Appendix G
Phase I and Phase II

PHASE 1 PRELIMINARY SITE ASSESSMENT, MORENO FIELD STATION, CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, CALIFORNIA

FOR

UNIVERSITY OF CALIFORNIA, RIVERSIDE
ENVIRONMENTAL HEALTH AND SAFETY

W.O. 2395-A1-OC APRIL 29, 1992

GeoSoils, Inc.

April 29, 1992
W.O. 2395-A1-OC
U.C.R. Bid No. R45462/410

University of California, Riverside
Environmental Health and Safety
900 University Avenue
Riverside, California 92521

Attention: Ms. Lynn Beckmann

Subject: Phase 1 Preliminary Site Assessment, Moreno Field Station, City of Moreno Valley, County of Riverside, California

References: See Page 26

Ladies and Gentlemen:

This report summarizes the results of GSI's Phase I Preliminary Site Assessment (PSA) of the subject Moreno Field Station.

Purpose

The purpose of this PSA is to identify possible environmental liability either from potentially hazardous materials, waste or from some other source. It is GSI's understanding that the University of California Riverside (UCR) will sell the property to others for subsequent development.

Scope of Work

The scope of work completed for this study included the following:

-- Site reconnaissance and correspondence with UCR representatives was conducted on 3-10-92. Information provided by UCR is included in Appendix A.

-- Government records search on State and Federal level, including NPL, CERCLIS, Cal Sites (CAL, formerly ASPIS), Annual Work Plan (AWP, formerly BEP), CORTESE, LUST, SWIS, SWAT, RCRA, HWIS and SARA-III (see Appendix B).

-- State, regional and local agency contacts, including SWRCB/RWQCB, Riverside County Health Department and Eastern Municipal Water District (see Appendices C and D).

-- Review of U.S.G.S. maps and Riverside County Flood Control aerial photos dating from 1962 to 1990 (see Appendix E).

-- Preparation of this report presenting our findings, conclusions and recommendations.

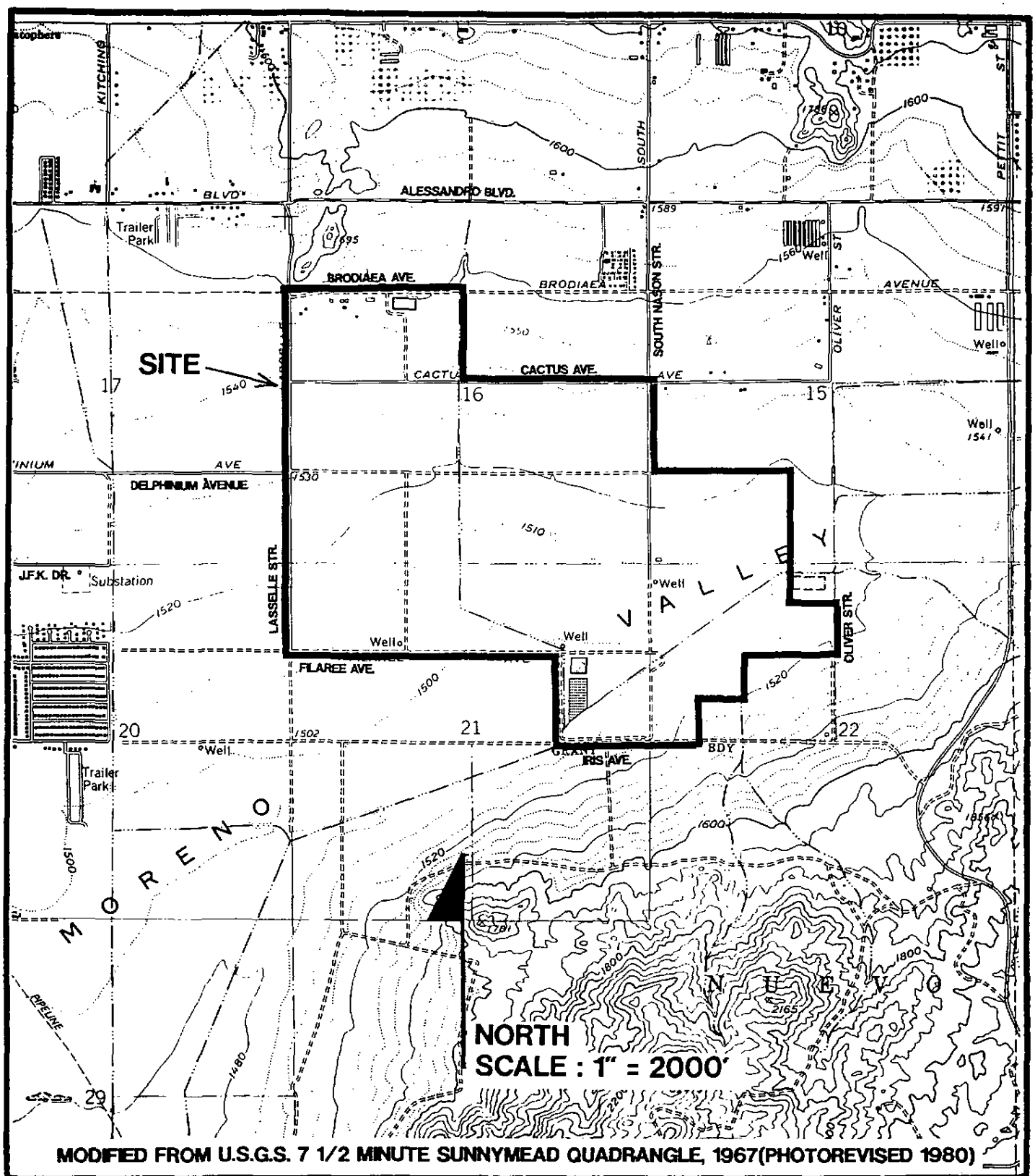
GENERAL

GSI's preliminary site assessment was conducted for three distinct areas of study: the Moreno Field Station land, a .5 mile "windshield" survey zone and a 2-mile radius for record search.

SITE LOCATION AND OWNERSHIP

The project site is located at 14250 Lasselle Street, in the City of Moreno Valley, County of Riverside, California. The site location is shown on Figure 1. Parcel Maps are included in Exhibit A-1 in Appendix A.

The 760-acre site is bounded generally by Lasselle Street on the west, Brodiaea Avenue on the north, to Morrison Street (extended) south to Cactus, east to Nason Street, south to Delphinium Avenue, then proceeds east to an irregular lot line along Oliver Street. Filaree and Iris Avenues form the south border (see Figure 1).



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SITE LOCATION MAP

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FIGURE

Site entry and operational facilities are located at Brodiaea and Lasselle Street.

The current property owner is the University of California, Riverside.

SITE DESCRIPTION

The site consists of approximately 760 acres and is currently used for agricultural farming and research. Overall relief is approximately 60 feet and drainage is directed to the south. Unimproved access roads bisect the property in an east-west and a north-south direction, between planted plots. A powerline easement runs east-west along Cactus Avenue, a sewer main crosses the parcel and other easements may exist. Flood channels drain south along Nason, south along Morrison and a southwest flowing drainage crosses the southeast corner. The southeast corner drainage carries the greatest volume of water due to its association with a 150 acre ± flood area. (Site topography and drainage is shown on Figure 1 and cultural features are indicated on Figure 2).

Existing operational facilities are located in the northwest corner of the site. They include an office building with onsite septic systems, a chemical storage shed, a maintenance shop building, equipment storage yard structure, a storage shed, a poultry house and washdown area and underground gas and diesel fuel tanks, equipment stockpiles and dumps. The approximate layout of the Moreno Field Station facilities are shown on Figure 3. Two residential buildings are located west of the ranch facilities, also with onsite septic systems.

Irrigation is accomplished by a system of 3 water wells and 2 earthen storage reservoirs. The wells are named the Scott, Filaree and Coray and extend 400 ± feet deep. The groundwater level is

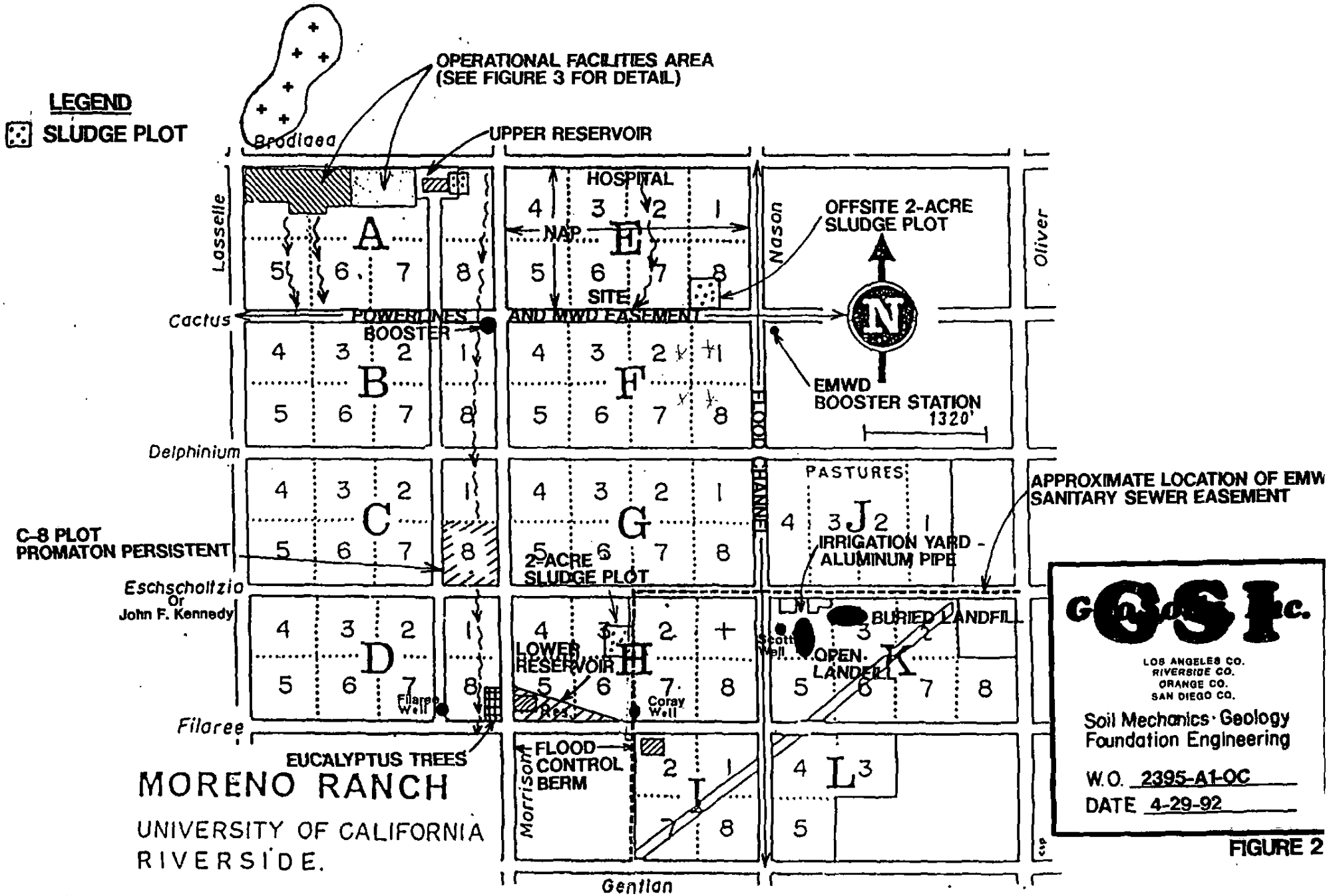

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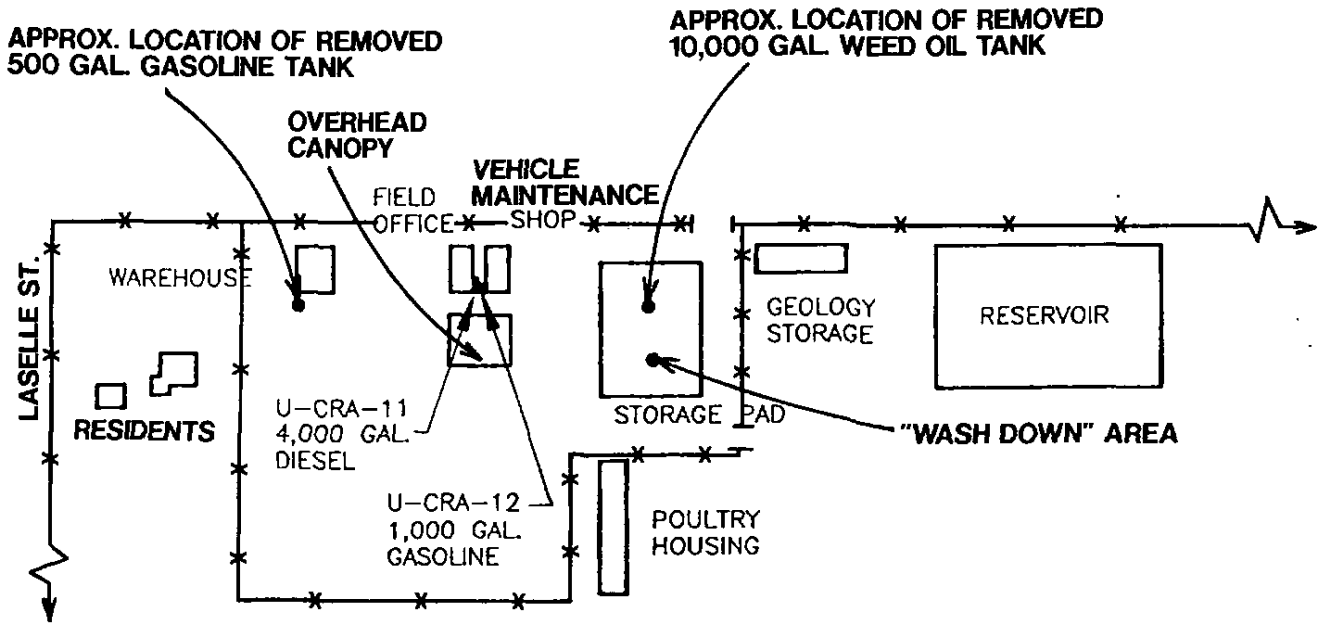
FIGURE 2



MORENO RANCH

SCALE: 1" = 200'

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SITE PLAN
MORENO RANCH OPERATIONAL FACILITIES

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FIGURE 3

135 ± feet deep and water is pumped from the 150 foot level. The Scott and Filaree wells predate the university's ownership, as they were installed during the 1920's. The Coray well was installed during 1962. The approximate location of the wells and reservoirs are shown on Figures 1 and 2, photographs of these wells are included in Appendix F and irrigation line layout is shown in Appendix A, Figure 5a. Another agricultural well exists just outside the property line near the intersection of Filaree and Morrison.

SURROUNDING FEATURES AND LAND USE

A drive-by inspection of the neighborhood (consisting of approximately .5 mile radius) was conducted in conjunction with map and photo review and the following items were noted.

The site and surrounding area is located within the generally southwest draining alluvial flood plain of Moreno Valley. Granitic outcrops form small scattered hills in the vicinity and larger mountain ranges to the north and south of Moreno Valley. A granitic hill is located offsite to the northwest of the property boundary, north of Brodiaea Avenue. The Box Spring Mountains are located 3± miles to the north and the San Jacinto Nuevo Y Potrero hills are located ½ ± mile to the south.

The recently active San Jacinto Fault Zone is located approximately 3½ miles to the northeast.

The surrounding area is relatively flat (gently draining southwest) and consist primarily of farmland with row crops. This land use is systematically being replaced by newly constructed tract home developments west of the property along Lasselle Street and other housing tracts and a hospital is located to the southeast of the site. The area immediately north of the site is, for the most portion, undeveloped. A church site exists near the corner of

Alessandro Blvd. and Nason. Scattered residential buildings exist to the area east of the site.

March Air Force Base is on the National Priorities List (NPL) for site cleanups and is located approximately 3 ± miles to the west and downgradient from the site.

GEOLOGY AND HYDROGEOLOGY

The site is underlain by Quaternary age alluvium of the southwest draining Moreno Valley Flood Plain. Alluvium is comprised primarily of sand, silt and gravel. Granitic bedrock of Mesozoic age is exposed on surrounding hills and mountains. Structural fabric varies but consist primarily of easterly dipping foliation. The northwest trending recently active San Jacinto Fault zone and buried Casa Loma Fault trace are located approximately 2½ to 3½ ± miles (respectively) to the northeast in San Jacinto Valley.

Groundwater at the site is approximately 135 ± feet below the ground surface and is pumped at the 150 foot level from 3 wells advanced to 400 ± feet depth. Groundwater flows to the southwest. According to the Moreno Valley Water District, their are no contaminated wells in the vicinity based on a survey of two wells upgradient and one well downgradient.

SITE RECONNAISSANCE

The site is completely enclosed with chain link fencing. The operational facilities are located in the northwest corner of the site at the gated entrance. Vehicle maintenance, chemical mixing and storage of equipment, fertilizers and pesticides is conducted within the perimeter of the operational facilities. The agricultural research station operates daily, leasing plots for agricultural research to associates of the University.

Various crops are observed over a greater portion of the site, with dirt roads bisecting the plots for access.

Three water wells exist onsite for irrigation purposes. Water is pumped out of the wells to an earthen reservoir at the northern end of the site and then distributed through approximately 14 miles of irrigation lines, some of which is transite. (Transite is a manufactured product, a mixture of concrete and asbestos). Excess water is collected and stored in a southern earthen reservoir, to be reused for further irrigation. A map indicating transite lines on the property is included in Appendix A, Figure 5a.

Overhead power lines exist throughout the site. Transformers were observed on several power poles. However, no evidence of leaking was observed at the time of GSI's site reconnaissance.

A major flood channel was observed to exist parallel and adjacent to Nason Drive along the eastern edge of the site.

A buried landfill area and an open landfill exist near the Scott Well (see Appendix F). Both landfills were previously used as dumping sites for refuse/household type waste. However, both have since been cleaned of debris and the most northern site has been backfilled. No trash was observed near these areas during GSI's site reconnaissance. Also, at the time of GSI's site reconnaissance and photography, the open landfill was ponded with water due to recent heavy rains.

SUMMARY OF CHEMICALS USED, ENVIRONMENTAL COMPLIANCE AND DISPOSAL PROTOCOL

The potentially hazardous materials or potentially hazardous waste products noted during the site reconnaissance include the following:

- Waste oil from vehicle maintenance
- Herbicides, pesticides, and fertilizers
- Transite pipe (12" diameter) is known to exist as irrigation lines (a 12" pressurized transfer line from the Scott well which runs north on Nason, then east on Cactus where it intersects with the line running north on Morrison from the Filaree and Coray wells and the headlines, see Figure 5a, Appendix A). Asbestos may also be present in the existing structures (operational facilities and residential sites). Suspect materials include sprayed on interior - exterior materials, wall board, plaster, stucco, pipe insulation, linoleum/vinyl floor tiles, etc.; above listed materials prior to early 1970's.
- PCB's may be in overhead transformers
- Experimental application of sewage sludge sites

A pick-up service transports the waste oil from vehicle maintenance offsite to an oil recycling company.

Any empty drums from herbicides, pesticides or fertilizers are triple-rinsed and the rinsate is applied to the crops during normal application.

Asbestos Containing Materials (ACM's), septic systems and other items are not considered a health hazard under current application but would require special assessment, handling and disposal during site demolition.

require special handling by specifically trained and licensed contractors and cost estimating should be conducted for site specifics. Health hazards resulting from asbestos removal is negligible when performed per regulatory specifications.

Many larger irrigation lines prior to 1972 and many public drinking water lines are made of asbestos containing materials. Under current regulations, asbestos containing concrete pipe in non-friable condition does not require immediate remediation or hazard monitoring and may remain in covered use indefinitely. As the property is converted to other uses, the asbestos containing material may be disturbed by street development and other excavation work. On occasions where these situations are likely to occur, the removal and proper disposal of this material must be performed by trained and licensed contractors.

The Edison Company could be contacted in regards to PCB's.

Degradation data on the sewage sludge is in progress by UCR. One of the sewage sludge sites is located just offsite; the other two are 25' x 25' and 2-acre in sizes (see Figure 2).

GOVERNMENT RECORDS SEARCH

A government records search was conducted by Environmental Database Company (EDC) to identify listed contaminated properties on record within a two-mile radius for all records which may impact the subject site. The database of the search was compiled from available information from various county, state, and federal government agencies. The results of the government records search which identify each hazardous materials site and discussion of each list is presented in Appendix B. A brief discussion of each

adjacent hazardous materials site identified is also presented below, as based on information provided by EDC.

Environmental Protection Agency - Comprehensive Environmental Response, Compensation and Liability Information System (EPA - CERCLIS): As of December 1991, no CERCLIS site is located within the area searched by EDC.

The federal Comprehensive Environmental Response Compensation and Liability Act (CERCLA, 1980) is intended to identify and cleanup past contaminated sites and identify potentially responsible parties (PRP's) to pay cleanup costs. CERCLA provides for strict, joint and several liability among responsible parties (RP's). These parties include generators, disposers and transporters of hazardous materials. CERCLA has been augmented by the Superfund Amendments and Reauthorizations Act (SARA 1986) which increased the cleanup fund (superfund) and the scope and requirements of hazardous materials cleanup. SARA also adds limits and defense on liability including the "Innocent Landowner Defense" which forms the basis for many Environmental Site Assessments (ESA's).

The identification of a CERCLA site indicates that contamination does exist, but it does not necessarily address the potential threat to human health or the environment or complete impact to all potentially responsible parties (PRP's).

Environmental Protection Agency - National Priorities List (EPA - NPL): As of 1991, no NPL site is located within the area searched. However, the March Air Force base is currently under NPL investigation and clean-up.

Sites identified under CERCLA as posing the greatest risk to human health and the environment are treated in two ways, 1) Removal

Actions, are short term where an imminent hazard exists requiring immediate removal and 2) Remedial Action, is long term which requires further study for site evaluation and cleanup selection according to the RI/FS (Remedial Investigation/Feasibility Study) process. Sites requiring long term Remedial Action are placed on the NPL based on priority according to the Hazardous Ranking System (HRS) as part of the National Contingency Plan (NCP) for cleanup of abandoned and uncontrolled hazardous waste sites.

The identification of an NPL site indicates a contaminated site posing a significant risk to human health and the environment and impacts identified responsible parties (RP's) and potentially responsible parties (PRPs).

As of March 1991, the NPL contains a total of 1,188 sites nation wide (includes 116± federal facilities) of which 87 are in California (19± on federal facilities).

The March Air Force base, currently under investigation and cleanup, is located downgradient and has identified responsible parties.

Calsites (CAL, formerly Abandoned Sites Information System, ASPIS): As of 1991, three separate EPA Calsites sites are located within the area searched. All three sites have a No Further Action (NFA) Status.

The ASPIS data base is a list of potentially contaminated sites compiled by the Department of Heath Services (DOHS) Toxic Substance Control Program (TSCP, now under Cal-EPA). Starting in 1980's potential sites or facilities are identified through an Historical Abandoned Site Survey Program which includes Standard Industrial Classification (SIC) Codes, historical phone book reviews,

drivebys, citizen complaints and other leads. Sites listed under ASPIS are preliminary only and are assigned an action status ranging from No Further Action (NFA) to Site Inspection (SI)/Preliminary Assessment (PA) and some sites of confirmed contamination are merged onto the State Superfund Sites (SUPFD) Bond Expenditure Program (BEP) and/or the Cortese List. This database contains more than 25,000 entries. However, about 72 percent of these entries have been identifed as requiring No Further Action (NFA) based on a determination by DOHS. A high percentage of the remaining sites in this database are expected to be designated as NFA sites upon further investigation. Under the new Cal-EPA, ASPIS is now called CAL-SITES, according to Sean Farrelly at CAL-EPA.

Annual Workplan (AWP, formerly Bond Expenditure Plan, BEP): As of September 1991, no AWP site is located within the area searched.

The Expenditure Plan for the Hazardous Substance Cleanup Bond Act of 1984 (revised January 1990) is a list of the hazardous waste sites in California targeted for cleanup and identification of responsible parties (RP's). This list is published by DOHS to inform the public of the plans for the statewide hazardous waste cleanup efforts. The BEP fund is currently depleted, but sites are now listed on the AWP.

On July 17, 1991, the California Environmental Protection Agency officially came into existence and the Toxic Substances Control Program became the Department of Toxic Substances Control (DTSC) under that agency. Since then, the DTSC Annual Workplan (AWP) has replaced the previous Bond Expenditure Plan (BEP).

California - CORTESE (Hazardous Waste and Substances Site List Pursuant to Cortese Assembly Bill AB 3750): Based on the January 1991 edition of the Cortese List, there are no Cortese sites within the area searched.

AB 3750 (Chapter 1048, Statutes 1986) requires the Governor's Office of Planning and Research to annually publish a listing of potential and confirmed hazardous waste sites throughout California. This list is based on input from (DTSC) formerly DOHS, State Water Resources Control Board (SWRCB), the nine Regional Water Quality Control Boards (RWRCB) and the California Integrated Waste Management Board (CIWMB) which are currently under Cal-EPA.

California - Leaking Underground Storage Tanks (LUST): The SWRCB and RWQCB compile an underground tank list which provides the information pertaining to the soil and/or groundwater contamination caused by the leaks of hazardous substances from underground tanks. The LUST list, as of January of 1992, indicates that the subject site is not on the LUST list.

However, one LUST site is located within the area searched. It had an underground tank leak that only affected the soils, remedial action has been completed or deemed unnecessary and signed off. The substance from the leaking tank was diesel (see Appendix B).

Solid Waste Information System (SWIS) and Solid Waste Assessment Test Program (SWAT): The California Waste Management Board maintains the Solid Waste Information System List (SWIS) pursuant to the Solid Waste Management and Recovery Act of 1972. This SWIS list contains an inventory of active, inactive, and closed solid waste disposal and transfer facilities. No SWIS sites are located within the area searched.

A series of legislation were enacted beginning in 1984 (Calderon Bill and AB 3525/3374), mandating the statewide ranking of solid

waste disposal sites by the SWRCB and assessment testing by their owners/operators to study the extent of air and groundwater contamination of each facility. This assessment test program is known as SWAT and once the SWAT studies are completed, they will be evaluated by the local air districts and the SWRCB's and RWQCB's. These agencies, plus California Waste Management Board (CWMB) and DOHS will be required to determine appropriate remedial actions and work with the facilities to resolve identified problems in a coordinated fashion. The staggered schedule reporting requirements of SWAT are currently inoperative due to SWRCB budget constraints (December, 1991). No SWAT sites are located within the area searched.

EPA-RCRA and California Environmental Protection Agency - Hazardous Waste Information System (EPA-HWIS) (Formerly DOHS): As indicated in Appendix B, there are six (6) HWIS sites located within the surrounding two-mile radius of the subject site.

The Tanner Bill, AB 2948 of 1986 is intended to promote effective hazardous waste planning and siting of new hazardous waste management facilities throughout the state. Under Tanner legislation each of the 58 counties has submitted a "Hazardous Waste Management Plan." Tanner also assists each county by requiring the Department of Toxic Substances Control (DTSC of Cal-EPA, formerly DOHS) to maintain generator and disposal data files. These files are assembled from manifests reports and disposers and from the Hazardous Waste Information System (HWIS).

The identification of a HWIS site does not confirm a release or health hazard exists; it only confirms the identification of a generator, transporter or disposer of hazardous waste as defined under California Hazardous Waste Control Law (HWCL).

Superfund Amendments and Reauthorization Act (SARA), TITLE III: As indicated in Appendix B, no sites subject to SARA III are located within a two-mile radius of the site.

In October of 1986, Congress enacted the Superfund Amendments and Reauthorization Act (SARA), Title III, the Emergency Planning and Community Right-to-Know Act, substantially increases the role of the community in managing hazardous materials. As a result, owners/operators of selected facilities are required to inform government officials and the public about releases of toxic chemicals into the environment. Under Subtitle B, facility owner/operator reporting requirements are specified in Section 313.

County of Riverside, Department of Health: A formal request for a review of any records in regard to unauthorized releases of hazardous materials, underground storage tanks or on-going investigations pertaining to the site was completed. Copies of these records are included in Appendix C.

Eastern Municipal Water District: Based on a discussion with Dick Morton on April 7, 1992 at (714) 925-7676 any known water wells within the vicinity of the site are privately owned and generally used for agricultural purposes. Two wells, located approximately 4 miles northwest of the subject site, have no known contaminants and have a water level of approximately 143 feet below the ground surface (as of March 1992, see appendix D). One well, located approximately 4 miles south of the site has no known contaminants and has a water level of approximately 164 feet below the ground surface (as of March, 1992).

Contaminated wells are known to exist on March Air Force Base, which is located approximately 3 miles west of and downgradient from the subject site. Due to the downgradient location of these

contaminated wells, they do not appear to have an impact on the subject site.

Regional Water Quality Control Board (RWQCB): Region 8 of the RWQCB was contacted for information regarding the site. Based on a discussion with Nancy Martin on 2/10/92 at (714) 782-4497, no files are currently on record. Ms. Buchanan does not have files on wells unless they are monitoring wells for a leaking underground storage tank.

MAP AND AERIAL PHOTO REVIEW

A detailed account of the site history and surrounding land development, as indicated from each specific map or photo, is presented in Appendix E and summarized below:

- Prior to 1962, the site was known as the Hendrick's Ranch and was mostly natural open field.
- The area has been an agricultural research and experiment field since 1962.
- Intensive development to the west of the site, consisting of tract housing, began in the early 1980's.

INTERVIEWS WITH ONSITE PERSONNEL

GSI interviewed UCR Moreno Valley Field Station's personnel with regard to the station's history and operations. This interview was conducted on March 10, 1992. Persons interviewed were:

Mr. Delbert E. Waddell, Research Station Superintendent
(714) 242-7611

Mr. Barney F. Power, Associate Superintendent
(714) 787-5906

a. **Chemical Usage**

According to Mr. Waddell and Mr. Power, the site has been used as an agricultural research station since 1962. The site was an open field prior to 1962. The types of crops planted were determined based on the need of the research. The types of agricultural chemicals used on the site are presented in Appendix A. The agricultural chemicals are applied by using vehicular means. In addition, annual permits for the application of agricultural chemicals are obtained through the County Agricultural Commissioner by "Notice of Intent".

The agricultural chemicals are stored and mixed onsite prior to use. All the empty chemical containers are triple-rinsed and disposed of offsite. The residual chemicals would be applied to the field with rinsed water. No known accidental spills of these chemicals has occurred during the past 30 years.

b. **Underground Storage Tanks**

One 500 gallon metal gasoline tank was removed during 1989. The exposed soil materials were tested by a laboratory to be clean of gasoline contamination and the results were approved by the County of Riverside. Another 10,000 gallon weed oil tank was removed during 1990. The Office of State Architect (OSA) issued and administered the contract for the removal of the weed oil tank. Both of the removed tanks were of ¼" single wall construction and no secondary containment existed.

There are two existing underground tanks near the field station's office/maintenance yard; 1) 1000 gallon unleaded gasoline ¼" single wall steel tank and 2) 4000 gallon diesel ¼" single wall steel tank. Secondary containment does not exist on either tank. The gasoline tank was detected to have

above ground leaking; however, this above ground leaking was repaired during March 1991. These existing tanks have been leak tested by a private contractor and currently have monitoring systems installed.

c. **Vehicle Maintenance**

All the vehicles are maintained onsite. A vehicle wash pad is located near the maintenance yard. According to Mr. Power and Mr. Waddell, this vehicle wash pad is used to wash the excess soils off of the vehicles which are returning from the agricultural field. The runoff water is stored in a nearby sump until the soils in the water separate or settle out. The collected runoff water is eventually drained to the nearby open field located southwest of the wash pad and the remaining soils in the sump are placed on the dirt road areas onsite.

All the waste oil from the vehicles are temporarily stored in 55 gallon DOT drums and picked up by an oil recycling company.

d. **Irrigation Water/Wells**

The irrigation water is provided by three onsite water wells extended to a maximum depth of 400 feet. Groundwater is 135 ± feet deep and pumped from 150 ± feet deep. According to Mr. Power and Mr. Waddell, the water is first stored at a reservoir located at the northern portion of the site then applied to the field through the onsite irrigation system. All the excess irrigation water is collected by the onsite water collecting system and temporarily stored at the reservoir located at the southern portion of the site. This excess irrigation water is eventually pumped to the northerly reservoir and reused. Storm water is generally drained toward an offsite drainage channel south of the site. The onsite irrigation pipes consist of asbestos containing materials.

e. **Sludge Plots**

Sewage sludge was placed onsite for experimental purposes. The locations of the sludge plots are presented on Figure 2. According to Mr. Power and Mr. Waddell, the sewage sludge originated in Chicago and/or Long Beach.

f. **Onsite Landfills**

There were two dump areas onsite. The locations of these areas are presented on Figure 2. The currently buried landfill was in use by the ranch from approximately 1986 to 1988, at which time it was cleaned out and backfilled. The open landfill was in use during 1991 and cleaned out in 1992. It is currently open. (see Appendix F).

According to Mr. Power and Mr. Waddell, fences were placed during 1962 to block the public access to the Moreno Field Station. Both landfill areas have since been cleaned of debris, and the northern landfill area has been backfilled.

g. **Sewage Systems**

Both existing residential structures and the maintenance yard office are on sewage disposal systems.
The sewage system for the facility office is located adjacent to and west of the field office. The sewage systems for the residential buildings are located adjacent to and north of the residents.

h. **Utility Easements**

A 24" Eastern Municipal Water line exists along Cactus Avenue. A 33" sewer main easement enters the site along the eastern edge near Oliver Street and John F. Kennedy Drive, runs in a westerly and then a southwesterly direction to exit the site near the Coray well. Powerline easements run east-west along Cactus Avenue, along Filaree Avenue and along Nason Drive. Flood channels drain south along Nason, south along

Morrison and a southwest flowing drainage crosses the southeast corner. Other utilities may also exist.

REVIEW OF TITLE HISTORY

A review of the site's title history, prepared by Chicago Title Company, was conducted.

Previous owners and the time periods of ownership are shown below:

Prior to 1925	Eli E. Hendrick
1925 to 1944	Mary H. Trautwein, Caroline H. Trautwein, Emily T. Stoddard, Elizabeth T.Schweizer, Margaret T. Stoddard, Lillian Hendrick Colville, Kenneth Hendrick Colville, Jessie Colville Powell, Dorothy Colville Dann and William Thomas Colville Jr.
1944 to 1948	Mary H. Trautwein, Caroline H. Trautwein, Emily T. Stoddard, Archer I. Schweizer, Margaret T. Stoddard, Lillian Hendrick Colville Jessie Colville Powell, Dorothy Colville Dann and William Thomas Colville Jr.
1948 to 1962	Mary H. Trautwein, Caroline H. Trautwein, Emily T. Stoddard, Archer I. Schweizer, Margaret T. Stoddard, Kenneth Hendrick Colville Jessie Colville Powell, Dorothy Colville, Dann and William Thomas Colville Jr.
1962 to Present	The Regents of the University of California, Riverside.

CONCLUSIONS AND RECOMMENDATIONS

- **The current Moreno Field Station appears to be in compliance with Federal, State and Local Regulatory Requirements with respect to Hazardous Materials Management and Hazardous Waste Disposal with respect to current land use.**

-- Applicable permits or procedures for Hazardous Materials Management include the County Agricultural Commissioner for the application of agricultural chemicals and leak testing of underground storage tanks.

-- Applicable permits or procedures for Hazardous Waste Disposal include utilizing a subcontractor to pick up stored maintenance waste disposal for transportation to an oil recycling plant and triple rinsing of fertilizer/pesticide containers prior to disposal and using rinsate in normal applications.

-- Government listed sites in the surrounding areas include CAL, LUST and HWIS sites. Impact from surrounding sites, according to government records, is considered remote. The March Air Force Base is downgradient and this and other sites identified are currently either under investigation, cleanup (current or past) or permitted and have identified potentially responsible parties (PRP's) that do not include UCR. Identification of possible impacts from offsite sources should be performed during the Phase II study.

-- Riverside County Department of Health and other agency records searched or contacted indicate no outstanding violations or records of noncompliance. Two completed tank pulls indicated no leaks or contamination and no records on file.

-- Groundwater contamination from the site is not indicated from records provided by the University. The SWRCB/RWQCB has no record of noncompliance or groundwater contamination.

-- History based on map and aerial photo review indicates only agricultural land use and includes two old landfill sites

within the project. These sites should be investigated for possible contamination and, if necessary, cleanup with the planned change in land use.

-- Asbestos containing material (ACM's) and septic systems are not considered a health hazard under current land use but would require special assessment, handling and disposal during site demolition.

o **Proposed residential development is considered feasible from an environmental standpoint. However, the proposed change in land use would impact a change in compliance standards with respect to Hazardous Materials Management and Hazardous Waste Disposal. Pertinent impacts include the following:**

-- Major utility easements which include a 24" Eastern Municipal Water line and a 33" sewer main and other improvements which traverse the site, may impact planning.

o **Phase II exploration should be conducted in order to evaluate site conditions in the following areas:**

-- Subsurface exploration of the existing landfill areas in order to determine if contamination exists and if so, to what extent. Based on historical information, it is possible that leaching of contaminants may have occurred through the introduction of ponded water within the open landfill.

-- Subsurface exploration of soils at and around the existing abandoned tank locations (500 gallon gasoline and 10,000 gallon weed oil tanks) to confirm the non-existence of contaminated soils.

-- In the event of any development within the area of the existing underground storage tanks, removal of the tanks should be conducted by a licensed contractor in that specific field and soil sampling should be conducted at that time in order to determine that contamination of the soils has not occurred.

-- Sampling and appropriate laboratory testing of surficial soils near the location of the vehicle wash-down water discharge area in order to confirm that contaminated soils do not exist.

-- Sampling and appropriate laboratory testing of near surface soils of the sewage disposal plots to determine that contamination does not exist due to the introduction of sewage sludge to the soils.

-- Sampling and appropriate laboratory analyses of surficial soils on plot C-8 in order to determine the degradation rate due to the application of prometon and other chemicals. Studies by UCR are currently in progress.

-- Sampling and laboratory analyses for selected parameters of the overall surficial soils throughout the subject site, at selected locations, in order to confirm that there are no contaminants in the soil.

-- Confirmation of PCB containing transformers through proper resources. Sample collection and analyses from soils, only if leaking of suspected PCBs is identified or believed to have occurred.

-- Sampling and testing of water wells for selected parameters in order to confirm that there are no contaminants present in the water.

-- Degradation data regarding the experimental application plots should be obtained and included with the Phase II study. Locations of these research plots and types of research applications should be included on a separate map in the Phase II report.

-- The nature of the hazard represented by the septic systems in terms of health, regulatory and economics should be conducted during the Phase II study.

o **Permitting for demolition and abandonment should include the following:**

-- Perform an asbestos survey of onsite structures and transite pipe and abatement permitting for site demolition.

-- Water well abandonment permits.

-- Septic system removal and abandonment permits.

-- Underground storage tank removal and abandonment permits.

LIMITATION

This Preliminary Site Assessment (PSA) report was prepared in accordance with current standards of technical practice for determining the potential for environmental contamination.

Findings and conclusions with respect to environmental contamination potential are limited as being based on the scope of work performed.

GeoSoils, Inc. cannot be responsible for conditions or consequences arising from relevant facts that were concealed, withheld or not fully disclosed at the time our work was performed. The PSA is not, and should not be construed as, a warranty or guarantee about the presence or absence of environmental contaminants which may affect the subject site. Facts, conditions and acceptable risk factors change with time; accordingly this report should be reviewed within this context.

This PSA report has been prepared for the use of University of California, Riverside (UCR) for this specific project, and should not be used by other parties without the written consent of UCR.

CLOSURE

We sincerely appreciate this opportunity to be of service. If you have any questions pertaining to this report, please contact the undersigned.

Sincerely,

GeoSoils, Inc.

By: Anna M. Scott
Anna M. Scott
Staff Geologist

By: Jack C Lee
Jack C. Lee
Civil Engineer, RCE 40870
Geotechnical Engineer, GE 2153
Environmental Assessor, REA 2703

H D Pouncey
H.D. Pouncey
Registered Geologist, RG 4036
Engineering Geologist, CEG 1258
Environmental Assessor, REA 1647

AMS/JCL/HDP/sc

Encl: Figure 1 - Site Location Map
Figure 2 - Site Plan, Moreno Ranch
Figure 3 - Site Plan, Moreno Ranch Operational Facilities

Appendix A - Records Provided by UCR
Appendix B - Government Records Search, Federal & State
Appendix C - Riverside County Department of Health Records
Appendix D - Eastern Municipal Water District Records
Appendix E - Aerial Photo Reference and Summary
Appendix F - Photographs

Dist: (4) Addressee (with 1 copy unbound)

REFERENCES

1. California Division of Mines and Geology (C.D.M.G.), Special Studies Zone Map, Sunnymead Quadrangle, July 1974.

2. California Division of Mines and Geology (C.D.M.G.), Geologic Map of California, Santa Ana Sheet, 1:250,000, 1966.

3. South Coast Geological Society, Geologic Map of the Perris (15 Minute) Quadrangle, California, 1:62,500, 1942.

4. U.S.G.S. 7½ Minute Sunnymead Quadrangle, California, 1:24,000, 1967 (Photorevised 1980).

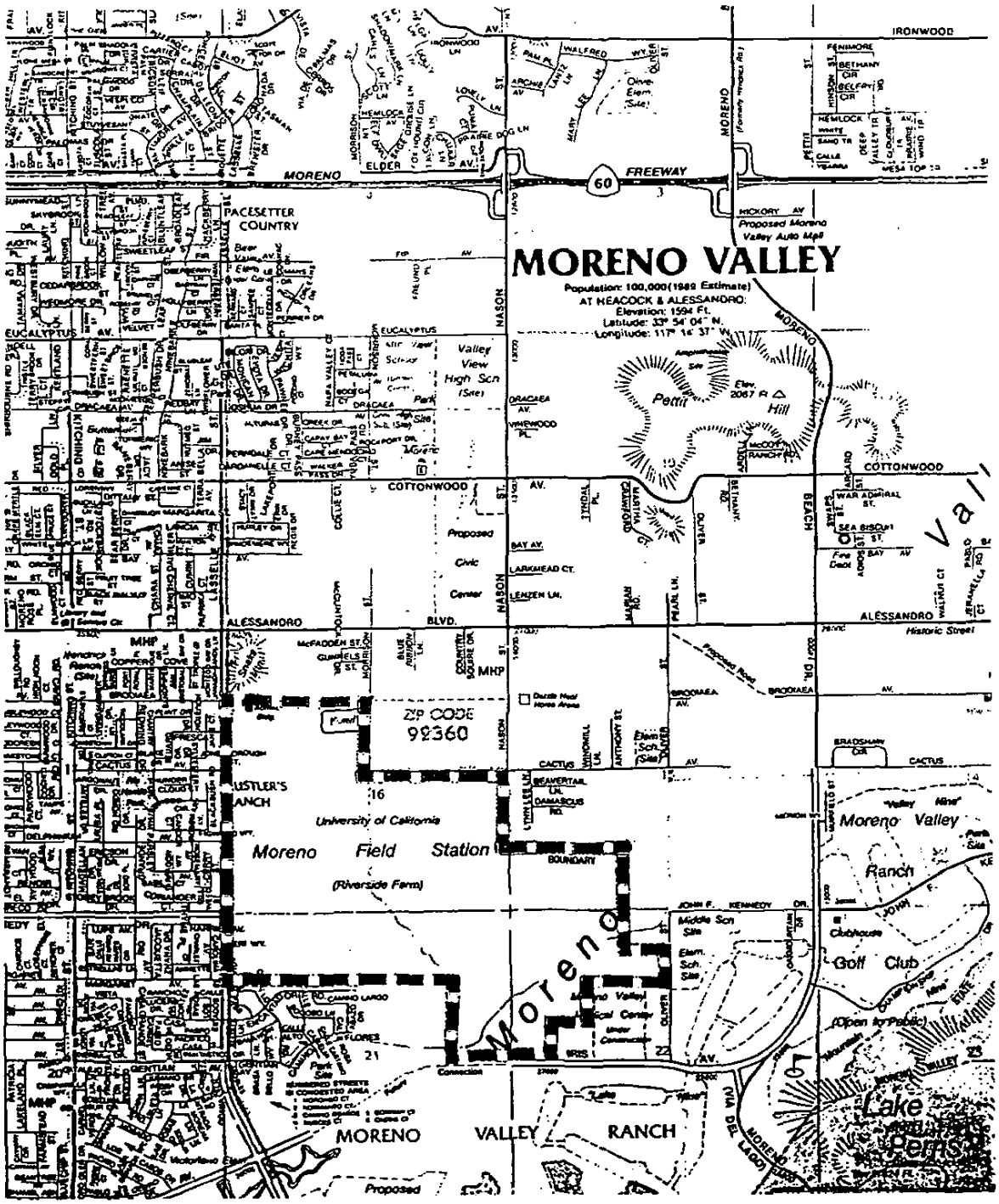
5. Title History by Chicago Title Company, Order No. 535544-08, dated March 30, 1992.

APPENDIX A

RECORDS PROVIDED
BY UCR

EXHIBIT A-1

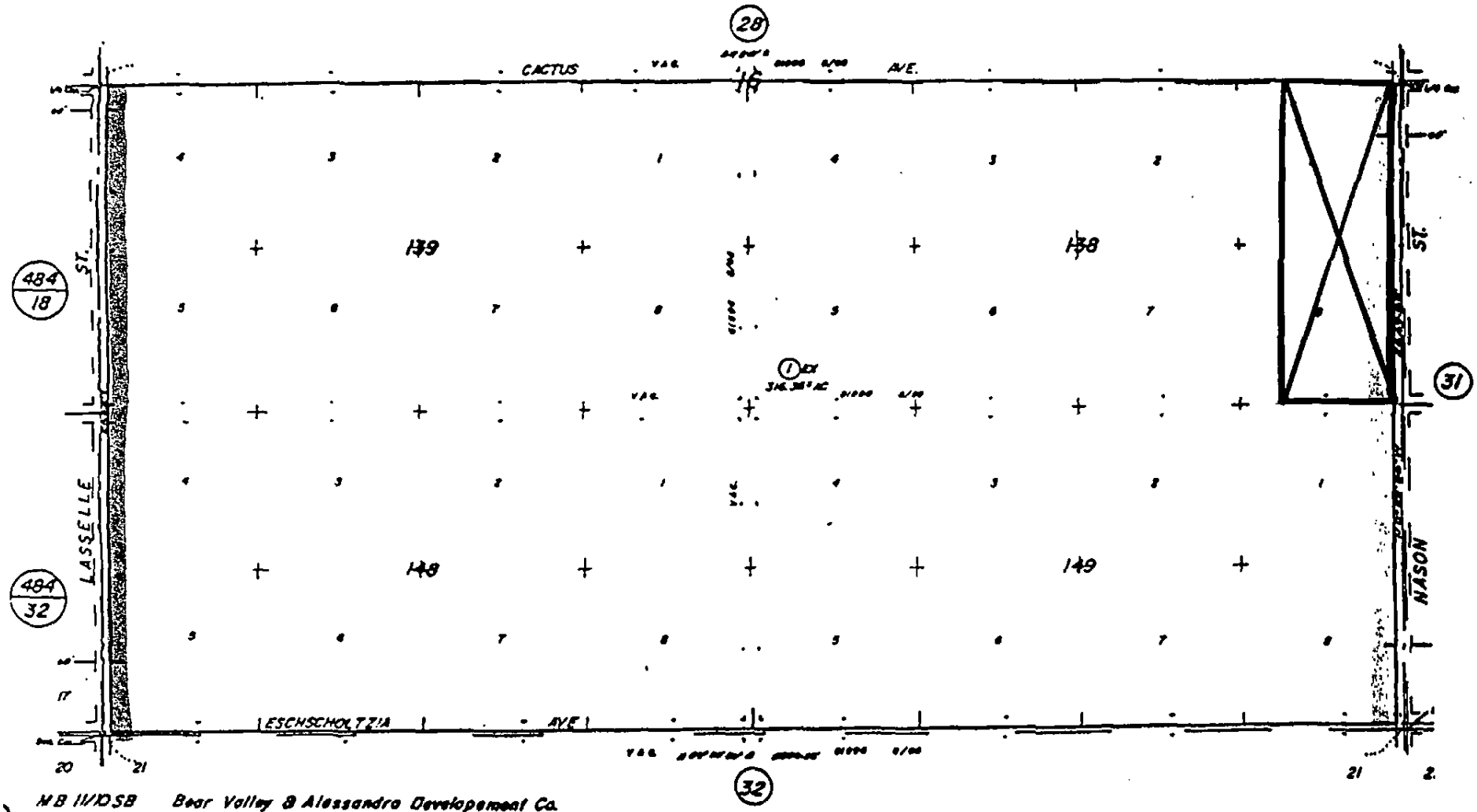
MAP LOCATING MORENO VALLEY FIELD STATION
EXHBIT A-1
TO
PURCHASE AND ESCROW INSTRUCTIONS



S 1/2 SEC. 16, T. 3S., R. 3W.

T.R.A. 021 - 004

483 - 08
486 - 30



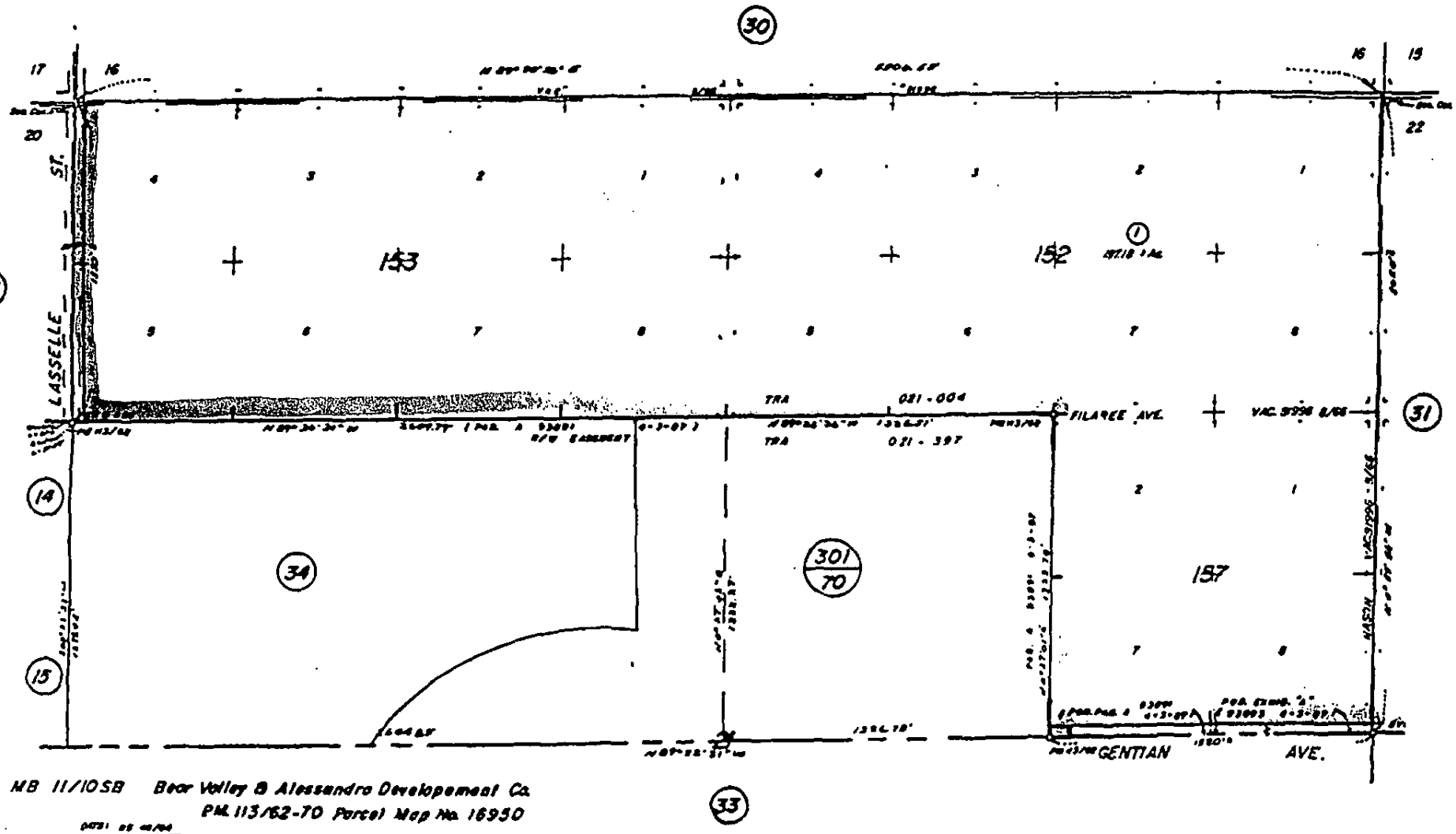
MB 11/10 SB Bear Valley & Alessandro Developement Co.

2

ASSESSOR'S MAP BK. 486 PG. 30
RIVERSIDE COUNTY, CALIF.

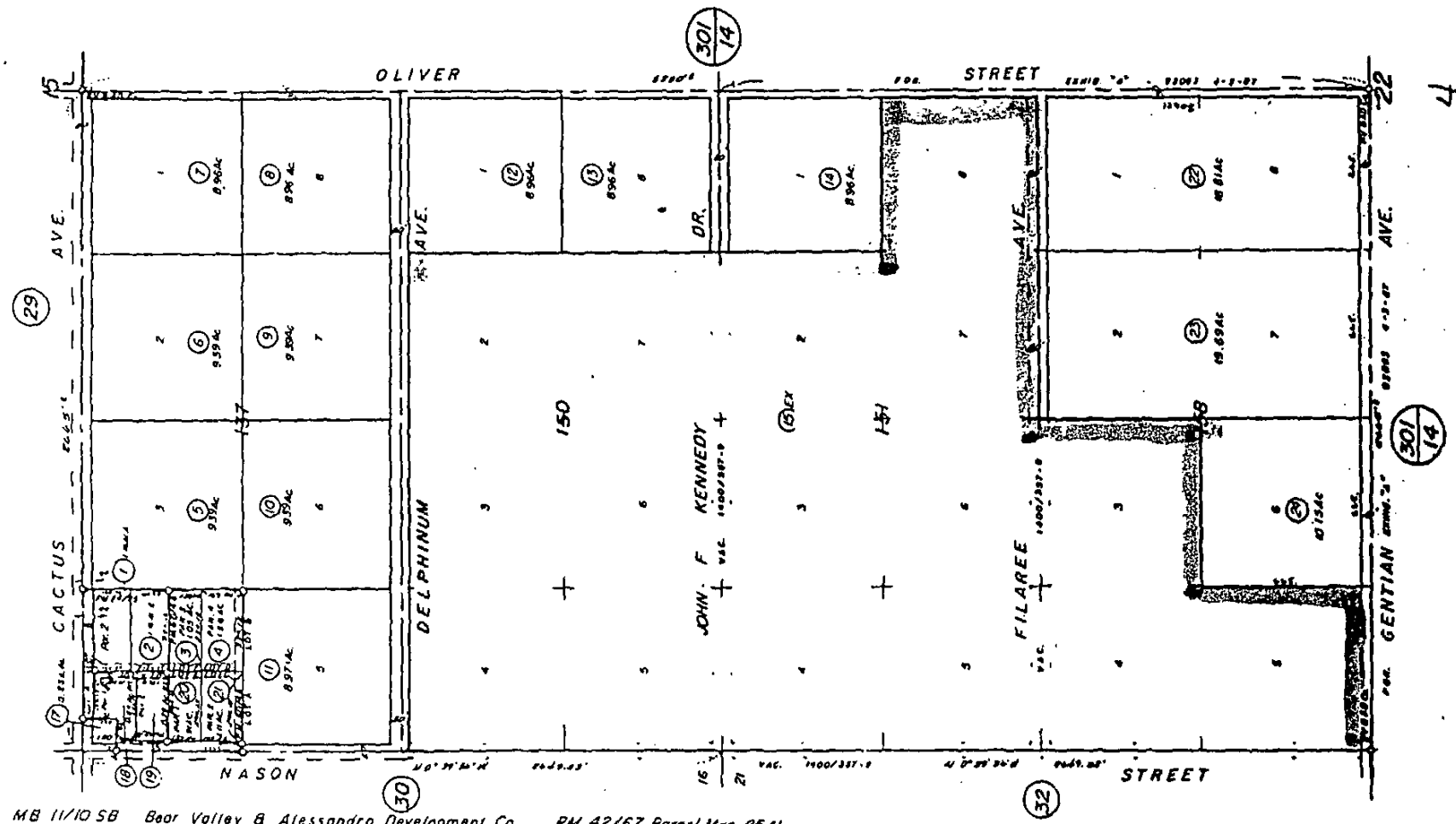
N 1/2 SEC. 21, T. 3S., R. 3W.

T.R.A. 021 - 004
021 - 397



MB 11/10 SB Bear Valley & Alessandro Developement Co.
PM. 113/62-70 Parcel Map No. 16950

NW 1/4 SEC. 22, " "



MB 11/10 SB Bear Valley & Alessandro Development Co.
P.M. 24/95 Parcel Map 7349

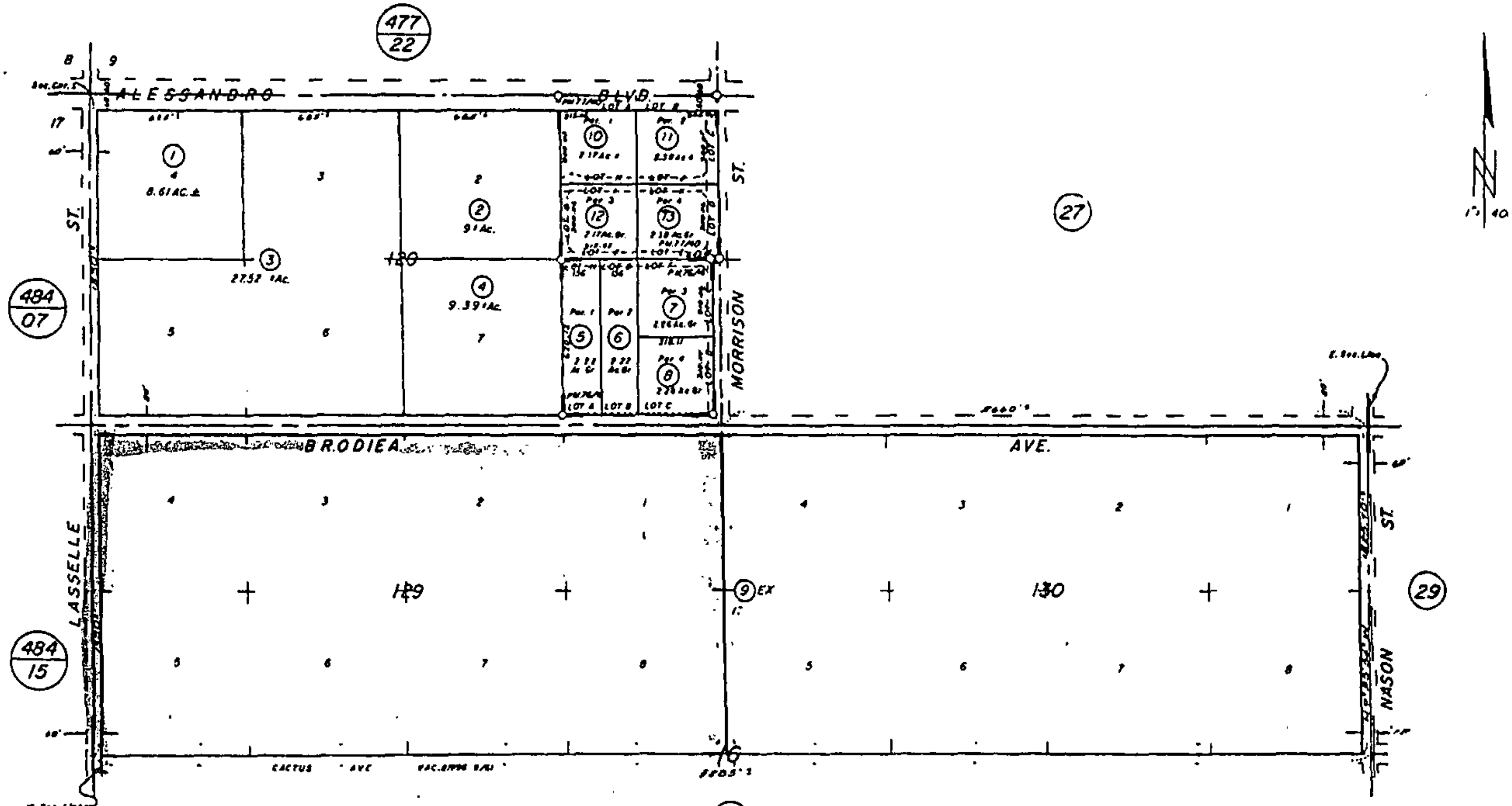
P.M. 42/67 Parcel Map 8541
P.M. 60/46 Parcel Map 11784

ASSESSOR'S MAP BK 486 PG 31
RIVERSIDE COUNTY, CALIF

T.R.A. 021 - 004

486 - 28

POR. N 1/2 SEC. 16, T. 3S., R. 3W.



MB 11/10SB Bear Valley & Alessandro Developement Co.

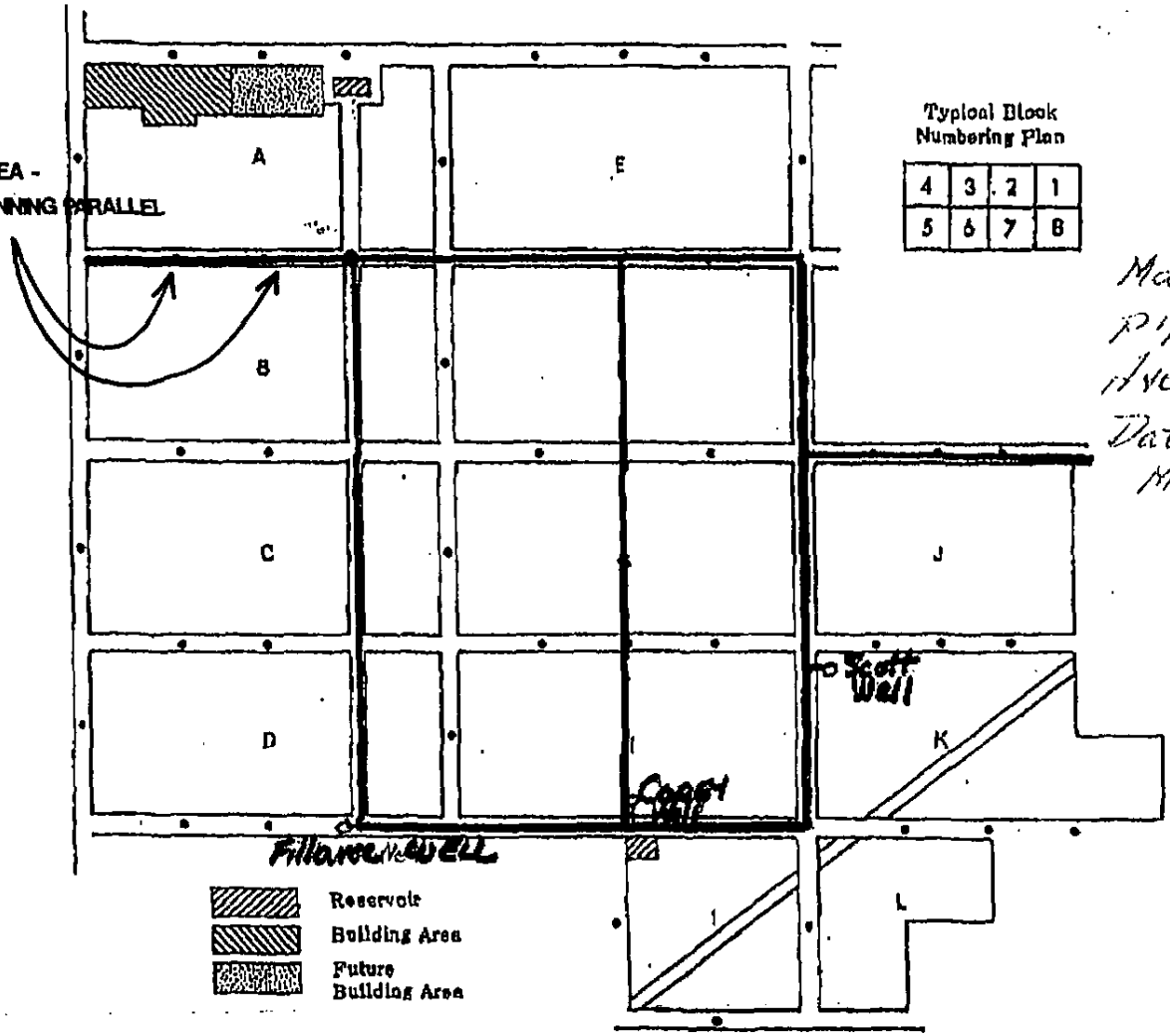
P.M. 76/16 Parcel Map 12663
P.M. 77/40 " " 121--

ASSESSOR'S MAP BK. 486 PG. 28
RIVERSIDE COUNTY , CALIF.

5

MORENO RANCH

TWO TRANSITE LINES IN THIS AREA - ONE ON EACH SIDE OF ROAD, RUNNING PARALLEL



Typical Block Numbering Plan

4	3	2	1
5	6	7	8

Map showing A.C.P. pipe installation. Average Cover 3' Date of installation - Mid 60's to Mid 70's

5a

Pesticide Inventory AG OPS

MORENO CHEMICAL	$/UNIT	TOTAL VALUE	9/1/90 UNITS	4/1/90 UNITS
AVENGE 5GL	$49.00	$98.00	2	2
BANVEL GL	$20.00	$40.00	2	2
BROMINAL 5GL	$50.00	$50.00	1	1
BUCTRIL 2.5 GL	$100.00	$100.00	1	1
DACTHAL W75 24#	$110.00	$110.00	1	1
DACTHAL W75 4#	$9.00	$216.00	24	24
DIAZINON 14G 50#	$68.42	$68.42	1	
DIAZINON 5G 50#	$25.00	$25.00	1	1
DIMETHOATE 267 5GL	$68.25	$68.25	1	1
DIPHACENONE RODENT 25#	$50.00	$50.00	1	
DIQUAT GL	$54.51	$218.04	4	4
EPTAM 5GL	$99.95	$99.95	1	1
GOAL GL	$62.40	$124.80	2	4
GOPHER GASSER CART. 3OZ	$3.00	$180.00	60	200
HINDER DEER & RABBIT GL	$10.00	$10.00	1	1
HYVAR 80W 4#	$15.00	$30.00	2	2
HYVAR XL GL	$37.20	$74.40	2	2
KARMEX 80W 4#	$12.60	$176.40	14	14
MALATHION-CYTHION 8E 2.5GL	$50.00	$50.00	1	
NARROW RNG OIL #415 30GL	$60.00	$60.00	1	
NO FOAM ANTI FOAM QT	$6.50	$6.50	1	2
NO FOAM ANTI FOAM GL	$25.00	$75.00	3	3
PRAMITOL 25E 5GL W/ OA	$75.00	$150.00	2	
PRINCEP 80W 10#	$20.80	$104.00	5	5
PRINCEP CALIBER 90 10#	$29.00	$116.00	4	4
PROWL 5GL	$200.00	$200.00	1	1
ROUNDUP GL	$65.00	$1,950.00	30	30
SEVIN 80S 10#	$28.00	$28.00	1	1
SEVIN BAIT-SOIL SERV 50#	$50.00	$150.00	3	
SIMAZINE 80W 5#	$20.00	$20.00	1	
SNAIL & SLUG BAIT 50#	$45.00	$45.00	1	1
SOK BT QT	$5.00	$15.00	3	4
SURFLAN AS 2.5GL	$150.00	$450.00	3	
TARGET PRO SPREADER GL	$10.32	$381.84	37	5
TEMIK 15G 30#	$90.00	$720.00	8	4
TREFLAN 5 2.5 GL	$34.47	$34.47	1	1
WEEDONE LV-4 2.5 GL	$27.00	$54.00	2	2
WEEDONE LV-6 2.5 GL	$35.00	$35.00	1	2
WILCO GOPHER BAIT STRYCH-50#	$75.00	$75.00	1	
		$6,459.07		

FERTILIZERS:

AMMONIUM NITRATE 34-0-0 80#	$8.00	$16.00	2	
CALCIUM NITRATE 15.5% 80#	$6.00	$60.00	10	
OSMOCOTE 14-14-14 50#	$25.00	$25.00	1	
UREA 46-0-0 80#	$6.00	$804.00	134	
		$905.00		

UNIVERSITY OF CALIFORNIA, RIVERSIDE

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ

ENVIRONMENTAL HEALTH AND SAFETY
RIVERSIDE, CALIFORNIA 92521

March 19, 1992

Mr. H. D. Pouncey
GeoSoils, Inc.
1446 East Chestnut Avenue
Santa Ana, CA 92701

Re: MVARS Site Assessment

Dear Skip:

Enclosed are copies of the analytical results from the water samples taken from the Coray and Scott wells. A somewhat more aggressive sampling suite was performed on the Scott well due to its close proximity to the open disposal trench. Also enclosed is a copy of the leak testing done on the 1000g gasoline tank and the 4000g diesel tank.

A record of chemical use for each block, and other chemical use (for weed control) in other areas for the ten year period between 1980 and 1990 is also enclosed. The rest of the information, application rates and analytical work, will also be of use to you.

Please call me at (714) 787-6311 if you need any addition information from my files.

Sincerely,

Lynn Beckmann
Environmental Remediation Coordinator

Encl.

LB:cp
DD/02

886 N. FARMERSVILLE BLVD.
P.O. BOX 205
FARMERSVILLE, CA 93223-0205
(209) 747-3210

SAN-WAN ENVIRONMENTAL CO.

AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

1 TANK OPERATOR

NAME / ADDRESS / PHONE

U.C. Riverside
A6 Operations
Riverside, 92507

2 TANKS TO BE TESTED

IDENTIFICATION	CAPACITY—GALS.	MANUFACTURER	STEEL/FIBRGLS.	A
U-CRA-12	1000	UNL.	Steel	—
U-CRA-11	4000	Diesel	Steel	—

3 WATER TABLE

DISTANCE FROM GRADE TO WATER — INS.

4 TANK FILL-UP

TANK WILL BE FILLED P.M. (TIME) ON 6/28/91
EXTRA 5 GALS PRODUCT AVAILABLE FROM San-Wan
FILL UP TO BE ARRANGED BY MR. PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )

5 OUTSIDE CONTRACTORS

NAME / ADDRESS / PHONE

None

6 OFFICIALS TO BE CONTACTED

NAME / AUTHORITY / PHONE

County

7 SPECIAL NOTES OR PRECAUTIONS

8 TEST RESULTS

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE P ASSOCIATION BULLETIN. N.F.P.A. 329.

TANK IDENT	TANK IS TIGHT	TANK IS NOT TIGHT	LEAK RATE G. P. H.	TE
U-CRA-12	✓		.032 —	7-2
U-CRA-11	✓		.013 —	7-2

9 CERTIFICATION

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KN

SIGNED St Young — CERTIFICATE NO. STEVE YOUNG
ISSUED BY LIC #90-1291
FOR (TEST COMPANY)
ADDRESS
STATE 8 ZIP

5 (REV. 2/87)

AINLAY TANK TIGHTNESS TEST No. 12

0 TANK I.D. — INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 47 INS FILL PIPE LENGTH 62 INS

1 WATER IN TANK

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

2 PRODUCT VOLUME

(a) NOMINAL CAPACITY 1000 GALS (c) DEDUCT WATER IN TANK 0 GALS

(b) ACTUAL CAPACITY 1000 GALS (d) TOTAL PRODUCT VOL 1000 GALS

(FROM TANK CHART)

13 FILL PIPE EXTENSION

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = 0.26 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\times 0.036}{}$ = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

14 PRELIM TEST DATA

(a) START TEMP CHECK 0845 AM/PM (d) A.P.I. GRAVITY 59.8 AT 77 °F

(b) END TEMP CHECK 0900 AM/PM (e) A.P.I. GRAVITY 57.7 AT 60 °F

(c) TIME SINCE LAST LIQ. ADDED 24+ HRS (f) COEFF. OF EXPANSION .00059727

15 TEST DATA

(a) START TEST 0900 AM/PM: END TEST 1100 AM/PM: TEST TIME 120 MINS.

TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.	TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.
0900				.515					
0910				.517					
0920				.517					
0930				.517					
0940				.518					
0950				.518					
1000				.518					
1010				.519					
1020				.520					
1030				.520					
1040				.520					
1050				.522					
1100				.523					

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = .515 − .523 = +/− .008 °F.

(c) VOL CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 1000 (12d) × .008 (15b) × .00059727 (14f) = +/− .0047 GALS.

(d) TOTAL LIQUID VOL ADDED/SUBTRACTED AT END OF TEST ..... = +/− 0 GALS.

(e) VOL CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = .0047 + 0 = +/− .0047 GALS.

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{.0047 \times 60}{120}$ (15a) = .002 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☑ / THE TANK IS NOT TIGHT ☐

9

JOB ADDRESS

DATE / /

TESTER

TEST COMPANY

AINLAY TANK TIGHTNESS TEST No. 11

TESTER _____ TEST COMPANY _____

DATE 1 / 1

JOB _____ ADDRESS _____

16 TANK I.D. — *INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)*

TANK DIAMETER 75 INS FILL PIPE LENGTH 44 INS

17 WATER IN TANK

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

18 PRODUCT VOLUME

(a) NOMINAL CAPACITY 4000 GALS (c) DEDUCT WATER IN TANK 0 GALS

(b) ACTUAL CAPACITY 4000 GALS (d) TOTAL PRODUCT VOL. 4000 GALS

(FROM TANK CHART)

19 FILL PIPE EXTENSION

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = 031 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\quad \times 0.036}{\quad}$ = 0

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

20 PRELIM TEST DATA

(a) START TEMP CHECK 0845 AM/PM (d) A.P.I. GRAVITY 36.2 AT 79 °F

(b) END TEMP CHECK 0900 AM/PM (e) A.P.I. GRAVITY 34.8 AT 60°F

(c) TIME SINCE LAST LIQ. ADDED 24+ HRS (f) COEFF. OF EXPANSION .00045760

21 TEST DATA

(a) START TEST 0900 AM/PM: END TEST 1100 AM/PM: TEST TIME 120 MINS.

TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.	TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.
0900				.107					
0910				.107					
0920				.107					
0930				.107					
0940				.108					
0950				.108					
1000				.108					
1010				.107					
1020				.108					
1030				.109					
1040				.109					
1050				.110					
1100				.110					

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = .107 − .110 = +/−.003

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 4000 (18d) × .003 (21b) × .00045760 (20f) = +/−.0054 GA

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +/−.02 GA

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = .0054 + .02 = +/−.0254 GA

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{.0254 \times 60}{120}$ (21a) = .013 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

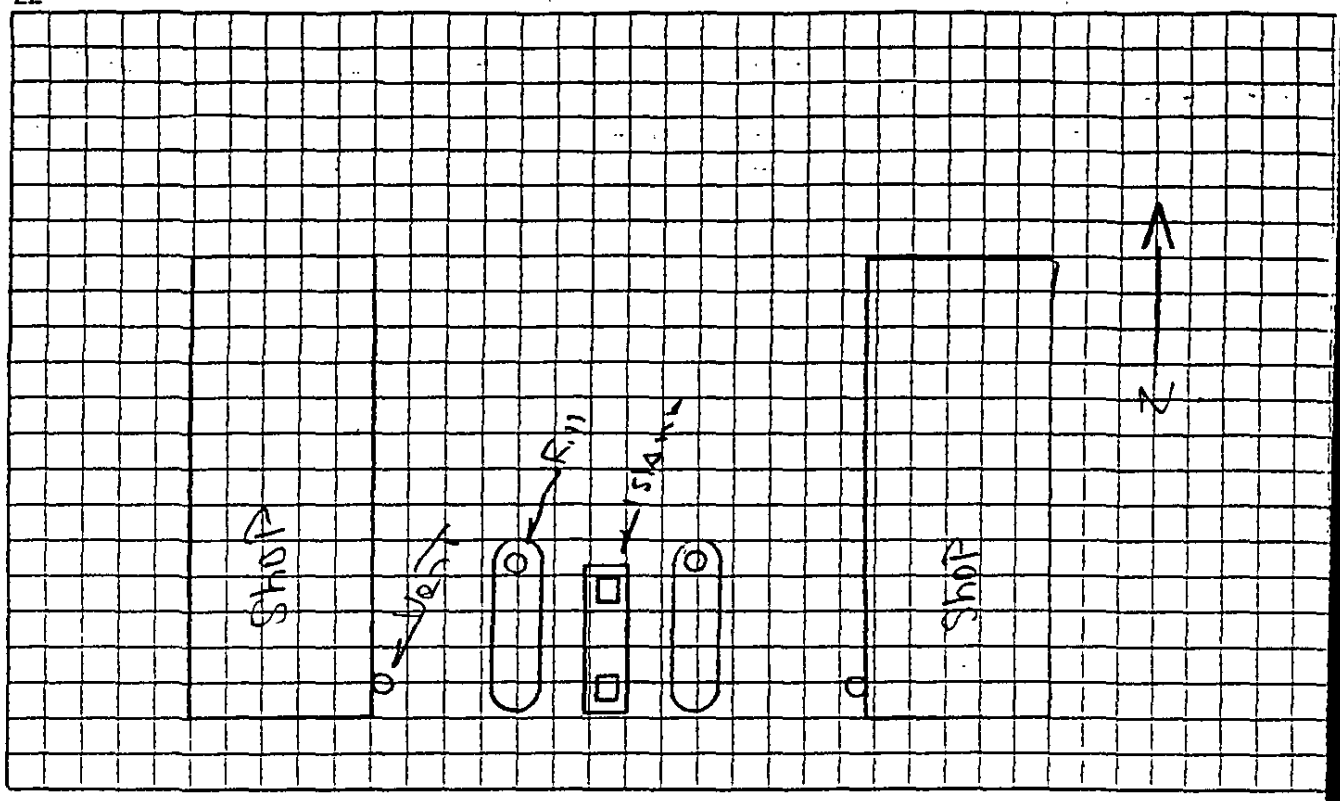
THE TANK IS TIGHT ☑ / THE TANK IS NOT TIGHT ☐

10

TEST SITE LAYOUT

22

TESTER
TEST COMPANY

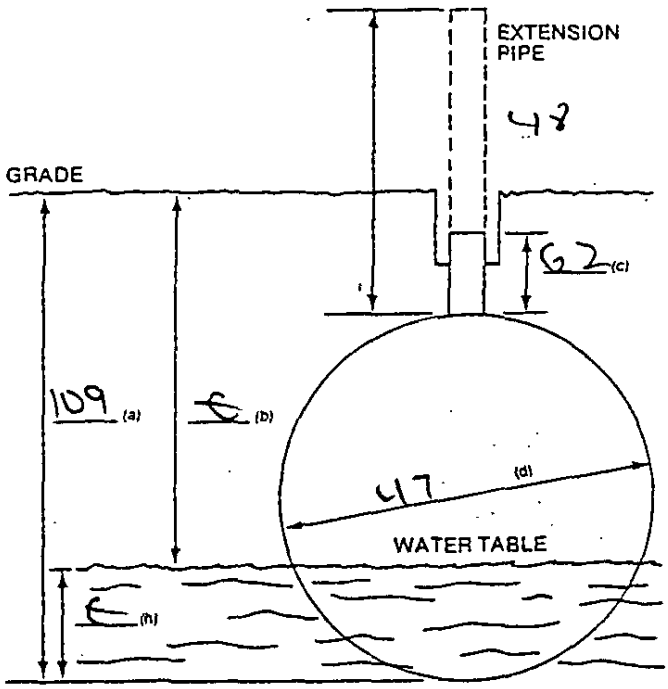


23

DATE / /

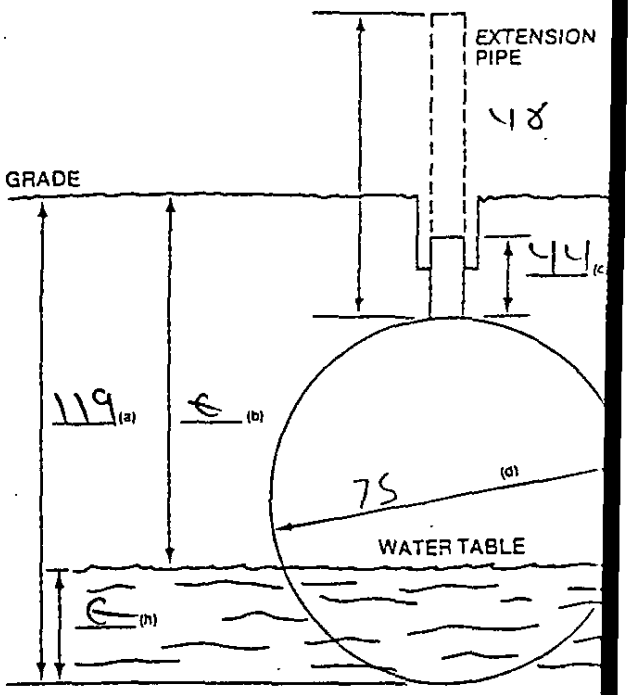
JOB ADDRESS

TEST 1: TANK DIMENSIONS

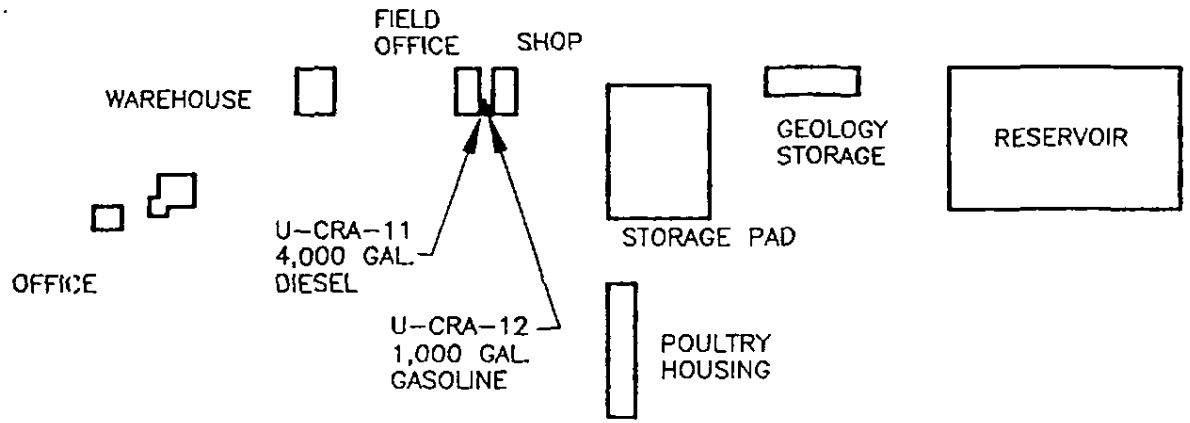


TANK IDENT. 12

TEST 2: TANK DIMENSIONS



TANK IDENT. 11 11



MORENO RANCH

SCALE: 1" = 200'

CHEMICAL USE AT MORENO
1980-90

Block	Year	Chemical		
A				
	1990	Surflan Simazine	Sevin Roundup	Dimethoate Goal
	1989	Dimethoate		
	1988	Diquat	Goal	Roundup
	1987	Roundup		
	1986	Diquat	Weed oil	
	1985	2,4-D		
	1984	Simazine		
	1983	Diquat		
	1982	Roundup	Devrinol	Weed Oil
	1981	Roundup		
	1980	Simazine	Karmex	
B				
	1990	Roundup Buctril	Dimethoate Goal	Surflan
	1989			
	1988	Treflan	Roundup	
	1987	Roundup	Diquat	
	1986	Weed oil		
	1985	Alanap	Prefar	
	1984	2,4-D		
	1983	2,4-D	Modown	
	1982	Roundup		
	1981	Eptam		
	1980	Eptam 2,4-D	Temik Roundup	Buctril

Block	Year	Chemical		
C				
	1990	Roundup Goal	Diazinon	Surflan
	1989	Diquat	Fargo	Modown
	1988	Diquat	Goal	2,4-D
	1987	Roundup Pramitol Diquat	Treflan Modown Goal	Fargo Devrinol Caparol
	1986	Weed oil	Roundup	Banvel
	1985			
	1986	2,4-D		
	1983			
	1982	Roundup	Cygon	
	1981	Modwon 80W		
	1980	Modown 80W		
D				
	1990	Roundup 2,4-D	Goal	Surflan
	1989			
	1988	Diquat	Goal	Roundup
	1987	Diquat	Goal	Roundup
	1986	Weed oil	Atrazine	
	1985	Diquat		
	1984	Diquat	Goal	
	1983	Roundup	Diquat	
	1982	Roundup		

Block	Year	Chemical		
E				
	1990	Diazinon Sevin	Malathion	BT
	1989	2,4-D		
	1988	2,4-D		
	1987	Diquat	Goal	Roundup
	1986	Weed oil	Roundup	
	1985	2,4-D	Roundup	
	1984	2,4-D		
	1983	Roundup		
	1982	Roundup	2,4-D	Avenge
	1981	Roundup	Avenge	2,4-D
	1980	Buctril	Roundup	Karmex
F				
	1990	Roundup	2,4-D	
	1989			
	1988			
	1987	Diquat	Goal	Roundup
	1986	Weed Oil Roundup	Diquat	Goal
	1985	Roundup		
	1984			
	1983			
	1982	Sevin	2,4-D	Avenge
	1981			
	1980	Imidan		

Block	Year	Chemical		
G				
	1990	Roundup 2,4-D Prometryn	Lindane Prometon Potassium Bromide	Atrazine Triallate
	1989			
	1988	Roundup	Banvel	
	1987	Diquat	Goal	Roundup
	1986	Weed oil Roundup	Diquat	Goal
	1985	Dacthal Kerb	2,4-DB Rhobedium Chloride	Eptam
	1984			
	1983			
	1982			
H				
	1990	Roundup Sevin	BT Diazinon	2,4-D Malathion
	1989	2,4-D	Diquat	Goal
	1988	2,4-D	Diquat	Goal
	1987	Roundup		
	1986	Weed Oil Roundup	Diquat	Goal
	1985	Roundup	2,4-D	Banvel
	1984	2,4-D	Dacthal	
	1983	Roundup		
	1982	Roundup		
	1981	Avenge	2,4-D	Roundup
	1980	Roundup Buctril	Karmex	Imidan

Block	Year	Chemical		
I				
	1990	Roundup	2,4-D	
	1989			
	1988			
	1987	Diquat		
	1986	Weed oil Roundup	Diquat	Goal
	1985			
	1984			
	1983			
	1982			
J				
	1990	Roundup Simazine	Goal 2,4-D	Surflan
	1989	Aliette 80W	Pentac	
	1988	2,4-D	Roundup	Dimethoate
	1987	Diquat	Goal	Devrinol
	1986	Diquat Roundup	Goal	Devrinol
	1985	Roundup		
	1984	Karmex	2,4-D	
	1983	Cygon Treflan	Roundup Paraquat	Diquat
	1982	Cygon	Devrinol	Roundup
	1981	Treflan		
	1980	Karmex		

Block	Year	Chemical	
K			
	1990	Roundup	2,4-D
	1989		
	1988	Roundup	Treflan
	1987	Cygon	
	1986	Diquat Goal	Roundup
	1985		
	1984	Treflan	
	1983		
	1982		
L			
	1990		
	1989		
	1988		
	1987	Roundup	
	1986	Diquat	Goal
	1985		
	1984		
	1983		
	1982		

Block	Year	Chemical		
Head/Drain lines, Reservoirs, Roadways, Ditches				
	1990	Roundup	Diphacinone	Chlorphacenone
	1989			
	1988	Diquat	Goal	
	1987	Diquat	Goal	Roundup
	1986	Diquat	Goal	
	1985	Diquat Roundup	Goal Krovar	2,4-D
	1984	Krovar Diquat	2,4-D Roundup	Goal
	1983	Roundup Diquat	Weed oil Goal	Krovar
	1982	Krovar	Roundup	
	1981	Phytar Krovar	Roundup	Karmex
	1980	Karmex	Roundup	

PESTICIDES APPLIED TO MORENO C/8 BLOCK

1987 **South half of field**

Applied in sprinkler irrigation water.

		lb/A	kg/ha
(Pramitol)	Prometon	10	11.2
(Devrinol)	Napropamide	2	2.24
(Caparol)	Prometryne	12	13.44
(Far-Go)	Triallate	4	4.5

1988 **North half of field**

Applied with sprayer and disked-in to about 6 inches.

	lb/A	kg/ha
Prometon	9.73	11.1
Atrazine	11.67	13.3
Trifluralin	2.43	2.77
Lindane	0.65	0.74

1989 **North half of field**

Applied in small circle with 100 ft. radius. Sprayed on surface (not incorporated).

	lb/A	kg/ha
Triallate	10.25	11.5

We are also studying long-term persistence of these chemicals and ways to hasten their dissipation from soil. We can sample them periodically to determine changes.

Moreno C-8

Soil samples taken from 0-6" depth
January 7, 1991

top 6"

	Concentration, ppm	
	S 1/2	N 1/2
	2.5-30 LBS/Acre	
Prometon	1.42	1.54
Napropamide	N.D.	N.D.
Prometryne	0.97	N.D.
Triallate	tr (<0.01)	N.D.
Atrazine	tr (<0.02)	0.16
Trifluralin	N.D.	N.D
Lindane	tr (<0.01)	0.08

LD50?

2m Lbs soil /Acre
Roughly double ppm to LBS-

N.D. = Non-detectable

could still kill sensitive plants
Geisy says degraded by microbes & organics — could disipate in 1yr.
very non toxic to people / mammals-

Wheat crop failed there

JUN 22 1989

ORT OF WATER ANALYSIS
R DIAGNOSTIC LABORATORY

UNIVERSITY OF CALIFORNIA
COOPERATIVE EXTENSION

DB ✓
ET ✓
ZW

/Spec Proj: SPD: AG OPS
nitted By : S. COCKERHAM
e Sampled : 3/15/1989 & 3/29/1989
les To :
ntification: MORENO RANCH & AG OPS

Lab Number : R-89-W-82
# of Samples : 6
Date Received : 03/29/1989
Date Reported : 06/21/1989

Crop: NOT LISTED

#	Description			pH	EC	Ca	Mg	Na	HCO_3	Cl	B	SAR	NO_3-N
					millimhos/cm	me/l	me/l	me/l	me/l	me/l	ppm		ppm
1	MORENO SALAGE	3/15/89	Salinas Hub	7.4	0.54	1.3	1.3	2.1	1.6	2.10	0.71	1.7	3.0
2	SCOTT	3/15/89		7.8	0.96	2.2	0.5	4.6	2.3	4.70	1.20	4.0	5.6
3	CORY	3/15/89		7.3	1.30	3.7	1.5	5.2	2.0	8.60	1.00	3.3	4.8
4	FILAREE	3/15/89		7.6	1.20	2.9	1.2	5.4	1.7	6.90	1.40	3.6	0.2
5	SALVAGE	3/29/89	CRC-AES } UCR campus	7.5	0.71	3.5	1.3	1.7	3.6	0.71	0.14	1.3	7.7
6	GAGE CANAL	3/29/89	CRC-AES } UCR campus	7.7	0.72	3.6	1.3	1.7	3.8	0.71	<0.10	1.3	7.4

ecked and approved:

JRamadan

CDLB0988a R

fy us within 30 days if you wish to retain your samples.

Filavee is closest to subject.

22

CORAY WELL

NET Pacific, Inc.

Client Acct: 228.2
Client Name: Engineering Science
NET Log No: 7655w

Date: 06-07-91
Page: 47

Ref: UC Riverside, Project: PE 291.03

SAMPLE DESCRIPTION: MV-C 05-21-91 1300-1308
LAB Job No: (-85952)

Parameter	Method	Reporting Limit	Results	Units
Total organic halogens	9020	10	ND	mgCl-/L
METHOD 615			--	
DATE EXTRACTED			05-24-91	
DATE ANALYZED			05-29-91	
DILUTION FACTOR *			1	
2,4-D		1.0	ND	ug/L
2,4-DB		1.0	ND	ug/L
2,4,5-T		1.0	ND	ug/L
2,4,5-TP		1.0	ND	ug/L
Dalapon		5.0	ND	ug/L
Dicamba		1.0	ND	ug/L
Dichloroprop		1.0	ND	ug/L
Dinoseb		1.0	ND	ug/L
MCPA		250	ND	ug/L
MCPP		250	ND	ug/L
METHOD 614				
DATE EXTRACTED			05-23-91	
DATE ANALYZED			06-05-91	
DILUTION FACTOR *			1	
Azinphos methyl		0.07	ND	ug/L
Chlorpyrifos		0.03	ND	ug/L
Coumaphos		0.05	ND	ug/L
Diazinon		0.3	ND	ug/L
Dichlorvos		0.2	ND	ug/L
Disulfoton		0.15	ND	ug/L
Fensulfothion		0.2	ND	ug/L
Ethoprop		0.2	ND	ug/L
Merphos		0.1	ND	ug/L
Mevinphos		0.1	ND	ug/L
Naled		0.2	ND	ug/L
Methyl Parathion		0.05	ND	ug/L
Trichloronate		0.1	ND	ug/L
Phorate		0.2	ND	ug/L
Ronnel		0.2	ND	mg/L
Tetrachlorovinphos		0.02	ND	ug/L
Tokuthion		1.0	ND	ug/L

Ref: UC Riverside, Project: PE 291.03

SAMPLE DESCRIPTION: MV-C 05-21-91 1300-1308
LAB Job No: (-85952)

Parameter	Method	Reporting Limit	Results	Units
METHOD 608				
DATE EXTRACTED			05-23-91	
DATE ANALYZED			06-05-91	
DILUTION FACTOR *			1	
Aldrin		0.02	ND	ug/L
alpha-BHC		0.005	ND	ug/L
beta-BHC		0.005	ND	ug/L
delta-BHC		0.005	ND	ug/L
gamma-BHC (Lindane)		0.02	ND	ug/L
Chlordane		0.4	ND	ug/L
4,4'-DDD		0.05	ND	ug/L
4,4'-DDE		0.05	ND	ug/L
4,4'-DDT		0.05	ND	ug/L
Dieldrin		0.05	ND	ug/L
Endosulfan I		0.05	ND	ug/L
Endosulfan II		0.05	ND	ug/L
Endosulfan sulfate		0.05	ND	ug/L
Endrin		0.05	ND	ug/L
Endrin aldehyde		0.05	ND	ug/L
Heptachlor		0.05	ND	ug/L
Heptachlor epoxide		0.05	ND	ug/L
Methoxychlor		0.08	ND	ug/L
Toxaphene		1.0	ND	ug/L
POLYCHLORINATED BIPHENYLS			--	
Aroclor 1016		2.0	ND	ug/L
Aroclor 1221		8.0	ND	ug/L
Aroclor 1232		3.0	ND	ug/L
Aroclor 1242		2.0	ND	ug/L
Aroclor 1248		2.0	ND	ug/L
Aroclor 1254		0.5	ND	ug/L
Aroclor 1260		0.5	ND	ug/L

CHAIN OF CUSTODY RECORD

7655

PROJECT NO.	PROJECT NAME
RE 291.03	UC Riverside

SAMPLERS (Signatures)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	608	617	615	9020			REMARKS
	5-21-91	13:00		✓	MV-C	1	✓						Standard turn around time.
	5-21-91	13:04		✓	MV-C	1		✓					
	5-21-91	13:06		✓	MV-C	1			✓				
	5-21-91	13:08		✓	MV-C	1				✓			
													1 x 1L amber glass used broken 4-5/22
													run all tests pass off a small portion from one of the 1L ambers for TOX per KK to NP 5/22/91 1C

RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)
	5-21-91 1505			
Daniel Burns	5/21/91 16:21			
(Fed Ex)		RECEIVED FOR LAB: (SIGNATURE)	DATE 5/22/91 TIME 1000	REMARKS Send Results to: Lynn Beckmann; UCR-TEH #5; 900 University Ave; Riverside, CA; 92521; 714-787-6311

ENGINEERING-SCIENCE, INC. 031.0021/YO

25

SCOTT WELL

NET Pacific, Inc

Client Name: Engineering Science
Client Ref.: PE291.10 / U.C. Riverside

NET Job No.: 4802B
Lab Series : client:74.5

Date Reported: 08-14-91
Date Received: 07-18-91 1800
~~Date Taken: 07-18-91~~

Matrix : water

Sample ID : MV-S
Lab No. : 28732

ANALYTES/METHOD		RESULTS	R.L.	UNITS
17 CAM Metals, Total				
Antimony	200.7	ND	0.05	mg/L
Arsenic	206.3	ND	0.003	mg/L
Barium	200.7	0.11	0.05	mg/L
Beryllium	200.7	ND	0.02	mg/L
Cadmium	213.1	ND	0.01	mg/L
Chromium	200.7	ND	0.01	mg/L
Cobalt	219.1	ND	0.05	mg/L
Copper	220.1	ND	0.02	mg/L
Lead	239.1	ND	0.05	mg/L
Mercury	245.1	ND	0.0005	mg/L
Molybdenum	200.7	ND	0.05	mg/L
Nickel	249.1	ND	0.03	mg/L
Selenium	270.3	ND	0.01	mg/L
Silver	272.1	ND	0.02	mg/L
Thallium	200.7	ND	0.04	mg/L
Vanadium	200.7	ND	0.5	mg/L
Zinc	289.1	ND	0.02	mg/L
Tot.Org.Halides(TOX)	9020	0.43	0.05	mg/L

ND - Not Detected at the Reporting Limit

NET Pacific, Inc

Client Name: Engineering Science
Client Ref.: PE291.10 / U.C. Riverside

NET Job No.: 4802B
Lab Series : client:74.5

Date Reported: 08-14-91
Date Received: 07-18-91 1800
Date Taken: 07-18-91

Matrix : water

Sample ID : MV-5
Lab No. : 28732

ANALYTES/METHOD	RESULTS	R.L.	UNITS
METHOD 8010			
Date Analyzed	07-23-91		
Reporting Limit Multiplier	1		
HALOGENATED VOLATILES	--		
Bromodichloromethane	ND	0.5	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Carbon tetrachloride	ND	0.5	ug/L
Chlorobenzene	ND	0.5	ug/L
Chloroethane	ND	1.0	ug/L
2-Chloroethylvinyl ether	ND	1.0	ug/L
Chloroform	ND	0.5	ug/L
Chloromethane	ND	1.0	ug/L
Dibromochloromethane	ND	0.5	ug/L
1,2-Dichlorobenzene	ND	0.5	ug/L
1,3-Dichlorobenzene	ND	0.5	ug/L
1,4-Dichlorobenzene	ND	0.5	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
1,1-Dichloroethane	ND	0.5	ug/L
1,2-Dichloroethane	ND	0.5	ug/L
1,1-Dichloroethene	ND	0.5	ug/L
trans-1,2-Dichloroethene	ND	0.5	ug/L
1,2-Dichloropropane	ND	0.5	ug/L
cis-1,3-Dichloropropene	ND	0.5	ug/L
trans-1,3-Dichloropropene	ND	0.5	ug/L
Methylene chloride	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L
Tetrachloroethene	ND	0.5	ug/L
1,1,1-Trichloroethane	ND	0.5	ug/L
1,1,2-Trichloroethane	ND	0.5	ug/L
Trichloroethene	ND	0.5	ug/L
Trichlorofluoromethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Surrogate Spike	--		
2-Chlorotoluene	88		%Rec

ND - Not Detected at the Reporting Limit

NET Pacific, Inc

Client Name: Engineering Science
Client Ref.: PE291.10 / U.C. Riverside

NET Job No.: 48028 Date Reported: 08-14-91
Lab Series : client:74.5 Date Received: 07-18-91 1800
Date Taken: 07-18-91

Matrix : water

Sample ID : MV-5
Lab No. : 28732

ANALYTES/METHOD	RESULTS	R.L.	UNITS
METHOD 614			
Date Extracted	07-23-91		
Date Analyzed	07-29-91		
Reporting Limit Multiplier	1	--	--
ORGANOPHOSPHORUS PESTICIDES	--		
Azinphos methyl	ND	0.07	ug/L
Chlorpyrifos	ND	0.03	ug/L
Coumaphos	ND	0.05	ug/L
Ethoprop	ND	0.2	ug/L
Dichlorvos	ND	0.2	ug/L
Diazinon	ND	0.3	ug/L
Disulfoton	ND	0.15	ug/L
Merphos	ND	0.1	ug/L
Fensulfothion	ND	0.2	ug/L
Mevinphos	ND	0.1	ug/L
Naled	ND	0.2	ug/L
Trichloronate	ND	0.1	ug/L
Methyl Parathion	ND	0.05	ug/L
Tetrachlorovinphos	ND	0.02	ug/L
Phorate	ND	0.2	ug/L
Ronnel	ND	0.2	ug/L
Tokuthion	ND	1.0	ug/L

ND - Not Detected at the Reporting Limit

NET Pacific, Inc

Client Name: Engineering Science
Client Ref.: PE291.10 / U.C. Riverside

NET Job No.: 4802B
Lab Series : client:74.5

Date Reported: 08-14-91
Date Received: 07-18-91 1800
Date Taken: 07-18-91

Matrix : water

Sample ID : MV-5
Lab No. : 28732

ANALYTES/METHOD	RESULTS	R.L.	UNITS
METHOD 624			
Date Analyzed	07-30-91		
Reporting Limit Multiplier	1.0		
GC/MS VOLATILES	--		
Benzene	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
Bromoform	ND	5	ug/L
Bromomethane	ND	5	ug/L
Carbon Disulfide	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Chloroethane	ND	5	ug/L
2-Chloroethylvinyl ether	ND	10	ug/L
Chloroform	ND	5	ug/L
Chloromethane	ND	5	ug/L
Dibromochloromethane	ND	5	ug/L
1,2-Dichlorobenzene	ND	6	ug/L
1,3-Dichlorobenzene	ND	6	ug/L
1,4-Dichlorobenzene	ND	6	ug/L
1,1-Dichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Methylene chloride	ND	10	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Acetonitrile	ND	100	ug/L
1,4 Dioxane	ND	500	ug/L
Isobutyl alcohol	ND	100	ug/L
Trichlorofluoromethane	ND	5	ug/L
Vinyl chloride	ND	5	ug/L
Xylenes, Total	ND	5	ug/L
SURROGATE SPIKE			
1,2-Dichloroethane-d4	107		% Rec.
Toluene - d8	97		% Rec.
Bromofluorobenzene	103		% Rec.

ND - Not Detected at the Reporting Limit

NET Pacific, Inc

Client Name: Engineering Science
Client Ref.: PE291.10 / U.C. Riverside

NET Job No.: 48028
Lab Series : client:74.5

Date Reported: 08-14-91
Date Received: 07-18-91 1800
Date Taken: 07-18-91

Matrix : water

Sample ID : MV-5
Lab No. : 28732

ANALYTES/METHOD	RESULTS	R.L.	UNITS
METHOD 608			
Date Extracted	07-19-91		
Date Analyzed	07-27-91		
Reporting Limit Multiplier	1		
ORGANOCHLORINE PESTICIDES	--		
Aldrin	ND	0.02	ug/L
alpha-BHC	ND	0.005	ug/L
beta-BHC	ND	0.005	ug/L
delta-BHC	ND	0.005	ug/L
gamma-BHC (Lindane)	ND	0.02	ug/L
Chlordane	ND	0.4	ug/L
4,4'-DDD	ND	0.05	ug/L
4,4'-DDE	ND	0.05	ug/L
4,4'-DDT	ND	0.05	ug/L
Dieldrin	ND	0.05	ug/L
Endosulfan I	ND	0.05	ug/L
Endosulfan II	ND	0.05	ug/L
Endosulfan sulfate	ND	0.05	ug/L
Endrin	ND	0.05	ug/L
Endrin aldehyde	ND	0.05	ug/L
Heptachlor	ND	0.05	ug/L
Heptachlor epoxide	ND	0.05	ug/L
Methoxychlor	ND	0.08	ug/L
Toxaphene	ND	1.0	ug/L
POLYCHLORINATED BIPHENYLS			
Aroclor 1016	ND	2.0	ug/L
Aroclor 1221	ND	8.0	ug/L
Aroclor 1232	ND	3.0	ug/L
Aroclor 1242	ND	2.0	ug/L
Aroclor 1248	ND	2.0	ug/L
Aroclor 1254	ND	0.5	ug/L
Aroclor 1260	ND	0.5	ug/L

ND - Not Detected at the Reporting Limit

NET Pacific, Inc

Client Name: Engineering Science
Client Ref.: PE291.10 / U.C. Riverside

NET Job No.: 4802B
Lab Series : client:74.5

Date Reported: 08-14-91
Date Received: 07-18-91 1800
Date Taken: 07-18-91

Matrix : water

Sample ID : MV-5
Lab No. : 28732

ANALYTES/METHOD	RESULTS	R.L.	UNITS
Method 615			
Date Extracted	07-24-91		
Date Analyzed	08-01-91		
Reporting Limit Multiplier	1		
HERBICIDES	--		
2,4-D	ND	1.0	ug/L
2,4-DB	ND	1.0	ug/L
2,4,5-TP	ND	1.0	ug/L
2,4,5-T	ND	1.0	ug/L
Dalapon	ND	5.0	ug/L
Dicamba	ND	1.0	ug/L
Dichloroprop	ND	1.0	ug/L
Dinoseb	ND	1.0	ug/L
MCPA	ND	250	ug/L
MCPP	ND	250	ug/L

ND - Not Detected at the Reporting Limit

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NO.	PROJECT NAME
PE291.10	U.C. Riverside

SAMPLERS (Signatures)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	615	614	608	Title 22 Metals	9020	8010	624 + full Gscan plus 3 entries per RK to JP 7/19	REMARKS
	7-18-91	1130		✓	MV-5	12	✓	✓	✓	✓	✓	✓	✓	

Title 22 = H/C can list per RK to JP 7/19 1100

RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)
	7-18-91 1150	John A. Jackson		
John A. Jackson	7-18-91 1546			

RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED FOR LAB: (SIGNATURE)	DATE / TIME	REMARKS
	7/18/91 1800	Judy Ruby	7/18/91 1800	

Log #4802

ENGINEERING-SCIENCE, INC. 031.0021/YO

32

NET Pacific, Inc

Client Name: Engineering Science
Client Ref.: PE291.10 / U.C. Riverside

NET Job No.: 4789 & 4802 Date Reported: 08-14-91
Lab Series : client:74.5 Date Received: 07-18-91 1800
Date Taken: 07-18-91

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Carbaryl	40	ug/L	115	ND	98	96	2.0
Carbofuran	40	ug/L	92	ND	82	78	5.0
Chlorpropham	40	ug/L	102	ND	83	84	1.2
Diuron	4	ug/L	101	ND	85	86	1.2
Linuron	4	ug/L	99	ND	85	91	6.8
Methomyl	40	ug/L	101	ND	72	73	1.4
Oxamyl	40	ug/L	102	ND	68	65	4.5
Propoxur	40	ug/L	97	ND	83	86	3.5
Propham	40	ug/L	104	ND	78	80	2.5
Methiocarb	40	ug/L	102	ND	82	81	1.2
Siduron	40	ug/L	102	ND	82	81	1.2
Fenuron	4	ug/L	102	ND	80	79	1.3
Monuron	4	ug/L	101	ND	85	77	8.6
Fluometuron	4	ug/L	97	ND	70	70	< 1
Swep	4	ug/L	135	ND	115	110	4.4
Barbane	40	ug/L	103	ND	86	83	3.5
Neburon	4	ug/L	103	ND	86	84	2.3

COMMENT: Blank Results were ND on other analytes tested.

Diazinon	0.3	ug/L	N/A	ND	42	49	15
Stirophos	0.02	ug/L	N/A	ND	48	42	13
M.Parathion	0.05	ug/L	N/A	ND	48	42	13

COMMENT: Blank Results were ND on other analytes tested.

Diazinon	0.3	ug/L	63	ND	61	67	9.4
Stirophos	0.02	ug/L	74	ND	76	78	2.6
M.Parathion	0.05	ug/L	83	ND	85	83	2.4

COMMENT: Blank Results were ND on other analytes tested.

ND - Not Detected at the Reporting Limit

NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Pacific, Inc.
Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6595
Fax: (818) 954-0232

QUALITY CONTROL DATA
ANALYSIS OF METALS

Lab.No.	Analyte	Units	*Blank Data	Spike 1 % Rec	Spike 2 % Rec	AVG. % Rec	RPD
559							
AG	SILVER	MG/L	ND	83.5	83.8	83.7	0.4
AL	ALUMINUM	MG/L	ND	104.0	102.0	103.0	1.9
B	BORON	MG/L	ND	105.0	107.0	106.0	1.9
CD	CADMIUM	MG/L	ND	94.8	94.0	94.4	0.8
CU	COPPER	MG/L	ND	97.9	100.5	99.2	2.6
FE	IRON	MG/L	ND	85.5	89.2	87.3	4.2
K	POTASSIUM	MG/L	ND	101.4	100.6	101.0	0.8
MG	MAGNESIUM	MG/L	ND	99.0	99.8	99.4	0.8
MN	MANGANESE	MG/L	ND	96.0	94.0	95.0	2.1
NA	SODIUM	MG/L	ND	100.6	101.4	101.0	0.8
NI	NICKEL	MG/L	ND	91.9	90.2	91.1	1.9
V	VANADIUM	MG/L	ND	92.7	92.3	92.5	0.4
ZN	ZINC	MG/L	ND	94.5	95.1	94.8	0.6

BATCH SAMPLES: JOB NO. 4789A
4802B

NET
NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6595
Fax: (818) 954-0232

QUALITY CONTROL DATA
METHOD 8080

Lab.No.	Analyte	Units	*Blank Data	Spike 1 % Rec	Spike 2 % Rec	AVG. %Rec	RPD
PS-726							
ALD	ALDRIN	UG/L	ND	88.3	105.0	96.7	17.3
DDN	DIELDRIN	UG/L	ND	88.3	110.0	99.2	21.9
DDT	4,4-DDT	UG/L	ND	95.0	113.3	104.2	17.6
END	ENDRIN	UG/L	ND	90.0	116.7	103.4	25.8
GBHC	GAMMA-BHC	UG/L	ND	86.7	106.7	96.7	20.7
HEP	HEPTACHLOR	UG/L	ND	90.0	110.0	100.0	20.0

*Comment: Blank Results were ND on all other analytes tested.
**MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Batch Samples : Job No. 4789A
4802B

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6595
Fax: (818) 954-0232

QUALITY CONTROL DATA
METHOD (601/8010)/(602/8020)
MATRIX SPIKE/ MATRIX SPIKE DUPLICATE

Lab.No.	Analyte	Units	*Blank Data	Spike Conc	Spike 1 % Rec	Spike 2 % Rec	AVG. %Rec	RPD
S-607								
BZE	BENZENE	UG/L	ND	9.6	110.4	106.2	108.3	3.9
CBZ	CHLOROBENZENE	UG/L	ND	9.6	94.8	95.8	95.3	1.0
DCE	1,1-DICHLOROETHENE	UG/L	ND	9.6	84.4	79.2	81.8	6.4
TCE	TRICHLOROETHENE	UG/L	ND	9.6	100.0	97.9	99.0	2.1
TOL	TOLUENE	UG/L	ND	9.6	113.5	110.4	112.0	2.8

*Comment: Blank Results were ND on all other analytes tested.

QC Batch Samples: JOB NO. 4802B

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6595
Fax: (818) 954-0232

QUALITY CONTROL DATA
ANALYSIS OF VOLATILES BY GCMS
METHOD 624/8240

Lab.No.	Analyte		Units	*Blank Data	Spike 1 % Rec	Spike 2 % Rec	AVG % Rec.	RPD
V4902								
	BZE	BENZENE	UG/L	ND	102.6	113.4	108.0	10.0
	CBZ	CHLOROBENZENE	UG/L	ND	99.4	116.4	107.9	15.8
	DCE	1,1-DICHLOROETHENE	UG/L	ND	108.8	140.0	124.4	25.1
	TCE	TRICHLOROETHENE	UG/L	ND	113.4	128.2	120.8	12.3
	TOL	TOLUENE	UG/L	ND	108.0	120.8	114.4	11.2

*Comment: Blank Results were ND on all other analytes tested.

BATCH SAMPLES: JOB NO. 4789A
4802B

NET
NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Pacific, Inc.
Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6595
Fax: (818) 954-0232

QUALITY CONTROL DATA
METHOD (601/8010)/(602/8020)
MATRIX SPIKE/ MATRIX SPIKE DUPLICATE

Lab.No.	Analyte	Units	*Blank Data	Spike Conc	Spike 1 % Rec	Spike 2 % Rec	AVG. %Rec	RPD
V-593								
BZE	BENZENE	UG/L	ND	9.6	92.7	88.5	90.6	4.6
CBZ	CHLOROBENZENE	UG/L	ND	9.6	109.4	101.0	105.2	8.0
DCE	1,1-DICHLOROETHENE	UG/L	ND	9.6	83.3	76.0	79.7	9.2
TCE	TRICHLOROETHENE	UG/L	ND	9.6	114.6	99.0	106.8	14.6
TOL	TOLUENE	UG/L	ND	9.6	99.0	92.7	95.8	6.6

*Comment: Blank Results were ND on all other analytes tested.

QC Batch Samples: JOB NO. 4789A

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6595
Fax: (818) 954-0232

QUALITY CONTROL DATA
METHOD 8270

Lab.No.	Analyte	Units	*Blank Data	Spike 1 % Rec	Spike 2 % Rec	AVG. %Rec	RPD
WS-G23							
ACN							
	ACENAPHTHENE	UG/L	ND	109.2	107.0	108.1	2.0
CMP							
	4-CHLORO-3-METHYLPHENOL	UG/L	ND	74.3	72.8	73.6	2.0
CPH							
	2-CHLOROPHENOL	UG/L	ND	78.7	76.8	77.8	2.4
DCB							
	1,4-DICHLOROBENZENE	UG/L	ND	95.0	102.0	98.5	7.1
DNT							
	2,4-DINITROTOLUENE	UG/L	ND	85.2	81.0	83.1	5.1
NDP							
	N-NITROSODI-N-PROPYLAMINE	UG/L	ND	130.4	130.2	130.3	0.2
NPH							
	4-NITROPHENOL	UG/L	ND	15.9	15.4	15.7	3.2
PCP							
	PENTACHLOROPHENOL	UG/L	ND	50.7	47.9	49.3	5.7
PHE							
	PHENOL	UG/L	ND	57.9	58.1	58.0	0.3
PYR							
	PYRENE	UG/L	ND	111.4	107.0	109.2	4.0
TBZ							
	1,2,4-TRICHLOROBENZENE	UG/L	ND	83.8	86.8	85.3	3.5

*COMMENT: Blank results were ND on all other analytes tested.

QC BATCH SAMPLES : JOB NO. 4789A

NET ®
NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6595
Fax: (818) 954-0232

QUALITY CONTROL DATA
METHOD 8080

Lab.No.	Analyte	Units	*Blank Data	Spike 1 % Rec	Spike 2 % Rec	AVG. %Rec	RPD
PS-726							
ALD	ALDRIN	UG/L	ND	88.3	105.0	96.7	17.3
DDN	DIELDRIN	UG/L	ND	88.3	110.0	99.2	21.9
DDT	4,4-DDT	UG/L	ND	95.0	113.3	104.2	17.6
END	ENDRIN	UG/L	ND	90.0	116.7	103.4	25.8
GBHC	GAMMA-BHC	UG/L	ND	86.7	106.7	96.7	20.7
HEP	HEPTACHLOR	UG/L	ND	90.0	110.0	100.0	20.0

*Comment: Blank Results were ND on all other analytes tested.
**MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Batch Samples : Job No. 4789A
4802B

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6595
Fax: (818) 954-0232

QUALITY CONTROL DATA
ANALYSIS OF VOLATILES BY GCMS
METHOD 624/8240

Lab.No.	Analyte		Units	*Blank Data	Spike 1 % Rec	Spike 2 % Rec	AVG % Rec.	RPD
V4902								
	BZE	BENZENE	UG/L	ND	102.6	113.4	108.0	10.0
	CBZ	CHLOROBENZENE	UG/L	ND	99.4	116.4	107.9	15.8
	DCE	1,1-DICHLOROETHENE	UG/L	ND	108.8	140.0	124.4	25.1
	TCE	TRICHLOROETHENE	UG/L	ND	113.4	128.2	120.8	12.3
	TOL	TOLUENE	UG/L	ND	108.0	120.8	114.4	11.2

*Comment: Blank Results were ND on all other analytes tested.

BATCH SAMPLES: JOB NO. 4789A
4802B

APPENDIX B

GOVERNMENT RECORDS SEARCH

FEDERAL AND STATE

Environmental Database Company

Phase I Environmental Site Assessment
Federal/State Government Environmental Data Search

14250 Lasselle Street
Moreno Valley, California

For

GeoSoils, Inc.
1446 East Chestnut Avenue
Santa Ana, California 92701

EDC Job No. 110-5
March 09, 1992

1133 N. Chester Avenue, Pasadena, CA 91104 • Tel: (818) 798-8010 • Fax: (818) 398-8650

To: Ms. Anna Scott/GeoSoils, Inc.

From: Environmental Database Company

Date: March 09, 1992

SUMMARY REPORT

At your request, Environmental Database Company (EDC) submits this report summarizing the compilation of Federal and State government environmental data. The data search covers the area within a two-mile radius of the subject property which is located at:

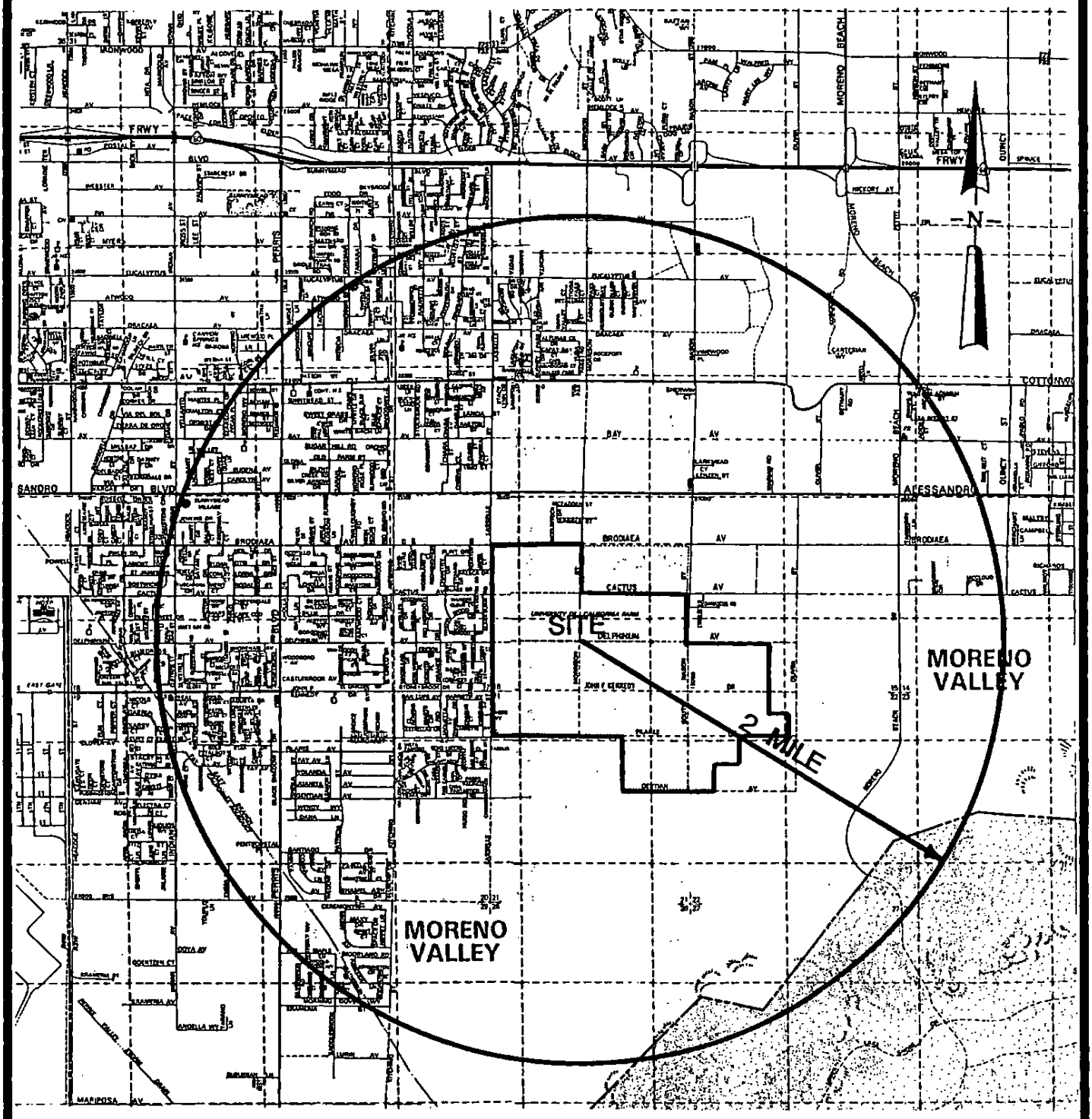
14250 Lasselle Street
Moreno Valley, California

The location of the site and the area searched is shown on Site Map, Figure 1. The data contained in this report is the result of a search of the following lists:

1. National Priorities List (NPL)
2. Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
3. CalSites (CAL)
4. Annual Workplan (AWP)
5. Hazardous Waste and Substances Sites List (CORTESE)
6. Leaking Underground Storage Tanks (LUST)
7. Solid Waste Information System (SWIS)
8. Solid Waste Assessment Test Program (SWAT)
9. Hazardous Waste Information System (HWIS)
10. Superfund Amendments and Reauthorization Act (SARA), Title III, the Emergency Planning and Community Right-to-Know Act, Section 313.

Different site names, if any, are considered as different sites even they may be listed at the same address. Any individual site may be reported in one or more lists. In total, there are 10 sites identified including 0 NPL, 0 CERCLIS, 3 CAL, 0 AWP, 0 CORTESE, 1 LUST, 0 SWIS, 0 SWAT, 6 HWIS, and 0 SARA sites. The results of this search are presented in the summary table.

Brief description and results of search of each list are attached in appendix for your reference. EDC is aware of additional government environmental data that have not been included in this report and EDC does not guarantee the adequacy of government environmental data. You should recognize that government agencies do not list all sites of environmental contamination. Therefore, this report should not be used as a substitute for a complete Phase I Environmental Site Assessment.



SCALE 1" = 2/3 MILE

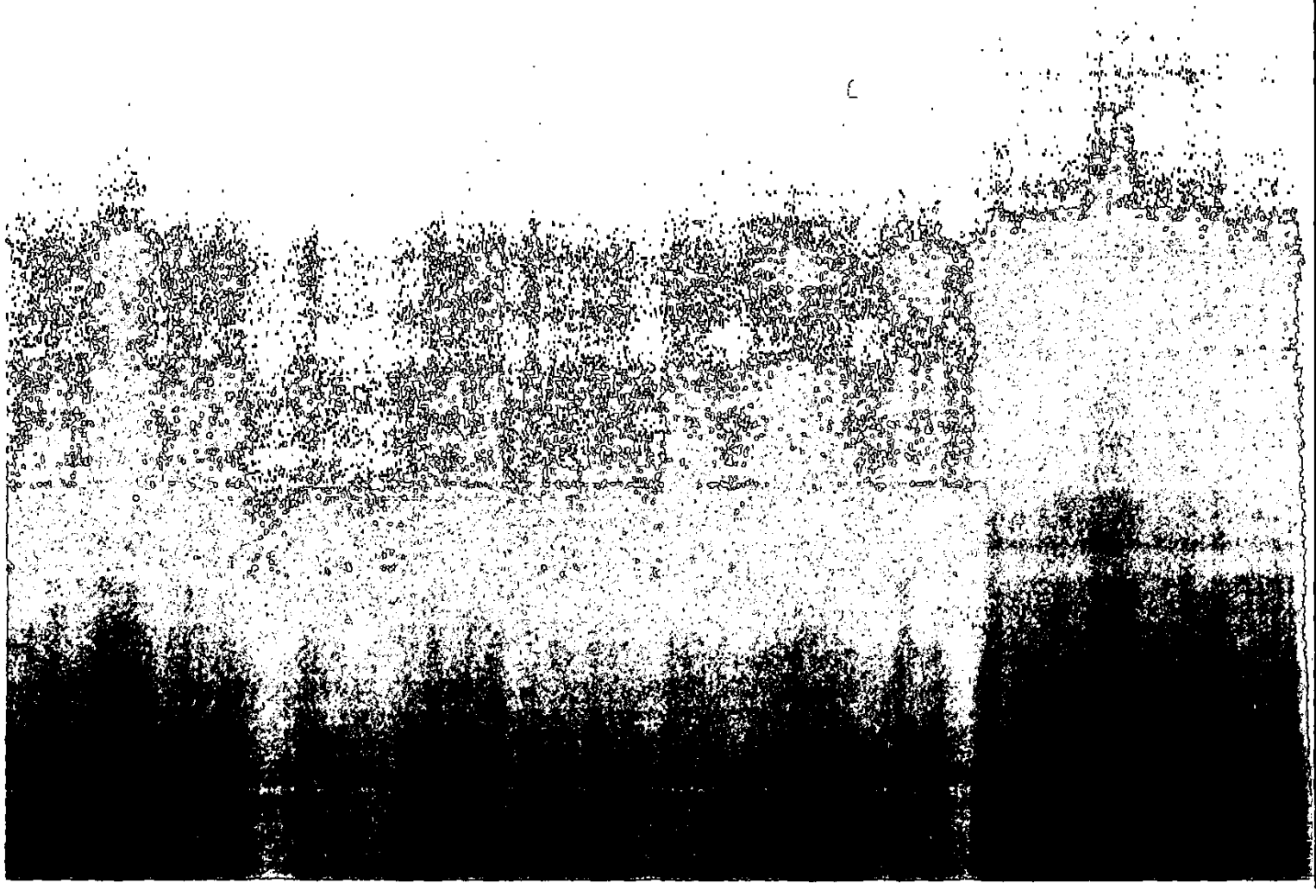
SITE MAP	14250 Lasselle Street Moreno Valley, California	
ENVIRONMENTAL DATABASE COMPANY	JOB NO. 110-5	FIGURE 1

SUMMARY TABLE

14250 Lasselle Street
Moreno Valley, California

ID	SITE	ADDRESS	CITY	ZIP	NPL	CERCLIS	CAL	AWP	CORTESE	LUST	SWIS	SWAT	HWIS	SARA
1	ARNOLD WEED CONTROL #1	28256 BAY AV	SUNNYMEAD	92360			*							
2	CAL-EX CORP - DBA SUNNYEDGE DISPOSAL CO	24541 CACTUS AV	SUNNYMEAD	92388			*							
3	SUNNYMEAD DISTRICT MAINT. YARD	25241 COTTONWOOD AV	MORENO VALLEY							*				
4	1X RIVERSIDE COUNTY ROAD DEPT.	25241 COTTONWOOD AV	MORENO VALLEY	92388									*	
5	1X HOUSING AUTHORITY CO OF RIVERSIDE	25110 GLORIA ST	MORENO VALLEY	92388									*	
6	1X GENERAL TELEPHONE MANHOLE# 855	KITCHING & IRIS	MORENO VALLEY	92388									*	
7	INFORMATION STATION	24672 MERIT CT	MORENO VALLEY	92388									*	
8	MORENO VALLEY SCHOOL DISTRICT	13911 PERRIS BL	MORENO VALLEY	92388									*	
9	ARNOLD, BOB #2	15168 PERRIS BL	SUNNYMEAD	92388			*							
10	CITY MAINT YARD MORENO VALLEY	15670 PERRIS BL	MORENO VALLEY	92388									*	

APPENDIX



14250 Lasselle Street
Moreno Valley, California

EDC Job No. 110-5

NATIONAL PRIORITIES LIST (NPL)

The National Priorities List (NPL) is a federal database of uncontrolled hazardous waste sites that warrant further investigation to determine if long-term "remedial action" is necessary. Sites on the NPL are eligible for priority remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA).

A NPL site must :

I. Meet or surpass a predetermined hazardous ranking system score, or

II. Be chosen as a state's top-priority site, or

III. Meet all three of the following criteria:

1. The US Department of Health and Human Services issues a health advisory recommending removing people form the site,

2. EPA determines the site poses a significant threat to public health, and

3. EPA anticipates it will be more cost-effective than removal action.

As of 1991, no NPL site is located within the area searched.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY SYSTEM (CERCLIS)

The federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), (or called the Superfund Act), protects the victims and the environment in the event of a hazardous material spill. This act primarily addresses cleanup of designated Superfund hazardous waste sites. A list of known hazardous waste sites that are under consideration for the Superfund list is complied by the EPA and is known as the CERCLIS database.

As of December 1991, no CERCLIS site is located within the area searched.

CALSITES (CAL)

On July 17, 1991, the California Environmental Protection Agency officially came into existence and the Toxic Substances Control Program became the Department of Toxic Substances Control (DTSC) under that agency. Since then, the DTSC CalSites database has replaced the previous Abandoned Sites Program Information System (ASPIS) database. Information in CalSites is preliminary in nature, and most sites need additional work to determine if contamination exists.

As of October 1991, three (3) CAL sites are located within the area searched. The keys of status codes are presented at the end of this section.

ID	SITE	ADDRESS	CITY	ZIP	CALSITES	STATUS
1	ARNOLD WEED CONTROL #1	28256 BAY AV	SUNNYMEAD	92360	33280012	NFA
2	CAL-EX CORP - DBA SUNNYEDGE DISPOSAL CO	24541 CACTUS AV	SUNNYMEAD	92388	33490039	NFA
9	ARNOLD, BOB #2	15168 PERRIS BL	SUNNYMEAD	92388	33730040	NFA

CALSITES (CAL)

STATUS CODE

* NFA - No further action.
* SSR - Site Screen Required.
* PEARL - Preliminary Endangerment Assessment required, low priority.
* PEARM - Preliminary Endangerment Assessment required, medium priority.
* PEARH - Preliminary Endangerment Assessment required, high priority.
* CNTY - County lead site.
* EPA - EPA lead sites.
* RCRA - Resource Conservation and Recovery Act lead.
* RWQCB - Regional Water Quality Control Board Lead.
* OAL - Other agency lead.
* HRR - Hazard Ranking Required.
* PRP - Potential Responsible Party Search Required.
* BKLG - Backlog, Potential AWP Site.
* AWP - Annual Workplan.
* COM - Certified Operation and Maintenance.
* CERT - Certified/Remediated.
* DLIST - Delisted from AWP.
* REFRC - Referred to RCRA.
* REFRW - Referred to the RWQCB.

ANNUAL WORKPLAN (AWP)

On July 17, 1991, the California Environmental Protection Agency officially came into existence and the Toxic Substances Control Program became the Department of Toxic Substances Control (DTSC) under that agency. Since then, the DTSC Annual Workplan (AWP) has replaced previous Bond Expenditure Plan (BEP). The DTSC AWP lists hazardous substances sites known to DTSC.

As of September 1991, no AWP site is located within the area searched.

HAZARDOUS WASTE AND SUBSTANCES SITES LIST (CORTESE)

The State Office of Planning and Research is required by state law to annually publish a listing of potential and confirmed hazardous waste sites throughout the California. These sites are included in the "Hazardous Waste and Substances Sites List Pursuant to AB 3750," (Cortese List). Data for the list are received from the Department of Toxic Substances Control (DTSC), the State Water Resources Control Board (SWRCB), the nine Regional Water Quality Control Board (WQCB) and the California Waste Management Board (CWMB).

As of January 1991, no CORTESE site is located within the area searched.

LEAKING UNDERGROUND STORAGE TANKS (LUST)

California legislation (Assembly Bill 2013, Cortese) requires that a underground storage tank (UST) inventory must be maintained by the State Water Resource Control Board (SWRCB). Individual tank owners were to notify the SWRCB by July 1, 1984 of known in-use or abandoned tanks. Owners of new USTs must notify the SWRCB within 30 days of installation.

The SWRCB "Report on Releases of Hazardous Substances From Underground Storage Tanks" (LUST List) includes all reported leaks from underground storage tanks. Additional sources of information are provided by the nine local offices of the SWRCB in California.

As of January 1992, one (1) LUST site is located within the area searched. The keys of substance, case type and status codes are presented at end of this section.

ID	SITE	ADDRESS	CITY	ZIP	SUBSTANCE	CASE	STATUS
3	SUNNYMEAD DISTRICT MAINT. YARD	25241 COTTONWOOD AV	MORENO VALLEY		12034	S	9

LEAKING UNDERGROUND STORAGE TANKS (LUST)

CASE TYPE CODES

D One or more domestic or municipal supply wells have been contaminated.

G Ground water has been affected.

S Only soil has been affected.

U The type of resources affected or extent of the resources affected are not known.

STATUS CODES

0 No action taken by responsible party after initial report of leak.

1 Leak suspected at site but has not been confirmed.

3A Preliminary site assessment workplan submitted.

3B Preliminary site assessment underway.

5C Pollution characterization.

5R Remediation plan developed.

7 Remedial action (cleanup) in progress.

8 Post remedial action monitoring in progress.

9 Signed off, remedial action completed or deemed unnecessary.

SUBSTANCE CODES

MOTOR OIL = 08
BOILER FUEL = 09
#6 FUEL OIL = 10
HEATER FUEL = 12
SOLVENTS = 13
HYDRAULIC OIL = 14
WASTE WATER = 32
MINERAL SPIRITS = 41
PAINT THINNER = 49
OIL\GREASE WASTE = 51
DRY CLEANING SOLVENT = 52
WATER\WASTE OIL MIX = 61
LUBRICATING OIL = 71
HYDROCARBONS = 76
COOLANT = 77
ALIPHATIC HYDROCARBONS = 78
TRANSMISSION FLUID = 80
LACQUER THINNER = 84
NAPTHA DISTILLATE = 101
V,M&P NAPTHA = 116

CUTTING OIL = 122
#5 FUEL OIL = 127
CHLORINATED HYDROCARBONS = 142
FREON = 171
ALCOHOL = 172
UNLEADED GASOLINE = 12031
REGULAR GASOLINE = 12032
PREMIUM GASOLINE = 12033
DIESEL = 12034
WASTE OIL = 12035
MISC. VEHICLE FUEL = 12036
CYANIDES, SALTS = 57125
ETHYL ALCOLHOL = 64175
ACETIC ACID = 64197
METHYL ALCOLHOL = 67561
ISOPROPYL ALCOLHOL = 67630
ACETONE = 67641
BENZENE = 71432
METHYLENE CHLORIDE = 75092
METHYL ETHYL KETONES = 78933

TCE = 79016
PSEUDODOCUMENE = 95636
XYLENE = 106423
ETHYLENE DICHLORIDE = 107062
TOLUENE = 108883
TETRAHYDROFURAN = 109999
PERCHLORETHYLENE = 127184
DINITROTOLUENES = 610399
NICKEL OXIDE = 1313991
PCB = 1336363
LEAD = 7439921
NICKEL = 7440020
COPPER = 7440508
CRUDE OIL (HAZ.) = 8002059
GASOLINE = 8006619
COAL TAR = 8007452
KEROSENE = 8008206
STOODARD SOLVENTS = 8052413
ASPHALT = 8052424
POLYESTER RESIN = 25037665

14250 Lasselle Street
Moreno Valley, California

EDC Job No. 110-5

SOLID WASTE INFORMATION SYSTEM (SWIS)

The California Waste Management Board maintains a list from Solid Waste Information System (SWIS) pursuant to the Solid Waste Management and Resource Recovery Act. This list contains an inventory of active, inactive, and closed solid waste disposal and transfer facilities.

As of October 1991, no SWIS site is located within the area searched.

SOLID WASTE ASSESSMENT TEST PROGRAM (SWAT)

The owners/operators of solid waste disposal sites in California are required by law to test and study the extent of air and ground water contamination at such facilities. This program is known as the Solid Waste Assessment Test Program (SWAT). Once the SWAT studies are completed, they will be evaluated by the local air districts and the Regional Water Quality Control Boards. These agencies, plus the California Waste Management Board (CWMB) and the Department of Toxic Substances Control (DTSC) will be required to determine appropriate remedial actions and will work with the facilities to resolve identified problems.

As of 1991, no SWAT site is located within the area searched.

HAZARDOUS WASTE INFORMATION SYSTEM (HWIS)

The California Department of Toxic Substances Control (DTSC) has developed and maintained lists of hazardous waste generators and hazardous waste treatment, storage and disposal facilities in the State of California. In addition, all counties are required by law to prepare and submit hazardous waste management plan. To assist the counties, DTSC maintains lists containing generation and disposal data within each county. This information has been assembled by DTSC from manifest reports required from hazardous waste generators.

Six (6) HWIS sites in the 1991 list are located within the area searched.

ID	SITE	ADDRESS	CITY	ZIP	HWIS ID
4	1X RIVERSIDE COUNTY ROAD DEPT.	25241 COTTONWOOD AV	MORENO VALLEY	92388	CAC000089325
5	1X HOUSING AUTHORITY CO OF RIVSDE	25110 GLORIA ST	MORENO VALLEY	92388	CAD981970171
6	1X GENERAL TELEPHONE MANHOLE# 855	KITCHING & IRIS	MORENO VALLEY	92388	CAC000121445
7	INFORMATION STATION	24672 MERIT CT	MORENO VALLEY	92388	CAD982327546
8	MORENO VALLEY SCHOOL DISTRICT	13911 PERRIS BL	MORENO VALLEY	92388	CAD981396708
10	CITY MAINT YARD MORENO VALLEY	15670 PERRIS BL	MORENO VALLEY	92388	CAD982463630

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III, EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT

In October of 1986, Congress enacted the Superfund Amendments and Reauthorization Act (SARA), Title III, the Emergency Planning and Community Right-to-Know Act, substantially increases the role of the community in managing hazardous materials. As a result, owners/operators of selected facilities are required to inform government officials and the public about releases of toxic chemicals into the environment. Under Subtitle B, facility owner/operator reporting requirements are specified in Section 313.

As of 1991, no SARA site is located within the area searched.

APPENDIX C

RIVERSIDE COUNTY
DEPARTMENT OF HEALTH RECORDS

GeoSoils Inc

H D Pouncey

1446 E Chestnut Ave

Santa Ana CA 92701

County of Riverside Department of Health
RELEASE OF RECORDS RESPONSE

RECEIVED

MAR - 4 1992

Ans'd.....

_____ Your request concerning _____, Birthdate _____ has been received. Appropriate action has been taken as indicated.

_____ The following information is attached:

_____ All Medical Records
_____ X-Rays
_____ Lab Work
_____ Child Health Records
_____ Family Planning Records
_____ Sexually Transmitted Disease Records
_____ Mental Health Records
_____ Other _____

These records are for the following purpose: _____

_____ We are unable to locate records for this person. Please furnish additional information such as birthdate, approximate dates of treatment, clinic site, types of services received, and verify spelling of the name or names previously used. Type or print.

_____ Since medical information is confidential by law, it may be released only on written consent of the patient. A consent form is enclosed. Please return the enclosed form after it has been completed and signed.

_____ Due to the following reasons, we are unable to send the information requested:

XXX Other:

Re: Your letter dated February 24, 1992. We have conducted a search of our files. We do not have any records pertaining to the property in question. Attached please find invoice for clerical charges.

XXX Please direct questions or correspondence on the person named above to:

Name: Ms Jana Ryan

Address: 4065 County Circle Dr

Riverside CA 92513-7600

Phone: (714) 358-5055

Sincerely,

County of Riverside Department of Health

Jana Ryan

Receipt # 5384-92-303

DOH-HAI-002 (Rev. 12/89)

DISTRIBUTION: WHITE-Requesting Unit, YELLOW-Chart

RECEIVED

APR 2 0 1992

GeoSoils Inc

HD Pouncey

1446 E Chestnut Ave

Santa Ana CA 92701

County of Riverside Department of Health
RELEASE OF RECORDS RESPONSE

_____ Your request concerning _____, Birthdate _____ has been received. Appropriate action has been taken as indicated.

_____ The following information is attached:

_____ All Medical Records
_____ X-Rays
_____ Lab Work
_____ Child Health Records
_____ Family Planning Records
_____ Sexually Transmitted Disease Records
_____ Mental Health Records
_____ Other _____

These records are for the following purpose: _____

_____

_____ We are unable to locate records for this person. Please furnish additional information such as birthdate, approximate dates of treatment, clinic site, types of services received, and verify spelling of the name or names previously used. Type or print.

_____ Since medical information is confidential by law, it may be released only on written consent of the patient. A consent form is enclosed. Please return the enclosed form after it has been completed and signed.

_____ Due to the following reasons, we are unable to send the information requested:

_____

_____

_____

XXX Other:

Re: Your letter dated February 24, 1992. We have researched further and found records pertaining to the property in question. Also attached please invoice for additional invoice.

XXX Please direct questions or correspondence on the person named above to:

Name: Ms Jana Ryan

Address: 4065 County Circle Dr

Riverside CA 92513-7600

Phone: (714) 358-5055

Sincerely,

County of Riverside Department of Health

Jana Ryan

Receipt # 5384-92-303

DOH-HAI-002 (Rev. 12/89)

DISTRIBUTION: WHITE-Requesting Unit, YELLOW-Chart

COUNTY OF RIVERSIDE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH SERVICES DIVISION
UST DATA SHEET

Facility Name : UCR - Moreno Ranch Facility I.D. No: 001692

Facility Address : 14250 La Salle, Moreno Valley

Number of Tanks : 2

TANK NO. 1 (AG16) Product: Regular - 1,000	1986	1987	1988	1989	1990	1991	1992	1993
Operating Fees Paid	3-24-86	12-5-89	12-5-89	1-19-90	1-30-90	03-26-91	1-21-92	
State Surcharge Paid	3-24-86					03-26-91		
Precision Testing Complete				8-23-89	8-4-90			
Monitoring Option Approved								
Permit Issued								

TANK NO. 2 (AG17) Product: Diesel - 4,000								
Operating Fees Paid	3-24-86	12-5-89	12-5-89	1-19-90	1-30-90	03-26-91	1-21-92	
State Surcharge Paid	3-24-86					03-26-91		
Precision Testing Complete				8-23-89	8-4-90			
Monitoring Option Approved								
Permit Issued								

TANK NO. 3 (AG15) Product: Weed Oil - 10,000								
Operating Fees Paid	3-24-86	12-5-89	12-5-89	Removed				
State Surcharge Paid	3-24-86							
Precision Testing Complete								
Monitoring Option Approved								
Permit Issued								

TANK NO. 4 Product:								
Operating Fees Paid								
State Surcharge Paid								
Precision Testing Complete								
Monitoring Option Approved								
Permit Issued								

No. of Tanks Removed 1	No. of Tanks Abandoned	No. of Tanks Temp. Closed	No. of Tanks Newly Installed
Date: October 27, 1989	Date:	Date:	Date:
Product Weed Oil	Product	Product	Product
Comments:	Comments:	Comments:	Comments:
Plan Check # 89-330	Plan Check #	Plan Check #	Plan Check #

DOH-HEH-012 (NEW 10-88)

1

STATE ID NUMBER

APPLICATION FOR PERMIT TO OPERATE UNDERGROUND STORAGE TANK

( ) 01 NEW PERMIT ( ) 05 RENEWED PERMIT ( ) 07 TANK CLOSED ( ) 09 DELETE FROM FILE (NO FEE)
( ) 02 CONDITIONAL PERMIT ( ) 06 AMENDED PERMIT ( ) 08 MINOR CHANGE (NO SURCHARGE)

I OWNER

NAME(CORPORATION, INDIVIDUAL OR PUBLIC AGENCY)	PUBLIC AGENCY ONLY		
REGENTS, UNIVERSITY OF CALIF.	( ) 01 FED ( ) 02 STATE ( ) 03 LOCAL		
STREET ADDRESS	CITY	STATE	ZIP
	BERKELEY	CA	94720

II FACILITY

FACILITY NAME	DEALER/FOREMAN/SUPERVISOR		
AGRICULTURAL OPERATIONS/UC	STEPHEN T. COCKERHAM		
STREET ADDRESS	NEAREST CROSS STREET		
1060 PENNSYLVANIA AVE.	CANYON CREST		
CITY	COUNTY	ZIP	
RIVERSIDE	RIVERSIDE	92507	
MAILING ADDRESS	CITY	STATE	ZIP
1060 PENNSYLVANIA AVE.	RIVERSIDE	CA	92507
PHONE W/AREA CODE	TYPE OF BUSINESS		
714-787-5906	( ) 01 GASOLINE STATION (X) 02 OTHER AGRIC. RESEARCH		
NUMBER OF CONTAINERS	RURAL AREAS ONLY : TOWNSHIP	RANGE	SECTION
18			

III 24 HOUR EMERGENCY CONTACT PERSON

DAYS: NAME(LAST NAME FIRST) AND PHONE W/AREA CODE	NIGHTS: NAME(LAST NAME FIRST) AND PHONE W/AREA CODE
COCKERHAM, STEPHEN T. 714-787-5906	PUBLIC SAFETY 714-787-5222

COMPLETE THE FOLLOWING ON A SEPARATE FORM FOR EACH CONTAINER

IV DESCRIPTION

A. (X) 01 TANK ( ) 04 OTHER: CONTAINER NUMBER AG16

B. MANUFACTURER (IF APPROPRIATE): YEAR MFG: C. YEAR INSTALLED 1966 ( ) UNKNOWN

D. CONTAINER CAPACITY: 1000 GALLONS ( ) UNKNOWN E. DOES THE CONTAINER STORE: ( ) 01 WASTE (X) 02 PRODUCT

F. DOES THE CONTAINER STORE MOTOR VEHICLE FUEL OR WASTE OIL ? (X) 01 YES ( ) 02 NO IF YES CHECK APPROPRIATE BOX(ES):
( ) 01 UNLEADED (X) 02 REGULAR ( ) 03 PREMIUM ( ) 04 DIESEL ( ) 05 WASTE OIL ( ) 06 OTHER

V CONTAINER CONSTRUCTION

A. THICKNESS OF PRIMARY CONTAINMENT: ( ) GAUGE ( ) INCHES ( ) CM (X) UNKNOWN

B. ( ) 01 VAULTED (LOCATED IN AN UNDERGROUND VAULT) (X) 02 NON-VAULTED ( ) 03 UNKNOWN

C. ( ) 01 DOUBLE WALLED (X) 02 SINGLE WALLED ( ) 03 LINED

D. (X) 01 CARBON STEEL ( ) 02 STAINLESS STEEL ( ) 03 FIBERGLASS ( ) 04 POLYVINYL CHLORIDE ( ) 05 CONCRETE
( ) 06 ALUMINUM ( ) 07 STEEL CLAD ( ) 08 BRONZE ( ) 09 COMPOSITE ( ) 10 NON-METALLIC
( ) 12 UNKNOWN ( ) 13 OTHER:

STATE ID NUMBER

CONTAINER CONSTRUCTION

E. ( ) 01 RUBBER LINED ( ) 02 ALKYD LINING ( ) 03 EPOXY LINING ( ) 04 PHENOLIC LINING ( ) 05 GLASS LINING
(X) 07 UNLINED ( ) 08 UNKNOWN ( ) 09 OTHER:

F. ( ) 01 POLYETHLENE WRAP ( ) 02 VINYL WRAPPING ( ) 03 CATHODIC PROTECTION ( ) 04 UNKNOWN ( ) 05 NONE
(X) 06 TAR OR ASPHALT ( ) 09 OTHER:

VI PIPING

A. ABOVEGROUND PIPING: ( ) 01 DOUBLE-WALLED PIPE ( ) 02 CONCRETE-LINED TRENCH (X) 03 GRAVITY
(CHECK APPROPRIATE BOX(ES) ( ) 04 PRESSURE (X) 05 SUCTION ( ) 06 UNKNOWN ( ) 07 NONE

B. UNDERGROUND PIPING: ( ) 01 DOUBLE-WALLED PIPE ( ) 02 CONCRETE-LINED TRENCH (X) 03 GRAVITY
(CHECK APPROPRIATE BOX(ES) ( ) 04 PRESSURE (X) 05 SUCTION ( ) 06 UNKNOWN ( ) 07 NONE

VII LEAK DETECTION

( ) 01 VISUAL (X) 02 STOCK INVENTORY ( ) 04 VAPOR SNIFF WELLS ( ) 05 SENSOR INSTRUMENT
( ) 06 GROUND WATER MONITORING WELLS ( ) 07 PRESSURE TEST ( ) 09 NONE ( ) 10 OTHER:

VIII CHEMICAL COMPOSITION OF MATERIALS STORED IN UNDERGROUND CONTAINERS

IF YOU CHECKED YES TO IV-F YOU ARE NOT REQUIRED TO COMPLETE THIS SECTION

CURRENTLY STORED	PREVIOUSLY STORED	DELETE	CAS# (IF KNOWN)	CHEMICAL (DO NOT USE COMMERCIAL NAME)
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		

IS CONTAINER LOCATED ON AN AGRICULTURAL FARM? (X) 01 YES ( ) 02 NO

THIS FORM HAS BEEN COMPLETED UNDER THE PENALTY OF PERJURY AND, TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT.

PERSON FILING (SIGNATURE)	PHONE W/AREA CODE

FOR LOCAL AGENCY USE ONLY

ADMINISTRATING AGENCY	CITY CODE	COUNTY CODE

CONTACT PERSON	PHONE W/AREA CODE

DATE OF LAST INSPECTION	IN COMPLIANCE ( ) 01 YES ( ) 02 NO	PERMIT APPROVAL DATE	TRANSACTION DATE	LOCAL PERMIT ID #

STATE ID NUMBER

APPLICATION FOR PERMIT TO OPERATE UNDERGROUND STORAGE TANK

( ) 01 NEW PERMIT ( ) 05 RENEWED PERMIT ( ) 07 TANK CLOSED ( ) 09 DELETE FROM FILE (NO FEE)
( ) 02 CONDITIONAL PERMIT ( ) 06 AMENDED PERMIT ( ) 08 MINOR CHANGE (NO SURCHARGE)

I OWNER

NAME(CORPORATION, INDIVIDUAL OR PUBLIC AGENCY)	PUBLIC AGENCY ONLY		
REGENTS, UNIVERSITY OF CALIF.	( ) 01 FED ( ) 02 STATE ( ) 03 LOCAL		
STREET ADDRESS	CITY	STATE	ZIP
	BERKELEY	CA	94720

II FACILITY

FACILITY NAME	DEALER/FOREMAN/SUPERVISOR		
AGRICULTURAL OPERATIONS/UC	STEPHEN T. COCKERHAM		
STREET ADDRESS	NEAREST CROSS STREET		
1060 PENNSYLVANIA AVE.	CANYON CREST		
CITY	COUNTY	ZIP	
RIVERSIDE	RIVERSIDE	92507	
MAILING ADDRESS	CITY	STATE	ZIP
1060 PENNSYLVANIA AVE.	RIVERSIDE	CA	92507
PHONE W/AREA CODE	TYPE OF BUSINESS		
714-787-5906	( ) 01 GASOLINE STATION (X) 02 OTHER AGRIC. RESEARCH		
NUMBER OF CONTAINERS	RURAL AREAS ONLY : TOWNSHIP	RANGE	SECTION
18			

III 24 HOUR EMERGENCY CONTACT PERSON

DAYS: NAME(LAST NAME FIRST) AND PHONE W/AREA CODE	NIGHTS: NAME(LAST NAME FIRST) AND PHONE W/AREA CODE
COCKERHAM, STEPHEN T. 714-787-5906	PUBLIC SAFETY 714-787-5222

COMPLETE THE FOLLOWING ON A SEPARATE FORM FOR EACH CONTAINER

IV DESCRIPTION

A. (X) 01 TANK ( ) 04 OTHER: CONTAINER NUMBER AG17

B. MANUFACTURER (IF APPROPRIATE): YEAR MFG: C. YEAR INSTALLED 1966 ( ) UNKNOWN

D. CONTAINER CAPACITY: 4000 GALLONS ( ) UNKNOWN E. DOES THE CONTAINER STORE: ( ) 01 WASTE (X) 02 PRODUCT

F. DOES THE CONTAINER STORE MOTOR VEHICLE FUEL OR WASTE OIL ? (X) 01 YES ( ) 02 NO IF YES CHECK APPROPRIATE BOX(ES):
( ) 01 UNLEADED ( ) 02 REGULAR ( ) 03 PREMIUM (X) 04 DIESEL ( ) 05 WASTE OIL ( ) 06 OTHER

V CONTAINER CONSTRUCTION

A. THICKNESS OF PRIMARY CONTAINMENT: ( ) GAUGE ( ) INCHES ( ) CM (X) UNKNOWN

B. ( ) 01 VAULTED (LOCATED IN AN UNDERGROUND VAULT) (X) 02 NON-VAULTED ( ) 03 UNKNOWN

C. ( ) 01 DOUBLE WALLED (X) 02 SINGLE WALLED ( ) 03 LINED

D. (X) 01 CARBON STEEL ( ) 02 STAINLESS STEEL ( ) 03 FIBERGLASS ( ) 04 POLYVINYL CHLORIDE ( ) 05 CONCRETE
( ) 06 ALUMINUM ( ) 07 STEEL CLAD ( ) 08 BRONZE ( ) 09 COMPOSITE ( ) 10 NON-METALLIC
( ) 12 UNKNOWN ( ) 13 OTHER:

STATE ID NUMBER

CONTAINER CONSTRUCTION

E. ( ) 01 RUBBER LINED ( ) 02 ALKYD LINING ( ) 03 EPOXY LINING ( ) 04 PHENOLIC LINING ( ) 05 GLASS LINING
(X) 07 UNLINED ( ) 08 UNKNOWN ( ) 09 OTHER:

F. ( ) 01 POLYETHLENE WRAP ( ) 02 VINYL WRAPPING ( ) 03 CATHODIC PROTECTION ( ) 04 UNKNOWN ( ) 05 NONE
(X) 06 TAR OR ASPHALT ( ) 09 OTHER:

VI PIPING

A. ABOVEGROUND PIPING: ( ) 01 DOUBLE-WALLED PIPE ( ) 02 CONCRETE-LINED TRENCH (X) 03 GRAVITY
(CHECK APPROPRIATE BOX(ES) ( ) 04 PRESSURE (X) 05 SUCTION ( ) 06 UNKNOWN ( ) 07 NONE

B. UNDERGROUND PIPING: ( ) 01 DOUBLE-WALLED PIPE ( ) 02 CONCRETE-LINED TRENCH (X) 03 GRAVITY
(CHECK APPROPRIATE BOX(ES) ( ) 04 PRESSURE (X) 05 SUCTION ( ) 06 UNKNOWN ( ) 07 NONE

VII LEAK DETECTION

( ) 01 VISUAL (X) 02 STOCK INVENTORY ( ) 04 VAPOR SNIFF WELLS ( ) 05 SENSOR INSTRUMENT
( ) 06 GROUND WATER MONITORING WELLS ( ) 07 PRESSURE TEST ( ) 09 NONE ( ) 10 OTHER:

VIII CHEMICAL COMPOSITION OF MATERIALS STORED IN UNDERGROUND CONTAINERS

IF YOU CHECKED YES TO IV-F YOU ARE NOT REQUIRED TO COMPLETE THIS SECTION

CURRENTLY STORED	PREVIOUSLY STORED	DELETE	CAS# (IF KNOWN)	CHEMICAL (DO NOT USE COMMERCIAL NAME)
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		

IS CONTAINER LOCATED ON AN AGRICULTURAL FARM? (X) 01 YES ( ) 02 NO

THIS FORM HAS BEEN COMPLETED UNDER THE PENALTY OF PERJURY AND, TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT.

