site storage containers. We have observed no evidence that the subject site has been adversely impacted by the migration of contamination onto the site from off-site sources. Details of our conclusions and recommendations for further investigation and remediation are included on page 20.

Should you have any questions or require supplemental information, please do not hesitate to contact us.

Sincerely,

Robb Welch
Project Geologist

Kendall W. Price, CEG/REA
President

cc: Mr. James Dye, Agent, Y. Charles Soda Trust

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ENVIRONMENTAL SITE ASSESSMENT, SOIL SAMPLING, ANALYSIS AND REMEDIATION WORK PLAN WALPERT RIDGE LANDS OF THE Y. CHARLES SODA TRUST 180 ACRES HAYWARD, CALIFORNIA

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FIGURES, TABLES, AND APPENDICES

1.0 EXECUTIVE SUMMARY

In April of 1992, E_2C, Inc. was retained by the Diocese of Oakland to perform an Environmental Site Assessment on approximately 180 acres of land within the city limits of Hayward, California (*Figure 1*). The site is situated within an area known as Walpert Ridge. The site consists of two separate areas of land which are in turn divided into several parcels. A vacant residential structure and three out structures (*barn, maintenance shed and stable*) are located on one of the parcels. The remaining parcels are undeveloped and are covered with native vegetation.

An initial site inspection was conducted by Mr. Robb Welch of E_2C, Inc. on April 17, 1992. During this inspection the maintenance shed located on one of the parcels of the subject site was observed to have several containers of known and unknown substances. It was also observed that several areas of the soil floor within the maintenance shed were intensely stained and discolored.

Based on these observations, 5 near surface soil samples were collected from within the maintenance shed on May 15, 1992, and sent to the laboratory for analysis. The laboratory reported that all 5 soil samples had detectable levels of hydrocarbons (*mainly diesel, oil and grease*). Volatile Organic Compounds (*VOCs*) were reported in 1 of the soil samples analyzed and Semi-VOCs were reported in 2 of the soil samples analyzed[1].

Based on the laboratory results of the May soil sampling and analysis program at the subject site, E_2C, Inc. recommended to the Diocese of Oakland that additional soil samples be collected at greater depths for analysis to determine the vertical extent of impacted soils.

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[1] A VOC is a chemical compound in which the constituents tend to pass from the liquid or solid state into the vapor state at temperatures and atmospheric pressures which are similar or greater than those at which water exists in a liquid state. Semi-VOC's are similar in nature to VOC's but require higher temperatures and atmospheric pressures to pass into the vapor state.

On June 9, 1992, E_2C, Inc. collected 2 soil samples at a depth of 3 feet from within the maintenance shed and, in addition, 4 samples were collected from outside the maintenance shed to assess the lateral extent of adversely impacted soil. Of the 4 additional soil samples, 3 were collected from a depth of 3 feet and 1 was collected from a depth of 6 feet.

Based on the May 1992 laboratory analysis, the additional soil samples collected on June 9, 1992, were analyzed for VOCs, semi-VOCs, Total Petroleum Hydrocarbons in the form of diesel (*TPHd*), Oil and Grease. The laboratory reported that the soil samples collected at depths of 3 and 6 feet from just outside the front door of the maintenance shed were impacted with detectable concentrations of VOCs, semi-VOCs, TPHd, oil and grease. The 2 new soil samples collected from a depth of 3 feet inside the maintenance shed were reported not to have detectable levels of VOCs, semi-VOCs, TPHd, oil and grease. The remaining soil samples collected from a depth of 3 feet outside of the maintenance shed were reported to be non-detect for VOCs, semi-VOCs, TPHd, oil and grease.

Using the laboratory data generated from these two phases of work, E_2C, Inc. has characterized and defined the nature of the contaminants involved and their relative lateral and vertical extent. Although the entire top 1 foot of soil inside the maintenance shed is very likely impacted by oil and grease, the contamination does not appear to be greater than 1-2 feet in depth. The principle area of concern is the soil located in the northwestern corner of the maintenance shed (*Figure 5*). Soil samples collected from this area were reported to be impacted by VOCs, semi-VOCs, TPHd, oil and grease to depths of 6 feet. The decrease in concentrations in respect to depth reported from the soil samples collected at 3 and 6 feet suggests that the vertical extent of the adversely impacted soil is not likely to be greater than 8-10 feet in depth.

assumption — need to take samples to prove

On July 2, 1992, a meeting was held at the subject site to discuss strategies for site remediation. Present at the meeting were representatives of E_2C, Inc.,

representatives of the Y. Charles Soda Trust (*owners of the subject site*) and representatives of the Diocese of Oakland (*potential receivers of the subject site*). At this meeting E_2C, Inc. recommended that all of the adversely impacted soil be excavated and disposed of properly.

E_2C, Inc. has been informed by the Y. Charles Soda Trust that Decon Environmental, Inc. of Hayward, California, will perform the task of characterizing and removing all hazardous materials from the subject site.

A draft of this report was presented to the Y. Charles Soda Trust and Diocese of Oakland for review and comment on August 3, 1992. The diocese of Oakland retained the services of Clayton Environmental Consultants (*Clayton*) of Pleasanton, California, for further review and comment. Clayton presented the findings of their review in a letter dated August 14, 1992. This letter is included in Appendix F and the issues raised in the letter are addressed in Section 10 of this report.

2.0 INTRODUCTION

E_2C, Inc. has completed an Environmental Site Assessment of the Y. Charles Soda Trust lands on Walpert Ridge (hereafter referred to as the subject site) as per our proposal dated April 15, 1992. This ESA was performed for the Diocese of Oakland at the request of Mr. Clement J. Finney, Jr. The purpose of this ESA was to assess the potential for the subject site to have been adversely impacted by past or present site activities as well as the potential for contamination to have been created by the migration of contamination onto the subject site from off-site sources.

It is the understanding of E_2C, Inc. that the Y. Charles Soda Trust is proposing to transfer Property Title of the subject site to the Diocese of Oakland.

3.0 SCOPE OF WORK

The scope of services for the performance of this Level I ESA included the following tasks:

- Site inspection of the subject property.
- Research and review of available geologic and hydrologic information on the site vicinity.
- Review of county, state, and federal publications for known contaminated sites currently under study or remediation that could adversely impact the subject site.
- Interviews with agency personnel and review of various agency files concerning the use and handling of hazardous materials at the subject site and investigations of contamination at nearby sites.
- The collection of eleven soil samples from in and around one of the out structures located on the Soda West portion of the subject site.
- Laboratory analysis of the soil samples collected based on the material stored in the out structure.
- Collection of building material samples to be analyzed for asbestos fibers.
- Preparation of this formal report presenting the results of our environmental study including appropriate conclusions and recommendations based on the results of our study.

4.0 SITE LOCATION AND DESCRIPTION

The subject site consists of 180.47 acres of land situated on Walpert Ridge in the city of Hayward, California (*approximately 2 miles east of California State University, Hayward*). The site is made up of two separate areas of land which are in turn comprised of multiple parcels (*Figure 1*). The first land area (hereafter referred to as Soda West) is 54.67 acres in size and consists of Alameda County Assessors Parcel Numbers (APN) 85A-4200-1-11 and 85A-6400-8-1. The second land area (Soda East) is 125.8 acres in size and consists of APNs 85A-4200-1-8, 85A-4200-1-9, 85A-4200-1-10, 85A-4200-1-16, 85A-4200-2-3, 85A-4200-2-4 AND 85A-4200-2-7. According to the United States Geological Survey Quadrangle Map, Hayward, the site is situated within Township 3 south, Range 1 west, Section 19.

Soda West is an irregularly shaped land area which is developed with a single family residence, a barn, maintenance shed and stable. The topography of the site consists mostly of rolling grasslands with occasional oak groves. The land has been primarily used as pasture for cattle grazing. Elevations of Soda West range from 1,200 to 1,340 feet above average sea level with topography which is mostly flat with some low rolling hills.

Soda East is also an irregularly shaped land area which is currently undeveloped. The site is covered with natural vegetation ranging from grass to large trees. The elevation of Soda East ranges from 1,180 to 1,400 feet above average sea level with a topography varying from moderately to steeply sloped.

5.0 SITE CONDITIONS

5.1 Geologic Setting

The site is located in the southern portion of the East Flank in the Diablo Range, which is situated on the eastern side of the San Francisco Bay depression. The area has experienced complex tectonic evolution as the ancestral California margin underwent transition from a convergent to a transform plate margin (Atwater, 1970). The Diablo Range includes alluvial areas close to the foothills of the Bay Plain and a marshland area adjacent to the San Francisco Bay (Maslonkowski, 1984).

The area of the subject site is underlain by Cretaceous marine sedimentary rocks (*65 to 135 million years in age*). These rock formations consist of sandstones and sandy shales of the Niles Canyon Formation and organic shales and limestones of the Moreno Formation. Walpert Ridge itself appears to be an uplifted structural block formed by the Stony Brook Fault.

5.2 Soil Conditions

The soils observed during the excavation of the test pits at the subject site consisted of dark brown silty fine to medium sands. The origin of the material is most likely the combination of alluvial processes and the in-place degradation of sandstone bedrock.

5.3 Hydrologic Setting

We observed no hydrogeologic data concerning the subject site during our investigation. We were informed by the site's caretaker, Mr. Joe Walter, that there is a wind powered well located near the stables on Soda West. Mr. Walter informed us that the well was approximately 30 feet deep and that the water level fluctuated from 10 feet below the surface to completely dry.

It is very likely that the water being produced in this well originates from a seasonal perched zone. Viable production quality aquifers would be expected to be at greater depths.

6.0 SITE SURVEY

6.1 Site History

The house and accompanying structures on Soda West were constructed in the 1940's - 1950's. There was no development on Soda West prior to these structures. The undeveloped portion of the site has historically been used as grazing land and the developed portions were used as a single family residence and materials storage for a construction business owned by Mr. Y. Charles Soda.

Soda East has never been developed and has also historically been used for cattle grazing.

6.2 Site Inspection

The site was inspected by a Mr. Robb Welch of E_2C, Inc. on April 17, 1992. Also present during the time of the inspection were Mr. Joe Walter, caretaker and former resident, Mr. James Dye, representing the Y. Charles Soda Trust, and Mr. Patrick Bitz, representing the Diocese of Oakland. The inspection was conducted to identify the current use of the subject site, to check for evidence of past or present storage, use, or misuse of hazardous materials, and to identify any aboveground or underground storage tanks, chemical storage areas, fluid discharges, PCB-containing transformers, or asbestos containing building materials on site. Site photographs are included in Appendix A of this report.

<u>Soda West</u>

The buildings on the Soda West portion of the subject site consist of a barn, maintenance shed and stable which historically have been used at different times as general storage, maintenance shops, and livestock and

livestock supply housing. There is also a single family residence located on the Soda West portion of land. The house consists of a single-story wood frame structure on a concrete pad. There is a small garage located next to the house. No evidence was observed during our inspection that there were any past or present activities occurring at the house which might adversely impact the subject site.

The barn (*located to the south relative to the house*) on the subject site is still predominantly used for storing livestock supplies (*mostly hay*). The stable (*located northernmost to the house*) was used at one time as a stable for horses and is now used to store old motor vehicles and hay. The soil on which the vehicles are parked was not stained by any motor vehicle fluids. During our inspection of these two facilities, we observed no evidence of past or present activities that might adversely impact the subject site.

The maintenance shed situated between the two aforementioned structures has been used for the past 40 or more years to store construction supplies and miscellaneous unused materials which were left over after construction projects. There were also 3 aboveground tanks located in the maintenance shed which were used to store motor oil and diesel. Other stored materials identified were hydrocarbon products of the type used for roofing treatment applications. These materials are stored in a variety of containers which include 55-gallon drums, smaller drums and various plastic containers. There were also automobiles and automobile engines stored in the shed. Some of the stored engines appeared to have leaked fluids onto the soil floor of the shed. There were other areas of the shed where staining has occurred on the soil floor. A detailed inventory of the materials identified in the shed by a waste disposal company is included in Appendix D. Photographs of our inspection of this area are included in Appendix A.

A hillside just north of the house on the subject site has also been used for the storing of leftover building materials. The items stored on this portion of the site consist of iron bridge girders, empty barrels and tanks, motor vehicle parts, kitchen appliances and miscellaneous construction items. Although the containers and various mechanical apparatus (*i.e., that once contained lubricants*) located in this area of the subject site should be removed and disposed of, there was no evidence observed that the items had in any way adversely impacted the soil on which they were located. There were empty tanks and barrels observed in this area, but there was no visual evidence that any of the former contents of these containers had leaked into the ground (*i.e., staining, odors or product residue in the containers*).

Asbestos Containing Building Materials in the form of corrugated roof tile was also observed in this area. This material is discussed in greater detail in Section 9.

The remaining portions of Soda West were undeveloped and used for livestock grazing. Nothing was observed in these areas that suggests that there have ever been any activities on this portion of the site which might adversely impact the subject site.

Soda East

The Soda East portion of the subject site is undeveloped and covered with native vegetation consisting of various trees, shrubs and grasses. This area is remote and is only accessible by dirt roads which require all-terrain vehicles. Nothing was observed during our inspection of this area indicating that there ever have been any activities on this portion of the site which might adversely impact the site.

6.3 Survey of Adjacent Properties

During our investigation, we also conducted a survey of adjacent properties to determine if any of these has the potential to impact the subject site. Surrounding properties consist of Garin Regional Park west of the site and similar undeveloped land located around and between Soda West and Soda East. Given our observations and the lack of commercial development in these areas it is highly unlikely that any of the sites surrounding the subject site have the potential to adversely impact the subject site.

7.0 DOCUMENT REVIEW

To further evaluate potential sources of contamination originating from on- or off-site sources, a review of relevant available information was performed by researching published agency documents, agency files, and other pertinent documents. Toxic and fuel cases, as published in the following documents, were reviewed to determine if there have been any investigations of contamination that could potentially impact the site.

Our review of these documents showed that neither the subject site or other areas within a one-mile radius are listed in any of these documents.

Federal Agency Publications:

- United States Environmental Protection Agency, Region 9; Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); Listing: Site/Event Listing; July 14, 1992.

- United States Environmental Protection Agency, Region 9; Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)-National Priority List (NPL); June 22, 1992.

State Agency Publications:

- State of California, Department of Conservation, Division of Oil and Gas; Regional Wildcat Maps; September 23, 1989.

- State of California, Governor's Office, Office of Planning and Research,. Office of Permit Assistance; Hazardous Waste and Substances Sites List (CORTESE List); November 1990.

- State of California, Regional Water Quality Control Board (RWQCB) - San Francisco Bay Region (2); Fuel Leak List; September 12, 1991, Updated November 5, 1991/January 6, 1992.

- State of California, RWQCB - San Francisco Bay Region (2); South/North Bay Site Management System Quarterly Reports; July - September, 1991.

- State of California, RWQCB - San Francisco Bay Region (2); Toxic Pits Cleanup Act (TPCA), Summary of Known Sites; November 1989.

- State of California Environmental Protection Agency (CalEPA), Department of Toxic Substances Control; Abandoned Site Program Information System (CAL SITES); October 30, 1991.

- CalEPA, Department of Toxic Substances Control; Expenditure Plan for the Hazardous Substances Cleanup Bond Act of 1984 (BEP), Revision No. 4; January 1989.

- CalEPA, Department of Toxic Substances Control; Expenditure Plan for the Hazardous Substances Cleanup Bond Act of 1984 (BEP), Revised 1989, Updated 1990.

- CalEPA, Integrated Waste Management Board; Solid Waste Information System List (SWIS); April 1990.

- CalEPA, Office of Drinking Water; Small Water Systems AB 1803 Final Status Report; 1990.

- CalEPA, Water Resources Control Board; Report on Releases of Hazardous Substances from Underground Tanks; January 1991.

- CalEPA, Water Resources Control Board; Well Investigation Program (WIP), Volatile Organic Chemicals in Public Water Supply Wells - San Francisco Bay Region; November 28, 1990.

8.0 SOIL SAMPLING AND ANALYSIS

8.1 May 12, 1992 Soil Sampling and Analysis

Soil Sampling

Based on observations made at the maintenance shed where the various motor vehicle fluids and construction materials are stored, E_2C, Inc. collected 5 near surface soil samples for analysis. The samples were collected from a depth of approximately 0.5 feet. The sample locations were selected based on areas in which the soil was observed to be stained. The sampling protocol followed for the task is included in Appendix E. Figure 3 shows the location of the sample points.

Laboratory Analysis

Based on the materials observed in the maintenance shed at the subject site, the soil samples collected were analyzed for the following:

- VOCs using EPA Method Number 8280;
- Semi-VOCs using EPA Method Number 8270;
- Total Petroleum Hydrocarbons in the form of gasoline (*TPHg*) using DHS Leaky Underground Fuel Tank Guidelines (*LUFT*);
- Total Petroleum Hydrocarbons in the form of diesel (*TPHd*) using DHS Leaky Underground Fuel Tank Guidelines (*LUFT*);
- Total Oil and Grease (*TOG*) using EPA Method Number 413.2; and
- PCBs using EPA Method Number 8080.

The laboratory reported that all of the soil samples collected were impacted by TOG at concentrations ranging from 38 to 8,200 parts per million (*ppm*). VOCs and Semi-VOCs were reported by the laboratory to be present in the 2 soil samples collected from the area of the front door (*S1 and S5*). VOCs and Semi-VOCs were not reported to be present in soil samples collected from the

remaining 3 locations (*S2, S3 and S4*). TPHd was detected in the 2 soil samples collected near the doorway (*S1 and S5*) at concentrations ranging from 190 to 680 ppm. The laboratory also reported that PCBs were not present at or above detection limits in any of the soil samples. Table 1 presents a summary of the laboratory report for this phase of soil sampling and analysis. A copy of the laboratory report is included in Appendix B.

TABLE 1
SUMMARY OF NEAR SURFACE SOIL SAMPLE ANALYSIS(1)

Sample I.D.	S1	S2	S3	S4	S5
VOC'S					
Ethylbenzene	ND	ND	ND	ND	0.015
Xylenes	ND	ND	ND	ND	0.280
Semi-Voc's					
Naphthalene	0.290	ND(2)	ND	ND	6.90
2-Methylnaphthalene	0.580	ND	ND	ND	22.0
Fluorene	0.470	ND	ND	ND	1.9
Phenanthrene	2.4	ND	ND	ND	2.5
Pyrene	0.160	ND	ND	ND	ND
Butylbenzylphthalate	0.160	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	1.10	ND	ND	ND	0.320
PCB'S					
EPA Method No. 8080	ND	ND	ND	ND	ND
Petroleum Hydrocarbons					
TPHg(3)	ND	ND	ND	ND	81
TPHd(4)	680	190	ND	ND	ND
Motor Oil	170	ND	1,700	ND	7,500
Oil and Grease	6,900	440	8,200	38	7,900

Table Notes: (1) All results reported in mg/Kg which is approximately equivalent to parts per million (ppm).
(2) ND = Not detected at or above the practical quantitation limit for the method.
(3) TPHg stands for Total Petroleum Hydrocarbons of probable gasoline origin.
(3) TPHd stands for Total Petroleum Hydrocarbons of probable diesel origin.

8.2 June 9, 1992 Soil Sampling and Analysis

Based on the results of the May 12, 1992, soil sampling and analysis, E_2C, Inc. returned to the site on June 9, 1992, to collect additional soil samples at greater depths. In addition, samples were collected from outside the exterior side walls of the maintenance shed to assess the lateral extent of contamination. A backhoe was used to dig a test pit to 3 feet, then the soil samples were collected in brass liners. In the area outside of the front door of the shed a soil sample (*S5*) was also collected from a depth of 6 feet. The locations of the sample points are displayed in Figure 4.

Based on the earlier laboratory reports, the soil samples collected during this phase of investigation were analyzed for the following:

- VOCs using EPA Method Number 8280;
- Semi-VOCs using EPA Method Number 8270;
- Total Petroleum Hydrocarbons in the form of diesel (*TPHd*) using DHS Leaky Underground Fuel Tank Guidelines (*LUFT*); and
- Total Oil and Grease (*TOG*) using EPA Method Number 413.2.

The soil samples collected from just outside of the front door of the maintenance shed (*S5-3 and S5-6*) were reported by the laboratory to be impacted with VOCs, Semi-VOCs, TPHd and TOG. One of the soil samples collected from the southern exterior portion of the maintenance shed (*S7*) was reported to have a TOG concentration of 29 ppm. The remainder of the soil samples collected during this phase were reported to be Non-Detect (*ND*) for the analyses performed. Table 2 presents a summary for the laboratory analyses performed for this phase of work.

TABLE 2
SUMMARY OF TEST PIT SOIL SAMPLE ANALYSIS[1]

Sample I.D. - Depth'	S1-3	S3-3	S5-3	S5-6	S6-3	S7-3
Semi-Voc's						
Naphthalene	ND[2]	ND	2.2	0.380	ND	ND
2-Methylnaphthalene	ND	ND	14.0	1.1	ND	ND
Fluorene	ND	ND	1.0	0.079	ND	ND
Phenanthrene	ND	ND	2.7	0.15	ND	ND
Di-n-octylphthalene	ND	ND	0.042	ND	ND	ND
VOC's						
Benzene	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	1.3	0.07	ND	ND
Ethyl Benzene	ND	ND	ND	0.20	ND	ND
Total Xylenes	ND	ND	20	1.4	ND	ND
Petroleum Hydrocarbons						
Oil and Grease	ND	ND	7,300	45	ND	29
TPHd[3]	ND	ND	3,500	300	ND	ND

Table Notes: (1) All results reported in mg/Kg which is approximately equivalent to parts per million (ppm).
(2) ND = Not detected at or above the practical quantitation limit for the method.
(3) TPHd stands for Total Petroleum Hydrocarbons of probable diesel origin.

The laboratory results and how they pertain to the characterization and extent of contamination are discussed in Section 10 of this report.

9.0 ASBESTOS SAMPLING AND ANALYSIS

Building materials either used in the construction of the house or stored at the subject site were observed and evaluated for their potential to contain Asbestos Containing Building Materials (*ACBMs*). After this inspection and evaluation, bulk samples were collected from 4 different materials located on site. The 4 materials were floor tile from inside the house, corrugated tile located on the hillside storage area, beige ceiling tile located in the stable area and transite piping located in the barn area.

The ceiling tile stored in the stable was reported by the laboratory to not contain any ACBMs. The other three materials were reported to contain ACBMs. A copy of the laboratory report is included in Appendix C. There are no laws requiring the ACBMs at the site to be removed at this time. However, should the building at the subject site be demolished and removed or the other ACBMs disposed of, they must be handled properly. The ACBMs at the subject site are non-friable in nature and may be disposed of at a local landfill after being properly contained and manifested. This work should be performed by a contractor licensed in the state of California to perform asbestos abatements.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our current laboratory analysis and site inspection, it is our opinion that the Soda West portion of the subject site has been adversely impacted by the release of contamination into the ground from leaking containers located in a maintenance shed on the property. It appears as though this contamination is limited in its extent and is not likely to exceed the immediate area of the maintenance shed. The remaining areas of the Soda West property and the entire Soda East property do not appear to be impacted by any on- or off-site sources of contamination. These areas are undeveloped wilderness and/or grazing land and are surrounded by similar parcels.

10.1 Additional Site Inspection

In reference to the third bulleted item in Clayton's Letter (*Appendix F*) which states that there are unidentified potentially hazardous materials which have not been included in the original hazardous materials listing, a site inspection will be performed with Decon Environmental Services, Inc. (*Decon*), Clayton and E_2C before any remediation occurs. At this time any and all items of concern that need further identification or classification will be addressed. The results of the visit will be presented in a separate inspection letter. Recommendations prepared as a result of this inspection will be incorporated into a final site remediation.

In Clayton's letter reference is also made to a burst sack of "animal tick dip mix". The burst sack will be inspected during the aforementioned site visit. This tick dip is part of the normal ranching operations to maintain the health and condition of the livestock at the site. If the tick dip mixture is used according to manufacturers specifications, there is a low probability of environmental concern. However we will note the condition of the sack, identify the ingredients of the material and determine if a potential hazardous material exists.

10.2 Characterization of Soil Contamination on Soda West Property

The source for the majority of contamination in the maintenance shed was the various aboveground fuel storage tanks and other containers which were stored near the front door in the northwestern corner of the shed. Based on our observations of the soils in this area, these containers appear to have been leaking for several years. Laboratory results of soil samples collected from this area determined that they are impacted by VOCs, Semi-VOCs, TPHd and TOG to a depth of at least 6 feet. Concentrations of these compounds decrease dramatically from 3 to 6 feet and therefore are not likely to extend below 10 feet.

The upper 1 foot of soil in the maintenance shed area is most likely impacted by oil and grease. Soil samples collected for analysis at a depth of 3 feet in this area were not reported to have TOG or any other of the target compounds; therefore this contamination does not appear to be vertically extensive.

10.3 Recommendations for the Excavation and Removal of Soils

It is the recommendation of E_2C, Inc. that the soil be removed from the entire maintenance shed floor area to a depth of 1 foot as the majority of the soil has been impacted by oil and grease. In the northwest corner of the barn where the aboveground fuel storage tanks were formally stored, the soil should be excavated and removed to a depth of 8 feet. This area is outlined on Figure 5. Soil will be excavated by means of a backhoe or similar machinery. Prior to the beginning of excavation, all items will be removed from the maintenance shed so the building is completely empty and the entire soil floor exposed. Excavation depths will be confirmed by hand-held measuring tapes and leveling string lines which will be placed across the excavation from side to side. The soil will be excavated until soil samples collected from the sidewalls and

floors of the excavation are reported by the laboratory analysis not to exceed 1 ppm for VOCs and Semi-VOCs or 100 ppm for TPHd and TOG.

In reference to the first bulleted item of Clayton's letter that recommends that a third party observe the overexcavation and collect the soil samples, observation of the overexcavation and the collection of soil samples shall be performed by E_2C, Inc. personnel. Should the Diocese wish, additional parties can observe and document all field remediation activities.

Soil generated during excavation will be stockpiled on-site after removal from the excavation. The soil is to be placed on plastic sheets of no less than 6-mil thickness. The soil will be spread evenly on non-excavation areas outside the subject facility from which it was removed.

After the removal of all degraded soil from beneath the subject site, the stockpiled soil will be sampled and analyzed as per agency protocol. The soil will then be disposed of in an appropriate manner to be determined by the laboratory reports generated from the stockpile sampling and analysis.

After all impacted soil has been excavated from the affected areas, the excavation may be filled in with clean fill.

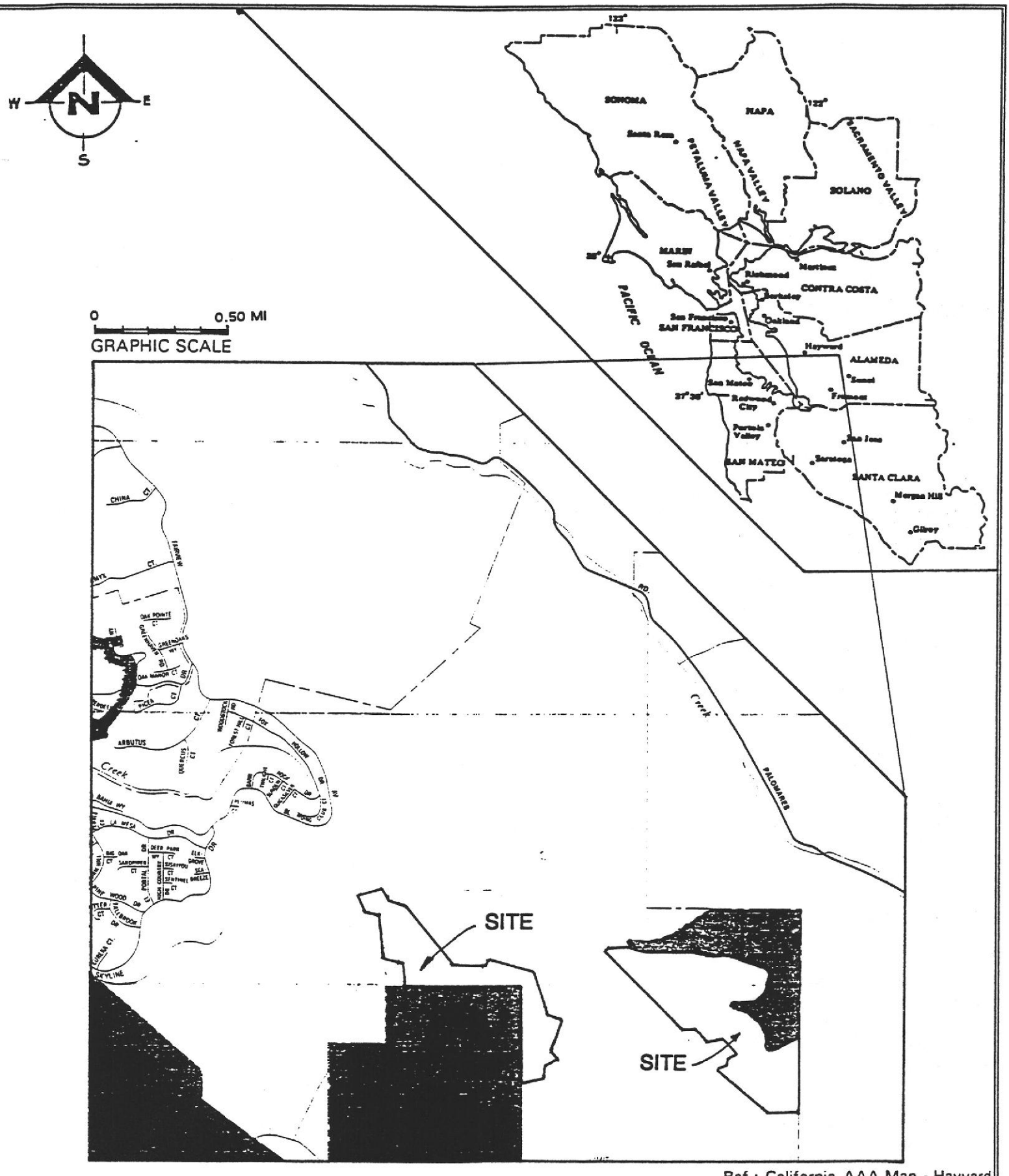
10.4 Asbestos

There are no laws requiring the ACBMs at the site be removed at this time. However, should the residence at the subject site be demolished and removed or the other ACBMs disposed of, they must be handled properly. The ACBMs at the subject site are non-friable in nature and may be disposed of at a local landfill after being properly contained and

manifested. This work should be performed by a contractor licensed in the state of California to perform asbestos abatements.

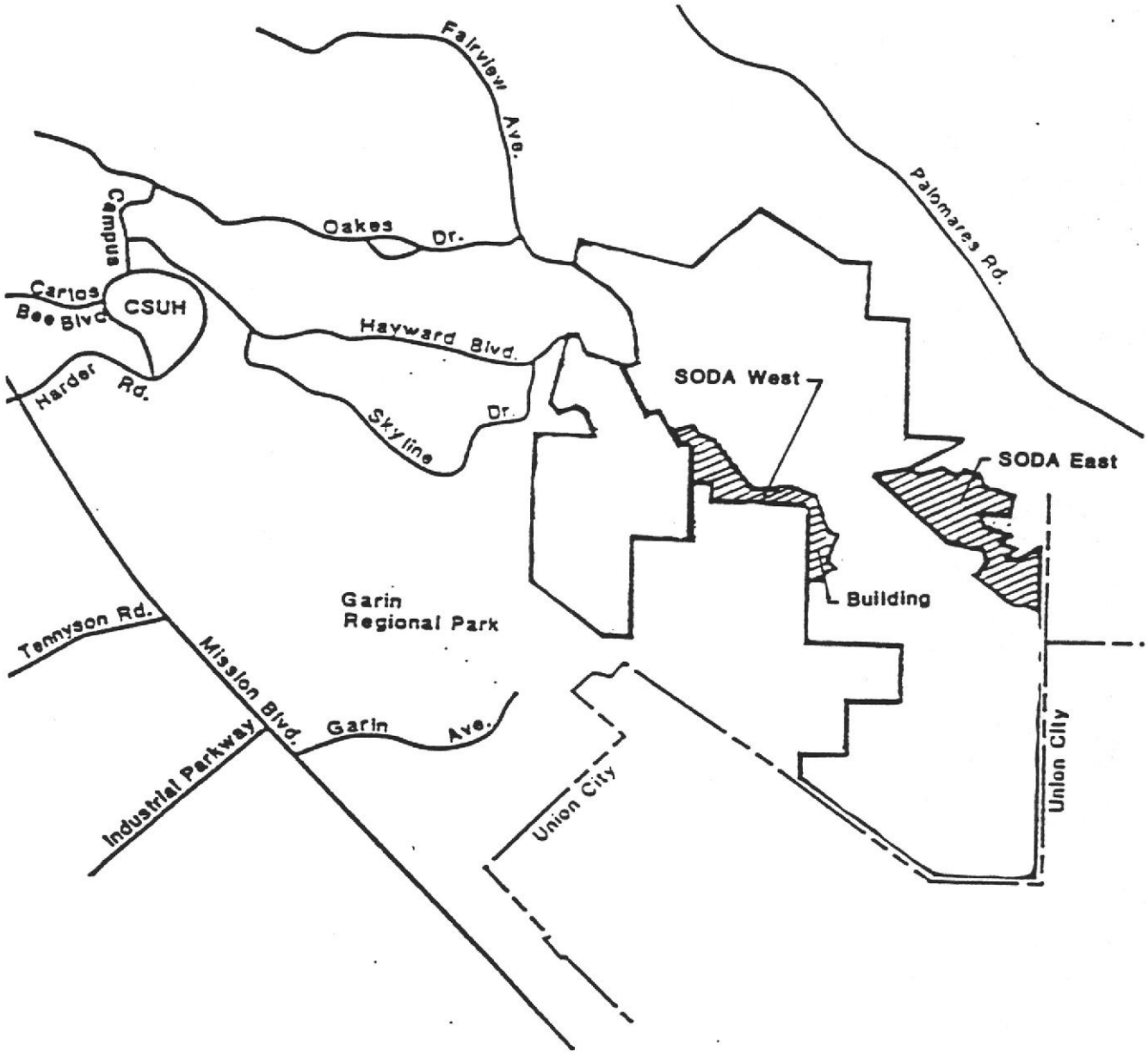
10.5 On-site Motor Vehicles and Related Machinery

All gasoline tanks associated with the abandoned vehicles will be removed and disposed of by Decon. The vehicles will be inspected for the presence of oil reservoirs. If found to contain oil, it will be removed and disposed of with the other hazardous materials. Air conditioning and/or refrigeration units, if present and found to contain Freon, will be recycled through Decon. Radiators will also be inspected for the presence of liquids which may contain ethylene glycol. If found to be present, these liquids will be disposed through Decon.

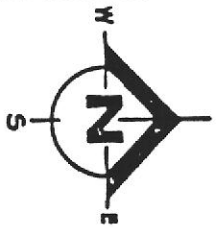


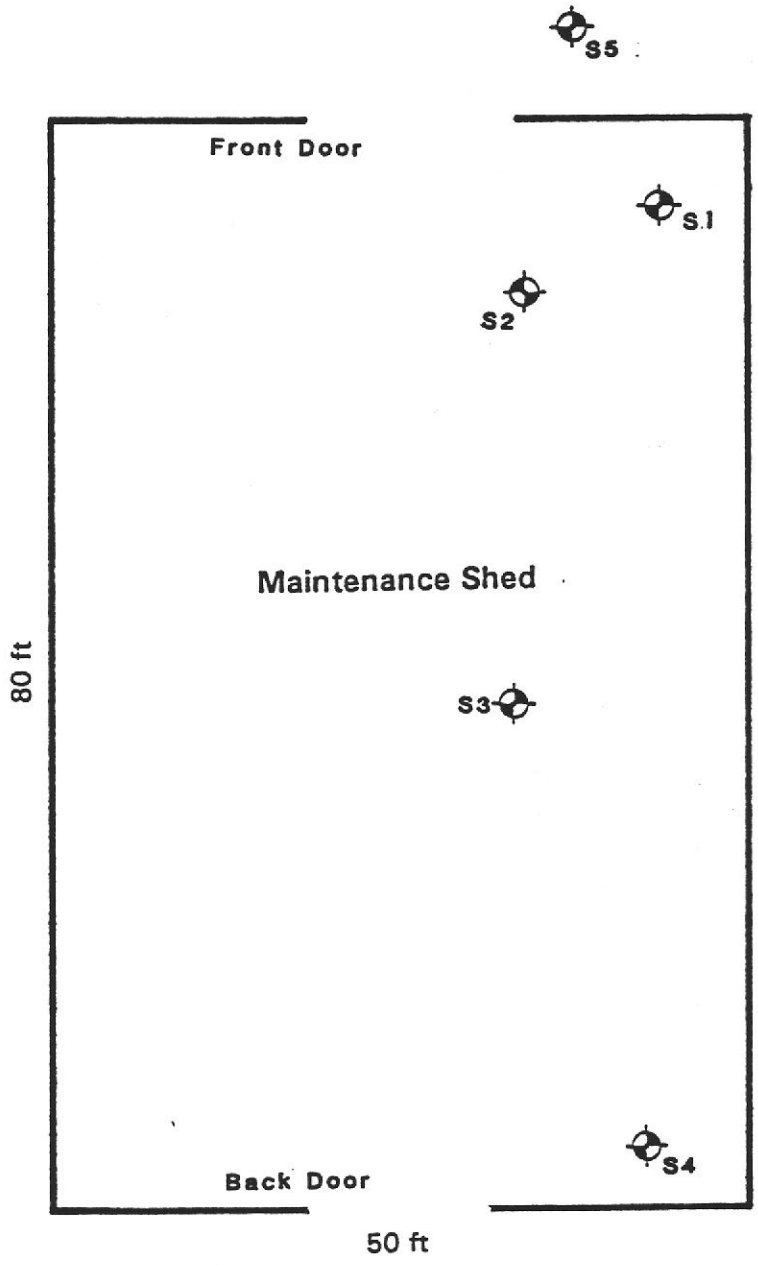
Ref.: California AAA Map - Hayvard

F C, Inc. vironmental/engineering consultants 220 Crossman Avenue, Suite 200 Sunnyvale, Ca 94089	**VICINITY MAP** Walpert Ridge Lands of the Y. Charles Soda Trust Hayward, California	JOB NO. 4210100 DRAWN BY J. Vasilescu APP'D K. Price	FIGURE 1 August 1992



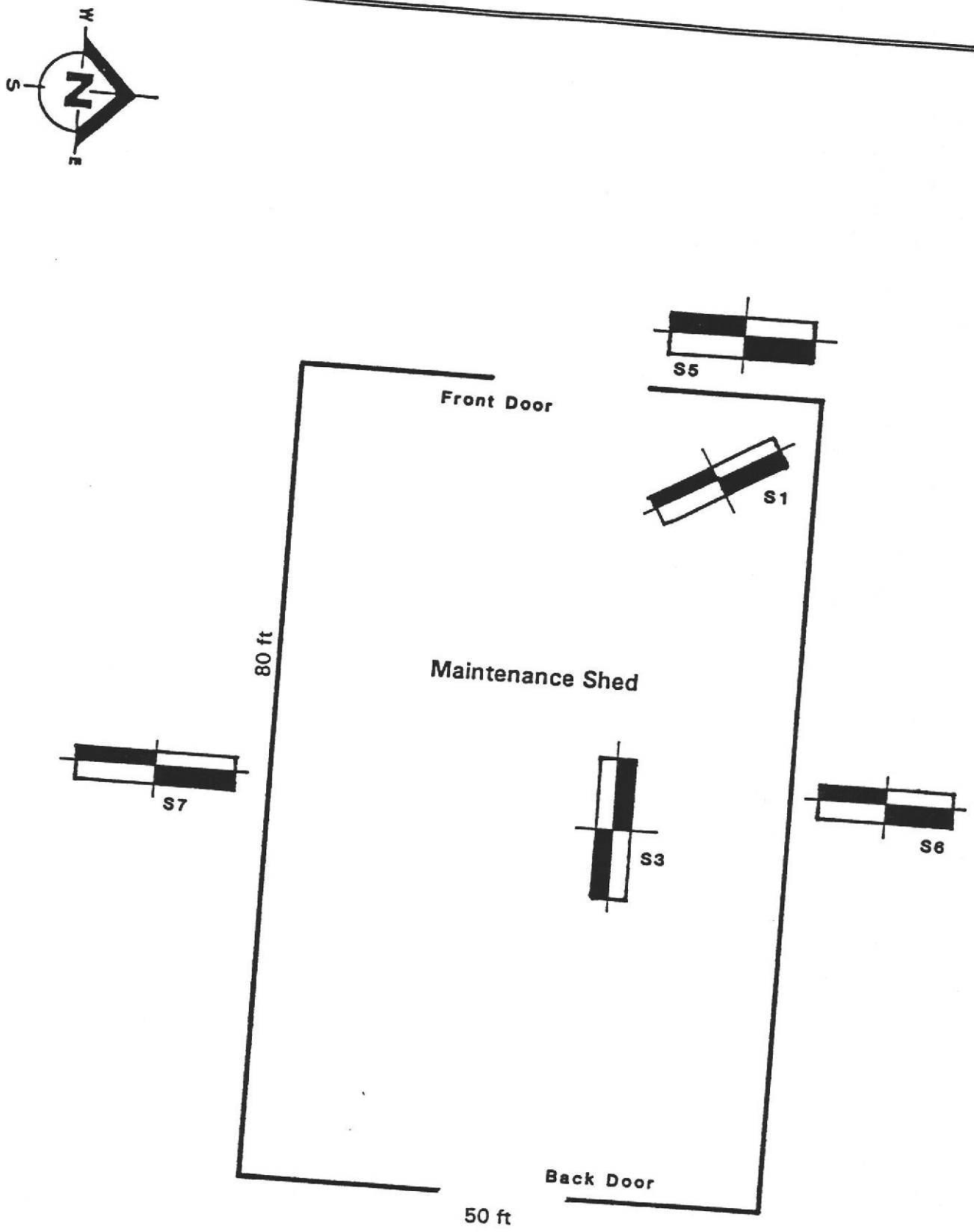
C, Inc. vironmental/engineering consultants 1220 Crossman Avenue, Suite 200 Sunnyvale, Ca 94089	**SITE LOCATION MAP** Walpert Ridge Lands of the Y. Charles Soda Trust Hayward, California	JOB NO. 4210100 DRAWN BY J. Vasilescu APP'D K. Price	FIGURE 2 August 1992





Soil Sample Locations

,C, Inc. ıvironmental/engineering consultants 1220 Crossman Avenue, Suite 200 Sunnyvale, Ca 94089	**BORING LOCATIONS** Walpert Ridge Lands of the Y. Charles Soda Trust Hayward, California	JOB NO. 4210100 DRAWN BY J. Vasilescu APP'D K. Price	FIGURE 3 August 1992

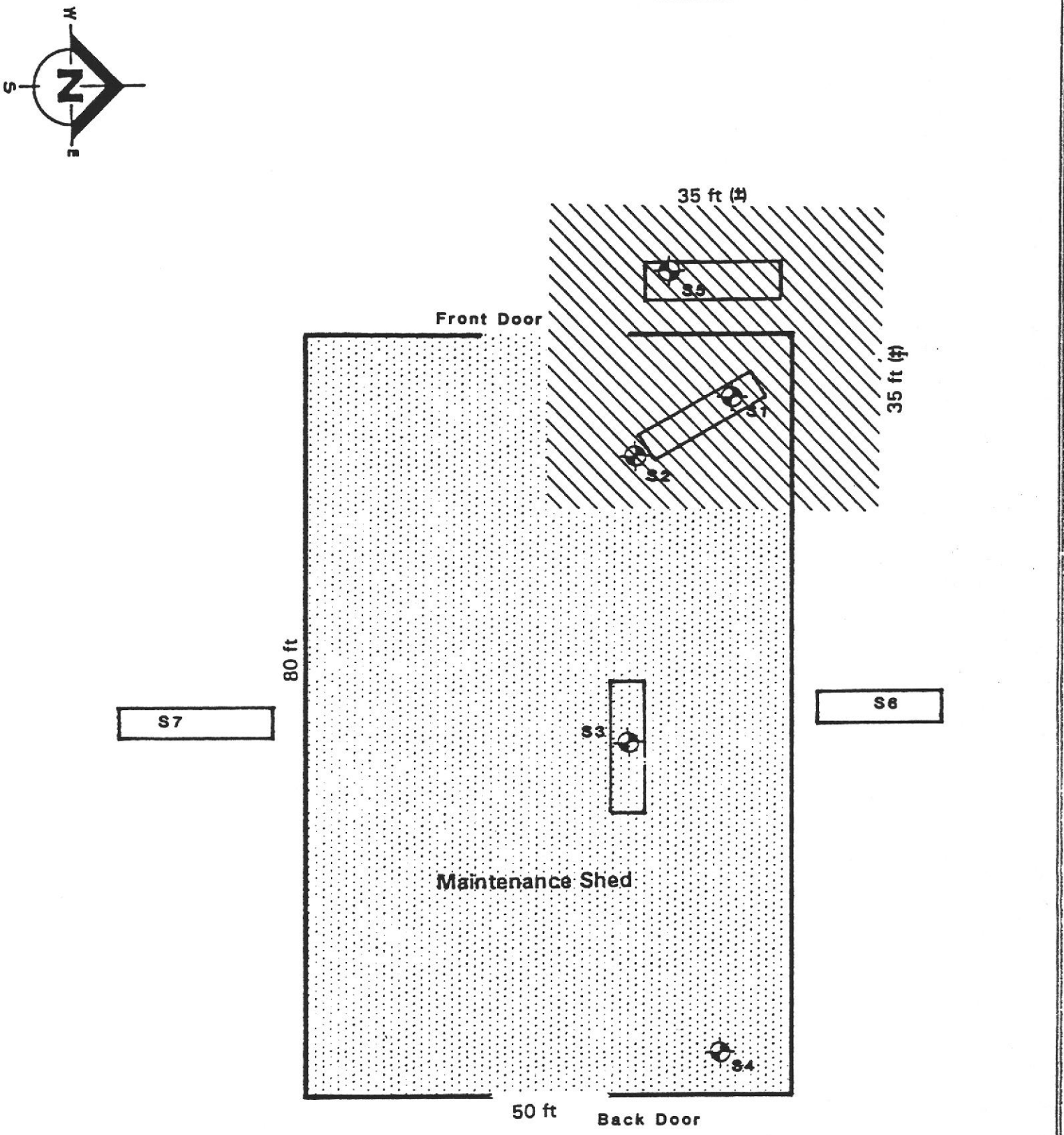


C, Inc.
ironmental/engineering consultants
20 Crossman Avenue, Suite 200
nyvale, Ca 94089

TEST PITS

Walpert Ridge Lands
of the Y. Charles Soda Trust
Hayward, California

JOB NO.	4210100	FIGURE
DRAWN BY	J. Vasilescu	4
APP'D	K. Price	August 1992

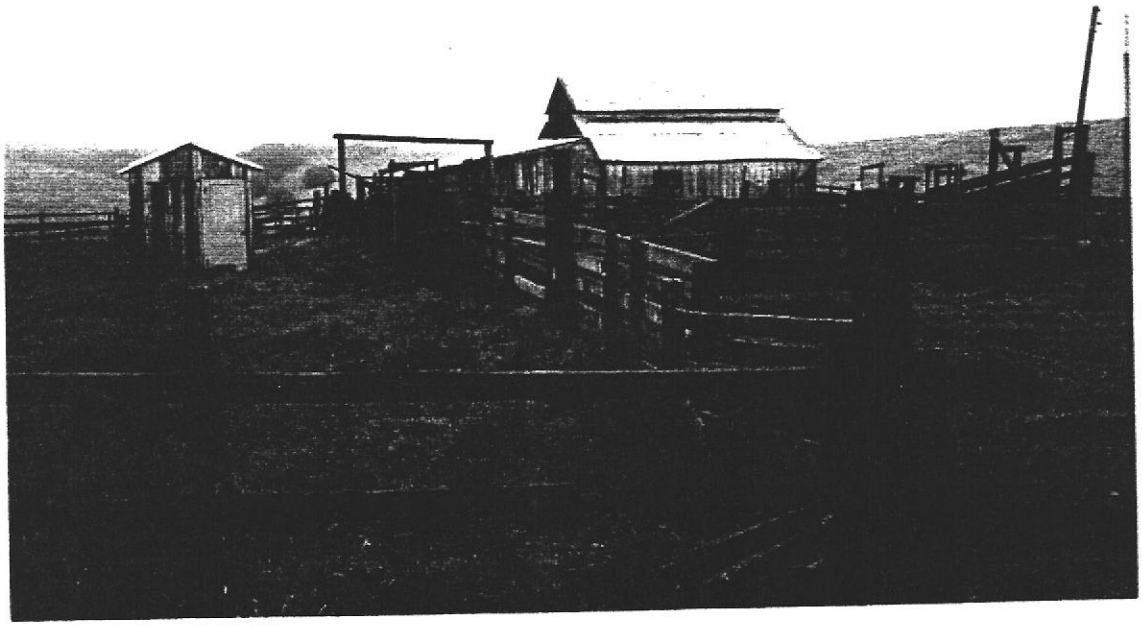


F C, Inc. vironmental/engineering consultants 220 Crossman Avenue, Suite 200 Sunnyvale, Ca 94089	EXCAVATION AREAS Walpert Ridge Lands of the Y. Charles Soda Trust Hayward, California	JOB NO. 4210100 DRAWN BY J. Vasilescu APP'D K. Price	FIGURE 5 August 1992

APPENDIX A

SITE PHOTOGRAPHS

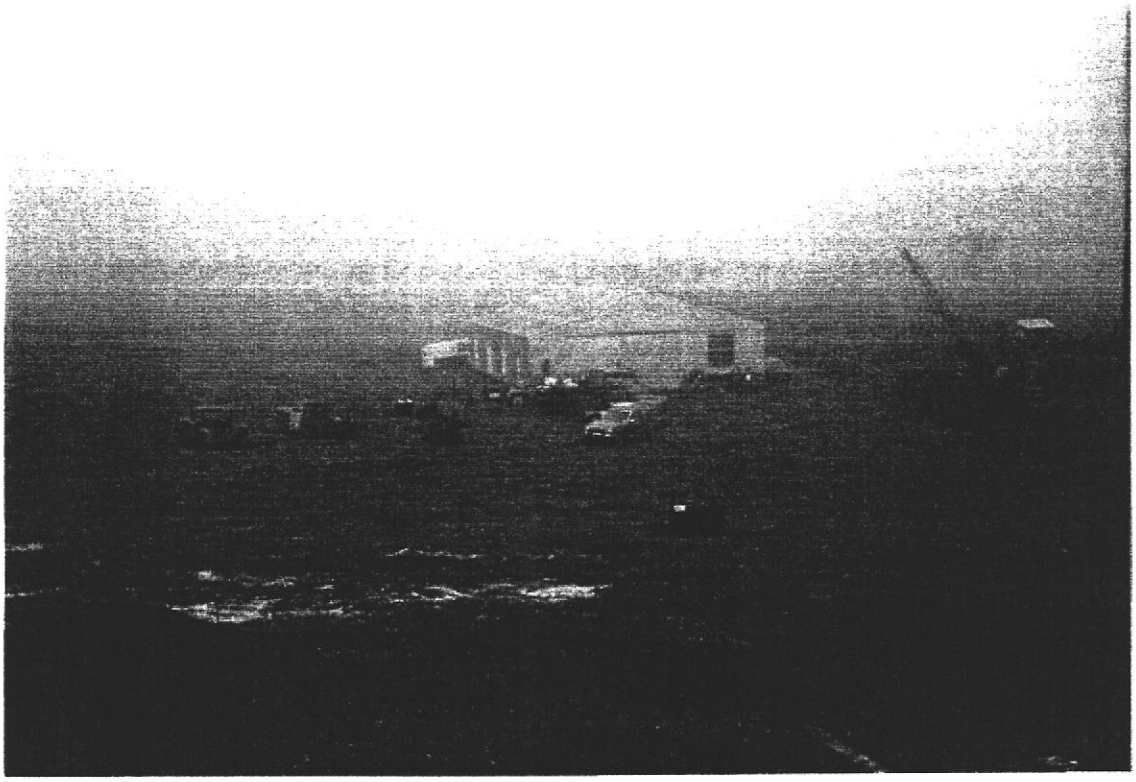
PHOTOGRAPH #1
House located on Soda West Property.



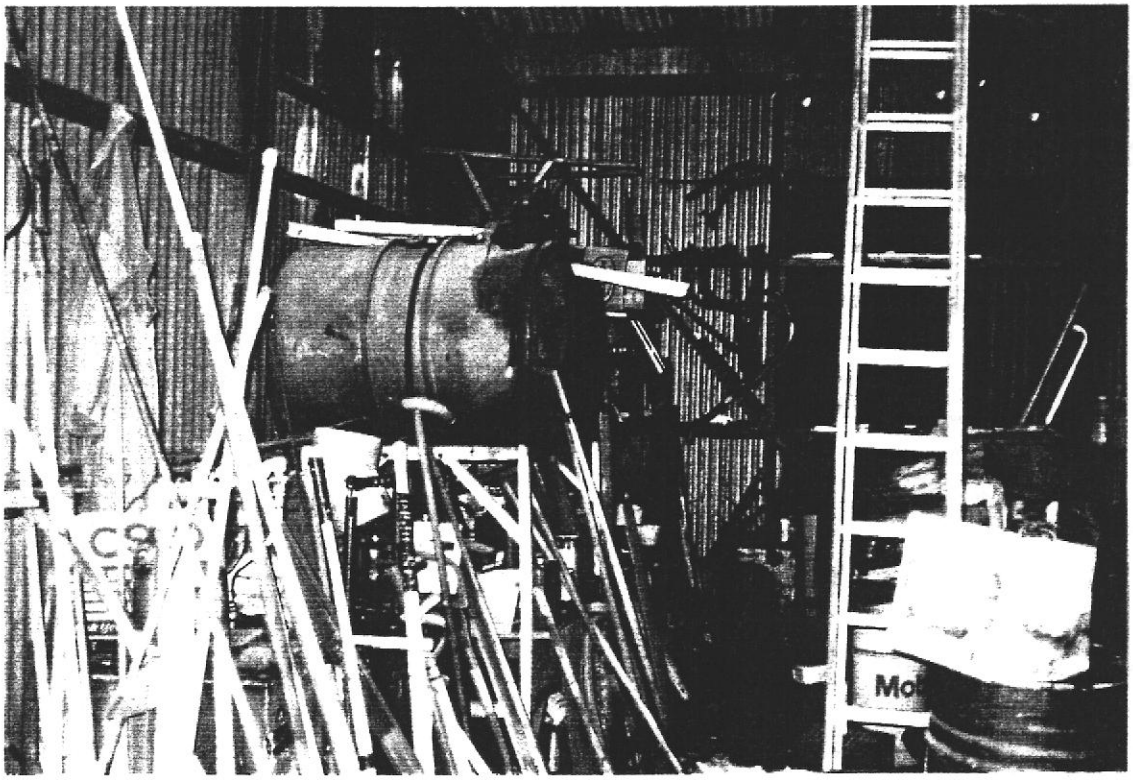
PHOTOGRAPH #2
Southern most barn on Soda West property.

PHOTOGRAPH #3
Northernmost barn/stable located on Soda West Property.

PHOTOGRAPH #4
Interior of northernmost barn/stable on Soda West property.



PHOTOGRAPH #5
Maintenance shed located on Soda West Property.