PERSON FILING (SIGNATURE)	PHONE W/AREA CODE

FOR LOCAL AGENCY USE ONLY

ADMINISTRATING AGENCY	CITY CODE	COUNTY CODE

CONTACT PERSON	PHONE W/AREA CODE

DATE OF LAST INSPECTION	IN COMPLIANCE ( ) 01 YES ( ) 02 NO	PERMIT APPROVAL DATE	TRANSACTION DATE	LOCAL PERMIT ID #

33247 RD. 156
IVANHOE, CA 93235

SAN-WAN ENVIRONMENTAL CO. 2 tanks OK BM

PHONE (209) 798-1856

AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

UCR-Moreno Ranc

1 TANK OPERATOR	NAME: UC Riverside AG OB. ADDRESS: 1040 Pennsylvania Ave Riverside — AG 16 AG 17 — PHONE:

2 TANKS TO BE TESTED

IDENTIFICATION	CAPACITY—GALS.	MANUFACTURER	STEEL/FIBRGLS.	AGE—YRS.
U-CRA-16	1000	Unleaded	STEEL	—
U-CRA-17	4000	Diesel	STEEL	—

3 WATER TABLE

DISTANCE FROM GRADE TO WATER 0 INS.

4 TANK FILL-UP

TANK WILL BE FILLED PM (TIME) ON 2/3/90
EXTRA 5 GALS PRODUCT AVAILABLE FROM TESTER
FILL UP TO BE ARRANGED BY MR. ______ PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. ______ PHONE ( )

5 OUTSIDE CONTRACTORS

NAME ADDRESS PHONE
NONE

6 OFFICIALS TO BE CONTACTED

NAME AUTHORITY PHONE
NONE

7 SPECIAL NOTES OR PRECAUTIONS

8 TEST RESULTS

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

TANK IDENT	TANK IS TIGHT	TANK IS NOT TIGHT	LEAK RATE G. P. H.	TEST DATE
U-CRA-16 Unleaded	✓		-.009	8/4/90
U-CRA-17 Diesel	✓		-.016	8/4/90

9 CERTIFICATION

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

CERTIFICATE NO. 92-1398
SIGNED [signature] ISSUE DATE 8/4/90
FOR (TEST COMPANY)
ADDRESS
STATE ZIP

12-18-90

6

ST-5 (450-016) REV. 1/80

AINLAY TANK TIGHTNESS TEST No.

10 TANK I.D.

INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 47 INS FILL PIPE LENGTH 34 INS

11 WATER IN TANK

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

12 PRODUCT VOLUME

(a) NOMINAL CAPACITY 1000 GALS (c) DEDUCT WATER IN TANK 0 GALS

(b) ACTUAL CAPACITY 1000 GALS (d) TOTAL PRODUCT VOL. 1000 GALS

(FROM TANK CHART) (e) PIPING 5 GALS

(f) TOTAL 1005 GALS

13 FILL PIPE EXTENSION

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = .026 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\times 0.036}{}$ = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I.

14 PRELIM TEST DATA

(a) A.P.I. GRAVITY 59.9 AT 74 °F

(b) A.P.I. GRAVITY 58.1 AT 60° F

(c) COEFF. OF EXPANSION .0006732

15 TEST DATA

(a) START TEST 0900 (AM)/PM: END TEST 1000 (AM)/PM: TEST TIME 60 MINS.

(b) TEMPERATURE CHANGE DURING TEST = (SLOPE OF "BEST FIT" LINE) × (TEST TIME)

= .0001 × 60 = +0.006 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 1005 (12f) × .006 (15b) × .0006732 (14c) = +0.004 GALS.

(d) TOTAL LIQUID VOL ~~ADDED~~/SUBTRACTED AT END OF TEST..... -.013 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)]..... = .004 + .013 -.009 GALS.

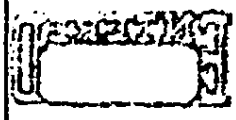
(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{.009 \times 60}{60}$ (15a) = .009 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

16 NOTES

TYPE SYSTEM (SUCTION)



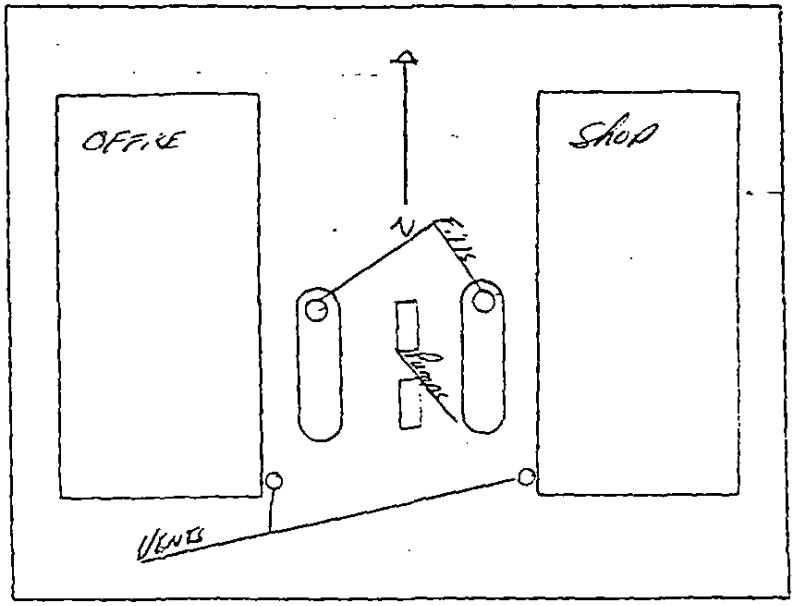
17 VOLUMETRIC TABULATION

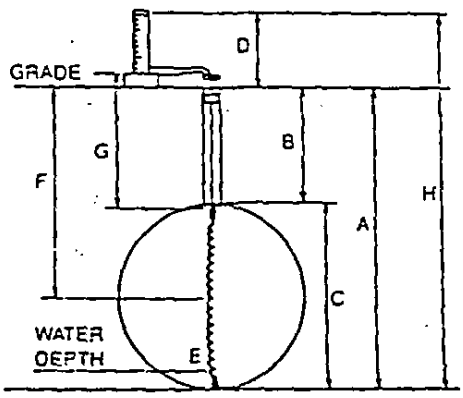
(A) TIME (MINUTES)	(B) AVERAGE TEMPERATURE	VOLUME (C) BEFORE	VOLUME (D) AFTER	(E) VOLUME CHANGE + / - (c - d)	(F) CUMULATIVE VOLUME
0800	.112	.120	.120	1000	.000
0805	.112	.120	.120	.000	.000
0810	.112	.120	.119	.000	.001
0815	.111	.119	.119	.000	.001
0820	.111	.119	.119	.000	.001
0825	.110	.119	.119	.000	.001
0830	.111	.119	.119	.000	.001
0835	.111	.119	.117	.002	.003
0840	.110	.117	.117	.000	.003
0845	.109	.117	.117	.000	.003
0850	.110	.117	.117	.000	.003
0855	.109	.117	.116	.001	.004
0900	.109	.116	.116	.000	.004
0905	.109	.116	.113	.003	.007
0910	.108	.113	.113	.000	.007
0915	.107	.113	.113	.000	.007
0920	.108	.113	.111	.002	.009
0925	.107	.111	.111	.000	.009
0930	.107	.111	.110	.001	.010
0935	.106	.110	.108	.002	.012
0940	.105	.109	.108	.000	.012
0945	.104	.108	.108	.000	.012
0950	.105	.109	.105	.003	.015
0955	.104	.105	.103	.002	.017
1000	.103	.103	.103	.000	.017

BEFORE-AFTER
.109 - .105 = .006

BEFORE-AFTER
.004 - .017 = .013

TEST SITE LAYOUT





A. Tank Bot. to Grade 86"
B. Tank Top to Grade 34"
C. Tank Diameter 47"
D. Test Level above grade 50"
E. Depth of water in tank 0"
F. Depth for taking sample 58"
G. Temp. Probe depth (connector) 7" (87)
H. Test level to Tank Bot. 136"
I. Groundwater above tank bottom 0"
J. Product Pressure per 1" height .026 PSI

Test Pressure Formula

$(136 \times .026) - (0 \times .036) = 3.5$

H J I NET TEST PRESSURE

RECEIVED
NOV 20 1990
RIVERSIDE CO.
HEALTH DEPT.
Environmental Health

33247 RD. 156
IVANHOE, CA 93235

SAN-WAN ENVIRONMENTAL CO.

PHONE (209) 798-1856

AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

1 TANK OPERATOR

NAME — ADDRESS — PHONE

U.C. Riverside
1060 Pennsylvania Ave
Riverside

2 TANKS TO BE TESTED

IDENTIFICATION	CAPACITY—GALS.	MANUFACTURER	STEEL/FIBRGLS.	AGE—YRS.
U-CRA-17	4000	Diesel	Steel	—

3 WATER TABLE

DISTANCE FROM GRADE TO WATER 0 INS.

4 TANK FILL-UP

TANK WILL BE FILLED am (TIME) ON 2 13 90
EXTRA 5 GALS PRODUCT AVAILABLE FROM Testel
FILL UP TO BE ARRANGED BY MR. _____ PHONE ( )
CONTACT AT STORAGE TERMINAL IS MR. _____ PHONE ( )

5 OUTSIDE CONTRACTORS

NAME — ADDRESS — PHONE

None

6 OFFICIALS TO BE CONTACTED

NAME — AUTHORITY — PHONE

None

7 SPECIAL NOTES OR PRECAUTIONS

8 TEST RESULTS

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

TANK IDENT	TANK IS TIGHT	TANK IS NOT TIGHT	LEAK RATE G. P. H.	TEST DATE
U-CRA-17 Diesel	✓		-.016	8/14/90

9 CERTIFICATION

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED Bill Jung — CERTIFICATE NO. 92-1398
ISSUE DATE 8/14/90
FOR (TEST COMPANY) _____
ADDRESS _____
STATE — ZIP

ST-B (459-016) REV. 1/90

AINLAY TANK TIGHTNESS TEST No. _____

10 TANK I.D.

INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 64 INS FILL PIPE LENGTH 36 INS

11 WATER IN TANK

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

12 PRODUCT VOLUME

(a) NOMINAL CAPACITY 4000 GALS (c) DEDUCT WATER IN TANK 0 GALS

(b) ACTUAL CAPACITY 4000 GALS (d) TOTAL PRODUCT VOL. 4000 GALS

(FROM TANK CHART) (e) PIPING 5 GALS

(f) TOTAL 4005 GALS

13 FILL PIPE EXTENSION

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS

(b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.

(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\times 0.036}{}$ = 0 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I.

14 PRELIM TEST DATA

(a) A.P.I. GRAVITY 34.6 AT 72 °F

(b) A.P.I. GRAVITY 33.7 AT 60° F

(c) COEFF. OF EXPANSION .000 45750

15 TEST DATA

(a) START TEST 0900 (AM)/PM: END TEST 1000 (AM)/PM: TEST TIME 60 MINS.

(b) TEMPERATURE CHANGE DURING TEST = (SLOPE OF "BEST FIT" LINE) × (TEST TIME)

= .0005 × 60 = +0.003 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 4005 (12f) × .003 (15b) × .00457 (14c) = +0.005 GALS.

(d) TOTAL LIQUID VOL. (ADDED)/SUBTRACTED AT END OF TEST ..... -.021 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = .005 + .021 -.016 GALS.

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{.016 \times 60}{60}$ (15a) = .016 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

16 NOTES

TYPE (SYSTEM (SUCTION)

17 VOLUMETRIC TABULATION

(A) TIME (MINUTES)	(B) AVERAGE TEMPERATURE	VOLUME (C) BEFORE	VOLUME (D) AFTER	(E) VOLUME CHANGE + / - (c - d)	(F) CUMULATIVE VOLUME
0800	.310	.120	.120	.000	.000
0805	.310	.120	.120	.000	.000
0810	.309	.120	.119	.001	.001
0815	.310	.119	.119	.000	.001
0820	.310	.119	.119	.000	.001
0825	.309	.119	.117	.002	.003
0830	.307	.117	.117	.000	.003
0835	.307	.117	.117	.000	.003
0840	.307	.117	.117	.000	.003
0845	.306	.117	.115	.002	.005
0850	.307	.115	.115	.000	.005
0855	.307	.115	.115	.000	.005
0900	.306	.115	.115	.000	.005
0905	.306	.115	.113	.002	.007
0910	.305	.113	.110	.003	.010
0915	.306	.110	.110	.000	.010
0920	.305	.110	.106	.004	.014
0925	.305	.106	.103	.003	.017
0930	.304	.103	.103	.000	.017
0935	.305	.103	.100	.003	.020
0940	.304	.100	.100	.000	.020
0945	.304	.100	.100	.000	.020
0950	.305	.100	.096	.004	.024
0955	.304	.096	.096	.000	.024
1000	.303	.096	.094	.002	.026

BEFORE - AFTER

.306 - .305 = .005

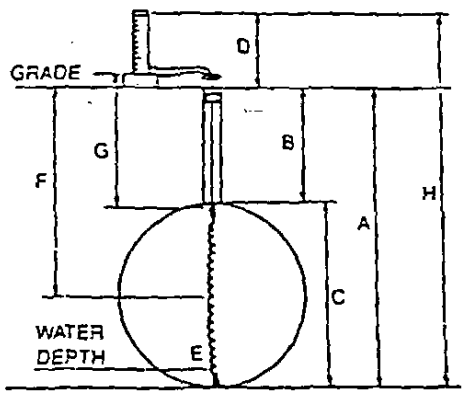
BEFORE - AFTER

.005 - .026 = .021

TEST SITE LAYOUT

REFER TO TANK U-CRA-16

FOR DATA



A. Tank Bot. to Grade 102"
B. Tank Top to Grade 36"
C. Tank Diameter 64"
D. Test Level above grade 40"
E. Depth of water in tank 0"
F. Depth for taking sample 68"
G. Temp. Probe depth (connector) 10" 60
H. Test level to Tank Bot. 142"
I. Groundwater above tank bottom 0"
J. Product Pressure per 1" height .031 PSI

Test Pressure Formula

$\underset{H}{142} \times \underset{J}{.031} - (\underset{I}{0} \times .036) = \underset{\text{NET TEST PRESSURE}}{4.4}$

DATA CHART FOR TANK SYSTEM TIGHTNESS TEST

(EZY CHEK)

SAN-WAN ENVIRONMENTAL CO.
33247 Rd. 156
Ivanhoe, California 93235
(209) 798-1856

AG16

1 tank OK DM

CLIENT
NAME OF SUPPLIER,
OWNER OR DEALER U.C. RIVERSIDE AG-OPS
ADDRESS (NO. & STREET) 14250 LASALLE
CITY AND STATE MORENO VALLEY 92388

DATE OF TEST 8-23-89
WEATHER Clear TEMPERATURE 91

TANK INFORMATION
CAPACITY (NOMINAL) 1000 GALS.
CAPACITY (CHART) ____ GALS.
DIMENSIONS: DIAMETER 47"
LENGTH 144"

SIZE OF FILL OR TEST OPENING 3" IN.
TOP OFF TIME 8-21-89 GALLONS N/A
NUMBER OF GALLONS ADDED TO START TEST 6
TANK NO. V-CRA-16 RED
INCHES OF WATER – BEFORE TEST 2" AFTER TEST 2"

CONTENTS (PRODUCT) UNL.
TANK MATERIAL Steel
APPROX. AGE 1965
PUMP SYSTEM (TYPE) Suction

TEST CALIBRATION
SIZE OF CAL. BAR OR ML'S ADDED .05 ÷ 2733 (ALM) = .00018294 (FACTOR A)

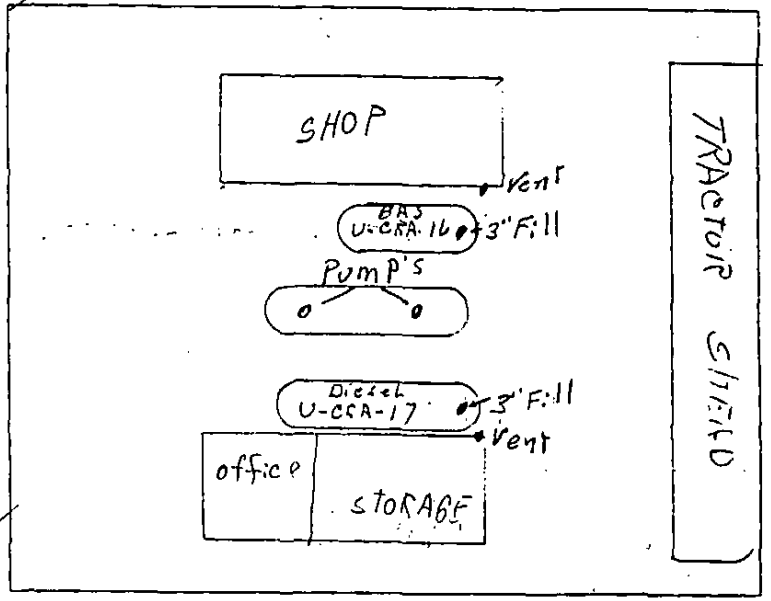
LINE MOVEMENT
1 42 to 70 = 28 LINES
2 40 to 67 = 27 LINES
3 38 to 65 = 27 LINES
TOTAL 82 LINES ÷ 3 = 27.33 (ALM) LINES

END OF TEST CALIBRATION
SIZE OF CAL. BAR OR ML'S ADDED .05 ÷ 3164 (ALM) = .0015792 (FACTOR A)

LINE MOVEMENT
1 29 to 61 = 32 LINES
2 28 to 60 = 32 LINES
3 28 to 59 = 31 LINES
TOTAL 93 LINES ÷ 3 = 31.66 (ALM) LINES

MEASURED API SPECIFIC GRAVITY 59.2
PRODUCT TEMPERATURE 79
API SPECIFIC GRAVITY @ 60° F 56.9 (FROM TABLE A)
COEFFICIENT OF EXPANSION .000591559 (FROM TABLE B)
.0001-59159 C.O.E. × 1000 TOTAL CAPACITY (GAL.) = .5915 VOL. CHANGE/° F (FACTOR B)

TANK LAYOUT



I.D. TAG ON VENT PIPE

PRODUCT LINE TESTING

Time (Military)	Reading No.	PRODUCT MONITORING ON LL Start	End	+Gain -Loss	X Factor A	Product +Gain -Loss
					.003	
					.003	
					.003	
					.003	

SYSTEM

Serial	Number

TECHNICIAN(S) [signature] 8-23-89 DATE

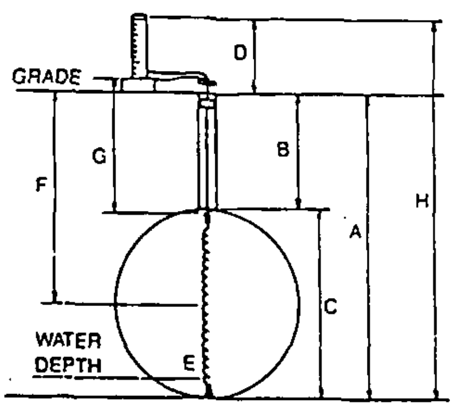
41

DATA CHART FOR TANK SYSTEM TIGHTNESS TEST

(EZY CHEK)

Time (Military)	Reading No.	Product Monitoring on LLR: Start	End	+Gain -Loss	X Factor A	Product +Gain -Loss	Temperature Compensation A: Start	End	+Gain -Loss	X Factor B	+Expansion -Contraction	Temperature Compensation B: Start	End	+Gain -Loss	X Factor B	+Expansion -Contraction	Net Vol. Change	LLR
1400	1	80	78	-2	.00157	-.00314	266	266	ø	.5915	ø							-.00314
1406	2	78	77	-1		-.00157	266	267	+.001		+.00059							-.00216
1412	3	77	77	ø		ø	267	267	ø		ø							ø
1418	4	77	77	ø		ø	267	268	+.001		+.00059							+.00059
1424	5	77	76	-1		-.00157	267	268	ø		ø							-.00157
1430	6	76	75	-1		-.00157	268	268	ø		ø							-.00157
1436	7	75	74	-1		-.00157	268	269	+.001		+.00059							-.00216
1442	8	74	73	-1		-.00157	[illegible]	[illegible]	ø		ø							-.00157
1448	9	73	73	ø		ø	269	[illegible]	ø		ø							ø
1454	10	73	72	-1		-.00157	[illegible]	[illegible]	-.001		-.00059							-.00098
1500	11	72	71	-1		-.00157	[illegible]8	268	ø		ø							-.00157
1506	12	71	70	-1		-.00157	268	268	ø		ø							-.00157
1512	13	70	68	-2		-.00314	268	269	+.001		+.00059							-.00373
1518	14	68	66	-2		-.00314	269	268	-.001		-.00059							-.00255
1524	15	66	66	ø		ø	268	268	ø		ø							ø
1530	16	66	65	-1		-.00157	268	268	ø		ø							-.00157
1536	17	65	64	-1		-.00157	268	267	-.001		-.00059							-.00098
1542	18	64	63	-1		-.00157	267	267	ø		ø							-.00157
1548	19	63	63	ø		ø	267	268	+.001		+.00059							+.00059
1554	20	63	62	-1		-.00157	268	268	ø		ø							-.00157

-.0157



A. Tank Bot. to Grade 114"
B. Tank Top to Grade 67"
C. Tank Diameter 47"
D. Test Level above grade 20"
E. Depth of water in tank ø"
F. Depth for taking sample 90"
G. Temp. Probe depth (connector) 69"
H. Test level to Tank Bot. 134"
I. Groundwater above tank bottom ø"
J. Product Pressure per 1" height .026 PSI

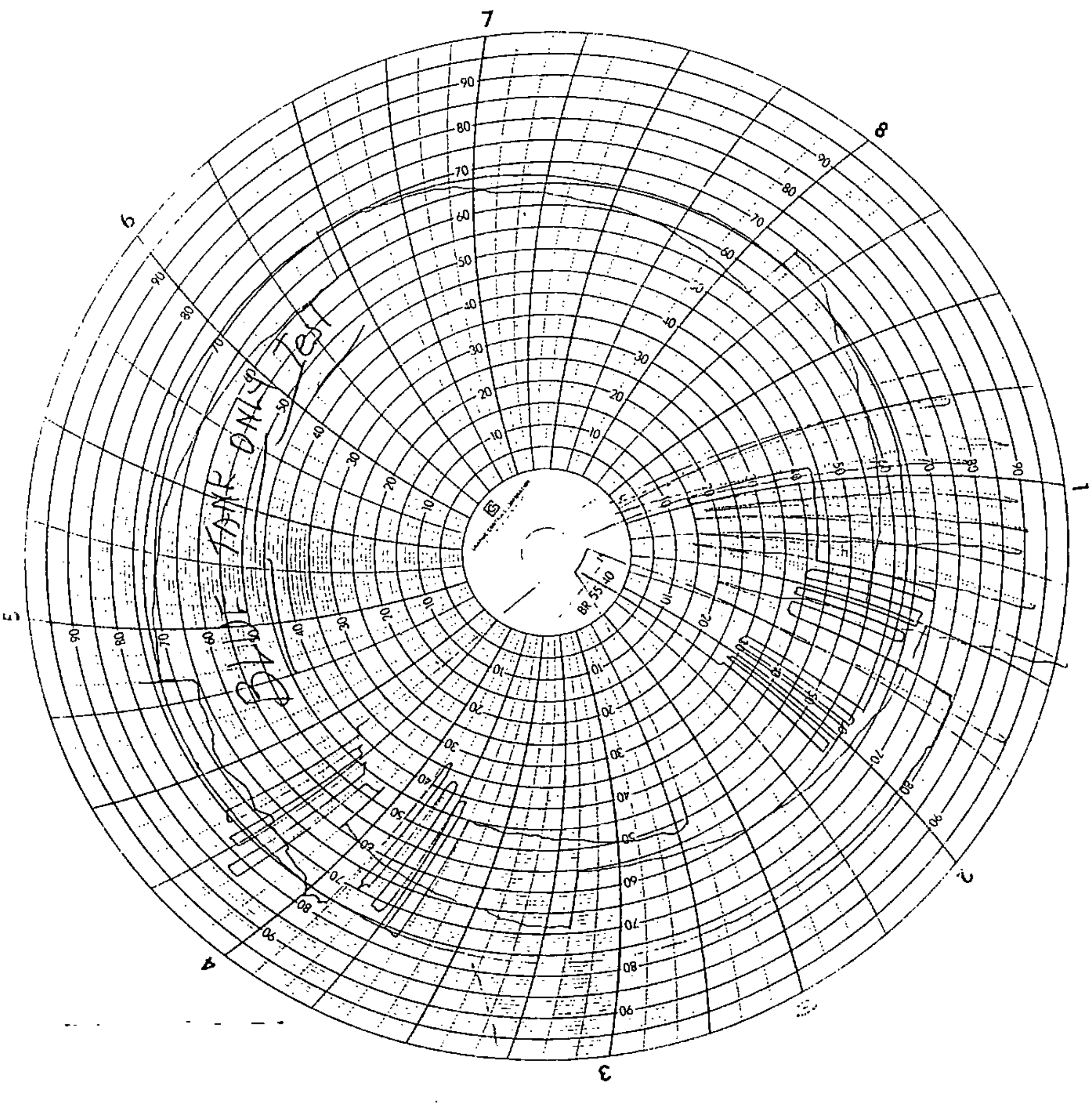
Test Pressure Formula

134 (H) x .026 (J) - (ø (I) x .036) = 3.484 (NET TEST PRESSURE)

Send Report to:
Client
Address
City, State
Phone ( )
Attn:

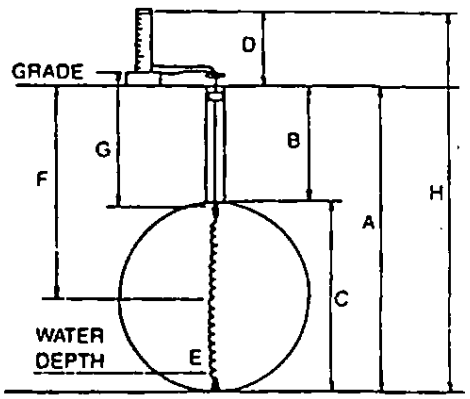
CERTIFICATION This is to certify that this tank system was tested on date shown. Those indicated "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Tank No. U-CRA-16
Tight yes
Leakage Indicated -.0157
Technician [signature]
Date Tested 8-23-89


TANK ONLY TEST
BR 5540
7
8
1
2
3
4
5
6

DATA CHART FOR TANK SYSTEM TIGHTNESS TEST
(EZY CHEK)

Time (Military)	Reading No.	PRODUCT MONITORING ON LLR				Product +Gain -Loss	TEMPERATURE COMPENSATION A					TEMPERATURE COMPENSATION B					NET VOL. CHANGE	
		Start	End	+Gain -Loss	X Factor A		Start	End	+Gain -Loss	X Factor B	+Expansion -Contraction	Start	End	+Gain -Loss	X Factor B	+Expansion -Contraction		LLR
1400	1	76	69	-7	.00145	-.01015	347	347	-0-	1.83	-0-							-.01015
1406	2	69	64	-5		-.00725	347	347	-0-		-0-							-.00725
1412	3	73	70	-2		-.0029	347	348	+.001		+.00183							-.00473
1418	4	70	67	-3		-.00435	348	348	-0-		-0-							-.00435
1424	5	67	62	-5		-.00725	348	347	-0-		-0-							-.00725
1430	6	62	60	-2		-.0029	348	348	-0-		-0-							-.0029
1436	7	71	68	-3		-.00435	348	347	-.001		-.00183							-.00252
1442	8	68	63	-5		-.00725	347	347	-0-		-0-							-.00725
1448	9	63	60	-3		-.00435	347	347	-0-		-0-							-.00435
1454	10	60	55	-5		-.00725	347	347	-0-		-0-							-.00725
1500	11	69	62	-6		-.0087	347	346	-.001		-.00183							-.00687
1506	12	62	59	-3		-.00435	346	346	-0-		-0-							-.00435
1512	13	59	57	-2		-.0029	346	346	-0-		-0-							-.0029
1518	14	57	53	-4		-.0058	346	346	-0-		-0-							-.0058
1524	15	68	63	-5		-.00725	346	345	-.001		-.00183							-.00542
1530	16	63	60	-3		-.00435	345	345	-0-		-0-							-.00435
1536	17	60	56	-4		-.0058	345	345	-0-		-0-							-.0058
1542	18	56	55	-1		-.00145	345	344	-.001		-.00183							+.00038
1548	19	69	64	-5		-.00725	344	344	-0-		-0-							-.00725
1554	20	64	61	-3		-.00435	344	344	-0-		-0-							-.00435



A. Tank Bot. to Grade 121"
B. Tank Top to Grade 46"
C. Tank Diameter 75"
D. Test Level above grade -0-
E. Depth of water in tank -0-"
F. Depth for taking sample 83"
G. Temp. Probe depth (connector) 48"
H. Test level to Tank Bot. 77"
I. Groundwater above tank bottom -0-"
J. Product Pressure per 1" height .031 PSI

Test Pressure Formula

77 (H) × .031 (J) − (-0- (I) × .036) = 2.387 NET TEST PRESSURE

-.04671

Send Report to:
Client
Address
City, State
Phone ( ) -
Attn:

CERTIFICATION This is to certify that this tank system was tested on date shown. Those indicated "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 329.

Tank No. V-CRA-17
Tight YES
Leakage Indicated -.04671
Technician Chris Murphy
Date Tested 8-23-89

Tank only

18

DATA CHART FOR TANK SYSTEM TIGHTNESS TEST

AG-17

Tank Only

(EZY CHEK)

SAN-WAN ENVIRONMENTAL CO.
33247 Rd. 156
Ivanhoe, California 93235
(209) 798-1856

CLIENT
NAME OF SUPPLIER,
OWNER OR DEALER UC RIVERSIDE AG-OPS
ADDRESS (NO. & STREET) 14250 LASALLE
CITY AND STATE MORENO VALLEY 92388

DATE OF TEST 8-23-89
WEATHER Clear TEMPERATURE 91

TANK INFORMATION
CAPACITY (NOMINAL) 4000 GALS.
CAPACITY (CHART) ____ GALS.
DIMENSIONS: DIAMETER 75"
LENGTH 204"

SIZE OF FILL OR TEST OPENING 3 IN.
TOP OFF TIME 8-22-89 GALLONS N/A
NUMBER OF GALLONS ADDED TO START TEST 7
TANK NO. V-CRA-17 BLUE
INCHES OF WATER – BEFORE TEST 0" AFTER TEST 2"

CONTENTS (PRODUCT) DIESEL
TANK MATERIAL Steel
APPROX. AGE 1962
PUMP SYSTEM (TYPE) Suction

TEST CALIBRATION
SIZE OF CAL. BAR OR ML'S ADDED .05 ÷ 30.66 (ALM) = .0016307 (FACTOR A)

LINE MOVEMENT
1 45 to 75 = 30 LINES
2 41 to 72 = 31 LINES
3 37 to 68 = 31 LINES
TOTAL 92 LINES ÷ 3 = 30.66 (ALM) LINES

END OF TEST CALIBRATION
SIZE OF CAL. BAR OR ML'S ADDED .05 ÷ 34.33 (ALM) = .0014564 (FACTOR A)

LINE MOVEMENT
1 48 to 84 = 36 LINES
2 45 to 78 = 33 LINES
3 42 to 76 = 34 LINES
TOTAL 103 LINES ÷ 3 = 34.33 (ALM) LINES

MEASURED API SPECIFIC GRAVITY 36.6
PRODUCT TEMPERATURE 83
API SPECIFIC GRAVITY @ 60° F 34.4 (FROM TABLE A)
COEFFICIENT OF EXPANSION .00045805 (FROM TABLE B)

.00045805 C.O.E. × 4000 TOTAL CAPACITY (GAL.) = 1.832 (FACTOR B) VOL. CHANGE/° F

TANK LAYOUT

SEE TANK # V-CRA-16

HIGH Test ____

Chart for low Test ONLY

I.D. TAG ON Vent PIPE.

PRODUCT LINE TESTING

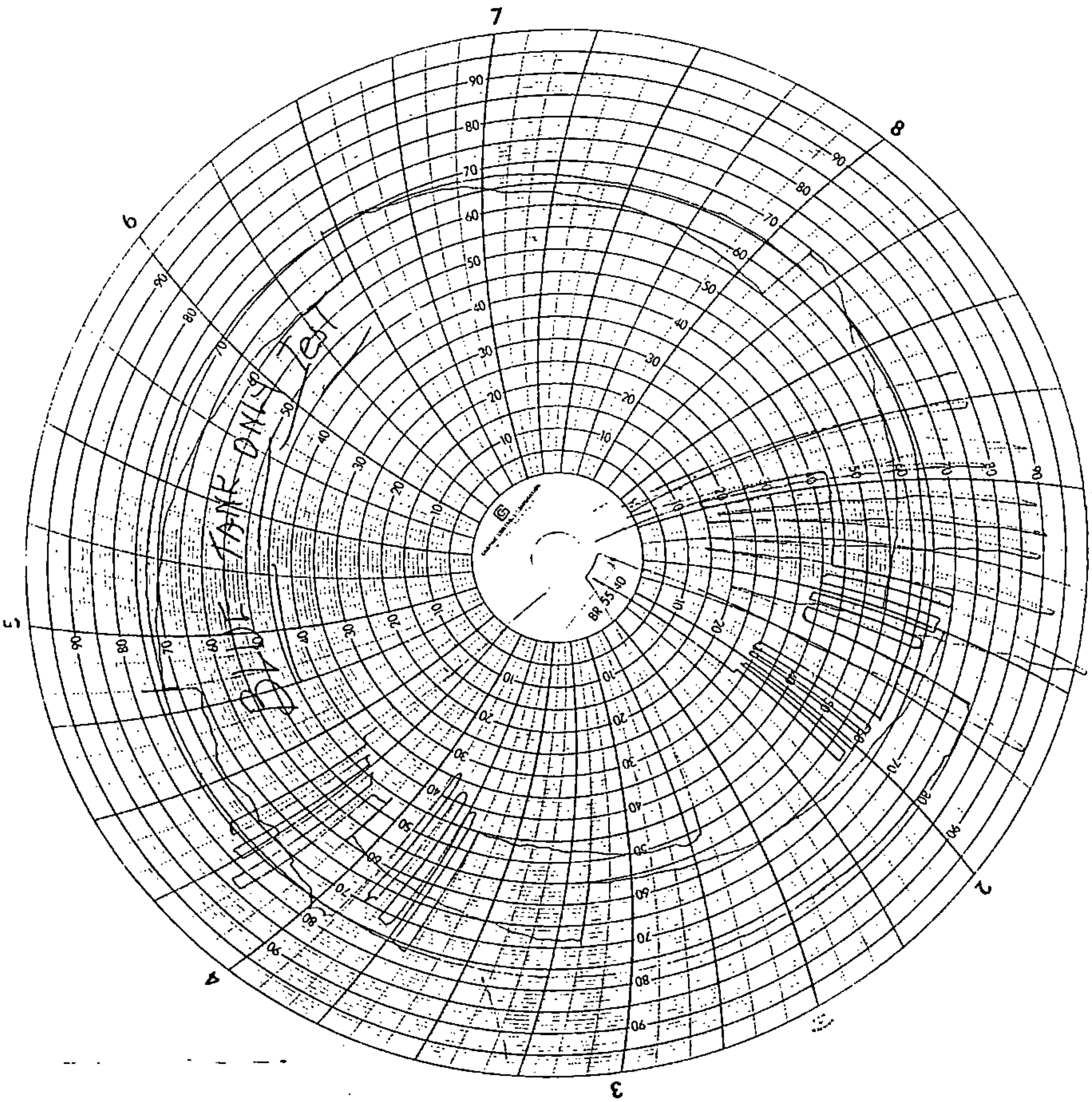
Time (Military)	Reading No.	PRODUCT MONITORING ON LL				Product +Gain -Loss
		Start	End	+Gain -Loss	X Factor A	
					.003	
					.003	
					.003	
					.003	

SYSTEM

Serial	Number

C. Richard J. Murphy 8-23-89
TECHNICIAN(S) DATE

17


BLUE TANK ONLY TEST
BR 5510

County of Riverside

DEPARTMENT OF HEALTH

TO: University of California **DATE:** October 27, 1989

Riverside Campus

FROM: Brad Nicolet, Hazardous Materials Specialist

RE: Underground Storage Tank Monitoring

The enclosed Underground Storage Tank Monitoring Alternative Applications need to be completed and returned to our office for approval. The monitoring option which was applied for previously has expired.

If you need any assistance, do not hesitate to contact me at (714) 358-5055.

BN:rja

GEN. FORM 4, (Rev. 8/87)

DEPARTMENT OF HEALTH
UNDERGROUND STORAGE TANK
MONITORING ALTERNATIVE APPLICATION

Name of Facility	Address of Facility
UC Riverside	3401 Watkins Dr., Riverside, CA 92521
Name of Owner	Address of Owner
UC Regents	650 University Hall, Berkeley, CA 94720
Contact Person's Name	Contact Person's Phone No.
Stephen T. Cockerham	(714) 787-5906

	Tank 1	Tank 2	Tank 3	Tank 4
Size of Tank	1000	4000-		-
Type of material used in the construction of the tank(s) - Steel (S), Fiberglass (F), Plasteel (PS), Other (O) - please specify.	S	S		
Materials stored in the tank, past and present - Motor vehicle fuel (MVF), Diesel (D), Waste oil (W). If other than listed, specify.	MVF	D		
Date of tank installation	1966	1966		
What type of corrosion protection does the tank have? Cathodic (C), Hydrocarbon coating (tar) (H), Resin coating (R), Other (O), None (N)	TAR	TAR		
Has the primary tank been repaired? Yes (Y), No (N).	N	N		
Are the tanks located in the same or closely spaced excavation(s)? Yes (Y), No (N).	N	N		
Is there any secondary containment of the tank? External non-coating liner (L), Doublewalled tanks (DW), Other (O), None (N).	N	N		
Is the product piping a pressure or suction piping? Pressure (P), Suction (S), Gravity flow (G).	G/S	G/S		
What is the average volume (gallons) and frequency (Daily-D, Weekly-W, Monthly-M) of tank product inputs and withdrawals?	133 M	658 M		
Depth to first groundwater (feet)	100	100		
Is the first groundwater useable? Yes(Y), No (N). (Groundwater-GW)	Y	Y	———	———
Is the GW connected hydraulically to useable GW? Yes (Y), No (N).	UNK	UNK		
Type of monitoring equipment presently installed/in operation - On Line Leak Detector, Inventory Reconciliation. If other, please specify.	INV R	INV R		
When was the last tank test performed - month, year. Name of Testing Company: Associated Environmental Systems	8/86 AES	8/86 AES		
UCR ID #	UCR-AG-16	UCR-AG-17		
Indicate your choice of monitoring alternative number as listed on Table A.	8A	8A		
Indicate a second alternative in case your first choice is unacceptable.	8B	8B		

If any of the monitoring alternatives chosen require a monitoring well, this agency requires you to submit a plot plan showing the location of: (1) structures on the site; (2) all underground storage tanks; (3) wells to be used in the monitoring; and (4) the gradient (general flow direction) of the water table. Structural modifications require a detailed plan (to scale) to accompany this application.

Applicant's Name (Print)	Applicant's Signature	Date of Application
Elmer L. Ross	Elmer L. Ross	11-11-86

DOH-SAN-039 (New 2/86)

FOR OFFICE USE ONLY

APPROVED	
APPROVED WITH CHANGES (SEE COMMENTS)	
DISAPPROVED (SEE COMMENTS)	

COMMENTS:

Reviewed By: _____ Date: _____

In accordance with Ordinance #617, the modification fee for your facility is: $ _____

Authorization to proceed with monitoring modification is automatic upon payment of fees.

Failure to comply with the conditions of this approval is subject to the civil and criminal penalties of Section 14, Ordinance #617.

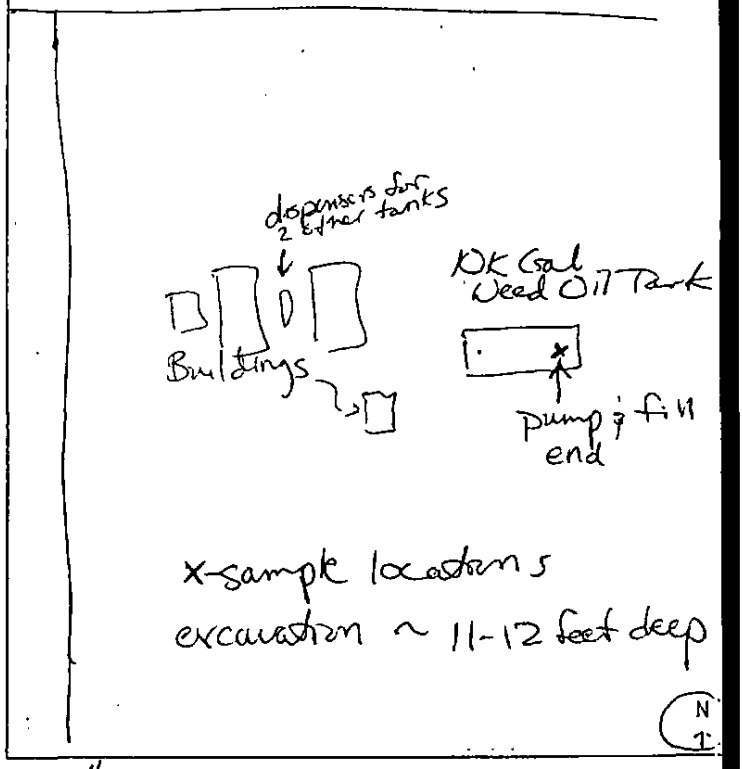
COUNTY OF RIVERSIDE, DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH DIVISION
HAZARDOUS MATERIALS MANAGEMENT BRANCH
UNDERGROUND STORAGE TANK CLOSURE INSPECTION REPORT

Date 10/27/89 Time Arrived 9:30 AM Time Departed 12:00 p.m. Temp. Closure ___
Facility Name UCR-AG OPERS.-MORENO FARM Plan Check # 89-330 Removal ✓
Address 14250 Lasselle Contact ~~Bob~~ Andy Neumann (714) 792-7370 Abandonment ___
Contractor Marine 88, Inc Bloomington No. of Tanks Closed 1
Health Personnel Brad Nicoletti Fire Personnel Richard Castillo / Bob Jerz No. of Tanks Remaining 2

I. Temporary Closure

	Yes	No	N/A	
1	( )	( )	( )	Valid Closure Permit
2	( )	( )	( )	Tank Contents Removed
3	( )	( )	( )	Witnessed Sticking of Tank(s)
4	( )	( )	( )	Flammable Vapors Purged
5	( )	( )	( )	Tank Filled with Non-Corrosive/ Non-Hazardous Liquid
6	( )	( )	( )	Locks on Fill Caps/ Fill Caps Sealed
7	( )	( )	( )	Product Piping Disconnected
8	( )	( )	( )	Power Disconnected
9	( )	( )	( )	Vent Pipe Open
10	( )	( )	( )	Other ___

Diagram (not to scale) Aleksandro



II. Removal

	Yes	No	N/A	
11	(✓)	( )	( )	Valid Closure Permit
12	(✓)	( )	( )	Tank Triple Rinsed
13	( )	( )	( )	Manifest Available/Number ___
14	( )	( )	( )	Hazardous Waste Hauler PTL in Signal Hill
15	( )	( )	( )	Destination of Rinsate ___
16	(✓)	( )	( )	Witnessed Dry-Icing of Tank(s)
17	(✓)	( )	( )	Tank Tags Removed U.L. Serial #('s) H72965, C.A.F.D. manuf '77
18	(✓)	( )	( )	Destination of Tank(s) AMR
19	(✓)	( )	( )	Condition of Tank(s) light rust & pitting
20	(✓)	( )	( )	Condition of Excavation moderate soil
21	(✓)	( )	( )	Soil Staining/Odor slight
22	( )	(✓)	( )	Unauthorized Release form Issued
23	( )	( )	(✓)	Other ___

} manifest on way w/ soil sample results & AMR receipt.

ENTERED 10-31-89 JM

23

III. Abandonment In Place

	Yes	No	N/A	
24	( )	( )	( )	Valid Closure Permit
25	( )	( )	( )	Tank(s) Rinsed
26	( )	( )	( )	Manifest Available/Number _____
27	( )	( )	( )	Soil Sampling
28	( )	( )	( )	Tank(s) Filled with Priper Slurry
29	( )	( )	( )	Piping Removed/Capped
30	( )	( )	( )	Vents in Place
31	( )	( )	( )	Indication of Release
32	( )	( )	( )	Notice in Deed
33	( )	( )	( )	Other _____

IV. Soil Sampling

	Yes	No	N/A	
34	(✓)	( )	( )	Number of Samples 2
35	(✓)	( )	( )	Location of Samples see diagram 2';5' below tank bottom
36	(✓)	( )	( )	Samples Sealed/COC
37	(✓)	( )	( )	Soil Tests Requested 418.1 & 8015 mod
38	(✓)	( )	( )	Samples to Certified Lab BC. Lab in Bakersfield
39	(✓)	( )	( )	Other hole backfilled 10/27/89

Comments: (38) note: Andy Neuman said that he would go straight to the store and "ice" the soil samples taken (11:10 A.M.). HP needs to confirm that samples arrived at lab chilled and in a timely manner. Neuman said he would be there by 3:00 P.M. 10/27/89

COUNTY OF RIVERSIDE, DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH SERVICES DIVISION
HAZARDOUS MATERIALS BRANCH

UNDERGROUND STORAGE TANK PERMIT FOR CLOSURE

TYPE OF PERMIT

Removal	(X)
Abandonment in Place	( )
Temporary Closure	( )

This permit shall not be construed as to allow the violation of any law, nor does it prevent further corrections of errors found on the application, plans, or at the site. Plans must be resubmitted for approval if any additional changes are made by the applicant.

In addition to this permit, all applicable permits required by the local fire department, building department, and the air quality management district must be obtained and should be available for review at the closure site.

All tank closures must, at a minimum, comply with the California Underground Storage Tank Regulations and the appropriate section of the California Health & Safety Code.

Marine 88 Inc (Owner/Contractor/Applicant) has applied for and is granted a permit to Remove (Remove/Abandon/Temp. Close) 1 (No.) underground storage tank(s) at _____ (Facility Name) located at 14250 La Salle (Street Address) 14250 Laselle in Moreno Valley (City/Town), California.

Underground tank closure inspections **must be scheduled five (5) business days in advance.** Telephone (714) 358-5055.

Permit Approved By	Date	Plan Check #
[signature]	10-11-89	89-330

*This Permit for Closure is VALID FOR 90 DAYS from the date of approval. If no reasonable action is taken within that period, the applicant will be required to reapply for a closure permit with all pertinent fees associated.

COUNTY OF RIVERSIDE, DEPARTMENT OF HEALTH

UNDERGROUND STORAGE TANK CLOSURE/ABANDONMENT APPLICATION

Application for closure or abandonment of Underground Storage Tanks. Applicant may submit a copy of the removal plans. All fees are NON REFUNDABLE and payable when the plans are submitted with this application.

89-330
PLAN CHECK NUMBER

NAME OF FACILITY	ADDRESS OF FACILITY	(CITY)	PHONE NUMBER
U. C. RIVERSIDE	14250 LA SALLE	MORENO VALLEY	242-7611
NAME OF OWNER	**ADDRESS OF OWNER**		**PHONE NUMBER**
State of Calif.	(Office of the State Architect) 400 P St.	SACRAMENTO	(916) 322-8249
NAME OF OPERATOR	**ADDRESS OF OPERATOR**		**PHONE NUMBER**
U. C. Riverside	1060 Pennsylvania Ave.		787-5906
NAME OF CONTRACTOR/CONTACT PERSON	**ADDRESS OF CONTRACTOR**		**PHONE NUMBER**
MARINE 88, INC.	P.O. 1077	Bloomington, 92316	
CONTRACTORS LICENSE TYPE & NUMBER			
GEN. ENG. "A"	548649		(714) 792-7370

ANSWER THE FOLLOWING QUESTIONS DESCRIBING THE TANKS TO BE CLOSED OR ABANDONED. IF YOU HAVE MORE THAN FOUR (4) TANKS, PROVIDE INFORMATION ON ADDITIONAL APPLICATION FORM.

	TANK 1	TANK 2	TANK 3	TANK 4
SINGLE/DOUBLE WALL TANK	UNKNOWN			
TANK IN USE (YES/NO)	NO			
IS TANK SUSPECTED OF LEAKING (YES/NO)	NO			
AGE OF TANK (YEARS)	UNKNOWN			
CONSTRUCTION MATERIAL OF TANK(S)	Steel			
HAZARDOUS SUBSTANCE STORAGE HISTORY	10,000 WEED oil			

Check the method of closure to be performed:

REMOVAL (X)

ABANDONMENT ( )

TEMPORARY CLOSURE ( )

DATES FOR WHICH THE TANKS ARE TO BE TEMPORARILY CLOSED (IF APPLICABLE).

N/A

NAME OF PERSON TO CONTACT IN AN EMERGENCY	24 HOUR EMERGENCY PHONE NUMBER
ANDY NEUMANN	(714) 792-7370

APPLICANT NAME	APPLICANT SIGNATURE	DATE OF APPLICATION
A. M. DAVIS	A M Davis	10-11-89

PLEASE MAKE YOUR CHECK PAYABLE TO THE COUNTY OF RIVERSIDE

CLOSURE/ABANDONMENT FEE

FIRST TANK ------- $200.00

EACH ADDITIONAL TANK ---------- $ 60.00

AMOUNT ATTACHED $ 200 .00

TRANSACTION NO. 41275 26

AMERICAN METAL RECYCLING, INC.

2202 South Milliken Avenue
Ontario, CA 91761
(714) 988-8000

No. 32698

TANK DISPOSAL FORM

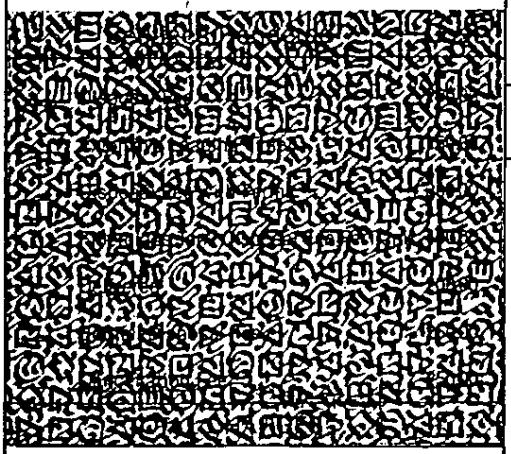
Date: OCT 27 ,19 89
Job #
P. O. #

CONTRACTOR: MARINE 88, INC.
ADDRESS: P.O Box 1077 Bloomington, CA. 92316
JOB SITE: UNIVERSITY OF CALIFORNIA RIVERSIDE
ADDRESS: 14281 la SSalle Moreno Valley, CA
DESTINATION: A.M.R. 2202 S. Milliken Ave., Ontario, CA 91761

DATE	TIME	PROJECTED TANKS	ORDERED BY:	LIC. NO.

SPECIAL INSTRUCTIONS: _____

TIME IN:
TIME OUT:



All fees incurred are per load unless specified. Terms are net 30 days from date of invoice. Contractor's signature represents acceptance of terms for payment, and confirms that tank removal complies with State laws.

CONTRACTOR'S SIGNATURE

TANKS RECEIVED

QTY.	GALLONS	TYPE F* S*	NET TONS	TOTAL
	280	☐ ☐	.14	
	500	☐ ☐	.21	
	550	☐ ☐	.24	
	1000 - 12 ft.	☐ ☐	.44	
	1000 - 6 ft.	☐ ☐	.61	
	1500	☐ ☐	.87	
	2000	☐ ☐	.97	
	2500	☐ ☐	1.14	
	3000	☐ ☐	1.32	
	4000	☐ ☐	1.64	
	5000	☐ ☐	2.42	
	6000	☐ ☐	2.84	
	7500	☐ ☐	3.26	
	8000	☐ ☐	3.44	
	9000	☐ ☐	3.82	
1	10000	☐ ☒	4.33	4.33
	12000	☐ ☐	4.93	

NO. OF TANKS: 1 TOTAL NET TONS: 4.33

*F — FIBERGLASS *S — STEEL 105

CERTIFICATE OF TANK DISPOSAL / DESTRUCTION
THIS IS TO CERTIFY THE RECEIPT AND ACCEPTANCE OF THE TANK(S) AS SPECIFIED ABOVE. ALL MATERIALS SPECIFIED HAVE BEEN COMPLETELY DESTROYED FOR SCRAP PURPOSES ONLY.

AUTHORIZED REP. _____ OCT. 27, 1989 DATE

GENERATOR COPY

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-91)
Please print or type. (Form designed for use on elite (12-pitch typewriter).

See Instructions on Back of Page 6 and Front of Page

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD981669420 | Manifest Document No. 3123917

2. Page 1 of 7 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
PETROLEUM RECYCLING CORP.
2651 WALNUT AVE SIGNAL HILL CA 90806

4. Generator's Phone 800 322-8883

A. State Manifest Document Number 8138397

B. State Generator's ID

5. Transporter 1 Company Name: PETROLEUM RECYCLING CORP | 6. US EPA ID Number: CAD981616420

C. State Transporter's ID 010210

D. Transporter's Phone

7. Transporter 2 Company Name: Petroleum Recycling Corp | 8. US EPA ID Number: CAD981818824

E. State Transporter's ID 008758-56

F. Transporter's Phone 213 595-1431

9. Designated Facility Name and Site Address: PETROLEUM RECYCLING CORP
1835 E 29TH ST
SIGNAL HILL CA 90806 | 10. US EPA ID Number: CAT080191059

G. State Facility's ID HAH0360172512

H. Facility's Phone 213/532-7909

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. WASTE OIL NOS COMBUSTABLE LIQUID N.A. 1270	001	TT	1960	G	State 221 EPA/Other D001
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
RECYCLABLE OIL
2

K. Handling Codes for Wastes Listed Above
a. R01 b.
c. d.

15. Special Handling Instructions and Additional Information
RUBBER GLOVES

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

	Printed/Typed Name	Signature	Month Day Year
GENERATOR	BARRY M. WEISER	Barry M. Weiser	10 27 89
TRANSPORTER	17. Transporter 1 Acknowledgement of Receipt of Materials: BARRY M. WEISER	Barry M. Weiser	10 27 89
TRANSPORTER	18. Transporter 2 Acknowledgement of Receipt of Materials: Scott D. Hodge	Scott D Hodge	10 30 89
FACILITY	19. Discrepancy Indication Space		
FACILITY	20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name: Loren Brock	Signature: LB	10 31 89

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

1989 OCT 30 PM 2:59

DHS 8022 A (1/88)
EPA 8700—22
(Rev. 9-88) Previous editions are obsolete.

Do Not Write Below This Line

White: TSDF SENDS THIS COPY TO DOHS WITHIN 30 DAYS
To: P.O. Box 3000, Sacramento, CA 95812

8529-2
MRNG-H

CHAIN OF CUSTODY

DATE: 10-27-89

AKA: MARINE CONTRACTORS OF FONTANA

CLIENT: MARINE 88, INC.

ADDRESS: P.O. 1077 - BLOOMINGTON, CA. 92316

PHONE NUMBER: (714) 792-7370

PROJECT NAME: U.C. RIVERSIDE - AG. STATION

PROJECT MANAGER: Delbert WADDELL

SAMPLERS: [signature]

Sample Number	Location Description	Date Sampled	Time Sampled	Number of Containers	Tests Required	Date Needed by
1	2' EAST END	10/27/89	10AM	1	418.1 8015M	
2	5' " "	"	10?1	1	418.1 8015M-	

[signature] Meena Johnson 10/27/89 5:25

Relinquished By: Received By: Date Time

Relinquished By: Received By: Date Time

Relinquished By: Received By: Date Time

U. C. RIVERSIDE

ENVIRONMENTAL
CHEMICAL ANALYSIS
PETROLEUM

BC LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

MARINE 88, INC.
P. O. BOX 1077
BLOOMINGTON, CA 92316
Attn.: ANDY NEWMANN 714-792-7370

Date Reported: 11/02/89 Page 1
Date Received: 10/30/89
Laboratory No.: 8529-1

Sample Description: 2' EAST END, 10/27/89 @ 10:00

TOTAL CONTAMINANTS
(Title 22, Article II, California Administrative Code)

Constituents	Sample Results	Method P.Q.L.	Units	Method	Ref.
Total Petroleum Hydrocarbon	299.	10.	mg/kg	418.1	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

Constituents	Regulatory Criteria STLC, mg/L	TTLC, mg/kg

Comment: All constituents reported above are in mg/kg (unless otherwise stated) on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte detectable based on sample size used and analytical technique employed.
N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.)
I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
(1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
(2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY J. J. Eglin
J. J. Eglin

ENVIRONMENTAL
CHEMICAL ANALYSIS
PETROLEUM

BC LABORATORIES, INC.
J. J. EGLIN, REG. CHEM. ENGR.
4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

MARINE 88, INC.
P. O. BOX 1077
BLOOMINGTON, CA 92316
Attn.: ANDY NEWMANN 714-792-7370

Date Reported: 11/02/89 Page 1
Date Received: 10/30/89
Laboratory No.: 8529-2

Sample Description: 5' EAST END, 10/27/89 @ 10:01

TOTAL CONTAMINANTS
(Title 22, Article II, California Administrative Code)

Constituents	Sample Results	Method P.Q.L.	Units	Method	Ref.
Total Petroleum Hydrocarbon	24.	10.	mg/kg	418.1	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

Constituents	Regulatory Criteria STLC, mg/L	TTLC, mg/kg

Comment: All constituents reported above are in mg/kg (unless otherwise stated) on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte detectable based on sample size used and analytical technique employed.
N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.)
I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
(1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
(2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY J. J. Eglin
J. J. Eglin

ENVIRONMENTAL
CHEMICAL ANALYSIS
PETROLEUM

BC LABORATORIES, INC.
J. J. EGLIN, REG. CHEM. ENGR.
4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics
(SOIL)

Marine 88, Inc.
P.O. Box 1077
Bloomington, CA 92316
Attention: Andy Newmann

Date of Report: 10-Nov-89

Lab No.: 8529-1
Sample Desc: 2' East End 10/27/89 @ 10:00

DATE SAMPLE COLLECTED:	DATE SAMPLE RECEIVED @ LAB:	DATE ANALYSIS COMPLETED:
27-Oct-89	30-Oct-89	06-Nov-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Total Petroleum Hydrocarbons	ug/g	none detected	5.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.

As Received Basis

Comments:

California D.O.H.S. Cert. #102

By J. J. Eglin
J. J. Eglin

Joseph Balla
Analyst

ENVIRONMENTAL
CHEMICAL ANALYSIS
PETROLEUM

BC LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics
(SOIL)

Marine 88, Inc.
P.O. Box 1077
Bloomington, CA 92316
Attention: Andy Newmann

Date of
Report: 11-Nov-89

Lab No.: 8529-2
Sample Desc: 5' East End 10/27/89 @ 10:01

DATE SAMPLE COLLECTED:	DATE SAMPLE RECEIVED @ LAB:	DATE ANALYSIS COMPLETED:
27-Oct-89	30-Oct-89	06-Nov-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Total Petroleum Hydrocarbons	ug/g	none detected	5.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.

As Received Basis

Comments:

California D.O.H.S. Cert. #102

By J. J. Eglin
J. J. Eglin

Joseph Balla
Analyst

ENVIRONMENTAL
CHEMICAL ANALYSIS
PETROLEUM

BC LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.
4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

TPH GASOLINE
Quality Control Data

Marine 88, Inc.
P.O. Box 1077
Bloomington, CA 92316
Attention: Andy Newmann

Spike ID: 8529-2
Analysis Date: 06-Nov-89
Sample Matrix: Soil
Units: ug/g

Quality Control
for Lab Nos: 8529-1, 8529-2

One sample in twenty is selected as a representative matrix which is spiked. The percentage recovery (% Rec) of the spike is a relative measure of the accuracy of the analysis. The comparison of the spike with a duplicate spike is a measure of the relative precision of the analysis.

Constituent	Conc. in Spike Sample	Conc. Added to Spike	Spike % Rec	Dup Spike % Rec	Spike RPD
TPH Gas	0.00	301.06	99.57	95.00	4.70

QC Comments:

$$\% \text{ Recovery} = \frac{\text{Spiked Sample Concentration} - \text{Sample Concentration}}{\text{(Concentration of Spike)}} \times 100$$

RPD (Relative Percent Difference) =

$$\frac{\text{Spiked Sample Conc.} - \text{Spiked Duplicate Sample Conc.}}{\text{(Average Conc. of Spikes)}} \times 100$$

Date Rec'd: 10/27

BC CHAIN OF CUSTODY

NO. L- 3521

Client:	Sampler:	Sample Type:
Name: Marine 88 Inc Address: P.O Box 1077 Attn: Bloomington, CA 92316 Andy Newman	Name: same Address:	Water ____ Soil X Sludge ____ Oil ____ Other: (specify) ____

Lab #	Description:	Other Tests	EPA 502.1/8010	EPA 503.1/8020	EPA 502.2/8010/8020	EPA 504 EDB/DBCP	EPA 524.2/8240	EPA 625/8270	PCB	BTX/TPH Gas	BTX/TPH Diesel	EPA 608/8080
8529-1	2' East End, 10/27/89 @ 10:00	TPH, EPA 8015M							(*)	X		
8529-2	5' East End, 10/27/89 @ 10:00	TPH, EPA 8015M								X		
		TPH Gas										
		p/ Deanna 11/2/89										

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Comments:
Veronica Salmon	10/30/89	9:00		10/30/89	4:10	Split @ Pierce Road
	10/30/89	4:45	Kyle Ernst	10/30/89	5:00pm	
						* 8015 is Modified

White: Return to Customer with Report
Yellow: BC Lab Copy

BC Laboratories

COUNTY OF RIVERSIDE, DEPARTMENT OF HEALTH

UNDERGROUND STORAGE TANK CLOSURE/ABANDONMENT APPLICATION

Application for closure or abandonment of Underground Storage Tanks. Applicant may submit a copy of the removal plans. All fees are NON REFUNDABLE and payable when the plans are submitted with this application.

89-330
PLAN CHECK NUMBER

NAME OF FACILITY	ADDRESS OF FACILITY (CITY)	PHONE NUMBER
U. C. RIVERSIDE	14250 LA SALLE MORENO VALLEY	242-7611
NAME OF OWNER	**ADDRESS OF OWNER**	**PHONE NUMBER**
State of Calif.	(OFFICE of the State Architect) 400 P st. SACRAMENTO	(916) 322-8249
NAME OF OPERATOR	**ADDRESS OF OPERATOR**	**PHONE NUMBER**
U. C. Riverside	1060 Pennsylvania Ave.	787-5906
NAME OF CONTRACTOR/CONTACT PERSON	**ADDRESS OF CONTRACTOR**	**PHONE NUMBER**
MARINE 88, INC.	P.O. 1077 Bloomington,	92316
CONTRACTORS LICENSE TYPE & NUMBER		
GEN. ENG. "A" 548649		(714) 792-7370

ANSWER THE FOLLOWING QUESTIONS DESCRIBING THE TANKS TO BE CLOSED OR ABANDONED. IF YOU HAVE MORE THAN FOUR (4) TANKS, PROVIDE INFORMATION ON ADDITIONAL APPLICATION FORM.

	TANK 1	TANK 2	TANK 3	TANK 4
SINGLE/DOUBLE WALL TANK	UNKNOWN			
TANK IN USE (YES/NO)	NO			
IS TANK SUSPECTED OF LEAKING (YES/NO)	NO			
AGE OF TANK (YEARS)	UNKNOWN			
CONSTRUCTION MATERIAL OF TANK(S)	Steel			
HAZARDOUS SUBSTANCE STORAGE HISTORY	10,000 WEED oil			

Check the method of closure to be performed:

REMOVAL (X)

ABANDONMENT ( )

TEMPORARY CLOSURE ( )

DATES FOR WHICH THE TANKS ARE TO BE TEMPORARILY CLOSED (IF APPLICABLE).
N/A

NAME OF PERSON TO CONTACT IN AN EMERGENCY	24 HOUR EMERGENCY PHONE NUMBER
ANDY NEUMANN	(714) 792-7370

APPLICANT NAME	APPLICANT SIGNATURE	DATE OF APPLICATION
A. M. DAVIS	A M Davis	10-11-89

PLEASE MAKE YOUR CHECK PAYABLE TO THE COUNTY OF RIVERSIDE

CLOSURE/ABANDONMENT FEE

FIRST TANK------- $200.00

EACH ADDITIONAL TANK--------- $ 60.00

AMOUNT ATTACHED $ 200 .00

TRANSACTION NO. 4275 36

COUNTY OF RIVERSIDE, DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH SERVICES DIVISION
HAZARDOUS MATERIALS BRANCH

UNDERGROUND STORAGE TANK PERMIT FOR CLOSURE

TYPE OF PERMIT

Removal	☒
Abandonment in Place	( )
Temporary Closure	( )

This permit shall not be construed as to allow the violation of any law, nor does it prevent further corrections of errors found on the application, plans, or at the site. Plans must be resubmitted for approval if any additional changes are made by the applicant.

In addition to this permit, all applicable permits required by the local fire department, building department, and the air quality management district must be obtained and should be available for review at the closure site.

All tank closures must, at a minimum, comply with the California Underground Storage Tank Regulations and the appropriate section of the California Health & Safety Code.

Marine 88 Inc (Owner/Contractor/Applicant) has applied for and is granted a permit to

Remove (Remove/Abandon/Temp. Close) 1 (No.) underground storage tank(s) at

_____ (Facility Name) located at

14250 La Salle (Street Address) in Moreno Valley (City/Town), California.

Underground tank closure inspections **must be scheduled five (5) business days in advance.** Telephone (714) 358-5055.

Permit Approved By	Date	Plan Check #
	10-11-89	89-330

*This Permit for Closure is VALID FOR 90 DAYS from the date of approval. If no reasonable action is taken within that period, the applicant will be required to reapply for a closure permit with all pertinent fees associated.

THANK YOU
COUNTY/RIVERSIDE
HAZ MAT
3636 UNIVERSITY

1333	200.00
TOTAL	200.00
CHECK	200.00
CHANGE	0.00

4275
10/11/89 10:55
RONICA
RIVERSIDE 92501

STATE ID NUMBER 00000032268004

APPLICATION FOR PERMIT TO OPERATE UNDERGROUND STORAGE TANK

( ) 01 NEW PERMIT ( ) 05 RENEWED PERMIT ( ) 07 TANK CLOSED ( ) 09 DELETE FROM FILE (NO FEE)
( ) 02 CONDITIONAL PERMIT ( ) 06 AMENDED PERMIT ( ) 08 MINOR CHANGE (NO SURCHARGE)

I OWNER

NAME(CORPORATION,INDIVIDUAL OR PUBLIC AGENCY)	PUBLIC AGENCY ONLY
REGENTS, UNIVERSITY OF CALIF.	( ) 01 FED ( ) 02 STATE ( ) 03 LOCAL

STREET ADDRESS	CITY	STATE	ZIP
	BERKELEY	CA	94720

II FACILITY

FACILITY NAME	DEALER/FOREMAN/SUPERVISOR
AGRICULTURAL OPERATIONS/UC	STEPHEN T. COCKERHAM
STREET ADDRESS: 1060 PENNSYLVANIA AVE.	NEAREST CROSS STREET: CANYON CREST

CITY	COUNTY	ZIP
RIVERSIDE	RIVERSIDE	92507

MAILING ADDRESS	CITY	STATE	ZIP
1060 PENNSYLVANIA AVE.	RIVERSIDE	CA	92507

PHONE W/AREA CODE	TYPE OF BUSINESS
714-787-5906	( ) 01 GASOLINE STATION (X) 02 OTHER AGRIC. RESEARCH

NUMBER OF CONTAINERS	RURAL AREAS ONLY :	TOWNSHIP	RANGE	SECTION
18				

III 24 HOUR EMERGENCY CONTACT PERSON

DAYS: NAME(LAST NAME FIRST) AND PHONE W/AREA CODE	NIGHTS: NAME(LAST NAME FIRST) AND PHONE W/AREA CODE
COCKERHAM, STEPHEN T. 714-787-5906	PUBLIC SAFETY 714-787-5222

COMPLETE THE FOLLOWING ON A SEPARATE FORM FOR EACH CONTAINER

IV DESCRIPTION

A. (X) 01 TANK ( ) 04 OTHER:	CONTAINER NUMBER AG15
B. MANUFACTURER (IF APPROPRIATE): UNKNOWN YEAR MFG:	C. YEAR INSTALLED 1977 ( ) UNKNOWN
D. CONTAINER CAPACITY: 10000 GALLONS ( ) UNKNOWN	E. DOES THE CONTAINER STORE: ( ) 01 WASTE (X) 02 PRODUCT

F. DOES THE CONTAINER STORE MOTOR VEHICLE FUEL OR WASTE OIL ? ( ) 01 YES (X) 02 NO IF YES CHECK APPROPRIATE BOX(ES):
( ) 01 UNLEADED ( ) 02 REGULAR ( ) 03 PREMIUM ( ) 04 DIESEL ( ) 05 WASTE OIL XX 06 OTHER

V CONTAINER CONSTRUCTION

A. THICKNESS OF PRIMARY CONTAINMENT: ( ) GAUGE ( ) INCHES ( ) CM (X) UNKNOWN

B. ( ) 01 VAULTED (LOCATED IN AN UNDERGROUND VAULT) (X) 02 NON-VAULTED ( ) 03 UNKNOWN

C. ( ) 01 DOUBLE WALLED (X) 02 SINGLE WALLED ( ) 03 LINED

D. (X) 01 CARBON STEEL ( ) 02 STAINLESS STEEL ( ) 03 FIBERGLASS ( ) 04 POLYVINYL CHLORIDE ( ) 05 CONCRETE
( ) 06 ALUMINUM ( ) 07 STEEL CLAD ( ) 08 BRONZE ( ) 09 COMPOSITE ( ) 10 NON-METALLIC
( ) 12 UNKNOWN ( ) 13 OTHER:

STATE ID NUMBER 00000032268004

CONTAINER CONSTRUCTION

E. ( ) 01 RUBBER LINED ( ) 02 ALKYD LINING ( ) 03 EPOXY LINING ( ) 04 PHENOLIC LINING ( ) 05 GLASS LINING
(X) 07 UNLINED ( ) 08 UNKNOWN ( ) 09 OTHER:

F. ( ) 01 POLYETHLENE WRAP ( ) 02 VINYL WRAPPING ( ) 03 CATHODIC PROTECTION ( ) 04 UNKNOWN ( ) 05 NONE
(X) 06 TAR OR ASPHALT ( ) 09 OTHER:

VI PIPING

A. ABOVEGROUND PIPING: ( ) 01 DOUBLE-WALLED PIPE ( ) 02 CONCRETE-LINED TRENCH (X) 03 GRAVITY
(CHECK APPROPRIATE BOX(ES) ( ) 04 PRESSURE (X) 05 SUCTION ( ) 06 UNKNOWN ( ) 07 NONE

B. UNDERGROUND PIPING: ( ) 01 DOUBLE-WALLED PIPE ( ) 02 CONCRETE-LINED TRENCH (X) 03 GRAVITY
(CHECK APPROPRIATE BOX(ES) ( ) 04 PRESSURE (X) 05 SUCTION ( ) 06 UNKNOWN ( ) 07 NONE

VII LEAK DETECTION

( ) 01 VISUAL (X) 02 STOCK INVENTORY ( ) 04 VAPOR SNIFF WELLS ( ) 05 SENSOR INSTRUMENT
( ) 06 GROUND WATER MONITORING WELLS ( ) 07 PRESSURE TEST ( ) 09 NONE ( ) 10 OTHER:

VIII CHEMICAL COMPOSITION OF MATERIALS STORED IN UNDERGROUND CONTAINERS

IF YOU CHECKED YES TO IV-F YOU ARE NOT REQUIRED TO COMPLETE THIS SECTION

CURRENTLY STORED	PREVIOUSLY STORED	DELETE	CAS# (IF KNOWN)	CHEMICAL (DO NOT USE COMMERCIAL NAME)
(X) 01	( ) 02	( ) 03		WEED OIL (WEED KILLER)
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		
( ) 01	( ) 02	( ) 03		

* CHECK STATE BOARD CHEMICAL CODE LISTING FOR POSSIBLE SYNONYMS

IS CONTAINER LOCATED ON AN AGRICULTURAL FARM? (X) 01 YES ( ) 02 NO

THIS FORM HAS BEEN COMPLETED UNDER THE PENALTY OF PERJURY AND, TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT.

PERSON FILING (SIGNATURE)	PHONE W/AREA CODE

FOR LOCAL AGENCY USE ONLY

ADMINISTRATING AGENCY	CITY CODE	COUNTY CODE

CONTACT PERSON	PHONE W/AREA CODE

DATE OF LAST INSPECTION	IN COMPLIANCE ( ) 01 YES ( ) 02 NO	PERMIT APPROVAL DATE	TRANSACTION DATE	LOCAL PERMIT ID #

CERTIFICATE OF PRECISION LEAK TEST

Certification # 861526

Associated Environmental Systems has tested and certifies this tank and line system Tight.

Date: 12-5-86

Certified Tester: M Iessley # 86118

Location: U C Riverside Farm, 26100 Brodiaea Ave, Moreno Valley, CA

Tanks:

1. 10K Water
2. XXXXXXXXX
3. XXXXXXXXX
4. XXXXXXXXX
5. XXXXXXXXX
6. XXXXXXXXX

Recertification Date Recommended:

December 1987

UCR ID# AG15

M. Iessley

Associated Environmental Systems

Associated Environmental Systems • Home Office P O Box 151 Bakersfield, Ca 93302 • 805/393-2212

Removed 10/27/89

DEPARTMENT OF HEALTH
UNDERGROUND STORAGE TANK
MONITORING ALTERNATIVE APPLICATION

Name of Facility	Address of Facility
UC RIVERSIDE	3401 Watkins Dr., Riverside CA 92521
Name of Owner	Address of Owner
Regents UC California	650 University Hall, Berkeley, CA 92720
Contact Person's Name	Contact Person's Phone No.
Stephen T. Cockerham	(714) 787-5906

	Tank 1	Tank 2	Tank 3	Tank 4
Size of Tank	10,000			
Type of material used in the construction of the tank(s) - Steel (S), Fiberglass (F), Plasteel (PS), Other (O) - please specify.	S			
Materials stored in the tank, past and present - Motor vehicle fuel (MVF), Diesel (D), Waste oil (W). If other than listed, specify.	Weed Oil & Water			
Date of tank installation	1977			
What type of corrosion protection does the tank have? Cathodic (C), Hydrocarbon coating (tar) (H), Resin coating (R), Other (O), None (N)	TAR			
Has the primary tank been repaired? Yes (Y), No (N).	N			
Are the tanks located in the same or closely spaced excavation(s)? Yes (Y), No (N).	N			
Is there any secondary containment of the tank? External non-coating liner (L), Doublewalled tanks (DW), Other (O), None (N).	N			
Is the product piping a pressure or suction piping? Pressure (P), Suction (S), Gravity flow (G).	S/G			
What is the average volume (gallons) and frequency (Daily-D, Weekly-W, Monthly-M) of tank product inputs and withdrawals?	166 D			
Depth to first groundwater (feet)	100			
Is the first groundwater useable? Yes(Y), No (N). (Groundwater-GW)	X			
Is the GW connected hydraulically to useable GW? Yes (Y), No (N).	UNK			
Type of monitoring equipment presently installed/in operation - On Line Leak Detector, Inventory Reconciliation. If other, please specify.	INV R			
When was the last tank test performed - month, year.	12/86			
Name of Testing Company: Associated Env. Systems	AES			
UCR ID#	AG15			
Indicate your choice of monitoring alternative number as listed on Table A.	8A			
Indicate a second alternative in case your first choice is unacceptable.	8B			

If any of the monitoring alternatives chosen require a monitoring well, this agency requires you to submit a plot plan showing the location of: (1) structures on the site; (2) all underground storage tanks; (3) wells to be used in the monitoring; and (4) the gradient (general flow direction) of the water table. Structural modifications require a detailed plan (to scale) to accompany this application.