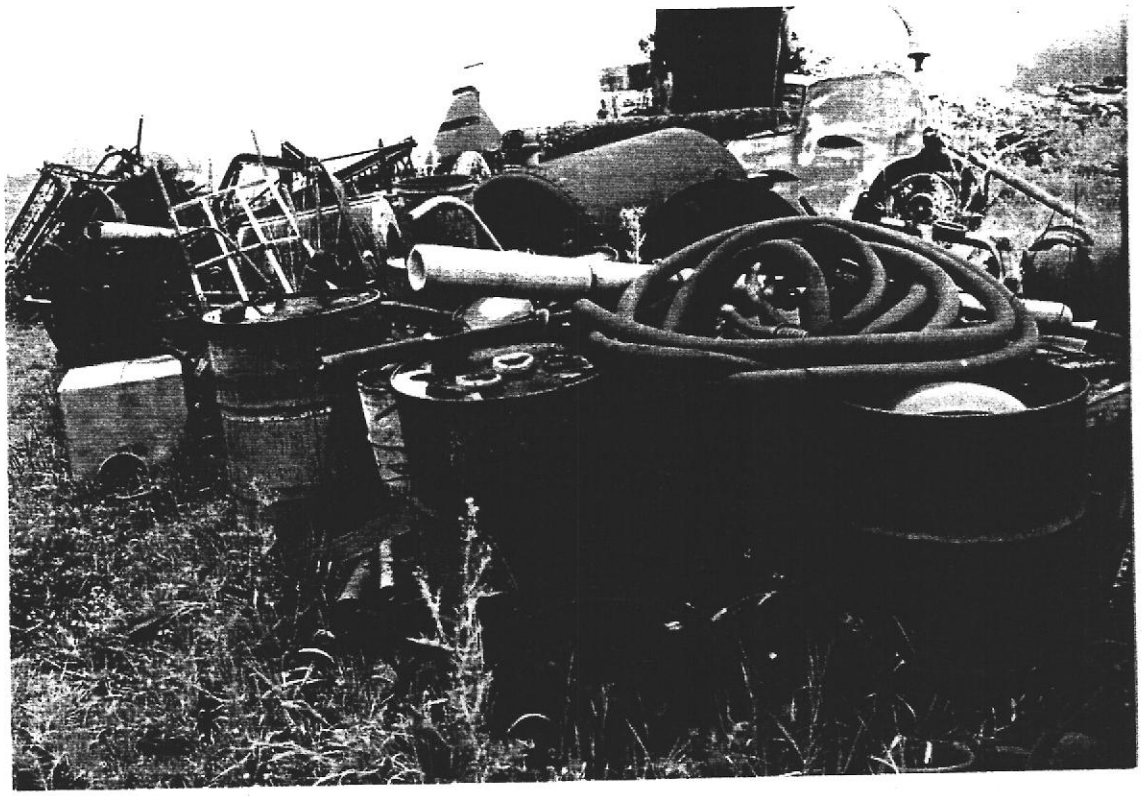
PHOTOGRAPH #6
Aboveground diesel and motor oil tanks in maintenance shed.

PHOTOGRAPH #7
Storage containers in maintenance shed located on Soda West Property.

PHOTOGRAPH #8
Storage containers in maintenance shed located on Soda West Property.

PHOTOGRAPH #9
Storage containers in maintenance shed located on Soda West Property.

PHOTOGRAPH #10
Storage containers in maintenance shed located on Soda West Property.



PHOTOGRAPH #11
Hillside storage area on Soda West property.

PHOTOGRAPH #12
Hillside storage area on Soda West property.

PHOTOGRAPH #13
Soda East property.

PHOTOGRAPH #14
Soda East property.

APPENDIX B

LABORATORY ANALYSES REPORTS

APPENDIX Bi

NEAR SURFACE SAMPLES

COMPUCHEM
WESTERN DIVISION
(CHEMWEST)

June 30, 1992

E2C Inc.
1220 Crossman Ave., Suite 200
Sunnyvale CA 94089

Attention: Robb Welch

Subject: Report of Data - Case Number 9703

Dear Mr. Welch:

Six soil samples for Project Walpert Ridge, Project Number 4210100 were received June 10, 1992 in good condition.

Included in this report are the results for six soil samples analyzed for BTEX , Total Petroleum Hydrocarbons Extractable (Diesel), Semivolatile Organics, and Oil & Grease by IR. Results of the analyses along with the analytical methodology and appropriate reporting limits are presented on the following page(s).

Thank you for choosing ChemWest Laboratories. Should you have questions concerning this data report or the analytical methods employed, please do not hesitate to contact your Project Manager. We hope that you will consider ChemWest Laboratories for your future analytical support and service requirements.

Sincerely,

Vince Schmidt

Vince Schmidt
Project Manager

VS:ds

cc: File

600W North Market Boulevard • Sacramento, CA 95834 • Phone (916) 923-0840 • FAX (916) 923-1938

CASE NARRATIVE

This Case Narrative applies to the analysis of Semivolatile Organics - EPA Method 8270 for CHEMWEST Ticket Number 9703.

All of the samples associated with this case were extracted and analyzed within holding times. The method blank was free of target compounds and met quality assurance requirements.

All surrogate recoveries were within acceptance ranges. Method 8270 allows one surrogate recovery to be outside the acceptance windows. Method blank spikes associated with this case were within contract ranges.

Sample CW 9703-3 shows 2-Methylnaphthalene at levels exceeding the instruments calibration range. The sample was re-analyzed at a 1:4 dilution and both analyses are reported.

Please also note that sample CW 9703-6 showed a slightly low Perylene-D12 (Internal Standard) area. No analytes were detected in this sample, so the sample is reported as is.

All quality assurance required criteria for internal standard areas and response factors, relative standard deviations and relative percent differences were met for the blanks, samples, QC samples and standards associated with this case.

Elaine Wong
GC/MS Laboratory Manager

6-30-92
Date

ANALYTICAL METHODOLOGY

Semivolatile Organics

Waters -

The sample techniques used for both water and soil samples are based on EPA Methods 625 and 8270, and follow EPA Contract Laboratory Program (CLP) recommendations. Waters are extracted in a separatory funnel utilizing methylene chloride as the extraction solvent. Six surrogate compounds are added prior to extraction to monitor extraction efficiency. After extraction, the solvent is concentrated to 1 ml, internal standards are added and the sample is ready for analysis.

Soils -

Six surrogates are added to a weighed portion of soil. Three times methylene chloride/acetone is added and the soil is sonicated. The solvent is concentrated, internal standards are added and the sample is ready for analysis.

GC/MS -

Samples are analyzed on a GC/MS equipped with a DB-5 capillary column. Helium is the carrier gas and 1 ul of the sample extract is injected. The samples are analyzed under full scan GC/MS which monitors a mass range of 35-550.

Tuning and Blanks

The samples are run after meeting GC/MS hardware tuning ion abundance criteria, Decafluorotriphenylphosphine (DFTPP) for semi-volatiles. Laboratory blanks are extracted with each batch of water samples and soil samples.

Surrogates:

Surrogates were included in all samples. Surrogates are used to monitor extractions recovery efficiency.

	% EPA Allowable Recovery	
Surrogate Compounds	Water	Soil
Nitrobenzene-d5	35 - 114	23 -120
2-Fluorobiphenyl	43 - 116	30 -115
p-Terphenyl-d14	33 - 141	18 -137
Phenol-d5	10 - 94	24 -113
2-Fluorophenol	21 - 100	25 -121
2,4,6-Tribromophenol	10 - 123	19 -122

Matrix Spikes:

Matrix spikes are additional quality assurance controls. Known amounts of selected compounds are added to samples and analytical accuracy is determined by sample analysis.

	% EPA Allowable Recovery	
Matrix Spike Compounds	Water	Soil
1,2,4-Trichlorobenzene	39 - 98	38 - 107
Acenaphthene	46 - 118	31 - 137
2,4-Dinitrotoluene	24 - 96	28 - 89
Pyrene	26 - 127	35 - 142
N-Nitroso-di-n-dipropylamine	41 - 116	41 - 126
1,4-Dichlorobenzene	36 - 97	28 - 104
Pentachlorophenol	9 - 103	17 - 109
Phenol	12 - 89	26 - 90
2-Chlorophenol	27 - 123	25 - 102
4-Chloro-3-methylphenol	23 - 97	26 - 103
4-Nitrophenol	10 - 80	11 - 114

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S1-3
Date Extracted : 06/18/92
Date/Time Analyzed: 06/24/92 1834
Date Sampled: 06/09/92

CHEMWEST ID: 9703-1
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	200
2-Chlorophenol	BRL	200
bis(2-Chloroethyl) ether	BRL	200
1,3-Dichlorobenzene	BRL	200
1,4-Dichlorobenzene	BRL	200
1,2-Dichlorobenzene	BRL	200
Benzyl alcohol	BRL	200
2-Methylphenol	BRL	200
bis(2-Chloroisopropyl) ether	BRL	200
Hexachloroethane	BRL	200
N-Nitroso-di-n-propylamine	BRL	200
4-Methylphenol	BRL	200
Nitrobenzene	BRL	200
Isophorone	BRL	200
2-Nitrophenol	BRL	200
2,4-Dimethylphenol	BRL	200
bis(2-Chloroethoxy) methane	BRL	200
2,4-Dichlorophenol	BRL	200
1,2,4-Trichlorobenzene	BRL	200
Benzoic acid	BRL	400
Naphthalene	BRL	200
4-Chloroaniline	BRL	200
Hexachlorobutadiene	BRL	200
4-Chloro-3-methylphenol	BRL	200
2-Methylnaphthalene	BRL	200
Hexachlorocyclopentadiene	BRL	200
2,4,6-Trichlorophenol	BRL	200
2,4,5-Trichlorophenol	BRL	400
2-Chloronaphthalene	BRL	200
2-Nitroaniline	BRL	400
Acenaphthylene	BRL	200
Dimethylphthalate	BRL	200
2,6-Dinitrotoluene	BRL	200
3-Nitroaniline	BRL	400
Acenaphthene	BRL	200
2,4-Dinitrophenol	BRL	400
Dibenzofuran	BRL	200
4-Nitrophenol	BRL	400
2,4-Dinitrotoluene	BRL	200
Fluorene	BRL	200
4-Chlorophenyl-phenylether	BRL	200
Diethylphthalate	BRL	200
4-Nitroaniline	BRL	400
4,6-Dinitro-2-methylphenol	BRL	400

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S1-3 CHEMWEST ID: 9703-1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	200
4-Bromophenyl-phenylether	BRL	200
Hexachlorobenzene	BRL	200
Pentachlorophenol	BRL	400
Phenanthrene	BRL	200
Anthracene	BRL	200
Di-n-butylphthalate	BRL	200
Fluoranthene	BRL	200
Pyrene	BRL	200
Butylbenzylphthalate	BRL	200
Benzo(a)anthracene	BRL	200
3,3'-Dichlorobenzidine	BRL	400
Chrysene	BRL	200
bis(2-Ethylhexyl)phthalate	BRL	200
Di-n-octylphthalate	BRL	200
Benzo(b)fluoranthene	BRL	200
Benzo(k)fluoranthene	BRL	200
Benzo(a)pyrene	BRL	200
Indeno(1,2,3-cd)pyrene	BRL	200
Dibenz(a,h)anthracene	BRL	200
Benzo(g,h,i)perylene	BRL	200

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	54%	25-121%
Phenol-d5	52%	24-113%
Nitrobenzene-d5	58%	23-120%
2-Fluorobiphenyl	59%	30-115%
2,4,6-Tribromophenol	43%	19-122%
Terphenyl-d14	68%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: ew

Date Reported:
06/30/92

REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S3-3
Date Extracted : 06/18/92
Date/Time Analyzed: 06/24/92 1917
Date Sampled: 06/09/92

CHEMWEST ID: 9703-2
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	200
2-Chlorophenol	BRL	200
bis(2-Chloroethyl) ether	BRL	200
1,3-Dichlorobenzene	BRL	200
1,4-Dichlorobenzene	BRL	200
1,2-Dichlorobenzene	BRL	200
Benzyl alcohol	BRL	200
2-Methylphenol	BRL	200
bis(2-Chloroisopropyl) ether	BRL	200
Hexachloroethane	BRL	200
N-Nitroso-di-n-propylamine	BRL	200
4-Methylphenol	BRL	200
Nitrobenzene	BRL	200
Isophorone	BRL	200
2-Nitrophenol	BRL	200
2,4-Dimethylphenol	BRL	200
bis(2-Chloroethoxy) methane	BRL	200
2,4-Dichlorophenol	BRL	200
1,2,4-Trichlorobenzene	BRL	200
Benzoic acid	BRL	400
Naphthalene	BRL	200
4-Chloroaniline	BRL	200
Hexachlorobutadiene	BRL	200
4-Chloro-3-methylphenol	BRL	200
2-Methylnaphthalene	BRL	200
Hexachlorocyclopentadiene	BRL	200
2,4,6-Trichlorophenol	BRL	200
2,4,5-Trichlorophenol	BRL	400
2-Chloronaphthalene	BRL	200
2-Nitroaniline	BRL	400
Acenaphthylene	BRL	200
Dimethylphthalate	BRL	200
2,6-Dinitrotoluene	BRL	200
3-Nitroaniline	BRL	400
Acenaphthene	BRL	200
2,4-Dinitrophenol	BRL	400
Dibenzofuran	BRL	200
4-Nitrophenol	BRL	400
2,4-Dinitrotoluene	BRL	200
Fluorene	BRL	200
4-Chlorophenyl-phenylether	BRL	200
Diethylphthalate	BRL	200
4-Nitroaniline	BRL	400
4,6-Dinitro-2-methylphenol	BRL	400

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S3-3 CHEMWEST ID: 9703-2

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	200
4-Bromophenyl-phenylether	BRL	200
Hexachlorobenzene	BRL	200
Pentachlorophenol	BRL	400
Phenanthrene	BRL	200
Anthracene	BRL	200
Di-n-butylphthalate	BRL	200
Fluoranthene	BRL	200
Pyrene	BRL	200
Butylbenzylphthalate	BRL	200
Benzo(a)anthracene	BRL	200
3,3'-Dichlorobenzidine	BRL	400
Chrysene	BRL	200
bis(2-Ethylhexyl)phthalate	BRL	200
Di-n-octylphthalate	BRL	200
Benzo(b)fluoranthene	BRL	200
Benzo(k)fluoranthene	BRL	200
Benzo(a)pyrene	BRL	200
Indeno(1,2,3-cd)pyrene	BRL	200
Dibenz(a,h)anthracene	BRL	200
Benzo(g,h,i)perylene	BRL	200

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	54%	25-121%
Phenol-d5	53%	24-113%
Nitrobenzene-d5	59%	23-120%
2-Fluorobiphenyl	59%	30-115%
2,4,6-Tribromophenol	46%	19-122%
Terphenyl-d14	70%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: ew

Date Reported:
06/30/92

REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S5-3
Date Extracted : 06/18/92
Date/Time Analyzed: 06/24/92 2000
Date Sampled: 06/09/92

CHEMWEST ID: 9703-3
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (UG/KG)		RL (UG/KG)
Phenol	BRL		200
2-Chlorophenol	BRL		200
bis(2-Chloroethyl) ether	BRL		200
1,3-Dichlorobenzene	BRL		200
1,4-Dichlorobenzene	BRL		200
1,2-Dichlorobenzene	BRL		200
Benzyl alcohol	BRL		200
2-Methylphenol	BRL		200
bis(2-Chloroisopropyl) ether	BRL		200
Hexachloroethane	BRL		200
N-Nitroso-di-n-propylamine	BRL		200
4-Methylphenol	BRL		200
Nitrobenzene	BRL		200
Isophorone	BRL		200
2-Nitrophenol	BRL		200
2,4-Dimethylphenol	BRL		200
bis(2-Chloroethoxy) methane	BRL		200
2,4-Dichlorophenol	BRL		200
1,2,4-Trichlorobenzene	BRL		200
Benzoic acid	BRL		400
Naphthalene	2200		200
4-Chloroaniline	BRL		200
Hexachlorobutadiene	BRL		200
4-Chloro-3-methylphenol	BRL		200
2-Methylnaphthalene		E	200
Hexachlorocyclopentadiene	BRL		200
2,4,6-Trichlorophenol	BRL		200
2,4,5-Trichlorophenol	BRL		400
2-Chloronaphthalene	BRL		200
2-Nitroaniline	BRL		400
Acenaphthylene	BRL		200
Dimethylphthalate	BRL		200
2,6-Dinitrotoluene	BRL		200
3-Nitroaniline	BRL		400
Acenaphthene	BRL		200
2,4-Dinitrophenol	BRL		400
Dibenzofuran	BRL		200
4-Nitrophenol	BRL		400
2,4-Dinitrotoluene	BRL		200
Fluorene	1000		200
4-Chlorophenyl-phenylether	BRL		200
Diethylphthalate	BRL		200
4-Nitroaniline	BRL		400
4,6-Dinitro-2-methylphenol	BRL		400

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S5-3 CHEMWEST ID: 9703-3

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	200
4-Bromophenyl-phenylether	BRL	200
Hexachlorobenzene	BRL	200
Pentachlorophenol	BRL	400
Phenanthrene	2700	200
Anthracene	BRL	200
Di-n-butylphthalate	BRL	200
Fluoranthene	BRL	200
Pyrene	BRL	200
Butylbenzylphthalate	BRL	200
Benzo(a)anthracene	BRL	200
3,3'-Dichlorobenzidine	BRL	400
Chrysene	BRL	200
bis(2-Ethylhexyl)phthalate	42J	200
Di-n-octylphthalate	BRL	200
Benzo(b)fluoranthene	BRL	200
Benzo(k)fluoranthene	BRL	200
Benzo(a)pyrene	BRL	200
Indeno(1,2,3-cd)pyrene	BRL	200
Dibenz(a,h)anthracene	BRL	200
Benzo(g,h,i)perylene	BRL	200

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	58%	25-121%
Phenol-d5	57%	24-113%
Nitrobenzene-d5	76%	23-120%
2-Fluorobiphenyl	59%	30-115%
2,4,6-Tribromophenol	58%	19-122%
Terphenyl-d14	67%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.
J: Estimated value below reporting limit.
E: Exceeds linear calibration range, (see alternate dilution)

Approved by: ew Date Reported: 06/30/92 REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S5-3
Date Extracted : 06/18/92
Date/Time Analyzed: 06/26/92 2015
Date Sampled: 06/09/92

CHEMWEST ID: 9703-3D1
Matrix : Soil
Dilution Factor: 1:4

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	800
2-Chlorophenol	BRL	800
bis(2-Chloroethyl) ether	BRL	800
1,3-Dichlorobenzene	BRL	800
1,4-Dichlorobenzene	BRL	800
1,2-Dichlorobenzene	BRL	800
Benzyl alcohol	BRL	800
2-Methylphenol	BRL	800
bis(2-Chloroisopropyl) ether	BRL	800
Hexachloroethane	BRL	800
N-Nitroso-di-n-propylamine	BRL	800
4-Methylphenol	BRL	800
Nitrobenzene	BRL	800
Isophorone	BRL	800
2-Nitrophenol	BRL	800
2,4-Dimethylphenol	BRL	800
bis(2-Chloroethoxy) methane	BRL	800
2,4-Dichlorophenol	BRL	800
1,2,4-Trichlorobenzene	BRL	800
Benzoic acid	BRL	1600
Naphthalene	1700	800
4-Chloroaniline	BRL	800
Hexachlorobutadiene	BRL	800
4-Chloro-3-methylphenol	BRL	800
2-Methylnaphthalene	13000	800
Hexachlorocyclopentadiene	BRL	800
2,4,6-Trichlorophenol	BRL	800
2,4,5-Trichlorophenol	BRL	1600
2-Chloronaphthalene	BRL	800
2-Nitroaniline	BRL	1600
Acenaphthylene	BRL	800
Dimethylphthalate	BRL	800
2,6-Dinitrotoluene	BRL	800
3-Nitroaniline	BRL	1600
Acenaphthene	BRL	800
2,4-Dinitrophenol	BRL	1600
Dibenzofuran	500J	800
4-Nitrophenol	BRL	1600
2,4-Dinitrotoluene	BRL	800
Fluorene	1300	800
4-Chlorophenyl-phenylether	BRL	800
Diethylphthalate	BRL	800
4-Nitroaniline	BRL	1600
4,6-Dinitro-2-methylphenol	BRL	1600

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S5-3 CHEMWEST ID: 9703-3D1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	800
4-Bromophenyl-phenylether	BRL	800
Hexachlorobenzene	BRL	800
Pentachlorophenol	BRL	1600
Phenanthrene	1500	800
Anthracene	190J	800
Di-n-butylphthalate	BRL	800
Fluoranthene	BRL	800
Pyrene	BRL	800
Butylbenzylphthalate	BRL	800
Benzo(a)anthracene	BRL	800
3,3'-Dichlorobenzidine	BRL	1600
Chrysene	BRL	800
bis(2-Ethylhexyl)phthalate	BRL	800
Di-n-octylphthalate	BRL	800
Benzo(b)fluoranthene	BRL	800
Benzo(k)fluoranthene	BRL	800
Benzo(a)pyrene	BRL	800
Indeno(1,2,3-cd)pyrene	BRL	800
Dibenz(a,h)anthracene	BRL	800
Benzo(g,h,i)perylene	BRL	800

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	52%	25-121%
Phenol-d5	53%	24-113%
Nitrobenzene-d5	72%	23-120%
2-Fluorobiphenyl	52%	30-115%
2,4,6-Tribromophenol	57%	19-122%
Terphenyl-d14	54%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: ew

Date Reported:
06/30/92

REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S5-6
Date Extracted : 06/18/92
Date/Time Analyzed: 06/24/92 2038
Date Sampled: 06/09/92

CHEMWEST ID: 9703-4
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	200
2-Chlorophenol	BRL	200
bis(2-Chloroethyl) ether	BRL	200
1,3-Dichlorobenzene	BRL	200
1,4-Dichlorobenzene	BRL	200
1,2-Dichlorobenzene	BRL	200
Benzyl alcohol	BRL	200
2-Methylphenol	BRL	200
bis(2-Chloroisopropyl) ether	BRL	200
Hexachloroethane	BRL	200
N-Nitroso-di-n-propylamine	BRL	200
4-Methylphenol	BRL	200
Nitrobenzene	BRL	200
Isophorone	BRL	200
2-Nitrophenol	BRL	200
2,4-Dimethylphenol	BRL	200
bis(2-Chloroethoxy) methane	BRL	200
2,4-Dichlorophenol	BRL	200
1,2,4-Trichlorobenzene	BRL	200
Benzoic acid	BRL	400
Naphthalene	380	200
4-Chloroaniline	BRL	200
Hexachlorobutadiene	BRL	200
4-Chloro-3-methylphenol	BRL	200
2-Methylnaphthalene	1100	200
Hexachlorocyclopentadiene	BRL	200
2,4,6-Trichlorophenol	BRL	200
2,4,5-Trichlorophenol	BRL	400
2-Chloronaphthalene	BRL	200
2-Nitroaniline	BRL	400
Acenaphthylene	BRL	200
Dimethylphthalate	BRL	200
2,6-Dinitrotoluene	BRL	200
3-Nitroaniline	BRL	400
Acenaphthene	BRL	200
2,4-Dinitrophenol	BRL	400
Dibenzofuran	BRL	200
4-Nitrophenol	BRL	400
2,4-Dinitrotoluene	BRL	200
Fluorene	79J	200
4-Chlorophenyl-phenylether	BRL	200
Diethylphthalate	BRL	200
4-Nitroaniline	BRL	400
4,6-Dinitro-2-methylphenol	BRL	400

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S5-6 CHEMWEST ID: 9703-4

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	200
4-Bromophenyl-phenylether	BRL	200
Hexachlorobenzene	BRL	200
Pentachlorophenol	BRL	400
Phenanthrene	150J	200
Anthracene	BRL	200
Di-n-butylphthalate	BRL	200
Fluoranthene	BRL	200
Pyrene	BRL	200
Butylbenzylphthalate	BRL	200
Benzo(a)anthracene	BRL	200
3,3'-Dichlorobenzidine	BRL	400
Chrysene	BRL	200
bis(2-Ethylhexyl)phthalate	BRL	200
Di-n-octylphthalate	BRL	200
Benzo(b)fluoranthene	BRL	200
Benzo(k)fluoranthene	BRL	200
Benzo(a)pyrene	BRL	200
Indeno(1,2,3-cd)pyrene	BRL	200
Dibenz(a,h)anthracene	BRL	200
Benzo(g,h,i)perylene	BRL	200

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	51%	25-121%
Phenol-d5	48%	24-113%
Nitrobenzene-d5	49%	23-120%
2-Fluorobiphenyl	51%	30-115%
2,4,6-Tribromophenol	53%	19-122%
Terphenyl-d14	65%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.
J: Estimated value below reporting limit.

Approved by: ew Date Reported: 06/30/92 REV6:9.90

APPENDIX Bii

TEST PIT SAMPLES

COMPUCHEM
WESTERN DIVISION
(CHEMWEST)

June 5, 1992

E2C, Inc.
1220 Crossman Ave., Suite 200
Sunnyvale, CA 94089

Attention: Robb Welch

Subject: Report of Data - Case Number 9606

Dear Mr. Welch:

Five soil samples for Project Number 4210100 were received May 15, 1992 in good condition.

Included in this report are the results for five soil samples analyzed for Volatile Organics, Semivolatile Organics, Total Petroleum Hydrocarbons Purgeable (Gasoline), Total Petroleum Hydrocarbons Extractable (Diesel), PCB's and Oil and Grease by IR. Results of the analyses along with the analytical methodoiogy and appropriate reporting limits are presented on the following page(s).

Thank you for choosing ChemWest Laboratories. Should you have questions concerning this data report or the analytical methods employed, please do not hesitate to contact your Project Manager. We hope that you will consider ChemWest Laboratories for your future analytical support and service requirements.

Sincerely,

Steven L. Senoff

for Debbie Pearce
Project Manager

DP:ds

cc: File

CASE NARRATIVE

This Case Narrative applies to the analysis of Volatile Organics EPA Method 8240 for CHEMWEST Ticket Number 9606.

All of the samples associated with this case were analyzed within holding times. The method blank was free of target compounds and met contract requirements.

All surrogate recoveries were within contract ranges.

All contract required criteria for internal standard areas and response factors, relative standard deviations and relative percent differences were met for the blanks, samples, QC samples and standards associated with this case. No samples were diluted.

CW sample #9606-3 was analyzed twice due to internal standard area criteria failing. The re-analysis matches the initial analysis substantiating a matrix effect. Both analyses are reported.

Elaine Wong
GC/MS Laboratory Manager

5.25.92
Date

ANALYTICAL METHODOLOGY

Volatile Organics

The analytical techniques used for water and soil analysis are based on EPA Methods 624 and 8240 (Purgeables) and follow EPA Contract Laboratory Program (CLP) recommendations. Water and soil samples are analyzed by a purge and trap, packed column GC/MS technique. The samples are analyzed under full scan GC/MS which monitors a mass range of 35-260.

Water -

A 5 ml sample volume to which 3 internal standards and 3 surrogates are added and purged with helium at ambient temperature. The sample is collected on a Tenax silica gel trap and then desorbed onto a packed column.

Soil/Sludge: Low -

A 5 gram sample weight is added to 5 mls of reagent water containing 3 internal standards and 3 surrogates and purged with helium at 40°C.

Soil/Sludge: Medium -

A 4 or 5 gram sample is weighed into a QA/QC prepped VOA vial and then shaken with 10 ml methanol. A 100 ul portion of the methanolic extract is combined with 5 ml of water. Surrogates and internal standards are added, and the sample analysis then follows the water protocol.

The 4 or 5 gram samples used for analysis are a mix taken from the top, middle and bottom of the sample container.. This mix was used to ensure that the analysis represented an accurate analysis of a non-homogenous soil/sludge sample.

Tuning and Blanks

The samples are run after meeting GC/MS hardware tuning ion abundance criteria, using p-Bromofluorobenzene (BFB) for volatiles. Laboratory blanks are run each day and a tripblank is also analyzed.

Surrogates:

Surrogates were included in all samples. Surrogates are used to monitor extractions recovery efficiency.

	% EPA Allowable Recovery	
Compounds	Water	Soil
1,2-Dichloroethane-d4	76 - 114	70 - 121
Toluene-d8	88 - 110	81 - 117
4-Bromofluorobenzene	86 - 115	74 - 121

Matrix Spikes:

Matrix spikes are additional quality assurance controls. Known amounts of selected compounds are added to samples and analytical accuracy is determined by sample analysis.