Applicant's Name (Print)	Applicant's Signature	Date of Application
Elmer L. Ross	Elmer L. Ross	1/12/87

DOH-SAN-039 (New 2/86)

FOR OFFICE USE ONLY

APPROVED	
APPROVED WITH CHANGES (SEE COMMENTS)	
DISAPPROVED (SEE COMMENTS)	

COMMENTS:

Reviewed By: _____ Date: _____

In accordance with Ordinance #617, the modification fee for your facility is: $ _____

Authorization to proceed with monitoring modification is automatic upon payment of fees.

Failure to comply with the conditions of this approval is subject to the civil and criminal penalties of Section 14, Ordinance #617.

DEPARTMENT OF HEALTH
UNDERGROUND STORAGE TANK
MONITORING ALTERNATIVE APPLICATION

Name of Facility	Address of Facility
UC Riverside - Moreno Ranch	UC Riverside 14250 LaSalle - Moreno Valley 92388
Name of Owner UC Regents	Address of Owner 650 University Hall Berkeley, Ca. 94720
Contact Person's Name Stephen T. Cockerham	Contact Person's Phone No. (714) 787-3029

AG-16 AG-17

	Tank 1	Tank 2	Tank 3	Tank 4
Size of Tank	1000	4000		
Type of material used in the construction of the tank(s) - Steel (S), Fiberglass (F), Plasteel (PS), Other (O) - please specify.	S	S		
Materials stored in the tank, past and present - Motor vehicle fuel (MVF), Diesel (D), Waste oil (W). If other than listed, specify.	MVF	D		
Date of tank installation	1966	1966		
What type of corrosion protection does the tank have? Cathodic (C), Hydrocarbon coating (tar) (H), Resin coating (R), Other (O), None (N)	TAR	TAR		
Has the primary tank been repaired? Yes (Y), No (N).	N	N		
Are the tanks located in the same or closely spaced excavation(s)? Yes (Y), No (N).	N	N		
Is there any secondary containment of the tank? External non-coating liner (L), Doublewalled tanks (DW), Other (O), None (N).	N	N		
Is the product piping a pressure or suction piping? Pressure (P), Suction (S), Gravity flow (G).	G/S	G/S		
What is the average volume (gallons) and frequency (Daily-D, Weekly-W, Monthly-M) of tank product inputs and withdrawals?	133	658		
Depth to first groundwater (feet)	M 100	M 100		
Is the first groundwater useable? Yes(Y), No (N). (Groundwater-GW) Is the GW connected hydraulically to useable GW? Yes (Y), No (N).	Y UNK	Y UNK		
Type of monitoring equipment presently installed/in operation - On Line Leak Detector, Inventory Reconciliation. If other, please specify.	INV R	INV R		
When was the last tank test performed - month, year. Name of Testing Company:	8/89 San Wan Env. Co.	8/89 San Wan Env. Co.		

UC ED # UCR AG16 UCR AG17

Indicate your choice of monitoring alternative number as listed on Table A.	8A	8A		
Indicate a second alternative in case your first choice is unacceptable.	8B	8B		

If any of the monitoring alternatives chosen require a monitoring well, this agency requires you to submit a plot plan showing the location of: (1) structures on the site; (2) all underground storage tanks; (3) wells to be used in the monitoring; and (4) the gradient (general flow direction) of the water table. Structural modifications require a detailed plan (to scale) to accompany this application.

Applicant's Name (Print)	Applicant's Signature	Date of Application
Michael Sylvester	Michael Sylvester	11-7-89

DOH-HEH-011 (new 5-88)

FOR OFFICE USE ONLY

APPROVED	
APPROVED WITH CHANGES (SEE COMMENTS)	
DISAPPROVED (SEE COMMENTS)	

COMMENTS: _____

Reviewed By: _____ Date: _____

In accordance with Ordinance #617, the modification fee for your facility is: $ _____

Authorization to proceed with monitoring modification is automatic upon payment of fees.

Failure to comply with the conditions of this approval is subject to the civil and criminal penalties of Section 14, Ordinance #617.

Office of the State Architect
400 P Street, 5th Floor, Sacramento 95814
(916) 323-5816

not correct - (illegible)

June 8, 1990

Mr. Joe Asbury
Riverside County Department of Health
Hazardous Materials Management Section
3636 University Avenue
Santa Ana, CA 92501

Dear Ms. Krall:

WORK ORDER NO. GST 952 03

Enclosed please find a copy of the revised Tank Monitoring Plan and Summary of the work to be done at the University of California at Riverside. Please review the work specifications for compliance with your regulations. If you note any problems, please advise me accordingly. I will revise the draft bid package to comply with your requirements.

It is expected that this project will go to bid in August 1990. Your prompt review and any comments will be appreciated. Please feel free to call me at (916) 323-5816 if you have any questions.

Sincerely,

A. K. Jain, Project Manager
Underground Tank Program

AKJ:skf

Enclosures

cc: Michael Sylvester, U. C. Riverside (with enclosures)
Ken McClellen, Office of the State Architect
Paul Hypnarowski, Office of the State Architect
Michael Golden, Office of the State Architect

APPENDIX A
UNIVERSITY OF CALIFORNIA SITES IN SOUTHERN CALIFORNIA

FACILITY*	COMMENTS **
2. University of California at Riverside Department of Physical Plant 3401 Watkins Drive Riverside, CA 92521 Contact: Michael Sylvester (714) 787-3098	
a. Agricultural Operations Building Riverside County (LEA)	Two tanks, I.D. #'s U-CRA-01 (1,000 gallons, Gasoline) and U-CRA-02 (6,000 gallons, Diesel). Install two probes and one TLM system. Install overfill protection device at each tank. No pipeline leak detection system is required. Install a check valve below each suction pump. Remove any other existing check valves.
b. Agricultural Field, Northwest Corner Riverside County (LEA)	Two tanks, I.D. #'s U-CRA-04 (20,000 gallons, Diesel) and U-CRA-05 (20,000 gallons, Diesel). Install two probes and one TLM system. Install overfill protection device at each tank. No pipeline leak detection system is required. Install a check valve below each suction pump. Remove any other existing check valves.
c. Agricultural Field, South West Riverside County (LEA)	Five tanks, I.D. #'s U-CRA-06 thru U-CRA-10 (5,000 gallons, Diesel, each tank). Install five probes and one TLM system. Provide remote reporting capability thru use of telecommunication modem. Install overfill protection device at each tank. No pipeline leak detection system is required. Install a check valve below each suction pump. Remove any other existing check valves.
d. Moreno Ranch, Experimental Agricultural Facility located about 15 miles East of the main campus	Three tanks, I.D. #'s U-CRA-11 (10,000 gallons, weed oil), U-CRA-12 (1,000 gallons, Gasoline) and U-CRA-13 (4,000 gallon, Diesel). Install three probes and one TLM system. Install overfill Riverside County (LEA) protection device

10K removed 10/27/ as per auth

APPENDIX A
UNIVERSITY OF CALIFORNIA SITES IN SOUTHERN CALIFORNIA

FACILITY*	COMMENTS **
	at each tank. No pipeline leak detection system is required. Install a check valve below each suction pump. Remove any other existing check valves.
e. Central Plant (Steam Plant) Riverside County (LEA)	Seven tanks, I.D. #'s U-UCR-01 thru U-UCR-04 (10,000 gallon, #6 Fuel, each tank), U-UCR-05 and U-UCR-06 (20,000 gallons, #6 Fuel, each tank),U-UCR-07 (23,000 gallons, #6 Fuel). Install seven probes and one TLM system. Install overfill protection device at each tank. No pipeline leak detection system is required. Install a check valve below each suction pump. Remove any other existing check valves.
f. Transportation Services (Corporation Yard) Riverside County (LEA)	Two tanks, I.D. #'s U-UCR-14 (6,000 gallons, Gasoline), U-UCR-15 (10,000 gallons, Gasoline). Install two probes and one TLM system. Install overfill protection device at each tank. Install two pipeline leak detectors and retrofit each pressure delivery system with a flow restriction device (1.5 gallon/minute).

LOCAL ENFORCEMENT AGENCY (LEA) JURISDICTION

Facility #1 Sites are under the Jurisdiction of Orange County:

County of Orange
Department of Health
Health Care Agency
1725 West 17th Street
Santa Ana, CA 92706
Contact: Ms. Joyce Krall
(714) 834-7174

Facility #2 Sites are under the Jurisdiction of Riverside County:

County of Riverside
Department of Health
Hazardous Materials Management Section
3636 University Avenue
Riverside, CA 92501
Contact: Mr. Joe Asbury
(714) 369-1141

Facility #3 Sites are under the Jurisdiction of San Diego County:

County of San Diego
Division of Environmental Health
P.O. Box 85261
San Diego, CA 92138-5261
Contact: Mr. Mike Vernetti
(619) 236-2222

Facility #4 Sites are under the Jurisdiction of Santa Barbara County:

County of Santa Barbara
Division of Environmental Health Services
315 Camino Del Remedio
Santa Barbara, CA 93110
Contact: Ms. Clari Binder
(805) 681-5140

Facility #5 Sites are under the Jurisdiction of city of Los Angeles:

City of Los Angeles
Department of Fire
200 North Main Street
Los Angeles, CA 90012
Contact: Mr. Henry Ampran
(213) 485-7543

TANK MONITORING PLAN

UNIVERSITY OF CALIFORNIA AT RIVERSIDE
DEPARTMENT OF PHYSICAL PLANT
3401 WATKINS DRIVE
RIVERSIDE, CALIFORNIA 92521
CONTACT: MICHAEL SYLVESTER
(714) 787-3029

GST 952 03

TANK MONITORING PLAN

Introduction

The Office of the State Architect has developed the following Tank Monitoring Plan (TMP) as required by Title 23 Waters, Subchapter 16, Underground Tank Regulations from the California Code of Regulations. The TMP has been prepared to comply with the applicable County of Riverside guidelines for leak detection and monitoring alternatives.

Facility Description

This facility is operated by the University of California System for the State of California and is located at:

University of California at Riverside
Department of Physical Plant
3401 Watkins Drive
Riverside, CA 92521
(714) 787-3029

This facility contains a total of twenty-one (21) underground storage tanks scattered over the campus at various locations. These tanks are under the jurisdiction of Riverside County Health Department. A brief overview of the tank information is presented below:

OSA I.D. #	Capacity	Location	Installed	Contents
U-CRA-01	1,000 gallons	Agr. Opr. Bldg.	1959	Gasoline
U-CRA-02	6,000 gallons	Agr. Opr. Bldg.	1959	Diesel
U-CRA-04	20,000 gallons	Agr. Field NW	1975	Diesel
U-CRA-05	20,000 gallons	Agr. Field NW	1975	Diesel
U-CRA-06	4,000 gallons	Agr. Field SW	1972	Diesel
U-CRA-07	4,000 gallons	Agr. Field SW	1972	Diesel
U-CRA-08	4,000 gallons	Agr. Field SW	1972	Diesel
U-CRA-09	4,000 gallons	Agr. Field SW	1972	Diesel
U-CRA-10	4,000 gallons	Agr. Field SW	1972	Diesel
U-CRA-11	10,000 gallons	Moreno Ranch	1977	Weed Oil
U-CRA-12	1,000 gallons	Moreno Ranch	1966	Gasoline
U-UCR-01	10,000 gallons	Steam Plant	1959	#6 Fuel Oil
U-UCR-02	10,000 gallons	Steam Plant	1959	#6 Fuel Oil
U-UCR-03	10,000 gallons	Steam Plant	1959	#6 Fuel Oil
U-UCR-04	10,000 gallons	Steam Plant	1959	#6 Fuel Oil

OSA I.D. #	Capacity	Location	Installed	Contents
U-UCR-05	20,000 gallons	Steam Plant	1971	#6 Fuel Oil
U-UCR-06	20,000 gallons	Steam Plant	1973	#6 Fuel Oil
U-UCR-07	23,000 gallons	Steam Plant	1973	#6 Fuel Oil
U-UCR-14	6,000 gallons	Trspt. Services	1978	Gasoline
U-UCR-15	10,000 gallons	Trspt. Services	1958	Gasoline
U-UCR-16	1,000 gallons	Grounds Hdqtrs.	1974	Gasoline

TANK MONITORING PLAN (TMP)

The TMP outlined below will comply with Riverside County, Department of Health Services guidelines for leak detection and monitoring. The Tank Level Monitoring (TLM) Systems will be installed at this facility. The TLM is an automatic system used for inventory reconciliation within an underground storage tank. The TLM refers to probes, monitoring consoles, alarms and other appurtenant devices. A measuring probe will be located inside each underground storage tank to automatically measure the level of the liquid, and hence the volume, stored in the tank. The probe will be connected to a monitoring console, audible and visual alarms and recorders. The TLM will also have the capabilities to perform a tank integrity test, activate a high level alarm, automatically alert a remote monitor and measure the water level in the tank. The dispensers at this facility use suction pumps, therefore, no pipeline monitoring has been proposed. Specific details of the TMP are listed below:

1. Perform annual precision tank testing;

2. Install TLM monitoring probe in each underground storage tank and connect to a monitoring console, audio/visual alarms as shown on attached plot plates;

3. The TLM will be able to detect (in the tank integrity mode) a minimum of a 0.05 gal/hr leak while compensating for temperature changes within the tank with a probability of leak detection of 95% and probability of false alarms of 5%;

4. The TLM System will be Level-Tru Command (Model #10601) by Environment and Safety, Inc. or equal. TLM System, Petrosonic III by Petrovend, Inc., may be used only if modified to meet specified requirements;

5. Install overfill protection devices at the tanks. The overfill protection will be Skyway Container Rite Model 85000, Emco Wheaton A1003 or equivalent;

6. No pipeline leak detection system is proposed because the pumps are suction type;

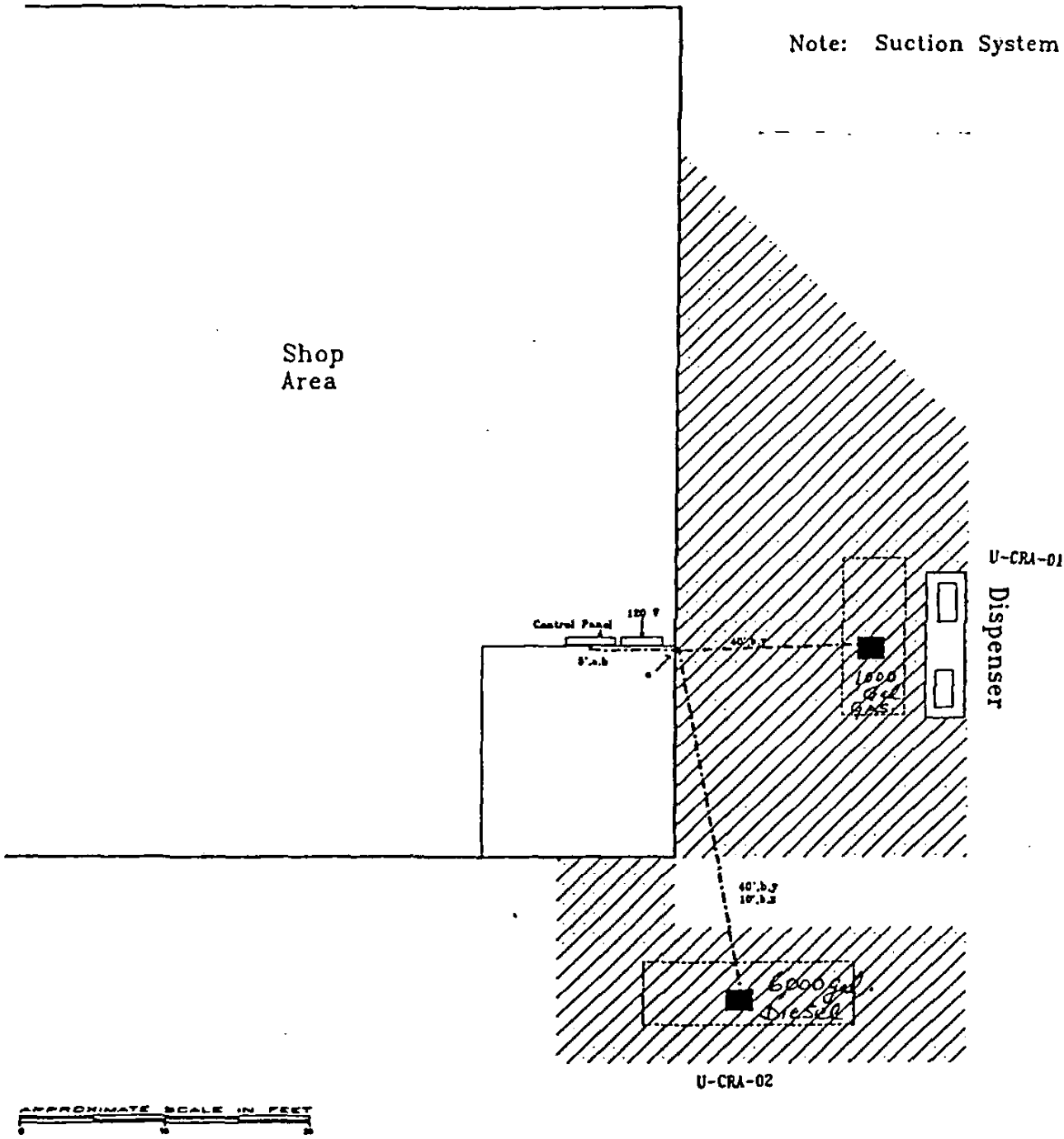
7. Install only one check valve in each suction line directly below and as close as practical to the suction pump. Remove any other existing check valves.

Groundwater

The main Riverside Campus lies west of a hydrologic basin called the Arlington Subbasin. Depth to groundwater at the main campus is about 90 feet below grade with bedrock being found at about the 120 foot depth below grade at the main campus. Wells in the vicinity are used for municipal supply. The groundwater gradient is east to west.

Moreno Ranch depth to ground water is 120 to 140 feet. The groundwater gradient is northeast to southwest.

Project Name: OSA TMP Bid Specifications - Location of Tank Monitoring Panel	
Location: UC Riverside - Ag OPS	78944
Drawing By: West & Hansen Engineers, Inc.	Date: January 8, 1989



LEGEND

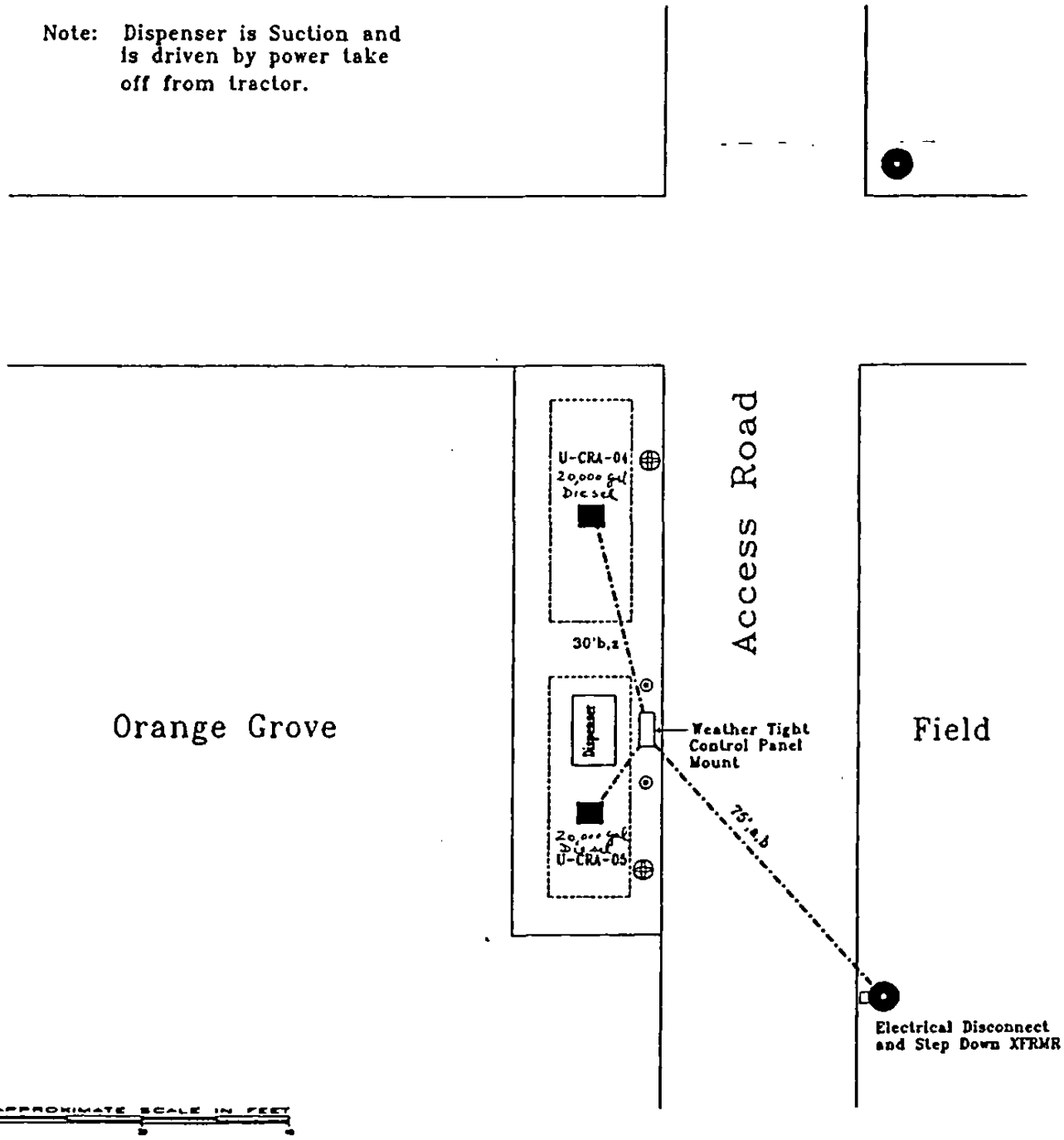
- Manway
- Concrete

a - Distance to 120 V.
b - 3/4" Conduit
c - 1" Coring

x - Asphalt
y - Concrete
z - Soil

Project Name: OSA TMP Bid Specifications – Location of Tank Monitoring Panel	
Location: UC Riverside – AG North Field	78942
Drawing By: West & Hansen Engineers, Inc.	Date: January 8, 1989

Note: Dispenser is Suction and is driven by power take off from tractor.



APPROXIMATE SCALE IN FEET

LEGEND

- Power Pole
- Fillport
- Vent

a – Distance to 120 V.
b – 3/4" Conduit
c – 1" Coring

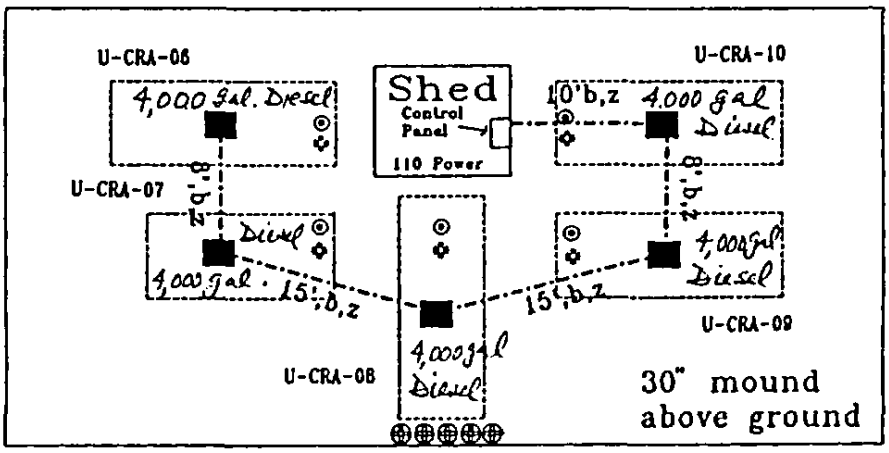
x – Asphalt
y – Concrete
z – Soil

Project Name: OSA TMP Bid Specifications – Location of Tank Monitoring Panel	
Location: UC Riverside – AG South Field	78943
Drawing By: West & Hansen Engineers, Inc.	Date: January 8, 1989

Storage

Power

Note: Passive Storage withdrawn by suction.



Access Road

APPROXIMATE SCALE IN FEET

LEGEND

- Manway
- Vent
- Fillport
- Sounding Tube

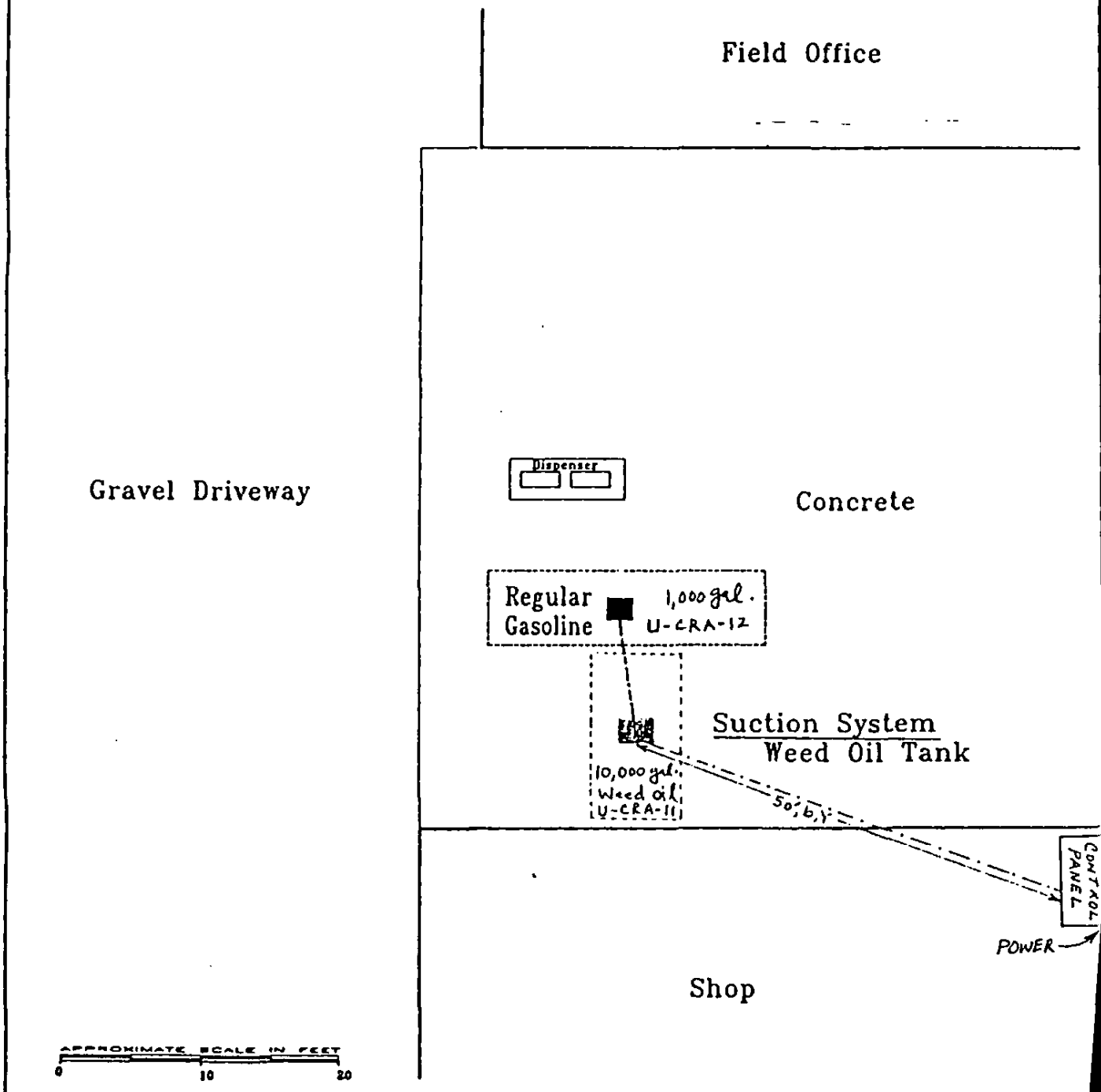
a – Distance to 120 V.
b – 3/4" Conduit
c – 1" Coring

x – Asphalt
y – Concrete
z – Soil

Project Name: OSA TMP Bid Specifications - Location of Tank Monitoring Panel

Location: UC Riverside - Moreno Ranch 78941

Drawing By: West & Hansen Engineers, Inc. | Date: January 8, 1989



LEGEND

Manway

a - Distance to 120 V.

b - 3/4" Conduit

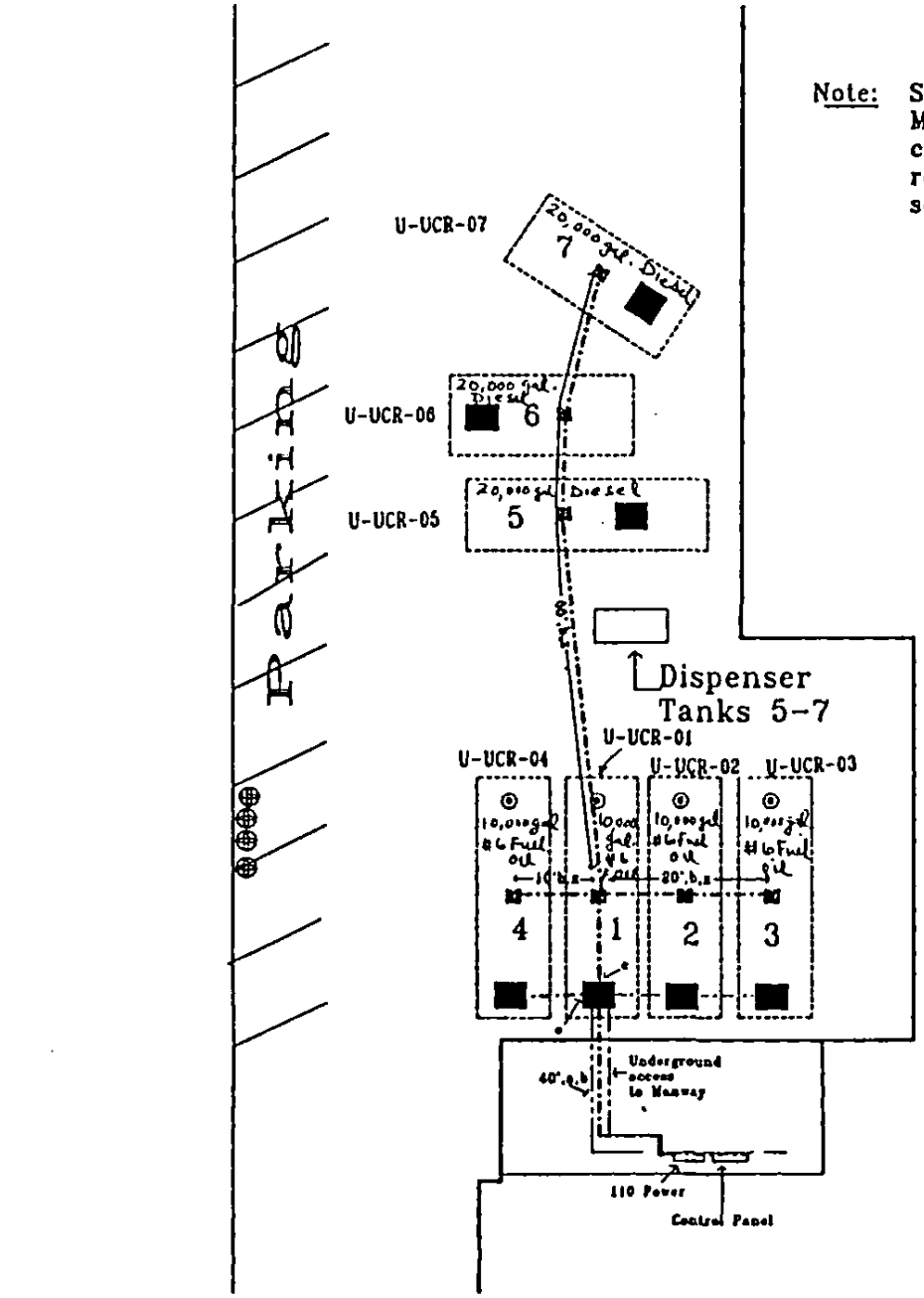
c - 1" Coring

x - Asphalt

y - Concrete

z - Soil

Project Name: OSA TMP Bid Specifications – Location of Tank Monitoring Panel	
Location: UC Riverside – Steam Plant	78945
Drawing By: West & Hansen Engineers, Inc.	Date: January 8, 1989



Note: Suction System
Manway in tank to central junction point for remote and main tank sensor cables.

Steam Plant

APPROXIMATE SCALE IN FEET

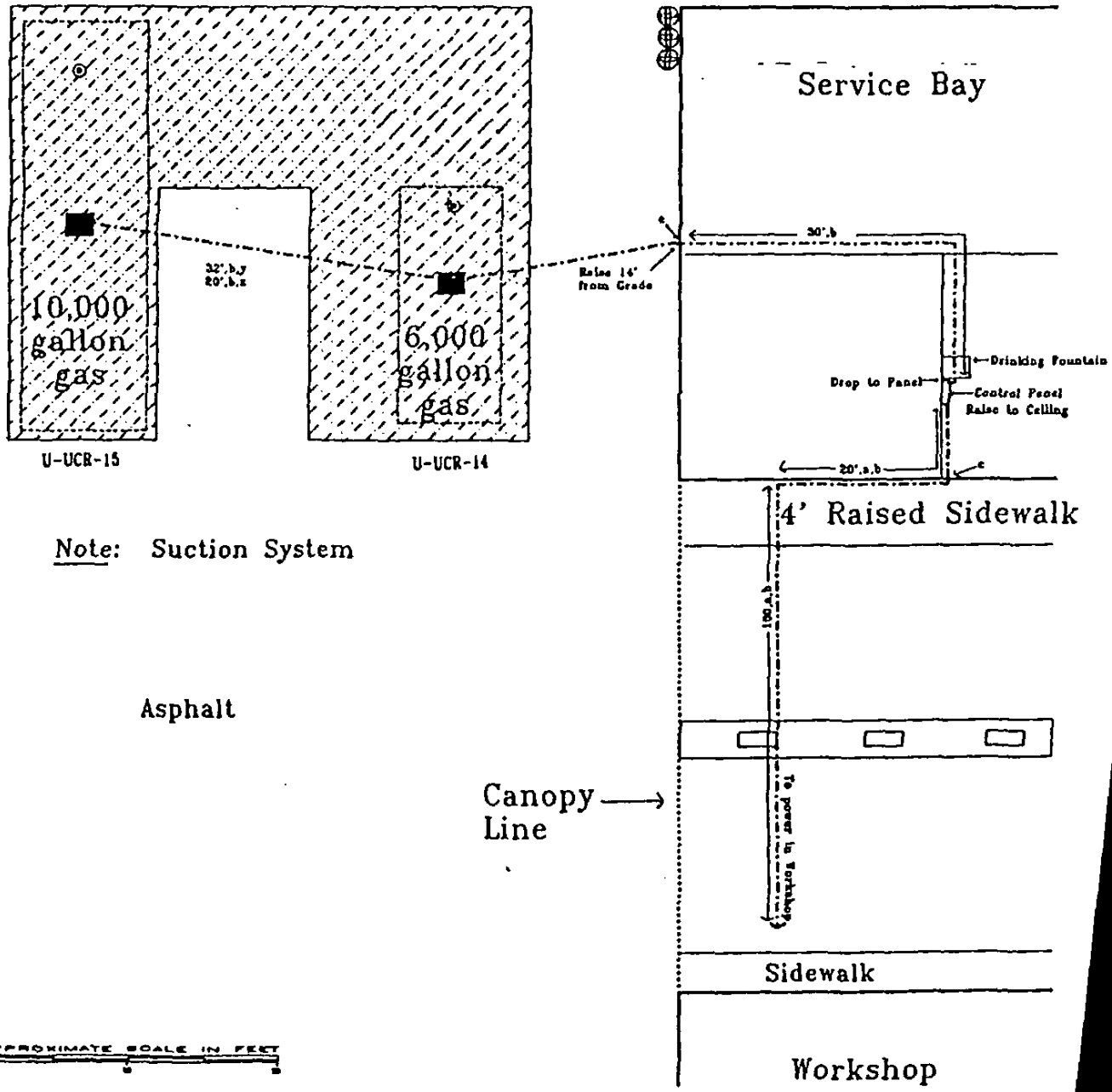
LEGEND

- ◎ Fillport
- ■ Manway
- ⊠ Probe Location
- ⊕ Vent

a – Distance to 120 V.
b – 3/4" Conduit
c – 1" Coring

x – Asphalt
y – Concrete
z – Soil

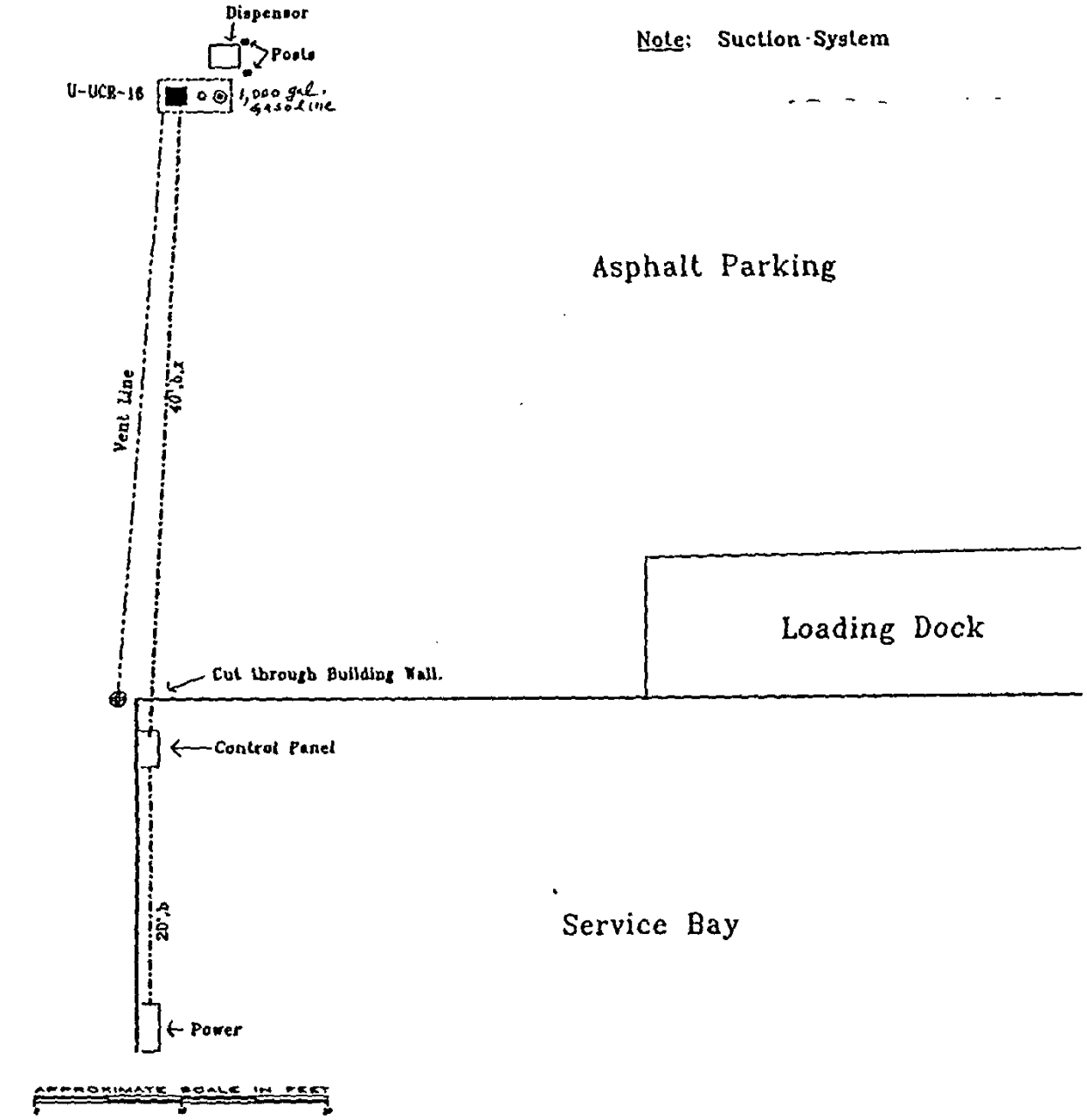
Project Name: OSA TMP Bid Specifications – Location of Tank Monitoring Panel	
Location: UC Riverside – Trans. Services	78940
Drawing By: West & Hansen Engineers, Inc.	Date: January 8, 1989



LEGEND

Manway	Vent	a – Distance to 120 V.	x – Asphalt
Concrete	Fillport	b – 3/4" Conduit	y – Concrete
		c – 1" Coring	z – Soil

Project Name: OSA TMP Bid Specifications - Location of Tank Monitoring Panel	
Location: UC Riverside - Grounds HQ.	78947
Drawing By: West & Hansen Engineers, Inc.	Date: January 8, 1989



LEGEND

- ■ Probe Location
- ◎ Fillport
- ○ Sounding Port
- ⊕ Vent

a - Distance to 120 V.	x - Asphalt
b - 3/4" Conduit	y - Concrete
c - 1" Coring	z - Soil

GeoSoils, Inc.

Geotechnical • Geologic • Environmental

1446 East Chestnut Avenue • Santa Ana, California 92701 • (714) 647-0277 • FAX (714) 647-0745

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT, MORENO FIELD STATION, CITY OF MORENO VALLEY, COUNTY OF RIVERSIDE, CALIFORNIA

FOR

UNIVERSITY OF CALIFORNIA

W.O. 2395-A1-OC JANUARY 8, 1993

GeoSoils, Inc.

Geotechnical • Geologic • Environmental

1446 East Chestnut Avenue • Santa Ana, California 92701 • (714) 647-0277 • FAX (714) 647-0745

January 8, 1993
W.O. 2395-A1-OC

University of California, Riverside
Environmental Health and Safety
900 University Avenue
Riverside, California 92521

Attention: Ms. Lynn Beckmann

Subject: Limited Phase II Environmental Site Assessment, Moreno Field Station, City of Moreno Valley, County of Riverside, California

Ms. Beckmann:

Enclosed are four (4) copies of the subject report.

We appreciate this opportunity to be of service. Should you have any questions, please contact our office at (714) 647-0277.

Respectfully submitted,

GeoSoils, Inc.

By: Anna M. Scott
Anna M. Scott
Staff Geologist

H.D. Pouncey
~~RG~~, CEG, REA

Gene C. Carpenter, Ph.D., R.G.
Vice President
Environmental Services Division

AMS/HDP/GCC/sc

Encl: Subject Report

Dist: (4) Addressee (with 1 copy unbound)

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APPENDICES

Appendix A - Log of Exploratory Borings

Appendix B - Soil Laboratory Test Results

Appendix C - Water Laboratory Test Results

Appendix D - Asbestos Laboratory Test Results

Appendix E - Records Provided by UCR

I. PURPOSE

This study was conducted for the purpose of assessing the potential of hazardous materials/waste contamination associated with the current experimental agricultural land use.

The results of this assessment are intended to be used for project feasibility and to guide planning of proposed development.

II. SCOPE OF WORK

The scope of work completed for this study included the following:

1. Subsurface exploration supplemented with laboratory analyses of the soils within the existing open and buried landfill.

2. Sampling and laboratory analyses for selected parameters of the overall surficial soils throughout the subject site, at selected locations.

3. Sampling and laboratory testing of water from farm wells for selected parameters associated with the current land use.

4. A visual asbestos survey of onsite structures and random sampling of suspected asbestos containing materials (ACM) for laboratory determination.

5. Additional site reconnaissance and correspondence with UCR representatives and personnel.

6. Preparation of this report presenting GSI's findings, conclusions and recommendations.

This report includes a Site Location Map (Figure 1), a Boring Location Map (Figure 2), Sample Location Map (Figure 3), Moreno Ranch Operational Facilities (Figure 4), Transite Pipe Location Map (Figure 5), Application Plot Location Map (Figure 6) and a Location Map of Soil Samples within the Experimental Sewage Sludge Application Plots (Figure 6a).

Appendices include a log of exploratory borings (Appendix A), soil laboratory test results (Appendix B), water laboratory test results (Appendix C), asbestos laboratory test results (Appendix D) and records provided by UCR (Appendix E).

III. SITE LOCATION AND OWNERSHIP

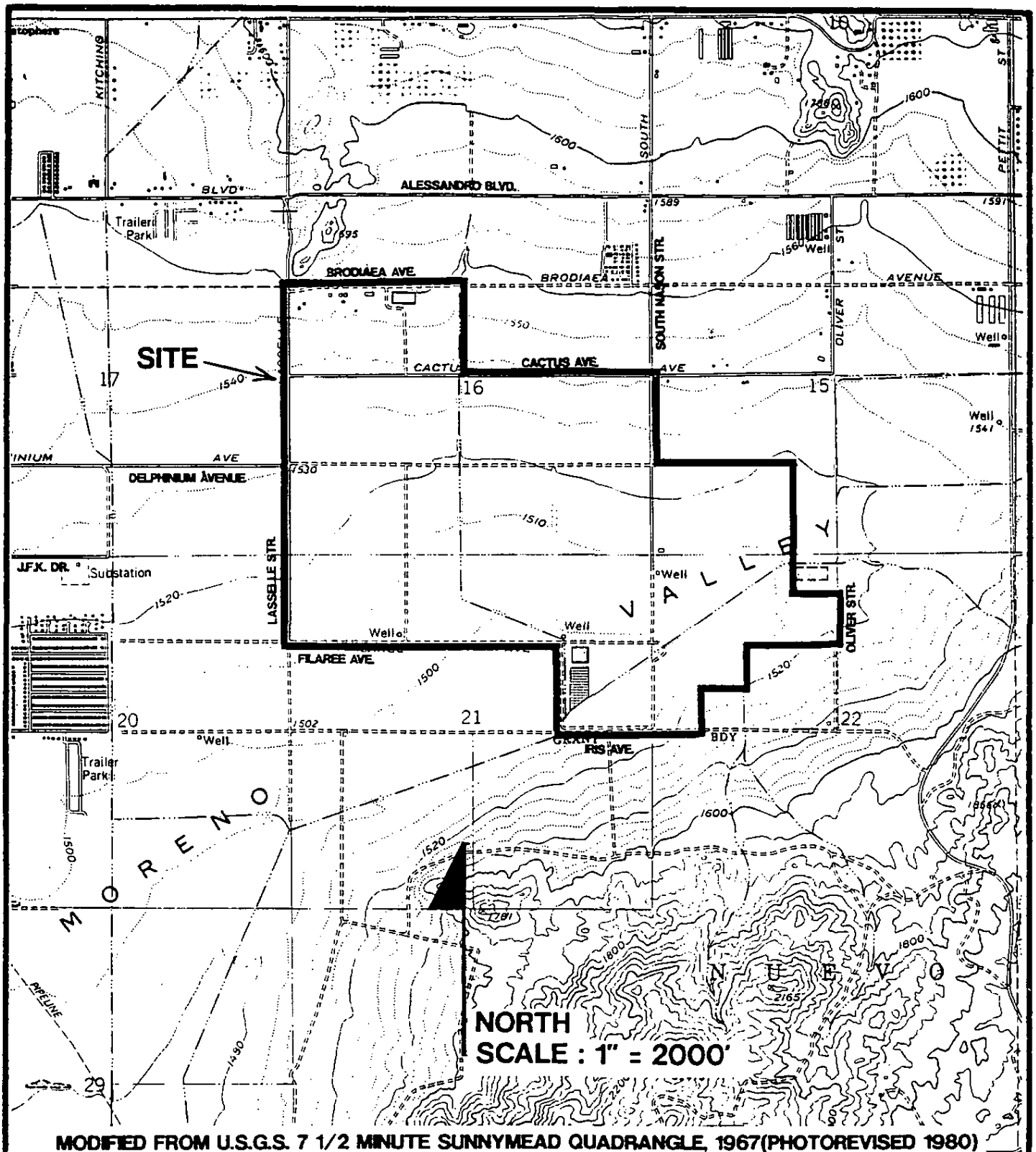
The project site is located at 14250 Lasselle Street, in the City of Moreno Valley, County of Riverside, California. The site location is shown on Figure 1.

The 760-acre site is bounded generally by Lasselle Street on the west, Brodiaea Avenue on the north, to Morrison Street (extended) south to Cactus, east to Nason Street, south to Delphinium Avenue, then proceeds east to an irregular lot line along and near Oliver Street. Filaree and Iris Avenues form the south border (see Figure 1).

Site entry and operational facilities are located at Brodiaea and Lasselle Street.

The current property owner is the University of California, Riverside.

(Note: An 18" sewer easement was placed along the center line of Nason Street between John F. Kennedy and Brodiaea since the completion of GSI's Phase I report).



MODIFIED FROM U.S.G.S. 7 1/2 MINUTE SUNNYMEAD QUADRANGLE, 1967(PHOTOREVISED 1980)

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SITE LOCATION MAP

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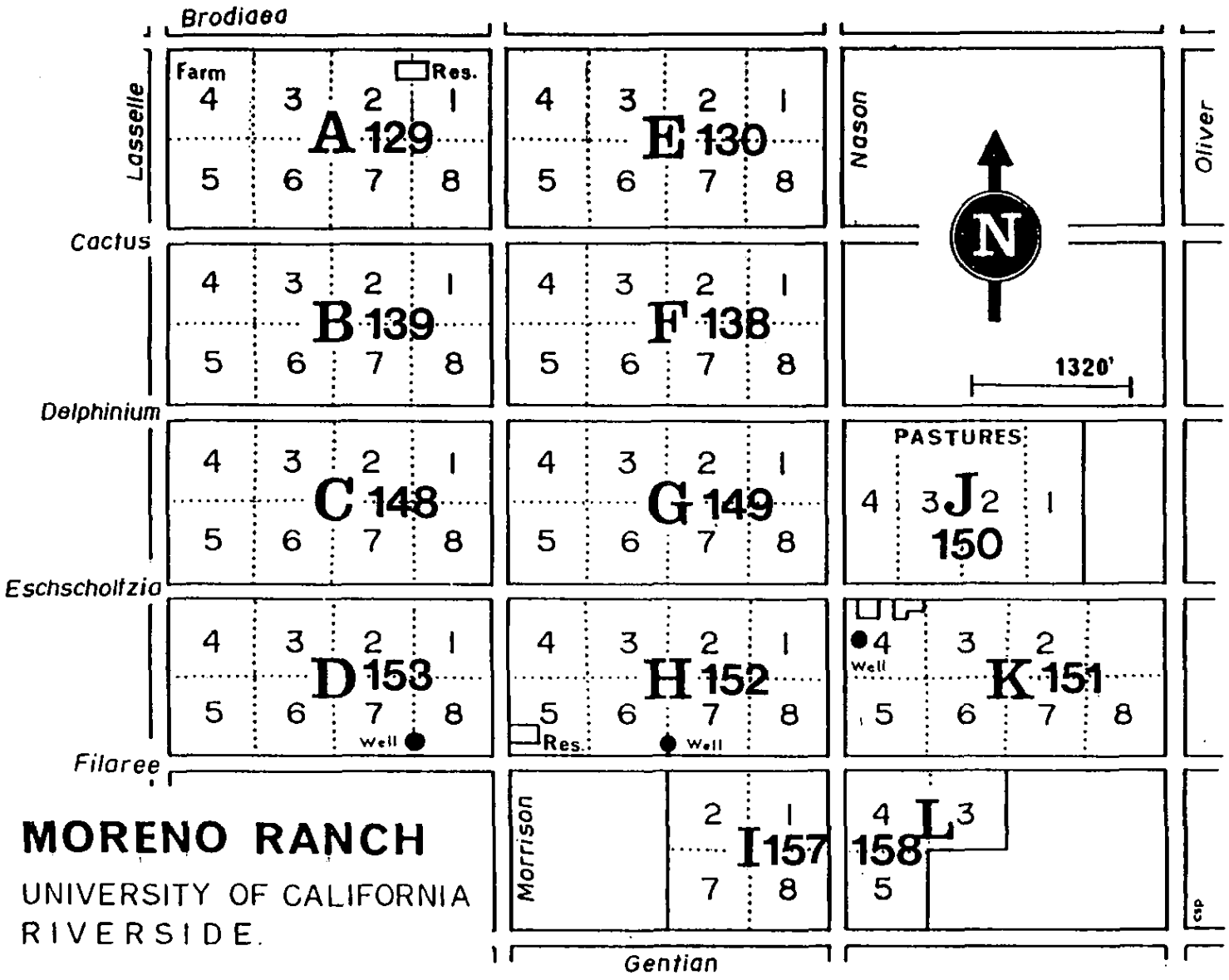
FIGURE 1



LEGEND

158 Denotes survey block number from original survey

PLOT MAP

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FIGURE 1a

IV. LANDFILL AREAS

A. Buried Landfill

A hollow-stem auger drill rig was used to excavate two (2) eight-inch diameter exploratory borings within the existing buried landfill area in order to sample the backfilled soil materials and to determine if any contamination exists. The borings were logged under the direct supervision of a registered geologist and a staff geologist. The approximate boring locations are shown on Figure 2 (Boring Location Map). Wooden lath marked with boring numbers were placed at each boring location in the field, with the lath set in the slurry backfill. The logs are presented in Appendix A. The classification of materials encountered was accomplished by visual and tactile methods, in accordance with the Unified Soil Classification System as presented on Plate A.

Both Borings 1 and 2 were drilled to a total depth of 30 feet. Materials encountered consisted of approximately 17½ feet of landfill soils over clayey silty alluvium. Deleterious materials encountered, within the landfilled soils, included mulch, rags and a rubber innertube at a depth of approximately 8 to 17 feet in Boring 1 and scattered mulch-wood clippings at a depth of approximately 8 to 13 feet in Boring 2. The excavated soils and debris were placed in a D.O.T. 55-gallon drum. The borings were backfilled with slurry. No ground water was encountered in either boring.

Soil samples were collected in five foot intervals from five feet below the ground surface to total drilled depth. All samples collected were screened in the field with a Photovac Photo Ionization Detector (PID) and the readings measured in parts per million (ppm) are recorded on the boring logs. Head space readings from soil samples at each sampling interval

FOR REGIONAL LOCATION OF THIS FIGURE, SEE FIGURE 3

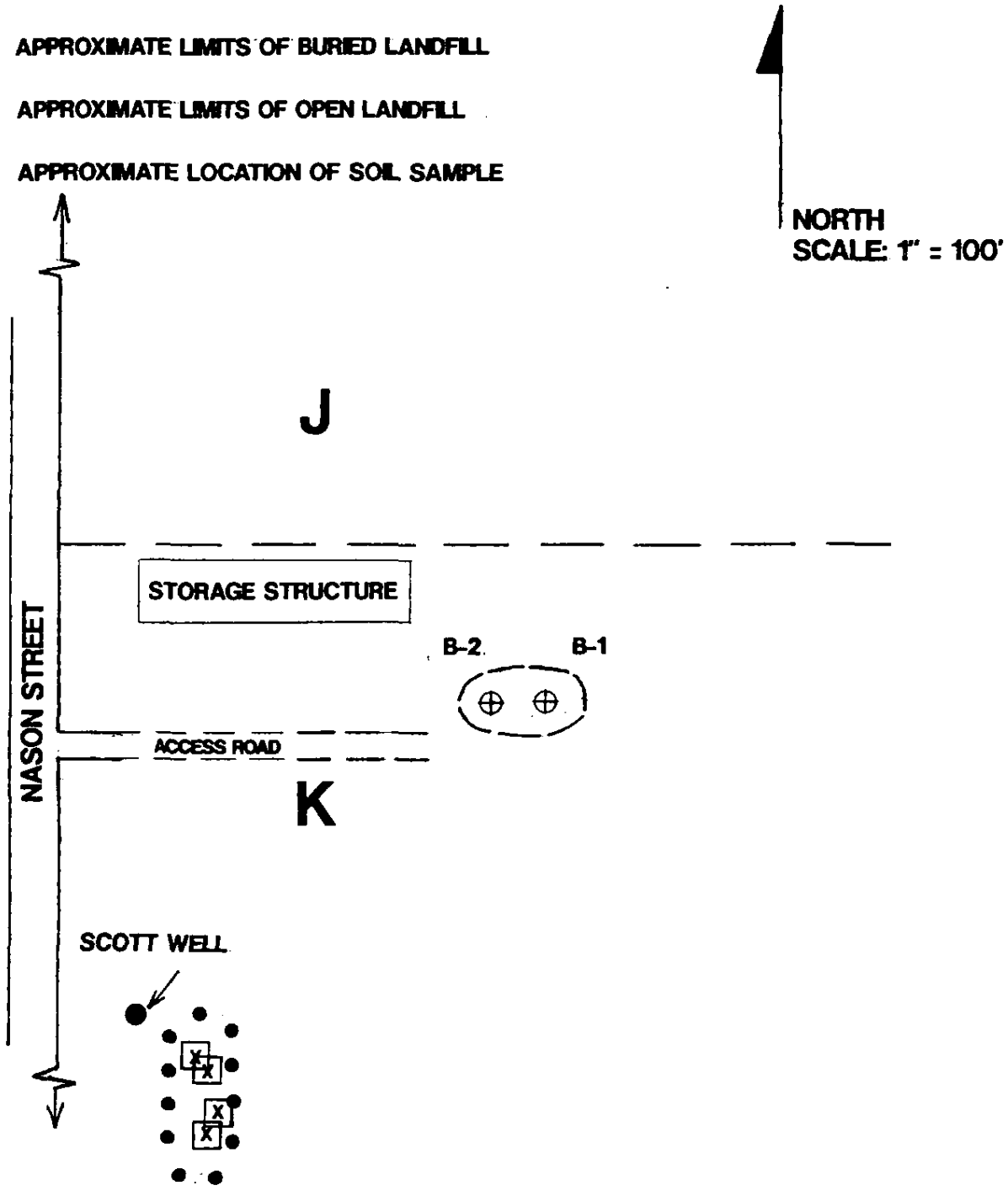
LEGEND

⊕ APPROXIMATE LOCATION OF EXPLORATORY BORING

APPROXIMATE LIMITS OF BURIED LANDFILL

APPROXIMATE LIMITS OF OPEN LANDFILL

[X] APPROXIMATE LOCATION OF SOIL SAMPLE



GeoSoils, Inc.

BORING LOCATION MAP

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FIGURE 2

were taken. Organic vapor readings obtained ranged from 13 ppm at a depth of 30' in Boring 1 to 50 ppm at a depth of 5' also in Boring 1. These readings indicate that a low level of organic vapor is being emitted from the soil samples.

Samples were submitted for laboratory testing to Centrum Analytical Laboratories, Inc. Selected samples were analyzed for organochlorine pesticides by EPA test method 8080, chlorinated herbicides by EPA test method 8150 and semi-volatiles by EPA test method 8270.

Test results are shown on the attached laboratory test result sheets (Appendix B).

Results for organochlorine pesticides (EPA 8080) indicate Sample #1 within Boring 1 at a depth of 5 feet having a concentration of 0.011 parts per million (ppm) of 4,4' DDE which is below the TTLC (Total Threshold Limit Concentration) of 1 mg/kg (1 ppm) as defined in California Code of Regulations, Title 22. No organochlorine pesticides were detectable in any of the other samples submitted for analysis.

No chlorinated herbicides (8150) were detectable in any of the samples submitted for analysis.

No semi-volatile organic compounds (8270) were detectable in any of the samples submitted for analysis.

B. <u>Open Landfill</u>

Four (4) hand-auger borings were excavated to a depth of approximately one foot to collect representative soil samples within the open excavation. This "landfill" area was previously used as a dumping site for refuse/household type

waste. However, it has since been cleaned of debris. The location and depth of samples were selected under the direction of the client. The approximate location of sampling is shown on Figure 2.

The four collected samples were submitted for laboratory testing to Centrum Analytical Laboratories, Inc. for EPA test methods 8080 and 8150, two samples per test.

Test results are shown on the attached laboratory test result sheets (Appendix B).

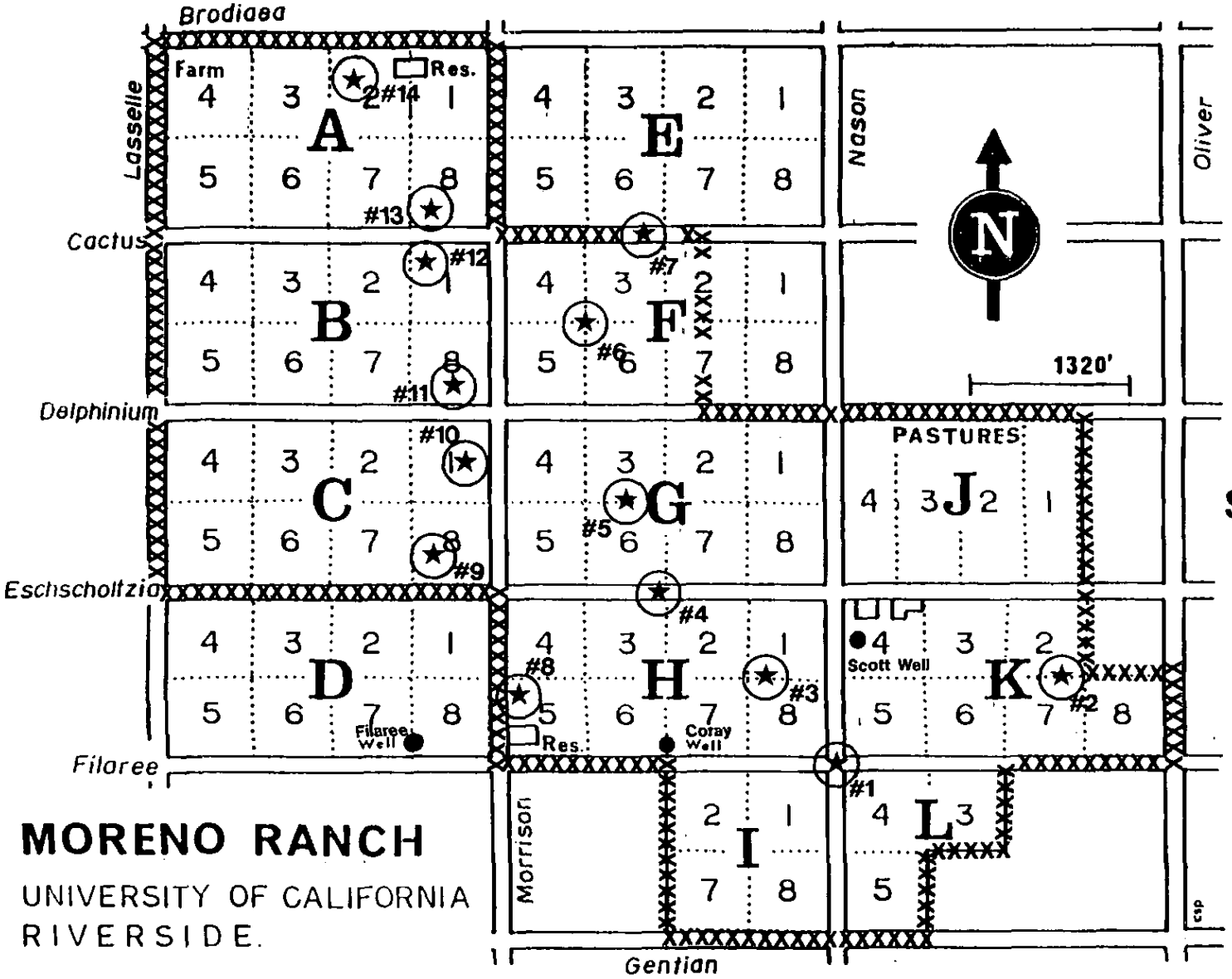
Pesticides were not detected in either of the soil samples, with the exception of 4,4'-DDE in Sample #9 at a concentration of 0.0022 parts per million (ppm). This level is significantly below the Total Threshold Limit Concentration (TTLC) of 1 milligram/kilogram (equivalent to 1ppm) as defined in the California Code of Regulations, Title 22.

No chlorinated herbicides (8150) were detectable in either of the samples submitted for analysis.

V. OVERALL SITE SAMPLING

Seventeen (17) hand-auger borings were excavated to a depth of approximately one foot to collect representative soil samples over the entire subject site. The locations and depth of samples were selected under the discretion of the client. The approximate location of sampling is shown in Figure 3.

Sampling locations were selected at random, for road areas and non-experimental plot areas, in order to obtain a variety of samples to fairly represent the entire site. Specific emphasis was given to experimental plots (i.e., at least one



LEGEND

#14 — APPROXIMATE LOCATION OF SOIL SAMPLES, WITH SAMPLE NUMBER (SEE TEXT OR APPENDIX B)

XXXXX — APPROXIMATE LIMITS OF SUBJECT AREA

SAMPLE LOCATION MAP

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FIGURE 3

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FOR LOCATIONS OF SITE SPECIFIC SOIL SAMPLES, SEE FIGURES 2 AND 6a (LANDFILLS AND APPLICATION PLOTS)

sample was collected each from of the following plots: A-8, B-1, B-8, C-1 and C-8) in order to effectively represent this area. All samples were submitted for laboratory testing to Centrum Analytical Laboratories, Inc. for the following tests:

Experimental Plots:
EPA Method 8080 - Organochlorine Pesticides
EPA Method 8140 - Organophosphorus Pesticides
EPA Method 8150 - Chlorinated Herbicides
EPA Method 8240 - Volatile Organics
EPA Method 8270 - Semivolatile Organics

Non-Experimental Plots:
Total Organic Carbon
Total Organic Halides
C.A.C. Metals

Test results are shown on the attached laboratory test result sheets (Appendix B).

The following areas within the site were sampled:

Existing Roadways
Intersection of Filaree Avenue and Nason Street (Sample #1); John F. Kennedy Drive between Morrison and Nason Streets (Sample #4); Cactus Avenue between Morrison and Nason Streets (Sample #7)

Morrison Drainage (Sample #8)
The Morrison Drainage is a man-made flood channel which follows a previously existing natural drainage course. The flood channel runs parallel to Morrison Street from the northern edge of the site at Brodiaea Avenue to a southern earthen reservoir.

Sections, Parcels

Non-Experimental Plots:	Experimental Plots:
o Section K (Sample #2)	o Section C, Parcels 1 (Sample #10A,B) and 8 (Sample #9)
o Section H (Sample #3)	o Section B, Parcels 1 (#12A, B) and 8 (Sample #11A,B)
o Section G (Sample #5)	o
o Section F (Sample #6)	
o Section A, Parcel 8 (Sample #13)	

Washdown Area (Sample #14)

The washdown area is utilized to rinse excess soils off of the vehicles/equipment which are returning from the agricultural field.

Testing Summary

Prometon (a herbicide, EPA 8140) was not detected in Sample #9. Sample #9 was collected from plot C-8, an experimental plot utilized by a professor with the university for research. This research project was designed to study the persistence of specific chemicals in the environment. Data supplied by UCR (see Appendix E) and test results conducted during this study indicate a significant degradation from the concentration at the time of application.

No chlorinated herbicides (EPA 8150) were detected in the samples submitted (Sample #1, 4, 7, 9, 13 and 14).

No volatile organic chemicals (EPA 8240) were detected in the samples submitted (Sample #10B, 11A and 12A).

No organic halide chemicals were detected in the samples submitted (Sample # 2, 3, 5, 6, 8, 10A, 11B and 12B). There is no comparable EPA standard found for soil; however, these test result may be utilized as indicator parameters.

No semi-volatile organic chemicals (EPA 8270) were detected in the samples submitted (Sample #10A, 11B and 12B) with the exception of bis (2-ethylhexyl) phthalate.

The following Tables 1a, 1b, 1c and 1d show test results for the analytical constituents which were detected with corresponding Total Threshold Limit Concentration (TTLC) for each constituent as defined in the California Code of Regulations, Title 22.

TABLE 1a - EPA 8080

Organochlorine Pesticides	Sample 13A (ppm)	Sample 14 (ppm)	TTLC (ppm)
4,4' - DDE	0.033	ND*	1
4,4' - DDT	0.042	0.044	1
Toxaphene	0.078	0.576	5

TABLE 1b - EPA 8270

Semivolatile Organics	Sample #10 (ppm)	Sample #11 (ppm)	Sample #12 (ppm)	Notes
bis-phthalate (2-ethylhexyl)	0.264	0.165	0.099	**

TABLE 1c - TOTAL ORGANIC CARBON

Total Organic Carbon	Sample 1	Sample 4	Sample 7	Sample 8	Notes
T.O.C.	0.6%	0.29%	1.3%	0.06%	***

TABLE 1d - C.A.C. METALS

C.A.C. Metals	Sample 8 (ppm)	Sample 10 (ppm)	Sample 11 (ppm)	Sample 12 (ppm)	TTLC (ppm)
Arsenic	ND	0.5	1.0	ND	500
Barium	19.3	143	123	124	10,000
Chromium	ND	11.0	10.5	8.8	500
Cobalt	ND	8.8	7.1	6.1	8,000
Copper	ND	8.1	7.3	7.2	2,500
Lead	ND	ND	3.1	9.3	1,000
Molybolenum	1.4	ND	ND	ND	3,500
Nickel	ND	5.7	5.9	3.2	2,000
Selenium	ND	ND	0.5	0.2	100
Thallium	ND	9.0	6.0	ND	700
Vanadium	4.1	32.4	29.0	29.2	2,400
Zinc	4.4	38.6	36.0	32.6	5,000

Note: Concentrations below TTLC levels may be considered normal background levels for metals in soils.

* ND - Not Detected

** There is no comparable EPA standard found for soil. However, naturally occurring concentrations of 150 to 925 ppm are considered normal for some soils (Dragen, 1990; Khan, S.U., et.al., 1971), and this analytical constituent is not thought to be a management/reuse problem at this time.

*** There is no comparable EPA standard found for soil; however, these test results may be utilized as indicator parameters.

Conclusions

Based on the above soil analytical test results for the EPA test methods mentioned, no hazardous contamination of the analytical constituents of the sampled soils has occurred.

VI. WATER SAMPLING

Water sampling of the Coray and Scott Wells and the North Reservoir was completed under the direction of the client. Samples taken from the wells were obtained from the well spigots after flushing the system a minimum of one minute. Sampling of the reservoir was completed by using a stainless steel bailer in a central portion of the reservoir area.

Water sampling and laboratory analyses of the Filaree Well was completed under a previous study by GeoSoils, Inc. (see Reference #3).

The location of the Coray and Scott Wells and the North Reservoir is shown on Figure 3.

Four 1-liter samples were collected from each well and the reservoir for the laboratory analyses. All samples were submitted for laboratory testing to Centrum Analytical Laboratories, Inc. for the following EPA test methods:

EPA Method 608 - Organochlorine/halide pesticides
EPA Method 615 - Chlorinated herbicides
EPA Method 625 - Semivolatile Organics
EPA Method 9050 - Specific Conductance
EPA Method 9060 - Total Organic Carbons

Test results are shown on the attached laboratory test result sheets (Appendix C).

No organochlorine/halide pesticides (608) or chlorinated herbicides (615) were detected in any samples that were submitted for analysis.

No semi-volatile organic chemicals (625) were detected in any samples that were submitted for analysis. However, tentatively identified hydrocarbons in the C-14 to C-22 range in the BNA (Base, Neutrals, Acids) Extractable Fraction are estimated at 2.5 parts per million (ppm). Also, an unknown compound identified in the BNA Extractable Fraction is estimated at 0.022 ppm. There are no comparable Federal or State Standards for these constituents in drinking water.

Results from EPA test method 9050 indicate specific conductance of 1200, 910 and 980 micromhos (umhos) for the Coray Well, Scott Well and North Reservoir, respectively. These are acceptable levels as defined in California Code of Regulations, Title 22 and Federal Safe Drinking Water Standards effective as of July 1992.

Results from EPA test method 9060 indicate maximum concentrations of total organic carbon at 2.0 milligrams per liter (mg/l), 2.4 mg/l and 2.3 mg/l for the Coray Well, Scott Well and North Reservoir, respectively. There is no comparable Federal or State Standard for total organic carbon in drinking water. This method was used as an indicator parameter only to screen for organic compounds. However, the low results indicate that organic compounds are not present in significant quanitity.

Based on farm water well samples, there is no indication of agricultural chemicals having reached the water table beneath the site. Results indicate that the well water generally meets Safe Drinking Water Act Standards in the samples submitted.

VII. ASBESTOS SURVEY

A. Existing Structures

The existing buildings onsite were inspected for the presence or absence of asbestos in the building materials.

Two samples were collected from materials suspected of containing asbestos: one sample from the wallboard of the field office within the operational facilities; another sample from the wall panels of the vehicle maintenance shop within the operational facilities. Flooring was replaced in the late 70's with non-asbestos containing materials, and therefore was not tested. Sampling was completed under the direction of the client.

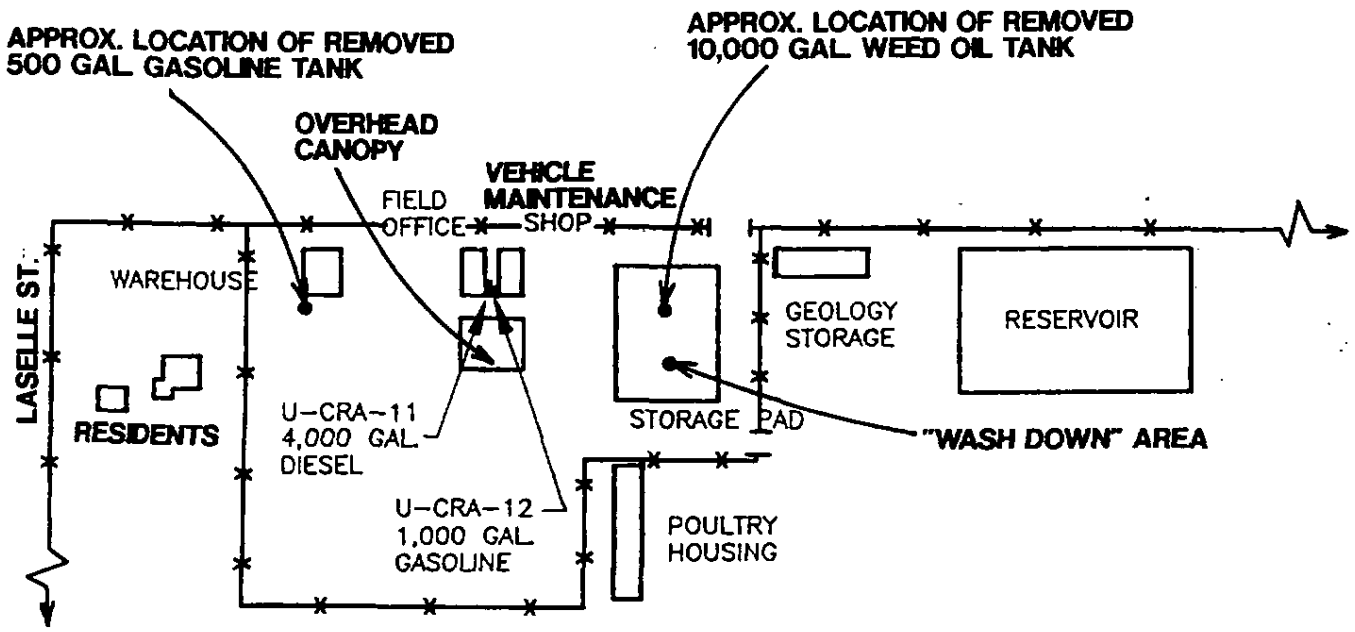
Sampling of building materials associated with the existing residential sites was not completed by request and authorization of the client, due to restricted access during the time of the survey. However, due to the age of these residential structures, ACM may be present in the roofing materials, insulating materials, floorings, etc.

The location of the field office, vehicle maintenance shop and residential sites are shown on Figure 4.

The samples collected were submitted for laboratory testing to Quanteq Laboratories for EPA test method 600.

Test results are shown on the attached laboratory test result sheet (Appendix D).

No asbestos (EPA 600) was detected in the sample obtained from the wall boards of the field office. However, 15 percent (%) chrysotile asbestos was detected in the wall panels of the vehicle maintenance shop while amphibole asbestos was not detected.