	% EPA Allowable Recovery	
Matrix Spike Compounds	Water	Soil
1,1-Dichloroethane	61 - 145	59 - 172
Trichloroethene	71 - 120	62 - 137
Chlorobenzene	75 - 130	60 - 133
Toluene	76 - 125	59 - 139
Benzene	76 - 127	66 - 142

CHEMWEST ANALYTICAL LABORATORIES
VOLATILE ORGANICS: 8240

Client ID: S1 — CHEMWEST ID: 9606-1
Date/Time Analyzed: 05/20/92 2029 — Matrix : Soil
Date/Time Sampled: 05/12/92 1336 — Dilution Factor: 1:1

Compound	Amount Detected (ug/Kg)	RL (ug/Kg)
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl Chloride	BRL	10
Chloroethane	BRL	10
Methylene Chloride	1.0J	10
Acetone	3.8BJ	20
Carbon Disulfide	BRL	5
1,1-Dichloroethene	BRL	5
1,1-Dichloroethane	BRL	5
1,2-Dichloroethene (total)	BRL	5
Chloroform	BRL	5
1,2-Dichloroethane	BRL	5
2-Butanone	BRL	20
1,1,1-Trichloroethane	BRL	5
Carbon Tetrachloride	BRL	5
Vinyl Acetate	BRL	10
Bromodichloromethane	BRL	5
1,2-Dichloropropane	BRL	5
cis-1,3-Dichloropropene	BRL	5
Trichloroethene	BRL	5
Benzene	BRL	5
Dibromochloromethane	BRL	5
1,1,2-Trichloroethane	BRL	5
trans-1,3-Dichloropropene	BRL	5
Bromoform	BRL	5
4-Methyl-2-pentanone	BRL	10
2-Hexanone	BRL	10
Tetrachloroethene	BRL	5
1,1,2,2-Tetrachloroethane	BRL	5
Toluene	1.1J	5
Chlorobenzene	BRL	5
Ethylbenzene	BRL	5
Styrene	BRL	5
Xylenes (total)	BRL	5

Surrogates	% Recovery	Acceptance Window
1,2-Dichloroethane-d4	100%	70-121%
Toluene-d8	109%	81-117%
4-Bromofluorobenzene	105%	74-121%

BRL: Below Reporting Limit.
RL: Reporting Limit.
B: Detected in Method Blank
J: Estimated value below reporting limit.

Approved by: _____ Date Reported: 06/05/92 REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
VOLATILE ORGANICS: 8240

Client ID: S2
Date/Time Analyzed: 05/20/92 2104
Date/Time Sampled: 05/12/92 1344
CHEMWEST ID: 9606-2
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (ug/Kg)	RL (ug/Kg)
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl Chloride	BRL	10
Chloroethane	BRL	10
Methylene Chloride	BRL	10
Acetone	1.8BJ	20
Carbon Disulfide	BRL	5
1,1-Dichloroethene	BRL	5
1,1-Dichloroethane	BRL	5
1,2-Dichloroethene (total)	BRL	5
Chloroform	BRL	5
1,2-Dichloroethane	BRL	5
2-Butanone	BRL	20
1,1,1-Trichloroethane	BRL	5
Carbon Tetrachloride	BRL	5
Vinyl Acetate	BRL	10
Bromodichloromethane	BRL	5
1,2-Dichloropropane	BRL	5
cis-1,3-Dichloropropene	BRL	5
Trichloroethene	BRL	5
Benzene	BRL	5
Dibromochloromethane	BRL	5
1,1,2-Trichloroethane	BRL	5
trans-1,3-Dichloropropene	BRL	5
Bromoform	BRL	5
4-Methyl-2-pentanone	BRL	10
2-Hexanone	BRL	10
Tetrachloroethene	BRL	5
1,1,2,2-Tetrachloroethane	BRL	5
Toluene	1.1J	5
Chlorobenzene	BRL	5
Ethylbenzene	BRL	5
Styrene	BRL	5
Xylenes (total)	BRL	5

Surrogates	% Recovery	Acceptance Window
1,2-Dichloroethane-d4	101%	70-121%
Toluene-d8	110%	81-117%
4-Bromofluorobenzene	102%	74-121%

BRL: Below Reporting Limit.
RL: Reporting Limit.
B: Detected in Method Blank
J: Estimated value below reporting limit.

Approved by: ew
Date Reported: 06/05/92
REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
VOLATILE ORGANICS: 8240

Client ID: S3 CHEMWEST ID: 9606-3
Date/Time Analyzed: 05/20/92 2137 Matrix : Soil
Date/Time Sampled: 05/12/92 1350 Dilution Factor: 1:1

Compound	Amount Detected (ug/Kg)	RL (ug/Kg)
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl Chloride	BRL	10
Chloroethane	BRL	10
Methylene Chloride	1.1J	10
Acetone	5.7BJ	20
Carbon Disulfide	BRL	5
1,1-Dichloroethene	BRL	5
1,1-Dichloroethane	BRL	5
1,2-Dichloroethene (total)	BRL	5
Chloroform	BRL	5
1,2-Dichloroethane	BRL	5
2-Butanone	BRL	20
1,1,1-Trichloroethane	BRL	5
Carbon Tetrachloride	BRL	5
Vinyl Acetate	BRL	10
Bromodichloromethane	BRL	5
1,2-Dichloropropane	BRL	5
cis-1,3-Dichloropropene	BRL	5
Trichloroethene	BRL	5
Benzene	BRL	5
Dibromochloromethane	BRL	5
1,1,2-Trichloroethane	BRL	5
trans-1,3-Dichloropropene	BRL	5
Bromoform	BRL	5
4-Methyl-2-pentanone	BRL	10
2-Hexanone	BRL	10
Tetrachloroethene	BRL	5
1,1,2,2-Tetrachloroethane	BRL	5
Toluene	1.5J	5
Chlorobenzene	BRL	5
Ethylbenzene	BRL	5
Styrene	BRL	5
Xylenes (total)	BRL	5

Surrogates	% Recovery	Acceptance Window
1,2-Dichloroethane-d4	99%	70-121%
Toluene-d8	113%	81-117%
4-Bromofluorobenzene	86%	74-121%

BRL: Below Reporting Limit.
RL: Reporting Limit.
B: Detected in Method Blank
J: Estimated value below reporting limit.

Approved by: _____ Date Reported: 06/05/92 REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
VOLATILE ORGANICS: 8240

Client ID: S4 CHEMWEST ID: 9606-4
Date/Time Analyzed: 05/20/92 2209 Matrix : Soil
Date/Time Sampled: 05/12/92 1358 Dilution Factor: 1:1

Compound	Amount Detected (ug/Kg)	RL (ug/Kg)
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl Chloride	BRL	10
Chloroethane	BRL	10
Methylene Chloride	BRL	10
Acetone	1.4BJ	20
Carbon Disulfide	BRL	5
1,1-Dichloroethene	BRL	5
1,1-Dichloroethane	BRL	5
1,2-Dichloroethene (total)	BRL	5
Chloroform	BRL	5
1,2-Dichloroethane	BRL	5
2-Butanone	BRL	20
1,1,1-Trichloroethane	BRL	5
Carbon Tetrachloride	BRL	5
Vinyl Acetate	BRL	10
Bromodichloromethane	BRL	5
1,2-Dichloropropane	BRL	5
cis-1,3-Dichloropropene	BRL	5
Trichloroethene	BRL	5
Benzene	BRL	5
Dibromochloromethane	BRL	5
1,1,2-Trichloroethane	BRL	5
trans-1,3-Dichloropropene	BRL	5
Bromoform	BRL	5
4-Methyl-2-pentanone	BRL	10
2-Hexanone	BRL	10
Tetrachloroethene	BRL	5
1,1,2,2-Tetrachloroethane	BRL	5
Toluene	BRL	5
Chlorobenzene	BRL	5
Ethylbenzene	BRL	5
Styrene	BRL	5
Xylenes (total)	BRL	5

Surrogates	% Recovery	Acceptance Window
1,2-Dichloroethane-d4	96%	70-121%
Toluene-d8	100%	81-117%
4-Bromofluorobenzene	97%	74-121%

BRL: Below Reporting Limit.
RL: Reporting Limit.
B: Detected in Method Blank
J: Estimated value below reporting limit.

Approved by: ew Date Reported: 06/05/92 REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
VOLATILE ORGANICS: 8240

Client ID: S4 | CHEMWEST ID: 9606-4R
Date/Time Analyzed: 05/20/92 2244 | Matrix : Soil
Date/Time Sampled: 05/12/92 1358 | Dilution Factor: 1:1

Compound	Amount Detected (ug/Kg)	RL (ug/Kg)
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl Chloride	BRL	10
Chloroethane	BRL	10
Methylene Chloride	1.0J	10
Acetone	4.6BJ	20
Carbon Disulfide	BRL	5
1,1-Dichloroethene	BRL	5
1,1-Dichloroethane	BRL	5
1,2-Dichloroethene (total)	BRL	5
Chloroform	BRL	5
1,2-Dichloroethane	BRL	5
2-Butanone	BRL	20
1,1,1-Trichloroethane	BRL	5
Carbon Tetrachloride	BRL	5
Vinyl Acetate	BRL	10
Bromodichloromethane	BRL	5
1,2-Dichloropropane	BRL	5
cis-1,3-Dichloropropene	BRL	5
Trichloroethene	BRL	5
Benzene	BRL	5
Dibromochloromethane	BRL	5
1,1,2-Trichloroethane	BRL	5
trans-1,3-Dichloropropene	BRL	5
Bromoform	BRL	5
4-Methyl-2-pentanone	BRL	10
2-Hexanone	BRL	10
Tetrachloroethene	BRL	5
1,1,2,2-Tetrachloroethane	BRL	5
Toluene	1.4J	5
Chlorobenzene	BRL	5
Ethylbenzene	BRL	5
Styrene	BRL	5
Xylenes (total)	BRL	5

Surrogates	% Recovery	Acceptance Window
1,2-Dichloroethane-d4	103%	70-121%
Toluene-d8	113%	81-117%
4-Bromofluorobenzene	88%	74-121%

BRL: Below Reporting Limit.
RL: Reporting Limit.
B: Detected in Method Blank
J: Estimated value below reporting limit.

Approved by: [signature] Date Reported: 06/05/92 REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
VOLATILE ORGANICS: 8240

Client ID: S5 CHEMWEST ID: 9606-5
Date/Time Analyzed: 05/21/92 1212 Matrix : Soil
Date/Time Sampled: 05/12/92 Dilution Factor: 1:1

Compound	Amount Detected (ug/Kg)	RL (ug/Kg)
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl Chloride	BRL	10
Chloroethane	BRL	10
Methylene Chloride	1.0J	10
Acetone	3.0BJ	20
Carbon Disulfide	BRL	5
1,1-Dichloroethene	BRL	5
1,1-Dichloroethane	BRL	5
1,2-Dichloroethene (total)	BRL	5
Chloroform	BRL	5
1,2-Dichloroethane	BRL	5
2-Butanone	BRL	20
1,1,1-Trichloroethane	BRL	5
Carbon Tetrachloride	BRL	5
Vinyl Acetate	BRL	10
Bromodichloromethane	BRL	5
1,2-Dichloropropane	BRL	5
cis-1,3-Dichloropropene	BRL	5
Trichloroethene	BRL	5
Benzene	BRL	5
Dibromochloromethane	BRL	5
1,1,2-Trichloroethane	BRL	5
trans-1,3-Dichloropropene	BRL	5
Bromoform	BRL	5
4-Methyl-2-pentanone	BRL	10
2-Hexanone	BRL	10
Tetrachloroethene	BRL	5
1,1,2,2-Tetrachloroethane	3.5J	5
Toluene	1.8J	5
Chlorobenzene	BRL	5
Ethylbenzene	15	5
Styrene	BRL	5
Xylenes (total)	280	5

Surrogates	% Recovery	Acceptance Window
1,2-Dichloroethane-d4	96%	70-121%
Toluene-d8	115%	81-117%
4-Bromofluorobenzene	99%	74-121%

BRL: Below Reporting Limit.
RL: Reporting Limit.
B: Detected in Method Blank
J: Estimated value below reporting limit.

Approved by: ew Date Reported: 06/05/92 REV6:9.90

QUALITY CONTROL

INFORMATION CONTROL INDEX

VOLATILE ORGANICS ----------METHOD BLANK

VOLATILE ORGANICS ----------LQCS/MBS-MBSD

CHEMWEST ANALYTICAL LABORATORIES
VOLATILE ORGANICS: 8240

Client ID: Method Blank
Date/Time Analyzed: 05/20/92 2041
Date/Time Sampled: NA

CHEMWEST ID: 9606-MB1
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (ug/Kg)	RL (ug/Kg)
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl Chloride	BRL	10
Chloroethane	BRL	10
Methylene Chloride	BRL	10
Acetone	2.7J	20
Carbon Disulfide	BRL	5
1,1-Dichloroethene	BRL	5
1,1-Dichloroethane	BRL	5
1,2-Dichloroethene (total)	BRL	5
Chloroform	BRL	5
1,2-Dichloroethane	BRL	5
2-Butanone	BRL	20
1,1,1-Trichloroethane	BRL	5
Carbon Tetrachloride	BRL	5
Vinyl Acetate	BRL	10
Bromodichloromethane	BRL	5
1,2-Dichloropropane	BRL	5
cis-1,3-Dichloropropene	BRL	5
Trichloroethene	BRL	5
Benzene	BRL	5
Dibromochloromethane	BRL	5
1,1,2-Trichloroethane	BRL	5
trans-1,3-Dichloropropene	BRL	5
Bromoform	BRL	5
4-Methyl-2-pentanone	BRL	10
2-Hexanone	BRL	10
Tetrachloroethene	BRL	5
1,1,2,2-Tetrachloroethane	BRL	5
Toluene	BRL	5
Chlorobenzene	BRL	5
Ethylbenzene	BRL	5
Styrene	BRL	5
Xylenes (total)	BRL	5

Surrogates	% Recovery	Acceptance Window
1,2-Dichloroethane-d4	97%	70-121%
Toluene-d8	99%	81-117%
4-Bromofluorobenzene	103%	74-121%

BRL: Below Reporting Limit.
RL: Reporting Limit.
J: Estimated value below reporting limit.

Approved by: _____

Date Reported:
05/25/92

REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
VOLATILE ORGANICS: 8240

Client ID: Method Blank
Date/Time Analyzed: 05/21/92 1137
Date/Time Sampled: NA

CHEMWEST ID: 9606-MB2
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (ug/Kg)	RL (ug/Kg)
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl Chloride	BRL	10
Chloroethane	BRL	10
Methylene Chloride	BRL	10
Acetone	BRL	20
Carbon Disulfide	BRL	5
1,1-Dichloroethene	BRL	5
1,1-Dichloroethane	BRL	5
1,2-Dichloroethene (total)	BRL	5
Chloroform	BRL	5
1,2-Dichloroethane	BRL	5
2-Butanone	BRL	20
1,1,1-Trichloroethane	BRL	5
Carbon Tetrachloride	BRL	5
Vinyl Acetate	BRL	10
Bromodichloromethane	BRL	5
1,2-Dichloropropane	BRL	5
cis-1,3-Dichloropropene	BRL	5
Trichloroethene	BRL	5
Benzene	BRL	5
Dibromochloromethane	BRL	5
1,1,2-Trichloroethane	BRL	5
trans-1,3-Dichloropropene	BRL	5
Bromoform	BRL	5
4-Methyl-2-pentanone	BRL	10
2-Hexanone	BRL	10
Tetrachloroethene	BRL	5
1,1,2,2-Tetrachloroethane	BRL	5
Toluene	BRL	5
Chlorobenzene	BRL	5
Ethylbenzene	BRL	5
Styrene	BRL	5
Xylenes (total)	BRL	5

Surrogates	% Recovery	Acceptance Window
1,2-Dichloroethane-d4	99%	70-121%
Toluene-d8	103%	81-117%
4-Bromofluorobenzene	106%	74-121%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: DM

Date Reported:
05/25/92

REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
VOLATILE ORGANICS
EPA METHOD:8240
QUALITY CONTROL

Client ID: LQCS CW 1
Date(s) Analyzed: 05/15/92

CHEMWEST ID: 9606-QC
Matrix : Soil

Compound	Spike Conc. (UG/KG)	% Recovery 9606-MBS	% Recovery 9606-MBSD	RPD
1,1-Dichloroethene	50	90%	94%	4%
Trichloroethene	50	98%	100%	2%
Benzene	50	89%	97%	9%
Toluene	50	90%	99%	10%
Chlorobenzene	50	96%	99%	3%

Surrogates	Spike Conc. (UG/KG)	% Recovery 9606-MBS	% Recovery 9606-MBSD
1,2-Dichloroethane-d4	50	79%	85%
Toluene-d8	50	97%	99%
4-Bromofluorobenzene	50	104%	95%

Approved by: JM

Date Reported:
05/25/92

REV5:1.90

ANALYTICAL METHODOLOGY

Semivolatile Organics

Waters -

The sample techniques used for both water and soil samples are based on EPA Methods 625 and 8270, and follow EPA Contract Laboratory Program (CLP) recommendations. Waters are extracted in a separatory funnel utilizing methylene chloride as the extraction solvent. Six surrogate compounds are added prior to extraction to monitor extraction efficiency. After extraction, the solvent is concentrated to 1 ml, internal standards are added and the sample is ready for analysis.

Soils -

Six surrogates are added to a weighed portion of soil. Three times methylene chloride/acetone is added and the soil is sonicated. The solvent is concentrated, internal standards are added and the sample is ready for analysis.

GC/MS -

Samples are analyzed on a GC/MS equipped with a DB-5 capillary column. Helium is the carrier gas and 1 ul of the sample extract is injected. The samples are analyzed under full scan GC/MS which monitors a mass range of 35-550.

Tuning and Blanks

The samples are run after meeting GC/MS hardware tuning ion abundance criteria, Decafluorotriphenylphosphine (DFTPP) for semi-volatiles. Laboratory blanks are extracted with each batch of water samples and soil samples.

Surrogates:

Surrogates were included in all samples. Surrogates are used to monitor extractions recovery efficiency.

Surrogate Compounds	% EPA Allowable Recovery Water	Soil
Nitrobenzene-d5	35 - 114	23 -120
2-Fluorobiphenyl	43 - 116	30 -115
p-Terphenyl-d14	33 - 141	18 -137
Phenol-d5	10 - 94	24 -113
2-Fluorophenol	21 - 100	25 -121
2,4,6-Tribromophenol	10 - 123	19 -122

Matrix Spikes:

Matrix spikes are additional quality assurance controls. Known amounts of selected compounds are added to samples and analytical accuracy is determined by sample analysis.

Matrix Spike Compounds	% EPA Allowable Recovery Water	Soil
1,2,4-Trichlorobenzene	39 - 98	38 - 107
Acenaphthene	46 - 118	31 - 137
2,4-Dinitrotoluene	24 - 96	28 - 89
Pyrene	26 - 127	35 - 142
N-Nitroso-di-n-dipropylamine	41 - 116	41 - 126
1,4-Dichlorobenzene	36 - 97	28 - 104
Pentachlorophenol	9 - 103	17 - 109
Phenol	12 - 89	26 - 90
2-Chlorophenol	27 - 123	25 - 102
4-Chloro-3-methylphenol	23 - 97	26 - 103
4-Nitrophenol	10 - 80	11 - 114

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S1
Date Extracted: 05/27/92
Date/Time Analyzed: 05/27/92 2050
Date/Time Sampled: 05/12/92 1336

CHEMWEST ID: 9606-1
Matrix: Soil
Dilution Factor: 1:2

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	400
2-Chlorophenol	BRL	400
bis(2-Chloroethyl) ether	BRL	400
1,3-Dichlorobenzene	BRL	400
1,4-Dichlorobenzene	BRL	400
1,2-Dichlorobenzene	BRL	400
Benzyl alcohol	BRL	400
2-Methylphenol	BRL	400
bis(2-Chloroisopropyl) ether	BRL	400
Hexachloroethane	BRL	400
N-Nitroso-di-n-propylamine	BRL	400
4-Methylphenol	BRL	400
Nitrobenzene	BRL	400
Isophorone	BRL	400
2-Nitrophenol	BRL	400
2,4-Dimethylphenol	BRL	400
bis(2-Chloroethoxy) methane	BRL	400
2,4-Dichlorophenol	BRL	400
1,2,4-Trichlorobenzene	BRL	400
Benzoic acid	BRL	800
Naphthalene	290 J	400
4-Chloroaniline	BRL	400
Hexachlorobutadiene	BRL	400
4-Chloro-3-methylphenol	BRL	400
2-Methylnaphthalene	580	400
Hexachlorocyclopentadiene	BRL	400
2,4,6-Trichlorophenol	BRL	400
2,4,5-Trichlorophenol	BRL	800
2-Chloronaphthalene	BRL	400
2-Nitroaniline	BRL	800
Acenaphthylene	BRL	400
Dimethylphthalate	BRL	400
2,6-Dinitrotoluene	BRL	400
3-Nitroaniline	BRL	800
Acenaphthene	BRL	400
2,4-Dinitrophenol	BRL	800
Dibenzofuran	BRL	400
4-Nitrophenol	BRL	800
2,4-Dinitrotoluene	BRL	400
Fluorene	470	400
4-Chlorophenyl-phenylether	BRL	400
Diethylphthalate	BRL	400
4-Nitroaniline	BRL	800
4,6-Dinitro-2-methylphenol	BRL	800

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S1 CHEMWEST ID: 9606-1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	400
4-Bromophenyl-phenylether	BRL	400
Hexachlorobenzene	BRL	400
Pentachlorophenol	BRL	800
Phenanthrene	2400	400
Anthracene	BRL	400
Di-n-butylphthalate	BRL	400
Fluoranthene	BRL	400
Pyrene	160 J	400
Butylbenzylphthalate	160 J	400
Benzo(a)anthracene	BRL	400
3,3'-Dichlorobenzidine	BRL	800
Chrysene	BRL	400
bis(2-Ethylhexyl)phthalate	1100	400
Di-n-octylphthalate	BRL	400
Benzo(b)fluoranthene	BRL	400
Benzo(k)fluoranthene	BRL	400
Benzo(a)pyrene	BRL	400
Indeno(1,2,3-cd)pyrene	BRL	400
Dibenz(a,h)anthracene	BRL	400
Benzo(g,h,i)perylene	BRL	400

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	71%	25-121%
Phenol-d5	72%	24-113%
Nitrobenzene-d5	72%	23-120%
2-Fluorobiphenyl	71%	30-115%
2,4,6-Tribromophenol	89%	19-122%
Terphenyl-d14	76%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.
J: Estimated value, detected below reporting limits.

Approved by: _____ Date Reported: 06/03/92 REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S2 | CHEMWEST ID: 9606-2
Date Extracted: 05/22/92 | Matrix: Soil
Date/Time Analyzed: 05/27/92 2132 | Dilution Factor: 1:2
Date/Time Sampled: 05/12/92 1344

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	400
2-Chlorophenol	BRL	400
bis(2-Chloroethyl) ether	BRL	400
1,3-Dichlorobenzene	BRL	400
1,4-Dichlorobenzene	BRL	400
1,2-Dichlorobenzene	BRL	400
Benzyl alcohol	BRL	400
2-Methylphenol	BRL	400
bis(2-Chloroisopropyl) ether	BRL	400
Hexachloroethane	BRL	400
N-Nitroso-di-n-propylamine	BRL	400
4-Methylphenol	BRL	400
Nitrobenzene	BRL	400
Isophorone	BRL	400
2-Nitrophenol	BRL	400
2,4-Dimethylphenol	BRL	400
bis(2-Chloroethoxy) methane	BRL	400
2,4-Dichlorophenol	BRL	400
1,2,4-Trichlorobenzene	BRL	400
Benzoic acid	BRL	800
Naphthalene	BRL	400
4-Chloroaniline	BRL	400
Hexachlorobutadiene	BRL	400
4-Chloro-3-methylphenol	BRL	400
2-Methylnaphthalene	BRL	400
Hexachlorocyclopentadiene	BRL	400
2,4,6-Trichlorophenol	BRL	400
2,4,5-Trichlorophenol	BRL	800
2-Chloronaphthalene	BRL	400
2-Nitroaniline	BRL	800
Acenaphthylene	BRL	400
Dimethylphthalate	BRL	400
2,6-Dinitrotoluene	BRL	400
3-Nitroaniline	BRL	800
Acenaphthene	BRL	400
2,4-Dinitrophenol	BRL	800
Dibenzofuran	BRL	400
4-Nitrophenol	BRL	800
2,4-Dinitrotoluene	BRL	400
Fluorene	BRL	400
4-Chlorophenyl-phenylether	BRL	400
Diethylphthalate	BRL	400
4-Nitroaniline	BRL	800
4,6-Dinitro-2-methylphenol	BRL	800

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S2 CHEMWEST ID: 9606-2

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	400
4-Bromophenyl-phenylether	BRL	400
Hexachlorobenzene	BRL	400
Pentachlorophenol	BRL	800
Phenanthrene	BRL	400
Anthracene	BRL	400
Di-n-butylphthalate	BRL	400
Fluoranthene	BRL	400
Pyrene	BRL	400
Butylbenzylphthalate	BRL	400
Benzo(a)anthracene	BRL	400
3,3'-Dichlorobenzidine	BRL	800
Chrysene	BRL	400
bis(2-Ethylhexyl)phthalate	BRL	400
Di-n-octylphthalate	BRL	400
Benzo(b)fluoranthene	BRL	400
Benzo(k)fluoranthene	BRL	400
Benzo(a)pyrene	BRL	400
Indeno(1,2,3-cd)pyrene	BRL	400
Dibenz(a,h)anthracene	BRL	400
Benzo(g,h,i)perylene	BRL	400

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	69%	25-121%
Phenol-d5	69%	24-113%
Nitrobenzene-d5	68%	23-120%
2-Fluorobiphenyl	66%	30-115%
2,4,6-Tribromophenol	79%	19-122%
Terphenyl-d14	82%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: [signature] Date Reported: 06/03/92 REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S3
Date Extracted: 05/22/92
Date/Time Analyzed: 05/27/92 2337
Date/Time Sampled: 05/12/92 1350

CHEMWEST ID: 9606-3
Matrix: Soil
Dilution Factor: 1:2

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	400
2-Chlorophenol	BRL	400
bis(2-Chloroethyl) ether	BRL	400
1,3-Dichlorobenzene	BRL	400
1,4-Dichlorobenzene	BRL	400
1,2-Dichlorobenzene	BRL	400
Benzyl alcohol	BRL	400
2-Methylphenol	BRL	400
bis(2-Chloroisopropyl) ether	BRL	400
Hexachloroethane	BRL	400
N-Nitroso-di-n-propylamine	BRL	400
4-Methylphenol	BRL	400
Nitrobenzene	BRL	400
Isophorone	BRL	400
2-Nitrophenol	BRL	400
2,4-Dimethylphenol	BRL	400
bis(2-Chloroethoxy) methane	BRL	400
2,4-Dichlorophenol	BRL	400
1,2,4-Trichlorobenzene	BRL	400
Benzoic acid	BRL	800
Naphthalene	BRL	400
4-Chloroaniline	BRL	400
Hexachlorobutadiene	BRL	400
4-Chloro-3-methylphenol	BRL	400
2-Methylnaphthalene	BRL	400
Hexachlorocyclopentadiene	BRL	400
2,4,6-Trichlorophenol	BRL	400
2,4,5-Trichlorophenol	BRL	800
2-Chloronaphthalene	BRL	400
2-Nitroaniline	BRL	800
Acenaphthylene	BRL	400
Dimethylphthalate	BRL	400
2,6-Dinitrotoluene	BRL	400
3-Nitroaniline	BRL	800
Acenaphthene	BRL	400
2,4-Dinitrophenol	BRL	800
Dibenzofuran	BRL	400
4-Nitrophenol	BRL	800
2,4-Dinitrotoluene	BRL	400
Fluorene	BRL	400
4-Chlorophenyl-phenylether	BRL	400
Diethylphthalate	BRL	400
4-Nitroaniline	BRL	800
4,6-Dinitro-2-methylphenol	BRL	800