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SCALE: 1" = 200'

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SITE PLAN
MORENO RANCH OPERATIONAL FACILITIES

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FIGURE 4

Upon further inspection of the vehicle maintenance shop, it was observed that the transite wall panels were located in the northern portion of the building only, on the inside of the building. The panels appeared to be in generally non-friable condition. The thickness of the panels is approximately ¼" and the panels are attached to the walls with nails. Approximately 372 square feet of paneling was measured by a representative from UCR and GSI.

B. Transite Pipe

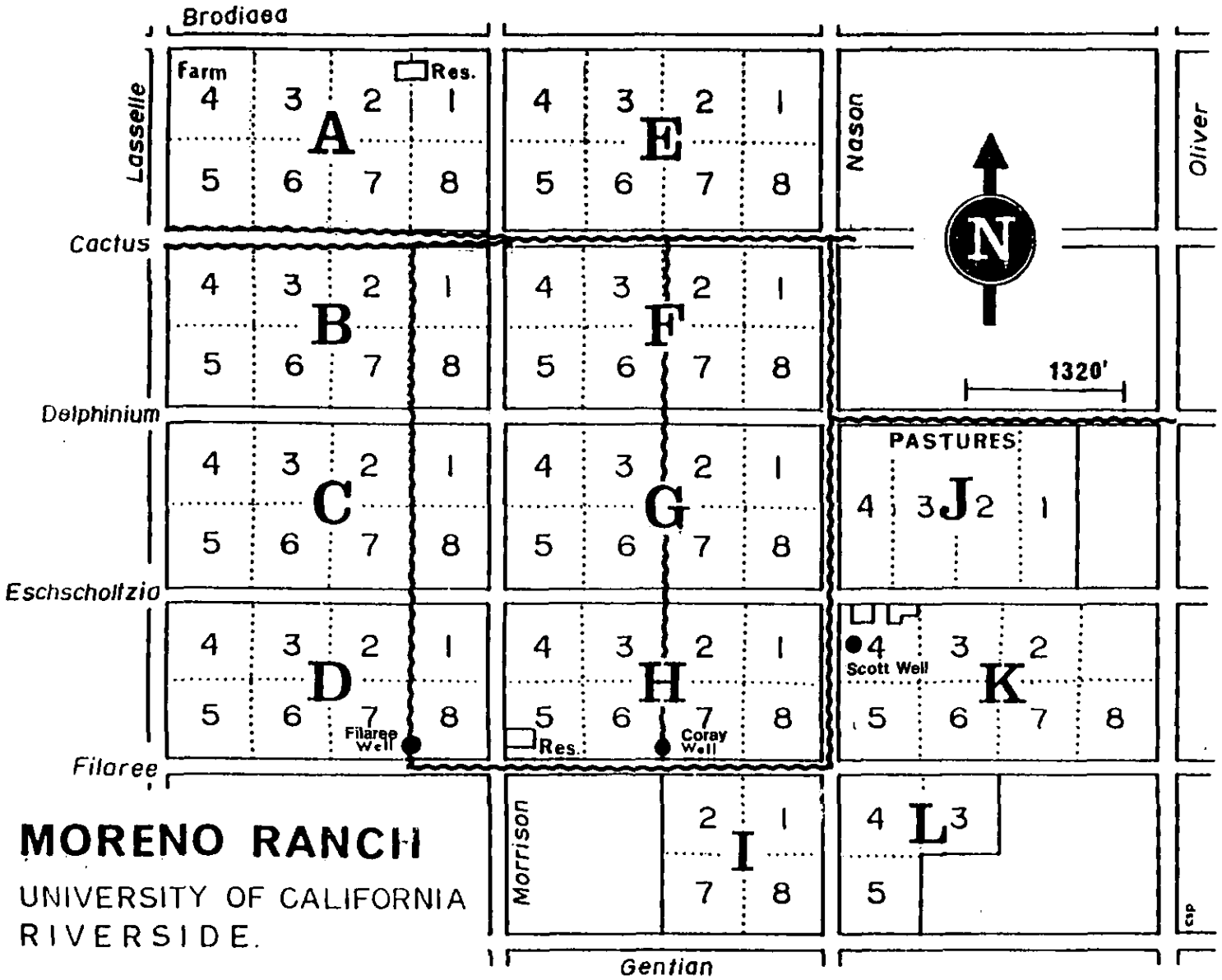
Transite pipe (containing asbestos) is known to exist as irrigation lines throughout portions of the site (see Figure 5).

Prior to demolition of farm structures or grading in areas containing transite pipe, the ACM should be removed and disposed of by licensed and certified contractors in accordance with all applicable regulatory requirements.

VIII. EXPERIMENTAL SEWAGE SLUDGE APPLICATION PLOTS

Sewage sludge was placed onsite for experimental purposes in three specific locations (see Figure 6). One of the sewage sludge sites is 25' x 25' in size located just east of the norther reservoir; the second is 2-acres, and located in the H-block. The third sewage sludge application plot is located just offsite.

Representative soil samples were collected from the two onsite application plots; two samples were collected in the H-block plot (Samples #1 and #2) and one sample was collected in the A block plot (Sample #3). The locations of samples were selected under the discretion of the client. The approximate location of sampling is shown on Figure 6a.



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LEGEND

APPROXIMATE LOCATION OF TRANSITE PIPE

TRANSITE PIPE LOCATION MAP

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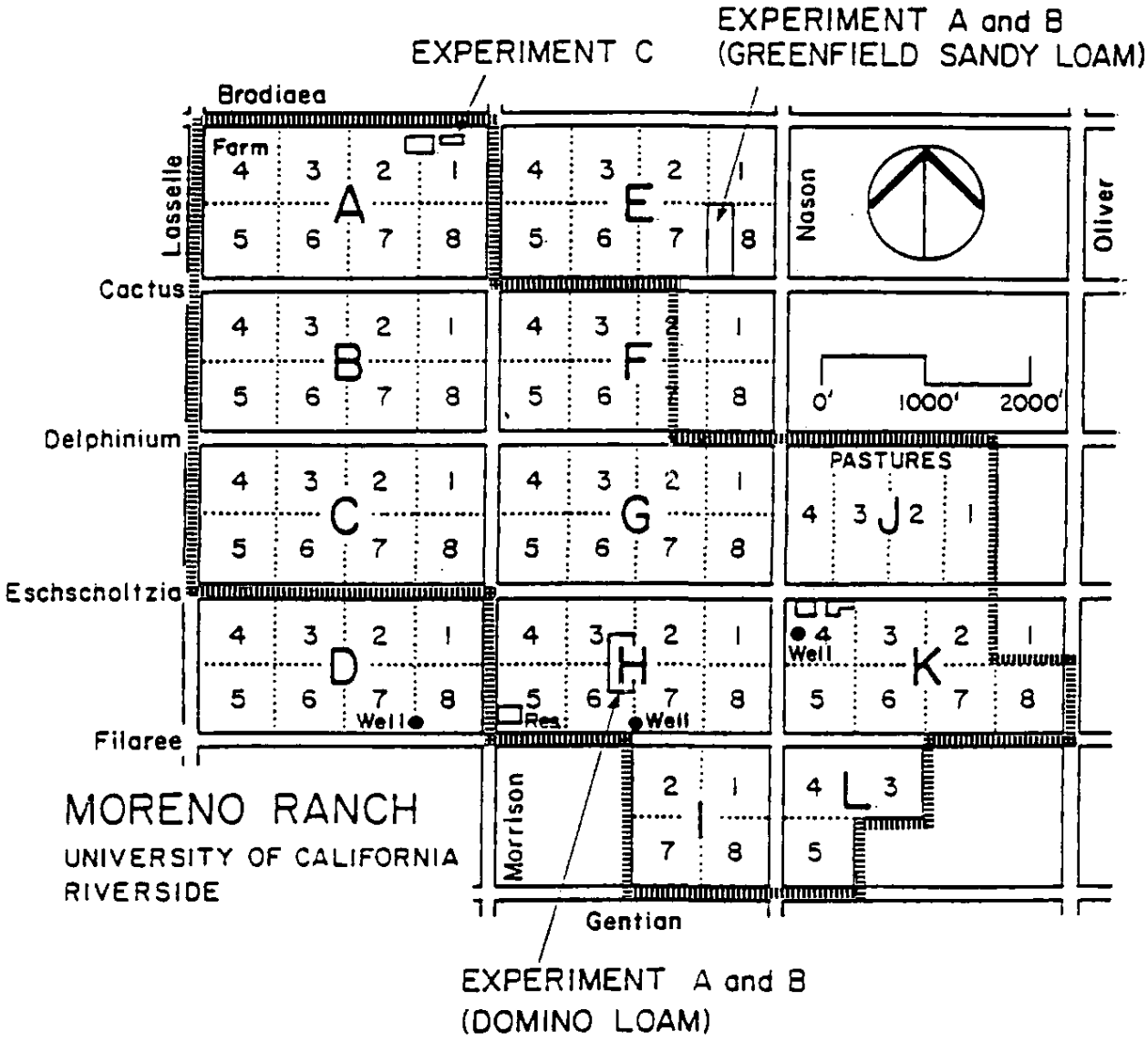
FIGURE 5



LEGEND

APPROXIMATE LIMITS OF SUBJECT SITE

EXPERIMENTS A, B AND C = APPLICATION PLOTS

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APPLICATION PLOT LOCATION MAP

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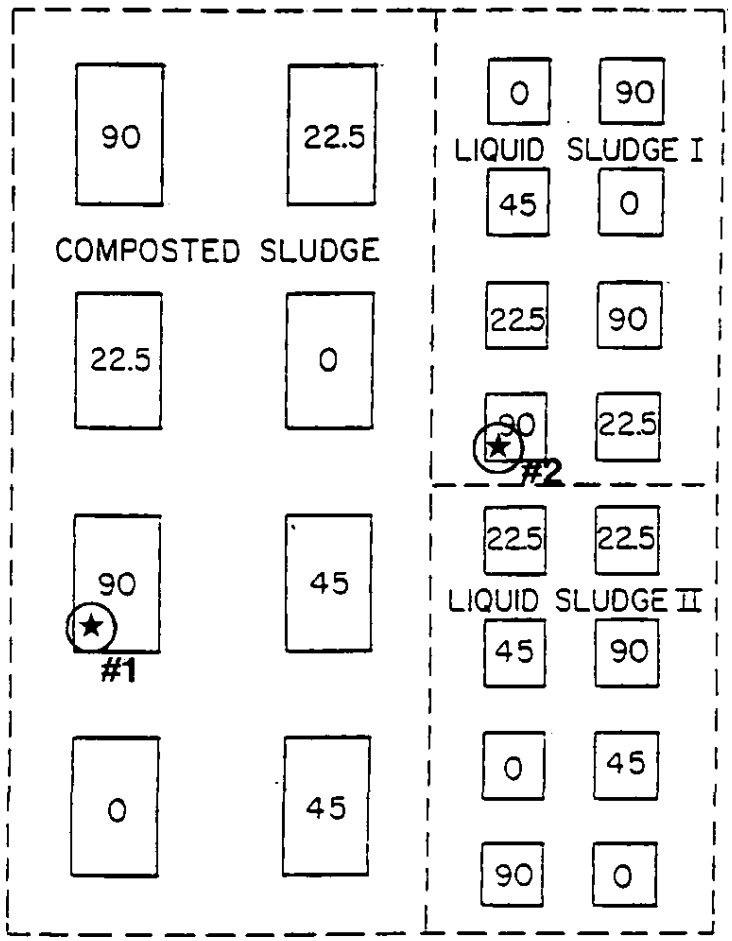
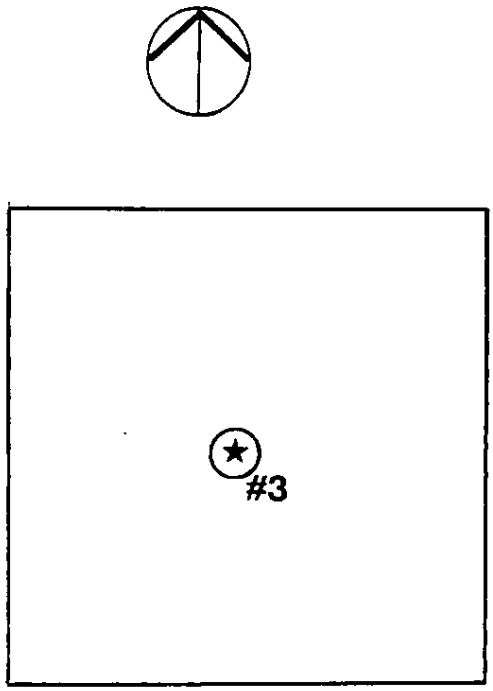
FIGURE 6



EXPERIMENTAL PLOT LAYOUT
IN DOMINO LOAM, SECTION H
SCALE: 1" = 100'



EXPERIMENTAL PLOT LAYOUT,
SECTION A
SCALE: 1" = 10'

FOR REGIONAL LOCATION OF THIS FIGURE, SEE FIGURE 6

LEGEND

90 — INDICATES THE SLUDGE APPLICATION RATE FOR THE PLOT IN METRIC TONS PER HECTARE PER YEAR

★ — APPROXIMATE LOCATION OF SOIL SAMPLE

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LOCATION MAP OF SOIL SAMPLES WITHIN SLUDGE PLOT APPLICATION AREAS

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FIGURE 6a

The two samples from the H-block plot were purposely collected from sections of the plot where application rates were the highest in order to adequately represent the existing soils. Application rates within the A-block plot were consistent throughout the entire plot, therefore, the sample location was chosen at random.

All samples were submitted for laboratory testing to Centrum Analytical Laboratories, Inc. for C.A.C. Metals. The application of sewage sludge is primarily associated with the increase in concentration of certain metals. Therefore, only the CAC metals test was performed. Test results are shown on the attached laboratory test result sheets (Appendix B) and in Table 2 below:

TABLE 2

C.A.C. Metals	Sample #1 (ppm)	Sample #2 (ppm)	Sample #3 (ppm)	TTLC* (ppm)
Barium	317	359	9.6	10,000
Cadmium	1.7	4.5	ND	75
Chromium	17.3	70.0	200	500
Cobalt	15.1	16.0	11.7	8,000
Copper	18.1	64.4	168	2,500
Lead	3.3	62.5	152	1,000
Nickel	8.8	23.9	74.0	2,000
Silver	ND	5.0	3.9	500
Vanadium	71.0	69.3	34.7	2,400
Zinc	81.4	185	543**	5,000

* TTLC - Total Threshold Limit Concentration (ppm), as defined in California Code of Regulations, Title 22.

** Concentrations below TTLC levels may be considered normal background levels for metals in soils.

Based on the test results and the TTLC levels shown in Table 2, no remediation of the soils within the experimental sewage sludge application plots is required under current regulations.

IX. SEWAGE SYSTEMS

Both existing residential structures and the maintenance yard field office are served by onsite sewage disposal systems.

As the property is converted to other uses, demolition of the existing buildings may occur. Abandonment or removal by excavation of these sewage systems should be performed at this time. Health hazards resulting from the sewage disposal systems is negligible when properly abandoned (i.e., any existing liquid removed and system backfilled with slurry, pea gravel or a similar self-compacting material) or completely excavated and disposed of offsite, replacing the void with compacted backfill.

Any necessary permits required by the City of Moreno Valley or the County of Riverside should be obtained at that time.

X. OVERHEAD TRANSFORMERS

The Southern California Edison Company was contacted regarding transformers on power poles located throughout the site. A representative informed GSI that PCB-containing transformers no longer exist on any of the power poles within the subject area.

XI. CONCLUSIONS

A. Landfill Areas

Based on the soil analytical test results for both the buried and open landfills, no pesticides are present with the exception of DDE. However, these low concentrations of DDE are below levels considered hazardous according to criteria defined in the California Code of Regulations, Title 22.

B. Overall Sampling

Based on the soil analytical test results for EPA 8080, no chlorinated pesticides are present with the exception of DDE, DDT and toxaphene. However, these low concentrations of DDE, DDT and toxaphene are below levels considered hazardous according to criteria defined in the California Code of Regulations, Title 22.

The analytical test results show that no Prometon, chlorinated herbicides (8150) or volatile organic compounds (8240) are present at detectable levels in any of the sampled soils.

No semi-volatile organic compounds (8270) are present at detectable levels in any of the sampled soils, with the exception of bis (2-ethylhexyl) phthalate. Also, based on the soil analytical test results for total organic carbon and total organic halides, the concentration of total organic carbons is at a minimum and no halides are present, indicating no contamination of the sampled soils has occurred.

The analytical test results show that many C.A.C. Metals are present at detectable levels in the sampled soils.
However, these low concentrations are considered non-hazardous according to criteria defined in California Code of Regulations, Title 22. Also, metals are naturally occurring elements in soils and detected levels found in the sampled soils are consistent with normal background levels.

In summary, the presence of these chemicals in their respective concentrations are not considered to be a management issue, nor do they require mitigation or any special handling of the soils in any future development of the property.

C. **Water Sampling**

The analytical test results from the well water samples show that no chlorinated herbicides (8150), pesticides (8080) or semi-volatile organic compounds (8270) are present at detectable levels. In addition, total organic carbon levels are within normally occurring background levels and specific conductance within acceptable limits with respect to drinking water standards. Based on the analytical test results, no contamination of the groundwater beneath the site has occurred.

D. **Asbestos Survey**

Under current regulations, asbestos-containing concrete pipe and wall panels in non-friable condition do not require immediate remediation or hazard monitoring and may remain in place indefinitely. As the property is converted to other uses, the asbestos containing materials and possible asbestos containing materials within the residential buildings may be disturbed by excavation or demolition. Where these situations are likely to occur, the removal and proper disposal of these materials must be performed. Heath hazards resulting from asbestos removal is negligible when performed per regulatory specifications by licensed, certified personnel.

E. **Experimental Sewage Sludge Application Plots**

The analytical test results show that many C.A.C. Metals are present at detectable levels in the sampled soils. However, these low concentrations are considered non-hazardous according to criteria defined in California Code of Regulations, Title 22. Also, metals are naturally occurring elements in soils and detected levels found in the sampled soils are consistent with normal background levels.

F. Sewage Systems

Proper removal or abandonment of the existing sewage disposal systems should be conducted when the associated buildings are demolished. Sampling of the surrounding soils and appropriate laboratory analyses can be performed at this time to confirm that contaminants do not exist.

G. Overhead Transformers

Based on conversations with representatives from Southern California Edison Company, the existing overhead transformers on power poles do not contain PCB oil, therefore they do not pose a health hazard from a hazardous materials perspective.

XII. RECOMMENDATIONS

Based on Reference No. 1, the subject area has been used specifically for agricultural use under normal circumstances.

There is no indication that the site is contaminated by hazardous materials or waste. The site is therefore considered suitable for proposed residential and commercial community development.

Therefore, it is GeoSoils recommendation that no further environmental investigations are necessary at this time.

Site demolition and abandonment of the facilities require special procedures for removal and disposal in accordance with standard agency requirements (eg, U.G. tanks, asbestos pipe, well abandonment, septic systems, etc.).

In the event that unexpected contamination is discovered or occurs during site demolition or grading, it should then be reviewed and mitigated in accordance with applicable agency requirements.

XIII. LIMITATION

The findings, conclusions and recommendations are heavily based on secondary information made available to GSI, in most instances from public records and from records provided by UC Riverside. This data was supplemented by limited random and targeted site samples and laboratory analyses. The information is relevant to the date of our site work and should not be relied on to represent conditions at any later date. The opinions and conclusions expressed herein are based on information obtained during our investigation and on our experience or current standards of technical practice. GSI makes no other warranties, either expressed or implied, concerning the completeness of the data furnished to us.

GSI cannot be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time our investigation was undertaken.

This Phase II ESA is not and should not be construed as a warranty or guarantee about the presence or absence of environmental hazards or contaminants which may affect the subject site. Facts, conditions, and acceptable risk factors change with time; accordingly, this report should be viewed within this context.

This ESA report has been prepared for the use of University of California, Riverside (UCR) for this specific project, and should not be used by other parties without the written consent of UCR.

REFERENCES

1. "Phase 1 Preliminary Site Assessment, Moreno Field Station, City of Moreno Valley, County of Riverside, California", by GeoSoils, Inc., dated April 29, 1992, W.O. 2395-A1-OC

2. "Limited Phase II Environmental Site Assessment, A Portion of Moreno Valley Ranch - Parcels 1 and 8 and the Eastern Half of Parcels 2 and 7, Section F, City of Moreno Valley, County of Riverside, California", by GeoSoils, Inc., dated April 30, 1992, W.O. 2395-A1-OC

3. "Limited Phase II Environmental Site Assessment, A Portion of Moreno Field Station - Section D, City of Moreno Valley, County of Riverside, California", by GeoSoils, Inc., dated July 20, 1992, W.O. 2395-A1-OC

APPENDIX A

LOG OF EXPLORATORY BORINGS

UNIFIED SOIL CLASSIFICATION SYSTEM

Major divisions			Symbols	Typical descriptions	Criteria
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels 50% or more of coarse fraction retained on No. 4 sieve	Clean Gravels	GW	Well-grade gravels and gravel-sand mixtures, little or no fines	Standard Penetration Test
			GP	Poorly graded gravels and gravel--sand mixtures, little or no fines	Penetration Resistance, N (blows/ft) / Relative Density 0 - 4 Very loose 4 - 10 Loose 10 - 30 Medium 30 - 50 Dense > 50 Very Dense
		Gravels with Fines	GM	Silty gravels, gravel-sand-silt mixtures	
			GC	Clayey gravels, gravel-sand-clay mixtures	
	Sands More than 50% of coarse fraction passes No. 4 sieve	Clean Sands	SW	Well-graded sands and gravelly sands little or no fines	
			SP	Poorly graded sands, gravelly sands little or no fines	
		Sands with Fines	SM	Silty sand, sand-silt mixtures	
			SC	Clayey sands,sand-clay mixtures	
Fine-Grained Soils 50% or more pass No. 200 sieve	Silts and Clays Liquid Limit 50% or less		ML	Inorganic silts, very fine sands rock flour,silty or clayey fine sands	Standard Penetration Test
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	Penetration resistance, N (blow/ft) / Consistency < 2 Very soft 2 - 4 Soft 4 - 8 Medium, Firm 8 - 15 Stiff 15 - 30 Very Stiff > 30 Hard
			OL	Organic silts and organic silty clays of low plasticity	
	Silts and Clays Liquid Limit greater than 50%		MH	Inorganic silts, micaceous or diatomaceous fine sands or silts elastic silts	
			CH	Inorganic clays of high plasticity fat clays	
			OH	Organic clays of medium to high plasticity	
Highly Organic Soils			PT	Peat, muck, and other highly organic soils	

3" 3/4" #4 #10 #40 #200 U.S. Standard Sieve

Unified Soil Classif.	Cobbles	Gravel		Sand			Silt or Clay
		coarse	fine	coarse	medium	fine	

Moisture Conditions		Material Quantity		Other Symbols
Dry	absence of moisture; dusty, dry to the touch	trace	0 - 5 %	C Core sample
Slightly moist	below optimum moisture content for compaction	few	5 - 10 %	S SPT sample
Moist	near optimum moisture content	little	10 - 25 %	B Bulk sample
Very Moist	above optimum moisture content	some	25 - 45 %	▽ Ground water
Wet	visible free water, below water table			

Basic Log format:
Group name, Group Symbol, (Grain Size), Color, Moisture, Consistency or relatively density
Additional comments: odor, presence of roots, mica, gypsum, coarse grained particles, etc.

Example:
Sand (SP), fine to medium grain, brown, moist, loose,trace silt, little fine gravel, few cobbles up to 4" in size

PLATE A

BORING LOG

GeoSoils, Inc.

W.O. 2395-OC

PROJECT: **Moreno Field Station**

BORING B-1 SHEET 1 OF 1

DATE EXCAVATED 6-16-92

DRILLING METHOD Hollow Stem

Standard Penetration Test

Undisturbed, Ring Sample

ELEVATION _____

LOGGED BY HDP/AMS

Depth (ft.)	Sample: Bulk	Sample: Undisturbed	Sample: Blows/6"	USCS Symbol	Dry Unit Wt. (pcf)	VAPOR READINGS (ppm)	Description of Material
5		X	4 5 5	SM		50.0	FILL Silty Sand - Firm, Brown, Moist, Organic Odor
10		X	2 3 3	ML		43.0	Clayey Silt - Firm, Dark Gray Brown, Very Moist, Organic Odor, Mulch, Rubber Tire Tube, Rags
15		X	4 5 6	ML		42.0	? ? ? ?
20		X	5 7 10	ML/ CL		29.0	ALLUVIUM Clayey Silt - Firm to Stiff, Olive, Moist, White Mottles
25		X	7 10 12	CL/ SC		42.0	Grades to Sandy Clay - Firm to Stiff, Olive, Moist, Orange Oxides
30		X	8 16 20	ML/ CL		13.0	Clayey Silt - Stiff, Olive, Moist, White Mottles
35							Total Depth Drilled - 30' Hole Backfilled With Slurry

BORING LOG

GeoSoils, Inc.

W.O. 2395-OC

PROJECT: **Moreno Field Station**

BORING B-2 SHEET 1 OF 1

DATE EXCAVATED 6-16-92

DRILLING METHOD Hollow Stem

Standard Penetration Test

Undisturbed, Ring Sample

ELEVATION _____

LOGGED BY HDP/AMS

Depth (ft.)	Sample: Bulk	Sample: Undisturbed	Sample: Blows/6"	USCS Symbol	Dry Unit Wt. (pcf)	VAPOR READINGS (ppm)	Description of Material
5		☒	2 2 2	SM		25.0	FILL Silty Sand - Firm, Brown, Moist
10		☒	3 4 5	ML		30.0	Silt - Firm, Dark Gray, Moist, Scattered Mulch-wood Clippings, Slight Organic Odor
15		☒	5 7 7	ML/CL		30.0	Clayey Silt - Firm, Light Brown, Moist
							ALLUVIUM
20		☒	8 10 15	ML/CL		29.0	Clayey Silt - Firm to Stiff, Light Brown, Moist, White Mottles
25		☒	10 14 20	CL/SC		21.0	Grades to Sandy Clay - Firm to Stiff, Olive, Moist, Orange Oxides
30		☒	11 16 22	CL/SC		34.0	Sandy Clay - Stiff, Olive, Moist
35							Total Depth Drilled - 30' Hole Backfilled With Slurry

APPENDIX B

SOIL SAMPLES

LABORATORY TEST RESULT SHEETS

I. LANDFILL AREAS — **Pages**

A. BURIED LANDFILL

EPA 8080 Organochlorine Pesticides.....1 thru 7
EPA 8150 Chlorinated Herbicides.....8 thru 16
EPA 8270 Semivolatile Organics.....17 thru 37
Chain of Custody Forms.....38 thru 40

B. OPEN LANDFILL

EPA 8080 Organochlorine Pesticides.....41 thru 42
EPA 8150 Chlorinated Herbicides.....43 thru 47
Chain of Custody Forms.....48 thru 49

II. OVERALL SAMPLING

EPA 8080 Organochlorine Pesticides.....50 thru 52
EPA 8140 Organophosphorus pesticides.....53 thru 54
EPA 8150 Chlorinated Herbicides.....55 thru 71
EPA 8240 Volatile Organics.....64 thru 71
EPA 8270 Semivolatile Organics.....72 thru 84
Total Organic Carbon.....85 thru 88
Total Organic Halides.....89 thru 96
C.A.C. Metals.....97 thru 102
Chain of Custody Forms.....103 thru 105

III. SLUDGE APPLICATION PLOTS

C.A.C. Metals.....106 thru 115
Chain of Custody Form.....116

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : UC Riverside - Moreno Field Stn.
SAMPLE : Method Blank
MATRIX : Soil
JOB # : 3568

DATE RECEIVED: 06/16/92
DATE EXTRACTED:06/18/92
DATE ANALYZED: 06/24-26/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	1
319-85-7	BETA-BHC	ND	1
319-86-8	DELTA-BHC	ND	1
58-89-9	GAMMA-BHC (LINDANE)	ND	1
76-44-8	HEPTACHLOR	ND	1
309-00-2	ALDRIN	ND	1
1024-57-3	HEPTACHLOR EPOXIDE	ND	1
959-98-8	ENDOSULFAN I	ND	1
60-57-1	DIELDRIN	ND	2
72-55-9	4,4'-DDE	ND	2
72-20-8	ENDRIN	ND	2
3321-65-9	ENDOSULFAN II	ND	2
72-54-8	4,4'-DDD	ND	2
7421-93-4	ENDRIN ALDEHYDE	ND	2
1031-07-8	ENDOSULFAN SULFATE	ND	2
50-29-3	4,4'-DDT	ND	2
72-43-5	METHOXYCHLOR	ND	10
57-74-9	CHLORDANE	NA	10
8001-35-2	TOXAPHENE	NA	20

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : UC Riverside - Moreno Field Stn.
SAMPLE : #1
MATRIX : Soil
JOB # : 3568

DATE RECEIVED: 06/16/92
DATE EXTRACTED: 06/18/92
DATE ANALYZED: 06/24-26/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	1
319-85-7	BETA-BHC	ND	1
319-86-8	DELTA-BHC	ND	1
58-89-9	GAMMA-BHC (LINDANE)	ND	1
76-44-8	HEPTACHLOR	ND	1
309-00-2	ALDRIN	ND	1
1024-57-3	HEPTACHLOR EPOXIDE	ND	1
959-98-8	ENDOSULFAN I	ND	1
60-57-1	DIELDRIN	ND	2
72-55-9	4,4'-DDE	11	2
72-20-8	ENDRIN	ND	2
3321-65-9	ENDOSULFAN II	ND	2
72-54-8	4,4'-DDD	ND	2
7421-93-4	ENDRIN ALDEHYDE	ND	2
1031-07-8	ENDOSULFAN SULFATE	ND	2
50-29-3	4,4'-DDT	ND	2
72-43-5	METHOXYCHLOR	ND	10
57-74-9	CHLORDANE	NA	10
8001-35-2	TOXAPHENE	NA	20

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

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CLIENT : GeoSoils
SITE : UC Riverside - Moreno Field Stn.
SAMPLE : #2
MATRIX : Soil
JOB # : 3568

DATE RECEIVED: 06/16/92
DATE EXTRACTED: 06/18/92
DATE ANALYZED: 06/24-26/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	1
319-85-7	BETA-BHC	ND	1
319-86-8	DELTA-BHC	ND	1
58-89-9	GAMMA-BHC (LINDANE)	ND	1
76-44-8	HEPTACHLOR	ND	1
309-00-2	ALDRIN	ND	1
1024-57-3	HEPTACHLOR EPOXIDE	ND	1
959-98-8	ENDOSULFAN I	ND	1
60-57-1	DIELDRIN	ND	2
72-55-9	4,4'-DDE	ND	2
72-20-8	ENDRIN	ND	2
3321-65-9	ENDOSULFAN II	ND	2
72-54-8	4,4'-DDD	ND	2
7421-93-4	ENDRIN ALDEHYDE	ND	2
1031-07-8	ENDOSULFAN SULFATE	ND	2
50-29-3	4,4'-DDT	ND	2
72-43-5	METHOXYCHLOR	ND	10
57-74-9	CHLORDANE	NA	10
8001-35-2	TOXAPHENE	NA	20

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

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CLIENT : GeoSoils
SITE : UC Riverside - Moreno Field Stn.
SAMPLE : #3
MATRIX : Soil
JOB # : 3568

DATE RECEIVED: 06/16/92
DATE EXTRACTED:06/18/92
DATE ANALYZED: 06/24-26/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	1
319-85-7	BETA-BHC	ND	1
319-86-8	DELTA-BHC	ND	1
58-89-9	GAMMA-BHC (LINDANE)	ND	1
76-44-8	HEPTACHLOR	ND	1
309-00-2	ALDRIN	ND	1
1024-57-3	HEPTACHLOR EPOXIDE	ND	1
959-98-8	ENDOSULFAN I	ND	1
60-57-1	DIELDRIN	ND	2
72-55-9	4,4'-DDE	ND	2
72-20-8	ENDRIN	ND	2
3321-65-9	ENDOSULFAN II	ND	2
72-54-8	4,4'-DDD	ND	2
7421-93-4	ENDRIN ALDEHYDE	ND	2
1031-07-8	ENDOSULFAN SULFATE	ND	2
50-29-3	4,4'-DDT	ND	2
72-43-5	METHOXYCHLOR	ND	10
57-74-9	CHLORDANE	NA	10
8001-35-2	TOXAPHENE	NA	20

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

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CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : UC Riverside - Moreno Field Stn.
SAMPLE : #4
MATRIX : Soil
JOB # : 3568

DATE RECEIVED: 06/16/92
DATE EXTRACTED: 06/18/92
DATE ANALYZED: 06/24-26/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	1
319-85-7	BETA-BHC	ND	1
319-86-8	DELTA-BHC	ND	1
58-89-9	GAMMA-BHC (LINDANE)	ND	1
76-44-8	HEPTACHLOR	ND	1
309-00-2	ALDRIN	ND	1
1024-57-3	HEPTACHLOR EPOXIDE	ND	1
959-98-8	ENDOSULFAN I	ND	1
60-57-1	DIELDRIN	ND	2
72-55-9	4,4'-DDE	ND	2
72-20-8	ENDRIN	ND	2
3321-65-9	ENDOSULFAN II	ND	2
72-54-8	4,4'-DDD	ND	2
7421-93-4	ENDRIN ALDEHYDE	ND	2
1031-07-8	ENDOSULFAN SULFATE	ND	2
50-29-3	4,4'-DDT	ND	2
72-43-5	METHOXYCHLOR	ND	10
57-74-9	CHLORDANE	NA	10
8001-35-2	TOXAPHENE	NA	20

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

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CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : UC Riverside - Moreno Field Stn.
SAMPLE : #5
MATRIX : Soil
JOB # : 3568

DATE RECEIVED: 06/16/92
DATE EXTRACTED:06/18/92
DATE ANALYZED: 06/24-26/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	1
319-85-7	BETA-BHC	ND	1
319-86-8	DELTA-BHC	ND	1
58-89-9	GAMMA-BHC (LINDANE)	ND	1
76-44-8	HEPTACHLOR	ND	1
309-00-2	ALDRIN	ND	1
1024-57-3	HEPTACHLOR EPOXIDE	ND	1
959-98-8	ENDOSULFAN I	ND	1
60-57-1	DIELDRIN	ND	2
72-55-9	4,4'-DDE	ND	2
72-20-8	ENDRIN	ND	2
3321-65-9	ENDOSULFAN II	ND	2
72-54-8	4,4'-DDD	ND	2
7421-93-4	ENDRIN ALDEHYDE	ND	2
1031-07-8	ENDOSULFAN SULFATE	ND	2
50-29-3	4,4'-DDT	ND	2
72-43-5	METHOXYCHLOR	ND	10
57-74-9	CHLORDANE	NA	10
8001-35-2	TOXAPHENE	NA	20

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : UC Riverside - Moreno Field Stn.
SAMPLE : #6
MATRIX : Soil
JOB # : 3568

DATE RECEIVED: 06/16/92
DATE EXTRACTED:06/18/92
DATE ANALYZED: 06/24-26/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	1
319-85-7	BETA-BHC	ND	1
319-86-8	DELTA-BHC	ND	1
58-89-9	GAMMA-BHC (LINDANE)	ND	1
76-44-8	HEPTACHLOR	ND	1
309-00-2	ALDRIN	ND	1
1024-57-3	HEPTACHLOR EPOXIDE	ND	1
959-98-8	ENDOSULFAN I	ND	1
60-57-1	DIELDRIN	ND	2
72-55-9	4,4'-DDE	ND	2
72-20-8	ENDRIN	ND	2
3321-65-9	ENDOSULFAN II	ND	2
72-54-8	4,4'-DDD	ND	2
7421-93-4	ENDRIN ALDEHYDE	ND	2
1031-07-8	ENDOSULFAN SULFATE	ND	2
50-29-3	4,4'-DDT	ND	2
72-43-5	METHOXYCHLOR	ND	10
57-74-9	CHLORDANE	NA	10
8001-35-2	TOXAPHENE	NA	20

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

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Michael A. Yartzoff
General Manager

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WEST COAST
ANALYTICAL
SERVICE, INC.
ANALYTICAL CHEMISTS

June 30, 1992

CENTRUM ANALYTICAL LABS
290 Tennessee Street
Redlands, CA 92373

Attn: Shelley Walls

JOB NO. 21630 S

LABORATORY REPORT

Samples Received: Eight (8) Soil Samples
Date Received: 6-18-92
Purchase Order No: Job No.3568/UCR

The samples were analyzed as follows:

Samples Analyzed	Analysis	Results
Eight (8) soils	Chlorinated Herbicides by EPA 8150	Data Sheets

Michael Shelton
Technical Director

D. C. Northington, Ph.D.
President

9840 Alburtis Avenue • Santa Fe Springs, California 90670 • 310/948-2225 • FAX 310/948-5850

Client: CENTRUM ANALYTICAL Sample: 1
WCAS Job no.: 21630

Chlorinated Herbicides by EPA 8150

Date Received: 06/18/92 Matrix: Soil
Date Extracted: 06/22/92 Sample amount: 20g:10mL,1:10
Date Analyzed: 06/25/92
Instrument ID: GC#8 Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	500
94-82-6	2,4-DB	ND	800
1918-00-9	Dicamba	ND	50
120-36-5	Dichlorprop	ND	200
88-85-7	Dinoseb	ND	40
94-74-6	MCPA	ND	30000
7085-19-0	MCPP	ND	50000
87-86-5	Pentachlorophenol	ND	40
93-72-1	Silvex	ND	40
93-76-5	2,4,5-T	ND	50

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	86	29-141

Client: CENTRUM ANALYTICAL Sample: 2
WCAS Job no.: 21630

Chlorinated Herbicides by EPA 8150

Date Received: 06/18/92
Date Extracted: 06/22/92
Date Analyzed: 06/25/92
Instrument ID: GC#8

Matrix: Soil
Sample amount: 20g:10mL,1:20
Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	1000
94-82-6	2,4-DB	ND	2000
1918-00-9	Dicamba	ND	100
120-36-5	Dichlorprop	ND	300
88-85-7	Dinoseb	ND	70
94-74-6	MCPA	ND	50000
7085-19-0	MCPP	ND	100000
87-86-5	Pentachlorophenol	ND	70
93-72-1	Silvex	ND	70
93-76-5	2,4,5-T	ND	100

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	68	29-141

Client: CENTRUM ANALYTICAL Sample: 3
WCAS Job no.: 21630

Chlorinated Herbicides by EPA 8150

Date Received: 06/18/92 Matrix: Soil
Date Extracted: 06/22/92 Sample amount: 20g:10mL
Date Analyzed: 06/25/92
Instrument ID: GC#8 Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	50
94-82-6	2,4-DB	ND	80
1918-00-9	Dicamba	ND	5
120-36-5	Dichlorprop	ND	20
88-85-7	Dinoseb	ND	4
94-74-6	MCPA	ND	3000
7085-19-0	MCPP	ND	5000
87-86-5	Pentachlorophenol	ND	4
93-72-1	Silvex	ND	4
93-76-5	2,4,5-T	ND	5

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	112	29-141

Client: CENTRUM ANALYTICAL Sample: 4
WCAS Job no.: 21630

Chlorinated Herbicides by EPA 8150

Date Received: 06/18/92 Matrix: Soil
Date Extracted: 06/22/92 Sample amount: 20g:10mL,1:10
Date Analyzed: 06/25/92
Instrument ID: GC#8 Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	500
94-82-6	2,4-DB	ND	800
1918-00-9	Dicamba	ND	50
120-36-5	Dichlorprop	ND	200
88-85-7	Dinoseb	ND	40
94-74-6	MCPA	ND	30000
7085-19-0	MCPP	ND	50000
87-86-5	Pentachlorophenol	ND	40
93-72-1	Silvex	ND	40
93-76-5	2,4,5-T	ND	50

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	79	29-141

Client: CENTRUM ANALYTICAL Sample: 5
WCAS Job no.: 21630

Chlorinated Herbicides by EPA 8150

Date Received: 06/18/92 Matrix: Soil
Date Extracted: 06/22/92 Sample amount: 20g:10mL
Date Analyzed: 06/25/92
Instrument ID: GC#8 Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	50
94-82-6	2,4-DB	ND	80
1918-00-9	Dicamba	ND	5
120-36-5	Dichlorprop	ND	20
88-85-7	Dinoseb	ND	4
94-74-6	MCPA	ND	3000
7085-19-0	MCPP	ND	5000
87-86-5	Pentachlorophenol	ND	4
93-72-1	Silvex	ND	4
93-76-5	2,4,5-T	ND	5

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	111	29-141

Client: CENTRUM ANALYTICAL Sample: 6
WCAS Job no.: 21630

Chlorinated Herbicides by EPA 8150

Date Received: 06/18/92 Matrix: Soil
Date Extracted: 06/22/92 Sample amount: 20g:10mL
Date Analyzed: 06/25/92
Instrument ID: GC#8 Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	50
94-82-6	2,4-DB	ND	80
1918-00-9	Dicamba	ND	5
120-36-5	Dichlorprop	ND	20
88-85-7	Dinoseb	ND	4
94-74-6	MCPA	ND	3000
7085-19-0	MCPP	ND	5000
87-86-5	Pentachlorophenol	ND	4
93-72-1	Silvex	ND	4
93-76-5	2,4,5-T	ND	5

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	99	29-141

Client: CENTRUM ANALYTICAL Sample: METHOD BLANK
WCAS Job no.: 21630

Chlorinated Herbicides by EPA 8150

Date Received: 06/22/92 Matrix: Soil
Date Extracted: 06/22/92 Sample amount: 20g:10mL
Date Analyzed: 06/24/92
Instrument ID: GC#8 Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	50
94-82-6	2,4-DB	ND	80
1918-00-9	Dicamba	ND	5
120-36-5	Dichlorprop	ND	20
88-85-7	Dinoseb	ND	4
94-74-6	MCPA	ND	3000
7085-19-0	MCPP	ND	5000
87-86-5	Pentachlorophenol	ND	4
93-72-1	Silvex	ND	4
93-76-5	2,4,5-T	ND	5

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	118	29-141

Phenoxy Acid Herbicides

Matrix Spike/Matrix Spike Duplicate Recovery Summary

Client: CENTRUM ANALYTICAL
Job no.: 21630
Date Analyzed: 06/25/92
Units: ppb

Sample ID: 3
Matrix: Soil
Date Extracted: 06/22/92

Analyte	Sample Result	Amount Spiked	MS Result	% Rec MS	MSD Result	% Rec MSD	RPD
Dicamba	ND	28	25.5	91	25	89	-2
Dinoseb	ND	26	24.5	94	25.5	98	4
Silvex	ND	26	16.5	63	16.5	63	0
2,4,5-T	ND	26	8.5	33	8.5	33	0

QC Limits

Analyte	RPD Warning	RPD Control	% Recovery Warning	% Recovery Warning	% Recovery Control	% Recovery Control
Dicamba	26	41	44	131	23	152
Dinoseb	40	60	22	126	0	152
Silvex	27	42	52	105	39	118
2,4,5-T	40	61	27	133	0	160

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
JOB NUMBER: 3568

DATE RECEIVED: 06/16/92
DATE ANALYZED: 06/23/92

EPA METHOD 8270 (625)

THE ENCLOSED DATA RESULTS SHEETS ARE FOR SAMPLES THAT WERE ANALYZED ACCORDING TO EPA METHOD 8270. SAMPLES WERE ANALYZED ON AN HP 5890 GC, EQUIPPED WITH AN HP 5971 MSD.

THE FOLLOWING DATA REPORTING QUALIFIERS ARE USED ON THE DATA RESULTS SHEETS.

VALUE: IF THE RESULT IS A VALUE GREATER THAN OR EQUAL TO THE DETECTION LIMIT (DL), THE VALUE IS REPORTED.

ND: INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE MINIMUM DL FOR THE SAMPLE WITH THE ND IS REPORTED BASED ON NECESSARY CONCENTRATION OR DILUTION ACTIONS.

TR: INDICATES AN ESTIMATED VALUE. THIS FLAG IS USED WHEN THE MASS SPECTRAL DATA INDICATES THE PRESENCE OF A COMPOUND THAT MEETS THE IDENTIFICATION CRITERIA BUT THE RESULT IS LESS THAN THE SPECIFIED DL BUT GREATER THAN ZERO.

NA: INDICATES THAT THE COMPOUND WAS NOT ANALYZED FOR.

RESPECTFULLY SUBMITTED,

CENTRUM ANALYTICAL LABORATORIES

Michael A. Yartzoff
GENERAL MANAGER

Ida Wallace
LABORATORY SUPERVISOR

290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336 • FAX (714) 793-1559

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: Method Blank
SAMPLE AMOUNT: 30gm/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	30
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	30
95-57-8	2-CHLOROPHENOL	ND	30
541-73-1	1,3-DICHLOROBENZENE	ND	30
106-46-7	1,4-DICHLOROBENZENE	ND	30
100-51-6	BENZYL ALCOHOL	ND	30
95-50-1	1,2-DICHLOROBENZENE	ND	30
95-48-7	2-METHYLPHENOL	ND	30
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	30
106-44-5	4-METHYLPHENOL	ND	30
621-64-7	N-NITROSODIPROPYLAMINE	ND	30
67-72-1	HEXACHLOROETHANE	ND	30
98-95-3	NITROBENZENE	ND	30
78-59-1	ISOPHORONE	ND	30
88-75-5	2-NITROPHENOL	ND	30
105-67-9	2,4-DIMETHYLPHENOL	ND	30
65-85-0	BENZOIC ACID	ND	150
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	30
120-33-2	2,4-DICHLOROPHENOL	ND	30
120-82-1	1,2,4-TRICHLOROBENZENE	ND	30
91-20-3	NAPHTHALENE	ND	30
106-47-8	4-CHLOROANILINE	ND	30
87-68-3	HEXACHLOROBUTADIENE	ND	30
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	30
91-57-6	2-METHYLNAPHTHALENE	ND	30
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	30
88-06-2	2,4,6-TRICHLOROPHENOL	ND	30
95-95-4	2,4,5-TRICHLOROPHENOL	ND	150
91-58-7	2-CHLORONAPHTHALENE	ND	30
88-74-4	2-NITROANALINE	ND	150
131-11-3	DIMETHYL PHTHALATE	ND	30
208-96-8	ACENAPHTHYLENE	ND	30
99-09-2	3-NITROANILINE	ND	150
83-32-9	ACENAPHTHENE	ND	30
51-28-5	2,4-DINITROPHENOL	ND	150
100-02-7	4-NITROPHENOL	ND	150
132-64-9	DIBENZOFURAN	ND	30
121-14-2	2,4-DINITROTOLUENE	ND	30

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: Method Blank
SAMPLE AMOUNT: 30g/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
606-20-2	2,6-DINITROTOLUENE	ND	30
84-66-2	DIETHYL PHTHALATE	ND	30
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	30
86-73-7	FLUORENE	ND	30
100-01-6	4-NITROANILINE	ND	150
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	150
86-30-6	N-NITROSODIPHENYLAMINE	ND	30
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	30
118-74-1	HEXACHLOROBENZENE	ND	30
87-86-5	PENTACHLOROPHENOL	ND	150
85-01-8	PHENANTHRENE	ND	30
120-12-7	ANTHRACENE	ND	30
84-74-2	DI-N-BUTYL PHTHALATE	ND	30
206-44-0	FLUORANTHENE	ND	30
129-00-0	PYRENE	ND	30
85-68-7	BUTYL BENZYL PHTHALATE	ND	30
91-94-1	3,3'-DICHLOROBENZIDINE	ND	60
56-55-3	BENZO(A)ANTHRACENE	ND	30
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ND	30
218-01-9	CHRYSENE	ND	30
117-84-0	DI-N-OCTYL PHTHALATE	ND	30
205-99-2	BENZO(B & K)FLUORANTHENES	ND	30
50-32-8	BENZO(A)PYRENE	ND	30
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	30
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	30
191-24-2	BENZO(GHI)PERYLENE	ND	30

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 1
SAMPLE AMOUNT: 30gm/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	30
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	30
95-57-8	2-CHLOROPHENOL	ND	30
541-73-1	1,3-DICHLOROBENZENE	ND	30
106-46-7	1,4-DICHLOROBENZENE	ND	30
100-51-6	BENZYL ALCOHOL	ND	30
95-50-1	1,2-DICHLOROBENZENE	ND	30
95-48-7	2-METHYLPHENOL	ND	30
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	30
106-44-5	4-METHYLPHENOL	ND	30
621-64-7	N-NITROSODIPROPYLAMINE	ND	30
67-72-1	HEXACHLOROETHANE	ND	30
98-95-3	NITROBENZENE	ND	30
78-59-1	ISOPHORONE	ND	30
88-75-5	2-NITROPHENOL	ND	30
105-67-9	2,4-DIMETHYLPHENOL	ND	30
65-85-0	BENZOIC ACID	ND	150
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	30
120-33-2	2,4-DICHLOROPHENOL	ND	30
120-82-1	1,2,4-TRICHLOROBENZENE	ND	30
91-20-3	NAPHTHALENE	ND	30
106-47-8	4-CHLOROANILINE	ND	30
87-68-3	HEXACHLOROBUTADIENE	ND	30
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	30
91-57-6	2-METHYLNAPHTHALENE	ND	30
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	30
88-06-2	2,4,6-TRICHLOROPHENOL	ND	30
95-95-4	2,4,5-TRICHLOROPHENOL	ND	150
91-58-7	2-CHLORONAPHTHALENE	ND	30
88-74-4	2-NITROANALINE	ND	150
131-11-3	DIMETHYL PHTHALATE	ND	30
208-96-8	ACENAPHTHYLENE	ND	30
99-09-2	3-NITROANILINE	ND	150
83-32-9	ACENAPHTHENE	ND	30
51-28-5	2,4-DINITROPHENOL	ND	150
100-02-7	4-NITROPHENOL	ND	150
132-64-9	DIBENZOFURAN	ND	30
121-14-2	2,4-DINITROTOLUENE	ND	30

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 1
SAMPLE AMOUNT: 30g/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
606-20-2	2,6-DINITROTOLUENE	ND	30
84-66-2	DIETHYL PHTHALATE	ND	30
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	30
86-73-7	FLUORENE	ND	30
100-01-6	4-NITROANILINE	ND	150
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	150
86-30-6	N-NITROSODIPHENYLAMINE	ND	30
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	30
118-74-1	HEXACHLOROBENZENE	ND	30
87-86-5	PENTACHLOROPHENOL	ND	150
85-01-8	PHENANTHRENE	ND	30
120-12-7	ANTHRACENE	ND	30
84-74-2	DI-N-BUTYL PHTHALATE	ND	30
206-44-0	FLUORANTHENE	ND	30
129-00-0	PYRENE	ND	30
85-68-7	BUTYL BENZYL PHTHALATE	ND	30
91-94-1	3,3'-DICHLOROBENZIDINE	ND	60
56-55-3	BENZO(A)ANTHRACENE	ND	30
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ND	30
218-01-9	CHRYSENE	ND	30
117-84-0	DI-N-OCTYL PHTHALATE	ND	30
205-99-2	BENZO(B & K)FLUORANTHENES	ND	30
50-32-8	BENZO(A)PYRENE	ND	30
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	30
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	30
191-24-2	BENZO(GHI)PERYLENE	ND	30

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 1
SAMPLE AMOUNT: 30g/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/kg (ppb)
none found	BNA	

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 2
SAMPLE AMOUNT: 30gm/10ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	300
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	300
95-57-8	2-CHLOROPHENOL	ND	300
541-73-1	1,3-DICHLOROBENZENE	ND	300
106-46-7	1,4-DICHLOROBENZENE	ND	300
100-51-6	BENZYL ALCOHOL	ND	300
95-50-1	1,2-DICHLOROBENZENE	ND	300
95-48-7	2-METHYLPHENOL	ND	300
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	300
106-44-5	4-METHYLPHENOL	ND	300
621-64-7	N-NITROSODIPROPYLAMINE	ND	300
67-72-1	HEXACHLOROETHANE	ND	300
98-95-3	NITROBENZENE	ND	300
78-59-1	ISOPHORONE	ND	300
88-75-5	2-NITROPHENOL	ND	300
105-67-9	2,4-DIMETHYLPHENOL	ND	300
65-85-0	BENZOIC ACID	ND	1500
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	300
120-33-2	2,4-DICHLOROPHENOL	ND	300
120-82-1	1,2,4-TRICHLOROBENZENE	ND	300
91-20-3	NAPHTHALENE	ND	300
106-47-8	4-CHLOROANILINE	ND	300
87-68-3	HEXACHLOROBUTADIENE	ND	300
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	300
91-57-6	2-METHYLNAPHTHALENE	ND	300
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	300
88-06-2	2,4,6-TRICHLOROPHENOL	ND	300
95-95-4	2,4,5-TRICHLOROPHENOL	ND	1500
91-58-7	2-CHLORONAPHTHALENE	ND	300
88-74-4	2-NITROANALINE	ND	1500
131-11-3	DIMETHYL PHTHALATE	ND	300
208-96-8	ACENAPHTHYLENE	ND	300
99-09-2	3-NITROANILINE	ND	1500
83-32-9	ACENAPHTHENE	ND	300
51-28-5	2,4-DINITROPHENOL	ND	1500
100-02-7	4-NITROPHENOL	ND	1500
132-64-9	DIBENZOFURAN	ND	300
121-14-2	2,4-DINITROTOLUENE	ND	300

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 2
SAMPLE AMOUNT: 30g/10ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
606-20-2	2,6-DINITROTOLUENE	ND	300
84-66-2	DIETHYL PHTHALATE	ND	300
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	300
86-73-7	FLUORENE	ND	300
100-01-6	4-NITROANILINE	ND	1500
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	1500
86-30-6	N-NITROSODIPHENYLAMINE	ND	300
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	300
118-74-1	HEXACHLOROBENZENE	ND	300
87-86-5	PENTACHLOROPHENOL	ND	1500
85-01-8	PHENANTHRENE	ND	300
120-12-7	ANTHRACENE	ND	300
84-74-2	DI-N-BUTYL PHTHALATE	ND	300
206-44-0	FLUORANTHENE	ND	300
129-00-0	PYRENE	ND	300
85-68-7	BUTYL BENZYL PHTHALATE	ND	300
91-94-1	3,3'-DICHLOROBENZIDINE	ND	600
56-55-3	BENZO(A)ANTHRACENE	ND	300
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ND	300
218-01-9	CHRYSENE	ND	300
117-84-0	DI-N-OCTYL PHTHALATE	ND	300
205-99-2	BENZO(B & K)FLUORANTHENES	ND	300
50-32-8	BENZO(A)PYRENE	ND	300
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	300
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	300
191-24-2	BENZO(GHI)PERYLENE	ND	300

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 2
SAMPLE AMOUNT: 30g/10ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/kg (ppb)
none found	BNA	

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 3
SAMPLE AMOUNT: 30gm/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	30
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	30
95-57-8	2-CHLOROPHENOL	ND	30
541-73-1	1,3-DICHLOROBENZENE	ND	30
106-46-7	1,4-DICHLOROBENZENE	ND	30
100-51-6	BENZYL ALCOHOL	ND	30
95-50-1	1,2-DICHLOROBENZENE	ND	30
95-48-7	2-METHYLPHENOL	ND	30
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	30
106-44-5	4-METHYLPHENOL	ND	30
621-64-7	N-NITROSODIPROPYLAMINE	ND	30
67-72-1	HEXACHLOROETHANE	ND	30
98-95-3	NITROBENZENE	ND	30
78-59-1	ISOPHORONE	ND	30
88-75-5	2-NITROPHENOL	ND	30
105-67-9	2,4-DIMETHYLPHENOL	ND	30
65-85-0	BENZOIC ACID	ND	150
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	30
120-33-2	2,4-DICHLOROPHENOL	ND	30
120-82-1	1,2,4-TRICHLOROBENZENE	ND	30
91-20-3	NAPHTHALENE	ND	30
106-47-8	4-CHLOROANILINE	ND	30
87-68-3	HEXACHLOROBUTADIENE	ND	30
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	30
91-57-6	2-METHYLNAPHTHALENE	ND	30
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	30
88-06-2	2,4,6-TRICHLOROPHENOL	ND	30
95-95-4	2,4,5-TRICHLOROPHENOL	ND	150
91-58-7	2-CHLORONAPHTHALENE	ND	30
88-74-4	2-NITROANALINE	ND	150
131-11-3	DIMETHYL PHTHALATE	ND	30
208-96-8	ACENAPHTHYLENE	ND	30
99-09-2	3-NITROANILINE	ND	150
83-32-9	ACENAPHTHENE	ND	30
51-28-5	2,4-DINITROPHENOL	ND	150
100-02-7	4-NITROPHENOL	ND	150
132-64-9	DIBENZOFURAN	ND	30
121-14-2	2,4-DINITROTOLUENE	ND	30

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 3
SAMPLE AMOUNT: 30g/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
606-20-2	2,6-DINITROTOLUENE	ND	30
84-66-2	DIETHYL PHTHALATE	ND	30
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	30
86-73-7	FLUORENE	ND	30
100-01-6	4-NITROANILINE	ND	150
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	150
86-30-6	N-NITROSODIPHENYLAMINE	ND	30
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	30
118-74-1	HEXACHLOROBENZENE	ND	30
87-86-5	PENTACHLOROPHENOL	ND	150
85-01-8	PHENANTHRENE	ND	30
120-12-7	ANTHRACENE	ND	30
84-74-2	DI-N-BUTYL PHTHALATE	ND	30
206-44-0	FLUORANTHENE	ND	30
129-00-0	PYRENE	ND	30
85-68-7	BUTYL BENZYL PHTHALATE	ND	30
91-94-1	3,3'-DICHLOROBENZIDINE	ND	60
56-55-3	BENZO(A)ANTHRACENE	ND	30
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ND	30
218-01-9	CHRYSENE	ND	30
117-84-0	DI-N-OCTYL PHTHALATE	ND	30
205-99-2	BENZO(B & K)FLUORANTHENES	ND	30
50-32-8	BENZO(A)PYRENE	ND	30
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	30
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	30
191-24-2	BENZO(GHI)PERYLENE	ND	30

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 3
SAMPLE AMOUNT: 30g/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/kg (ppb)
none found	BNA	

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 4
SAMPLE AMOUNT: 30gm/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	30
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	30
95-57-8	2-CHLOROPHENOL	ND	30
541-73-1	1,3-DICHLOROBENZENE	ND	30
106-46-7	1,4-DICHLOROBENZENE	ND	30
100-51-6	BENZYL ALCOHOL	ND	30
95-50-1	1,2-DICHLOROBENZENE	ND	30
95-48-7	2-METHYLPHENOL	ND	30
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	30
106-44-5	4-METHYLPHENOL	ND	30
621-64-7	N-NITROSODIPROPYLAMINE	ND	30
67-72-1	HEXACHLOROETHANE	ND	30
98-95-3	NITROBENZENE	ND	30
78-59-1	ISOPHORONE	ND	30
88-75-5	2-NITROPHENOL	ND	30
105-67-9	2,4-DIMETHYLPHENOL	ND	30
65-85-0	BENZOIC ACID	ND	150
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	30
120-33-2	2,4-DICHLOROPHENOL	ND	30
120-82-1	1,2,4-TRICHLOROBENZENE	ND	30
91-20-3	NAPHTHALENE	ND	30
106-47-8	4-CHLOROANILINE	ND	30
87-68-3	HEXACHLOROBUTADIENE	ND	30
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	30
91-57-6	2-METHYLNAPHTHALENE	ND	30
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	30
88-06-2	2,4,6-TRICHLOROPHENOL	ND	30
95-95-4	2,4,5-TRICHLOROPHENOL	ND	150
91-58-7	2-CHLORONAPHTHALENE	ND	30
88-74-4	2-NITROANALINE	ND	150
131-11-3	DIMETHYL PHTHALATE	ND	30
208-96-8	ACENAPHTHYLENE	ND	30
99-09-2	3-NITROANILINE	ND	150
83-32-9	ACENAPHTHENE	ND	30
51-28-5	2,4-DINITROPHENOL	ND	150
100-02-7	4-NITROPHENOL	ND	150
132-64-9	DIBENZOFURAN	ND	30
121-14-2	2,4-DINITROTOLUENE	ND	30

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 4
SAMPLE AMOUNT: 30g/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
606-20-2	2,6-DINITROTOLUENE	ND	30
84-66-2	DIETHYL PHTHALATE	ND	30
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	30
86-73-7	FLUORENE	ND	30
100-01-6	4-NITROANILINE	ND	150
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	150
86-30-6	N-NITROSODIPHENYLAMINE	ND	30
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	30
118-74-1	HEXACHLOROBENZENE	ND	30
87-86-5	PENTACHLOROPHENOL	ND	150
85-01-8	PHENANTHRENE	ND	30
120-12-7	ANTHRACENE	ND	30
84-74-2	DI-N-BUTYL PHTHALATE	ND	30
206-44-0	FLUORANTHENE	ND	30
129-00-0	PYRENE	ND	30
85-68-7	BUTYL BENZYL PHTHALATE	ND	30
91-94-1	3,3'-DICHLOROBENZIDINE	ND	60
56-55-3	BENZO(A)ANTHRACENE	ND	30
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ND	30
218-01-9	CHRYSENE	ND	30
117-84-0	DI-N-OCTYL PHTHALATE	ND	30
205-99-2	BENZO(B & K)FLUORANTHENES	ND	30
50-32-8	BENZO(A)PYRENE	ND	30
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	30
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	30
191-24-2	BENZO(GHI)PERYLENE	ND	30

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 4
SAMPLE AMOUNT: 30g/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/kg (ppb)
none found	BNA	

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 5
SAMPLE AMOUNT: 30gm/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	30
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	30
95-57-8	2-CHLOROPHENOL	ND	30
541-73-1	1,3-DICHLOROBENZENE	ND	30
106-46-7	1,4-DICHLOROBENZENE	ND	30
100-51-6	BENZYL ALCOHOL	ND	30
95-50-1	1,2-DICHLOROBENZENE	ND	30
95-48-7	2-METHYLPHENOL	ND	30
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	30
106-44-5	4-METHYLPHENOL	ND	30
621-64-7	N-NITROSODIPROPYLAMINE	ND	30
67-72-1	HEXACHLOROETHANE	ND	30
98-95-3	NITROBENZENE	ND	30
78-59-1	ISOPHORONE	ND	30
88-75-5	2-NITROPHENOL	ND	30
105-67-9	2,4-DIMETHYLPHENOL	ND	30
65-85-0	BENZOIC ACID	ND	150
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	30
120-33-2	2,4-DICHLOROPHENOL	ND	30
120-82-1	1,2,4-TRICHLOROBENZENE	ND	30
91-20-3	NAPHTHALENE	ND	30
106-47-8	4-CHLOROANILINE	ND	30
87-68-3	HEXACHLOROBUTADIENE	ND	30
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	30
91-57-6	2-METHYLNAPHTHALENE	ND	30
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	30
88-06-2	2,4,6-TRICHLOROPHENOL	ND	30
95-95-4	2,4,5-TRICHLOROPHENOL	ND	150
91-58-7	2-CHLORONAPHTHALENE	ND	30
88-74-4	2-NITROANALINE	ND	150
131-11-3	DIMETHYL PHTHALATE	ND	30
208-96-8	ACENAPHTHYLENE	ND	30
99-09-2	3-NITROANILINE	ND	150
83-32-9	ACENAPHTHENE	ND	30
51-28-5	2,4-DINITROPHENOL	ND	150
100-02-7	4-NITROPHENOL	ND	150
132-64-9	DIBENZOFURAN	ND	30
121-14-2	2,4-DINITROTOLUENE	ND	30

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 5
SAMPLE AMOUNT: 30g/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
606-20-2	2,6-DINITROTOLUENE	ND	30
84-66-2	DIETHYL PHTHALATE	ND	30
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	30
86-73-7	FLUORENE	ND	30
100-01-6	4-NITROANILINE	ND	150
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	150
86-30-6	N-NITROSODIPHENYLAMINE	ND	30
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	30
118-74-1	HEXACHLOROBENZENE	ND	30
87-86-5	PENTACHLOROPHENOL	ND	150
85-01-8	PHENANTHRENE	ND	30
120-12-7	ANTHRACENE	ND	30
84-74-2	DI-N-BUTYL PHTHALATE	ND	30
206-44-0	FLUORANTHENE	ND	30
129-00-0	PYRENE	ND	30
85-68-7	BUTYL BENZYL PHTHALATE	ND	30
91-94-1	3,3'-DICHLOROBENZIDINE	ND	60
56-55-3	BENZO(A)ANTHRACENE	ND	30
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ND	30
218-01-9	CHRYSENE	ND	30
117-84-0	DI-N-OCTYL PHTHALATE	ND	30
205-99-2	BENZO(B & K)FLUORANTHENES	ND	30
50-32-8	BENZO(A)PYRENE	ND	30
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	30
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	30
191-24-2	BENZO(GHI)PERYLENE	ND	30

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 5
SAMPLE AMOUNT: 30g/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/kg (ppb)
None Found	BNA	

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 6
SAMPLE AMOUNT: 30gm/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	30
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	30
95-57-8	2-CHLOROPHENOL	ND	30
541-73-1	1,3-DICHLOROBENZENE	ND	30
106-46-7	1,4-DICHLOROBENZENE	ND	30
100-51-6	BENZYL ALCOHOL	ND	30
95-50-1	1,2-DICHLOROBENZENE	ND	30
95-48-7	2-METHYLPHENOL	ND	30
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	30
106-44-5	4-METHYLPHENOL	ND	30
621-64-7	N-NITROSODIPROPYLAMINE	ND	30
67-72-1	HEXACHLOROETHANE	ND	30
98-95-3	NITROBENZENE	ND	30
78-59-1	ISOPHORONE	ND	30
88-75-5	2-NITROPHENOL	ND	30
105-67-9	2,4-DIMETHYLPHENOL	ND	30
65-85-0	BENZOIC ACID	ND	150
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	30
120-33-2	2,4-DICHLOROPHENOL	ND	30
120-82-1	1,2,4-TRICHLOROBENZENE	ND	30
91-20-3	NAPHTHALENE	ND	30
106-47-8	4-CHLOROANILINE	ND	30
87-68-3	HEXACHLOROBUTADIENE	ND	30
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	30
91-57-6	2-METHYLNAPHTHALENE	ND	30
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	30
88-06-2	2,4,6-TRICHLOROPHENOL	ND	30
95-95-4	2,4,5-TRICHLOROPHENOL	ND	150
91-58-7	2-CHLORONAPHTHALENE	ND	30
88-74-4	2-NITROANALINE	ND	150
131-11-3	DIMETHYL PHTHALATE	ND	30
208-96-8	ACENAPHTHYLENE	ND	30
99-09-2	3-NITROANILINE	ND	150
83-32-9	ACENAPHTHENE	ND	30
51-28-5	2,4-DINITROPHENOL	ND	150
100-02-7	4-NITROPHENOL	ND	150
132-64-9	DIBENZOFURAN	ND	30
121-14-2	2,4-DINITROTOLUENE	ND	30

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 6
SAMPLE AMOUNT: 30g/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
606-20-2	2,6-DINITROTOLUENE	ND	30
84-66-2	DIETHYL PHTHALATE	ND	30
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	30
86-73-7	FLUORENE	ND	30
100-01-6	4-NITROANILINE	ND	150
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	150
86-30-6	N-NITROSODIPHENYLAMINE	ND	30
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	30
118-74-1	HEXACHLOROBENZENE	ND	30
87-86-5	PENTACHLOROPHENOL	ND	150
85-01-8	PHENANTHRENE	ND	30
120-12-7	ANTHRACENE	ND	30
84-74-2	DI-N-BUTYL PHTHALATE	ND	30
206-44-0	FLUORANTHENE	ND	30
129-00-0	PYRENE	ND	30
85-68-7	BUTYL BENZYL PHTHALATE	ND	30
91-94-1	3,3'-DICHLOROBENZIDINE	ND	60
56-55-3	BENZO(A)ANTHRACENE	ND	30
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ND	30
218-01-9	CHRYSENE	ND	30
117-84-0	DI-N-OCTYL PHTHALATE	ND	30
205-99-2	BENZO(B & K)FLUORANTHENES	ND	30
50-32-8	BENZO(A)PYRENE	ND	30
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	30
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	30
191-24-2	BENZO(GHI)PERYLENE	ND	30

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UCR-Moreno Field Station
SAMPLE: 6
SAMPLE AMOUNT: 30g/1ml
MATRIX: Soil

DATE RECEIVED: 06/16/92
DATE PREPARED: 06/23/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/kg (ppb)
none found	BNA	

No. 3568

CENTRUM ANALYTICAL LABORATORIES, INC.

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@ $400.00 per sample per M. Yartzoff
a.s.

CHAIN OF CUSTODY RECORD

Job No.: 2395-M-OC

Project Name: UCR - Moreno Field Station

Sampler: Anna Scott

Phone: (714) 647-0277

Client Name: GeoSoils

Address: 1446 E. Chestnut Santa Ana CA 92701

Analyses required

Sample Number	Date/Time Sampled	Soil	Water	Other (Specify)	Site Location	# and type of containers	EPA 8080 (Pesticides only)	EPA 8150	EPA 8270					Hazardous sample / Special handling / Sample preserved Y / N	Remarks and observations
✓ 1	6/16/92 AM	✓			B-1 @ 5'	1 Brass	✓	✓	✓						
✓ 2	6/16/92 AM	✓			B-1 @ 15'	1 Brass	✓	✓	✓						
✓ 3	6/16/92 AM	✓			B-1 @ 25'	1 Brass	✓	✓	✓						
✓ 4	6/16/92 AM	✓			B-2 @ 5'	1 Brass	✓	✓	✓						
✓ 5	6/16/92 AM	✓			B-2 @ 15'	1 Brass	✓	✓	✓						
✓ 6	6/16/92 AM	✓			B-2 @ 25'	1 Brass	✓	✓	✓						
✓ 7	6/16/92 AM	✓			Open Landfill - N. side	1 Glass	✓								
✓ 8	6/16/92 AM	✓			Open Landfill - N. side	1 Glass		✓							
✓ 9	6/16/92 AM	✓			Open Landfill - S. side	1 Glass	✓								
✓ 10	6/16/92 AM	✓			Open Landfill - ~~N~~ S. side	1 Glass		✓							

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Anna M. Scott	6/16/92, 3PM				

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time
		[signature]	6/16/92 1300pm

Samples chilled ☒ Yes ☐ No
Samples sealed ☐ Yes ☒ No

Method of Shipment
☐ Courier ☐ UPS/Fed-x ☐ Mail ☒ Hand Carried

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

CENTRUM ANALYTICAL LABORATORIES, INC.
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CHAIN OF CUSTODY RECORD

PAGE 2 OF 2

Job No.: 2395-A1-CC | Project Name: UCR - Moreno Field Station

Sampler: Anna Scott | Phone: (714) 647-0277

Client Name: GeoSoils | Address: 1446 E. Chestnut Santa Ana CA 92701

Sample Number	Date/Time Sampled	Sample Type: Soil	Sample Type: Water	Sample Type: Other (Specify)	Site Location	# and type of containers	Analyses required	Hazardous sample / Special handling / Sample preserved Y / N	Remarks and observations
A	4/16/92 AM	✓			B-1 @ 30'	1 Brass			
B	"	✓			B-2 @ 10'	"			Hold ~~until~~ (Further testing may be necessary)
C	"	✓			B-2 @ 20'	"			
D	"	✓			B-2 @ 30'	"			
E	"	✓			B-1 @ 10'	"			
F	"	✓			B-1 @ 20'	"			

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Anna M. Scott	4/14/92 3:00pm				
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time		
		Sharla	4/14/92 3:00pm		

Samples chilled ☒ Yes ☐ No
Samples sealed ☐ Yes ☒ No

Method of Shipment
☐ Courier ☐ UPS/Fed-x ☐ Mail ☒ Hand Carried

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

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CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

Job No.: 3568 | Project Name: UCR - Moreno Field Station

Sampler: Anna Scott | Phone: 714-798-9336

Client Name: Centrum | Address: 290 Tennessee Street Redlands, CA 92373

Analyses required: 8150

Sample Number	Date/Time Sampled	Sample Type: Soil	Water	Other (Specify)	Site Location	# and type of containers	8150	Hazardous sample / Special handling / Sample preserved Y / N	Remarks and observations
1	6/16/92	X				4/125	X		
2		X					X		
3		X					X		
4		X					X		
5		X					X		
6		X					X		
8		X					X		
10		X					X		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Anna Scott	6/17/92 4:00pm				
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time		
		Mary Mulcahey	6-18-92 11:00		

Samples chilled: ☒ Yes ☐ No
Samples sealed: ☐ Yes ☒ No

Method of Shipment: ☐ Courier ☒ UPS/Fed-x ☐ Mail ☐ Hand Carried

#21630

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : UC Riverside - Moreno Field Stn.
SAMPLE : #7
MATRIX : Soil
JOB # : 3568

DATE RECEIVED: 06/16/92
DATE EXTRACTED:06/18/92
DATE ANALYZED: 06/24-26/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	1
319-85-7	BETA-BHC	ND	1
319-86-8	DELTA-BHC	ND	1
58-89-9	GAMMA-BHC (LINDANE)	ND	1
76-44-8	HEPTACHLOR	ND	1
309-00-2	ALDRIN	ND	1
1024-57-3	HEPTACHLOR EPOXIDE	ND	1
959-98-8	ENDOSULFAN I	ND	1
60-57-1	DIELDRIN	ND	2
72-55-9	4,4'-DDE	ND	2
72-20-8	ENDRIN	ND	2
3321-65-9	ENDOSULFAN II	ND	2
72-54-8	4,4'-DDD	ND	2
7421-93-4	ENDRIN ALDEHYDE	ND	2
1031-07-8	ENDOSULFAN SULFATE	ND	2
50-29-3	4,4'-DDT	ND	2
72-43-5	METHOXYCHLOR	ND	10
57-74-9	CHLORDANE	NA	10
8001-35-2	TOXAPHENE	NA	20

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : UC Riverside - Moreno Field Stn.
SAMPLE : #9
MATRIX : Soil
JOB # : 3568

DATE RECEIVED: 06/16/92
DATE EXTRACTED:06/18/92
DATE ANALYZED: 06/24-26/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	1
319-85-7	BETA-BHC	ND	1
319-86-8	DELTA-BHC	ND	1
58-89-9	GAMMA-BHC (LINDANE)	ND	1
76-44-8	HEPTACHLOR	ND	1
309-00-2	ALDRIN	ND	1
1024-57-3	HEPTACHLOR EPOXIDE	ND	1
959-98-8	ENDOSULFAN I	ND	1
60-57-1	DIELDRIN	ND	2
72-55-9	4,4'-DDE	2.2	2
72-20-8	ENDRIN	ND	2
3321-65-9	ENDOSULFAN II	ND	2
72-54-8	4,4'-DDD	ND	2
7421-93-4	ENDRIN ALDEHYDE	ND	2
1031-07-8	ENDOSULFAN SULFATE	ND	2
50-29-3	4,4'-DDT	ND	2
72-43-5	METHOXYCHLOR	ND	10
57-74-9	CHLORDANE	NA	10
8001-35-2	TOXAPHENE	NA	20

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

WEST COAST
ANALYTICAL
SERVICE, INC.
ANALYTICAL CHEMISTS

June 30, 1992

CENTRUM ANALYTICAL LABS
290 Tennessee Street
Redlands, CA 92373

Attn: Shelley Walls

JOB NO. 21630 S

LABORATORY REPORT

Samples Received: Eight (8) Soil Samples
Date Received: 6-18-92
Purchase Order No: Job No.3568/UCR

The samples were analyzed as follows:

Samples Analyzed	Analysis	Results
Eight (8) soils	Chlorinated Herbicides by EPA 8150	Data Sheets

Michael Shelton
Technical Director

D. G. Northington, Ph.D.
President

9840 Alburtis Avenue • Santa Fe Springs, California 90670 • 310/948-2225 • FAX 310/948-5850

Client: CENTRUM ANALYTICAL Sample: 8
WCAS Job no.: 21630

Chlorinated Herbicides by EPA 8150

Date Received: 06/18/92 Matrix: Soil
Date Extracted: 06/22/92 Sample amount: 20g:10mL,1:10
Date Analyzed: 06/25/92
Instrument ID: GC#8 Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	500
94-82-6	2,4-DB	ND	800
1918-00-9	Dicamba	ND	50
120-36-5	Dichlorprop	ND	200
88-85-7	Dinoseb	ND	40
94-74-6	MCPA	ND	30000
7085-19-0	MCPP	ND	50000
87-86-5	Pentachlorophenol	ND	40
93-72-1	Silvex	ND	40
93-76-5	2,4,5-T	ND	50

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	68	29-141

Client: CENTRUM ANALYTICAL Sample: 10
WCAS Job no.: 21630

Chlorinated Herbicides by EPA 8150

Date Received: 06/18/92 Matrix: Soil
Date Extracted: 06/22/92 Sample amount: 20g:10mL,1:2
Date Analyzed: 06/29/92
Instrument ID: GC#8 Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	100
94-82-6	2,4-DB	ND	200
1918-00-9	Dicamba	ND	10
120-36-5	Dichlorprop	ND	30
88-85-7	Dinoseb	ND	7
94-74-6	MCPA	ND	5000
7085-19-0	MCPP	ND	10000
87-86-5	Pentachlorophenol	ND	7
93-72-1	Silvex	ND	7
93-76-5	2,4,5-T	ND	10

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	110	29-141

Client: CENTRUM ANALYTICAL Sample: METHOD BLANK
WCAS Job no.: 21630

Chlorinated Herbicides by EPA 8150

Date Received: 06/22/92 Matrix: Soil
Date Extracted: 06/22/92 Sample amount: 20g:10mL
Date Analyzed: 06/24/92
Instrument ID: GC#8 Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	50
94-82-6	2,4-DB	ND	80
1918-00-9	Dicamba	ND	5
120-36-5	Dichlorprop	ND	20
88-85-7	Dinoseb	ND	4
94-74-6	MCPA	ND	3000
7085-19-0	MCPP	ND	5000
87-86-5	Pentachlorophenol	ND	4
93-72-1	Silvex	ND	4
93-76-5	2,4,5-T	ND	5

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	118	29-141

Phenoxy Acid Herbicides

Matrix Spike/Matrix Spike Duplicate Recovery Summary

Client: CENTRUM ANALYTICAL
Job no.: 21630
Date Analyzed: 06/25/92
Units: ppb

Sample ID: 3
Matrix: Soil
Date Extracted: 06/22/92

Analyte	Sample Result	Amount Spiked	MS Result	% Rec MS	MSD Result	% Rec MSD	RPD
Dicamba	ND	28	25.5	91	25	89	-2
Dinoseb	ND	26	24.5	94	25.5	98	4
Silvex	ND	26	16.5	63	16.5	63	0
2,4,5-T	ND	26	8.5	33	8.5	33	0

QC Limits

Analyte	RPD Warning	RPD Control	% Recovery Warning	% Recovery Warning	% Recovery Control	% Recovery Control
Dicamba	26	41	44	131	23	152
Dinoseb	40	60	22	126	0	152
Silvex	27	42	52	105	39	118
2,4,5-T	40	61	27	133	0	160

CENTRUM ANALYTICAL LABORATORIES, INC.
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@ $400.00 per sample per M. Yartzoff 9.8.

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2

Job No.: 2395-A1-OC	Project Name: UCR - Moreno Field Station
Sampler: Anna Scott	Phone: (714) 647-0277
Client Name: GeoSoils	Address: 1446 E. Chestnut Santa Ana CA 92701

Sample Number	Date/Time Sampled	Sample Type: Soil	Water	Other (Specify)	Site Location	# and type of containers	EPA 8080 (Pesticides only)	EPA 8150	EPA 8270					Hazardous sample / Special handling / Sample preserved Y / N		Remarks and observations
1	6/16/92 AM	✓			B-1 @ 5'	1 Brass	✓	✓	✓							
2	6/16/92 AM	✓			B-1 @ 15'	1 Brass	✓	✓	✓							
3	6/16/92 AM	✓			B-1 @ 25'	1 Brass	✓	✓	✓							
4	6/16/92 AM	✓			B-2 @ 5'	1 Brass	✓	✓	✓							
5	6/16/92 AM	✓			B-2 @ 15'	1 Brass	✓	✓	✓							
6	6/16/92 AM	✓			B-2 @ 25'	1 Brass	✓	✓	✓							
7	6/16/92 AM	✓			Open Landfill - N. side	1 Glass	✓									
8	6/16/92 AM	✓			Open Landfill - N. side	1 Glass		✓								
9	6/16/92 AM	✓			Open Landfill - S. side	1 Glass	✓									
10	6/16/92 AM	✓			Open Landfill - S. side	1 Glass		✓								

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Anna M. Scott	6/16/92 3 PM				
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time		
			6/16/92 3:00pm		

Samples chilled ☒ Yes ☐ No
Samples sealed ☐ Yes ☒ No
Method of Shipment
☐ Courier ☐ UPS/Fed-x ☐ Mail ☒ Hand Carried

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

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CHAIN OF CUSTODY RECORD

PAGE 2 OF 2

Job No.: 2395-A1-CC | Project Name: UCR-Moreno Field Station

Sampler: Anna Scott | Phone: (714) 647-0277

Client Name: GeoSoils | Address: 1446 E. Chestnut Santa Ana CA 92701

Sample Number	Date/Time Sampled	Sample Type: Soil	Water	Other (Specify)	Site Location	# and type of containers	Analyses required	Hazardous sample / Special handling / Sample preserved Y / N	Remarks and observations
A	4/6/92 AM	✓			B-1 @ 30'	1 Brass			~~Hold~~
B	"	✓			B-2 @ 10'	"			Hold (Further testing may be necessary)
C	"	✓			B-2 @ 20'	"			
D	"	✓			B-2 @ 30'	"			
E	"	✓			B-1 @ 10'	"			
F	"	✓			B-1 @ 20'	"			

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Anna M. Scott	4/14/92 3:00pm				
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time		
		Sialks	4/14/92 3:00pm		

Samples chilled ☒ Yes ☐ No
Samples sealed ☐ Yes ☒ No

Method of Shipment
☐ Courier ☐ UPS/Fed-x ☐ Mail ☒ Hand Carried

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : Geo Soils
SITE : Moreno Field Station - UCR
SAMPLE : Method Blank
MATRIX : Soil
JOB # : 3623

DATE RECEIVED: 07/06/92
DATE EXTRACTED:07/14/92
DATE ANALYZED: 07/15-16/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	1
319-85-7	BETA-BHC	ND	1
319-86-8	DELTA-BHC	ND	1
58-89-9	GAMMA-BHC (LINDANE)	ND	1
76-44-8	HEPTACHLOR	ND	1
309-00-2	ALDRIN	ND	1
1024-57-3	HEPTACHLOR EPOXIDE	ND	1
959-98-8	ENDOSULFAN I	ND	1
60-57-1	DIELDRIN	ND	2
72-55-9	4,4'-DDE	ND	2
72-20-8	ENDRIN	ND	2
3321-65-9	ENDOSULFAN II	ND	2
72-54-8	4,4'-DDD	ND	2
7421-93-4	ENDRIN ALDEHYDE	ND	2
1031-07-8	ENDOSULFAN SULFATE	ND	2
50-29-3	4,4'-DDT	ND	2
72-43-5	METHOXYCHLOR	ND	10
57-74-9	CHLORDANE	ND	10
8001-35-2	TOXAPHENE	ND	20

ND - Not Detected

Respectfully submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

8080B.TXT

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : Geo Soils
SITE : Moreno Field Station - UCR
SAMPLE : 13
MATRIX : Soil
JOB # : 3623

DATE RECEIVED: 07/06/92
DATE EXTRACTED:07/14/92
DATE ANALYZED: 07/15-16/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	1
319-85-7	BETA-BHC	ND	1
319-86-8	DELTA-BHC	ND	1
58-89-9	GAMMA-BHC (LINDANE)	ND	1
76-44-8	HEPTACHLOR	ND	1
309-00-2	ALDRIN	ND	1
1024-57-3	HEPTACHLOR EPOXIDE	ND	1
959-98-8	ENDOSULFAN I	ND	1
60-57-1	DIELDRIN	ND	2
72-55-9	4,4'-DDE	33	2
72-20-8	ENDRIN	ND	2
3321-65-9	ENDOSULFAN II	ND	2
72-54-8	4,4'-DDD	ND	2
7421-93-4	ENDRIN ALDEHYDE	ND	2
1031-07-8	ENDOSULFAN SULFATE	ND	2
50-29-3	4,4'-DDT	42	2
72-43-5	METHOXYCHLOR	ND	10
57-74-9	CHLORDANE	ND	10
8001-35-2	TOXAPHENE	78	20

ND - Not Detected

Respectfully submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

808013.TXT

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : Geo Soils
SITE : Moreno Field Station - UCR
SAMPLE : 14
MATRIX : Soil
JOB # : 3623

DATE RECEIVED: 07/06/92
DATE EXTRACTED:07/14/92
DATE ANALYZED: 07/15-16/92
SAMPLE AMOUNT: 30 gm
EXTRACT VOLUME: 10 ml (1/20)

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	20
319-85-7	BETA-BHC	ND	20
319-86-8	DELTA-BHC	ND	20
58-89-9	GAMMA-BHC (LINDANE)	ND	20
76-44-8	HEPTACHLOR	ND	20
309-00-2	ALDRIN	ND	20
1024-57-3	HEPTACHLOR EPOXIDE	ND	20
959-98-8	ENDOSULFAN I	ND	20
60-57-1	DIELDRIN	ND	40
72-55-9	4,4'-DDE	ND	40
72-20-8	ENDRIN	ND	40
3321-65-9	ENDOSULFAN II	ND	40
72-54-8	4,4'-DDD	ND	40
7421-93-4	ENDRIN ALDEHYDE	ND	40
1031-07-8	ENDOSULFAN SULFATE	ND	40
50-29-3	4,4'-DDT	44	40
72-43-5	METHOXYCHLOR	ND	200
57-74-9	CHLORDANE	ND	200
8001-35-2	TOXAPHENE	576	400

ND - Not Detected

Respectfully submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

808014.TXT

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : Method Blank
MATRIX : Soil
JOB # : 3623

DATE RECEIVED: 07/06/92
DATE EXTRACTED:07/23/92
DATE ANALYZED: 07/23-24/92
SAMPLE AMOUNT: 6.0 gm
EXTRACT VOLUME:6.0 ml

EPA METHOD 614/8140

COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
Prometon	ND	100

ND-Not Detected
NA-Not Analyzed

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336 • FAX (714) 793-1559

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : #9
MATRIX : Soil
JOB # : 3623

DATE RECEIVED: 07/06/92
DATE EXTRACTED: 07/23/92
DATE ANALYZED: 07/23-24/92
SAMPLE AMOUNT: 6.0 gm
EXTRACT VOLUME: 6.0 ml

EPA METHOD 614/8140

COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
Prometon	ND	100

Note: This sample exhibited poor extraction efficiency. The sample was used as the matrix for the spike (MS) and duplicate spike (MSD). The recovery of Prometon on both the MS and MSD was 0%. An Ottawa sand matrix was used for the laboratory control samples (LCS,LCSD). The recovery of Prometon on both the LCS and LCSD was 118 and 121% respectively, with a RPD of 2.

ND-Not Detected
NA-Not Analyzed

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336 • FAX (714) 793-1559

WEST COAST
ANALYTICAL
SERVICE, INC.
ANALYTICAL CHEMISTS

July 21, 1992

CENTRUM ANALYTICAL LABS
290 Tennessee Street
Redlands, CA 92373

Attn: Mike Yartzoff

JOB NO. 21788 S

LABORATORY REPORT

Samples Received: Six (6) Soil Samples
Date Received: 7-8-92
Purchase Order No: Job No.3623

The samples were analyzed as follows:

Samples Analyzed	Analysis	Results
Six (6) soils	Chlorinated Herbicides by EPA 8150	Data Sheets

B. Michael Hovanec
Senior Staff Chemist

Michael Shelton
Technical Director

9840 Alburtis Avenue • Santa Fe Springs, California 90670 • 310/948-2225 • FAX 310/948-5850

Client: CENTRUM ANALYTICAL Sample: #1
WCAS Job no.: 21788

Chlorinated Herbicides by EPA 8150

Date Received: 07/08/92
Date Extracted: 07/08/92
Date Analyzed: 07/13/92
Instrument ID: GC #8

Matrix: Soil
Sample amount: 20g:10mL, 1:2
Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	100
94-82-6	2,4-DB	ND	200
1918-00-9	Dicamba	ND	10
120-36-5	Dichlorprop	ND	30
88-85-7	Dinoseb	ND	7
94-74-6	MCPA	ND	5000
7085-19-0	MCPP	ND	10000
87-86-5	Pentachlorophenol	ND	7
93-72-1	Silvex	ND	7
93-76-5	2,4,5-T	ND	10

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	89	29-141

Client: CENTRUM ANALYTICAL Sample: #4
WCAS Job no.: 21788

Chlorinated Herbicides by EPA 8150

Date Received:	07/08/92	Matrix:	Soil
Date Extracted:	07/08/92	Sample amount:	20g:10mL, 1:2
Date Analyzed:	07/13/92		
Instrument ID:	GC #8	Units:	ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	100
94-82-6	2,4-DB	ND	200
1918-00-9	Dicamba	ND	10
120-36-5	Dichlorprop	ND	30
88-85-7	Dinoseb	ND	7
94-74-6	MCPA	ND	5000
7085-19-0	MCPP	ND	10000
87-86-5	Pentachlorophenol	ND	7
93-72-1	Silvex	ND	7
93-76-5	2,4,5-T	ND	10

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	90	29-141

Client: CENTRUM ANALYTICAL Sample: #7
WCAS Job no.: 21788

Chlorinated Herbicides by EPA 8150

Date Received: 07/08/92
Date Extracted: 07/08/92
Date Analyzed: 07/13/92
Instrument ID: GC #8

Matrix: Soil
Sample amount: 20g:10mL, 1:2
Units: ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	100
94-82-6	2,4-DB	ND	200
1918-00-9	Dicamba	ND	10
120-36-5	Dichlorprop	ND	30
88-85-7	Dinoseb	ND	7
94-74-6	MCPA	ND	5000
7085-19-0	MCPP	ND	10000
87-86-5	Pentachlorophenol	ND	7
93-72-1	Silvex	ND	7
93-76-5	2,4,5-T	ND	10

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	90	29-141

Client: CENTRUM ANALYTICAL Sample: #9
WCAS Job no.: 21788

Chlorinated Herbicides by EPA 8150

Date Received:	07/08/92	Matrix:	Soil
Date Extracted:	07/08/92	Sample amount:	21g:10mL, 1:2
Date Analyzed:	07/13/92		
Instrument ID:	GC #8	Units:	ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	90
94-82-6	2,4-DB	ND	100
1918-00-9	Dicamba	ND	9
120-36-5	Dichlorprop	ND	30
88-85-7	Dinoseb	ND	7
94-74-6	MCPA	ND	5000
7085-19-0	MCPP	ND	9000
87-86-5	Pentachlorophenol	ND	7
93-72-1	Silvex	ND	7
93-76-5	2,4,5-T	ND	9

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	77	29-141

Client: CENTRUM ANALYTICAL Sample: #13
WCAS Job no.: 21788

Chlorinated Herbicides by EPA 8150

Date Received:	07/08/92	Matrix:	Soil
Date Extracted:	07/08/92	Sample amount:	19g:10mL, 1:2
Date Analyzed:	07/13/92		
Instrument ID:	GC #8	Units:	ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	100
94-82-6	2,4-DB	ND	200
1918-00-9	Dicamba	ND	10
120-36-5	Dichlorprop	ND	30
88-85-7	Dinoseb	ND	7
94-74-6	MCPA	ND	5000
7085-19-0	MCPP	ND	10000
87-86-5	Pentachlorophenol	ND	7
93-72-1	Silvex	ND	7
93-76-5	2,4,5-T	ND	10

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	89	29-141

Client: CENTRUM ANALYTICAL Sample: #14
WCAS Job no.: 21788

Chlorinated Herbicides by EPA 8150

Date Received:	07/08/92	Matrix:	Soil
Date Extracted:	07/08/92	Sample amount:	20g:10mL, 1:2
Date Analyzed:	07/13/92		
Instrument ID:	GC #8	Units:	ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	100
94-82-6	2,4-DB	ND	100
1918-00-9	Dicamba	ND	10
120-36-5	Dichlorprop	ND	30
88-85-7	Dinoseb	ND	7
94-74-6	MCPA	ND	5000
7085-19-0	MCPP	ND	10000
87-86-5	Pentachlorophenol	ND	7
93-72-1	Silvex	ND	7
93-76-5	2,4,5-T	ND	10

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	100	29-141

Client: CENTRUM ANALYTICAL Sample: METHOD BLANK
WCAS Job no.: 21788

Chlorinated Herbicides by EPA 8150

Date Received:	07/08/92	Matrix:	Soil
Date Extracted:	07/08/92	Sample amount:	20g:10mL, 1:2
Date Analyzed:	07/13/92		
Instrument ID:	GC #8	Units:	ug/kg (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	100
94-82-6	2,4-DB	ND	200
1918-00-9	Dicamba	ND	10
120-36-5	Dichlorprop	ND	30
88-85-7	Dinoseb	ND	7
94-74-6	MCPA	ND	5000
7085-19-0	MCPP	ND	10000
87-86-5	Pentachlorophenol	ND	7
93-72-1	Silvex	ND	7
93-76-5	2,4,5-T	ND	10

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	89	29-141

Phenoxy Acid Herbicides

Matrix Spike/Matrix Spike Duplicate Recovery Summary

Client: CENTRUM ANALYTICAL Sample : #13
Job no.: 21788
Date Analyzed: 07/15/92 Matrix: Soil
Units: ppb Date Extracted: 07/08/92

Analyte	Sample Result	Amount Spiked	MS Result	% Rec MS	MSD Result	% Rec MSD	RPD
Dicamba	ND	551	591	107	610	111	3
Dinoseb	ND	512	512	100	473	92	-8
Silvex	ND	512	384	75	384	75	0
2,4,5-T	ND	512	177	35	177	35	0

QC Limits

Analyte	RPD Warning	RPD Control	% Recovery Warning	% Recovery Warning	% Recovery Control	% Recovery Control
Dicamba	26	41	44	131	23	152
Dinoseb	40	60	22	126	0	152
Silvex	27	42	52	105	39	118
2,4,5-T	40	61	27	133	0	160

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station - UCR
JOB NUMBER: 3623

DATE RECEIVED: 07/06/92
DATE ANALYZED: 07/08/92

EPA METHOD 8240

THE ENCLOSED DATA RESULTS SHEETS ARE FOR SAMPLES THAT WERE ANALYZED ACCORDING TO EPA METHOD 8240. SAMPLES WERE ANALYZED ON AN HP 5890 GC, EQUIPPED WITH AN HP 5970 MSD.

THE FOLLOWING DATA REPORTING QUALIFIERS ARE USED ON THE DATA RESULTS SHEETS.

VALUE: IF THE RESULT IS A VALUE GREATER THAN OR EQUAL TO THE DETECTION LIMIT (DL), THE VALUE IS REPORTED.

ND: INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE MINIMUM DL FOR THE SAMPLE WITH THE ND IS REPORTED BASED ON NECESSARY CONCENTRATION OR DILUTION ACTIONS.

TR: INDICATES AN ESTIMATED VALUE. THIS FLAG IS USED WHEN THE MASS SPECTRAL DATA INDICATES THE PRESENCE OF A COMPOUND THAT MEETS THE IDENTIFICATION CRITERIA BUT THE RESULT IS LESS THAN THE SPECIFIED DL BUT GREATER THAN ZERO.

NA: INDICATES THAT THE COMPOUND WAS NOT ANALYZED FOR.

RESPECTFULLY SUBMITTED,

CENTRUM ANALYTICAL LABORATORIES

Michael A. Yartzoff
GENERAL MANAGER

Ida Wallace
LABORATORY SUPERVISOR

dataql13.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station - UCR
SAMPLE : Laboratory Method Blank
MATRIX : Soil

DATE RECEIVED: 07/06/92
DATE ANALYZED: 07/08/92
SAMPLE AMOUNT: 1.0 GM
STANDARD ID : VOA739-741

EPA METHOD 8240

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
74-87-3	CHLOROMETHANE	ND	30
74-83-9	BROMOMETHANE	ND	30
75-01-4	VINYL CHLORIDE	ND	30
75-00-3	CHLOROETHANE	ND	30
75-09-2	METHYLENE CHLORIDE	ND	50
67-64-1	ACETONE	ND	50
75-15-0	CARBON DISULFIDE	ND	5
75-35-4	1,1-DICHLOROETHENE	ND	5
75-34-3	1,1-DICHLOROETHANE	ND	5
156-60-5	TRANS-1,2-DICHLOROETHENE	ND	5
67-66-3	CHLOROFORM	ND	5
107-06-2	1,2-DICHLOROETHANE	ND	5
78-93-3	2-BUTANONE	ND	50
71-55-6	1,1,1-TRICHLOROETHANE	ND	5
16-23-5	CARBON TETRACHLORIDE	ND	5
108-05-4	VINYL ACETATE	ND	5
75-27-4	BROMODICHLOROMETHANE	ND	5
78-87-5	1,2-DICHLOROPROPANE	ND	5
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ND	5
79-01-6	TRICHLOROETHENE	ND	5
124-48-1	DIBROMOCHLOROMETHANE	ND	5
79-00-5	1,1,2-TRICHLOROETHANE	ND	5
71-43-2	BENZENE	ND	5
10061-01-5	CIS-1,3-DICHLOROPROPENE	ND	5
110-75-8	2-CHLOROETHYLVINYL ETHER	ND	50
75-25-2	BROMOFORM	ND	5
119-78-6	2-HEXANONE	ND	30
108-10-1	4-METHYL-2-PENTANONE	ND	30
127-18-4	TETRACHLOROETHENE	ND	5
79-34-5	1,1,2,2 TETRACHLOROETHANE	ND	5
108-88-3	TOLUENE	ND	5
108-90-7	CHLOROBENZENE	ND	5
100-41-4	ETHYLBENZENE	ND	5
100-42-5	STYRENE	ND	5
95-47-6	TOTAL XYLENES	ND	5

8240l.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station - UCR
SAMPLE : 10B
MATRIX : Soil

DATE RECEIVED: 07/06/92
DATE ANALYZED: 07/08/92
SAMPLE AMOUNT: 1.0 GM
STANDARD ID : VOA739-741

EPA METHOD 8240

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
74-87-3	CHLOROMETHANE	ND	30
74-83-9	BROMOMETHANE	ND	30
75-01-4	VINYL CHLORIDE	ND	30
75-00-3	CHLOROETHANE	ND	30
75-09-2	METHYLENE CHLORIDE	ND	50
67-64-1	ACETONE	ND	50
75-15-0	CARBON DISULFIDE	ND	5
75-35-4	1,1-DICHLOROETHENE	ND	5
75-34-3	1,1-DICHLOROETHANE	ND	5
156-60-5	TRANS-1,2-DICHLOROETHENE	ND	5
67-66-3	CHLOROFORM	ND	5
107-06-2	1,2-DICHLOROETHANE	ND	5
78-93-3	2-BUTANONE	ND	50
71-55-6	1,1,1-TRICHLOROETHANE	ND	5
16-23-5	CARBON TETRACHLORIDE	ND	5
108-05-4	VINYL ACETATE	ND	5
75-27-4	BROMODICHLOROMETHANE	ND	5
78-87-5	1,2-DICHLOROPROPANE	ND	5
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ND	5
79-01-6	TRICHLOROETHENE	ND	5
124-48-1	DIBROMOCHLOROMETHANE	ND	5
79-00-5	1,1,2-TRICHLOROETHANE	ND	5
71-43-2	BENZENE	ND	5
10061-01-5	CIS-1,3-DICHLOROPROPENE	ND	5
110-75-8	2-CHLOROETHYLVINYL ETHER	ND	50
75-25-2	BROMOFORM	ND	5
119-78-6	2-HEXANONE	ND	30
108-10-1	4-METHYL-2-PENTANONE	ND	30
127-18-4	TETRACHLOROETHENE	ND	5
79-34-5	1,1,2,2 TETRACHLOROETHANE	ND	5
108-88-3	TOLUENE	ND	5
108-90-7	CHLOROBENZENE	ND	5
100-41-4	ETHYLBENZENE	ND	5
100-42-5	STYRENE	ND	5
95-47-6	TOTAL XYLENES	ND	5

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station - UCR
SAMPLE : 10B
MATRIX : Soil

DATE RECEIVED: 07/06/92
DATE ANALYZED: 07/08/92
SAMPLE AMOUNT: 1.0 GM
STANDARD ID : VOA739-741

EPA METHOD 8240

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND:	FRACTION:	ESTIMATED CONC: ug/kg (ppb)
None Found	VOA	

8240m.txt

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station - UCR
SAMPLE : 11A
MATRIX : Soil

DATE RECEIVED: 07/06/92
DATE ANALYZED: 07/08/92
SAMPLE AMOUNT: 1.0 GM
STANDARD ID : VOA739-741

EPA METHOD 8240

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
74-87-3	CHLOROMETHANE	ND	30
74-83-9	BROMOMETHANE	ND	30
75-01-4	VINYL CHLORIDE	ND	30
75-00-3	CHLOROETHANE	ND	30
75-09-2	METHYLENE CHLORIDE	ND	50
67-64-1	ACETONE	ND	50
75-15-0	CARBON DISULFIDE	ND	5
75-35-4	1,1-DICHLOROETHENE	ND	5
75-34-3	1,1-DICHLOROETHANE	ND	5
156-60-5	TRANS-1,2-DICHLOROETHENE	ND	5
67-66-3	CHLOROFORM	ND	5
107-06-2	1,2-DICHLOROETHANE	ND	5
78-93-3	2-BUTANONE	ND	50
71-55-6	1,1,1-TRICHLOROETHANE	ND	5
16-23-5	CARBON TETRACHLORIDE	ND	5
108-05-4	VINYL ACETATE	ND	5
75-27-4	BROMODICHLOROMETHANE	ND	5
78-87-5	1,2-DICHLOROPROPANE	ND	5
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ND	5
79-01-6	TRICHLOROETHENE	ND	5
124-48-1	DIBROMOCHLOROMETHANE	ND	5
79-00-5	1,1,2-TRICHLOROETHANE	ND	5
71-43-2	BENZENE	ND	5
10061-01-5	CIS-1,3-DICHLOROPROPENE	ND	5
110-75-8	2-CHLOROETHYLVINYL ETHER	ND	50
75-25-2	BROMOFORM	ND	5
119-78-6	2-HEXANONE	ND	30
108-10-1	4-METHYL-2-PENTANONE	ND	30
127-18-4	TETRACHLOROETHENE	ND	5
79-34-5	1,1,2,2 TETRACHLOROETHANE	ND	5
108-88-3	TOLUENE	ND	5
108-90-7	CHLOROBENZENE	ND	5
100-41-4	ETHYLBENZENE	ND	5
100-42-5	STYRENE	ND	5
95-47-6	TOTAL XYLENES	ND	5

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station - UCR
SAMPLE : 11A
MATRIX : Soil

DATE RECEIVED: 07/06/92
DATE ANALYZED: 07/08/92
SAMPLE AMOUNT: 1.0 GM
STANDARD ID : VOA739-741

EPA METHOD 8240

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND:	FRACTION:	ESTIMATED CONC: ug/kg (ppb)
None Found	VOA	

8240n.txt

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station - UCR
SAMPLE : 12A
MATRIX : Soil

DATE RECEIVED: 07/06/92
DATE ANALYZED: 07/08/92
SAMPLE AMOUNT: 1.0 GM
STANDARD ID : VOA739-741

EPA METHOD 8240

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
74-87-3	CHLOROMETHANE	ND	30
74-83-9	BROMOMETHANE	ND	30
75-01-4	VINYL CHLORIDE	ND	30
75-00-3	CHLOROETHANE	ND	30
75-09-2	METHYLENE CHLORIDE	ND	50
67-64-1	ACETONE	ND	50
75-15-0	CARBON DISULFIDE	ND	5
75-35-4	1,1-DICHLOROETHENE	ND	5
75-34-3	1,1-DICHLOROETHANE	ND	5
156-60-5	TRANS-1,2-DICHLOROETHENE	ND	5
67-66-3	CHLOROFORM	ND	5
107-06-2	1,2-DICHLOROETHANE	ND	5
78-93-3	2-BUTANONE	ND	50
71-55-6	1,1,1-TRICHLOROETHANE	ND	5
16-23-5	CARBON TETRACHLORIDE	ND	5
108-05-4	VINYL ACETATE	ND	5
75-27-4	BROMODICHLOROMETHANE	ND	5
78-87-5	1,2-DICHLOROPROPANE	ND	5
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ND	5
79-01-6	TRICHLOROETHENE	ND	5
124-48-1	DIBROMOCHLOROMETHANE	ND	5
79-00-5	1,1,2-TRICHLOROETHANE	ND	5
71-43-2	BENZENE	ND	5
10061-01-5	CIS-1,3-DICHLOROPROPENE	ND	5
110-75-8	2-CHLOROETHYLVINYL ETHER	ND	50
75-25-2	BROMOFORM	ND	5
119-78-6	2-HEXANONE	ND	30
108-10-1	4-METHYL-2-PENTANONE	ND	30
127-18-4	TETRACHLOROETHENE	ND	5
79-34-5	1,1,2,2 TETRACHLOROETHANE	ND	5
108-88-3	TOLUENE	ND	5
108-90-7	CHLOROBENZENE	ND	5
100-41-4	ETHYLBENZENE	ND	5
100-42-5	STYRENE	ND	5
95-47-6	TOTAL XYLENES	ND	5

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station - UCR
SAMPLE : 12A
MATRIX : Soil

DATE RECEIVED: 07/06/92
DATE ANALYZED: 07/08/92
SAMPLE AMOUNT: 1.0 GM
STANDARD ID : VOA739-741

EPA METHOD 8240

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND:	FRACTION:	ESTIMATED CONC: ug/kg (ppb)
None Found	VOA	

8240o.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
JOB NUMBER: 3623

DATE RECEIVED: 07/06/92
DATE ANALYZED: 07/17/92

EPA METHOD 8270

THE ENCLOSED DATA RESULTS SHEETS ARE FOR SAMPLES THAT WERE ANALYZED ACCORDING TO EPA METHOD 8270. THE SAMPLES WERE ANALYZED ON AN HP 5890 GC, EQUIPPED WITH AN HP 5971A MSD.

THE FOLLOWING DATA REPORTING QUALIFIERS ARE USED ON THE DATA RESULTS SHEETS.

VALUE: IF THE RESULT IS A VALUE GREATER THAN OR EQUAL TO THE DETECTION LIMIT (DL), THE VALUE IS REPORTED.

ND: INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE MINIMUM DL FOR THE SAMPLE WITH THE ND IS REPORTED BASED ON NECESSARY CONCENTRATION OR DILUTION ACTIONS.

TR: INDICATES AN ESTIMATED VALUE. THIS FLAG IS USED WHEN THE MASS SPECTRAL DATA INDICATES THE PRESENCE OF A COMPOUND THAT MEETS THE IDENTIFICATION CRITERIA BUT THE RESULT IS LESS THAN THE SPECIFIED DL BUT GREATER THAN ZERO.

NA: INDICATES THAT THE COMPOUND WAS NOT ANALYZED FOR.

RESPECTFULLY SUBMITTED,

CENTRUM ANALYTICAL LABORATORIES

Michael A. Yartzoff
GENERAL MANAGER

Ida Wallace
LABORATORY SUPERVISOR

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : Method Blank
SAMPLE AMOUNT: 30 gm:1 ml
SAMPLE MATRIX: Soil

DATE RECEIVED: 07/06/92
DATE PREPARED: 07/15/92
DATE ANALYZED: 07/17/92
STANDARD ID : BNA 6

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	33
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	33
95-57-8	2-CHLOROPHENOL	ND	33
541-73-1	1,3-DICHLOROBENZENE	ND	33
106-46-7	1,4-DICHLOROBENZENE	ND	33
100-51-6	BENZYL ALCOHOL	ND	33
95-50-1	1,2-DICHLOROBENZENE	ND	33
95-48-7	2-METHYLPHENOL	ND	33
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	33
106-44-5	4-METHYLPHENOL	ND	33
621-64-7	N-NITROSODIPROPYLAMINE	ND	33
67-72-1	HEXACHLOROETHANE	ND	33
98-95-3	NITROBENZENE	ND	33
78-59-1	ISOPHORONE	ND	33
88-75-5	2-NITROPHENOL	ND	33
105-67-9	2,4-DIMETHYLPHENOL	ND	33
65-85-0	BENZOIC ACID	ND	200
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	33
120-33-2	2,4-DICHLOROPHENOL	ND	33
120-82-1	1,2,4-TRICHLOROBENZENE	ND	33
91-20-3	NAPHTHALENE	ND	33
106-47-8	4-CHLOROANILINE	ND	33
87-68-3	HEXACHLOROBUTADIENE	ND	33
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	33
91-57-6	2-METHYLNAPHTHALENE	ND	33
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	33
88-06-2	2,4,6-TRICHLOROPHENOL	ND	33
95-95-4	2,4,5-TRICHLOROPHENOL	ND	33
91-58-7	2-CHLORONAPHTHALENE	ND	33
88-74-4	2-NITROANALINE	ND	200
131-11-3	DIMETHYL PHTHALATE	ND	33
208-96-8	ACENAPHTHYLENE	ND	33
99-09-2	3-NITROANILINE	ND	200
83-32-9	ACENAPHTHENE	ND	33
51-28-5	2,4-DINITROPHENOL	ND	33
100-02-7	4-NITROPHENOL	ND	200
132-64-9	DIBENZOFURAN	ND	33
121-14-2	2,4-DINITROTOLUENE	ND	33
606-20-2	2,6-DINITROTOLUENE	ND	33

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : Method Blank
SAMPLE AMOUNT: 30 gm:1 ml
SAMPLE MATRIX: Soil

DATE RECEIVED: 07/06/92
DATE PREPARED: 07/15/92
DATE ANALYZED: 07/17/92
STANDARD ID : BNA 6

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
84-66-2	DIETHYL PHTHALATE	ND	33
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	33
86-73-7	FLUORENE	ND	33
100-01-6	4-NITROANILINE	ND	200
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	200
86-30-6	N-NITROSODIPHENYLAMINE	ND	33
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	33
118-74-1	HEXACHLOROBENZENE	ND	33
87-86-5	PENTACHLOROPHENOL	ND	200
85-01-8	PHENANTHRENE	ND	33
120-12-7	ANTHRACENE	ND	33
84-74-2	DI-N-BUTYL PHTHALATE	ND	33
206-44-0	FLUORANTHENE	ND	33
129-00-0	PYRENE	ND	33
85-68-7	BUTYL BENZYL PHTHALATE	ND	33
91-94-1	3,3'-DICHLOROBENZIDINE	ND	200
56-55-3	BENZO(A)ANTHRACENE	ND	33
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	99	33
218-01-9	CHRYSENE	ND	33
117-84-0	DI-N-OCTYL PHTHALATE	ND	33
205-99-2	BENZO(B & K)FLUORANTHENES	ND	33
50-32-8	BENZO(A)PYRENE	ND	33
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	33
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	33
191-24-2	BENZO(GHI)PERYLENE	ND	33

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : Method Blank
SAMPLE AMOUNT: 30 gm:1 ml
SAMPLE MATRIX: Soil

DATE RECEIVED: 07/06/92
DATE PREPARED: 07/15/92
DATE ANALYZED: 07/17/92
STANDARD ID : BNA 6

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/kg (ppb)
None Found	BNA	

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : 10A
SAMPLE AMOUNT: 30 gm:1 ml
SAMPLE MATRIX: Soil

DATE RECEIVED: 07/06/92
DATE PREPARED: 07/15/92
DATE ANALYZED: 07/17/92
STANDARD ID : BNA 6

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	33
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	33
95-57-8	2-CHLOROPHENOL	ND	33
541-73-1	1,3-DICHLOROBENZENE	ND	33
106-46-7	1,4-DICHLOROBENZENE	ND	33
100-51-6	BENZYL ALCOHOL	ND	33
95-50-1	1,2-DICHLOROBENZENE	ND	33
95-48-7	2-METHYLPHENOL	ND	33
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	33
106-44-5	4-METHYLPHENOL	ND	33
621-64-7	N-NITROSODIPROPYLAMINE	ND	33
67-72-1	HEXACHLOROETHANE	ND	33
98-95-3	NITROBENZENE	ND	33
78-59-1	ISOPHORONE	ND	33
88-75-5	2-NITROPHENOL	ND	33
105-67-9	2,4-DIMETHYLPHENOL	ND	33
65-85-0	BENZOIC ACID	ND	200
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	33
120-33-2	2,4-DICHLOROPHENOL	ND	33
120-82-1	1,2,4-TRICHLOROBENZENE	ND	33
91-20-3	NAPHTHALENE	ND	33
106-47-8	4-CHLOROANILINE	ND	33
87-68-3	HEXACHLOROBUTADIENE	ND	33
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	33
91-57-6	2-METHYLNAPHTHALENE	ND	33
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	33
88-06-2	2,4,6-TRICHLOROPHENOL	ND	33
95-95-4	2,4,5-TRICHLOROPHENOL	ND	33
91-58-7	2-CHLORONAPHTHALENE	ND	33
88-74-4	2-NITROANALINE	ND	200
131-11-3	DIMETHYL PHTHALATE	ND	33
208-96-8	ACENAPHTHYLENE	ND	33
99-09-2	3-NITROANILINE	ND	200
83-32-9	ACENAPHTHENE	ND	33
51-28-5	2,4-DINITROPHENOL	ND	33
100-02-7	4-NITROPHENOL	ND	200
132-64-9	DIBENZOFURAN	ND	33
121-14-2	2,4-DINITROTOLUENE	ND	33
606-20-2	2,6-DINITROTOLUENE	ND	33

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CENTRUM ANALYTICAL LABORATORIES, INC.
CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : 10A
SAMPLE AMOUNT: 30 gm:1 ml
SAMPLE MATRIX: Soil

DATE RECEIVED: 07/06/92
DATE PREPARED: 07/15/92
DATE ANALYZED: 07/17/92
STANDARD ID : BNA 6

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
84-66-2	DIETHYL PHTHALATE	ND	33
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	33
86-73-7	FLUORENE	ND	33
100-01-6	4-NITROANILINE	ND	200
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	200
86-30-6	N-NITROSODIPHENYLAMINE	ND	33
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	33
118-74-1	HEXACHLOROBENZENE	ND	33
87-86-5	PENTACHLOROPHENOL	ND	200
85-01-8	PHENANTHRENE	ND	33
120-12-7	ANTHRACENE	ND	33
84-74-2	DI-N-BUTYL PHTHALATE	ND	33
206-44-0	FLUORANTHENE	ND	33
129-00-0	PYRENE	ND	33
85-68-7	BUTYL BENZYL PHTHALATE	ND	33
91-94-1	3,3'-DICHLOROBENZIDINE	ND	200
56-55-3	BENZO(A)ANTHRACENE	ND	33
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	264	33
218-01-9	CHRYSENE	ND	33
117-84-0	DI-N-OCTYL PHTHALATE	ND	33
205-99-2	BENZO(B & K)FLUORANTHENES	ND	33
50-32-8	BENZO(A)PYRENE	ND	33
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	33
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	33
191-24-2	BENZO(GHI)PERYLENE	ND	33

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CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : 10A
SAMPLE AMOUNT: 30 gm:1 ml
SAMPLE MATRIX: Soil

DATE RECEIVED: 07/06/92
DATE PREPARED: 07/15/92
DATE ANALYZED: 07/17/92
STANDARD ID : BNA 6

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/kg (ppb)
None Found	BNA	

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CENTRUM ANALYTICAL LABORATORIES, INC.
CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : 11B
SAMPLE AMOUNT: 30 gm:1 ml
SAMPLE MATRIX: Soil

DATE RECEIVED: 07/06/92
DATE PREPARED: 07/15/92
DATE ANALYZED: 07/17/92
STANDARD ID : BNA 6

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
84-66-2	DIETHYL PHTHALATE	ND	33
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	33
86-73-7	FLUORENE	ND	33
100-01-6	4-NITROANILINE	ND	200
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	200
86-30-6	N-NITROSODIPHENYLAMINE	ND	33
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	33
118-74-1	HEXACHLOROBENZENE	ND	33
87-86-5	PENTACHLOROPHENOL	ND	200
85-01-8	PHENANTHRENE	ND	33
120-12-7	ANTHRACENE	ND	33
84-74-2	DI-N-BUTYL PHTHALATE	ND	33
206-44-0	FLUORANTHENE	ND	33
129-00-0	PYRENE	ND	33
85-68-7	BUTYL BENZYL PHTHALATE	ND	33
91-94-1	3,3'-DICHLOROBENZIDINE	ND	200
56-55-3	BENZO(A)ANTHRACENE	ND	33
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	165	33
218-01-9	CHRYSENE	ND	33
117-84-0	DI-N-OCTYL PHTHALATE	ND	33
205-99-2	BENZO(B & K)FLUORANTHENES	ND	33
50-32-8	BENZO(A)PYRENE	ND	33
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	33
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	33
191-24-2	BENZO(GHI)PERYLENE	ND	33

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : 11B
SAMPLE AMOUNT: 30 gm:1 ml
SAMPLE MATRIX: Soil

DATE RECEIVED: 07/06/92
DATE PREPARED: 07/15/92
DATE ANALYZED: 07/17/92
STANDARD ID : BNA 6

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	33
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	33
95-57-8	2-CHLOROPHENOL	ND	33
541-73-1	1,3-DICHLOROBENZENE	ND	33
106-46-7	1,4-DICHLOROBENZENE	ND	33
100-51-6	BENZYL ALCOHOL	ND	33
95-50-1	1,2-DICHLOROBENZENE	ND	33
95-48-7	2-METHYLPHENOL	ND	33
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	33
106-44-5	4-METHYLPHENOL	ND	33
621-64-7	N-NITROSODIPROPYLAMINE	ND	33
67-72-1	HEXACHLOROETHANE	ND	33
98-95-3	NITROBENZENE	ND	33
78-59-1	ISOPHORONE	ND	33
88-75-5	2-NITROPHENOL	ND	33
105-67-9	2,4-DIMETHYLPHENOL	ND	33
65-85-0	BENZOIC ACID	ND	200
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	33
120-33-2	2,4-DICHLOROPHENOL	ND	33
120-82-1	1,2,4-TRICHLOROBENZENE	ND	33
91-20-3	NAPHTHALENE	ND	33
106-47-8	4-CHLOROANILINE	ND	33
87-68-3	HEXACHLOROBUTADIENE	ND	33
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	33
91-57-6	2-METHYLNAPHTHALENE	ND	33
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	33
88-06-2	2,4,6-TRICHLOROPHENOL	ND	33
95-95-4	2,4,5-TRICHLOROPHENOL	ND	33
91-58-7	2-CHLORONAPHTHALENE	ND	33
88-74-4	2-NITROANALINE	ND	200
131-11-3	DIMETHYL PHTHALATE	ND	33
208-96-8	ACENAPHTHYLENE	ND	33
99-09-2	3-NITROANILINE	ND	200
83-32-9	ACENAPHTHENE	ND	33
51-28-5	2,4-DINITROPHENOL	ND	33
100-02-7	4-NITROPHENOL	ND	200
132-64-9	DIBENZOFURAN	ND	33
121-14-2	2,4-DINITROTOLUENE	ND	33
606-20-2	2,6-DINITROTOLUENE	ND	33

CENTRUM ANALYTICAL LABORATORIES, INC.
CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : 11B
SAMPLE AMOUNT: 30 gm:1 ml
SAMPLE MATRIX: Soil

DATE RECEIVED: 07/06/92
DATE PREPARED: 07/15/92
DATE ANALYZED: 07/17/92
STANDARD ID : BNA 6

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/kg (ppb)
None Found	BNA	

CENTRUM ANALYTICAL LABORATORIES, INC.
CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : 12B
SAMPLE AMOUNT: 30 gm:1 ml
SAMPLE MATRIX: Soil

DATE RECEIVED: 07/06/92
DATE PREPARED: 07/15/92
DATE ANALYZED: 07/17/92
STANDARD ID : BNA 6

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	33
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	33
95-57-8	2-CHLOROPHENOL	ND	33
541-73-1	1,3-DICHLOROBENZENE	ND	33
106-46-7	1,4-DICHLOROBENZENE	ND	33
100-51-6	BENZYL ALCOHOL	ND	33
95-50-1	1,2-DICHLOROBENZENE	ND	33
95-48-7	2-METHYLPHENOL	ND	33
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	33
106-44-5	4-METHYLPHENOL	ND	33
621-64-7	N-NITROSODIPROPYLAMINE	ND	33
67-72-1	HEXACHLOROETHANE	ND	33
98-95-3	NITROBENZENE	ND	33
78-59-1	ISOPHORONE	ND	33
88-75-5	2-NITROPHENOL	ND	33
105-67-9	2,4-DIMETHYLPHENOL	ND	33
65-85-0	BENZOIC ACID	ND	200
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	33
120-33-2	2,4-DICHLOROPHENOL	ND	33
120-82-1	1,2,4-TRICHLOROBENZENE	ND	33
91-20-3	NAPHTHALENE	ND	33
106-47-8	4-CHLOROANILINE	ND	33
87-68-3	HEXACHLOROBUTADIENE	ND	33
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	33
91-57-6	2-METHYLNAPHTHALENE	ND	33
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	33
88-06-2	2,4,6-TRICHLOROPHENOL	ND	33
95-95-4	2,4,5-TRICHLOROPHENOL	ND	33
91-58-7	2-CHLORONAPHTHALENE	ND	33
88-74-4	2-NITROANALINE	ND	200
131-11-3	DIMETHYL PHTHALATE	ND	33
208-96-8	ACENAPHTHYLENE	ND	33
99-09-2	3-NITROANILINE	ND	200
83-32-9	ACENAPHTHENE	ND	33
51-28-5	2,4-DINITROPHENOL	ND	33
100-02-7	4-NITROPHENOL	ND	200
132-64-9	DIBENZOFURAN	ND	33
121-14-2	2,4-DINITROTOLUENE	ND	33
606-20-2	2,6-DINITROTOLUENE	ND	33

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
SAMPLE : 12B
SAMPLE AMOUNT: 30 gm:1 ml
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STANDARD ID : BNA 6

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/kg (ppb)	DETECTION LIMIT:
84-66-2	DIETHYL PHTHALATE	ND	33
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	33
86-73-7	FLUORENE	ND	33
100-01-6	4-NITROANILINE	ND	200
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	200
86-30-6	N-NITROSODIPHENYLAMINE	ND	33
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	33
118-74-1	HEXACHLOROBENZENE	ND	33
87-86-5	PENTACHLOROPHENOL	ND	200
85-01-8	PHENANTHRENE	ND	33
120-12-7	ANTHRACENE	ND	33
84-74-2	DI-N-BUTYL PHTHALATE	ND	33
206-44-0	FLUORANTHENE	ND	33
129-00-0	PYRENE	ND	33
85-68-7	BUTYL BENZYL PHTHALATE	ND	33
91-94-1	3,3'-DICHLOROBENZIDINE	ND	200
56-55-3	BENZO(A)ANTHRACENE	ND	33
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	99	33
218-01-9	CHRYSENE	ND	33
117-84-0	DI-N-OCTYL PHTHALATE	ND	33
205-99-2	BENZO(B & K)FLUORANTHENES	ND	33
50-32-8	BENZO(A)PYRENE	ND	33
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	33
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	33
191-24-2	BENZO(GHI)PERYLENE	ND	33

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CENTRUM ANALYTICAL LABORATORIES, INC.
CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : Moreno Field Station-UCR
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STANDARD ID : BNA 6

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/kg (ppb)
None Found	BNA	

BACTERIOLOGY
WATER TESTING
HAZARDOUS WASTE TESTING
CALIF. DHS CERTIFIED

LABORATORIES
3215 CHICAGO AVENUE, RIVERSIDE

E.S. BABCOCK & SONS, INC.
ESTABLISHED 1906

714/684-1881
FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/17/92

To: **Centrum Analytical Labs, Inc.**
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-420**
Invoice No.	**84092**

Sample Marked:
Job #3623 Moreno Field
Sta. UCR Soil Sample #1

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Organic Matter	0.60 %		

Date analysis completed: 07/16/92

Notes:

cc:

Edward S. Babcock & Sons, Inc.

BACTERIOLOGY
WATER TESTING
HAZARDOUS WASTE TESTING
CALIF. DHS CERTIFIED

LABORATORIES
3215 CHICAGO AVENUE, RIVERSIDE

E.S. BABCOCK & SONS, INC.
ESTABLISHED 1906

714/684-1881
FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/17/92

To: **Centrum Analytical Labs, Inc.**
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-421**
Invoice No.	**84092**

Sample Marked:
Job #3623 Moreno Field
Sta. UCR Soil Sample #4

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Organic Matter	0.29 %		

Date analysis completed: 07/16/92

Notes:

cc:

Edward S. Babcock & Sons, Inc.

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WATER TESTING
HAZARDOUS WASTE TESTING
CALIF. DHS CERTIFIED

LABORATORIES
3215 CHICAGO AVENUE, RIVERSIDE

E.S. BABCOCK & SONS, INC.
ESTABLISHED 1906

714/684-1881
FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/17/92

To: Centrum Analytical Labs, Inc.
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-422**
Invoice No.	**84092**

Sample Marked:
Job #3623 Moreno Field
Sta. UCR Soil Sample #7

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Organic Matter	1.3 %		

Date analysis completed: 07/16/92

Notes:

cc:

Edward S. Babcock & Sons, Inc.

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FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/17/92

To: Centrum Analytical Labs, Inc.
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-423**
Invoice No.	**84092**

Sample Marked:
Job #3623 Moreno Field
Sta. UCR Soil Sample #8

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Organic Matter	0.06 %		

Date analysis completed: 07/16/92

Notes:

cc:

Edward S. Babcock & Sons, Inc.

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FAX 714/684-9738

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RIVERSIDE, CA 92502

07/20/92

To: Centrum Analytical Labs, Inc.
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-424**
Invoice No.	**84093**

Sample Marked:
Job #3623 Moreno Field
Sta.-UCR Soil Sample #2

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Total Organic Halides	ND mg/kg		
Practical Quantitation Limit	500 mg/kg		

Date analysis completed: 07/17/92

Notes: ND = None Detected at PQL.

cc:

Edward S. Babcock & Sons, Inc.

Laurence J. Chystal

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FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/20/92

To: **Centrum Analytical Labs, Inc.**
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-425**
Invoice No.	**84093**

Sample Marked:
Job #3623 Moreno Field
Sta.-UCR Soil Sample #3

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Total Organic Halides	ND mg/kg		
Practical Quantitation Limit	500 mg/kg		

Date analysis completed: 07/17/92

Notes: ND = None Detected at PQL.

cc:

Edward S. Babcock & Sons, Inc.

Laurence J. Chrystal

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RIVERSIDE, CA 92502

07/20/92

To: **Centrum Analytical Labs, Inc.**
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-426**
Invoice No.	**84093**

Sample Marked:
Job #3623 Moreno Field
Sta.-UCR Soil Sample #5

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Total Organic Halides	ND mg/kg		
Practical Quantitation Limit	500 mg/kg		

Date analysis completed: 07/17/92

Notes: ND = None Detected at PQL.

cc:

Edward S. Babcock & Sons, Inc.

Laurence J. Chystal

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LABORATORIES
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FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/20/92

To: Centrum Analytical Labs, Inc.
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-427**
Invoice No.	**84093**

Sample Marked:
Job #3623 Moreno Field
Sta.-UCR Soil Sample #6

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Total Organic Halides	ND mg/kg		
Practical Quantitation Limit	500 mg/kg		

Date analysis completed: 07/17/92

Notes: ND = None Detected at PQL.

cc:

Edward S. Babcock & Sons, Inc.

Laurence J. Chrystal

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WATER TESTING
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LABORATORIES
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ESTABLISHED 1906

714/684-1881
FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/20/92

To: Centrum Analytical Labs, Inc.
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-428**
Invoice No.	**84093**

Sample Marked:
Job #3623 Moreno Field
Sta.-UCR Soil Sample #8

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Total Organic Halides	ND mg/kg		
Practical Quantitation Limit	500 mg/kg		

Date analysis completed: 07/17/92

Notes: ND = None Detected at PQL.

cc:

Edward S. Babcock & Sons, Inc.

Laurence J. Chrystal

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WATER TESTING
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3215 CHICAGO AVENUE, RIVERSIDE

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714/684-1881
FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/20/92

To: Centrum Analytical Labs, Inc.
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-429**
Invoice No.	**84093**

Sample Marked:
Job #3623 Moreno Field
Sta.-UCR Soil Sample #10A

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Total Organic Halides	ND mg/kg		
Practical Quantitation Limit	500 mg/kg		

Date analysis completed: 07/17/92

Notes: ND = None Detected at PQL.

cc:

Edward S. Babcock & Sons, Inc.

Laurence J. Chystal

BACTERIOLOGY
WATER TESTING
HAZARDOUS WASTE TESTING
CALIF. DHS CERTIFIED

LABORATORIES
3215 CHICAGO AVENUE, RIVERSIDE

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ESTABLISHED 1906

714/684-1881
FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/20/92

To: Centrum Analytical Labs, Inc.
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-430**
Invoice No.	**84093**

Sample Marked:
Job #3623 Moreno Field
Sta.-UCR Soil Sample
#11B

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Total Organic Halides	ND mg/kg		
Practical Quantitation Limit	500 mg/kg		

Date analysis completed: 07/17/92

Notes: ND = None Detected at PQL.

cc:

Edward S. Babcock & Sons, Inc.

Laurence J. Chystal

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LABORATORIES
3215 CHICAGO AVENUE, RIVERSIDE

E.S. BABCOCK & SONS, INC.
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714/684-1881
FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/20/92

To: Centrum Analytical Labs, Inc.
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920708-431**
Invoice No.	**84093**

Sample Marked:
Job #3623 Moreno Field
Sta.-UCR Soil Sample #12B

Submitted	Sampled
IW 07/08/92 8:23	

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
Total Organic Halides	ND mg/kg		
Practical Quantitation Limit	500 mg/kg		

Date analysis completed: 07/17/92

Notes: ND = None Detected at PQL.

cc:

Edward S. Babcock & Sons, Inc.

Laurence J. Chrystal

CENTRUM ANALYTICAL LABORATORIES, INC.
CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: Geo Soils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

Date: 07/13/92
J.N.: 3623

Project: Moreno Field Station - UCR

Date Received: 07/06/92
Date Analyzed: 07/10-13/92
Samples Rcv'd: 17 Soil

LABORATORY RESULTS

Analysis: C.A.C. Metals by AA
Matrix: Soil
Sample: Laboratory Reagent Blank

Element	Method	Concentration mg/kg (ppm)	Detection Limit
Chromium	EPA 7190	ND	2.0
Copper	EPA 7210	ND	2.0
Lead	EPA 7420	ND	1.0
Thallium	EPA 7840	ND	5.0

ND - Not Detected

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

cam1.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: Geo Soils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

Date: 07/13/92
J.N.: 3623

Project: Moreno Field Station - UCR

Date Received: 07/06/92
Date Analyzed: 07/10-13/92
Samples Rcv'd: 17 Soil

LABORATORY RESULTS

Analysis: C.A.C. Metals by AA/ICP
Matrix: Soil
Sample: Laboratory Reagent Blank

Element	Method	Concentration mg/kg (ppm)	Detection Limit
Antimony	EPA 6010	ND	6.0
Arsenic	EPA 7061	ND	.1
Barium	EPA 6010	ND	.2
Beryllium	EPA 6010	ND	.3
Cadmium	EPA 6010	ND	1.0
Chromium	EPA 6010	ND	1.5
Cobalt	EPA 6010	ND	2.4
Copper	EPA 6010	ND	0.3
Lead	EPA 6010	ND	2.5
Mercury	EPA 7471	ND	.5
Molybdenum	EPA 6010	ND	.8
Nickel	EPA 6010	ND	2.5
Selenium	EPA 7741	ND	.1
Silver	EPA 6010	ND	.8
Thallium	EPA 6010	ND	5.0
Vanadium	EPA 6010	ND	.9
Zinc	EPA 6010	ND	.25

ND - Not Detected

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

cam.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: Geo Soils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

Date: 07/13/92
J.N.: 3623

Project: Moreno Field Station - UCR

Date Received: 07/06/92
Date Analyzed: 07/10-13/92
Samples Rcv'd: 17 Soil

LABORATORY RESULTS

Analysis: C.A.C. Metals by AA/ICP
Matrix: Soil
Sample: 8

Element	Method	Concentration mg/kg (ppm)	Detection Limit
Antimony	EPA 6010	ND	6.0
Arsenic	EPA 7061	ND	.1
Barium	EPA 6010	19.3	.2
Beryllium	EPA 6010	ND	.3
Cadmium	EPA 6010	ND	1.0
Chromium	EPA 6010	ND	1.5
Cobalt	EPA 6010	ND	2.4
Copper	EPA 7210	ND	2.0
Lead	EPA 6010	ND	2.5
Mercury	EPA 7471	ND	.5
Molybdenum	EPA 6010	1.4	.8
Nickel	EPA 6010	ND	2.5
Selenium	EPA 7741	ND	.1
Silver	EPA 6010	ND	.8
Thallium	EPA 6010	ND	5.0
Vanadium	EPA 6010	4.1	.9
Zinc	EPA 6010	4.4	.25

ND - Not Detected

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

cam2.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: Geo Soils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

Date: 07/10/92
J.N.: 3623

Project: Moreno Field Station - UCR

Date Received: 07/06/92
Date Analyzed: 07/10-13/92
Samples Rcv'd: 17 Soil

LABORATORY RESULTS

Analysis: C.A.C. Metals by AA/ICP
Matrix: Soil
Sample: 10 B

Element	Method	Concentration mg/kg (ppm)	Detection Limit
Antimony	EPA 6010	ND	6.0
Arsenic	EPA 7061	0.5	.1
Barium	EPA 6010	143	.2
Beryllium	EPA 6010	ND	.3
Cadmium	EPA 6010	ND	1.0
Chromium	EPA 7190	11.0	2.0
Cobalt	EPA 6010	8.8	2.4
Copper	EPA 6010	8.1	.3
Lead	EPA 6010	ND	2.5
Mercury	EPA 7471	ND	.5
Molybdenum	EPA 6010	ND	.8
Nickel	EPA 6010	5.7	2.5
Selenium	EPA 7741	ND	.1
Silver	EPA 6010	ND	.8
Thallium	EPA 7840	9.0	5.0
Vanadium	EPA 6010	32.4	.9
Zinc	EPA 6010	38.6	.25

ND - Not Detected

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

cam3.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: Geo Soils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

Date: 07/13/92
J.N.: 3623

Project: Moreno Field Station - UCR

Date Received: 07/06/92
Date Analyzed: 07/10-33/92
Samples Rcv'd: 17 Soil

LABORATORY RESULTS

Analysis: C.A.C. Metals by AA/ICP
Matrix: Soil
Sample: 11 A

Element	Method	Concentration mg/kg (ppm)	Detection Limit
Antimony	EPA 6010	ND	6.0
Arsenic	EPA 7061	1.0	.1
Barium	EPA 6010	123	.2
Beryllium	EPA 6010	ND	.3
Cadmium	EPA 6010	ND	1.0
Chromium	EPA 7190	10.5	2.0
Cobalt	EPA 6010	7.1	2.4
Copper	EPA 6010	7.3	.3
Lead	EPA 6010	3.1	2.5
Mercury	EPA 7471	ND	.5
Molybdenum	EPA 6010	ND	.8
Nickel	EPA 6010	5.9	2.5
Selenium	EPA 7741	0.5	.1
Silver	EPA 6010	ND	.8
Thallium	EPA 7840	6.0	5.0
Vanadium	EPA 6010	29.0	.9
Zinc	EPA 6010	36.0	.25

ND - Not Detected

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

cam4.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: Geo Soils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

Date: 07/13/92
J.N.: 3623

Project: Moreno Field Station - UCR

Date Received: 07/06/92
Date Analyzed: 07/10-13/92
Samples Rcv'd: 17 Soil

LABORATORY RESULTS

Analysis; C.A.C. Metals by AA/ICP
Matrix: Soil
Sample: 12 A

Element	Method	Concentration mg/kg (ppm)	Detection Limit
Antimony	EPA 6010	ND	6.0
Arsenic	EPA 7061	ND	.1
Barium	EPA 6010	124	.2
Beryllium	EPA 6010	ND	.3
Cadmium	EPA 6010	ND	1.0
Chromium	EPA 7190	8.8	2.0
Cobalt	EPA 6010	6.1	2.4
Copper	EPA 6010	7.2	.3
Lead	EPA 7420	9.3	1.0
Mercury	EPA 7471	ND	.5
Molybdenum	EPA 6010	ND	.8
Nickel	EPA 6010	3.2	2.5
Selenium	EPA 7741	0.2	.1
Silver	EPA 6010	ND	.8
Thallium	EPA 7840	ND	5.0
Vanadium	EPA 6010	29.2	.9
Zinc	EPA 6010	32.6	.25

ND - Not Detected

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

cam5.txt

CENTRUM ANALYTICAL LABORATORIES, INC.
290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336

3623

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2

Job No.: 2395-A1-OC | Project Name: Moreno Field Station - UCR

Sampler: Anna Scott | Phone: (714) 647-0277

Client Name: GeoSoils | Address: 1446 E. Chestnut Ave Santa Ana CA 92701

$400 per mile

	Sample Number	Date/Time Sampled	Sample Type: Soil	Water	Other (Specify)	Site Location	# and type of containers	EPA 8150	TOC	TOX	CAC Metals (Title 22)	Prometon (8141)	EPA 8270	EPA 8240	Hazardous sample / Special handling / Sample preserved Y / N	Remarks and observations
1	1	7/6/92 AM	✓			Filaree and Nason Broadway	1 glass	✓	✓							
2	2	"	✓			Block K	"			✓						
3	3	"	✓			Block H	"			✓						
4	4	"	✓			Between Block G and H Broadway	"	✓	✓							
5	5	"	✓			Block G	"			✓						
6	6	"	✓			Block F	"			✓						
7	7	"	✓			Between Block E and F Broadway	"	✓	✓							
8	8	"	✓			Morrison Drain	"		✓	✓	✓	✓				
9	9	"	✓			Block C-8	"	✓				✓				
10	10A	"	✓			Block C-1	"			✓			✓			same soil
11	10B	"	✓			Block C-1	"				✓			✓		
12	11A	"	✓			Block B-8	"						✓	✓		same soil as 11B

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Anna M. Scott	7/6/92 3PM				
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time		
			7/6/92 1310		

Samples chilled ☒ Yes ☐ No
Samples sealed ☐ Yes ☒ No
Method of Shipment: ☐ Courier ☐ UPS/Fed-x ☐ Mail ☒ Hand Carried

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

CENTRUM ANALYTICAL LABORATORIES, INC.
290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336

3623

CHAIN OF CUSTODY RECORD

Job No.: 2395-A1-OC
Project Name: Moreno Field Station - UCR
Sampler: Anna Scott
Phone: (714) 647-0277
Client Name: GeoSoils
Address: 1446 E. Chestnut Ave. Santa Ana Ca 92701

	Sample Number	Date/Time Sampled	Soil	Water	Other (Specify)	Site Location	# and type of containers	TOX	EPA 8270	EPA 8240	EPA 8150 -	EPA 8080 (Pesticides only)	CAC Metals	Hazardous sample	Special handling	Sample preserved Y / N	Remarks and observations
13	✓ 11B	7/6/92 Am	✓			Block B-8	1 glass	✓					✓				Same soil as 11A
14	✓ 12A	"	✓			Block B-1	"		✓	✓							Same soil
15	✓ 12B	"	✓			Block B-1	"	✓					✓				
16	✓ 13	"	✓			Block A-8	"				✓	✓					
17	14	"	✓			Washdown Area	"				✓	✓					

Relinquished by: (Signature) Anna M. Scott — Date/Time 7/6/92 3PM — Received by: (Signature)
Relinquished by: (Signature) — Date/Time — Received by: (Signature)

Relinquished by: (Signature) — Date/Time — Received for Laboratory by: (Signature) [signature] — Date/Time 7/6/92 1310p

Samples chilled ☒ Yes ☐ No
Samples sealed ☐ Yes ☒ No

Method of Shipment
☐ Courier ☐ UPS/Fed-x ☐ Mail ☒ Hand Carried

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

CENTRUM ANALYTICAL LABORATORIES, INC.
290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

Job No.: 3623 | Project Name: Moreno Field Station-UCR

Sampler: | Phone: 798-9336

Client Name: Centrum | Address: 240 Tennessee St Redlands, CA 92373

Sample Number	Date/Time Sampled	Sample Type: Soil	Water	Other (Specify)	Site Location	# and type of containers	Analyses required: 8150*	Hazardous sample / Special handling / Sample preserved Y / N	Remarks and observations
#1		X					X		~~X~~ Please include
#4		X					X		Prometon in
#7		X					X		8150 target
#9		X					X		cmpds.
#13		X					X		
#14		X					X		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Mark Fischer	7/7/92 14:00				
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time		
		Mary Meleahey	7-8-92 10:30 a.m.		

Samples chilled ☐ Yes ☐ No
Samples sealed ☐ Yes ☐ No
Method of Shipment ☐ Courier ☐ UPS/Fed-x ☐ Mail ☐ Hand Carried

#21788

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: Geo Soils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

Date: 10/13/92
J.N.: 3841

Project: Moreno Field Station - UCR

Date Received: 10/08/92
Date Analyzed: 10/09-13/92
Samples Rcv'd: 3 Soils
Analyst: dmh

LABORATORY RESULTS

Analysis: C.A.C. Metals by AA/ICP
Matrix: Soil
Sample: Laboratory Reagent Blank

Element	Method	Concentration mg/kg (ppm)	Detection Limit
Antimony	EPA 6010	ND	6.0
Arsenic	EPA 7061	ND	.01
Barium	EPA 6010	ND	.2
Beryllium	EPA 6010	ND	.3
Cadmium	EPA 6010	ND	1.0
Chromium	EPA 7190	ND	.9
Cobalt	EPA 6010	ND	2.4
Copper	EPA 6010	ND	.3
Lead	EPA 6010	ND	2.5
Mercury	EPA 7471	ND	0.2
Molybdenum	EPA 6010	ND	0.8
Nickel	EPA 6010	ND	2.5
Selenium	EPA 7741	ND	.01
Silver	EPA 6010	ND	.8
Thallium	EPA 6010	ND	5.0
Vanadium	EPA 6010	ND	.9
Zinc	EPA 6010	ND	.25

ND - Not Detected

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

cam1.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: Geo Soils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

Date: 10/13/92
J.N.: 3841

Project: Moreno Field Station - UCR

Date Received: 10/08/92
Date Analyzed: 10/09-13/92
Samples Rcv'd: 3 Soils
Analyst: dmh

LABORATORY RESULTS

Analysis: C.A.C. Metals by AA
Matrix: Soil
Sample: Laboratory Reagent Blank

Element	Method	Concentration mg/kg (ppm)	Detection Limit
Cadmium	EPA 7130	ND	0.8
Lead	EPA 7420	ND	0.8
Molybdenum	EPA 7480	ND	4.0
Silver	EPA 7760	ND	0.9
Thallium	EPA 7840	ND	1.5

ND - Not Detected

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

cam2.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: Geo Soils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

Date: 10/13/92
J.N.: 3841

Project: Moreno Field Station - UCR

Date Received: 10/08/92
Date Analyzed: 10/09-13/92
Samples Rcv'd: 3 Soils
Analyst: dmb

LABORATORY RESULTS

Analysis: C.A.C. Metals by AA/ICP
Matrix: Soil
Sample: 1

Element	Method	Concentration mg/kg (ppm)	Detection Limit
Antimony	EPA 6010	ND	6.0
Arsenic	EPA 7061	ND	.01
Barium	EPA 6010	317	.2
Beryllium	EPA 6010	ND	.3
Cadmium	EPA 6010	1.7	1.0
Chromium	EPA 7190	17.3	.9
Cobalt	EPA 6010	15.1	2.4
Copper	EPA 6010	18.1	.3
Lead	EPA 6010	3.3	2.5
Mercury	EPA 7471	ND	0.2
Molybdenum	EPA 6010	ND	0.8
Nickel	EPA 6010	8.8	2.5
Selenium	EPA 7741	ND	.01
Silver	EPA 6010	ND	.8
Thallium	EPA 7840	ND	1.5
Vanadium	EPA 6010	71.0	.9
Zinc	EPA 6010	81.4	.25

ND - Not Detected

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

cam3.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: Geo Soils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

Date: 10/13/92
J.N.: 3841

Project: Moreno Field Station - UCR

Date Received: 10/08/92
Date Analyzed: 10/09-13/92
Samples Rcv'd: 3 Soils
Analyst: dmh

LABORATORY RESULTS

Analysis: C.A.C. Metals by AA/ICP
Matrix: Soil
Sample: 2

Element	Method	Concentration mg/kg (ppm)	Detection Limit
Antimony	EPA 6010	ND	6.0
Arsenic	EPA 7061	ND	.01
Barium	EPA 6010	359	.2
Beryllium	EPA 6010	ND	.3
Cadmium	EPA 7130	4.5	.8
Chromium	EPA 7190	70.0	.9
Cobalt	EPA 6010	16.0	2.4
Copper	EPA 6010	64.4	.3
Lead	EPA 7420	62.5	.8
Mercury	EPA 7471	ND	0.2
Molybdenum	EPA 6010	ND	0.8
Nickel	EPA 6010	23.9	2.5
Selenium	EPA 7741	ND	.01
Silver	EPA 7760	5.0	.9
Thallium	EPA 7840	ND	1.5
Vanadium	EPA 6010	69.3	.9
Zinc	EPA 6010	185	.25

ND - Not Detected

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

cam4.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: Geo Soils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

Date: 10/13/92
J.N.: 3841

Project: Moreno Field Station - UCR

Date Received: 10/08/92
Date Analyzed: 10/09-13/92
Samples Rcv'd: 3 Soils
Analyst: dmh

LABORATORY RESULTS

Analysis: C.A.C. Metals by AA/ICP
Matrix: Soil
Sample: 3

Element	Method	Concentration mg/kg (ppm)	Detection Limit
Antimony	EPA 6010	ND	6.0
Arsenic	EPA 7061	ND	.01
Barium	EPA 6010	340	.2
Beryllium	EPA 6010	ND	.3
Cadmium	EPA 6010	9.6	1.0
Chromium	EPA 7190	200	.9
Cobalt	EPA 6010	11.7	2.4
Copper	EPA 6010	168	.3
Lead	EPA 6010	152	2.5
Mercury	EPA 7471	ND	0.2
Molybdenum	EPA 7480	ND	4.0
Nickel	EPA 6010	74.0	2.5
Selenium	EPA 7741	ND	.01
Silver	EPA 7760	3.9	.9
Thallium	EPA 6010	ND	5.0
Vanadium	EPA 6010	34.7	.9
Zinc	EPA 6010	543	.25

ND - Not Detected

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

cam5.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Quality Control Duplicate
Laboratory: Centrum Analytical
Method: EPA 6010/7000

Date Received: 10/08/92
Date Analyzed: 10/09-12/92
Job Number: 3841
Sample Number: #2

Units: mg/kg (ppm)
Matrix: Soil
Analyst: dmh

Element	Conc. Sample	Conc. Duplicate	% Difference	Acceptable Limit
Antimony	ND	ND	0	20
Arsenic	ND	ND	0	20
Barium	359	352	2	20
Beryllium	ND	ND	0	20
Cadmium	4.5	4.5	0	20
Chromium	91.6	83.9	8	20
Cobalt	16.0	16.4	2	20
Copper	64.4	60.9	5	20
Lead	24.1	29.8	20	20
Mercury	ND	ND	0	20
Molybdenum	ND	ND	0	20
Nickel	23.9	24.8	0	20
Selenium	ND	ND	0	20
Silver	ND	ND	0	20
Thallium	ND	ND	0	20
Vanadium	69.3	70.7	2	20
Zinc	185	183	1	20

% Difference = (Conc sample - Conc Duplicate / Conc sample) * 100

0 of 17 outside QC limits

camdup.txt

290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336 • FAX (714) 793-1559

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Laboratory Control Spike and Laboratory Control Spike Duplicate
% Recovery and RPD Summary
Laboratory: Centrum Analytical
Method: EPA 7000

Date Received: 10/08/92 Units: mg/kg (ppm)
Date Analyzed: 10/09-13/92 Matrix: Sand
Job Number: 3841 Analyst: dmh

Element	Average Spike Recovery	Acceptable Range	Relative Percent Difference	Acceptable Limit
Cadmium	87	81-105	7	10
Lead	92	70-119	3	11
Molybdenum	80	70-126	1	9
Silver	76	71-125	3	15
Thallium	90	72-128	7	15

camqc3.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Matrix Spike and Matrix Spike Duplicate
% Recovery and RPD Summary
Laboratory: Centrum Analytical
Method: EPA 7000

Date Received: 10/08/92
Date Analyzed: 10/09-13/92
Job Number: 3841

Units: mg/kg (ppm)
Matrix: Soil
Analyst: dmh

Element	Average Spike Recovery	Acceptable Range	Relative Percent Difference	Acceptable Limit
Cadmium	95	81-105	13*	10
Lead	116	70-119	41*	11
Molybdenum	70	70-126	1	9
Silver	126*	71-125	6	15
Thallium	88	72-128	1	15

camqc4.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Laboratory Control Spike and Laboratory Control Spike Duplicate
% Recovery and RPD Summary
Laboratory: Centrum Analytical
Method: EPA 6010/7000

Date Received: 10/08/92
Date Analyzed: 10/09-13/92
Job Number: 3841

Units: mg/kg (ppm)
Matrix: Sand
Analyst: dmh

Element	Average Spike Recovery	Acceptable Range	Relative Percent Difference	Acceptable Limit
Antimony	65	47-126	3	8
Arsenic	97	23-142	4	13
Barium	86	58-134	10	10
Beryllium	84	51-139	0	5
Cadmium	80	36-164	0	8
Chromium	88	66-120	0	13
Cobalt	88	69-131	0	7
Copper	68	64-134	5	7
Lead	86	49-125	15	17
Mercury	80	44-151	0	10
Molybdenum	66	50-130	3	5
Nickel	84	65-137	9	10
Selenium	96	48-134	1	14
Silver	75	30-150	5	16
Thallium	54	46-146	11	14
Vanadium	77	48-132	2	7
Zinc	74	47-143	5	7

camqc.txt

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Matrix Spike and Matrix Spike Duplicate
% Recovery and RPD Summary
Laboratory: Centrum Analytical
Method: EPA 6010/7000

Date Received: 10/08/92
Date Analyzed: 10/09-13/92
Job Number: 3841

Units: mg/kg (ppm)
Matrix: Soil
Analyst: dmh

Element	Average Spike Recovery	Acceptable Range	Relative Percent Difference	Acceptable Limit
Antimony	17*	47-126	85*	8
Arsenic	98	23-142	0	13
Barium	0*	58-134	0	10
Beryllium	42*	51-139	0	5
Cadmium	72	36-164	10*	8
Chromium	98	66-120	133*	13
Cobalt	78	69-131	3	7
Copper	16*	64-134	200*	7
Lead	68	49-125	88*	17
Mercury	92	44-151	9	10
Molybdenum	74	50-130	8*	5
Nickel	79	65-137	23*	10
Selenium	99	48-134	2	14
Silver	78	30-150	5	16
Thallium	144	46-146	3	14
Vanadium	74	48-132	7	7
Zinc	140*	47-143	200*	7

*Spike recovery or reproducibility not within acceptable laboratory QA/QC guidelines. The data from the LCS and LCSD was used to verify that the recovery and reproducibility for these elements were within acceptable QA/QC guidelines.

camqc2.txt

CENTRUM ANALYTICAL LABORATORIES, INC.
290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336

No. 3841

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

Job No.: WO 2395-A1-00 Project Name: Moreno Field Station-UCR

Sampler: Anna Scott Phone: 647-0277

Client Name: GeoSoils Inc. Address: 1446 E. Chestnut Ave. Santa Ana 92701

Sample Number	Date/Time Sampled	Sample Type: Soil	Sample Type: Water	Sample Type: Other (Specify)	Site Location	# and type of containers	Analyses required: CAC Metals (Ti-C)	Hazardous sample / Special handling / Sample preserved Y / N	Remarks and observations
1	10/7/92 PM	✓			H-Block	1 Glass	✓		
2	"	✓			H-Block	"	✓		
3	"	✓			A-Block	"	✓		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Anna M. Scott	10/7/92 4PM	10/7/92 4 pm		10-8-92 2:44p	
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time		
			10/8 2 44p		

Samples chilled ☒ Yes ☐ No
Samples sealed ☐ Yes ☒ No

Method of Shipment
☐ Courier ☐ UPS/Fed-x ☐ Mail ☒ Hand Carried

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

APPENDIX C

WATER SAMPLES

LABORATORY TEST RESULTS SHEETS

		Pages
EPA 608	Organochlorine Pesticides	1 thru 3
EPA 615	Chlorinated Herbicides	4 thru 9
EPA 625	Semivolatiles	10 thru 21
EPA 9050	Specific Conductance	22
EPA 9060	Total Organic Carbon	23 thru 28
	Chain of Custody Forms	26 thru 28

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : UC Riverside - Mo Val
SAMPLE : #5 CORAY WELL
MATRIX : Water
JOB # : 3554

DATE RECEIVED: 06/11/92
DATE EXTRACTED: 06/12/92
DATE ANALYZED: 06/19/92
SAMPLE AMOUNT: 1000 ml
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/l (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	.05
319-85-7	BETA-BHC	ND	.05
319-86-8	DELTA-BHC	ND	.05
58-89-9	GAMMA-BHC (LINDANE)	ND	.05
76-44-8	HEPTACHLOR	ND	.05
309-00-2	ALDRIN	ND	.05
1024-57-3	HEPTACHLOR EPOXIDE	ND	.05
959-98-8	ENDOSULFAN I	ND	.05
60-57-1	DIELDRIN	ND	.10
72-55-9	4,4'-DDE	ND	.10
72-20-8	ENDRIN	ND	.10
3321-65-9	ENDOSULFAN II	ND	.10
72-54-8	4,4'-DDD	ND	.10
7421-93-4	ENDRIN ALDEHYDE	ND	.10
1031-07-8	ENDOSULFAN SULFATE	ND	.10
50-29-3	4,4'-DDT	ND	.10
72-43-5	METHOXYCHLOR	ND	.50
57-74-9	CHLORDANE	NA	.50
8001-35-2	TOXAPHENE	NA	1.0

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : UC Riverside - Mo Val
SAMPLE : #9 SCOTT WELL
MATRIX : Water
JOB # : 3554

DATE RECEIVED: 06/11/92
DATE EXTRACTED:06/12/92
DATE ANALYZED: 06/19/92
SAMPLE AMOUNT: 1000 ml
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/l (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	.05
319-85-7	BETA-BHC	ND	.05
319-86-8	DELTA-BHC	ND	.05
58-89-9	GAMMA-BHC (LINDANE)	ND	.05
76-44-8	HEPTACHLOR	ND	.05
309-00-2	ALDRIN	ND	.05
1024-57-3	HEPTACHLOR EPOXIDE	ND	.05
959-98-8	ENDOSULFAN I	ND	.05
60-57-1	DIELDRIN	ND	.10
72-55-9	4,4'-DDE	ND	.10
72-20-8	ENDRIN	ND	.10
3321-65-9	ENDOSULFAN II	ND	.10
72-54-8	4,4'-DDD	ND	.10
7421-93-4	ENDRIN ALDEHYDE	ND	.10
1031-07-8	ENDOSULFAN SULFATE	ND	.10
50-29-3	4,4'-DDT	ND	.10
72-43-5	METHOXYCHLOR	ND	.50
57-74-9	CHLORDANE	NA	.50
8001-35-2	TOXAPHENE	NA	1.0

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT : GeoSoils
SITE : UC Riverside - Mo Val
SAMPLE : #13 NORTH RESERVOIR
MATRIX : Water
JOB # : 3554

DATE RECEIVED: 06/11/92
DATE EXTRACTED: 06/12/92
DATE ANALYZED: 06/19/92
SAMPLE AMOUNT: 1000 ml
EXTRACT VOLUME: 10 ml

EPA METHOD 608/8080

CAS #	COMPOUND:	CONC: ug/l (ppb)	DETECTION LIMIT:
319-85-6	ALPHA-BHC	ND	.05
319-85-7	BETA-BHC	ND	.05
319-86-8	DELTA-BHC	ND	.05
58-89-9	GAMMA-BHC (LINDANE)	ND	.05
76-44-8	HEPTACHLOR	ND	.05
309-00-2	ALDRIN	ND	.05
1024-57-3	HEPTACHLOR EPOXIDE	ND	.05
959-98-8	ENDOSULFAN I	ND	.05
60-57-1	DIELDRIN	ND	.10
72-55-9	4,4'-DDE	ND	.10
72-20-8	ENDRIN	ND	.10
3321-65-9	ENDOSULFAN II	ND	.10
72-54-8	4,4'-DDD	ND	.10
7421-93-4	ENDRIN ALDEHYDE	ND	.10
1031-07-8	ENDOSULFAN SULFATE	ND	.10
50-29-3	4,4'-DDT	ND	.10
72-43-5	METHOXYCHLOR	ND	.50
57-74-9	CHLORDANE	NA	.50
8001-35-2	TOXAPHENE	NA	1.0

ND - Not Detected
NA - Not Analyzed

Respectfully submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

WCAS
WEST COAST
ANALYTICAL
SERVICE, INC.
ANALYTICAL CHEMISTS

June 30, 1992

CENTRUM ANALYTICAL LABS
290 Tennessee Street
Redlands, CA 92373

Attn: Shelley Walls

JOB NO. 21583 S

LABORATORY REPORT

Samples Received: Four (4) Water Samples
Date Received: 6-12-92
Purchase Order No: Job No.3554/UC Riverside

The samples were analyzed as follows:

Samples Analyzed	Analysis	Results
Four (4) waters	Chlorinated Herbicides by EPA 615	Data Sheets

Michael Shelton
Technical Director

D. P. Northington, Ph.D.
President

9840 Alburtis Avenue • Santa Fe Springs, California 90670 • 310/948-2225 • FAX 310/948-5850

Client: CENTRUM ANALYTICAL Sample: 6 CORAY WELL
WCAS Job no.: 21583

Chlorinated Herbicides by EPA 615

Date Received: 06/12/92 Matrix: Water
Date Extracted: 06/18/92 Sample amount: 1000mL:10mL
Date Analyzed: 06/24/92
Instrument ID: GC#8 Units: ug/L (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	1
94-82-6	2,4-DB	ND	2
1918-00-9	Dicamba	ND	0.1
120-36-5	Dichlorprop	ND	0.3
88-85-7	Dinoseb	ND	0.07
94-74-6	MCPA	ND	50
7085-19-0	MCPP	ND	100
87-86-5	Pentachlorophenol	ND	0.07
93-72-1	Silvex	ND	0.07
93-76-5	2,4,5-T	ND	0.1

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	139 **	26-119

** - Recovery outside QC limits

Note: Page 2 of 7 not a part of this study

PAGE 5

Client: CENTRUM ANALYTICAL Sample: 10 SCOTT WELL
WCAS Job no.: 21583

Chlorinated Herbicides by EPA 615

Date Received: 06/12/92 Matrix: Water
Date Extracted: 06/18/92 Sample amount: 1000mL:10mL
Date Analyzed: 06/24/92
Instrument ID: GC#8 Units: ug/L (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	1
94-82-6	2,4-DB	ND	2
1918-00-9	Dicamba	ND	0.1
120-36-5	Dichlorprop	ND	0.3
88-85-7	Dinoseb	ND	0.07
94-74-6	MCPA	ND	50
7085-19-0	MCPP	ND	100
87-86-5	Pentachlorophenol	ND	0.07
93-72-1	Silvex	ND	0.07
93-76-5	2,4,5-T	ND	0.1

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	136 **	26-119

** - Recovery outside QC limits

PAGE 6

Client: CENTRUM ANALYTICAL Sample: 14 NORTH RESERVOIR
WCAS Job no.: 21583

Chlorinated Herbicides by EPA 615

Date Received: 06/12/92 Matrix: Water
Date Extracted: 06/18/92 Sample amount: 1000mL:10mL, 1:2
Date Analyzed: 06/24/92
Instrument ID: GC#8 Units: ug/L (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	2
94-82-6	2,4-DB	ND	4
1918-00-9	Dicamba	ND	0.2
120-36-5	Dichlorprop	ND	0.6
88-85-7	Dinoseb	ND	0.1
94-74-6	MCPA	ND	100
7085-19-0	MCPP	ND	200
87-86-5	Pentachlorophenol	ND	0.1
93-72-1	Silvex	ND	0.1
93-76-5	2,4,5-T	ND	0.2

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	136 **	26-119

** - Recovery outside QC limits

PAGE 7

Client: CENTRUM ANALYTICAL Sample: METHOD BLANK
WCAS Job no.: 21583

Chlorinated Herbicides by EPA 615

Date Received: 06/18/92 Matrix: Water
Date Extracted: 06/18/92 Sample amount: 1000mL:10mL
Date Analyzed: 06/24/92
Instrument ID: GC#8 Units: ug/L (ppb)

CAS no.	Compound	Concentration	Detection Limit
94-75-7	2,4-D	ND	1
94-82-6	2,4-DB	ND	2
1918-00-9	Dicamba	ND	0.1
120-36-5	Dichlorprop	ND	0.3
88-85-7	Dinoseb	ND	0.07
94-74-6	MCPA	ND	50
7085-19-0	MCPP	ND	100
87-86-5	Pentachlorophenol	ND	0.07
93-72-1	Silvex	ND	0.07
93-76-5	2,4,5-T	ND	0.1

ND - Not detected

Surrogate	Percent Recovery	Control Limits
2,4-DCAA	73	26-119

PAGE 8

Phenoxy Acid Herbicides

Matrix Spike/Matrix Spike Duplicate Recovery Summary

Client: CENTRUM ANALYTICAL QC Batch #: 062492W
Job no.: 21583
Date Analyzed: 06/29/92 Matrix: Water
Units: ppb Date Extracted: 06/18/92

Analyte	Sample Result	Amount Spiked	MS Result	% Rec MS		MSD Result	% Rec MSD		RPD
Dicamba	ND	0.56	0.52	93		0.51	91		-2
Dinoseb	ND	0.52	ND	0	**	ND	0	**	0
Silvex	ND	0.52	0.29	56		0.32	62		10
2,4,5-T	ND	0.52	0.13	25	**	0.18	35		32

** - Result is outside warning limits

QC Limits

Analyte	RPD Warning	RPD Control	% Recovery Warning		% Recovery Control	
Dicamba	26	41	44	131	23	152
Dinoseb	40	60	22	126	0	152
Silvex	27	42	52	105	39	118
2,4,5-T	40	61	27	133	0	160

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
JOB NUMBER: 3554

DATE RECEIVED: 06/16/92
DATE ANALYZED: 06/23/92

EPA METHOD 8270 (625)

THE ENCLOSED DATA RESULTS SHEETS ARE FOR SAMPLES THAT WERE ANALYZED ACCORDING TO EPA METHOD 8270. SAMPLES WERE ANALYZED ON AN HP 5890 GC, EQUIPPED WITH AN HP 5971 MSD.