CHEMWEST ANALYTICAL LABORATORIES
TOTAL PETROLEUM HYDROCARBONS - PURGEABLE
CW:CALUFT

Client ID: S3
Date Extracted : 05/21/92
Date/Time Analyzed: 05/26/92 2017
Date/Time Sampled: 05/12/92 1350

CHEMWEST ID: 9606-3
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (MG/KG)	RL (MG/KG)
Total Petroleum Hydrocarbons (Purgeable)	BRL	1

Surrogate	% Recovery	Acceptance Window
Bromofluorobenzene	75%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

CALUFT: See Narrative

Approved by: YP

Date Reported:
06/05/92

REV4.1.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S3

CHEMWEST ID: 9606-3

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	400
4-Bromophenyl-phenylether	BRL	400
Hexachlorobenzene	BRL	400
Pentachlorophenol	BRL	800
Phenanthrene	BRL	400
Anthracene	BRL	400
Di-n-butylphthalate	BRL	400
Fluoranthene	BRL	400
Pyrene	BRL	400
Butylbenzylphthalate	BRL	400
Benzo(a)anthracene	BRL	400
3,3'-Dichlorobenzidine	BRL	800
Chrysene	BRL	400
bis(2-Ethylhexyl)phthalate	BRL	400
Di-n-octylphthalate	BRL	400
Benzo(b)fluoranthene	BRL	400
Benzo(k)fluoranthene	BRL	400
Benzo(a)pyrene	BRL	400
Indeno(1,2,3-cd)pyrene	BRL	400
Dibenz(a,h)anthracene	BRL	400
Benzo(g,h,i)perylene	BRL	400

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	68%	25-121%
Phenol-d5	68%	24-113%
Nitrobenzene-d5	73%	23-120%
2-Fluorobiphenyl	68%	30-115%
2,4,6-Tribromophenol	77%	19-122%
Terphenyl-d14	75%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: ew

Date Reported:
06/03/92

REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S4
Date Extracted: 05/27/92
Date/Time Analyzed: 05/28/92 0020
Date/Time Sampled: 05/12/92 1358

CHEMWEST ID: 9606-4
Matrix: Soil
Dilution Factor: 1:2

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	400
2-Chlorophenol	BRL	400
bis(2-Chloroethyl) ether	BRL	400
1,3-Dichlorobenzene	BRL	400
1,4-Dichlorobenzene	BRL	400
1,2-Dichlorobenzene	BRL	400
Benzyl alcohol	BRL	400
2-Methylphenol	BRL	400
bis(2-Chloroisopropyl) ether	BRL	400
Hexachloroethane	BRL	400
N-Nitroso-di-n-propylamine	BRL	400
4-Methylphenol	BRL	400
Nitrobenzene	BRL	400
Isophorone	BRL	400
2-Nitrophenol	BRL	400
2,4-Dimethylphenol	BRL	400
bis(2-Chloroethoxy) methane	BRL	400
2,4-Dichlorophenol	BRL	400
1,2,4-Trichlorobenzene	BRL	400
Benzoic acid	BRL	800
Naphthalene	BRL	400
4-Chloroaniline	BRL	400
Hexachlorobutadiene	BRL	400
4-Chloro-3-methylphenol	BRL	400
2-Methylnaphthalene	BRL	400
Hexachlorocyclopentadiene	BRL	400
2,4,6-Trichlorophenol	BRL	400
2,4,5-Trichlorophenol	BRL	800
2-Chloronaphthalene	BRL	400
2-Nitroaniline	BRL	800
Acenaphthylene	BRL	400
Dimethylphthalate	BRL	400
2,6-Dinitrotoluene	BRL	400
3-Nitroaniline	BRL	800
Acenaphthene	BRL	400
2,4-Dinitrophenol	BRL	800
Dibenzofuran	BRL	400
4-Nitrophenol	BRL	800
2,4-Dinitrotoluene	BRL	400
Fluorene	BRL	400
4-Chlorophenyl-phenylether	BRL	400
Diethylphthalate	BRL	400
4-Nitroaniline	BRL	800
4,6-Dinitro-2-methylphenol	BRL	800

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S4 CHEMWEST ID: 9606-4

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	400
4-Bromophenyl-phenylether	BRL	400
Hexachlorobenzene	BRL	400
Pentachlorophenol	BRL	800
Phenanthrene	BRL	400
Anthracene	BRL	400
Di-n-butylphthalate	BRL	400
Fluoranthene	BRL	400
Pyrene	BRL	400
Butylbenzylphthalate	BRL	400
Benzo(a)anthracene	BRL	400
3,3'-Dichlorobenzidine	BRL	800
Chrysene	BRL	400
bis(2-Ethylhexyl)phthalate	BRL	400
Di-n-octylphthalate	BRL	400
Benzo(b)fluoranthene	BRL	400
Benzo(k)fluoranthene	BRL	400
Benzo(a)pyrene	BRL	400
Indeno(1,2,3-cd)pyrene	BRL	400
Dibenz(a,h)anthracene	BRL	400
Benzo(g,h,i)perylene	BRL	400

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	74%	25-121%
Phenol-d5	73%	24-113%
Nitrobenzene-d5	78%	23-120%
2-Fluorobiphenyl	67%	30-115%
2,4,6-Tribromophenol	59%	19-122%
Terphenyl-d14	75%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: ew

Date Reported:
06/03/92

REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S5 CHEMWEST ID: 9606-5
Date Extracted: 05/22/92 Matrix: Soil
Date/Time Analyzed: 05/28/92 0102 Dilution Factor: 1:2
Date/Time Sampled: 05/12/92

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	400
2-Chlorophenol	BRL	400
bis(2-Chloroethyl) ether	BRL	400
1,3-Dichlorobenzene	BRL	400
1,4-Dichlorobenzene	BRL	400
1,2-Dichlorobenzene	BRL	400
Benzyl alcohol	BRL	400
2-Methylphenol	BRL	400
bis(2-Chloroisopropyl) ether	BRL	400
Hexachloroethane	BRL	400
N-Nitroso-di-n-propylamine	BRL	400
4-Methylphenol	BRL	400
Nitrobenzene	BRL	400
Isophorone	BRL	400
2-Nitrophenol	BRL	400
2,4-Dimethylphenol	BRL	400
bis(2-Chloroethoxy) methane	BRL	400
2,4-Dichlorophenol	BRL	400
1,2,4-Trichlorobenzene	BRL	400
Benzoic acid	BRL	800
Naphthalene	5500	400
4-Chloroaniline	BRL	400
Hexachlorobutadiene	BRL	400
4-Chloro-3-methylphenol	BRL	400
2-Methylnaphthalene	E	400
Hexachlorocyclopentadiene	BRL	400
2,4,6-Trichlorophenol	BRL	400
2,4,5-Trichlorophenol	BRL	800
2-Chloronaphthalene	BRL	400
2-Nitroaniline	BRL	800
Acenaphthylene	BRL	400
Dimethylphthalate	BRL	400
2,6-Dinitrotoluene	BRL	400
3-Nitroaniline	BRL	800
Acenaphthene	BRL	400
2,4-Dinitrophenol	BRL	800
Dibenzofuran	BRL	400
4-Nitrophenol	BRL	800
2,4-Dinitrotoluene	BRL	400
Fluorene	1300	400
4-Chlorophenyl-phenylether	BRL	400
Diethylphthalate	BRL	400
4-Nitroaniline	BRL	800
4,6-Dinitro-2-methylphenol	BRL	800

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S5 CHEMWEST ID: 9606-5

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	400
4-Bromophenyl-phenylether	BRL	400
Hexachlorobenzene	BRL	400
Pentachlorophenol	BRL	800
Phenanthrene	2000	400
Anthracene	BRL	400
Di-n-butylphthalate	BRL	400
Fluoranthene	BRL	400
Pyrene	BRL	400
Butylbenzylphthalate	BRL	400
Benzo(a)anthracene	BRL	400
3,3'-Dichlorobenzidine	BRL	800
Chrysene	BRL	400
bis(2-Ethylhexyl)phthalate	BRL	400
Di-n-octylphthalate	BRL	400
Benzo(b)fluoranthene	BRL	400
Benzo(k)fluoranthene	BRL	400
Benzo(a)pyrene	BRL	400
Indeno(1,2,3-cd)pyrene	BRL	400
Dibenz(a,h)anthracene	BRL	400
Benzo(g,h,i)perylene	BRL	400

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	70%	25-121%
Phenol-d5	67%	24-113%
Nitrobenzene-d5	85%	23-120%
2-Fluorobiphenyl	68%	30-115%
2,4,6-Tribromophenol	80%	19-122%
Terphenyl-d14	97%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.
E: Exceeds linear calibration range (see dilution).

Approved by: ew

Date Reported:
06/03/92

REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S5DL
Date Extracted: 05/22/92
Date/Time Analyzed: 05/28/92 2329
Date/Time Sampled: 05/12/92

CHEMWEST ID: 9606-5DL
Matrix: Soil
Dilution Factor: 1:8

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	1600
2-Chlorophenol	BRL	1600
bis(2-Chloroethyl) ether	BRL	1600
1,3-Dichlorobenzene	BRL	1600
1,4-Dichlorobenzene	BRL	1600
1,2-Dichlorobenzene	BRL	1600
Benzyl alcohol	BRL	1600
2-Methylphenol	BRL	1600
bis(2-Chloroisopropyl) ether	BRL	1600
Hexachloroethane	BRL	1600
N-Nitroso-di-n-propylamine	BRL	1600
4-Methylphenol	BRL	1600
Nitrobenzene	BRL	1600
Isophorone	BRL	1600
2-Nitrophenol	BRL	1600
2,4-Dimethylphenol	BRL	1600
bis(2-Chloroethoxy) methane	BRL	1600
2,4-Dichlorophenol	BRL	1600
1,2,4-Trichlorobenzene	BRL	1600
Benzoic acid	BRL	3200
Naphthalene	6900	1600
4-Chloroaniline	BRL	1600
Hexachlorobutadiene	BRL	1600
4-Chloro-3-methylphenol	BRL	1600
2-Methylnaphthalene	22000	1600
Hexachlorocyclopentadiene	BRL	1600
2,4,6-Trichlorophenol	BRL	1600
2,4,5-Trichlorophenol	BRL	3200
2-Chloronaphthalene	BRL	1600
2-Nitroaniline	BRL	3200
Acenaphthylene	BRL	1600
Dimethylphthalate	BRL	1600
2,6-Dinitrotoluene	BRL	1600
3-Nitroaniline	BRL	3200
Acenaphthene	BRL	1600
2,4-Dinitrophenol	BRL	3200
Dibenzofuran	BRL	1600
4-Nitrophenol	BRL	3200
2,4-Dinitrotoluene	BRL	1600
Fluorene	1900	1600
4-Chlorophenyl-phenylether	BRL	1600
Diethylphthalate	BRL	1600
4-Nitroaniline	BRL	3200
4,6-Dinitro-2-methylphenol	BRL	3200

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S5DL CHEMWEST ID: 9606-5DL

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	1600
4-Bromophenyl-phenylether	BRL	1600
Hexachlorobenzene	BRL	1600
Pentachlorophenol	BRL	3200
Phenanthrene	2500	1600
Anthracene	BRL	1600
Di-n-butylphthalate	BRL	1600
Fluoranthene	BRL	1600
Pyrene	BRL	1600
Butylbenzylphthalate	BRL	1600
Benzo(a)anthracene	BRL	1600
3,3'-Dichlorobenzidine	BRL	3200
Chrysene	BRL	1600
bis(2-Ethylhexyl)phthalate	320 J	1600
Di-n-octylphthalate	BRL	1600
Benzo(b)fluoranthene	BRL	1600
Benzo(k)fluoranthene	BRL	1600
Benzo(a)pyrene	BRL	1600
Indeno(1,2,3-cd)pyrene	BRL	1600
Dibenz(a,h)anthracene	BRL	1600
Benzo(g,h,i)perylene	BRL	1600

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	87%	25-121%
Phenol-d5	83%	24-113%
Nitrobenzene-d5	106%	23-120%
2-Fluorobiphenyl	85%	30-115%
2,4,6-Tribromophenol	86%	19-122%
Terphenyl-d14	118%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.
J: Estimated value, detected below reporting limits.

Approved by: _____ Date Reported: 06/03/92 REV6:9.90

QUALITY CONTROL

INFORMATION CONTROL INDEX

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: Method Blank
Date Extracted: 05/22/92
Date/Time Analyzed: 05/27/92 1755
Date/Time Sampled: NA

CHEMWEST ID: 9606-MB1
Matrix: Soil
Dilution Factor: 1:1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	200
2-Chlorophenol	BRL	200
bis(2-Chloroethyl) ether	BRL	200
1,3-Dichlorobenzene	BRL	200
1,4-Dichlorobenzene	BRL	200
1,2-Dichlorobenzene	BRL	200
Benzyl alcohol	BRL	200
2-Methylphenol	BRL	200
bis(2-Chloroisopropyl) ether	BRL	200
Hexachloroethane	BRL	200
N-Nitroso-di-n-propylamine	BRL	200
4-Methylphenol	BRL	200
Nitrobenzene	BRL	200
Isophorone	BRL	200
2-Nitrophenol	BRL	200
2,4-Dimethylphenol	BRL	200
bis(2-Chloroethoxy) methane	BRL	200
2,4-Dichlorophenol	BRL	200
1,2,4-Trichlorobenzene	BRL	200
Benzoic acid	BRL	400
Naphthalene	BRL	200
4-Chloroaniline	BRL	200
Hexachlorobutadiene	BRL	200
4-Chloro-3-methylphenol	BRL	200
2-Methylnaphthalene	BRL	200
Hexachlorocyclopentadiene	BRL	200
2,4,6-Trichlorophenol	BRL	200
2,4,5-Trichlorophenol	BRL	400
2-Chloronaphthalene	BRL	200
2-Nitroaniline	BRL	400
Acenaphthylene	BRL	200
Dimethylphthalate	BRL	200
2,6-Dinitrotoluene	BRL	200
3-Nitroaniline	BRL	400
Acenaphthene	BRL	200
2,4-Dinitrophenol	BRL	400
Dibenzofuran	BRL	200
4-Nitrophenol	BRL	400
2,4-Dinitrotoluene	BRL	200
Fluorene	BRL	200
4-Chlorophenyl-phenylether	BRL	200
Diethylphthalate	BRL	200
4-Nitroaniline	BRL	400
4,6-Dinitro-2-methylphenol	BRL	400

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: Method Blank CHEMWEST ID: 9606-MB1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	200
4-Bromophenyl-phenylether	BRL	200
Hexachlorobenzene	BRL	200
Pentachlorophenol	BRL	400
Phenanthrene	BRL	200
Anthracene	BRL	200
Di-n-butylphthalate	BRL	200
Fluoranthene	BRL	200
Pyrene	BRL	200
Butylbenzylphthalate	BRL	200
Benzo(a)anthracene	BRL	200
3,3'-Dichlorobenzidine	BRL	400
Chrysene	BRL	200
bis(2-Ethylhexyl)phthalate	BRL	200
Di-n-octylphthalate	BRL	200
Benzo(b)fluoranthene	BRL	200
Benzo(k)fluoranthene	BRL	200
Benzo(a)pyrene	BRL	200
Indeno(1,2,3-cd)pyrene	BRL	200
Dibenz(a,h)anthracene	BRL	200
Benzo(g,h,i)perylene	BRL	200

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	72%	25-121%
Phenol-d5	76%	24-113%
Nitrobenzene-d5	76%	23-120%
2-Fluorobiphenyl	73%	30-115%
2,4,6-Tribromophenol	78%	19-122%
Terphenyl-d14	87%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: ed

Date Reported:
06/03/92

REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: Method Blank
Date Extracted: 05/27/92
Date/Time Analyzed: 05/28/92 1636
Date/Time Sampled: NA

CHEMWEST ID: 9606-MB2
Matrix: Soil
Dilution Factor: 1:1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	200
2-Chlorophenol	BRL	200
bis(2-Chloroethyl) ether	BRL	200
1,3-Dichlorobenzene	BRL	200
1,4-Dichlorobenzene	BRL	200
1,2-Dichlorobenzene	BRL	200
Benzyl alcohol	BRL	200
2-Methylphenol	BRL	200
bis(2-Chloroisopropyl) ether	BRL	200
Hexachloroethane	BRL	200
N-Nitroso-di-n-propylamine	BRL	200
4-Methylphenol	BRL	200
Nitrobenzene	BRL	200
Isophorone	BRL	200
2-Nitrophenol	BRL	200
2,4-Dimethylphenol	BRL	200
bis(2-Chloroethoxy) methane	BRL	200
2,4-Dichlorophenol	BRL	200
1,2,4-Trichlorobenzene	BRL	200
Benzoic acid	BRL	400
Naphthalene	BRL	200
4-Chloroaniline	BRL	200
Hexachlorobutadiene	BRL	200
4-Chloro-3-methylphenol	BRL	200
2-Methylnaphthalene	BRL	200
Hexachlorocyclopentadiene	BRL	200
2,4,6-Trichlorophenol	BRL	200
2,4,5-Trichlorophenol	BRL	400
2-Chloronaphthalene	BRL	200
2-Nitroaniline	BRL	400
Acenaphthylene	BRL	200
Dimethylphthalate	BRL	200
2,6-Dinitrotoluene	BRL	200
3-Nitroaniline	BRL	400
Acenaphthene	BRL	200
2,4-Dinitrophenol	BRL	400
Dibenzofuran	BRL	200
4-Nitrophenol	BRL	400
2,4-Dinitrotoluene	BRL	200
Fluorene	BRL	200
4-Chlorophenyl-phenylether	BRL	200
Diethylphthalate	BRL	200
4-Nitroaniline	BRL	400
4,6-Dinitro-2-methylphenol	BRL	400

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: Method Blank

CHEMWEST ID: 9606-MB2

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	200
4-Bromophenyl-phenylether	BRL	200
Hexachlorobenzene	BRL	200
Pentachlorophenol	BRL	400
Phenanthrene	BRL	200
Anthracene	BRL	200
Di-n-butylphthalate	BRL	200
Fluoranthene	BRL	200
Pyrene	BRL	200
Butylbenzylphthalate	BRL	200
Benzo(a)anthracene	BRL	200
3,3'-Dichlorobenzidine	BRL	400
Chrysene	BRL	200
bis(2-Ethylhexyl)phthalate	BRL	200
Di-n-octylphthalate	BRL	200
Benzo(b)fluoranthene	BRL	200
Benzo(k)fluoranthene	BRL	200
Benzo(a)pyrene	BRL	200
Indeno(1,2,3-cd)pyrene	BRL	200
Dibenz(a,h)anthracene	BRL	200
Benzo(g,h,i)perylene	BRL	200

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	74%	25-121%
Phenol-d5	72%	24-113%
Nitrobenzene-d5	76%	23-120%
2-Fluorobiphenyl	78%	30-115%
2,4,6-Tribromophenol	88%	19-122%
Terphenyl-d14	90%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: _____

Date Reported:
06/03/92

REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: LQCS
Date(s) Analyzed: 05/27/92

CHEMWEST ID: 9606-QC1
Matrix : Soil

Compound	Spike Conc. (UG/KG)	% Recovery 9606-MBS	% Recovery 9606-MBSD	RPD
Phenol	200	67%	70%	4%
2-Chlorophenol	200	70%	75%	7%
1,4-Dichlorobenzene	100	69%	70%	1%
N-Nitroso-di-n-propylamine	100	73%	76%	4%
1,2,4-Trichlorobenzene	100	78%	78%	0%
4-Chloro-3-methylphenol	200	87%	82%	6%
Acenaphthene	100	72%	76%	5%
4-Nitrophenol	200	68%	71%	4%
2,4-Dinitrotoluene	100	75%	80%	6%
Pentachlorophenol	200	70%	65%	7%
Pyrene	100	86%	92%	7%

Surrogates	Spike Conc. (UG/KG)	% Recovery 9606-MBS	% Recovery 9606-MBSD
2-Fluorophenol	200	73%	77%
Phenol-d5	200	73%	77%
Nitrobenzene-d5	100	76%	79%
2-Fluorobiphenyl	100	73%	81%
2,4,6-Tribromophenol	200	84%	88%
Terphenyl-d14	100	90%	100%

Approved by: ew

Date Reported:
06/03/92

REV 5:9.91

CHEMWEST ANALYTICAL LABORATORIES
PCBs
EPA METHOD: 8080

Client ID: S1
Date Extracted: 05/22/92
Date/Time Analyzed: 05/27/92 0147
Date/Time Sampled: 05/12/92 1336

CHEMWEST ID: 9606-1
Matrix : Soil
Dilution Factor: 1:10

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Aroclor 1016	BRL	100
Aroclor 1221	BRL	100
Aroclor 1232	BRL	100
Aroclor 1242	BRL	100
Aroclor 1248	BRL	100
Aroclor 1254	BRL	200
Aroclor 1260	BRL	200

Surrogate	% Recovery	Acceptance Window
Dibutylchlorendate	44%	20-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: _____

Date Reported:
06/05/92

REV5:1.90

CHEMWEST ANALYTICAL LABORATORIES
PCBs
EPA METHOD: 8080

Client ID: S2
Date Extracted: 05/22/92
Date/Time Analyzed: 05/28/92 0446
Date/Time Sampled: 05/12/92 1344

CHEMWEST ID: 9606-2
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Aroclor 1016	BRL	10
Aroclor 1221	BRL	10
Aroclor 1232	BRL	10
Aroclor 1242	BRL	10
Aroclor 1248	BRL	10
Aroclor 1254	BRL	20
Aroclor 1260	BRL	20

Surrogate	% Recovery	Acceptance Window
Dibutylchlorendate	96%	20-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: _____

Date Reported:
06/05/92

REV5:1.90

CHEMWEST ANALYTICAL LABORATORIES
PCBs
EPA METHOD: 8080

Client ID: S3
Date Extracted: 05/22/92
Date/Time Analyzed: 05/28/92 0700
Date/Time Sampled: 05/12/92 1350

CHEMWEST ID: 9606-3
Matrix : Soil
Dilution Factor: 1:10

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Aroclor 1016	BRL	100
Aroclor 1221	BRL	100
Aroclor 1232	BRL	100
Aroclor 1242	BRL	100
Aroclor 1248	BRL	100
Aroclor 1254	BRL	200
Aroclor 1260	BRL	200

Surrogate	% Recovery	Acceptance Window
Dibutylchlorendate	56%	20-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: _____

Date Reported:
06/05/92

REV5:1.90

CHEMWEST ANALYTICAL LABORATORIES
PCBs
EPA METHOD: 8080

Client ID: S4
Date Extracted: 05/22/92
Date/Time Analyzed: 05/28/92 0913
Date/Time Sampled: 05/12/92 1358

CHEMWEST ID: 9606-4
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Aroclor 1016	BRL	10
Aroclor 1221	BRL	10
Aroclor 1232	BRL	10
Aroclor 1242	BRL	10
Aroclor 1248	BRL	10
Aroclor 1254	BRL	20
Aroclor 1260	BRL	20

Surrogate	% Recovery	Acceptance Window
Dibutylchlorendate	102%	20-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: YP

Date Reported:
06/05/92

REV5:1.90

CHEMWEST ANALYTICAL LABORATORIES
PCBs
EPA METHOD: 8080

Client ID: S5
Date Extracted: 05/22/92
Date/Time Analyzed: 05/28/92 1127
Date/Time Sampled: 05/12/92

CHEMWEST ID: 9606-5
Matrix : Soil
Dilution Factor: 1:10

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Aroclor 1016	BRL	100
Aroclor 1221	BRL	100
Aroclor 1232	BRL	100
Aroclor 1242	BRL	100
Aroclor 1248	BRL	100
Aroclor 1254	BRL	200
Aroclor 1260	BRL	200

Surrogate	% Recovery	Acceptance Window
Dibutylchlorendate	113%	20-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: YP

Date Reported:
06/05/92

REV5:1.90

QUALITY CONTROL

INFORMATION CONTROL INDEX

PCB'S----------METHOD BLANK

PCB'S----------LQCS-MBS/MBSD

CHEMWEST ANALYTICAL LABORATORIES
PCBs
EPA METHOD: 8080

Client ID: Method Blank
Date Extracted: 05/22/92
Date/Time Analyzed: 05/26/92 2333
Date/Time Sampled: NA

CHEMWEST ID: 9606-MB1
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Aroclor 1016	BRL	10
Aroclor 1221	BRL	10
Aroclor 1232	BRL	10
Aroclor 1242	BRL	10
Aroclor 1248	BRL	10
Aroclor 1254	BRL	20
Aroclor 1260	BRL	20

Surrogate	% Recovery	Acceptance Window
Dibutylchlorendate	93%	20-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: _____

Date Reported:
06/01/92

REV5:1.90

CHEMWEST ANALYTICAL LABORATORIES
ORGANOCHLORINE PESTICIDES & PCBs
EPA METHOD: 8080

Quality Control

Client ID: LQSC G7 6C
Date Analyzed: 05/27/92

CHEMWEST ID: 9606-QC1
Matrix : Soil

Compound	Spike Conc. (UG/KG)	% Recovery 9606-MBS	% Recovery 9606-MBSD	RPD
Aroclor 1254	3.33	90%	88%	2%

Surrogates	Spike Conc. (UG/KG)	% Recovery 9606-MBS	% Recovery 9606-MBSD
Dibutylchlorendate	16.7	102%	88%

Date Reported:
06/01/92

Approved by: \r

REV5:1.90

ANALYTICAL METHODOLOGY

Total Petroleum Hydrocarbons by Purge & Trap and GC-FID

WATER - DHS Method - Luft Field Manual

A 5 ml sample volume, or 5 ml of a suitable dilution, is purged on a suitable purge and trap system with helium. The purged sample is analyzed on a Gas Chromatograph equipped with a Flame Ionization Detector (FID). A packed column is used to separate the compounds.

SOIL - DHS Method - Luft Field Manual

A 10 gram, or other appropriate aliquot of soil, is weighed into a clean VOA vial. Soils received in brass core tubes are sampled by discarding 2-5 centimeters of soil from each end of the tubes (this is done to reduce the possibility of analyzing a portion of soil that has been exposed to sampling technique contamination). Equal aliquots of soil are then removed from each end of the tube and combined in the VOA vial. Soil in jars or bags is aliquoted using a similar technique, which discards exposed sample surfaces. A 10 ml, or other appropriate volume of methanol, is added to the soil and the soil is shaken with the solvent. 100 ul of the extract, or a reduced aliquot or volume of a suitable dilution, is injected into 5 ml of laboratory blank water and analyzed by the same technique used for water samples.

CASE NARRATIVE

This Case Narrative applies to the data from the analysis of Total Petroleum Hydrocarbons Purgeable (Gasoline) CA LUFT Field Manual for CHEMWEST Ticket number 9606.

All Blanks contained no analytes at or above the reporting limit for each analyte.

The linear regression calculation for the initial calibration met required criteria.

Continuing calibration standards were verified and met acceptance criteria.

The percent recoveries and RPD's for all laboratory quality control samples were within acceptance criteria.

The purgeable Total Petroleum Hydrocarbons reported in sample 9606-5 represents an undefined hydrocarbon mixture. It is possible that this mixture is aged gasoline, however the fuel fingerprint pattern is not well defined.

CALUFT: CHEMWEST follows the California Luft Field Manual guidelines for Total Petroleum Hydrocarbons Purgeable analysis.