THE FOLLOWING DATA REPORTING QUALIFIERS ARE USED ON THE DATA RESULTS SHEETS.

VALUE: IF THE RESULT IS A VALUE GREATER THAN OR EQUAL TO THE DETECTION LIMIT (DL), THE VALUE IS REPORTED.

ND: INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE MINIMUM DL FOR THE SAMPLE WITH THE ND IS REPORTED BASED ON NECESSARY CONCENTRATION OR DILUTION ACTIONS.

TR: INDICATES AN ESTIMATED VALUE. THIS FLAG IS USED WHEN THE MASS SPECTRAL DATA INDICATES THE PRESENCE OF A COMPOUND THAT MEETS THE IDENTIFICATION CRITERIA BUT THE RESULT IS LESS THAN THE SPECIFIED DL BUT GREATER THAN ZERO.

NA: INDICATES THAT THE COMPOUND WAS NOT ANALYZED FOR.

RESPECTFULLY SUBMITTED,

CENTRUM ANALYTICAL LABORATORIES

Michael A. Yartzoff
GENERAL MANAGER

Ida Wallace
LABORATORY SUPERVISOR

290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336 • FAX (714) 793-1559

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
SAMPLE: Method Blank
SAMPLE AMOUNT: 1000ml/1ml
MATRIX: Water

DATE RECEIVED: 06/11/92
DATE PREPARED: 06/15-17/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/l (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	1
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	1
95-57-8	2-CHLOROPHENOL	ND	1
541-73-1	1,3-DICHLOROBENZENE	ND	1
106-46-7	1,4-DICHLOROBENZENE	ND	1
100-51-6	BENZYL ALCOHOL	ND	1
95-50-1	1,2-DICHLOROBENZENE	ND	1
95-48-7	2-METHYLPHENOL	ND	1
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	1
106-44-5	4-METHYLPHENOL	ND	1
621-64-7	N-NITROSODIPROPYLAMINE	ND	1
67-72-1	HEXACHLOROETHANE	ND	1
98-95-3	NITROBENZENE	ND	1
78-59-1	ISOPHORONE	ND	1
88-75-5	2-NITROPHENOL	ND	1
105-67-9	2,4-DIMETHYLPHENOL	ND	1
65-85-0	BENZOIC ACID	ND	5
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	1
120-33-2	2,4-DICHLOROPHENOL	ND	1
120-82-1	1,2,4-TRICHLOROBENZENE	ND	1
91-20-3	NAPHTHALENE	ND	1
106-47-8	4-CHLOROANILINE	ND	1
87-68-3	HEXACHLOROBUTADIENE	ND	1
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	1
91-57-6	2-METHYLNAPHTHALENE	ND	1
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	1
88-06-2	2,4,6-TRICHLOROPHENOL	ND	1
95-95-4	2,4,5-TRICHLOROPHENOL	ND	5
91-58-7	2-CHLORONAPHTHALENE	ND	1
88-74-4	2-NITROANALINE	ND	5
131-11-3	DIMETHYL PHTHALATE	ND	1
208-96-8	ACENAPHTHYLENE	ND	1
99-09-2	3-NITROANILINE	ND	5
83-32-9	ACENAPHTHENE	ND	1
51-28-5	2,4-DINITROPHENOL	ND	5
100-02-7	4-NITROPHENOL	ND	5
132-64-9	DIBENZOFURAN	ND	1
121-14-2	2,4-DINITROTOLUENE	ND	1

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
SAMPLE: Method Blank
SAMPLE AMOUNT: 1000ml/1ml
MATRIX: Water

DATE RECEIVED: 06/11/92
DATE PREPARED: 06/15-17/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/l (ppb)	DETECTION LIMIT:
606-20-2	2,6-DINITROTOLUENE	ND	1
84-66-2	DIETHYL PHTHALATE	ND	1
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	1
86-73-7	FLUORENE	ND	1
100-01-6	4-NITROANILINE	ND	5
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	5
86-30-6	N-NITROSODIPHENYLAMINE	ND	1
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	1
118-74-1	HEXACHLOROBENZENE	ND	1
87-86-5	PENTACHLOROPHENOL	ND	5
85-01-8	PHENANTHRENE	ND	1
120-12-7	ANTHRACENE	ND	1
84-74-2	DI-N-BUTYL PHTHALATE	ND	1
206-44-0	FLUORANTHENE	ND	1
129-00-0	PYRENE	ND	1
85-68-7	BUTYL BENZYL PHTHALATE	ND	1
91-94-1	3,3'-DICHLOROBENZIDINE	ND	2
56-55-3	BENZO(A)ANTHRACENE	ND	1
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ND	1
218-01-9	CHRYSENE	ND	1
117-84-0	DI-N-OCTYL PHTHALATE	ND	1
205-99-2	BENZO(B & K)FLUORANTHENES	ND	1
50-32-8	BENZO(A)PYRENE	ND	1
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	1
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	1
191-24-2	BENZO(GHI)PERYLENE	ND	1

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
SAMPLE: 7 CORAY WELL
SAMPLE AMOUNT: 1000ml/1ml
MATRIX: Water

DATE RECEIVED: 06/11/92
DATE PREPARED: 06/15-17/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/l (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	1
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	1
95-57-8	2-CHLOROPHENOL	ND	1
541-73-1	1,3-DICHLOROBENZENE	ND	1
106-46-7	1,4-DICHLOROBENZENE	ND	1
100-51-6	BENZYL ALCOHOL	ND	1
95-50-1	1,2-DICHLOROBENZENE	ND	1
95-48-7	2-METHYLPHENOL	ND	1
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	1
106-44-5	4-METHYLPHENOL	ND	1
621-64-7	N-NITROSODIPROPYLAMINE	ND	1
67-72-1	HEXACHLOROETHANE	ND	1
98-95-3	NITROBENZENE	ND	1
78-59-1	ISOPHORONE	ND	1
88-75-5	2-NITROPHENOL	ND	1
105-67-9	2,4-DIMETHYLPHENOL	ND	1
65-85-0	BENZOIC ACID	ND	5
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	1
120-33-2	2,4-DICHLOROPHENOL	ND	1
120-82-1	1,2,4-TRICHLOROBENZENE	ND	1
91-20-3	NAPHTHALENE	ND	1
106-47-8	4-CHLOROANILINE	ND	1
87-68-3	HEXACHLOROBUTADIENE	ND	1
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	1
91-57-6	2-METHYLNAPHTHALENE	ND	1
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	1
88-06-2	2,4,6-TRICHLOROPHENOL	ND	1
95-95-4	2,4,5-TRICHLOROPHENOL	ND	5
91-58-7	2-CHLORONAPHTHALENE	ND	1
88-74-4	2-NITROANALINE	ND	5
131-11-3	DIMETHYL PHTHALATE	ND	1
208-96-8	ACENAPHTHYLENE	ND	1
99-09-2	3-NITROANILINE	ND	5
83-32-9	ACENAPHTHENE	ND	1
51-28-5	2,4-DINITROPHENOL	ND	5
100-02-7	4-NITROPHENOL	ND	5
132-64-9	DIBENZOFURAN	ND	1
121-14-2	2,4-DINITROTOLUENE	ND	1

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
SAMPLE: 7 CORAY WELL
SAMPLE AMOUNT: 1000ml/1ml
MATRIX: Water

DATE RECEIVED: 06/11/92
DATE PREPARED: 06/15-17/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/l (ppb)	DETECTION LIMIT:
606-20-2	2,6-DINITROTOLUENE	ND	1
84-66-2	DIETHYL PHTHALATE	ND	1
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	1
86-73-7	FLUORENE	ND	1
100-01-6	4-NITROANILINE	ND	5
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	5
86-30-6	N-NITROSODIPHENYLAMINE	ND	1
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	1
118-74-1	HEXACHLOROBENZENE	ND	1
87-86-5	PENTACHLOROPHENOL	ND	5
85-01-8	PHENANTHRENE	ND	1
120-12-7	ANTHRACENE	ND	1
84-74-2	DI-N-BUTYL PHTHALATE	ND	1
206-44-0	FLUORANTHENE	ND	1
129-00-0	PYRENE	ND	1
85-68-7	BUTYL BENZYL PHTHALATE	ND	1
91-94-1	3,3'-DICHLOROBENZIDINE	ND	2
56-55-3	BENZO(A)ANTHRACENE	ND	1
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ND	1
218-01-9	CHRYSENE	ND	1
117-84-0	DI-N-OCTYL PHTHALATE	ND	1
205-99-2	BENZO(B & K)FLUORANTHENES	ND	1
50-32-8	BENZO(A)PYRENE	ND	1
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	1
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	1
191-24-2	BENZO(GHI)PERYLENE	ND	1

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
SAMPLE: 7 - CORAY WELL
SAMPLE AMOUNT: 1000ml/1ml
MATRIX: Water

DATE RECEIVED: 06/11/92
DATE PREPARED: 06/15-17/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/l (ppb)
none found	BNA	

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
SAMPLE: 11 SCOTT WELL
SAMPLE AMOUNT: 1000ml/1ml
MATRIX: Water

DATE RECEIVED: 06/11/92
DATE PREPARED: 06/15-17/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/l (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	1
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	1
95-57-8	2-CHLOROPHENOL	ND	1
541-73-1	1,3-DICHLOROBENZENE	ND	1
106-46-7	1,4-DICHLOROBENZENE	ND	1
100-51-6	BENZYL ALCOHOL	ND	1
95-50-1	1,2-DICHLOROBENZENE	ND	1
95-48-7	2-METHYLPHENOL	ND	1
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	1
106-44-5	4-METHYLPHENOL	ND	1
621-64-7	N-NITROSODIPROPYLAMINE	ND	1
67-72-1	HEXACHLOROETHANE	ND	1
98-95-3	NITROBENZENE	ND	1
78-59-1	ISOPHORONE	ND	1
88-75-5	2-NITROPHENOL	ND	1
105-67-9	2,4-DIMETHYLPHENOL	ND	1
65-85-0	BENZOIC ACID	ND	5
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	1
120-33-2	2,4-DICHLOROPHENOL	ND	1
120-82-1	1,2,4-TRICHLOROBENZENE	ND	1
91-20-3	NAPHTHALENE	ND	1
106-47-8	4-CHLOROANILINE	ND	1
87-68-3	HEXACHLOROBUTADIENE	ND	1
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	1
91-57-6	2-METHYLNAPHTHALENE	ND	1
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	1
88-06-2	2,4,6-TRICHLOROPHENOL	ND	1
95-95-4	2,4,5-TRICHLOROPHENOL	ND	5
91-58-7	2-CHLORONAPHTHALENE	ND	1
88-74-4	2-NITROANALINE	ND	5
131-11-3	DIMETHYL PHTHALATE	ND	1
208-96-8	ACENAPHTHYLENE	ND	1
99-09-2	3-NITROANILINE	ND	5
83-32-9	ACENAPHTHENE	ND	1
51-28-5	2,4-DINITROPHENOL	ND	5
100-02-7	4-NITROPHENOL	ND	5
132-64-9	DIBENZOFURAN	ND	1
121-14-2	2,4-DINITROTOLUENE	ND	1

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
SAMPLE: 11 SCOTT WELL
SAMPLE AMOUNT: 1000ml/1ml
MATRIX: Water

DATE RECEIVED: 06/11/92
DATE PREPARED: 06/15-17/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/l (ppb)	DETECTION LIMIT:
606-20-2	2,6-DINITROTOLUENE	ND	1
84-66-2	DIETHYL PHTHALATE	ND	1
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	1
86-73-7	FLUORENE	ND	1
100-01-6	4-NITROANILINE	ND	5
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	5
86-30-6	N-NITROSODIPHENYLAMINE	ND	1
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	1
118-74-1	HEXACHLOROBENZENE	ND	1
87-86-5	PENTACHLOROPHENOL	ND	5
85-01-8	PHENANTHRENE	ND	1
120-12-7	ANTHRACENE	ND	1
84-74-2	DI-N-BUTYL PHTHALATE	ND	1
206-44-0	FLUORANTHENE	ND	1
129-00-0	PYRENE	ND	1
85-68-7	BUTYL BENZYL PHTHALATE	ND	1
91-94-1	3,3'-DICHLOROBENZIDINE	ND	2
56-55-3	BENZO(A)ANTHRACENE	ND	1
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ND	1
218-01-9	CHRYSENE	ND	1
117-84-0	DI-N-OCTYL PHTHALATE	ND	1
205-99-2	BENZO(B & K)FLUORANTHENES	ND	1
50-32-8	BENZO(A)PYRENE	ND	1
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	1
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	1
191-24-2	BENZO(GHI)PERYLENE	ND	1

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
SAMPLE: 11 SCOTT WELL
SAMPLE AMOUNT: 1000ml/1ml
MATRIX: Water

DATE RECEIVED: 06/11/92
DATE PREPARED: 06/15-17/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/l (ppb)
Hydrocarbons, range C14-C22	BNA	2500
Unknown	BNA	22

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
SAMPLE: 15 **NORTH RESERVOIR**
SAMPLE AMOUNT: 1000ml/1ml
MATRIX: Water

DATE RECEIVED: 06/11/92
DATE PREPARED: 06/15-17/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/l (ppb)	DETECTION LIMIT:
108-95-2	PHENOL	ND	1
111-44-4	BIS(2-CHLOROETHYL)ETHER	ND	1
95-57-8	2-CHLOROPHENOL	ND	1
541-73-1	1,3-DICHLOROBENZENE	ND	1
106-46-7	1,4-DICHLOROBENZENE	ND	1
100-51-6	BENZYL ALCOHOL	ND	1
95-50-1	1,2-DICHLOROBENZENE	ND	1
95-48-7	2-METHYLPHENOL	ND	1
39638-32-9	BIS(2-CHLOROISOPROPYL)ETHER	ND	1
106-44-5	4-METHYLPHENOL	ND	1
621-64-7	N-NITROSODIPROPYLAMINE	ND	1
67-72-1	HEXACHLOROETHANE	ND	1
98-95-3	NITROBENZENE	ND	1
78-59-1	ISOPHORONE	ND	1
88-75-5	2-NITROPHENOL	ND	1
105-67-9	2,4-DIMETHYLPHENOL	ND	1
65-85-0	BENZOIC ACID	ND	5
111-91-1	BIS(2-CHLOROETHOXY)METHANE	ND	1
120-33-2	2,4-DICHLOROPHENOL	ND	1
120-82-1	1,2,4-TRICHLOROBENZENE	ND	1
91-20-3	NAPHTHALENE	ND	1
106-47-8	4-CHLOROANILINE	ND	1
87-68-3	HEXACHLOROBUTADIENE	ND	1
59-50-7	4-CHLORO-3-METHYLPHENOL	ND	1
91-57-6	2-METHYLNAPHTHALENE	ND	1
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	1
88-06-2	2,4,6-TRICHLOROPHENOL	ND	1
95-95-4	2,4,5-TRICHLOROPHENOL	ND	5
91-58-7	2-CHLORONAPHTHALENE	ND	1
88-74-4	2-NITROANALINE	ND	5
131-11-3	DIMETHYL PHTHALATE	ND	1
208-96-8	ACENAPHTHYLENE	ND	1
99-09-2	3-NITROANILINE	ND	5
83-32-9	ACENAPHTHENE	ND	1
51-28-5	2,4-DINITROPHENOL	ND	5
100-02-7	4-NITROPHENOL	ND	5
132-64-9	DIBENZOFURAN	ND	1
121-14-2	2,4-DINITROTOLUENE	ND	1

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
SAMPLE: 15 NORTH RESERVOIR
SAMPLE AMOUNT: 1000ml/1ml
MATRIX: Water

DATE RECEIVED: 06/11/92
DATE PREPARED: 06/15-17/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

CAS #	COMPOUND:	CONC: ug/l (ppb)	DETECTION LIMIT:
606-20-2	2,6-DINITROTOLUENE	ND	1
84-66-2	DIETHYL PHTHALATE	ND	1
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ND	1
86-73-7	FLUORENE	ND	1
100-01-6	4-NITROANILINE	ND	5
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ND	5
86-30-6	N-NITROSODIPHENYLAMINE	ND	1
101-55-3	4-BROMOPHENYL PHENYL ETHER	ND	1
118-74-1	HEXACHLOROBENZENE	ND	1
87-86-5	PENTACHLOROPHENOL	ND	5
85-01-8	PHENANTHRENE	ND	1
120-12-7	ANTHRACENE	ND	1
84-74-2	DI-N-BUTYL PHTHALATE	ND	1
206-44-0	FLUORANTHENE	ND	1
129-00-0	PYRENE	ND	1
85-68-7	BUTYL BENZYL PHTHALATE	ND	1
91-94-1	3,3'-DICHLOROBENZIDINE	ND	2
56-55-3	BENZO(A)ANTHRACENE	ND	1
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	ND	1
218-01-9	CHRYSENE	ND	1
117-84-0	DI-N-OCTYL PHTHALATE	ND	1
205-99-2	BENZO(B & K)FLUORANTHENES	ND	1
50-32-8	BENZO(A)PYRENE	ND	1
193-39-5	INDENO(1,2,3-CD)PYRENE	ND	1
53-70-3	DIBENZO(A,H)ANTHRACENE	ND	1
191-24-2	BENZO(GHI)PERYLENE	ND	1

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

CLIENT: GeoSoils
SITE: UC Riverside MoVal
SAMPLE: 15 NORTH RESERVOIR
SAMPLE AMOUNT: 1000ml/1ml
MATRIX: Water

DATE RECEIVED: 06/11/92
DATE PREPARED: 06/15-17/92
DATE ANALYZED: 06/23/92
STANDARD: 0101001-0303003

EPA METHOD 8270 (625)

TENTATIVELY IDENTIFIED COMPOUNDS

COMPOUND NAME:	FRACTION:	ESTIMATED CONC:ug/l (ppb)
none found	BNA	

CENTRUM ANALYTICAL LABORATORIES, INC.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: GeoSoils
1446 East Chestnut
Santa Ana, CA 92701

Date: 06/15/91
J.N.: 3554

Project: U C Riverside - Mo Val

Date Received: 06/11/91
Date Analyzed: 06/13/91
Samples Rcv'd: 16 Water, 2 Soil

LABORATORY RESULTS

Method: EPA 9050 (Specific Conductance)

Matrix: Water

Conductance: umhos / cm at 25 degree centigrade

Sample No.	Conductance	
#4	1200	
#8	1200	CORAY WELL
#12	910	SCOTT WELL
#16	980	NORTH RESERVOIR

Respectfully Submitted,

CENTRUM ANALYTICAL LABORATORIES

Ida Wallace
Laboratory Supervisor

Michael A. Yartzoff
General Manager

BACTERIOLOGY
WATER TESTING
HAZARDOUS WASTE TESTING
CALIF. DHS CERTIFIED

LABORATORIES
3215 CHICAGO AVENUE, RIVERSIDE

E.S. BABCOCK & SONS, INC.
ESTABLISHED 1906

714/684-1881
FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/07/92

To: Centrum Analytical Labs, Inc.
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920611-1166**
Invoice No.	**83383**

Sample Marked:
UC Riverside-MoVal
Job #3554
water sample #8 **CORAY WELL**

Submitted	Sampled
Art 06/11/92 16:45	06/11/92

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
EPA Method 9060			
Total Organic Carbon	2.0 mg/L		
Practical Quantitation Limit	1.0 mg/L		

Date analysis completed: 06/30/92

Notes:

cc:

Edward S. Babcock & Sons, Inc.

BACTERIOLOGY
WATER TESTING
HAZARDOUS WASTE TESTING
CALIF. DHS CERTIFIED

LABORATORIES
3215 CHICAGO AVENUE, RIVERSIDE

E.S. BABCOCK & SONS, INC.
ESTABLISHED 1908

714/684-1881
FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/07/92

To: Centrum Analytical Labs, Inc.
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920611-1167**
Invoice No.	**83383**

Sample Marked:
UC Riverside-MoVal
Job #3554
water sample #12 **SCOTT WELL**

Submitted	Sampled
Art 06/11/92 16:45	06/11/92

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
EPA Method 9060			
Total Organic Carbon	2.4 mg/L		
Practical Quantitation Limit	1.0 mg/L		

Date analysis completed: 06/30/92

Notes:

cc:

Edward S. Babcock & Sons, Inc.

BACTERIOLOGY
WATER TESTING
HAZARDOUS WASTE TESTING
CALIF. DHS CERTIFIED

LABORATORIES
3215 CHICAGO AVENUE, RIVERSIDE

E.S. BABCOCK & SONS, INC.
ESTABLISHED 1906

714/684-1881
FAX 714/684-9738

P.O. BOX 432
RIVERSIDE, CA 92502

07/07/92

To: Centrum Analytical Labs, Inc.
290 Tennesse St.
Redlands, CA 92373
Attn: Ida Wallace

Lab No.	**920611-1164**
Invoice No.	**83383**

Sample Marked:
UC Riverside-MoVal
Job #3554
water sample #16 **NORTH RESERVOIR**

Submitted	Sampled
Art 06/11/92 16:45	06/11/92

Chain of Custody on file: Y

Parameter Name	Results	Parameter Name	Results
EPA Method 9060			
Total Organic Carbon	2.3 mg/L		
Practical Quantitation Limit	1.0 mg/L		

Date analysis completed: 06/30/92

Notes:

cc:

Edward S. Babcock & Sons, Inc.

CENTRUM ANALYTICAL LABORATORIES, INC.
290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

Job No.: 3554 | Project Name: UC Riverside - Noval

Sampler: | Phone: 798-9336

Client Name: Centrum | Address: 290 Tennessee Street Redlands, CA 92373

Sample Number	Date/Time Sampled	Sample Type: Soil	Sample Type: Water	Sample Type: Other (Specify)	Site Location	# and type of containers	Analyses required: EPA 625	Hazardous sample / Special handling / Sample preserved Y / N	Remarks and observations
2	6/11/92		X				X		
6	"		X				X		
10	"		X				X		
14	"		X				X		
#21583									

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	6/12/92 10:40am	D.M. Ramos	D.M. Ramos	6-12-92 16:20	Rebecca Oldham
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time		

Samples chilled ☒ Yes ☐ No
Samples sealed ☐ Yes ☒ No
#21583

Method of Shipment
☒ Courier ☐ UPS/Fed-x ☐ Mail ☐ Hand Carried

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

PAGE 26

№ 3554

CENTRUM ANALYTICAL LABORATORIES, INC.

290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336

* see attached price sheet

@ #400.00 for each sample as per Mike Yartzoff - QS

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2

Job No.: 2395-A1-OC	Project Name: UC Riverside - MoVal
Sampler: Anna Scott	Phone: (714) 647-0277
Client Name: GeoSoils	Address: 1446 E. Chestnut Santa Ana CA 92701

Sample Number	Date/Time Sampled	Sample Type: Soil	Water	Other (Specify)	Site Location	# and type of containers	Analyses required: EPA 608 (Pesticides) w/ PCB	EPA 615	EPA 625	Total Org. Carbon	Electrical Conductance			Hazardous sample / Special handling / Sample preserved Y / N	Type of containers / ~~Remarks and observations~~
✓ 1	6/11/92 AM		✓		Filaree Well	1	X								1L Amber Glass
✓ 2	6/11/92 AM		✓		Filaree Well	1		X							"
✓ 3	6/11/92 AM		✓		Filaree Well	1			X						"
✓ 4	6/11/92 AM		✓		Filaree Well	1				X	X				"
✓ 5	6/11/92 AM		✓		Coray Well	1	X								"
✓ 6	6/11/92 AM		✓		Coray Well	1		X							"
✓ 7	6/11/92 AM		✓		Coray Well	1			X						"
✓ 8	6/11/92 AM		✓		Coray Well	1				X	X				"
✓ 9	6/11/92 AM		✓		Scott Well	1	X								"
✓ 10	6/11/92 AM		✓		Scott Well	1		X							"
✓ 11	6/11/92 AM		✓		Scott Well	1			X						"
✓ 12	6/11/92 AM		✓		Scott Well	1				X	X				"

Relinquished by: (Signature) Anna M. Scott	Date/Time 6/11/92 3PM	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature) S Walls	Date/Time 6/11/92 1320	Samples chilled ☒ Yes ☐ No; Samples sealed ☐ Yes ☒ No	

Method of Shipment: ☐ Courier ☐ UPS/Fed-x ☐ Mail ☒ Hand Carried

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

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ID • 3554

CENTRUM ANALYTICAL LABORATORIES, INC.

290 TENNESSEE STREET • REDLANDS, CA 92373 • (714) 798-9336

@ $400.00 for each sample as per Mike Yartzoff - QS

* see attached price sheet

CHAIN OF CUSTODY RECORD

PAGE 2 OF 2

Job No.: 2395-A1-CC	Project Name: UC Riverside - MoVal
Sampler: Anna Scott	Phone: (714) 647-0277
Client Name: GeoSoils	Address: 1446 E. Chestnut Ave Santa Ana CA 92701

Sample Number	Date/Time Sampled	Sample Type: Soil	Sample Type: Water	Sample Type: Other (Specify)	Site Location	# and type of containers	Analyses required: EPA 608 (Pesticides)	EPA 615	EPA 625	Total Org. Carbon	Electrical Conductance	EPA 8080 (Pesticides only)	Hazardous sample	Special handling	Sample preserved Y / N	Type of Containers — Remarks and observations
13	6/11/92 AM		✓		Reservoir (North)	1	X									1 L Amber Glass
14	6/11/92 AM		✓		Reservoir (North)	1		X								"
15	6/11/92 AM		✓		Reservoir (North)	1			X							"
16	6/11/92 AM		✓		Reservoir (North)	1				X	X					"
17	6/11/92 PM	✓			Parcels 1+7 Section D	1						X				Glass
18	6/11/92 PM	✓			Parcels 3+5 Section D	1						X				Glass

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Anna M. Scott	6/11/92 3PM				
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time		
		S Walls	6/11/92 3pm		

Samples chilled ☒ Yes ☐ No

Samples sealed ☐ Yes ☒ No

Method of Shipment

☐ Courier ☐ UPS/Fed-x ☐ Mail ☒ Hand Carried

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

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APPENDIX D

ASBESTOS LABORATORY TEST RESULTS

QuanteQ Laboratories

An Ecologics Company

Certificate of Analysis

DOHS CERTIFICATION NO. E707

Geosoils
1446 E. Chestnut Ave.
Santa Ana, CA 92701

ATTN: Anna Scott

REPORT DATE: 6/17/92
SAMPLE(S) RECEIVED: 6/12/92
SAMPLE(S) TAKEN: 6/11/92
QUANTEQ JOB NO: 206099
CLIENT PROJECT NO: WO2395-A1-OC
NUMBER OF SAMPLE(S) ANALYZED: 2

ANALYSIS: ASBESTOS IN BULK SAMPLE
METHOD: PLM (POLARIZED LIGHT MICROSCOPY/DISPERSION STAINING)
EPA 600/M4-82-020
EPA ACCREDITATION NUMBER: 9284
NVLAP ACCREDITATION NUMBER: 1229.00

SAMPLE IDENTIFICATION CLIENT	LAB NO.	BRIEF PHYSICAL DESCRIPTION	CHRYSOTILE ASBESTOS PERCENT	AMPHIBOLE ASBESTOS PERCENT
Wallboard Office	206099-01A	Beige crumbly material with beige backing and white powder friable	ND(1)	ND(1)
Shop Wall Panels	206099-02A	Gray fibrous transite material friable	15	ND(1)

John Eaton
LABORATORY MANAGER

6/18/92
DATE

CHECKED BY

ND(1): Asbestos is not quantifiable below the method detection limit of one percent. Amphibole asbestos includes amosite, crocidolite, anthophyllite, tremolite and actinolite.

APPENDIX E

RECORDS PROVIDED BY UCR

UNIVERSITY OF CALIFORNIA, RIVERSIDE

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ

ENVIRONMENTAL HEALTH AND SAFETY
RIVERSIDE, CALIFORNIA 92521

September 14, 1992

Ms. Anna Scott
GeoSoils, Inc.
1446 East Chestnut Avenue
Santa Ana, CA 92701

Dear Anna:

Attached is a copy of the pesticide and application rate information for C Block, along with a copy of the analytical results from January, 1991. This data was provided by Dr. William Spencer, Adjunct Professor of Soil Science. This research project was designed to study the persistence of these chemicals in the environment.

In January, 1991 the concentration of Prometon was only 1.42 ppm in the south half of the field and 1.54 ppm in the north half. This represents a significant degradation from the concentration at the time of application. The results of our soil sampling in this field indicating non detectable levels of Prometon is consistent with the data provided by Dr. Spencer.

Further sampling and analysis in this block is not necessary, however, we still need to sample the sewage sludge application plots. Call me when you get back from vacation to make arrangements for the rest of the sampling.

Sincerely,

Lynn Beckmann
Environmental Remediation Coordinator

drb
Attachments
PP/25

PESTICIDES APPLIED TO MORENO C BLOCK

1987 **South half of field**

Applied in sprinkler irrigation water.

		lb/A	kg/ha
(Pramitol)	Prometon	10	11.2
(Devrinol)	Napropamide	2	2.24
(Caparol)	Prometryne	12	13.44
(Far-Go)	Triallate	4	4.5

1988 **North half of field**

Applied with sprayer and disked-in to about 6 inches.

	lb/A	kg/ha
Prometon	9.73	11.1
Atrazine	11.67	13.3
Trifluralin	2.43	2.77
Lindane	0.65	0.74

1989 **North half of field**

Applied in small circle with 100 ft. radius. Sprayed on surface (not incorporated).

	lb/A	kg/ha
Triallate	10.25	11.5

We are also studying long-term persistence of these chemicals and ways to hasten their dissipation from soil. We can sample them periodically to determine changes.

Moreno C-8

Soil samples taken from 0-6" depth
January 7, 1991

	Concentration, ppm	
	S 1/2	N 1/2
Prometon	1.42	1.54
Napropamide	N.D.	N.D.
Prometryne	0.97	N.D.
Triallate	tr (<0.01)	N.D.
Atrazine	tr (<0.02)	0.16
Trifluralin	N.D.	N.D
Lindane	tr (<0.01)	0.08

N.D. = Non-detectable

Each value is an average of 4 samples

TRC

Customer-Focused Solutions

June 4, 2001

Ms. Lisa Hjulberg
University of California, Riverside
Office of New Initiatives and Economic Development
B-206 Highlander Hall
Riverside, California 92521

RE: LIMITED PHASE 2 ENVIRONMENTAL SITE ASSESSMENT REPORT FOR MORENO RANCH PROPERTY

Dear Ms. Hjulberg:

This report summarizes the methods, findings, and conclusions of the limited Phase 2 environmental site assessment activities performed at the Moreno Ranch Property, located in Moreno Valley (Figure 1). Work was performed in accordance with TRC,s recommendations for additional assessment activities described in our letter transmittal dated May 4, 2001 and comments received from Mr. Ken Borngrebe during our May 9, 2001 conference call. The additional assessment activities are intended to supplement information already obtained during the previous investigation performed by GeoSoils, Inc.

SITE BACKGROUND AND OVERVIEW

In January 1993, GeoSoils, Inc. prepared a report summarizing previous site assessment activities for the Moreno Ranch Property. The report appeared to be a fairly comprehensive sampling and analysis protocol that was intended to address the possible presence of residual pesticides, herbicides, semi-volatile organic compounds (SVOCs), and volatile organic compounds (VOCs), in soil and groundwater, and metals in soil. The types of analyses performed on soil and groundwater samples focused on those chemicals that were most likely associated with the historical use of the subject property as agricultural land.

Soil samples were collected from both the open and closed landfill areas, random areas throughout the agricultural fields, and experimental sewage sludge application plots. Based on the conclusions of the GeoSoils, Inc. report, all detectable concentrations of the requested analytes indicated minimal impact and the soil was not considered to be hazardous. Groundwater samples were collected from the Coray and Scott Wells (the Filaree Well was sampled prior to the investigation by GeoSoils, Inc.). The conclusions of the report indicated that the groundwater samples generally met safe drinking water standards (although the groundwater is not used for domestic use or as drinking water).

9700 Reseda Boulevard, Suite 103 • Northridge, California 91324-5501
Telephone 818-772-0965 • Fax 818-772-1926

SOIL SAMPLING ACTIVITIES

On May 17, 2001, six near-surface soil samples were obtained by TRC from various locations across the subject property (Figure 2). One soil sample was collected from the Morrison Drainage area on the southern portion of the property (TRC-3), one soil sample was collected from the vehicle/equipment washdown area (TRC-1) (Figure 3), and four soil samples were collected from randomly selected experimental plot areas (TRC-2, and TRC-4 through TRC-6). The soil samples were collected at depths of between 1.5 and 2 fbg and analyzed for herbicides/pesticides, volatile organic compounds, semi-volatile organic compounds, and metals.

Near-surface soil samples were collected by hand-augering down to approximately 1.5 to 2 fbg and driving two 2-inch brass sample tubes through the soil cuttings of the hand-auger. Upon retrieval, the soil sample tubes were immediately removed from the sampler, sealed with Teflon sheeting and polyurethane caps, and wrapped with non-VOC tape. After the samples were labeled and documented in the chain of custody record, they were placed in a cooler with ice at approximately 4 degrees Celsius prior to and during transport to a state-certified laboratory for analysis.

GROUNDWATER SAMPLING ACTIVITIES

On May 17, 2001, groundwater samples were collected from the active Coray and Scott Wells located south of the property and adjacent to the open landfill respectively (Figure 2). The groundwater samples were analyzed for herbicides/pesticides, volatile organic compounds, and semi-volatile organic compounds. The pumps for both wells were turned on and the samples were collected from the spigot. Water was allowed to flow from the Coray Well for approximately 20 minutes at approximately 0.75 gallons per minute (gpm). Water was allowed to flow from the Scott Well for approximately 10 minutes at approximately 5 gpm.

On May 22, 2001, a groundwater sample was collected from the Filaree Well located at the southwest area of the site (Figure 2). The Filaree Well is an inactive well that had a locking safety device on top of the well. The safety device was removed and the depth to groundwater was measured. Approximately 211 feet of hose was placed down into the well to purge and extract groundwater. The pump was turned on and ran for approximately 20 minutes at 1 gpm.

Samples obtained from the wells were collected in four 1-liter and three 40-milliliter glass containers. The sample containers were filled to zero headspace and fitted with Teflon-sealed caps. Each sample was labeled with the project number, well ID, sample date, and sampler's initials. Samples were documented in the chain of custody record, placed in a cooler with ice, and transported to a state-certified laboratory for analysis.

METHANE GAS MONITORING ACTIVITIES

On May 22, 2001, TRC initiated a methane gas survey in the vicinity of the covered landfill area. A total of 13 soil gas probes were advanced at various locations within and immediately adjacent to the landfill area. Four soil vapor probes were advanced within the central portion of the landfill area and the remaining vapor probes were advanced in the general vicinity of the lateral limits of the landfill area (Figure 4). Soil vapor samples were collected at depths between approximately 3 and 6 fbg and analyzed by an onsite mobile laboratory.

Vapor sample analysis for methane, oxygen, carbon dioxide, hydrogen, and nitrogen were conducted at the site using a mobile laboratory equipped with an MTI Gas Chromatograph (GC). A summary of the results of soil vapor analyses is listed in Appendix A.

SOIL AND GROUNDWATER SAMPLE LABORATORY ANALYSIS

Selected soil and groundwater samples were submitted to Centrum Analytical Laboratories, Inc., a state-certified laboratory, in Riverside, California. Soil and groundwater samples were analyzed for organochlorine pesticides using EPA Method 8080/8081A, chlorinated herbicides using EPA Method 8151A, volatile organic compounds using EPA Method 8260, semi-volatile organics using EPA Method 8270, and organophosphorus pesticides using EPA Method 8141A. Soil samples were also analyzed for CAM 17 metals using EPA 6010B/7471. A summary of the soil sample analytical results is given in Table 1. A summary of the groundwater sample analytical results is given in Table 2. The official laboratory report and chain of custody record are provided in Appendix B.

FINDINGS AND DISCUSSION

- Static groundwater from the Filaree Well was measured at 192.4 fbg on May 22, 2001.

- Trace concentrations of organochlorine pesticides (4,4-DDD, 4,4-DDE, and 4,4-DDT) were detected in the soil samples analyzed from TRC-1 through TRC-4 (maximum concentrations of 0.012, 0.12, and 0.008 mg/kg, respectively, in soil sample TRC-3). No other organochlorine pesticides were detected in any other soil samples.

- Trace concentrations of VOCs (tert-butylbenzene and toluene) were detected in soil samples TRC-3 and TRC-6 (maximum concentrations of 0.012 and 0.03 mg/kg, respectively, in soil sample TRC-3). No other VOCs were detected in any other soil samples.

- No chlorinated herbicides, semi-volatile organics, or organophosphorus pesticides were detected in soil samples obtained from borings TRC-1 through TRC-6.

- The Filaree Well, an inactive well located in the southwest corner of the site, was partially fenced off. The fence was dilapidated and access into the compound was possible. The

well was capped by a safety device to prevent trespassers or others from accidentally falling into the well. TRC recommends that the fenced enclosure surrounding the well be repaired in order to further restrict any unauthorized access to this well.

- No organochlorine pesticides, chlorinated herbicides, semi-volatile organics, and organophosphorus pesticides were detected in groundwater samples collected from the Coray, Scott, and Filaree Wells.

- VOCs were detected in the Scott and Filaree Wells. Tetrachloroethene (PCE) was detected at concentrations of 0.8 and 1.9 ug/L in the Scott and Filaree Wells, respectively. No other VOCs were detected in the Scott Well. Other VOCs detected in the groundwater sample obtained from the Filaree Well included 1,1-Dichloroethane (1,1-DCA) (160 ug/L), 1,1-Dichloroethene (1,1-DCE) (6.6 ug/L), cis-1,2-Dichloroethene (cis-1,2-DCE) (7.7 ug/L), Trichloroethene (TCE) (14 ug/L), and vinyl chloride (6.5 ug/L).

- Concentrations of methane were detected in the soil vapor samples SG1 (10 parts per million [ppm]), SG7 (11,242 ppm), SG8 (4 ppm) and SG12A (4 ppm) collected from the area of the buried landfill at depths between 3 and 6 fbg. Methane was not detected in any other soil vapor samples.

CONCLUSIONS AND RECOMMENDATIONS

- Based on the results of this limited Phase II Site Assessment, it appears that organochlorine pesticides, chlorinated herbicides, VOCs, SVOCs, organophosphorus pesticides and metals have minimally impacted the soil of the subject property. The results of the soil samples collected on May 17, 2001 appear to be similar to those collected by GeoSoils, Inc. in 1993. Although minor concentrations of organochlorine pesticides (4,4-DDD, 4,4-DDE, 4,4-DDT), VOCs (tert-butylbenzene and toluene), and metals were detected during the assessment activities, the concentrations do not exceed the respective Total Threshold Limit Concentrations (TTLC), identified by the California Code of Regulation, Title 22 or Preliminary Remedial Goals developed by the United States Environmental Protection Agency, Region IX.

Constituent	Sample ID	Maximum Concentration (mg/kg)	TTLC (mg/kg)	EPA Region IX Residential PRG (mg/kg)
4,4-DDD	TRC-3	0.012	1.0	2.4
4,4-DDE	TRC-3	0.12	1.0	1.7
4,4-DDT	TRC-3	0.008	1.0	1.7
Tert-butylbenzene	TRC-3	0.012	NA	130
Toluene	TRC-3	0.03	NA	520
Arsenic	TRC-1	2.5	500	22*

Constituent	Sample ID	Maximum Concentration (mg/kg)	TTLC (mg/kg)	EPA Region IX Residential PRG (mg/kg)
Barium	TRC-6	290	10,000	5,400
Chromium	TRC-6	13	500	210
Cobalt	TRC-6	15	8,000	4,700
Copper	TRC-6	17	2,500	2,900
Lead	TRC-4	4.3	1,000	400
Nickel	TRC-1	6.6	2,000	150
Vanadium	TRC-6	59	2,400	550
Zinc	TRC-6	60	5,000	23,000

PRG's represent California Modified Values where appropriate
NA = Not Available
* = Based on Non-Cancer Endpoint

- Groundwater beneath a portion of the Moreno Ranch property appears to be slightly impacted with VOCs. Although detected in the Scott Well, the PCE concentration detected is below the California MCL/drinking water standard. Five constituents (1,1-DCA, 1,1-DCE, cis-1,2-DCE, TCE, and vinyl chloride) were detected in the Filaree Well at concentrations above the California MCLs. The table below lists the concentrations of VOCs detected in groundwater and the respective MCLs for the constituents detected in the Filaree Well.

VOCs	Filaree Well Concentration (ug/L)	California MCLs / Drinking Water Standard (ug/L)
Chloroethane	4.0	NA
1,1-DCA	160*	5
1,1-DCE	6.6*	6
Cis-1,2-DCE	7.7*	6
Trans-1,2-DCE	0.9	10
Ethylbenzene	11	700
PCE	1.9	5
Toluene	13	150
1,1,1-TCA	3.0	200
1,1,2-TCA	0.6	5
TCE	14*	5
1,2,4-Trimethylbenzene	0.7	NA
Vinyl Chloride	6.5*	0.5
Xylenes, m-, p-	16	1,750
Xylenes, o-	7.3	1,750

California State Drinking Water Standards, January 31, 2001.

NA = not available
= exceeds MCL / drinking water standard

- The source for the VOCs detected in groundwater in the Filaree and Scott Wells is unknown. It is possible that the VOCs detected in groundwater are related to an as yet unidentified offsite source. Based on the regional topography, groundwater in this area is anticipated to flow to the north or northwest. In general, the VOCs detected in groundwater are characteristic of a chlorinated solvent plume containing PCE and possible 1,1,1-TCA as the original parent compounds. There is no indication from the reported historical use of the subject property or the analytical results of soil samples obtained during this and previous site investigations that the presence of VOCs in groundwater is related to historical activities conducted at the subject property.

- TRC recommends that the dilapidated fence and well box of the Filaree Well be repaired to further restrict access into the compound and to prevent unauthorized access to this groundwater well.

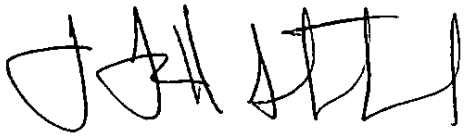
- Based on the results of the methane gas survey, it appears that the area of the buried landfill is characterized as having a relatively small area that contains elevated concentrations of methane gas. Based on the presence of low concentrations of oxygen and high levels of carbon dioxide in some of the samples, it is likely that the methane gas is associated with the decomposition of organic matter within the landfill. Methane mitigation guidelines are required in some local jurisdictions such as Los Angeles and Orange County, California, within designated methane seepage areas in which methane concentrations are found to exceed 5,000 ppmv. Although the concentrations and lateral extent of the areas that may contain elevated concentrations of methane gas are relatively minor, this issue should be considered with regard to future site development activities. It should also be noted that this assessment did not include a geotechnical evaluation of conditions associated with the buried landfill area. Any proposed future development activities in the area overlying the former buried landfill should include completion of geotechnical evaluation, as necessary.

- Based upon the findings of this assessment, no further site assessment activities are warranted at this time. Future monitoring and sampling of groundwater in the Filaree and Scott Wells should be considered if these wells are to be used for domestic, agricultural, or industrial purposes. In addition, the completion of additional research into possible offsite sources for the VOCs detected in the groundwater samples obtained from the Filaree and Scott Wells should be considered.

If you have any questions regarding this report, please call Todd Stanford at (818) 772-0965, extension 104.

Sincerely,

TRC ALTON GEOSCIENCE



J. Todd Stanford, REA, REHS
Principal Scientist

Charles G. Lee, PhD, RG
Associate

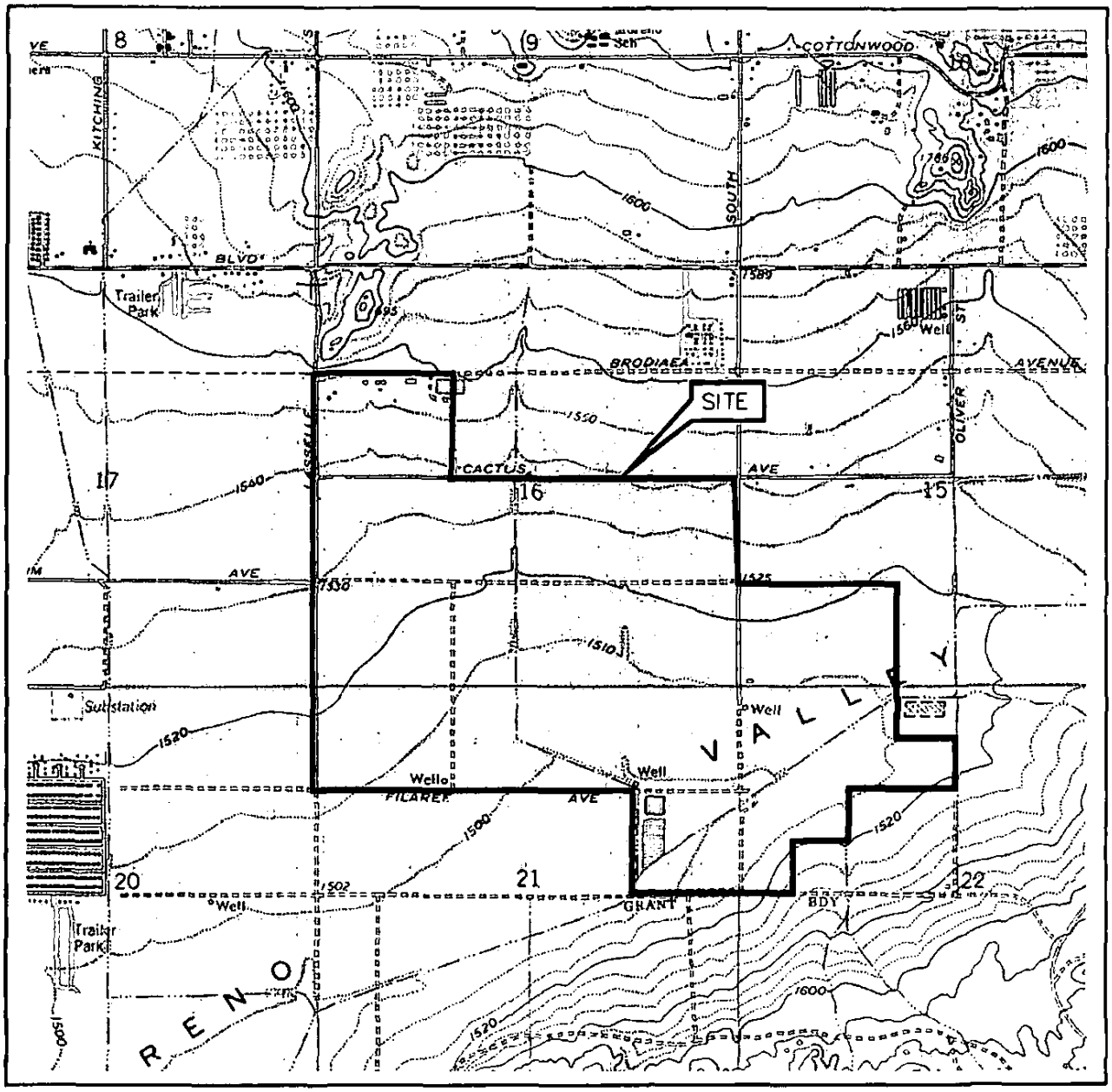
ATTACHMENTS:

Figure 1:	Vicinity Map
Figure 2:	Site Plan
Figure 3:	Operational Facilities
Figure 4:	Methane Gas Survey
Table 1:	Results of Laboratory Analysis of Soil Samples
Table 2:	Results of Laboratory Analysis of Groundwater Samples
Appendix A:	Methane Gas Survey Report (Inland Empire Analytical)
Appendix B:	Official Laboratory Report and Chain of Custody

cc: Ken Borngrebe (1 copy)

25-0917/MorenoRanchR01

FIGURES



0 1/4 1/2 3/4 1 MILE

SCALE 1:24,000

N

SOURCE:

United States Geological Survey
7.5 Minute Topographic Map:
Sunnymead Quadrangle

VICINITY MAP

Moreno Ranch Property
University of California, Riverside
Moreno Valley, California

TRC

PS = 1:1

FIGURE 1

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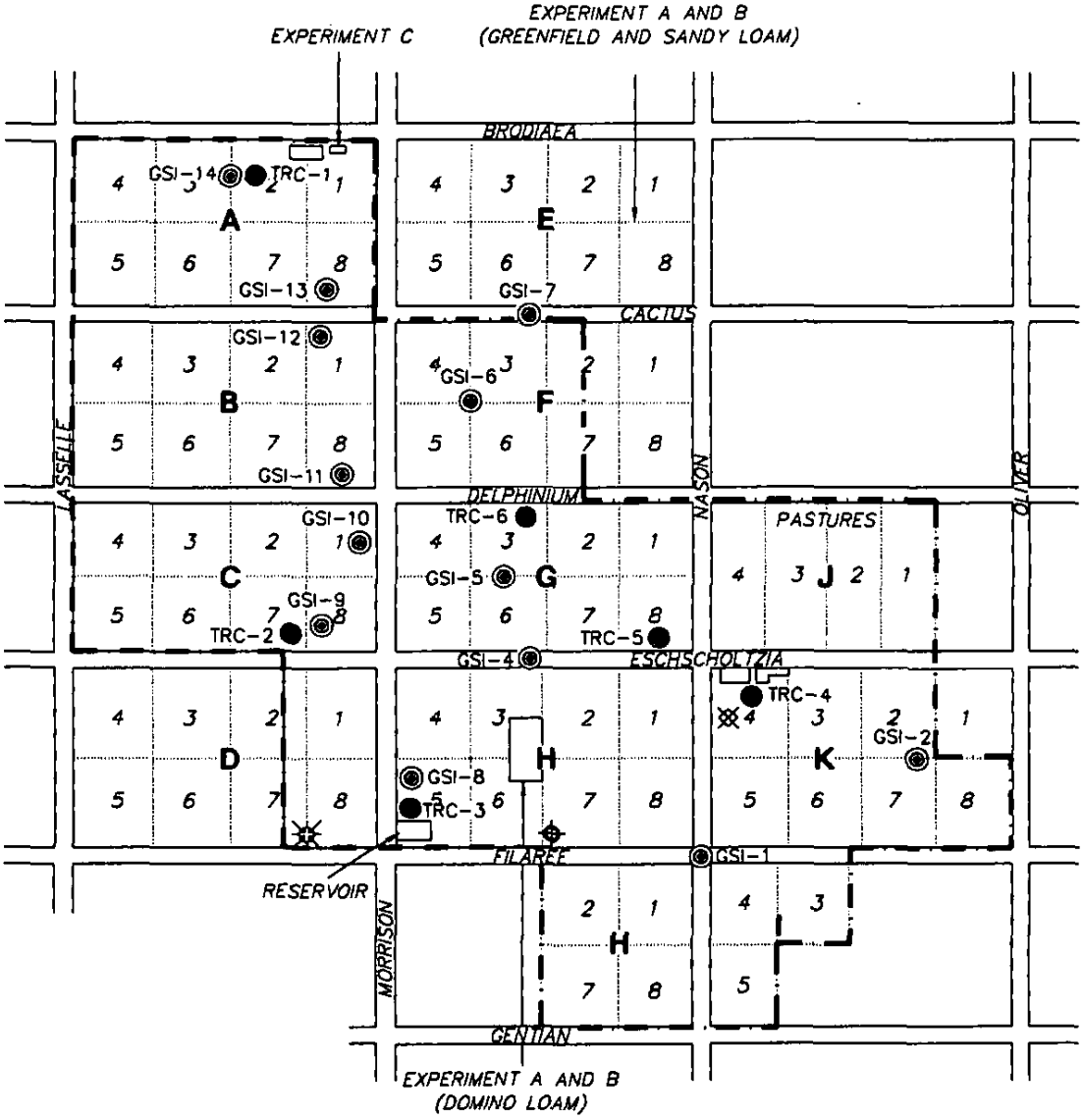


LEGEND

- Filaree Well
- Scott Well
- Coray Well
- TRC-6 ● TRC Soil Sample
- GSI-13 ◎ GeoSoil, Inc. Soil Sample
- — · — Approximate Limits of Subject Area
- 8 Plot

NOTE:

GeoSoil, Inc. soil sample locations are approximate. Experiments A, B and C are application plots.

SITE PLAN

Moreno Ranch Property
University of California, Riverside
Moreno Valley, California

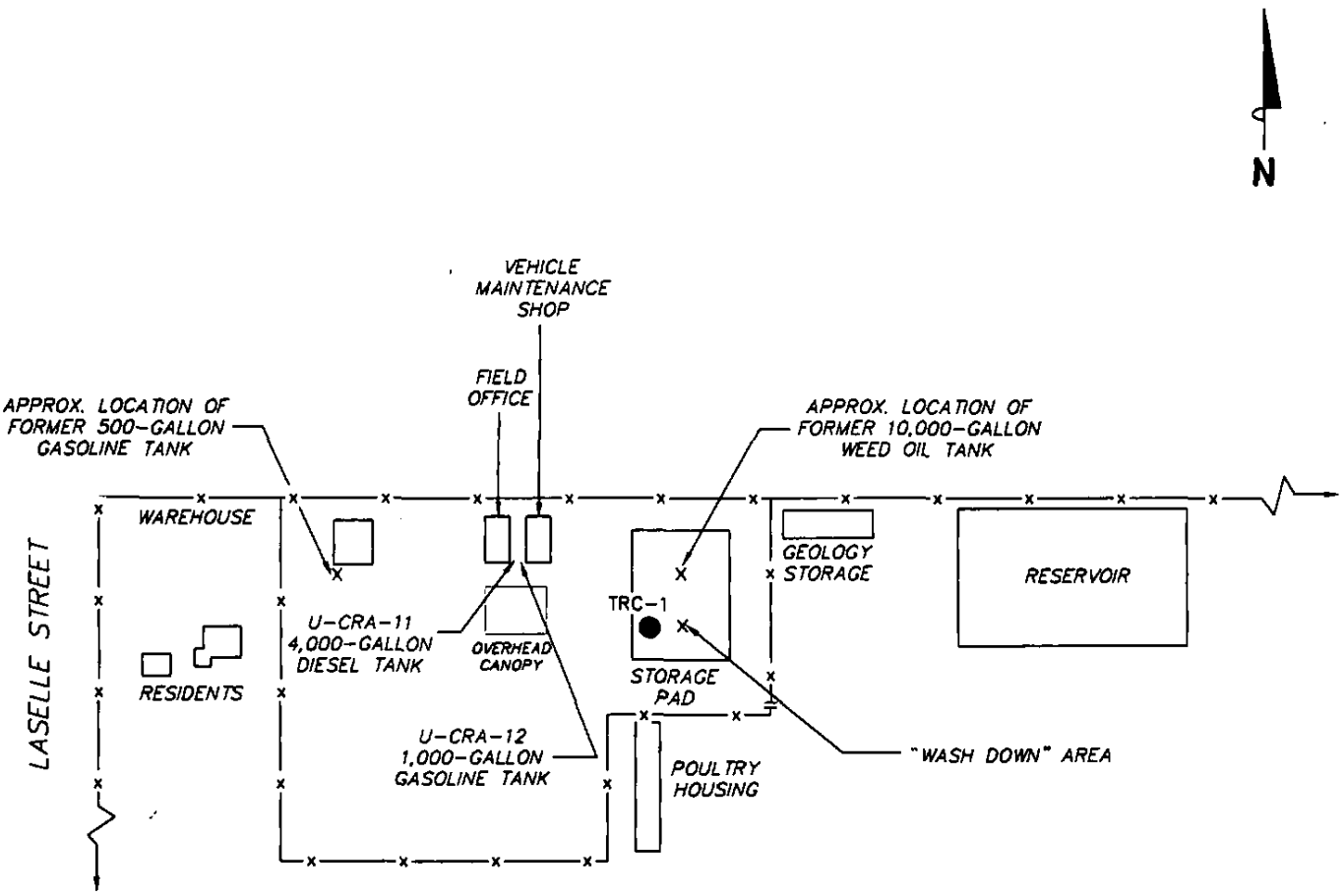
TRC

SCALE (FEET)
0 1,300

PS=1:1

FIGURE 2

i:\graphics\projects\25-XXXX\25-0901<<\25-0917 Moreno Valley\siteplan.dwg 5/29/01 blw



NOTES:

Modified from a map provided GeoSoils, Incorporated dated January 8, 1993. All structures and locations are approximate.

LEGEND

TRC-1 ● TRC Soil Sample

—x——x— Chain Link Fence

OPERATIONAL FACILITIES

Moreno Ranch Property
University of California, Riverside
Moreno Valley, California

TRC

DRAWING NOT TO SCALE

PS=1:1

FIGURE 3

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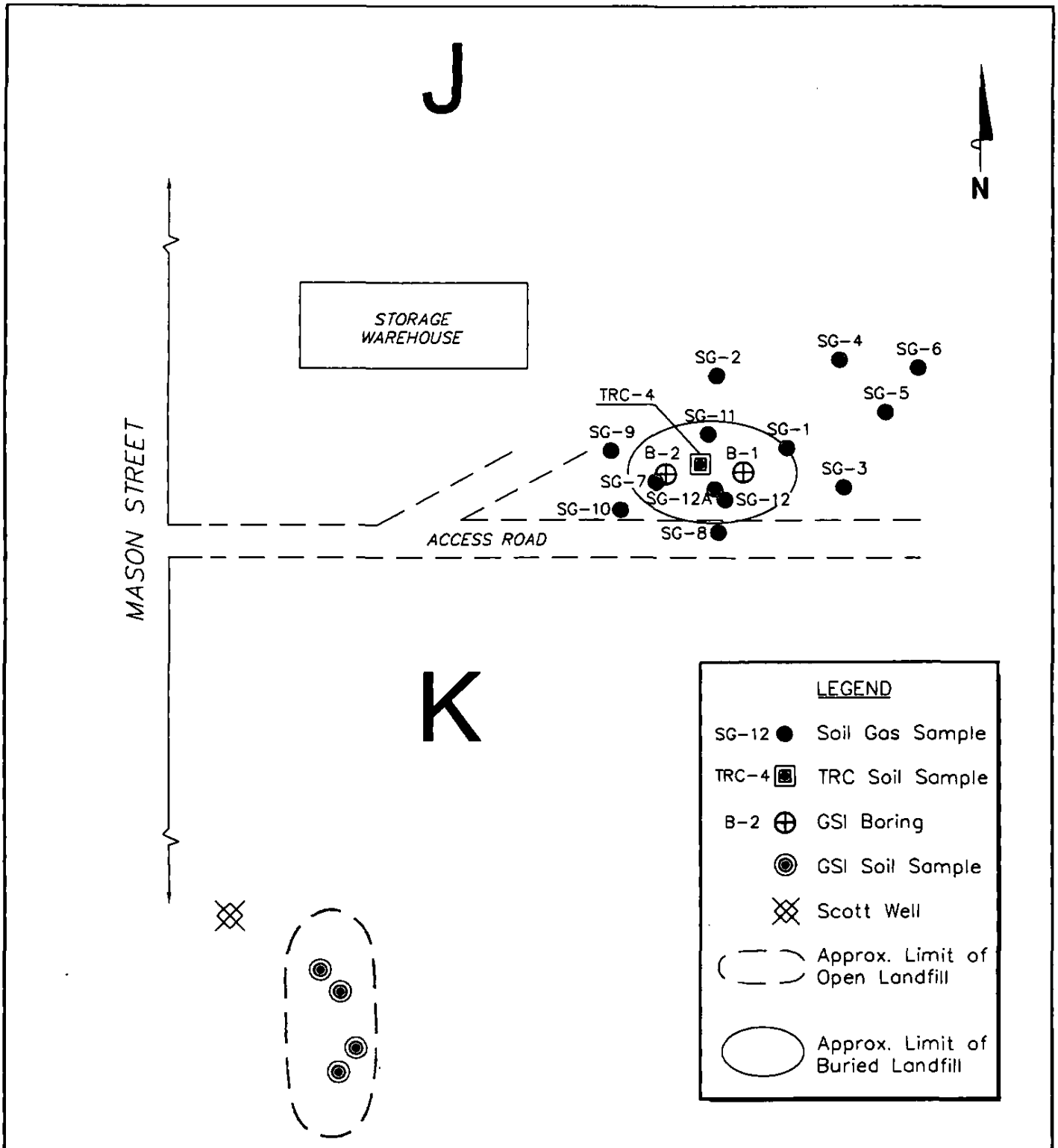

NOTES:

Modified from a map provided GeoSoils, Incorporated dated January 8, 1993. All structures and locations are approximate.

METHANE GAS SURVEY

Moreno Ranch Property
University of California, Riverside
Moreno Valley, California

TRC

PS=1:1

SCALE (FEET)
0 80

FIGURE 4

i:\graphics\projects\25-XXXX\25-0901<<\25-0917 Moreno Valley\MethSurvey.dwg 5/29/01 blw

TABLES

Table 1

RESULTS OF LABORATORY ANALYSIS OF SOIL SAMPLES
May 17, 2001
Moreno Ranch Property
University of California, Riverside

Constituent (mg/kg)	SAMPLE ID (Sample Depth) TRC-1 (2 fbg)	TRC-2 (1.5 fbg)	TRC-3 (1.5 fbg)	TRC-4 (1.5 fbg)	TRC-5 (1.5 fbg)	TRC-6 (1.5 fbg)
Notes:						
fbg	= feet below grade					
mg/kg	= milligrams per kilogram					
ND	= not detected					
(a)	= all other organochlorine pesticides were ND					
(b)	= all chlorinated herbicides were ND					
(c)	= all other volatile organic compounds were ND					
(d)	= all *semi-volatile organics* were ND					
(e)	= all organophosphorus Pesticides were ND					

Table 1

RESULTS OF LABORATORY ANALYSIS OF SOIL SAMPLES
May 17, 2001
Moreno Ranch Property
University of California, Riverside

Constituent (mg/kg)	SAMPLE ID (Sample Depth) TRC-1 (2 fbg)	TRC-2 (1.5 fbg)	TRC-3 (1.5 fbg)	TRC-4 (1.5 fbg)	TRC-5 (1.5 fbg)	TRC-6 (1.5 fbg)
Organochlorine Pesticides[a]						
4,4'-DDD	ND	ND	0.012	ND	ND	ND
4,4'-DDE	0.004	0.002	0.12	ND	ND	ND
4,4'-DDT	0.007	ND	0.008	0.003	ND	ND
Chlorinated Herbicides[b]	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds[c]						
tert-Butylbenzene	ND	ND	0.012	ND	ND	ND
Toluene	ND	ND	0.030	ND	ND	0.002
Semi-Volatile Organics[d]	ND	ND	ND	ND	ND	ND
Organophosphorus Pesticides[e]	ND	ND	ND	ND	ND	ND
CAM Metals						
Antimony	ND	ND	ND	ND	ND	ND
Arsenic	2.5	2.1	2.0	1.6	1.6	2.3
Barium	120	89	140	170	130	290
Beryllium	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND
Chromium	11	9.8	9.0	11	8.8	13
Cobalt	9.7	8.5	9.3	10	8.7	15
Copper	9.7	7.1	14	13	7.2	17
Lead	3.7	3.2	4.1	4.3	3.0	3.9
Mercury	ND	ND	ND	ND	ND	ND
Molybdenum	ND	ND	ND	ND	ND	ND
Nickel	6.6	5.5	5.1	6.2	4.8	6.4
Selenium	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND
Thallium	ND	ND	ND	ND	ND	ND
Vanadium	38	30	34	38	31	59
Zinc	43	38	45	50	37	60

Table 2

RESULTS OF LABORATORY ANALYSIS OF GROUNDWATER SAMPLES
May 17 and 22, 2001
Moreno Ranch Property
University of California, Riverside

Constituent (ug/L)	SAMPLE ID (Date Sampled) Coray Well (5/17/01)	Scott Well (5/17/01)	Filaree Well (5/22/01)
Organochlorine Pesticides[a]	ND	ND	ND
Chlorinated Herbicides[b]	ND	ND	ND
Volatile Organic Compounds[c]			
Chloroethane	ND	ND	4.0
1,1-Dichloroethane	ND	ND	160
1,1-Dichloroethene	ND	ND	6.6
cis-1,2-Dichloroethene	ND	ND	7.7
trans-1,2-Dichloroethene	ND	ND	0.9
Ethylbenzene	ND	ND	11
Tetrachloroethene	ND	0.8	1.9
Toluene	ND	ND	13
1,1,1-Trichloroethane	ND	ND	3.0
1,1,2-Trichloroethane	ND	ND	0.6
Trichloroethene	ND	ND	14
1,2,4-Trimethylbenzene	ND	ND	0.7
Vinyl Chloride	ND	ND	6.5
Xylenes, m-, p-	ND	ND	16
Xylenes, o-	ND	ND	7.3
Semi-Volatile Organics[d]	ND	ND	ND
Organophosphorus Pesticides[e]	ND	ND	ND

Notes:

ug/L	=	micrograms per liter
ND	=	not detected
(a)	=	all organochlorine pesticides were ND
(b)	=	all chlorinated herbicides were ND
(c)	=	all other volatile organic compounds were ND
(d)	=	all semi-volatile organics were ND
(e)	=	all organophosphorus Pesticides were ND

A

APPENDIX A

METHANE GAS SURVEY REPORT (INLAND EMPIRE ANALYTICAL)

Inland Empire Analytical

2051 Pacific Avenue, Norco, CA 92860
Ph (909) 371-5048 gpouellette@earthlink.net

5/29/01

Jeremy Koonce
TRC Alton Geoscience
9700 Reseda Blvd, Suite 103
Northridge, CA 91324

Client Project: UCR Moreno Ranch Landfill

Jeremy,

Enclosed as table 1 are the results of the soil gas analyses for the samples collected from the UCR Moreno Ranch Landfill site in Moreno Valley on May 22, 2001.

The samples were analyzed for the fixed gases on the day collected. Samples were collected from a soil gas probe hammered into the ground at thirteen locations. A hand auger was used to provide a pilot hole for the soil gas probe. Samples were generally collected from two depths at each location.

Soils in the sample area are mainly sand. Trash of various types was encountered in some of the auger borings. Notes of this are included in the data table.

This completes all requests for analyses associated with this set of samples.