Kirk Pocan

Kirk Pocan
GC Laboratory Manager

6/1/95
Date

CHEMWEST ANALYTICAL LABORATORIES
TOTAL PETROLEUM HYDROCARBONS - PURGEABLE
CW:CALUFT

Client ID: S5
Date Extracted : 05/21/92
Date/Time Analyzed: 05/26/92 2302
Date/Time Sampled: 05/12/92

CHEMWEST ID: 9606-5
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (MG/KG)	RL (MG/KG)
Total Petroleum Hydrocarbons (Purgeable)	81 J	100

Surrogate	% Recovery	Acceptance Window
Bromofluorobenzene	83%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

CALUFT: See Narrative

Approved by: JP

Date Reported:
06/05/92

REV4.1.90

QUALITY CONTROL

INFORMATION CONTROL INDEX

TPH PURGEABLE----------METHOD BLANK

TPHPURGEABLE----------LQCS-MBS/MBSD

CHEMWEST ANALYTICAL LABORATORIES
TOTAL PETROLEUM HYDROCARBONS - PURGEABLE
CW:CALUFT

Client ID: Method Blank
Date Extracted : 05/21/92
Date/Time Analyzed: 05/26/92 1714
Date/Time Sampled: NA

CHEMWEST ID: 9606-MB1
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (MG/KG)	RL (MG/KG)
Total Petroleum Hydrocarbons (Purgeable)	BRL	1

Surrogate	% Recovery	Acceptance Window
Bromofluorobenzene	85%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

CALUFT: See Narrative

Approved by: _____

Date Reported:
06/01/92

REV4.1.90

CHEMWEST ANALYTICAL LABORATORIES
TOTAL PETROLEUM HYDROCARBONS - PURGEABLE
CW: CALUFT
Quality Control

Client ID: LQCS GC-6 ST605
Date Analyzed: 05/25/92

CHEMWEST ID: 9606-QC1
Matrix : Soil

Compound	Spike Conc. (MG/KG)	% Recovery 9606-MBS	% Recovery 9606-MBSD	RPD
Total Petroleum Hydrocarbons (Purgeable)	12.5	108%	111%	3%

Surrogate	Spike Conc. (MG/KG)	% Recovery 9606-MBS	% Recovery 9606-MBSD
Bromofluorobenzene	20	97%	98%

CALUFT: See Narrative

Approved by: _____

Date Reported:
06/01/92

REV 5:1.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S6-3
Date Extracted : 06/18/92
Date/Time Analyzed: 06/24/92 2119
Date Sampled: 06/09/92

CHEMWEST ID: 9703-5
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	200
2-Chlorophenol	BRL	200
bis(2-Chloroethyl) ether	BRL	200
1,3-Dichlorobenzene	BRL	200
1,4-Dichlorobenzene	BRL	200
1,2-Dichlorobenzene	BRL	200
Benzyl alcohol	BRL	200
2-Methylphenol	BRL	200
bis(2-Chloroisopropyl) ether	BRL	200
Hexachloroethane	BRL	200
N-Nitroso-di-n-propylamine	BRL	200
4-Methylphenol	BRL	200
Nitrobenzene	BRL	200
Isophorone	BRL	200
2-Nitrophenol	BRL	200
2,4-Dimethylphenol	BRL	200
bis(2-Chloroethoxy) methane	BRL	200
2,4-Dichlorophenol	BRL	200
1,2,4-Trichlorobenzene	BRL	200
Benzoic acid	BRL	400
Naphthalene	BRL	200
4-Chloroaniline	BRL	200
Hexachlorobutadiene	BRL	200
4-Chloro-3-methylphenol	BRL	200
2-Methylnaphthalene	BRL	200
Hexachlorocyclopentadiene	BRL	200
2,4,6-Trichlorophenol	BRL	200
2,4,5-Trichlorophenol	BRL	400
2-Chloronaphthalene	BRL	200
2-Nitroaniline	BRL	400
Acenaphthylene	BRL	200
Dimethylphthalate	BRL	200
2,6-Dinitrotoluene	BRL	200
3-Nitroaniline	BRL	400
Acenaphthene	BRL	200
2,4-Dinitrophenol	BRL	400
Dibenzofuran	BRL	200
4-Nitrophenol	BRL	400
2,4-Dinitrotoluene	BRL	200
Fluorene	BRL	200
4-Chlorophenyl-phenylether	BRL	200
Diethylphthalate	BRL	200
4-Nitroaniline	BRL	400
4,6-Dinitro-2-methylphenol	BRL	400

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S6-3 CHEMWEST ID: 9703-5

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	200
4-Bromophenyl-phenylether	BRL	200
Hexachlorobenzene	BRL	200
Pentachlorophenol	BRL	400
Phenanthrene	BRL	200
Anthracene	BRL	200
Di-n-butylphthalate	BRL	200
Fluoranthene	BRL	200
Pyrene	BRL	200
Butylbenzylphthalate	BRL	200
Benzo(a)anthracene	BRL	200
3,3'-Dichlorobenzidine	BRL	400
Chrysene	BRL	200
bis(2-Ethylhexyl)phthalate	BRL	200
Di-n-octylphthalate	BRL	200
Benzo(b)fluoranthene	BRL	200
Benzo(k)fluoranthene	BRL	200
Benzo(a)pyrene	BRL	200
Indeno(1,2,3-cd)pyrene	BRL	200
Dibenz(a,h)anthracene	BRL	200
Benzo(g,h,i)perylene	BRL	200

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	56%	25-121%
Phenol-d5	55%	24-113%
Nitrobenzene-d5	60%	23-120%
2-Fluorobiphenyl	62%	30-115%
2,4,6-Tribromophenol	46%	19-122%
Terphenyl-d14	66%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: ew

Date Reported:
06/30/92

REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: S7-3 | CHEMWEST ID: 9703-6
Date Extracted : 06/18/92 | Matrix : Soil
Date/Time Analyzed: 06/24/92 2201 | Dilution Factor: 1:1
Date Sampled: 06/09/92

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	200
2-Chlorophenol	BRL	200
bis(2-Chloroethyl) ether	BRL	200
1,3-Dichlorobenzene	BRL	200
1,4-Dichlorobenzene	BRL	200
1,2-Dichlorobenzene	BRL	200
Benzyl alcohol	BRL	200
2-Methylphenol	BRL	200
bis(2-Chloroisopropyl) ether	BRL	200
Hexachloroethane	BRL	200
N-Nitroso-di-n-propylamine	BRL	200
4-Methylphenol	BRL	200
Nitrobenzene	BRL	200
Isophorone	BRL	200
2-Nitrophenol	BRL	200
2,4-Dimethylphenol	BRL	200
bis(2-Chloroethoxy) methane	BRL	200
2,4-Dichlorophenol	BRL	200
1,2,4-Trichlorobenzene	BRL	200
Benzoic acid	BRL	400
Naphthalene	BRL	200
4-Chloroaniline	BRL	200
Hexachlorobutadiene	BRL	200
4-Chloro-3-methylphenol	BRL	200
2-Methylnaphthalene	BRL	200
Hexachlorocyclopentadiene	BRL	200
2,4,6-Trichlorophenol	BRL	200
2,4,5-Trichlorophenol	BRL	400
2-Chloronaphthalene	BRL	200
2-Nitroaniline	BRL	400
Acenaphthylene	BRL	200
Dimethylphthalate	BRL	200
2,6-Dinitrotoluene	BRL	200
3-Nitroaniline	BRL	400
Acenaphthene	BRL	200
2,4-Dinitrophenol	BRL	400
Dibenzofuran	BRL	200
4-Nitrophenol	BRL	400
2,4-Dinitrotoluene	BRL	200
Fluorene	BRL	200
4-Chlorophenyl-phenylether	BRL	200
Diethylphthalate	BRL	200
4-Nitroaniline	BRL	400
4,6-Dinitro-2-methylphenol	BRL	400

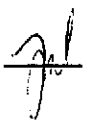
CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: S7-3 CHEMWEST ID: 9703-6

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	200
4-Bromophenyl-phenylether	BRL	200
Hexachlorobenzene	BRL	200
Pentachlorophenol	BRL	400
Phenanthrene	BRL	200
Anthracene	BRL	200
Di-n-butylphthalate	BRL	200
Fluoranthene	BRL	200
Pyrene	BRL	200
Butylbenzylphthalate	BRL	200
Benzo(a)anthracene	BRL	200
3,3'-Dichlorobenzidine	BRL	400
Chrysene	BRL	200
bis(2-Ethylhexyl)phthalate	BRL	200
Di-n-octylphthalate	BRL	200
Benzo(b)fluoranthene	BRL	200
Benzo(k)fluoranthene	BRL	200
Benzo(a)pyrene	BRL	200
Indeno(1,2,3-cd)pyrene	BRL	200
Dibenz(a,h)anthracene	BRL	200
Benzo(g,h,i)perylene	BRL	200

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	58%	25-121%
Phenol-d5	55%	24-113%
Nitrobenzene-d5	62%	23-120%
2-Fluorobiphenyl	65%	30-115%
2,4,6-Tribromophenol	52%	19-122%
Terphenyl-d14	76%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: 

Date Reported:
06/30/92

REV6:9.90

QUALITY CONTROL

INFORMATION CONTROL INDEX

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID: Method Blank
Date Extracted : 06/18/92
Date/Time Analyzed: 06/24/92 1756
Date/Time Sampled: NA

CHEMWEST ID: 9703-MB1
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
Phenol	BRL	200
2-Chlorophenol	BRL	200
bis(2-Chloroethyl) ether	BRL	200
1,3-Dichlorobenzene	BRL	200
1,4-Dichlorobenzene	BRL	200
1,2-Dichlorobenzene	BRL	200
Benzyl alcohol	BRL	200
2-Methylphenol	BRL	200
bis(2-Chloroisopropyl) ether	BRL	200
Hexachloroethane	BRL	200
N-Nitroso-di-n-propylamine	BRL	200
4-Methylphenol	BRL	200
Nitrobenzene	BRL	200
Isophorone	BRL	200
2-Nitrophenol	BRL	200
2,4-Dimethylphenol	BRL	200
bis(2-Chloroethoxy) methane	BRL	200
2,4-Dichlorophenol	BRL	200
1,2,4-Trichlorobenzene	BRL	200
Benzoic acid	BRL	400
Naphthalene	BRL	200
4-Chloroaniline	BRL	200
Hexachlorobutadiene	BRL	200
4-Chloro-3-methylphenol	BRL	200
2-Methylnaphthalene	BRL	200
Hexachlorocyclopentadiene	BRL	200
2,4,6-Trichlorophenol	BRL	200
2,4,5-Trichlorophenol	BRL	400
2-Chloronaphthalene	BRL	200
2-Nitroaniline	BRL	400
Acenaphthylene	BRL	200
Dimethylphthalate	BRL	200
2,6-Dinitrotoluene	BRL	200
3-Nitroaniline	BRL	400
Acenaphthene	BRL	200
2,4-Dinitrophenol	BRL	400
Dibenzofuran	BRL	200
4-Nitrophenol	BRL	400
2,4-Dinitrotoluene	BRL	200
Fluorene	BRL	200
4-Chlorophenyl-phenylether	BRL	200
Diethylphthalate	BRL	200
4-Nitroaniline	BRL	400
4,6-Dinitro-2-methylphenol	BRL	400

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD 8270

Client ID: Method Blank CHEMWEST ID: 9703-MB1

Compound	Amount Detected (UG/KG)	RL (UG/KG)
N-Nitrosodiphenylamine	BRL	200
4-Bromophenyl-phenylether	BRL	200
Hexachlorobenzene	BRL	200
Pentachlorophenol	BRL	400
Phenanthrene	BRL	200
Anthracene	BRL	200
Di-n-butylphthalate	BRL	200
Fluoranthene	BRL	200
Pyrene	BRL	200
Butylbenzylphthalate	BRL	200
Benzo(a)anthracene	BRL	200
3,3'-Dichlorobenzidine	BRL	400
Chrysene	BRL	200
bis(2-Ethylhexyl)phthalate	BRL	200
Di-n-octylphthalate	BRL	200
Benzo(b)fluoranthene	BRL	200
Benzo(k)fluoranthene	BRL	200
Benzo(a)pyrene	BRL	200
Indeno(1,2,3-cd)pyrene	BRL	200
Dibenz(a,h)anthracene	BRL	200
Benzo(g,h,i)perylene	BRL	200

Surrogates	% Recovery	Acceptance Window
2-Fluorophenol	60%	25-121%
Phenol-d5	59%	24-113%
Nitrobenzene-d5	62%	23-120%
2-Fluorobiphenyl	63%	30-115%
2,4,6-Tribromophenol	50%	19-122%
Terphenyl-d14	72%	18-137%

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: _____ Date Reported: 06/30/92 REV6:9.90

CHEMWEST ANALYTICAL LABORATORIES
SEMIVOLATILE ORGANICS
EPA METHOD: 8270

Client ID:LQCS CW 5
Date Extracted: 06/08/92
Date Analyzed: 06/22/92

CHEMWEST ID: 9703-QC1
Matrix : Soil

Compound	Spike Conc. (UG/KG)	% Recovery 9703-MBS	% Recovery 9703-MBSD	RPD
Phenol	200	48%	46%	4%
2-Chlorophenol	200	55%	54%	2%
1,4-Dichlorobenzene	100	51%	51%	0%
N-Nitroso-di-n-propylamine	100	53%	53%	0%
1,2,4-Trichlorobenzene	100	58%	59%	2%
4-Chloro-3-methylphenol	200	59%	59%	0%
Acenaphthene	100	51%	52%	2%
4-Nitrophenol	200	54%	61%	12%
2,4-Dinitrotoluene	100	56%	58%	4%
Pentachlorophenol	200	57%	58%	2%
Pyrene	100	57%	57%	0%

Surrogates	Spike Conc. (UG/KG)	% Recovery 9703-MBS	% Recovery 9703-MBSD
2-Fluorophenol	100	56%	58%
Phenol-d5	100	57%	56%
Nitrobenzene-d5	50	54%	56%
2-Fluorobiphenyl	50	55%	56%
2,4,6-Tribromophenol	100	55%	59%
Terphenyl-d14	50	55%	55%

Approved by: ew

Date Reported:
06/30/92

REV 5:9.91

CASE NARRATIVE

This Case Narrative applies to the data from the analysis of BTEX by EPA Method 8020 for CHEMWEST Ticket number 9703.

All Blanks contained no analytes at or above the reporting limit for each analyte.

The linear regression calculation for the initial calibration met required criteria.

Continuing calibration standards were verified and met acceptance criteria.

The percent recoveries and RPD's for all laboratory quality control samples were within acceptance criteria.

Kirk Pocan
GC Laboratory Manager

6/24/92
Date

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES
EPA METHOD: 8020

Client ID: S1-3
Date Extracted : 06/18/92
Date/Time Analyzed: 06/20/92 1535
Date/Time Sampled: 06/09/92

CHEMWEST ID: 9703-1
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (mg/Kg)	RL (mg/Kg)
Benzene	BRL	0.05
Toluene	BRL	0.05
Ethyl Benzene	BRL	0.05
p-Xylene	BRL	0.05
m-Xylene	BRL	0.05
o-Xylene	BRL	0.05
Total-Xylenes (1)	BRL	NA

Surrogate	% Recovery	Acceptance Window
Bromofluorobenzene	98%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

(1): Total of P-, M-, and O- Xylenes.

Approved by: JY

Date Reported:
06/24/92

REV4.1.90

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES
EPA METHOD: 8020

Client ID: S3-3
Date Extracted : 06/18/92
Date/Time Analyzed: 06/20/92 1716
Date/Time Sampled: 06/09/92

CHEMWEST ID: 9703-2
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (mg/Kg)	RL (mg/Kg)
Benzene	BRL	0.05
Toluene	BRL	0.05
Ethyl Benzene	BRL	0.05
p-Xylene	BRL	0.05
m-Xylene	BRL	0.05
o-Xylene	BRL	0.05
Total-Xylenes (1)	BRL	NA

Surrogate	% Recovery	Acceptance Window
Bromofluorobenzene	102%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

(1): Total of P-, M-, and O- Xylenes.

Approved by: NP

Date Reported:
06/24/92

REV4.1.90

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES
EPA METHOD: 8020

Client ID: S5-3
Date Extracted : 06/18/92
Date/Time Analyzed: 06/20/92 1757
Date/Time Sampled: 06/09/92

CHEMWEST ID: 9703-3
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (mg/Kg)	RL (mg/Kg)
Benzene	BRL	0.05
Toluene	1.3J	0.05
Ethyl Benzene	BRL	0.05
p-Xylene	BRL	0.05
m-Xylene	11	0.05
o-Xylene	9	0.05
Total-Xylenes (1)	20	0.05

Surrogate	% Recovery	Acceptance Window
Bromofluorobenzene	113%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.
J: Estimated value below reporting limit.
(1): Total of P-, M-, and O- Xylenes.

Approved by: _____

Date Reported:
06/24/92

REV4.1.90

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES
EPA METHOD: 8020

Client ID: S5-6
Date Extracted : 06/18/92
Date/Time Analyzed: 06/20/92 1839
Date/Time Sampled: 06/09/92

CHEMWEST ID: 9703-4
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (mg/Kg)	RL (mg/Kg)
Benzene	BRL	0.05
Toluene	0.07	0.05
Ethyl Benzene	0.20	0.05
p-Xylene	0.39	0.05
m-Xylene	0.26	0.05
o-Xylene	0.71	0.05
Total-Xylenes (1)	1.4	0.05

Surrogate	% Recovery	Acceptance Window
Bromofluorobenzene	110%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

(1): Total of P-, M-, and O- Xylenes.

Approved by: _____

Date Reported:
06/24/92

REV4.1.90

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES
EPA METHOD: 8020

Client ID: S6-3
Date Extracted : 06/18/92
Date/Time Analyzed: 06/20/92 1920
Date/Time Sampled: 06/09/92

CHEMWEST ID: 9703-5
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (mg/Kg)	RL (mg/Kg)
Benzene	BRL	0.05
Toluene	BRL	0.05
Ethyl Benzene	BRL	0.05
p-Xylene	BRL	0.05
m-Xylene	BRL	0.05
o-Xylene	BRL	0.05
Total-Xylenes (1)	BRL	0.05

Surrogate	% Recovery	Acceptance Window
Bromofluorobenzene	98%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

(1): Total of P-, M-, and O- Xylenes.

Approved by: _____

Date Reported:
06/24/92

REV4.1.90

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES
EPA METHOD: 8020

Client ID: S7-3
Date Extracted : 06/18/92
Date/Time Analyzed: 06/20/92 2001
Date/Time Sampled: 06/09/92

CHEMWEST ID: 9703-6
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (mg/Kg)	RL (mg/Kg)
Benzene	BRL	0.05
Toluene	BRL	0.05
Ethyl Benzene	BRL	0.05
p-Xylene	BRL	0.05
m-Xylene	BRL	0.05
o-Xylene	BRL	0.05
Total-Xylenes (1)	BRL	0.05

Surrogate	% Recovery	Acceptance Window
Bromofluorobenzene	89%	50-150%

BRL: Below Reporting Limit.
RL: Reporting Limit.

(1): Total of P-, M-, and O- Xylenes.

Approved by: _____

Date Reported:
06/24/92

REV4.1.90

QUALITY CONTROL

INFORMATION CONTROL INDEX

BTEX----------METHOD BLANK

BTEX ----------LQCS-MBS/MBSD

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES
EPA METHOD: 8020

Client ID: Method Blank
Date Extracted : 06/18/92
Date/Time Analyzed: 06/20/92 1436
Date/Time Sampled: NA

CHEMWEST ID: 9703-MB1
Matrix : Soil
Dilution Factor: 1:1

Compound	Amount Detected (mg/Kg)	RL (mg/Kg)
Benzene	BRL	0.05
Toluene	BRL	0.05
Ethyl Benzene	BRL	0.05
p-Xylene	BRL	0.05
m-Xylene	BRL	0.05
o-Xylene	BRL	0.05
Total-Xylenes (1)	BRL	NA

Surrogate	% Recovery	Acceptance Window
Bromofluorobenzene	101%	75-125%

BRL: Below Reporting Limit.
RL: Reporting Limit.

(1): Total of P-, M-, and O- Xylenes.

Approved by: JP

Date Reported:
06/24/92

REV4.1.90

CHEMWEST ANALYTICAL LABORATORIES
BENZENE, TOLUENE, ETHYL BENZENE, XYLENES
CW:CALUFT
Quality Control

Client ID: LQCS GC-5 S505
Date Analyzed: 06/19/92

CHEMWEST ID: 9703-QC1
Matrix : Soil

Compound	Spike Conc. (mg/Kg)	% Recovery 9703-MBS	% Recovery 9703-MBSD	RPD
Benzene	0.50	100%	96%	4%
Toluene	0.50	98%	94%	4%
Ethylbenzene	0.50	96%	94%	2%
p-Xylene	0.25	96%	96%	0%
m-Xylene	0.25	104%	100%	4%
o-Xylene	0.50	100%	96%	4%
Total-Xylenes	1.0	100%	97%	3%

Surrogate	Spike Conc. (mg/Kg)	% Recovery 9703-MBS	% Recovery 9703-MBSD
Bromofluorobenzene	20	102%	98%

CALUFT: See Narrative

Approved by: _____

Date Reported:
06/24/92

REV 5:1.90

CASE NARRATIVE

This Case Narrative applies to the data from the analysis of Total Petroleum Hydrocarbons Extractable (Diesel) CA LUFT Field Manual for CHEMWEST Ticket number 9703.

All Blanks contained no analytes at or above the reporting limit for each analyte.

The linear regression calculation for the initial calibration met required criteria.

Continuing calibration standards were verified and met acceptance criteria.

The percent recoveries and RPD's for all laboratory quality control samples were within acceptance criteria.

CALUFT: CHEMWEST follows the California Luft Field Manual guidelines for Total Petroleum Hydrocarbons Purgeable analysis.

Kirk Pocan
GC Laboratory Manager

6/10/92
Date

ANALYTICAL METHODOLOGY

Total Petroleum Hydrocarbons (TPH) Extractables by GC-FID

Extraction Procedure:

WATER -

A 1 liter sample is poured into a 2 liter separatory funnel. 3x100 ml extractions with methylene chloride (2 minute shake outs) are completed. The methylene chloride is decanted off and concentrated to a 5 ml final volume.

SOIL -

A 30 gram, or other appropriate aliquot of soil, is mixed with 10 grams of washed sodium sulfate. 100 mls of methylene chloride is added to the soil and placed on a mechanical shaker for 1 hour. The liquid is decanted off and the process is repeated with an additional 50 ml of methylene chloride. The combined solvent extracts are filtered through sodium sulfate and the extract is concentrated to a 5 ml final volume.

GC ANALYSIS -

An appropriate volume of the sample extract is injected into a Gas Chromatograph equipped with a Flame Ionization Detector (FID), a split/ splitless capillary injector (operated in the splitless mode), and a fused silica capillary column. The TPH fraction is quantitated as gasoline and/or #2 diesel fuel (and/or different petroleum hydrocarbon fuel types if requested, such as JP-4 jet fuel) based on relative retention times and examination of the elution profile. The TPH fraction quantitation is based on chromatographic peak areas against a multipoint standard curve.

CHEMWEST ANALYTICAL LABORATORIES
TOTAL PETROLEUM HYDROCARBONS - EXTRACTABLE
CW:CALUFT

Date Extracted : 06/18/92
Dilution Factor: 1:1

Case : 9703
Matrix: Soil

Reporting Units: MG/KG

Client ID	CHEMWEST ID	Diesel Result	Diesel RL	Other Hydrocarbon Mixture Result	Other Hydrocarbon Mixture RL
Method Blank	9703-MB	BRL	10	BRL	10
S1-3	9703-1	BRL	10	BRL	10
S3-3	9703-2	BRL	10	BRL	10
S5-3	9703-3	3500	200	BRL	200
S5-6	9703-4	300	10	BRL	10
S6-3	9703-5	BRL	10	BRL	10
S7-3	9703-6	BRL	10	BRL	10

Client ID	CHEMWEST ID	Date/Time Sampled		Date/Time Analyzed
Method Blank	9703-MB	NA		06/27/92 2024
S1-3	9703-1	06/09/92	NA	06/27/92 2300
S3-3	9703-2	06/09/92	NA	06/27/92 2352
S5-3	9703-3	06/09/92	NA	06/29/92 1517
S5-6	9703-4	06/09/92	NA	06/29/92 0846
S6-3	9703-5	06/09/92	NA	06/28/92 0411
S7-3	9703-6	06/09/92	NA	06/28/92 0952

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: _____

Date Reported:
06/30/92

REV4:1.90

QUALITY CONTROL

INFORMATION CONTROL INDEX

TPH EXTRACTABLE---------- METHOD BLANK INCLUDED ON DATA SHEET

TPH EXTRACTABLE----------LQCS-MBS/MBSD

CHEMWEST ANALYTICAL LABORATORIES
TOTAL PETROLEUM HYDROCARBONS - EXTRACTABLE
CW:CALUFT
Quality Control

Client ID: LQCS GC2 | CHEMWEST ID: 9703-QC1
Date Analyzed: 06/27/92 | Matrix: Soil

Compound	Spike Conc. (MG/KG)	% Recovery 9703-MBS	% Recovery 9703-MBS	RPD
Diesel	33.3	93%	90%	3%

CALUFT: See Narrative

Approved by: _____ Date Reported: 06/30/92 REV3:1.90

ATORIES

Case : 9703
Matrix: Soil

(ASE NARRATIVE

ie : to the analysis of Oil & Grease-IR -
MWEST Ticket Number 9703.

ia ed with this ticket were extracted and
mes. The method blank met acceptance

nd Method Blank Spike Duplicate met
or recoveries and relative percent

tration of the original sample, a 1:40
he Matrix Spike and Matrix Spike Duplicate
it ria for recoveries and RPD.

6-30-97
Date

	Amount Detected (mg/Kg)
	BRL
	BRL
	BRL
	7300
	45
	BRL
	29

mount ected g/Kg)	% Recovery	RPD
90	100%	
93	103%	3%
7500	186%	
7600	267%	36%

is 25 mg/Kg.

REV4:1.90

CHEMWEST ANALYTICAL LABORATORIES
700 W. North Market Blvd.
acramento, California 95834
(916) 923-0840 FAX (916) 923-1938

CLIENT

Order No.: 9703
Date Rec'd: 06/10/92 @ 17:00
Compl Date:
Section: ~~VINCE SCHMIDT~~ Debbie Pearce

CLIENT:
2C, INC.
220 CROSSMAN AVE, SUITE 200
SUNNYVALE, CALIFORNIA 94089

Project : WALPERT RIDGE
Project No. 4210100
P.O. NO.
Contact: ROBB WELCH
Phone: (408) 747-1414

SIX SOIL SAMPLES REC'D UNDER CHAIN OF CUSTODY IN 6 INCH BRASS CORE TUBES (6) TO BE ANALYZED FOR TPH/EXTN/BTEX, SEMIVOLATILE ORGANICS (EPA METHOD 8270), ND TOTAL OIL & GREASE. PLEASE SEE CHAIN OF CUSTODY FOR REPORTING INSTRUCTIONS. LEVEL D-1.

W ID.	SAMPLE ID.	LOC.	DATE/TIME SAMPLED	ANALYSIS	MATRIX	CONT.
9703-01	S1-3		06/09/92	TPH/EXTN/BTEX, 8270,T.O&G	SOIL	1-TUBE
9703-02	S3-3		06/09/92	^SAME	SOIL	1-TUBE
9703-03	S5-3		06/09/92	^SAME	SOIL	1-TUBE
703-04	S5-6		06/09/92	^SAME	SOIL	1-TUBE
703-05	S6-3		06/09/92	^SAME	SOIL	1-TUBE
9703-06	S7-3		06/09/92	^SAME	SOIL	1-TUBE

SAMPLE (S) WILL BE HELD 30 DAYS UNLESS LONGER TIME IS ARRANGED

R GC
SUSAN GILBERT

CHEM WEST COURIER

CHEMTECH LABORATORIES
WESTERN DIVISION

Chain of Custody Record

CW ID: _____

Date 6/9/92 Page 1 Of 1

PROJECT NAME Walpert Ridge
PROJECT NO. 4210100
PROJECT CONTACT: ROBB WELCH
SAMPLERS (SIGNATURE) Robb Welch
SAMPLERS PRINTED NAME ROBB WELCH

SAMPLE NO.	DATE	TIME	LOCATION	GC: TPH/EXTN	GC: BTEX/TPH	GC: 601/8010	GC: 602/8020	GC: 608/8080	GC: PCB'S	GC/MS: 624-8240	GC/MS: 625-8270	GC/MS: 2,3,7,8-TCDD	GC/MS: CL4 - CL8	INORGANICS: METALS	INORGANICS: WET CHEM	OTHER: Diesel, Oil & Grease	NUMBER OF CONTAINERS	REMARKS
S1-3	6/9/92	A.M.	S1@3'	X	X						X					X		
S3-3	6/9/92	A.M	S3@3'	X	X						X					X		
S5-3	6/9/92	A.M	S5@3'	X	X						X					X		
S5-6	6/9/92	A.M	S5@6'	X	X						X					X		
S6-3	6/9/92	A.M	S6@3'	X	X						X					X		
S7-3	6/9/92	A.M	S7@3'	X	X						X					X		

- Nothing else follows -

SAMPLES REC'D IN GOOD CONDITION
NO LEAKAGE OR BREAKAGE

Please report diesel as diesel motor oil and Kerosine
Please report Total oil and grease as polar and non-polar

RELINQUISHED BY	DATE	RECEIVED BY	DATE	RELINQUISHED BY	DATE	RECEIVED BY	DATE
Signature: Robb Welch		Signature: Menen Zarate	6-10-92	Signature: Menen Zarate	6/10/92	Signature:	
Printed Name: ROBB WELCH	TIME	Printed Name: MENEN ZARATE	TIME 1320	Printed Name: CHEMWEST LAB	TIME 1700	Printed Name:	TIME
Company: E2C, Inc		Company: CHEMWEST		Company		Company	

RELINQUISHED BY	DATE	RECEIVED BY	DATE	RELINQUISHED BY	DATE	REC'D BY (LABORATORY)	DATE
Signature		Signature		Signature		Signature: SUSAN GILBERT	6/9/92
Printed Name	TIME	Printed Name	TIME	Printed Name	TIME	Printed Name: CHEMWEST LAB	TIME 1700
Company		Company		Company		Company	

TOTAL NUMBER OF CONTAINERS 6 brass liners

METHOD OF SHIPMENT: CW Courier

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS: Please Keep in Chilled State

ANALYTICAL METHODOLOGY

Total Petroleum Hydrocarbons (TPH) Extractables by GC-FID

Extraction Procedure:

WATER -

A 1 liter sample is poured into a 2 liter separatory funnel. 3x100 ml extractions with methylene chloride (2 minute shake outs) are completed. The methylene chloride is decanted off and concentrated to a 5 ml final volume.

SOIL -

A 30 gram, or other appropriate aliquot of soil, is mixed with 10 grams of washed sodium sulfate. 100 mls of methylene chloride is added to the soil and placed on a mechanical shaker for 1 hour. The liquid is decanted off and the process is repeated with an additional 50 ml of methylene chloride. The combined solvent extracts are filtered through sodium sulfate and the extract is concentrated to a 5 ml final volume.

GC ANALYSIS -

An appropriate volume of the sample extract is injected into a Gas Chromatograph equipped with a Flame Ionization Detector (FID), a split/ splitless capillary injector (operated in the splitless mode), and a fused silica capillary column. The TPH fraction is quantitated as gasoline and/or #2 diesel fuel (and/or different petroleum hydrocarbon fuel types if requested, such as JP-4 jet fuel) based on relative retention times and examination of the elution profile. The TPH fraction quantitation is based on chromatographic peak areas against a multipoint standard curve.

CASE NARRATIVE

This Case Narrative applies to the data from the analysis of Total Petroleum Hydrocarbons Extractable CA LUFT Field Manual for CHEMWEST Ticket number 9606.

All Blanks contained no analytes at or above the reporting limit for each analyte.

The linear regression calculation for the initial calibration met required criteria.

Continuing calibration standards were verified and met acceptance criteria.

The percent recoveries and RPD's for all laboratory quality control samples were within acceptance criteria.

An unidentified, relative heavy hydrocarbon mixture beyond the range of diesel fuel has been identified in the following samples:

9606-1
9606-3
9606-5

Although we are unable to identify the exact nature of the mixture, our best judgement for identification possibilities would include a waste oil, motor oil, a heavy fuel oil, or possibly some combination of these mixtures. Quantitation of this mixture was based on a diesel fuel standard curve.

CALUFT: CHEMWEST follows the California Luft Field Manual guidelines for Total Petroleum Hydrocarbons Purgeable analysis.

Kirk Pocan
GC Laboratory Manager

6/1/92
Date

CHEMWEST ANALYTICAL LABORATORIES
TOTAL PETROLEUM HYDROCARBONS - EXTRACTABLE
CW:CALUFT

Date Extracted : 05/21/92
Dilution Factor: 1:1

Case : 9606
Matrix: Soil

Reporting Units: MG/KG

Client ID	CHEMWEST ID	Diesel Result	Diesel RL	Other Hydrocarbon Mixture Result	Other Hydrocarbon Mixture RL
Method Blank	9606-MB	BRL	10	BRL	10
S1	9606-1	680	100	170	100
S2	9606-2	190	100	BRL	100
S3	9606-3	BRL	100	1700	100
S4	9606-4	BRL	10	BRL	10
S5	9606-5	BRL	1000	7500	1000

Client ID	CHEMWEST ID	Date/Time Sampled	Date/Time Analyzed
Method Blank	9606-MB	NA	05/27/92 1907
S1	9606-1	05/12/92 1336	05/27/92 2048
S2	9606-2	05/12/92 1344	05/27/92 2229
S3	9606-3	05/12/92 1350	05/28/92 0100
S4	9606-4	05/12/92 1358	05/28/92 0330
S5	9606-5	05/12/92	05/28/92 0511

BRL: Below Reporting Limit.
RL: Reporting Limit.

Approved by: _____

Date Reported:
06/05/92

REV4:1.90

QUALITY CONTROL

INFORMATION CONTROL INDEX

TPH EXTRACTABLE---------- METHOD BLANK INCLUDED ON DATA SHEET

TPH EXTRACTABLE----------LQCS-MBS/MBSD

CHEMWEST ANALYTICAL LABORATORIES
TOTAL PETROLEUM HYDROCARBONS - EXTRACTABLE
CW:CALUFT
Quality Control

Client ID: LQCS GC-2
Date Analyzed: 05/20/92

CHEMWEST ID: 9606-QC1
Matrix: Soil

Compound	Spike Conc. (MG/KG)	% Recovery 9606-MBS	% Recovery 9606-MBS	RPD
Diesel	33.3	72%	93%	25%

CALUFT: See Narrative

Approved by: _____

Date Reported:
06/01/92

REV3:1.90

CASE NARRATIVE

This Case Narrative applies to the analysis of Oil & Grease-IR - EPA Method 413.2 for CHEMWEST Ticket Number 9606.

All of the samples associated with this ticket were extracted and analyzed within hold times. The method blank met acceptance criteria.

The Method Blank Spike and Method Blank Spike Duplicate all met acceptance criteria for recoveries and relative percent differences.

F. Thomas Kwoka 6-1-92

F. Thomas Kwoka Date
Chem Lab Manager

CHEMWEST ANALYTICAL LABORATORIES
OIL & GREASE by IR

Date Extracted: 05/22/92, 05/28/92
Date(s) Analyzed: 05/29/92

Case : 9606
Matrix: Soil

Client ID	CHEMWEST ID	Date Extracted	Amount Detected (mg/Kg)
Method Blank	9606-MB1	05/22/92	BRL
S1	9606-1	05/22/92	6900
S2	9606-2	05/22/92	440
S3	9606-3	05/22/92	8200
S4	9606-4	05/22/92	38
S5	9606-5	05/22/92	7900
Method Blank	9606-MB2	05/28/92	BRL

Client ID	CHEMWEST ID	Date Extracted	Spike Conc. (mg/Kg)	Amount Detected (mg/Kg)	%	RPD
MBS	MBS	05/28/92	125	122	94%	
MBSD	MBSD	05/28/92	125	121	94%	0%

The reporting limit for Oil & Grease IR is 25 mg/Kg.

BRL: Below Reporting Limit.

Approved by:

Date Reported:
06/05/92

REV4:1.90

CHEMWEST ANALYTICAL LABORATORIES
600 W. North Market Blvd.
Sacramento, California 95834
(916) 923-0840 FAX (916) 923-1938

Order No.: 9606
Date Rec'd: 05/15/92 @ 19:45
Compl Date:
Section: VINCE SCHMIDT

CLIENT

CLIENT:
P2C, INC.
2220 CROSSMAN AVE, SUITE 200
SUNNYVALE, CALIFORNIA 94089

Project :
Project No. 4210100
P.O. NO. Robb Welch
Contact: ~~BRENDA McNABB~~
Phone: (408) 747-1414

FIVE SOIL SAMPLES REC'D UNDER CHAIN OF CUSTODY IN 6 INCH METAL CORE TUBES (5) TO BE ANALYZED FOR TPH/GAS & DIESEL, VOLATILE & SEMIVOLATILE ORGANICS (EPA METHOD 8240 & 8270), OIL & GREASE (EPA METHOD 5520) AND PCB's (EPA METHOD 8080). LEVEL D-1.

W ID.	SAMPLE ID.	LOC.	DATE/TIME SAMPLED	ANALYSIS	MATRIX	CONT.
9606-01	S1	51	05/12/92 13:36	TPH/G&D,8240, 8270,PCB's, O & G	SOIL	1 TUBE
9606-02	S2	52	05/12/92 13:44	SAME AS -01	SOIL	1 TUBE
9606-03	S3	53	05/12/92 13:50	SAME AS -01	SOIL	1 TUBE
9606-04	S4	54	05/12/92 13:58	SAME AS -01	SOIL	1 TUBE
9606-05	S5	55	05/12/92 --	" " "	"	" "

SAMPLE (S) WILL BE HELD 30 DAYS UNLESS LONGER TIME IS ARRANGED

12
590 SUSAN GILBERT

CHEM WEST COURIER

Laboratory: Please dispose of all soil !

Laboratory Name: Chem West

Turnaround Time: Standard

CHAIN OF CUSTODY

Job No. 4210100

E₂C, Inc./1220 Cross
Suite 200/Sunnyvale
(408) 747-1414 Fax: (40
Attention: Robb

Project No. 4210100

Site Name and Address: Walpert Ridge Locks - Hayward

Sampler: (signature) Robb Wells Company: E2C

Sample No.	Date	Time	Soil	Water	Location of Sample	No. of Containers	TPH as Gas + BTEX*	TPH as Diesel*	EPA 8010/601	EPA 8240/624	EPA 8080/608 Per Cnty	EPA 8270/625	EPA 8020/602	Oil and Grease 5520* Soil	Oil and Grease 5520* Water		Remarks
S1	5/12	PM	X		S1	1	X	X		X	X	X		X			
S2					S2	1	X	X		X	X	X		X			
S3					S3	1	X	X		X	X	X		X			
S4					S4	1	X	X		X	X	X		X			
S5					S5	1	X	X		X	X	X		X			

SAMPLES REC'D IN GOOD CONDITION
NO LEAKAGE OR BREAKAGE

Analyses Requested * Per RWQC

Relinquished by: (signature)	Date	Time	Received by: (signature)	Company
Robb Wells	5/15	1545	Manan Zarate	CHEMWEST
Manan Zarate	5-15-92	1945		

Received for LABORATORY by: (signature) SUSAN GILBERT Susan Gilbert 5/15/92 1945 CHEMWEST LAB

The following MUST be completed by the laboratory accepting samples for analysis:

1) Have all samples received been stored on ice?_____

2) Did any VOA samples received have any head space?___

3) Were samples in appropriate containers and packaged properly? _____

APPENDIX C

ASBESTOS LABORATORY REPORTS

ANALYTICAL LABS SAN FRANCISCO INC.

May 15, 1992

Robb Welch
E2C, Inc.
1220 Crossman Avenue, Suite 200
Sunnyvale, CA 94089

RE: Examination of Bulk Samples for Asbestos
Analytical Labs Report #FE1402

Dear Mr. Welch:

This is a report on the analysis by polarized light microscopy of the asbestos content of the samples received May 14, 1992.

Please refer to the reverse side of the report for detailed information about analytical laboratory procedures and laboratory accreditation.

Samples will be retained for six months unless otherwise instructed. It has been a pleasure serving you, and we look forward to serving you again in the near future.

Sincerely,
ANALYTICAL LABS SAN FRANCISCO INC.

Olga Kist
Laboratory Manager
enc.

RECEIVED
MAY 19 1992

467 Potrero Avenue, San Francisco, CA 94110 (415) 552-4595 FAX 552-0730

ANALYTICAL LABS SAN FRANCISCO INC.
467 Potrero Avenue, San Francisco, CA 94110 (415) 552-4595 FAX 552-0730

POLARIZED LIGHT MICROSCOPY ANALYSIS FOR ASBESTOS CONTENT

CLIENT: E2C, INC.
1220 CROSSMAN AVENUE, SUITE 200
SUNNYVALE, CA 94089

REFERENCE: PROJECT NO. 4210100

LOCATION: SODA FOUNDATION RANCH

REPORT #: FE1402
DATE: MAY 15, 1992
ANALYST: O. KIST
1 SAMPLE

SAMPLE #	DESCRIPTION/LOCATION	ASBESTOS DETECTED?	ASBESTIFORM (%)	NONASBESTOS OTHER FIBERFORM (%)	BALANCE (%)
A1	WHITE/BEIGE CEILING TILE	NO		CELL 30-40 GL 40-50	PERLITE, BINDER, MISC. 10-30
A2	TAN CORRUGATED TRANSITE TILE	YES	CHRYS 20-25		CEMENT SILI, MISC. 75-80
A3	BROWN HOUSE FLOOR TILE AND ASPHALT	YES	CHRYS 3-5* * CHRYS FOUND IN TILE ONLY	CELL <1	SYN, CARB, ASPHALT, MISC. 95-97
A4	TAN/GREY TRANSITE PIPING IN STORAGE SHED	YES	CHRYS 10-15 CROC 10-15		CEMENT SILI, MISC. 70-80

AUTHORIZED SIGNATURE [signature]

DATE 5/15/92

ASBESTOS		NONASBESTOS	
CHRYS: Chrysotile		CELL: Cellulose	POLY: Polyethylene
AMOS: Amosite		GL: Fiberglass/Mineral wool	FTALC: Fibrous Talc
CROC: Crocidolite		SYN: Synthetic	FGYP: Fibrous Gypsum
TREM: Tremolite/Actinolite		CARB: Carbonates	FELD: Feldspars
ANTH: Anthophyllite		SILI: Mixed Silicates	CASI: Calcium Silicates

Laboratory: Please dispose of all soil tubes

Laboratory Name: Analytical Labs

CHAIN OF CUSTODY

E₂C, Inc./1220 Crossman Avenue
Suite 200/Sunnyvale, CA 94089
(408) 747-1414 Fax: (408) 745-1089
Attention: Robb Welch

Turnaround Time: Standard

Job No. 4210100

Project No.	Site Name and Address
4210100	Soda Foundation Ranch

Sampler: (signature) Robb Welch E₂C Company

Sample No.	Date	Time	Soil	Water	Location of Sample	No. of Containers	TPH as Gas + BTEX*	TPH as Diesel*	EPA 8010/601	EPA 8240/624	EPA 8080/608	EPA 8270/625	EPA 8020/602	Oil and Grease 5520* Soil	Oil and Grease 5520* Water	Asbestos	Remarks
A1	5/12	P.m			Ceiling tile in barn	1										✓	
A2					Corrugated tile	1										✓	
A3					House floor tile	1										✓	
A4					Piping in storage shed	1										✓	

Analyses Requested * Per RWQCB Guidelines

Relinquished by: (signature)	Date	Time	Received by: (signature)	Company
Robb Welch	5/12			
Relinquished by: (signature)	Date	Time	Received by: (signature)	Company
Relinquished by: (signature)	Date	Time	Received for LABORATORY by: (signature)	
	5/14	200		

The following MUST be completed by the laboratory accepting samples for analysis:

1) Have all samples received been stored on ice?_____

2) Did any VOA samples received have any head space?____

3) Were samples in appropriate containers and packaged properly? _____

APPENDIX D

INVENTORY OF HAZARDOUS OR POTENTIALLY HAZARDOUS MATERIALS FOUND ON-SITE

June 5, 1992

Jim Dye
% Y. Charles Soda Trust
2 Theatre Square
Orinda, CA 94563

Dear Mr. Dye,

1. Part I is the pricing for the analytical work necessary in order to properly dispose of this particular waste which is not sufficiently defined chemically. This service is a 10 day turnaround, but can be done faster fcr an additional charge. The total cost of Part I includes sampling and sample transportation.

2. Part II is the pricing for the items listed in Part I. These prices are based on the analytical results determining no PCB contamination or metallic and pesticide contamination above TSDF limits. If the results do determine contamination above TSDF and/or regulatory limits, additional charges will result in the disposal of this waste.

3. Part III is the pricing for the packaging, transportation and disposal of the waste that we have sufficient information on for disposal purposes.

4. Part IV is the pricing for professional services and supplies.

All waste will be either recycled or incinerated per your request.

PART I

ANALYTICAL (10 Day turnaround)

A. Solidified Oil (composite sample)
   1. TCLP Extraction.....
   2. TCLP Metals.....
   3. PCB Analysis.....
   4. Industrial Solvent Scan.....

B. Lithium Grease/Chasis Grease (2 samples)
   1. TCLP Extraction.....2 x $140....
   2. TCLP Metals.....2 x $235....

C. Pesticide Sprayers (oil filled)
1. TCLP Extraction.....
2. TCLP Pesticide.....
3. TCLP Herbicides.....
4. TCLP Metals.....
5. PCB Analysis.....
6. Industrial Solvent Scan.....

D. Asphalt Roofing Material
1. TCLP Extraction.....
2. TCLP Metals.....
3. Flashpoint.....
4. Asbestos.....

E. Portable Oil Dispensers
1. Oil and Grease.....
2. TCLP Extraction.....
3. TCLP Metals.....
4. PCB Analysis.....
5. Industrial Solvent Scan.....

F. Unknown Liquid (1 quart)
1. Anion Scan.....

TOTAL (Part I).....

PART II

TRANSPORTATION AND DISPOSAL

A. Solidified Oil
1. Waste Profile Preparation.....
2. 55 gallon drums.....9 x $580....
3. 85 gallon drums (55 gallon overpacked).
.....3 x $680....
4. 30 gallon drums.....2 x $495....
5. 15 gallon drum.....1 x $415....

B. Lithium Grease/Chassis Grease
1. Waste Profile Preparation.....
2. 55 gallon drums (15 gallon overpacked).
.....3 x $510....

C. Pesticide Sprayers
1. Waste Profile Preparation.....
2. 55 gallon drums.....2 x $580....

D. Asphalt Roofing Material
1. Waste Profile Preparation.....
2. 55 gallon drums.....4 x $580....

E. Portable Oil Dispensers
  1. Waste Profile Preparation.....
  2. 55 gallon drums.....2 x $580....

TOTAL (Part II).....

PART III

TRANSPORTATION AND DISPOSAL

A. Empty Drums (Recycled)
  1. 55 gallon.....30 x $31....
  2. 30 gallon.....2 x $31....
  3. 15 gallon.....10 x $27....
  4. 5 gallon.....45 x $19....
  5. 1 gallon.....30 x $15....

B. Empty Tanks (Metal Recycling)
  1. 300 gallon (1).....
  2. 200 gallon (1).....
  3. 100 gallon (3).....
  4. Oil Dispensers (6).....

C. Light Ballasts
  1. Waste Profile Preparation.....
  2. Transportation of drums.....2 x $240...
  3. Disposal of ballasts.....

D. Fluorescent Light Tubes
  1. Transportation and Recycling.....

E. Paint Waste
  1. Waste Profile Preparation.....
  2. 55 gallon drums.....6 x $580...

F. Paint Thinner Waste
  1. Waste Profile Preparation.....
  2. 5 gallon containers.....2 x $145...

G. Paint Related Waste
  1. Waste Profile Preparation.....
  2. 55 gallon drums.....2 x $580...

H. Oil/Oil Base Paint Waste
  1. Waste Profile Preparation.....
  2. 5 gallon containers.....14 x $145...

I. Aerosol Cans
  1. Waste Profile Preparation.....
  2. 55 gallon drum.....1 x $580...

J. Labpacks
  1. Waste Profile Preparation.....
  2. 5 gallon.....7 x $160...
  3. 30 gallon.....1 x $460...

K. Pabco Stripping Paste
  1. Waste Profile Preparation.....
  2. 5 gallon.....1 x $155...

L. Light Transformers
  1. Waste Profile Preparation.....
  2. Disposal of transformers.....
  3. Transportation of Transformers.....

M. Dourmans Fixall
  1. Waste Profile Preparation.....
  2. Disposal (15 gallon drum)...1 x $415...

N. Oil Filters
  1. Recycled.....

O. Empty Gas Tanks
  1. Transportation and Metal Recycling.....

TOTAL (Part III).....

PART IV

PROFESSIONAL SERVICES (Part II and III)

Service Truck and Driver (3 days).....
Technician (3 days).....
Chemist (2 days).....

SUPPLIES

85 gallon overpack drum.....3 x $159...
55 gallon drums.....21 x $36....
30 gallon drum (fiber).....1 x $29....
5 gallon containers.....7 x $12....
Vermiculite (8 bags).....8 x $14.50.
Diatomaceous Earth (10 bags).....10 x $9.....
Packaging Material (Light Tubes).....
Sales Tax.....

TOTAL (Part IV).....

APPENDIX E

E_2C, INC.
SOIL SAMPLING PROTOCOL

DRILLING, WELL CONSTRUCTION, AND SAMPLING PROTOCOLS FOR SHALLOW GROUNDWATER WELLS

Drilling Protocol

1. E_2C, Inc. will acquire the proper governmental permits necessary to drill all proposed wells.

2. All borings will be drilled dry by hollow-stem, continuous flight auger. All augers and drill rods will initially be thoroughly steam-cleaned before arriving on-site, to prevent the introduction of contaminants from off-site, and will again be steam-cleaned between borings away from boring locations. Working components of the drilling rig (subs, collars, and all parts of the rig chassis near the borehole) will also be steam-cleaned. Cleaned augers, rods, and other tools will be stored and covered when not in use, if required. Cleaning operations will be verified by a representative of this office.

3. The subsurface stratigraphy and aquifer characteristics will be established by examining the earth materials brought to the surface by the drilling operations, and by the sampling of undisturbed soils every five feet, or as otherwise specified. Detailed boring logs will be maintained of the soil materials showing texture, color, moisture content, consistency, and plasticity (utilizing the Unified Soil Classification System), and any unusual characteristics noted (e.g., chemical odor).

4. The exact depth of all borings to 0.1 foot will be determined in the field.

Soil Sampling Protocol

1. Soil samples will be taken every five feet, or as otherwise specified, with a California, modified split-spoon sampler driven 18 inches into the undisturbed soil. The number of blows necessary to drive the sampler, or the pressure necessary to push the sampler into the ground, will be used to help evaluate the consistency of the materials encountered.

2. The soil sampler and brass liners will be cleaned with a trisodium phosphate solution, rinsed with clean tap water, and air-dried prior to each sampling.

3. Soil removed from the top two liners and the end cone will be used for logging purposes and disposed of with cuttings removed during drilling operations. The bottom liner will be saved for potential laboratory analysis.

4. Additional soil samples should be taken when field organic vapor analyses indicates potential contamination may exist in the boring.

5. Soil samples retrieved for laboratory analyses will be labeled and sealed in the field in the brass liners. Aluminum foil will be placed on the ends of the liners, followed by plastic caps. Liners will then be sealed with tape. The samples will then be stored and transported on blue ice or dry ice in a designated cooler under chain-of-custody to a state-certified laboratory.

6. Pending results by laboratory analysis, excess drilling cuttings will remain on-site and, when deemed necessary, covered with a plastic tarp. Uncontaminated soils may be appropriately disposed of on-site by the client. Soils found to contain levels of contaminants above local or state action levels will be placed in 55-gallon drums and left on-site for proper disposal by the client. At the client's request, we will act as the client's agent by assisting the disposal of the drum-contained material.

Well Construction

1. Monitoring and extraction wells will be constructed with Class-A cement/bentonite grout plugs, or bentonite pellets tremied into position as a base for well casing, if necessary. All screens and casings used will be in a contaminant-free condition when placed in the ground. Factory flush-threaded blank 2- or 4-inch diameter schedule 40 PVC well casing will be used in the construction of all wells. Factory-slotted casing will be used throughout the entire permeable water-bearing zone encountered. No thread lubrication will be used, other than teflon tape, during the connection of the blank to the slotted casing. The well screen will be set within the aquifer according to the proposed function of the well and the chemistry of the potential contaminants. The screen slot size will be chosen to retain a high percentage of the filter pack or natural formation. The annular space of the borehole surrounding the slotted section will be filled with fresh water washed aquarium gravel or sand as a filter pack to a point at least one foot above the top of the slotted interval.

   A seal above the filter pack will be formed by placing a one foot layer of bentonite pellets down the hole. If the bentonite pellet plug is placed above the water table, it will be moistened by introducing clean water downhole. Above the upper bentonite plug, a Class-A/bentonite or neat cement grout will be installed to the surface.

2. The tops of all well casings will be sealed and placed in a keyed locking device to prevent entry of surface contamination, unauthorized entry, and tampering.
3. Groundwater level measurements will be made to the nearest $\pm$0.01-foot in each well.

Well Development

1. All monitoring wells shall be initially developed in order to clean the well and stabilize sand, gravel, and disturbed aquifer materials from around the screened internal perforations. Well development will be accomplished by air-lift pumping, surge block, or bailing. Well development shall continue until the well is thoroughly developed and as free of sand, silt, and turbidity as possible.

   In some cases where low permeability formations are involved (wells that yield less than three casing volumes), the wells will be purged to dryness twice. At no time will a well be purged to dryness if the rate of recharge is such that formation water will cascade down the sides of the casing.

2. Developed water will be labeled and contained in 55-gallon drums, pending laboratory results of the groundwater samples. Disposal shall conform to applicable hazardous waste requirements.

3. The period of time between development and the first sampling incident shall be at least 72 hours, in order to allow the well and potential volatile contaminants to sufficiently stabilize.

Groundwater Sampling Protocols

1. In order to obtain a representative sample of the water in the aquifer being samples, stagnant water in the well casing must be removed to permit well recharge with non-stagnant aquifer water. The removal of stagnant water will be accomplished by the removal of the water to the surface, where it will be stored in labeled, 55-gallon drums for future disposal, according to applicable hazardous waste requirements.

2. Groundwater samples will be removed from the well by a teflon bailer only after at least three to five well volumes have been purged from the well casing, or until the discharged water indicates stabilization of temperature, conductivity, and pH. In low yield wells that have been purged to dryness, samples will be collected as soon as the well has recovered to a volume sufficient for sampling.

Sample Handling, Storage, and Transport

1. All soil and groundwater sampling, handling, and storage will be conducted under the direction of our contact laboratory. All laboratory analyses will be accomplished by a state approved laboratory.

2. All equipment that contacts samples will be thoroughly cleaned prior to arrival to a site and between samplings. New or used samplers will be steam-cleaned or washed with an anionic detergent solution (i.e., Liquinox or Alconox), rinsed well with tap water, rinsed with distilled water, drained of excess water, and air-dried or wiped dry with a clean towel.

3. Sample method blanks will be taken during the final stage of decontamination at the rate of one per groundwater monitoring well. Selected method blanks will be subjected to chemical analysis for quality control.

4. Groundwater samples will be collected for a specific set of parameters. The containers and preservatives utilized will be done in accordance with currently accepted practices. All containers used in the collection of groundwater samples will either be shipped by the contract laboratory or I-Chem Research of Hayward, California.

5. All samples will be collected in an order such that those parameters most sensitive to volatilization will be sampled first. A general order of collection for some common groundwater parameters follows:

    - Volatile Organic Compounds (VOC's)
    - Total Organic Halogens (TOX)
    - Total Organic Carbon (TOC)
    - Extractable organics
    - Total Metals
    - Dissolved Metals
    - Phenols
    - Sulfate and Chloride
    - Turbidity
    - Nitrate and Ammonia

6. All sample containers will be labeled and identified in the field. The label will contain the name "E_2C, Inc.," the date, sample number, location, time sample was recovered, and the name of the person taking the sample.

7. All groundwater samples will be held at 4° C by packing in ice in a covered ice chest specifically designated for that purpose.

8. At no time will the elapsed time between sample collection and delivery at the contract laboratory be greater than 72 hours.

9. Preservatives will not be added to any sample, unless instructed; they will be requested and supplied by the contract laboratory.

10. Under no circumstances will sample containers be opened by anyone other than laboratory personnel who will perform the specified chemical analysis. Laboratory chemical testing will be performed to determine the presence and quantity of priority and non-priority pollutants.

11. If it is necessary for samples or sample chests to leave the immediate control of the sampler prior to delivery to the laboratory, such as shipment by a common carrier (e.g., Federal Express), a custody seal will be placed on each sample container and/or sample chest to ensure that the samples have not been tampered with during transportation. The custody seal will contain the sampler's signature, the date, and time the seal was emplaced.

12. In order to document and trace sample(s) possession from time of collection, a positive signature chain-of-custody record will be filled out by the sampler and will accompany the sample(s) through the laboratory analyses. The complete chain-of-custody record will be included with the analytical report from the laboratory.

APPENDIX F

CLAYTON ENVIRONMENTAL CONSULTANTS' LETTER

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

August 14, 1992

Clayton Project No. 43000.00

Mr. Patrick T. Bitz
Broker
REAL ESTATE FINANCIAL SERVICES
5633 West Las Positas Boulevard, Suite 207
Pleasanton, California 94588

Subject: Review of E^2C Environmental Site Assessment

Dear Mr. Bitz:

Mr. Alan Gibbs and I have reviewed the environmental site assessment (EAS) performed by E^2C in April 1992.

We judge the EAS to have been performed in a professional manner and, in general, we concur with the recommendations in Section 10 of the report. However, Clayton recommends that the following items be addressed:

- The overexcavation, as recommended in Section 10 of the EAS, should be observed and the sampling should be performed by a third party.

- The EAS fails to address the various old vehicles and mechanical equipment at the farmhouse site. If you wish to dispose of this equipment as scrap, the problem of petroleum lubricants and Freon disposal must be addressed. Recent regulations by the air quality board requires that Freon be collected and recycled. The oil must be removed from all equipment before scrapping.

- During our walkthrough, we noted some containers of potentially hazardous material that were not included with the drums and cans consolidated in the corral by the barn. We recommend that a detailed reinspection of the property (specifically the farmhouse area) be performed with special attention given to the maintenance shed and hillside area where various materials have been stored. Containers that hold any amount of potentially hazardous material should be identified and included in the inventory (Appendix D of the EAS).

- There is a burst sack of what was identified as an "animal tick dip mix" in the barn. Sampling may be required to establish a disposal method if, in fact, the material is considered hazardous.

- Other issues that may need to be addressed are disposal profiling of the material in the various containers listed in Appendix D.

We will be available to meet with you at your convenience. If you have any questions, please call me at (510) 426-2650.

Sincerely,

M D Holbrook

M.D. Holbrook
Supervisor, Field Operations

MDH/cmh

CASE NARRATIVE

This Case Narrative applies to the analysis of Semivolatile Organics by SOW 2/88 Protocol for CHEMWEST Ticket Number 9606.

All of the samples associated with this case were extracted and analyzed within holding times. The method blanks were free of target compounds and met contract requirements.

Surrogate recoveries were within contract ranges. Method blank spikes were within contract ranges.

All contract required criteria for internal standard areas and response factors, relative standard deviations and relative percent differences were met for the blanks, samples, QC samples and standards associated with this case.

Sample S5 (CW# 9606-5) contained 2-Methylnaphthalene at levels exceeding the calibration range of the instrument which is flagged with an "E". The sample was diluted and reanalyzed. Both analyses are reported. No other reanalyses were required.

Elaine Wong

Elaine Wong
GC/MS Laboratory Manager

6-4-92
Date

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

October 14, 1994

Mr. John Vargas
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

ADDITIONAL REPORT
Client Ref.: 58850.00
Clayton Project No.: 94100.41

Dear Mr. Vargas:

Attached is our additional analytical laboratory report for the samples received on October 5, 1994 and originally reported on October 11, 1994. As requested on October 7, 1994, samples S-2 at 116" and S-9 were analyzed for EPA 8270.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Michael Lynch for

Harriotte A. Hurley, CIH
Director, Laboratory Services
Western Operations

HAH/tjb

Attachments

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	S-2 AT 116"	Date Sampled:	10/04/94
Lab Number:	9410041-02A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Extracted:	10/11/94
Extraction Method:	EPA 3550	Date Analyzed:	10/11/94
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	0.2
2-Chlorophenol	95-57-8	ND	0.2
2,4-Dichlorophenol	120-83-2	ND	0.2
2,4-Dimethylphenol	105-67-9	ND	0.2
2,4-Dinitrophenol	51-28-5	ND	1
2-Methyl-4,6-dinitrophenol	534-52-1	ND	1
2-Methylphenol	95-48-7	ND	0.2
4-Methylphenol	106-44-5	ND	0.2
2-Nitrophenol	88-75-5	ND	0.2
4-Nitrophenol	100-02-7	ND	1
Pentachlorophenol	87-86-5	ND	1
Phenol	108-95-2	ND	0.2
2,4,5-Trichlorophenol	95-95-4	ND	0.2
2,4,6-Trichlorophenol	88-06-2	ND	0.2
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Benzidine	92-87-5	ND	5
Benzoic acid	65-85-0	ND	0.8
Benzo(a)anthracene	56-55-3	ND	0.2
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
Benzyl butyl phthalate	85-68-7	ND	0.2
Bis(2-chloroethoxy)methane	111-91-1	ND	0.2

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	S-2 AT 116"	Date Sampled:	10/04/94
Lab Number:	9410041-02A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Extracted:	10/11/94
Extraction Method:	EPA 3550	Date Analyzed:	10/11/94
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
Bis(2-chloroisopropyl)ether	108-60-1	ND	0.2
Bis(2-ethylhexyl)phthalate	117-81-7	ND	2
4-Bromophenyl phenyl ether	101-55-3	ND	0.2
4-Chloroaniline	106-47-8	ND	1
2-Chloronaphthalene	91-58-7	ND	0.2
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.2
Chrysene	218-01-9	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Dibenzofuran	132-64-9	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.2
1,3-Dichlorobenzene	541-73-1	ND	0.2
1,4-Dichlorobenzene	106-46-7	ND	0.2
3,3'-Dichlorobenzidine	91-94-1	ND	5
Diethylphthalate	84-66-2	ND	0.2
Dimethylphthalate	131-11-3	ND	0.2
2,4-Dinitrotoluene	121-14-2	ND	0.2
2,6-Dinitrotoluene	606-20-2	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2
Fluoranthene	206-44-0	ND	0.2
Fluorene	86-73-7	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
Hexachlorocyclopentadiene	77-47-4	ND	2
Hexachloroethane	67-72-1	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Isophorone	78-59-1	ND	0.2
2-Methyl naphthalene	91-57-6	ND	0.2
Naphthalene	91-20-3	ND	0.2

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	S-2 AT 116"	Date Sampled:	10/04/94
Lab Number:	9410041-02A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Extracted:	10/11/94
Extraction Method:	EPA 3550	Date Analyzed:	10/11/94
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
2-Nitroaniline	88-74-4	ND	1
3-Nitroaniline	99-09-2	ND	1
4-Nitroaniline	100-01-6	ND	1
Nitrobenzene	98-95-3	ND	0.2
N-Nitrosodiphenylamine	86-30-6	ND	0.2
N-Nitrosodi-n-propylamine	621-64-7	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Pyrene	129-00-0	ND	0.2
1,2,4-Trichlorobenzene	120-82-1	ND	0.2
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	86	30 - 115
2-Fluorophenol	367-12-4	78	25 - 121
Nitrobenzene-d5	4165-60-0	74	23 - 120
Phenol-d5	13127-88-3	89	24 - 113
Terphenyl-d14	98904-43-9	97	18 - 137
2,4,6-Tribromophenol	118-79-6	67	19 - 122

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Clayton
ENVIRONMENTAL CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	S-9	Date Sampled:	10/04/94
Lab Number:	9410041-13A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Extracted:	10/11/94
Extraction Method:	EPA 3550	Date Analyzed:	10/12/94
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	0.2
2-Chlorophenol	95-57-8	ND	0.2
2,4-Dichlorophenol	120-83-2	ND	0.2
2,4-Dimethylphenol	105-67-9	ND	0.2
2,4-Dinitrophenol	51-28-5	ND	1
2-Methyl-4,6-dinitrophenol	534-52-1	ND	1
2-Methylphenol	95-48-7	ND	0.2
4-Methylphenol	106-44-5	ND	0.2
2-Nitrophenol	88-75-5	ND	0.2
4-Nitrophenol	100-02-7	ND	1
Pentachlorophenol	87-86-5	ND	1
Phenol	108-95-2	ND	0.2
2,4,5-Trichlorophenol	95-95-4	ND	0.2
2,4,6-Trichlorophenol	88-06-2	ND	0.2
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Benzidine	92-87-5	ND	5
Benzoic acid	65-85-0	ND	0.8
Benzo(a)anthracene	56-55-3	ND	0.2
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
Benzyl butyl phthalate	85-68-7	ND	0.2
Bis(2-chloroethoxy)methane	111-91-1	ND	0.2

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	S-9	Date Sampled:	10/04/94
Lab Number:	9410041-13A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Extracted:	10/11/94
Extraction Method:	EPA 3550	Date Analyzed:	10/12/94
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
Bis(2-chloroisopropyl)ether	108-60-1	ND	0.2
Bis(2-ethylhexyl)phthalate	117-81-7	ND	2
4-Bromophenyl phenyl ether	101-55-3	ND	0.2
4-Chloroaniline	106-47-8	ND	1
2-Chloronaphthalene	91-58-7	ND	0.2
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.2
Chrysene	218-01-9	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Dibenzofuran	132-64-9	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.2
1,3-Dichlorobenzene	541-73-1	ND	0.2
1,4-Dichlorobenzene	106-46-7	ND	0.2
3,3'-Dichlorobenzidine	91-94-1	ND	5
Diethylphthalate	84-66-2	ND	0.2
Dimethylphthalate	131-11-3	ND	0.2
2,4-Dinitrotoluene	121-14-2	ND	0.2
2,6-Dinitrotoluene	606-20-2	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2
Fluoranthene	206-44-0	ND	0.2
Fluorene	86-73-7	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
Hexachlorocyclopentadiene	77-47-4	ND	2
Hexachloroethane	67-72-1	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Isophorone	78-59-1	ND	0.2
2-Methyl naphthalene	91-57-6	ND	0.2
Naphthalene	91-20-3	ND	0.2

Clayton
ENVIRONMENTAL CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	S-9	Date Sampled:	10/04/94
Lab Number:	9410041-13A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Extracted:	10/11/94
Extraction Method:	EPA 3550	Date Analyzed:	10/12/94
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
2-Nitroaniline	88-74-4	ND	1
3-Nitroaniline	99-09-2	ND	1
4-Nitroaniline	100-01-6	ND	1
Nitrobenzene	98-95-3	ND	0.2
N-Nitrosodiphenylamine	86-30-6	ND	0.2
N-Nitrosodi-n-propylamine	621-64-7	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Pyrene	129-00-0	ND	0.2
1,2,4-Trichlorobenzene	120-82-1	ND	0.2
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	90	30 - 115
2-Fluorophenol	367-12-4	78	25 - 121
Nitrobenzene-d5	4165-60-0	75	23 - 120
Phenol-d5	13127-88-3	85	24 - 113
Terphenyl-d14	98904-43-9	106	18 - 137
2,4,6-Tribromophenol	118-79-6	86	19 - 122

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Clayton
ENVIRONMENTAL CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9410041-18A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	10/11/94
Extraction Method:	EPA 3550	Date Analyzed:	10/11/94
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	0.2
2-Chlorophenol	95-57-8	ND	0.2
2,4-Dichlorophenol	120-83-2	ND	0.2
2,4-Dimethylphenol	105-67-9	ND	0.2
2,4-Dinitrophenol	51-28-5	ND	1
2-Methyl-4,6-dinitrophenol	534-52-1	ND	1
2-Methylphenol	95-48-7	ND	0.2
4-Methylphenol	106-44-5	ND	0.2
2-Nitrophenol	88-75-5	ND	0.2
4-Nitrophenol	100-02-7	ND	1
Pentachlorophenol	87-86-5	ND	1
Phenol	108-95-2	ND	0.2
2,4,5-Trichlorophenol	95-95-4	ND	0.2
2,4,6-Trichlorophenol	88-06-2	ND	0.2
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Benzidine	92-87-5	ND	5
Benzoic acid	65-85-0	ND	0.8
Benzo(a)anthracene	56-55-3	ND	0.2
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
Benzyl butyl phthalate	85-68-7	ND	0.2
Bis(2-chloroethoxy)methane	111-91-1	ND	0.2

Clayton
ENVIRONMENTAL CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9410041-18A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	10/11/94
Extraction Method:	EPA 3550	Date Analyzed:	10/11/94
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
Bis(2-chloroisopropyl)ether	108-60-1	ND	0.2
Bis(2-ethylhexyl)phthalate	117-81-7	ND	2
4-Bromophenyl phenyl ether	101-55-3	ND	0.2
4-Chloroaniline	106-47-8	ND	1
2-Chloronaphthalene	91-58-7	ND	0.2
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.2
Chrysene	218-01-9	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Dibenzofuran	132-64-9	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.2
1,3-Dichlorobenzene	541-73-1	ND	0.2
1,4-Dichlorobenzene	106-46-7	ND	0.2
3,3'-Dichlorobenzidine	91-94-1	ND	5
Diethylphthalate	84-66-2	ND	0.2
Dimethylphthalate	131-11-3	ND	0.2
2,4-Dinitrotoluene	121-14-2	ND	0.2
2,6-Dinitrotoluene	606-20-2	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2
Fluoranthene	206-44-0	ND	0.2
Fluorene	86-73-7	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
Hexachlorocyclopentadiene	77-47-4	ND	2
Hexachloroethane	67-72-1	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Isophorone	78-59-1	ND	0.2
2-Methyl naphthalene	91-57-6	ND	0.2
Naphthalene	91-20-3	ND	0.2

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9410041-18A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	10/11/94
Extraction Method:	EPA 3550	Date Analyzed:	10/11/94
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
2-Nitroaniline	88-74-4	ND	1
3-Nitroaniline	99-09-2	ND	1
4-Nitroaniline	100-01-6	ND	1
Nitrobenzene	98-95-3	ND	0.2
N-Nitrosodiphenylamine	86-30-6	ND	0.2
N-Nitrosodi-n-propylamine	621-64-7	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Pyrene	129-00-0	ND	0.2
1,2,4-Trichlorobenzene	120-82-1	ND	0.2
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	66	30 - 115
2-Fluorophenol	367-12-4	55	25 - 121
Nitrobenzene-d5	4165-60-0	52	23 - 120
Phenol-d5	13127-88-3	63	24 - 113
Terphenyl-d14	98904-43-9	96	18 - 137
2,4,6-Tribromophenol	118-79-6	49	19 - 122

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Quality Assurance Results Summary
for
Clayton Project No. 94100.41

Clayton Lab Number: 9410041-MB
Ext./Prep. Method: EPA 3550
Date: 10/11/94
Analyst: LCK
Std. Source: E940914-01W
Sample Matrix/Media: SOIL

Analytical Method: EPA8270
Instrument ID: 0747
Date: 10/11/94
Time: 18:26
Analyst: ASC
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
(A) Phenol	ND	2.53	1.74	69	1.75	69	69	26	90	0.6	35
(B) 2-Chlorophenol	ND	2.53	1.74	69	1.78	70	70	25	102	2.3	50
(C) 1,4-Dichlorobenzene	ND	1.67	1.14	68	1.17	70	69	28	104	2.6	27
(D) N-Nitrosodipropylamine	ND	1.67	1.28	77	1.34	80	78	41	126	4.6	38
(E) 1,2,4-Trichlorobenzene	ND	1.67	1.23	74	1.24	74	74	38	107	0.8	23
(F) 4-Chloro-m-cresol	ND	2.53	1.47	58	1.50	59	59	26	103	2.0	33
(G) Acenaphthene	ND	2.53	1.36	54	1.41	56	55	31	137	3.6	19
(H) 4-Nitrophenol	ND	2.53	1.07	42	1.32	52	47	11	114	21	50
(I) 2,4-Dinitrotoluene	ND	1.67	1.07	64	1.09	65	65	28	89	1.9	47
(J) Pentachlorophenol	ND	2.53	1.16	46	1.33	53	49	17	109	14	47
(K) Pyrene	ND	1.67	1.43	86	1.44	86	86	35	142	0.7	36

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 94100.41

Clayton Lab Number: 9410041-02A
Ext./Prep. Method: EPA 3550
Date: 10/11/94
Analyst: LCK
Std. Source: E940914-01W
Sample Matrix/Media: SOIL

Analytical Method: EPA8270
Instrument ID: 07477
Date: 10/12/94
Time: 21:13
Analyst: ASC
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
(A) Phenol	ND	2.53	1.79	71	1.72	68	69	26	90	4.0	35
(B) 2-Chlorophenol	ND	2.53	1.76	70	1.80	71	70	25	102	2.2	50
(C) 1,4-Dichlorobenzene	ND	1.67	1.25	75	1.10	66	70	28	104	13	27
(D) N-Nitrosodipropylamine	ND	1.67	1.43	86	1.33	80	83	41	126	7.2	38
(E) 1,2,4-Trichlorobenzene	ND	1.67	1.45	87	1.29	77	82	38	107	12	23
(F) 4-Chloro-m-cresol	ND	2.53	1.74	69	1.79	71	70	26	103	2.8	33
(G) Acenaphthene	ND	2.53	1.48	58	1.46	58	58	31	137	1.4	19
(H) 4-Nitrophenol	ND	2.53	1.65	65	1.58	62	64	11	114	4.3	50
(I) 2,4-Dinitrotoluene	ND	1.67	1.26	75	1.24	74	75	28	89	1.6	47
(J) Pentachlorophenol	ND	2.53	1.15	45	1.06	42	44	17	109	8.1	47
(K) Pyrene	ND	1.67	1.39	83	1.39	83	83	35	142	0.0	36

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

October 11, 1994

Mr. John Vargas
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

PARTIAL REPORT
Client Ref.: 58850.00
Clayton Project No.: 94100.41

Dear Mr. Vargas:

Attached is our partial analytical laboratory report for the samples received on October 5, 1994. EPA 8270 results requested on October 7, 1994 will be forwarded to you upon completion. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after November 10, 1994, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH
Director, Laboratory Services
Western Operations

HAH/tjb

Attachments

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	S-1 AT 80"	Date Sampled:	10/04/94
Lab Number:	9410041-01A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Prepared:	10/06/94
Preparation Method:	EPA 5030	Date Analyzed:	10/06/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	101	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	S-2 AT 116"	Date Sampled:	10/04/94
Lab Number:	9410041-02A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Prepared:	10/06/94
Preparation Method:	EPA 5030	Date Analyzed:	10/06/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	0.4 [a]	0.3
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	98	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.
a Purgeable hydrocarbons quantitated as gasoline may be due to heavier petroleum product.

Clayton ENVIRONMENTAL CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	S-2 AT 110"	Date Sampled:	10/04/94
Lab Number:	9410041-03A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Prepared:	10/06/94
Preparation Method:	EPA 5030	Date Analyzed:	10/06/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	91	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	S-3	Date Sampled:	10/04/94
Lab Number:	9410041-04A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Prepared:	10/06/94
Preparation Method:	EPA 5030	Date Analyzed:	10/06/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	96	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Clayton
ENVIRONMENTAL CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	S-9	Date Sampled:	10/04/94
Lab Number:	9410041-13A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Prepared:	10/06/94
Preparation Method:	EPA 5030	Date Analyzed:	10/06/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	98	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Clayton
ENVIRONMENTAL CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	W-1	Date Sampled:	10/04/94
Lab Number:	9410041-14A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Prepared:	10/06/94
Preparation Method:	EPA 5030	Date Analyzed:	10/06/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	104	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	W-2	Date Sampled:	10/04/94
Lab Number:	9410041-15A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Prepared:	10/06/94
Preparation Method:	EPA 5030	Date Analyzed:	10/06/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	108	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	W-3	Date Sampled:	10/04/94
Lab Number:	9410041-16A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Prepared:	10/06/94
Preparation Method:	EPA 5030	Date Analyzed:	10/06/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	99	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	W-4	Date Sampled:	10/04/94
Lab Number:	9410041-17A	Date Received:	10/05/94
Sample Matrix/Media:	SOIL	Date Prepared:	10/06/94
Preparation Method:	EPA 5030	Date Analyzed:	10/06/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	107	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Clayton
ENVIRONMENTAL CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9410041-18A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	10/06/94
Preparation Method:	EPA 5030	Date Analyzed:	10/06/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	86	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Clayton
ENVIRONMENTAL
CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification: See Below
Lab Number: 9410041
Sample Matrix/Media: SOIL
Extraction Method: SM 5520E
Method Reference: SM 5520F

Date Received: 10/05/94
Date Extracted: 10/06/94
Date Analyzed: 10/11/94

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/kg)	Method Detection Limit (mg/kg)
-05	S-4 AT 1'	10/04/94	95	50
-06	S-4 AT 2'	10/04/94	45	50
-07	S-5 AT 1'	10/04/94	80	50
-08	S-6 AT 1'	10/04/94	75	50
-09	S-6 AT 2'	10/04/94	60	50
-11	S-7	10/04/94	50	50
-12	S-8	10/04/94	75	50
-18	METHOD BLANK	--	ND	50

Maintenance Building Samples

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Clayton
ENVIRONMENTAL CONSULTANTS

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 58850.00
Clayton Project No. 94100.41

Sample Identification: See Below
Lab Number: 9410041
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Method Reference: EPA 8015 (Modified)

Date Received: 10/05/94
Date Extracted: 10/06/94
Date Analyzed: 10/07/94

Lab Number	Sample Identification	Date Sampled	TPH-D (mg/kg)		Method Detection Limit (mg/kg)
-01	S-1 AT 80"	10/04/94	10	a	1
-02	S-2 AT 116"	10/04/94	41		1
-03	S-2 AT 110"	10/04/94	11		1
-04	S-3	10/04/94	2	a	1
-13	S-9	10/04/94	170	b	1
-14	W-1	10/04/94	11	a	1
-15	W-2	10/04/94	8	a	1
-16	W-3	10/04/94	3	a, c	1
-17	W-4	10/04/94	3	a, c	1
-18	METHOD BLANK	--	2	c	1

Excavation Bottom Samples

b – Stockpile Sample

Excavation Sidewall Samples

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a dry-weight basis.
TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
a Unidentifiable hydrocarbons do not match the typical diesel pattern.
b Sample does not match the typical diesel pattern.
Sample appears to contain two major components, C12 to C30 and C30 to C40.
c Note that low level contamination is reported in the method blank. The peak pattern of samples W-3 and W-4 matches the pattern of the contamination in the blank, and therefore, these results should be considered as a laboratory contamination.

Clayton ENVIRONMENTAL CONSULTANTS

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 1 of 2
Project No.	
Batch No.	9410041
Ind. Code	W.P.
Date Logged In 10/5/94	By KT

SENT BY: 10-13-94 ;11:31AM ; CLAYTON PLEASANTON- 15107361264;#15

REPORT RESULTS TO

Name JOHN VARGAS | Title
Company CLAYTON | Dept.
Mailing Address
City, State, Zip
Telephone No. | Telefax No.

Purchase Order No. | Client Job No. PENDING

SEND INVOICE TO

Name CLEM FINNEY
Company DIOCESE OF OAKLAND | Dept.
Address
City, State, Zip

Date Results Req.: OCT. 11, 1994
Rush Charges Authorized? ☐ Yes ☒ No
Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative:

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	8240 & BTEX	TPH-DIESEL	5520 B&F	HOLD	FOR LAB USE ONLY
S-1 AT 80"	10-4-94	SOLID	2x6 BRASS	1	X	X			01
S-2 AT 116"				1	X	X			02
S-2 AT 110"				1	X	X			03
S-3				1	X	X			04
S-4 AT 1 FT				1			X		05
S-5 AT 2 FT				1			X		06
S-5 AT 1 FT				1			X		07
S-6 AT 2 FT				1			X		08
S-6 AT 2 FT				1			X		09
S-2a AT 116"	↓	↓	↓	1				X	10

CHAIN OF CUSTODY

Collected by: RICHARD SILVA (print) | Collector's Signature: Richard Silva
Relinquished by: Richard Silva | Date/Time 10-5-94 1005 | Received by: | Date/Time
Relinquished by: | Date/Time | Received at Lab by: Sandra J. Sund | Date/Time 10/5/94 10:0
Method of Shipment:
Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain)

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

Clayton
ENVIRONMENTAL
CONSULTANTS

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 2 of 2
Project No.	
Batch No.	9410041
Ind. Code	W.P.
Date Logged In	By

SENT BY:

REPORT RESULTS TO
Name: JOHN YARGAS | Title:
Company: CLAYTON | Dept.:
Mailing Address:
City, State, Zip:
Telephone No.: | Telefax No.:

Purchase Order No.: | Client Job No.: PENDING

SEND INVOICE TO
Name: CLEM FINNEY
Company: DIOCESE OF OAKLAND | Dept.:
Address:
City, State, Zip:

Date Results Req.: Oct. 11, 1994
Rush Charges Authorized? ☐ Yes ☒ No
Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative:

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added.)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	8015 & BTEX	TPH-Diesel	5520 B&F	FOR LAB USE ONLY
S-7	10-4-94	SOIL	2x6 BRASS	1		X		11
S-8				1		X		12
S-9				1	X	X		13
W-1				1	X	X		14
W-2				1	X	X		15
W-3				1	X	X		16
W-4	↓	↓	↓	1	X	X		17 ↓

CHAIN OF CUSTODY
Collected by: RICHARD SILVA (print) | Collector's Signature: Richard Silva
Relinquished by: Richard Silva | Date/Time 10-5-94/1005 | Received by: | Date/Time
Relinquished by: | Received at Lab by: Handwritten J. Burd | Date/Time 10/5/94
Method of Shipment: | Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

10-13-94 ; 11:32AM ; CLAYTON PLEASANTON- 15107361264 ; #16

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Willie Phelps
426-6176

Carl

① Method Blank
② Stockpile
③ S-2, 110/116
④ Balance of Tests
⑤ Summary letter

Clayton
ENVIRONMENTAL
CONSULTANTS

⑥ Limits / Murphy
- Hydrocarbons
- TPH-D
- TPH O&G ?

FACSIMILE COVER SHEET

Time: _____

To: Mr. Clem Finney

From: John Vargo

Date: 10/13/94

Fax Number: 510-893-0945

Number of Pages (including cover sheet): 16

Please confirm receipt: [ ] Yes [ ] No

If you do not receive the number of pages specified, please call (510) 426-2600 for assistance.

COMMENTS

Please see attached laboratory results for Wolpert Ridge. Specifically look at results on pages 12 & 13. These results appear to be sufficiently low enough to allow back fill but we should get concurrence from Hugh Murphy first. Please call me if you have any questions.

→

JV

cc: Mr. James Dye 510-736-1264

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

PO Box 3085 Pleasanton CA

Clayton
ENVIRONMENTAL
CONSULTANTS

FACSIMILE COVER SHEET

Time: _____

To: Mr. Clem Finney

From: John Vargo

Date: 10/17/94

Fax Number: 510-893-0945

Number of Pages (including cover sheet): 13

Please confirm receipt: [ ] Yes [ ] No

If you do not receive the number of pages specified, please call (510) 426-2600 for assistance.

COMMENTS

Please find attached the laboratory results for Semi-Volatile Organics. These samples did not detect any VOC's. We can therefore assume that any VOC's which were present have been removed. Please call if you have questions.

JV

cc: Jim Dye 510-736-1264