Reviewed and approved
Gregory P. Ouellette

INLAND EMPIRE ANALYTICAL

Sample Date: 5-22-2001

Client: TRC Alton Geoscience
Project: UCR Moreno Ranch Landfill Methane

Soil Gas Samples

Sample #	Depth (feet)	H_2 (ppm)	O_2 (%)	N_2 (%)	CH_4 (ppm)	CO_2 (%)	Remarks
5-22air1		<0.5	19.61	Bal.	<5	0.045	
5-22m237		<0.5	5.97	Bal.	45,335	15.039	
5-22air2		<0.5	19.17	Bal.	6	0.030	
SG1	3.0	<0.5	15.77	Bal.	10	3.274	Voids at 2.5-3.0 feet
SG1	4.0	5.8	15.58	Bal.	<5	3.679	Auger refusal at 3.5 feet, trash
SG2	3.0	12.1	18.84	Bal.	<5	0.789	
SG2	6.0	<0.5	18.29	Bal.	<5	1.981	
SG3	3.0	28.4	18.86	Bal.	<5	0.879	
SG3	6.0	2.3	17.74	Bal.	<5	1.445	
SG4	3.0	43.4	18.91	Bal.	<5	0.810	
SG4	6.0	8.6	18.26	Bal.	<5	1.101	
SG5	3.0	16.1	19.10	Bal.	<5	0.733	
SG5	6.0	2.4	18.43	Bal.	<5	0.936	
SG6	3.0	33.6	19.03	Bal.	<5	0.291	
SG6	6.0	<0.5	18.90	Bal.	<5	0.334	
SG7	3.0	18.6	12.46	Bal.	58	3.519	
SG7	6.0	21.9	0.24	Bal.	11,242	21.938	
SG8	3.0	16.8	17.33	Bal.	<5	1.728	
SG8	6.0	11.4	16.08	Bal.	4	2.481	
SG9	3.0	0.9	17.55	Bal.	<5	1.760	
SG9	4.5	2.6	16.58	Bal.	<5	2.277	Auger refusal at 3.5 feet, trash
SG10	3.0	9.4	16.32	Bal.	<5	2.747	
SG10	5.0	15.5	9.61	Bal.	<5	9.562	Auger refusal at 4 feet, trash
5-22AIR3		<0.5	18.75	Bal.	<5	0.042	
5-22AIR4		<0.5	18.44	Bal.	<5	0.032	
SG11	4.0	27.3	17.17	Bal.	<5	1.568	
SG11	6.0	22.4	13.82	Bal.	<5	3.663	
SG11	6.0	22.1	13.69	Bal.	<5	3.646	
SG12	3.0	23.9	5.27	Bal.	<5	10.189	
SG12	5.0	NA	NA	NA	NA	NA	Auger refusal at 5 feet, rubber tire, no sample
SG12A	3.0	17.9	11.56	Bal.	<5	6.697	
SG12A	5.0	2.2	1.43	Bal.	4	18.166	Auger refusal at 4 feet, trash

INLAND EMPIRE ANALYTICAL

Sample Date: 5-22-2001

Client: TRC Alton Geoscience
Project: UCR Moreno Ranch Landfill Methane

Soil Gas Samples

Sample #	Depth (feet)	H_2 (ppm)	O_2 (%)	N_2 (%)	CH_4 (ppm)	CO_2 (%)	Remarks

Notes:

ppm = parts per million
H_2 = hydrogen
O_2 = oxygen
N_2 = nitrogen
CH_4 = methane
CO_2 = carbon dioxide
% = percentage of gas in sample; the addition of oxygen, nitrogen and carbon dioxide is approximately 100 percent
Bal = percentage balance left over from the addition of oxygen and nitrogen
NA = not available

B

APPENDIX B

OFFICIAL LABORATORY REPORT AND CHAIN OF CUSTODY

Centrum Analytical Laboratories, Inc.
CERTIFIED HAZARDOUS WASTE TESTING MOBILE & IN HOUSE LABORATORIES

Client: TRC - Alton Geoscience
9700 Reseda Blvd., Ste. 103
Northridge, CA 91324

Date Sampled: 05/17/01
Date Received: 05/17/01
Job Number: 18519

Project: Moreno Ranch Property

CASE NARRATIVE

The following information applies to samples which were received on 05/17/01 :

The samples were received at the laboratory chilled and sample containers were intact.

The EPA 8141A and EPA 8151A analyses were subcontracted to ELAP Lab #1230. The original report is attached to, but is not part of, this report.

Unless otherwise noted below, the Quality Control acceptance criteria were met for all samples for every analysis requested.

Report approved by:

FOR

Robert R. Clark, Ph.D.
Laboratory Director

ELAP # 2419

DL : Detection Limit – The lowest level at which the compound can reliably be detected under normal laboratory conditions.
ND : Not Detected – The compound was analyzed for but was not found to be present at or above the detection limit.
NA : Not Analyzed – Per client request, this analyte was not on the list of compounds to be analyzed for.

909•779•0310 OR 800•798•9336 fax 909•779•0344
www.centrum-labs.com 1401 Research Park Drive, Suite 100, Riverside, CA 92507

Centrum
Analytical
Laboratories, Inc.

QC Sample Report - EPA 8080 Pesticides

Matrix: Soil
Batch #: PESTS0334

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lindane	0.0033	**97**	32 - 127	**Pass**
Heptachlor	0.0033	**87**	34 - 111	**Pass**
Aldrin	0.0033	**95**	42 - 122	**Pass**
Dieldrin	0.013	**84**	36 - 146	**Pass**
Endrin	0.013	**102**	30 - 147	**Pass**
DDT	0.013	**101**	25 - 160	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lindane	0.0032	0.0031	**3%**	25%	**Pass**
Heptachlor	0.0029	0.0026	**11%**	25%	**Pass**
Aldrin	0.0032	0.0030	**6%**	25%	**Pass**
Dieldrin	0.0112	0.0102	**9%**	25%	**Pass**
Endrin	0.0135	0.0118	**13%**	25%	**Pass**
DDT	0.0134	0.0119	**12%**	25%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
Analytical
Laboratories, Inc.

EPA 8080 - Organochlorine Pesticides & PCBs

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Extracted:	05/18/01
Matrix:	Water	Date Analyzed:	05/22-30/01
Analyst:	TPW	Batch Number:	PESTW0333

	Sample ID:	Blank	CORAY WELL	SCOTT WELL
Pesticides	DL	mg/L	mg/L	mg/L
Aldrin	0.00005	ND	ND	ND
Alpha-BHC	0.00005	ND	ND	ND
Beta-BHC	0.00005	ND	ND	ND
Delta-BHC	0.00005	ND	ND	ND
Gamma-BHC (Lindane)	0.00005	ND	ND	ND
Chlordane	0.00005	ND	ND	ND
4,4'-DDD	0.0001	ND	ND	ND
4,4'-DDE	0.0001	ND	ND	ND
4,4'-DDT	0.0001	ND	ND	ND
Dieldrin	0.0001	ND	ND	ND
Endosulfan I	0.00005	ND	ND	ND
Endosulfan II	0.0001	ND	ND	ND
Endosulfan sulfate	0.0001	ND	ND	ND
Endrin	0.0001	ND	ND	ND
Endrin Aldehyde	0.0001	ND	ND	ND
Endrin Ketone	0.0005	ND	ND	ND
Heptachlor	0.00005	ND	ND	ND
Heptachlor Epoxide	0.00005	ND	ND	ND
Methoxychlor	0.005	ND	ND	ND
Toxaphene	0.001	ND	ND	ND

Surrogates (% recovery) Limits: 50 - 150

Sample ID:	Blank	CORAY WELL	SCOTT WELL
Tetrachloro-m-xylene	99	90	107

Centrum
Analytical
Laboratories, Inc.

QC Sample Report - EPA 8080 Pesticides

Matrix: Water
Batch #: PESTW0333

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lindane	1.0	**110**	32 - 127	**Pass**
Heptachlor	1.0	**105**	34 - 111	**Pass**
Aldrin	1.0	**97**	42 - 122	**Pass**
Dieldrin	4.0	**101**	36 - 146	**Pass**
Endrin	4.0	**94**	30 - 147	**Pass**
DDT	4.0	**102**	25 - 160	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery µg/L	Spike Duplicate Recovery µg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lindane	1.10	1.01	**8%**	25%	**Pass**
Heptachlor	1.05	0.94	**12%**	25%	**Pass**
Aldrin	0.97	0.99	**2%**	25%	**Pass**
Dieldrin	4.04	4.08	**1%**	25%	**Pass**
Endrin	3.76	3.91	**4%**	25%	**Pass**
DDT	4.09	4.09	**0%**	25%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

EPA 8260 - Volatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Analyzed:	05/19-21/01
Matrix:	Soil	Batch Number:	MS48260S2560
Analyst:	JL/MBH		MS48260S2564

	Sample ID:	Blank	TRC-1-2	TRC-2-1.5	TRC-3-1.5	TRC-4-1.5	TRC-5-1.5
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.050	ND	ND	ND	ND	ND	ND
tert-Amyl Methyl Ether (TAME)	0.005	ND	ND	ND	ND	ND	ND
Benzene	0.001	ND	ND	ND	ND	ND	ND
Bromobenzene	0.005	ND	ND	ND	ND	ND	ND
Bromochloromethane	0.005	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.001	ND	ND	ND	ND	ND	ND
Bromoform	0.005	ND	ND	ND	ND	ND	ND
Bromomethane	0.005	ND	ND	ND	ND	ND	ND
tert-Butanol (TBA)	0.020	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.010	ND	ND	ND	ND	ND	ND
n-Butylbenzene	0.002	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	0.002	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	0.002	ND	ND	ND	**0.012**	ND	ND
Carbon disulfide	0.010	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	*0.001*	*ND*	*ND*	*ND*	*ND*	ND	ND
Chlorobenzene	0.001	ND	ND	ND	ND	ND	ND
Chloroethane	0.005	ND	ND	ND	ND	ND	ND
Chloroform	0.002	ND	ND	ND	ND	ND	ND
Chloromethane	0.001	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	0.002	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	0.002	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.002	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	0.002	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	0.010	ND	ND	ND	ND	ND	ND
Dibromomethane	0.001	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.001	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.002	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.002	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.001	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.001	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.002	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.002	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.001	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	0.001	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	0.001	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

Centrum
Analytical
Laboratories, Inc.

EPA 8260 - Volatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Analyzed:	05/19-21/01
Matrix:	Soil	Batch Number:	MS48260S2560
Analyst:	JL/MBH		

	Sample ID:	Blank	TRC-1-2	TRC-2-1.5	TRC-3-1.5	TRC-4-1.5	TRC-5-1.5
Compounds	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
Diisopropyl Ether (DIPE)	0.005	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.001	ND	ND	ND	ND	ND	ND
Ethyl tert-Butyl Ether (EtBE)	0.005	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.001	ND	ND	ND	ND	ND	ND
2-Hexanone	0.010	ND	ND	ND	ND	ND	ND
Isopropylbenzene	0.001	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	0.002	ND	ND	ND	ND	ND	ND
Methylene chloride	0.050	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	0.010	ND	ND	ND	ND	ND	ND
Methyl tert-Butyl Ether (MtBE)	0.005	ND	ND	ND	ND	ND	ND
Napthalene	0.002	ND	ND	ND	ND	ND	ND
n-Propylbenzene	0.001	ND	ND	ND	ND	ND	ND
Styrene	0.001	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	0.001	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.002	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.001	ND	ND	ND	ND	ND	ND
Toluene	0.001	ND	ND	ND	***0.030***	ND	ND
1,2,3-Trichlorobenzene	0.002	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.002	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.001	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.003	ND	ND	ND	ND	ND	ND
Trichloroethene	0.001	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	0.003	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.001	ND	ND	ND	ND	ND	ND
Trichlorotrifluoroethane	0.005	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	0.001	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	0.001	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.002	ND	ND	ND	ND	ND	ND
Xylenes, m-,p-	0.002	ND	ND	ND	ND	ND	ND
Xylene, o-	0.001	ND	ND	ND	ND	ND	ND

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	Blank	TRC-1-2	TRC-2-1.5	TRC-3-1.5	TRC-4-1.5	TRC-5-1.5
Dibromofluoromethane	104	110	104	87	108	105
Toluene-d8	92	93	91	86	95	87
Bromofluorobenzene	100	101	99	101	95	99

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EPA 8260 - Volatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Analyzed:	05/19-21/01
Matrix:	Soil	Batch Number:	MS48260S2560
Analyst:	JL/MBH		MS48260S2564

Sample ID: TRC-6-1.5		
Compounds	**DL**	**mg/Kg**
Acetone	0.050	ND
tert-Amyl Methyl Ether (TAME)	0.005	ND
Benzene	0.001	ND
Bromobenzene	0.005	ND
Bromochloromethane	0.005	ND
Bromodichloromethane	0.001	ND
Bromoform	0.005	ND
Bromomethane	0.005	ND
tert-Butanol (TBA)	0.020	ND
2-Butanone (MEK)	0.010	ND
n-Butylbenzene	0.002	ND
sec-Butylbenzene	0.002	ND
tert-Butylbenzene	0.002	ND
Carbon disulfide	0.010	ND
Carbon tetrachloride	0.001	ND
Chlorobenzene	0.001	ND
Chloroethane	0.005	ND
Chloroform	0.002	ND
Chloromethane	0.001	ND
2-Chlorotoluene	0.002	ND
4-Chlorotoluene	0.002	ND
Dibromochloromethane	0.002	ND
1,2-Dibromoethane	0.002	ND
1,2-Dibromo-3-chloropropane	0.010	ND
Dibromomethane	0.001	ND
1,2-Dichlorobenzene	0.001	ND
1,3-Dichlorobenzene	0.002	ND
1,4-Dichlorobenzene	0.002	ND
Dichlorodifluoromethane	0.005	ND
1,1-Dichloroethane	0.001	ND
1,2-Dichloroethane	0.001	ND
1,1-Dichloroethene	0.005	ND
cis-1,2-Dichloroethene	0.002	ND
trans-1,2-Dichloroethene	0.002	ND
1,2-Dichloropropane	0.001	ND
1,3-Dichloropropane	0.001	ND
2,2-Dichloropropane	0.001	ND
1,1-Dichloropropene	0.001	ND

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EPA 8260 - Volatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Analyzed:	05/19-21/01
Matrix:	Soil	Batch Number:	MS48260S2560
Analyst:	JL/MBH		

Sample ID: TRC-6-1.5		
Compounds	**DL**	mg/Kg
cis-1,3-Dichloropropene	0.001	ND
trans-1,3-Dichloropropene	0.001	ND
Diisopropyl Ether (DIPE)	0.005	ND
Ethylbenzene	0.001	ND
Ethyl tert-Butyl Ether (EtBE)	0.005	ND
Hexachlorobutadiene	0.001	ND
2-Hexanone	0.010	ND
Isopropylbenzene	0.001	ND
p-Isopropyltoluene	0.002	ND
Methylene chloride	0.050	ND
4-Methyl-2-pentanone	0.010	ND
Methyl tert-Butyl Ether (MtBE)	0.005	ND
Napthalene	0.002	ND
n-Propylbenzene	0.001	ND
Styrene	0.001	ND
1,1,1,2-Tetrachloroethane	0.001	ND
1,1,2,2-Tetrachloroethane	0.002	ND
Tetrachloroethene	0.001	ND
Toluene	0.001	**0.002**
1,2,3-Trichlorobenzene	0.002	ND
1,2,4-Trichlorobenzene	0.002	ND
1,1,1-Trichloroethane	0.001	ND
1,1,2-Trichloroethane	0.003	ND
Trichloroethene	0.001	ND
1,2,3-Trichloropropane	0.003	ND
Trichlorofluoromethane	0.001	ND
Trichlorotrifluoroethane	0.005	ND
1,2,4-Trimethylbenzene	0.001	ND
1,3,5-Trimethylbenzene	0.001	ND
Vinyl chloride	0.002	ND
Xylenes, m-,p-	0.002	ND
Xylene, o-	0.001	ND

Surrogates (% recovery) Limits: 80 - 130

Sample ID: TRC-6-1.5	
Dibromofluoromethane	105
Toluene-d8	88
Bromofluorobenzene	97

Centrum Analytical Laboratories, Inc.

QC Sample Report - EPA Method 8260

Matrix: Soil

Batch #: MS48260S2560

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	0.020	**97**	59 - 172	**Pass**
Benzene	0.020	**108**	66 - 142	**Pass**
Trichloroethene	0.020	**105**	71 - 137	**Pass**
Toluene	0.020	**102**	59 - 139	**Pass**
Chlorobenzene	0.020	**96**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0195	0.0196	**1%**	22%	**Pass**
Benzene	0.0216	0.0213	**1%**	21%	**Pass**
Trichloroethene	0.0211	0.0213	**1%**	24%	**Pass**
Toluene	0.0205	0.0206	**0%**	21%	**Pass**
Chlorobenzene	0.0192	0.0199	**4%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample

MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

QC Sample Report - EPA Method 8260

Matrix: Soil

Batch #: MS48260S2564

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	0.020	99	59 - 172	Pass
Benzene	0.020	106	66 - 142	Pass
Trichloroethene	0.020	102	71 - 137	Pass
Toluene	0.020	97	59 - 139	Pass
Chlorobenzene	0.020	99	60 - 133	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 18486-1

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0230	0.0227	1%	22%	Pass
Benzene	0.0227	0.0217	5%	21%	Pass
Trichloroethene	0.0224	0.0215	4%	24%	Pass
Toluene	0.0214	0.0202	6%	21%	Pass
Chlorobenzene	0.0212	0.0210	1%	21%	Pass

Analytical Notes:

MS: Matrix Spike Sample

MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

EPA 8260 - Volatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Analyzed:	05/19/01
Matrix:	Water	Batch Number:	MS48260W2561
Analyst:	JL		

	Sample ID:	Blank	CORAY WELL	SCOTT WELL
Compounds	DL	µg/L	µg/L	µg/L
Acetone	50	ND	ND	ND
tert-Amyl Methyl Ether (TAME)	5.0	ND	ND	ND
Benzene	0.5	ND	ND	ND
Bromobenzene	1.0	ND	ND	ND
Bromochloromethane	1.0	ND	ND	ND
Bromodichloromethane	0.5	ND	ND	ND
Bromoform	0.5	ND	ND	ND
Bromomethane	0.5	ND	ND	ND
tert-Butanol (TBA)	10	ND	ND	ND
2-Butanone (MEK)	10	ND	ND	ND
n-Butylbenzene	0.5	ND	ND	ND
sec-Butylbenzene	0.5	ND	ND	ND
tert-Butylbenzene	0.5	ND	ND	ND
Carbon disulfide	10	ND	ND	ND
Carbon tetrachloride	0.5	ND	ND	ND
Chlorobenzene	0.5	ND	ND	ND
Chloroethane	0.5	ND	ND	ND
Chloroform	0.5	ND	ND	ND
Chloromethane	0.5	ND	ND	ND
2-Chlorotoluene	0.5	ND	ND	ND
4-Chlorotoluene	0.5	ND	ND	ND
Dibromochloromethane	0.5	ND	ND	ND
1,2-Dibromoethane	0.5	ND	ND	ND
1,2-Dibromo-3-chloropropane	10	ND	ND	ND
Dibromomethane	0.5	ND	ND	ND
1,2-Dichlorobenzene	0.5	ND	ND	ND
1,3-Dichlorobenzene	0.5	ND	ND	ND
1,4-Dichlorobenzene	0.5	ND	ND	ND
Dichlorodifluoromethane	0.5	ND	ND	ND
1,1-Dichloroethane	0.5	ND	ND	ND
1,2-Dichloroethane	0.5	ND	ND	ND
1,1-Dichloroethene	0.5	ND	ND	ND
cis-1,2-Dichloroethene	0.5	ND	ND	ND
trans-1,2-Dichloroethene	0.5	ND	ND	ND
1,2-Dichloropropane	0.5	ND	ND	ND
1,3-Dichloropropane	0.5	ND	ND	ND
2,2-Dichloropropane	0.5	ND	ND	ND
1,1-Dichloropropene	0.5	ND	ND	ND

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EPA 8260 - Volatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Analyzed:	05/19/01
Matrix:	Water	Batch Number:	MS48260W2561
Analyst:	JL		

	Sample ID:	Blank	CORAY WELL	SCOTT WELL
Compounds	DL	µg/L	µg/L	µg/L
cis-1,3-Dichloropropene	0.5	ND	ND	ND
trans-1,3-Dichloropropene	0.5	ND	ND	ND
Diisopropyl Ether (DIPE)	5.0	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Ethyl tert-Butyl Ether (EtBE)	5.0	ND	ND	ND
Hexachlorobutadiene	0.5	ND	ND	ND
2-Hexanone	10	ND	ND	ND
Isopropylbenzene	0.5	ND	ND	ND
p-Isopropyltoluene	0.5	ND	ND	ND
Methylene chloride	50	ND	ND	ND
4-Methyl-2-pentanone	5.0	ND	ND	ND
Methyl-tert-butyl ether (MtBE)	1.0	ND	ND	ND
Napthalene	0.5	ND	ND	ND
n-Propylbenzene	0.5	ND	ND	ND
Styrene	0.5	ND	ND	ND
1,1,1,2-Tetrachloroethane	0.5	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND
Tetrachloroethene	0.5	ND	ND	0.8
Toluene	0.5	ND	ND	ND
1,2,3-Trichlorobenzene	0.5	ND	ND	ND
1,2,4-Trichlorobenzene	0.5	ND	ND	ND
1,1,1-Trichloroethane	0.5	ND	ND	ND
1,1,2-Trichloroethane	0.5	ND	ND	ND
Trichloroethene	0.5	ND	ND	ND
1,2,3-Trichloropropane	0.5	ND	ND	ND
Trichlorofluoromethane	0.5	ND	ND	ND
Trichlorotrifluoroethane	5.0	ND	ND	ND
1,2,4-Trimethylbenzene	0.5	ND	ND	ND
1,3,5-Trimethylbenzene	0.5	ND	ND	ND
Vinyl chloride	0.5	ND	ND	ND
Xylenes, m-,p-	1.0	ND	ND	ND
Xylene, o-	0.5	ND	ND	ND

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	Blank	CORAY WELL	SCOTT WELL
Dibromofluoromethane	108	108	106
Toluene-d8	99	99	99
Bromofluorobenzene	97	97	98

Centrum Analytical Laboratories, Inc.

QC Sample Report - EPA Method 8260

Matrix: Water
Batch #: MS48260W2561

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	50	**95**	59 - 172	**Pass**
Benzene	50	**100**	66 - 142	**Pass**
Trichloroethene	50	**101**	71 - 137	**Pass**
Toluene	50	**97**	59 - 139	**Pass**
Chlorobenzene	50	**98**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery µg/L	Spike Duplicate Recovery µg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	47.74	47.31	**1%**	22%	**Pass**
Benzene	50.05	48.98	**2%**	21%	**Pass**
Trichloroethene	50.74	47.64	**6%**	24%	**Pass**
Toluene	48.72	47.20	**3%**	21%	**Pass**
Chlorobenzene	48.91	48.94	**0%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

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EPA 8270 Semivolatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Extracted:	05/18/01
Matrix:	Soil	Dates Analyzed:	05/21/01
Analyst:	TPW	Batch Number:	8270S0717

	Sample ID:	Blank	TRC-1-2	TRC-2-1.5	TRC-3-1.5	TRC-4-1.5	TRC-5-1.5
Compound	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acenaphthene	0.033	ND	ND	ND	ND	ND	ND
Acenaphthylene	0.033	ND	ND	ND	ND	ND	ND
Anthracene	0.033	ND	ND	ND	ND	ND	ND
Benzo[a]anthracene	0.066	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	0.066	ND	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	0.033	ND	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	0.099	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	0.066	ND	ND	ND	ND	ND	ND
Benzyl alcohol	0.13	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.066	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	0.066	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	0.099	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.33	ND	ND	ND	ND	ND	ND
4-Bromophenylphenylether	0.033	ND	ND	ND	ND	ND	ND
Butylbenzylphthalate	0.033	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.16	ND	ND	ND	ND	ND	ND
4-Chloroaniline	0.16	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.033	ND	ND	ND	ND	ND	ND
2-Chlorophenol	0.13	ND	ND	ND	ND	ND	ND
4-Chlorophenylphenylether	0.033	ND	ND	ND	ND	ND	ND
Chrysene	0.033	ND	ND	ND	ND	ND	ND
Di-n-butylphthalate	0.33	ND	ND	ND	ND	ND	ND
Di-n-octylphthalate	0.033	ND	ND	ND	ND	ND	ND
Dibenzo[a,h]anthracene	0.099	ND	ND	ND	ND	ND	ND
Dibenzofuran	0.033	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.033	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.033	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.033	ND	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	0.13	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	0.16	ND	ND	ND	ND	ND	ND
Diethylphthalate	0.33	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.099	ND	ND	ND	ND	ND	ND
Dimethylphthalate	0.033	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	0.33	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	1.6	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.033	ND	ND	ND	ND	ND	ND

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EPA 8270 Semivolatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Extracted:	05/18/01
Matrix:	Soil	Dates Analyzed:	05/21/01
Analyst:	TPW	Batch Number:	8270S0717

	Sample ID:	Blank	TRC-1-2	TRC-2-1.5	TRC-3-1.5	TRC-4-1.5	TRC-5-1.5
Compound	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
2,6-Dinitrotoluene	0.099	ND	ND	ND	ND	ND	ND
Fluoranthene	0.033	ND	ND	ND	ND	ND	ND
Fluorene	0.033	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	0.033	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.033	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	1.6	ND	ND	ND	ND	ND	ND
Hexachloroethane	0.033	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-c,d]pyrene	0.13	ND	ND	ND	ND	ND	ND
Isophorone	0.033	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	0.033	ND	ND	ND	ND	ND	ND
2-Methylphenol	0.16	ND	ND	ND	ND	ND	ND
4-Methylphenol	0.16	ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	0.033	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.033	ND	ND	ND	ND	ND	ND
Naphthalene	0.033	ND	ND	ND	ND	ND	ND
2-Nitroaniline	0.099	ND	ND	ND	ND	ND	ND
3-Nitroaniline	0.099	ND	ND	ND	ND	ND	ND
4-Nitroaniline	0.33	ND	ND	ND	ND	ND	ND
Nitrobenzene	0.099	ND	ND	ND	ND	ND	ND
2-Nitrophenol	0.13	ND	ND	ND	ND	ND	ND
4-Nitrophenol	0.33	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1.6	ND	ND	ND	ND	ND	ND
Phenanthrene	0.066	ND	ND	ND	ND	ND	ND
Phenol	0.13	ND	ND	ND	ND	ND	ND
Pyrene	0.033	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.033	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.20	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.33	ND	ND	ND	ND	ND	ND

Surrogates (Limits) in Percent Recovery

	Sample ID:	Blank	TRC-1-2	TRC-2-1.5	TRC-3-1.5	TRC-4-1.5	TRC-5-1.5
2-Fluorophenol (25 - 121%)		96	89	77	84	90	95
Phenol-D5 (24 - 113%)		94	88	75	85	89	90
Nitrobenzene-D5 (23 - 120%)		77	71	61	71	75	75
2-Fluorobiphenyl (30 - 115%)		89	84	76	89	91	91
2,4,6-Tribromophenol (19 - 122%)		100	102	103	110	107	105
p-Terphenyl-D14 (18 - 137%)		76	76	78	91	81	85

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EPA 8270 Semivolatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Extracted:	05/18/01
Matrix:	Soil	Dates Analyzed:	05/21/01
Analyst:	TPW	Batch Number:	8270S0717

	Sample ID:	Blank	TRC-6-1.5
Compound	DL	mg/Kg	mg/Kg
Acenaphthene	0.033	ND	ND
Acenaphthylene	0.033	ND	ND
Anthracene	0.033	ND	ND
Benzo[a]anthracene	0.066	ND	ND
Benzo[a]pyrene	0.066	ND	ND
Benzo[b]fluoranthene	0.033	ND	ND
Benzo[g,h,i]perylene	0.099	ND	ND
Benzo[k]fluoranthene	0.066	ND	ND
Benzyl alcohol	0.13	ND	ND
bis(2-Chloroethoxy)methane	0.066	ND	ND
bis(2-Chloroethyl)ether	0.066	ND	ND
bis(2-Chloroisopropyl)ether	0.099	ND	ND
bis(2-Ethylhexyl)phthalate	0.33	ND	ND
4-Bromophenylphenylether	0.033	ND	ND
Butylbenzylphthalate	0.033	ND	ND
4-Chloro-3-methylphenol	0.16	ND	ND
4-Chloroaniline	0.16	ND	ND
2-Chloronaphthalene	0.033	ND	ND
2-Chlorophenol	0.13	ND	ND
4-Chlorophenylphenylether	0.033	ND	ND
Chrysene	0.033	ND	ND
Di-n-butylphthalate	0.33	ND	ND
Di-n-octylphthalate	0.033	ND	ND
Dibenzo[a,h]anthracene	0.099	ND	ND
Dibenzofuran	0.033	ND	ND
1,2-Dichlorobenzene	0.033	ND	ND
1,3-Dichlorobenzene	0.033	ND	ND
1,4-Dichlorobenzene	0.033	ND	ND
3,3-Dichlorobenzidine	0.13	ND	ND
2,4-Dichlorophenol	0.16	ND	ND
Diethylphthalate	0.33	ND	ND
2,4-Dimethylphenol	0.099	ND	ND
Dimethylphthalate	0.033	ND	ND
4,6-Dinitro-2-methylphenol	0.33	ND	ND
2,4-Dinitrophenol	1.6	ND	ND
2,4-Dinitrotoluene	0.033	ND	ND

Centrum Analytical Laboratories, Inc.

EPA 8270 Semivolatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Extracted:	05/18/01
Matrix:	Soil	Dates Analyzed:	05/21/01
Analyst:	TPW	Batch Number:	8270S0717

	Sample ID:	Blank	TRC-6-1.5
Compound	DL	mg/Kg	mg/Kg
2,6-Dinitrotoluene	0.099	ND	ND
Fluoranthene	0.033	ND	ND
Fluorene	0.033	ND	ND
Hexachlorobenzene	0.033	ND	ND
Hexachlorobutadiene	0.033	ND	ND
Hexachlorocyclopentadiene	1.6	ND	ND
Hexachloroethane	0.033	ND	ND
Indeno[1,2,3-c,d]pyrene	0.13	ND	ND
Isophorone	0.033	ND	ND
2-Methylnaphthalene	0.033	ND	ND
2-Methylphenol	0.16	ND	ND
4-Methylphenol	0.16	ND	ND
N-Nitrosodi-n-propylamine	0.033	ND	ND
N-Nitrosodiphenylamine	0.033	ND	ND
Naphthalene	0.033	ND	ND
2-Nitroaniline	0.099	ND	ND
3-Nitroaniline	0.099	ND	ND
4-Nitroaniline	0.33	ND	ND
Nitrobenzene	0.099	ND	ND
2-Nitrophenol	0.13	ND	ND
4-Nitrophenol	0.33	ND	ND
Pentachlorophenol	1.6	ND	ND
Phenanthrene	0.066	ND	ND
Phenol	0.13	ND	ND
Pyrene	0.033	ND	ND
1,2,4-Trichlorobenzene	0.033	ND	ND
2,4,5-Trichlorophenol	0.20	ND	ND
2,4,6-Trichlorophenol	0.33	ND	ND

Surrogates (Limits) in Percent Recovery

Sample ID:	Blank	TRC-6-1.5
2-Fluorophenol (25 - 121%)	96	86
Phenol-D5 (24 - 113%)	94	83
Nitrobenzene-D5 (23 - 120%)	77	69
2-Fluorobiphenyl (30 - 115%)	89	84
2,4,6-Tribromophenol (19 - 122%)	100	101
p-Terphenyl-D14 (18 - 137%)	76	75

Centrum
Analytical
Laboratories, Inc.

QC Sample Report - EPA 8270

Batch #: 8270S0717 Matrix: Soil

Sample ID: Laboratory Control Sample

Analytical Notes:

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Phenol	2.66	**81**	5 - 112	**Pass**
2-Chlorophenol	2.66	**97**	23 - 134	**Pass**
1,4-Dichlorobenzene	1.33	**97**	20 - 124	**Pass**
N-Nitrosodi-n-propylamine	1.33	**62**	0 - 230	**Pass**
1,2,4-Trichlorobenzene	1.33	**91**	44 - 142	**Pass**
4-Chloro-3-Methylphenol	2.66	**87**	22 - 147	**Pass**
Acenaphthene	1.33	**95**	47 - 145	**Pass**
4-Nitrophenol	2.66	**88**	0 - 132	**Pass**
2,4-Dinitrotoluene	1.33	**108**	39 - 139	**Pass**
Pentachlorophenol	2.66	**82**	14 - 176	**Pass**
Pyrene	1.33	**73**	52 - 115	**Pass**

Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Analytical Notes:

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Phenol	2.16	2.12	**2%**	35%	**Pass**
2-Chlorophenol	2.58	2.55	**1%**	50%	**Pass**
1,4-Dichlorobenzene	1.29	1.29	**0%**	27%	**Pass**
N-Nitrosodi-n-propylamine	0.83	0.81	**2%**	38%	**Pass**
1,2,4-Trichlorobenzene	1.22	1.28	**5%**	23%	**Pass**
4-Chloro-3-Methylphenol	2.32	2.39	**3%**	33%	**Pass**
Acenaphthene	1.27	1.31	**3%**	23%	**Pass**
4-Nitrophenol	2.34	2.57	**9%**	50%	**Pass**
2,4-Dinitrotoluene	1.44	1.42	**1%**	47%	**Pass**
Pentachlorophenol	2.20	2.50	**13%**	47%	**Pass**
Pyrene	0.99	1.06	**7%**	36%	**Pass**

Centrum
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Laboratories, Inc.

EPA 8270 Semivolatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Extracted:	05/23/01
Matrix:	Water	Dates Analyzed:	05/23/01
Analyst:	TPW	Batch Number:	8270W0718

	Sample ID:	Blank	CORAY WELL	SCOTT WELL
Compound	**DL**	mg/L	mg/L	mg/L
Acenaphthene	0.001	ND	ND	ND
Acenaphthylene	0.001	ND	ND	ND
Anthracene	0.001	ND	ND	ND
Benzo[a]anthracene	0.002	ND	ND	ND
Benzo[a]pyrene	0.002	ND	ND	ND
Benzo[b]fluoranthene	0.001	ND	ND	ND
Benzo[g,h,i]perylene	0.003	ND	ND	ND
Benzo[k]fluoranthene	0.001	ND	ND	ND
Benzyl alcohol	0.004	ND	ND	ND
bis(2-Chloroethoxy)methane	0.002	ND	ND	ND
bis(2-Chloroethyl)ether	0.002	ND	ND	ND
bis(2-Chloroisopropyl)ether	0.003	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.010	ND	ND	ND
4-Bromophenylphenylether	0.001	ND	ND	ND
Butylbenzylphthalate	0.001	ND	ND	ND
4-Chloro-3-methylphenol	0.005	ND	ND	ND
4-Chloroaniline	0.005	ND	ND	ND
2-Chloronaphthalene	0.001	ND	ND	ND
2-Chlorophenol	0.004	ND	ND	ND
4-Chlorophenylphenylether	0.001	ND	ND	ND
Chrysene	0.001	ND	ND	ND
Di-n-butylphthalate	0.010	ND	ND	ND
Di-n-octylphthalate	0.001	ND	ND	ND
Dibenzo[a,h]anthracene	0.003	ND	ND	ND
Dibenzofuran	0.001	ND	ND	ND
1,2-Dichlorobenzene	0.001	ND	ND	ND
1,3-Dichlorobenzene	0.001	ND	ND	ND
1,4-Dichlorobenzene	0.001	ND	ND	ND
3,3-Dichlorobenzidine	0.004	ND	ND	ND
2,4-Dichlorophenol	0.005	ND	ND	ND
Diethylphthalate	0.010	ND	ND	ND
2,4-Dimethylphenol	0.003	ND	ND	ND
Dimethylphthalate	0.001	ND	ND	ND
4,6-Dinitro-2-methylphenol	0.010	ND	ND	ND
2,4-Dinitrophenol	0.050	ND	ND	ND
2,4-Dinitrotoluene	0.001	ND	ND	ND

Centrum
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Laboratories, Inc.

EPA 8270 Semivolatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/17/01
Project:	Moreno Ranch Property	Date Received:	05/17/01
Job No.:	18519	Date Extracted:	05/23/01
Matrix:	Water	Dates Analyzed:	05/23/01
Analyst:	TPW	Batch Number:	8270W0718

	Sample ID:	Blank	CORAY WELL	SCOTT WELL
Compound	DL	mg/L	mg/L	mg/L
2,6-Dinitrotoluene	0.003	ND	ND	ND
Fluoranthene	0.001	ND	ND	ND
Fluorene	0.001	ND	ND	ND
Hexachlorobenzene	0.001	ND	ND	ND
Hexachlorobutadiene	0.001	ND	ND	ND
Hexachlorocyclopentadiene	0.050	ND	ND	ND
Hexachloroethane	0.001	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.004	ND	ND	ND
Isophorone	0.001	ND	ND	ND
2-Methylnaphthalene	0.001	ND	ND	ND
2-Methylphenol	0.005	ND	ND	ND
4-Methylphenol	0.005	ND	ND	ND
N-Nitroso-di-n-propylamine	0.001	ND	ND	ND
N-Nitrosodiphenylamine	0.001	ND	ND	ND
Naphthalene	0.001	ND	ND	ND
2-Nitroaniline	0.003	ND	ND	ND
3-Nitroaniline	0.003	ND	ND	ND
4-Nitroaniline	0.010	ND	ND	ND
Nitrobenzene	0.003	ND	ND	ND
2-Nitrophenol	0.004	ND	ND	ND
4-Nitrophenol	0.010	ND	ND	ND
Pentachlorophenol	0.050	ND	ND	ND
Phenanthrene	0.002	ND	ND	ND
Phenol	0.004	ND	ND	ND
Pyrene	0.001	ND	ND	ND
1,2,4-Trichlorobenzene	0.001	ND	ND	ND
2,4,5-Trichlorophenol	0.006	ND	ND	ND
2,4,6-Trichlorophenol	0.010	ND	ND	ND

Surrogates (Limits) in Percent Recovery

	Sample ID:	Blank	CORAY WELL	SCOTT WELL
2-Fluorophenol (21 - 100%)		54	48	48
Phenol-D5 (10 - 94%)		33	30	29
Nitrobenzene-D5 (35 - 114%)		59	69	63
2-Fluorobiphenyl (43 - 116%)		74	85	80
2,4,6-Tribromophenol (10 - 123%)		103	100	104
p-Terphenyl-D14 (33 - 141%)		76	84	84

Centrum Analytical Laboratories, Inc.

QC Sample Report - EPA 8270

Batch #: 8270W0718 Matrix: Water

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Phenol	80	**24**	5 - 112	**Pass**
2-Chlorophenol	80	**62**	23 - 134	**Pass**
1,4-Dichlorobenzene	40	**58**	20 - 124	**Pass**
N-Nitrosodi-n-propylamine	40	**50**	0 - 230	**Pass**
1,2,4-Trichlorobenzene	40	**57**	44 - 142	**Pass**
4-Chloro-3-Methylphenol	80	**71**	22 - 147	**Pass**
Acenaphthene	40	**74**	47 - 145	**Pass**
4-Nitrophenol	80	**32**	0 - 132	**Pass**
2,4-Dinitrotoluene	40	**97**	39 - 139	**Pass**
Pentachlorophenol	80	**80**	14 - 176	**Pass**
Pyrene	40	**67**	52 - 115	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery µg/L	Spike Duplicate Recovery µg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Phenol	19.2	24.8	**26%**	35%	**Pass**
2-Chlorophenol	49.8	62.6	**23%**	50%	**Pass**
1,4-Dichlorobenzene	23.4	29.7	**24%**	27%	**Pass**
N-Nitrosodi-n-propylamine	19.9	21.4	**7%**	38%	**Pass**
1,2,4-Trichlorobenzene	22.6	26.6	**16%**	28%	**Pass**
4-Chloro-3-Methylphenol	56.6	61.0	**8%**	33%	**Pass**
Acenaphthene	29.6	31.5	**6%**	23%	**Pass**
4-Nitrophenol	25.9	27.4	**5%**	50%	**Pass**
2,4-Dinitrotoluene	38.9	39.8	**2%**	47%	**Pass**
Pentachlorophenol	64.2	64.8	**1%**	47%	**Pass**
Pyrene	26.9	26.4	**2%**	36%	**Pass**

Analytical Notes:

Calscience
Environmental
Laboratories, Inc.

May 25, 2001

Marilu Escher
Centrum Analytical Laboratories, Inc.
1401 Research Park Drive
Suite 100
Riverside, CA 92507-2111

Subject: **Calscience Work Order No.:** **01-05-0873**
Client Reference: **18519 / Moreno Ranch Property**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/18/01 and analyzed in accordance with the attached chain-of-custody.

The results in this analytical report are limited to the samples tested and any reproduction of this report must be made in its entirety.

If you have any questions regarding this report, require sampling supplies or field services, or information on our analytical services, please feel free to call me at (714) 895-5494.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Stephen Nowak
Project Manager

William H. Christensen
Quality Assurance Manager

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	05/17/01
1401 Research Park Drive	Date Received:	05/18/01
Suite 100	Date Extracted:	05/21/01
Riverside, CA 92507-2111	Date Analyzed:	05/22/01
	Work Order No.:	01-05-0873
Attn: Marilu Escher	Method:	EPA 8141A
RE: 18519 / Moreno Ranch Property	Page 1 of 7	

All concentrations are reported in mg/kg (ppm).

Sample Number: TRC-1-2

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.5
Mevinphos	ND	0.5
Ethoprop	ND	0.5
Phorate + Naled	ND	4.0
Disulfoton	ND	0.5
Demeton-O	ND	0.5
Demeton-S	ND	0.5
Diazinon	ND	0.5
Methyl Parathion	ND	0.5
Ronnel	ND	0.5
Fenthion	ND	0.5
Trichloronate	ND	0.5
Merphos	ND	0.5
Stirophos	ND	0.5
Tokuthion	ND	0.5
Bolstar	ND	0.5
Fensulfothion	ND	0.5
Azinphos Methyl	ND	0.5
Coumaphos	ND	0.5
Chlorpyrifos	ND	0.5

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	05/17/01
1401 Research Park Drive	Date Received:	05/18/01
Suite 100	Date Extracted:	05/21/01
Riverside, CA 92507-2111	Date Analyzed:	05/22/01
	Work Order No.:	01-05-0873
Attn: Marilu Escher	Method:	EPA 8141A
RE: 18519 / Moreno Ranch Property	Page 2 of 7	

All concentrations are reported in mg/kg (ppm).

Sample Number: TRC-2-1.5

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.5
Mevinphos	ND	0.5
Ethoprop	ND	0.5
Phorate + Naled	ND	4.0
Disulfoton	ND	0.5
Demeton-O	ND	0.5
Demeton-S	ND	0.5
Diazinon	ND	0.5
Methyl Parathion	ND	0.5
Ronnel	ND	0.5
Fenthion	ND	0.5
Trichloronate	ND	0.5
Merphos	ND	0.5
Stirophos	ND	0.5
Tokuthion	ND	0.5
Bolstar	ND	0.5
Fensulfothion	ND	0.5
Azinphos Methyl	ND	0.5
Coumaphos	ND	0.5
Chlorpyrifos	ND	0.5

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	05/17/01
1401 Research Park Drive	Date Received:	05/18/01
Suite 100	Date Extracted:	05/21/01
Riverside, CA 92507-2111	Date Analyzed:	05/22/01
	Work Order No.:	01-05-0873
Attn: Marilu Escher	Method:	EPA 8141A
RE: 18519 / Moreno Ranch Property	Page 3 of 7	

All concentrations are reported in mg/kg (ppm).

Sample Number: TRC-3-1.5

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.5
Mevinphos	ND	0.5
Ethoprop	ND	0.5
Phorate + Naled	ND	4.0
Disulfoton	ND	0.5
Demeton-O	ND	0.5
Demeton-S	ND	0.5
Diazinon	ND	0.5
Methyl Parathion	ND	0.5
Ronnel	ND	0.5
Fenthion	ND	0.5
Trichloronate	ND	0.5
Merphos	ND	0.5
Stirophos	ND	0.5
Tokuthion	ND	0.5
Bolstar	ND	0.5
Fensulfothion	ND	0.5
Azinphos Methyl	ND	0.5
Coumaphos	ND	0.5
Chlorpyrifos	ND	0.5

Calscience
Environmental
Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	05/17/01
1401 Research Park Drive	Date Received:	05/18/01
Suite 100	Date Extracted:	05/21/01
Riverside, CA 92507-2111	Date Analyzed:	05/22/01
	Work Order No.:	01-05-0873
Attn: Marilu Escher	Method:	EPA 8141A
RE: 18519 / Moreno Ranch Property	Page 4 of 7	

All concentrations are reported in mg/kg (ppm).

Sample Number: TRC-4-1.5

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.5
Mevinphos	ND	0.5
Ethoprop	ND	0.5
Phorate + Naled	ND	4.0
Disulfoton	ND	0.5
Demeton-O	ND	0.5
Demeton-S	ND	0.5
Diazinon	ND	0.5
Methyl Parathion	ND	0.5
Ronnel	ND	0.5
Fenthion	ND	0.5
Trichloronate	ND	0.5
Merphos	ND	0.5
Stirophos	ND	0.5
Tokuthion	ND	0.5
Bolstar	ND	0.5
Fensulfothion	ND	0.5
Azinphos Methyl	ND	0.5
Coumaphos	ND	0.5
Chlorpyrifos	ND	0.5

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	05/17/01
1401 Research Park Drive	Date Received:	05/18/01
Suite 100	Date Extracted:	05/21/01
Riverside, CA 92507-2111	Date Analyzed:	05/22/01
	Work Order No.:	01-05-0873
Attn: Marilu Escher	Method:	EPA 8141A
RE: 18519 / Moreno Ranch Property	Page 5 of 7	

All concentrations are reported in mg/kg (ppm).

Sample Number: TRC-5-1.5

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.5
Mevinphos	ND	0.5
Ethoprop	ND	0.5
Phorate + Naled	ND	4.0
Disulfoton	ND	0.5
Demeton-O	ND	0.5
Demeton-S	ND	0.5
Diazinon	ND	0.5
Methyl Parathion	ND	0.5
Ronnel	ND	0.5
Fenthion	ND	0.5
Trichloronate	ND	0.5
Merphos	ND	0.5
Stirophos	ND	0.5
Tokuthion	ND	0.5
Bolstar	ND	0.5
Fensulfothion	ND	0.5
Azinphos Methyl	ND	0.5
Coumaphos	ND	0.5
Chlorpyrifos	ND	0.5

Calscience
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Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	05/17/01
1401 Research Park Drive	Date Received:	05/18/01
Suite 100	Date Extracted:	05/21/01
Riverside, CA 92507-2111	Date Analyzed:	05/22/01
	Work Order No.:	01-05-0873
Attn: Marilu Escher	Method:	EPA 8141A
RE: 18519 / Moreno Ranch Property	Page 6 of 7	

All concentrations are reported in mg/kg (ppm).

Sample Number: TRC-6-1.5

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.5
Mevinphos	ND	0.5
Ethoprop	ND	0.5
Phorate + Naled	ND	4.0
Disulfoton	ND	0.5
Demeton-O	ND	0.5
Demeton-S	ND	0.5
Diazinon	ND	0.5
Methyl Parathion	ND	0.5
Ronnel	ND	0.5
Fenthion	ND	0.5
Trichloronate	ND	0.5
Merphos	ND	0.5
Stirophos	ND	0.5
Tokuthion	ND	0.5
Bolstar	ND	0.5
Fensulfothion	ND	0.5
Azinphos Methyl	ND	0.5
Coumaphos	ND	0.5
Chlorpyrifos	ND	0.5

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	N/A
1401 Research Park Drive	Date Received:	N/A
Suite 100	Date Extracted:	05/21/01
Riverside, CA 92507-2111	Date Analyzed:	05/22/01
	Work Order No.:	01-05-0873
Attn: Marilu Escher	Method:	EPA 8141A
RE: 18519 / Moreno Ranch Property	Page 7 of 7	

All concentrations are reported in mg/kg (ppm).

Sample Number: Method Blank

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.5
Mevinphos	ND	0.5
Ethoprop	ND	0.5
Phorate + Naled	ND	4.0
Disulfoton	ND	0.5
Demeton-O	ND	0.5
Demeton-S	ND	0.5
Diazinon	ND	0.5
Methyl Parathion	ND	0.5
Ronnel	ND	0.5
Fenthion	ND	0.5
Trichloronate	ND	0.5
Merphos	ND	0.5
Stirophos	ND	0.5
Tokuthion	ND	0.5
Bolstar	ND	0.5
Fensulfothion	ND	0.5
Azinphos Methyl	ND	0.5
Coumaphos	ND	0.5
Chlorpyrifos	ND	0.5

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	05/17/01
1401 Research Park Drive	Date Received:	05/18/01
Suite 100	Date Extracted:	05/21/01
Riverside, CA 92507-2111	Date Analyzed:	05/23/01
	Work Order No.:	01-05-0873
Attn: Marilu Escher	Method:	EPA 8141A
RE: 18519 / Moreno Ranch Property	Page 1 of 3	

All concentrations are reported in mg/L (ppm).

Sample Number: Coray Well

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.01
Mevinphos	ND	0.01
Ethoprop	ND	0.01
Phorate + Naled	ND	0.04
Disulfoton	ND	0.01
Demeton-O	ND	0.01
Demeton-S	ND	0.01
Diazinon + Disulfoton	ND	0.01
Methyl Parathion	ND	0.01
Ronnel	ND	0.01
Fenthion	ND	0.01
Trichloronate	ND	0.01
Merphos	ND	0.01
Stirophos	ND	0.01
Tokuthion	ND	0.01
Bolstar	ND	0.01
Fensulfothion	ND	0.01
Azinphos Methyl	ND	0.01
Coumaphos	ND	0.01
Chlorpyrifos	ND	0.01

Calscience
Environmental
Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	05/17/01
1401 Research Park Drive	Date Received:	05/18/01
Suite 100	Date Extracted:	05/21/01
Riverside, CA 92507-2111	Date Analyzed:	05/23/01
	Work Order No.:	01-05-0873
Attn: Marilu Escher	Method:	EPA 8141A
RE: 18519 / Moreno Ranch Property		

All concentrations are reported in mg/L (ppm).

Sample Number: Scott Well

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.01
Mevinphos	ND	0.01
Ethoprop	ND	0.01
Phorate + Naled	ND	0.04
Disulfoton	ND	0.01
Demeton-O	ND	0.01
Demeton-S	ND	0.01
Diazinon + Disulfoton	ND	0.01
Methyl Parathion	ND	0.01
Ronnel	ND	0.01
Fenthion	ND	0.01
Trichloronate	ND	0.01
Merphos	ND	0.01
Stirophos	ND	0.01
Tokuthion	ND	0.01
Bolstar	ND	0.01
Fensulfothion	ND	0.01
Azinphos Methyl	ND	0.01
Coumaphos	ND	0.01
Chlorpyrifos	ND	0.01

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	N/A
1401 Research Park Drive	Date Received:	N/A
Suite 100	Date Extracted:	05/21/01
Riverside, CA 92507-2111	Date Analyzed:	05/23/01
	Work Order No.:	01-05-0873
Attn: Marilu Escher	Method:	EPA 8141A
RE: 18519 / Moreno Ranch Property	Page 3 of 3	

All concentrations are reported in mg/L (ppm).

Sample Number: Method Blank

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.01
Mevinphos	ND	0.01
Ethoprop	ND	0.01
Phorate + Naled	ND	0.04
Disulfoton	ND	0.01
Demeton-O	ND	0.01
Demeton-S	ND	0.01
Diazinon + Disulfoton	ND	0.01
Methyl Parathion	ND	0.01
Ronnel	ND	0.01
Fenthion	ND	0.01
Trichloronate	ND	0.01
Merphos	ND	0.01
Stirophos	ND	0.01
Tokuthion	ND	0.01
Bolstar	ND	0.01
Fensulfothion	ND	0.01
Azinphos Methyl	ND	0.01
Coumaphos	ND	0.01
Chlorpyrifos	ND	0.01

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.
1401 Research Park Drive
Suite 100
Riverside, CA 92507-2111

Date Received: 05/18/01
Work Order No: 01-05-0873
Preparation: EPA 8151
Method: EPA 8151A

Project: 18519 / Moreno Ranch Property

Client Sample Number:	Lab Sample Number:	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	QC Batch ID:
TRC-1-2	01-05-0873-1	05/17/01	Solid	05/21/01	05/22/01	01052111

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	250	1		ug/kg	2,4-D	ND	100	1		ug/kg
Dicamba	ND	10	1		ug/kg	2,4,5-TP (Silvex)	ND	10	1		ug/kg
MCPP	ND	10000	1		ug/kg	2,4,5-T	ND	10	1		ug/kg
MCPA	ND	10000	1		ug/kg	2,4-DB	ND	100	1		ug/kg
Dichlorprop	ND	100	1		ug/kg	Dinoseb	ND	50	1		ug/kg

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	110	30-130	

TRC-2-1.5	01-05-0873-2	05/17/01	Solid	05/21/01	05/22/01	01052111

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	250	1		ug/kg	2,4-D	ND	100	1		ug/kg
Dicamba	ND	10	1		ug/kg	2,4,5-TP (Silvex)	ND	10	1		ug/kg
MCPP	ND	10000	1		ug/kg	2,4,5-T	ND	10	1		ug/kg
MCPA	ND	10000	1		ug/kg	2,4-DB	ND	100	1		ug/kg
Dichlorprop	ND	100	1		ug/kg	Dinoseb	ND	50	1		ug/kg

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	106	30-130	

TRC-3-1.5	01-05-0873-3	05/17/01	Solid	05/21/01	05/22/01	01052111

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	250	1		ug/kg	2,4-D	ND	100	1		ug/kg
Dicamba	ND	10	1		ug/kg	2,4,5-TP (Silvex)	ND	10	1		ug/kg
MCPP	ND	10000	1		ug/kg	2,4,5-T	ND	10	1		ug/kg
MCPA	ND	10000	1		ug/kg	2,4-DB	ND	100	1		ug/kg
Dichlorprop	ND	100	1		ug/kg	Dinoseb	ND	50	1		ug/kg

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	103	30-130	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.
1401 Research Park Drive
Suite 100
Riverside, CA 92507-2111

Date Received: 05/18/01
Work Order No: 01-05-0873
Preparation: EPA 8151
Method: EPA 8151A

Project: 18519 / Moreno Ranch Property

Client Sample Number:	Lab Sample Number:	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	QC Batch ID:
TRC-4-1.5	01-05-0873-4	05/17/01	Solid	05/21/01	05/22/01	01052111

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	250	1		ug/kg	2,4-D	ND	100	1		ug/kg
Dicamba	ND	10	1		ug/kg	2,4,5-TP (Silvex)	ND	10	1		ug/kg
MCPP	ND	10000	1		ug/kg	2,4,5-T	ND	10	1		ug/kg
MCPA	ND	10000	1		ug/kg	2,4-DB	ND	100	1		ug/kg
Dichlorprop	ND	100	1		ug/kg	Dinoseb	ND	50	1		ug/kg

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	104	30-130	

TRC-5-1.5	01-05-0873-5	05/17/01	Solid	05/21/01	05/22/01	01052111

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	250	1		ug/kg	2,4-D	ND	100	1		ug/kg
Dicamba	ND	10	1		ug/kg	2,4,5-TP (Silvex)	ND	10	1		ug/kg
MCPP	ND	10000	1		ug/kg	2,4,5-T	ND	10	1		ug/kg
MCPA	ND	10000	1		ug/kg	2,4-DB	ND	100	1		ug/kg
Dichlorprop	ND	100	1		ug/kg	Dinoseb	ND	50	1		ug/kg

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	106	30-130	

TRC-6-1.5	01-05-0873-6	05/17/01	Solid	05/21/01	05/22/01	01052111

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	250	1		ug/kg	2,4-D	ND	100	1		ug/kg
Dicamba	ND	10	1		ug/kg	2,4,5-TP (Silvex)	ND	10	1		ug/kg
MCPP	ND	10000	1		ug/kg	2,4,5-T	ND	10	1		ug/kg
MCPA	ND	10000	1		ug/kg	2,4-DB	ND	100	1		ug/kg
Dichlorprop	ND	100	1		ug/kg	Dinoseb	ND	50	1		ug/kg

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	109	30-130	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.
1401 Research Park Drive
Suite 100
Riverside, CA 92507-2111

Date Received: 05/18/01
Work Order No: 01-05-0873
Preparation: EPA 8151
Method: EPA 8151A

Project: 18519 / Moreno Ranch Property

Client Sample Number:	Lab Sample Number:	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	QC Batch ID:
Method Blank	095-01-033-165	N/A	Solid	05/21/01	05/22/01	01052111

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	250	1		ug/kg	2,4-D	ND	100	1		ug/kg
Dicamba	ND	10	1		ug/kg	2,4,5-TP (Silvex)	ND	10	1		ug/kg
MCPP	ND	10000	1		ug/kg	2,4,5-T	ND	10	1		ug/kg
MCPA	ND	10000	1		ug/kg	2,4-DB	ND	100	1		ug/kg
Dichlorprop	ND	100	1		ug/kg	Dinoseb	ND	50	1		ug/kg

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	96	30-130	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.
1401 Research Park Drive
Suite 100
Riverside, CA 92507-2111

Date Received: 05/18/01
Work Order No: 01-05-0873
Preparation: EPA 8151
Method: EPA 8151A

Project: 18519 / Moreno Ranch Property

Client Sample Number:	Lab Sample Number:	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	QC Batch ID:
Coray Well	01-05-0873-7	05/17/01	Aqueous	05/21/01	05/22/01	01052112

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	13	1		ug/L	2,4-D	ND	5.0	1		ug/L
Dicamba	ND	0.50	1		ug/L	2,4,5-TP (Silvex)	ND	0.50	1		ug/L
MCPP	ND	500	1		ug/L	2,4,5-T	ND	0.50	1		ug/L
MCPA	ND	500	1		ug/L	2,4-DB	ND	5.0	1		ug/L
Dichlorprop	ND	5.0	1		ug/L	Dinoseb	ND	2.5	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	104	0-123	

Scott Well	01-05-0873-8	05/17/01	Aqueous	05/21/01	05/22/01	01052112

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	13	1		ug/L	2,4-D	ND	5.0	1		ug/L
Dicamba	ND	0.50	1		ug/L	2,4,5-TP (Silvex)	ND	0.50	1		ug/L
MCPP	ND	500	1		ug/L	2,4,5-T	ND	0.50	1		ug/L
MCPA	ND	500	1		ug/L	2,4-DB	ND	5.0	1		ug/L
Dichlorprop	ND	5.0	1		ug/L	Dinoseb	ND	2.5	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	110	0-123	

Method Blank	095-01-034-80	N/A	Aqueous	05/21/01	05/22/01	01052112

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	13	1		ug/L	2,4-D	ND	5.0	1		ug/L
Dicamba	ND	0.50	1		ug/L	2,4,5-TP (Silvex)	ND	0.50	1		ug/L
MCPP	ND	500	1		ug/L	2,4,5-T	ND	0.50	1		ug/L
MCPA	ND	500	1		ug/L	2,4-DB	ND	5.0	1		ug/L
Dichlorprop	ND	5.0	1		ug/L	Dinoseb	ND	2.5	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	119	0-123	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

QUALITY ASSURANCE SUMMARY

Method EPA 8141 (Solid)

Centrum Analytical Laboratories, Inc. | Work Order No.: 01-05-0873
Page 1 of 1 | Date Analyzed: 05/21-22/01

Matrix Spike/Matrix Spike Duplicate

Sample Spiked: TRC-1-2

Analyte	MS%REC	MSD%REC	Control Limits	%RPD	Control Limits
Ethoprop	87	84	30 - 130	4	0 - 30
Phorate	76	74	30 - 130	3	0 - 30
Ronnel	85	86	30 - 130	1	0 - 30
Trichloronate	84	84	30 - 130	0	0 - 30
Tokuthion	77	77	30 - 130	0	0 - 30
Fensulfothion	92	86	30 - 130	7	0 - 30

Laboratory Control Sample

Analyte	Conc. Added	Conc. Rec.	%REC	Control Limits
Ethoprop	4.00	3.06	76	30 - 130
Phorate	4.00	2.89	72	30 - 130
Ronnel	4.00	3.19	80	30 - 130
Trichloronate	4.00	3.25	81	30 - 130
Tokuthion	4.00	3.03	76	30 - 130
Fensulfothion	4.00	3.04	76	30 - 130

Surrogate Recoveries (in %)

Sample Number	S1
TRC-1-2	92
TRC-2-1.5	91
TRC-3-1.5	72
TRC-4-1.5	106
TRC-5-1.5	56
TRC-6-1.5	119
Method Blank	99

Surrogate Compound	%REC Acceptable Limits
S1 > 1,3-Dimethyl-2-Nitrobenzene	30 - 130

Calscience Environmental Laboratories, Inc.

QUALITY ASSURANCE SUMMARY

Method EPA 8141 (Aqueous)

Centrum Analytical Laboratories, Inc. | Work Order No.: 01-05-0873
Page 1 of 1 | Date Analyzed: 05/21-23/01

LCS/LCS Duplicate

Analyte	LCS%REC	LCSD%REC	Control Limits	%RPD	Control Limits
Ethoprop	95	90	30 - 130	5	0 - 30
Phorate	82	78	30 - 130	5	0 - 30
Ronnel	95	90	30 - 130	5	0 - 30
Trichloronate	88	85	30 - 130	3	0 - 30
Tokuthion	80	78	30 - 130	2	0 - 30
Fensulfothion	102	95	30 - 130	7	0 - 30

Surrogate Recoveries (in %)

Sample Number	S1
Coray Well	120
Scott Well	99
Method Blank	72

Surrogate Compound	%REC Acceptable Limits
S1 > 1,3-Dimethyl-2-Nitrobenzene	30 - 130

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Centrum Analytical Laboratories, Inc.	Date Received: 05/18/01
1401 Research Park Drive	Work Order No: 01-05-0873
Suite 100	Preparation: EPA 8151
Riverside, CA 92507-2111	Method: EPA 8151A
Project: 18519 / Moreno Ranch Property	

Spiked Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
TRC-1-2	Solid	GC 7	05/21/01	05/23/01	010508731

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
2,4-D	68	62	30-130	11	0-30	
2,4,5-T	62	52	30-130	17	0-30	
2,4-DB	58	50	30-130	14	0-30	

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Centrum Analytical Laboratories, Inc.
1401 Research Park Drive
Suite 100
Riverside, CA 92507-2111
Project: 18519 / Moreno Ranch Property

Date Received: 05/18/01
Work Order No: 01-05-0873
Preparation: EPA 8151
Method: EPA 8151A

LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-033-165	Solid	GC 7	05/21/01	05/22/01	01052111

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
2,4-D	102	107	30-130	5	0-30	
2,4,5-T	96	96	30-130	1	0-30	
2,4-DB	115	111	30-130	3	0-30	

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Centrum Analytical Laboratories, Inc.	Date Received: 05/18/01
1401 Research Park Drive	Work Order No: 01-05-0873
Suite 100	Preparation: EPA 8151
Riverside, CA 92507-2111	Method: EPA 8151A
Project: 18519 / Moreno Ranch Property	

LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-034-80	Aqueous	GC 7	05/21/01	05/22/01	01052112

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
2,4-D	102	104	30-130	1	0-30	
2,4,5-T	90	92	30-130	2	0-30	
2,4-DB	105	108	30-130	3	0-30	

Calscience Environmental Laboratories, Inc.

GLOSSARY OF TERMS AND QUALIFIERS

Work Order Number: 01-05-0873

Qualifier	Definition
ND	Not detected at indicated reporting limit.

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

Chain of Custody Record

Centrum Job # 18519

Centrum Analytical Laboratories, Inc.

1401 Research Park Drive, Suite 100
Riverside, CA 92507
Voice: 909.779.0310 • 800.798.9336
Fax: 909.779.0344

3299 Hill Street, Suite 305
Signal Hill, CA 90806
Voice: 562.498.7005
Fax: 562.498.8617

www.centrum-labs.com lab@centrum-labs.com

Project No: 25-0917-01

Project Name: MORENO RANCH PROPERTY

Project Manager: TODD STANFORD

Phone: 818-772-0965 EXT 108

Fax: 818-772-1926

Client Name: (Report and Billing) TRC

Address: (Report and Billing) 9700 RESEDA BLVD STE 103 NORTHRIDGE, CA 91324

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	8015M: Gas only	8021B: BTEX/MtBE Only	418.1 (TRPH), 413.2, 1664	GC or GCMS Volatiles by 5035*	GCMS: 8260B, 8021B, 624, 524.2	GCMS: MtBE Conf. Only, BTEX/Oxygenates Only	GCMS: 8270C, 625	8080: Pesticides, PCBs, Pest/PCB	8141A OP Analytes & 8151A Chlorinated Herbicides	Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	
1	TRC-1-2	5/17		SOIL	MORENO RANCH	2 BRASS						X		X	X	X	X			X
2	TRC-2-1.5					2 BRASS						X		X	X	X	X			X
3	TRC-3-1.5					2 BRASS						X		X	X	X	X			X
4	TRC-4-1.5					2 BRASS						X		X	X	X	X			X
5	TRC-5-1.5					2 BRASS						X		X	X	X	X			X
6	TRC-6-1.5					2 BRASS						X		X	X	X	X			X
7	CORAY WELL			WATER		1 GLASS						X		X	X	X				X
8	SCOTT WELL					1 GLASS						X		X	X	X				X

Turn-Around Time

- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

*Requires PRIOR approval, additional charges apply

Requested due date: _____

Remarks/Special Instructions

5 DAY TURN AROUND

1) Relinquished by: (Sampler's Signature) — Date: 5/17/01 Time: 2:35

2) Received by: — Date: Time:

3) Relinquished by: — Date: Time:

4) Received by: — Date: Time:

5) Relinquished by: — Date: Time:

6) Received for Laboratory by: — Date: 5/17 Time: 2350

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:

Samples chilled? ☒ Yes ☐ No ☐ From Field

Custody seals? ☐ Yes ☒ No

All sample containers intact? ☒ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Sample Disposal

- ☐ Client will pick up
- ☐ Return to client
- ☒ Lab disposal

Laboratory Notes:

* NEED RESULTS NO LATER THAN 5/24/01
NEED REPORT SOON AFTER

Sample Locator No.

VOA/M

White Copy - Original (Accompanies Samples) Yellow Copy - Centrum Files Pink Copy - Centrum duplicate Gold Copy - Client Copy

Centrum Analytical Laboratories, Inc.
CERTIFIED HAZARDOUS WASTE TESTING MOBILE & IN HOUSE LABORATORIES

Client: TRC - Alton Geoscience
9700 Reseda Blvd., Ste. 103
Northridge, CA 91324

Date Sampled: 05/22/01
Date Received: 05/22/01
Job Number: 18546

Project: Moreno Ranch Property

CASE NARRATIVE

The following information applies to samples which were received on 05/22/01 :

The samples were received at the laboratory chilled and sample containers were intact.

The EPA 8081A, EPA 8141A, and EPA 8151A analyses were subcontracted to ELAP Lab #1230. The original report is attached to, but is not part of, this report.

Unless otherwise noted below, the Quality Control acceptance criteria were met for all samples for every analysis requested.

Report approved by:

FOR
Robert R. Clark, Ph.D.
Laboratory Director

ELAP # 2419

DL : Detection Limit -- The lowest level at which the compound can reliably be detected under normal laboratory conditions.
ND : Not Detected -- The compound was analyzed for but was not found to be present at or above the detection limit.
NA : Not Analyzed -- Per client request, this analyte was not on the list of compounds to be analyzed for.

Centrum
Analytical
Laboratories, Inc.

EPA 8260 - Volatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/22/01
Project:	Moreno Ranch Property	Date Received:	05/22/01
Job No.:	18546	Date Analyzed:	05/23/01
Matrix:	Water	Batch Number:	MS48260W2569
Analyst:	MBH		

	Sample ID:	Blank	FILAREE WELL
Compounds	**DL**	µg/L	µg/L
Acetone	50	ND	ND
tert-Amyl Methyl Ether (TAME)	5.0	ND	ND
Benzene	0.5	ND	ND
Bromobenzene	1.0	ND	ND
Bromochloromethane	1.0	ND	ND
Bromodichloromethane	0.5	ND	ND
Bromoform	0.5	ND	ND
Bromomethane	0.5	ND	ND
tert-Butanol (TBA)	10	ND	ND
2-Butanone (MEK)	10	ND	ND
n-Butylbenzene	0.5	ND	ND
sec-Butylbenzene	0.5	ND	ND
tert-Butylbenzene	0.5	ND	ND
Carbon disulfide	10	ND	ND
Carbon tetrachloride	0.5	ND	ND
Chlorobenzene	0.5	ND	ND
Chloroethane	0.5	ND	**4.0**
Chloroform	0.5	ND	ND
Chloromethane	0.5	ND	ND
2-Chlorotoluene	0.5	ND	ND
4-Chlorotoluene	0.5	ND	ND
Dibromochloromethane	0.5	ND	ND
1,2-Dibromoethane	0.5	ND	ND
1,2-Dibromo-3-chloropropane	10	ND	ND
Dibromomethane	0.5	ND	ND
1,2-Dichlorobenzene	0.5	ND	ND
1,3-Dichlorobenzene	0.5	ND	ND
1,4-Dichlorobenzene	0.5	ND	ND
Dichlorodifluoromethane	0.5	ND	ND
1,1-Dichloroethane	0.5	ND	**160**
1,2-Dichloroethane	0.5	ND	ND
1,1-Dichloroethene	0.5	ND	**6.6**
cis-1,2-Dichloroethene	0.5	ND	**7.7**
trans-1,2-Dichloroethene	0.5	ND	**0.9**
1,2-Dichloropropane	0.5	ND	ND
1,3-Dichloropropane	0.5	ND	ND
2,2-Dichloropropane	0.5	ND	ND
1,1-Dichloropropene	0.5	ND	ND

Centrum
Analytical
Laboratories, Inc.

EPA 8260 - Volatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/22/01
Project:	Moreno Ranch Property	Date Received:	05/22/01
Job No.:	18546	Date Analyzed:	05/23/01
Matrix:	Water	Batch Number:	MS48260W2569
Analyst:	MBH		

	Sample ID:	Blank	FILAREE WELL
Compounds	**DL**	µg/L	µg/L
cis-1,3-Dichloropropene	0.5	ND	ND
trans-1,3-Dichloropropene	0.5	ND	ND
Diisopropyl Ether (DIPE)	5.0	ND	ND
Ethylbenzene	0.5	ND	**11**
Ethyl tert-Butyl Ether (EtBE)	5.0	ND	ND
Hexachlorobutadiene	0.5	ND	ND
2-Hexanone	10	ND	ND
Isopropylbenzene	0.5	ND	ND
p-Isopropyltoluene	0.5	ND	ND
Methylene chloride	50	ND	ND
4-Methyl-2-pentanone	5.0	ND	ND
Methyl-tert-butyl ether (MtBE)	1.0	ND	ND
Napthalene	0.5	ND	ND
n-Propylbenzene	0.5	ND	ND
Styrene	0.5	ND	ND
1,1,1,2-Tetrachloroethane	0.5	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND
Tetrachloroethene	0.5	ND	**1.9**
Toluene	0.5	ND	**13**
1,2,3-Trichlorobenzene	0.5	ND	ND
1,2,4-Trichlorobenzene	0.5	ND	ND
1,1,1-Trichloroethane	0.5	ND	**3.0**
1,1,2-Trichloroethane	0.5	ND	**0.6**
Trichloroethene	0.5	ND	**14**
1,2,3-Trichloropropane	0.5	ND	ND
Trichlorofluoromethane	0.5	ND	ND
Trichlorotrifluoroethane	5.0	ND	ND
1,2,4-Trimethylbenzene	0.5	ND	**0.7**
1,3,5-Trimethylbenzene	0.5	ND	ND
Vinyl chloride	0.5	ND	**6.5**
Xylenes, m-,p-	1.0	ND	**16**
Xylene, o-	0.5	ND	**7.3**

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	Blank	FILAREE WELL
Dibromofluoromethane	102	102
Toluene-d8	93	97
Bromofluorobenzene	103	99

Centrum
Analytical
Laboratories, Inc.

QC Sample Report - EPA Method 8260

Matrix: Water
Batch #: MS48260W2569

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	20	**107**	59 - 172	**Pass**
Benzene	20	**107**	66 - 142	**Pass**
Trichloroethene	20	**105**	71 - 137	**Pass**
Toluene	20	**105**	59 - 139	**Pass**
Chlorobenzene	20	**117**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery µg/L	Spike Duplicate Recovery µg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	21.37	19.16	**11%**	22%	**Pass**
Benzene	21.39	18.38	**15%**	21%	**Pass**
Trichloroethene	20.98	19.57	**7%**	24%	**Pass**
Toluene	21.49	18.43	**15%**	21%	**Pass**
Chlorobenzene	23.47	19.74	**17%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
Analytical
Laboratories, Inc.

EPA 8270 Semivolatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/22/01
Project:	Moreno Ranch Property	Date Received:	05/22/01
Job No.:	18546	Date Extracted:	05/23/01
Matrix:	Water	Dates Analyzed:	05/23/01
Analyst:	TPW	Batch Number:	8270W0718

	Sample ID:	Blank	FILAREE WELL
Compound	DL	mg/L	mg/L
Acenaphthene	0.001	ND	ND
Acenaphthylene	0.001	ND	ND
Anthracene	0.001	ND	ND
Benzo[a]anthracene	0.002	ND	ND
Benzo[a]pyrene	0.002	ND	ND
Benzo[b]fluoranthene	0.001	ND	ND
Benzo[g,h,i]perylene	0.003	ND	ND
Benzo[k]fluoranthene	0.001	ND	ND
Benzyl alcohol	0.004	ND	ND
bis(2-Chloroethoxy)methane	0.002	ND	ND
bis(2-Chloroethyl)ether	0.002	ND	ND
bis(2-Chloroisopropyl)ether	0.003	ND	ND
bis(2-Ethylhexyl)phthalate	0.010	ND	ND
4-Bromophenylphenylether	0.001	ND	ND
Butylbenzylphthalate	0.001	ND	ND
4-Chloro-3-methylphenol	0.005	ND	ND
4-Chloroaniline	0.005	ND	ND
2-Chloronaphthalene	0.001	ND	ND
2-Chlorophenol	0.004	ND	ND
4-Chlorophenylphenylether	0.001	ND	ND
Chrysene	0.001	ND	ND
Di-n-butylphthalate	0.010	ND	ND
Di-n-octylphthalate	0.001	ND	ND
Dibenzo[a,h]anthracene	0.003	ND	ND
Dibenzofuran	0.001	ND	ND
1,2-Dichlorobenzene	0.001	ND	ND
1,3-Dichlorobenzene	0.001	ND	ND
1,4-Dichlorobenzene	0.001	ND	ND
3,3-Dichlorobenzidine	0.004	ND	ND
2,4-Dichlorophenol	0.005	ND	ND
Diethylphthalate	0.010	ND	ND
2,4-Dimethylphenol	0.003	ND	ND
Dimethylphthalate	0.001	ND	ND
4,6-Dinitro-2-methylphenol	0.010	ND	ND
2,4-Dinitrophenol	0.050	ND	ND
2,4-Dinitrotoluene	0.001	ND	ND

Centrum
Analytical
Laboratories, Inc.

EPA 8270 Semivolatile Organics

Client:	TRC - Alton Geoscience	Date Sampled:	05/22/01
Project:	Moreno Ranch Property	Date Received:	05/22/01
Job No.:	18546	Date Extracted:	05/23/01
Matrix:	Water	Dates Analyzed:	05/23/01
Analyst:	TPW	Batch Number:	8270W0718

	Sample ID:	Blank	FILAREE WELL
Compound	DL	mg/L	mg/L
2,6-Dinitrotoluene	0.003	ND	ND
Fluoranthene	0.001	ND	ND
Fluorene	0.001	ND	ND
Hexachlorobenzene	0.001	ND	ND
Hexachlorobutadiene	0.001	ND	ND
Hexachlorocyclopentadiene	0.050	ND	ND
Hexachloroethane	0.001	ND	ND
Indeno[1,2,3-cd]pyrene	0.004	ND	ND
Isophorone	0.001	ND	ND
2-Methylnaphthalene	0.001	ND	ND
2-Methylphenol	0.005	ND	ND
4-Methylphenol	0.005	ND	ND
N-Nitroso-di-n-propylamine	0.001	ND	ND
N-Nitrosodiphenylamine	0.001	ND	ND
Naphthalene	0.001	ND	ND
2-Nitroaniline	0.003	ND	ND
3-Nitroaniline	0.003	ND	ND
4-Nitroaniline	0.010	ND	ND
Nitrobenzene	0.003	ND	ND
2-Nitrophenol	0.004	ND	ND
4-Nitrophenol	0.010	ND	ND
Pentachlorophenol	0.050	ND	ND
Phenanthrene	0.002	ND	ND
Phenol	0.004	ND	ND
Pyrene	0.001	ND	ND
1,2,4-Trichlorobenzene	0.001	ND	ND
2,4,5-Trichlorophenol	0.006	ND	ND
2,4,6-Trichlorophenol	0.010	ND	ND

Surrogates (Limits) in Percent Recovery

Sample ID:	Blank	FILAREE WELL
2-Fluorophenol (21 - 100%)	54	56
Phenol-D5 (10 - 94%)	33	35
Nitrobenzene-D5 (35 - 114%)	59	55
2-Fluorobiphenyl (43 - 116%)	74	68
2,4,6-Tribromophenol (10 - 123%)	103	101
p-Terphenyl-D14 (33 - 141%)	76	72

Centrum
Analytical
Laboratories, Inc.

QC Sample Report - EPA 8270

Batch #: 8270W0718 Matrix: Water

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analytical Notes:

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Phenol	80	**24**	5 - 112	**Pass**
2-Chlorophenol	80	**62**	23 - 134	**Pass**
1,4-Dichlorobenzene	40	**58**	20 - 124	**Pass**
N-Nitrosodi-n-propylamine	40	**50**	0 - 230	**Pass**
1,2,4-Trichlorobenzene	40	**57**	44 - 142	**Pass**
4-Chloro-3-Methylphenol	80	**71**	22 - 147	**Pass**
Acenaphthene	40	**74**	47 - 145	**Pass**
4-Nitrophenol	80	**32**	0 - 132	**Pass**
2,4-Dinitrotoluene	40	**97**	39 - 139	**Pass**
Pentachlorophenol	80	**80**	14 - 176	**Pass**
Pyrene	40	**67**	52 - 115	**Pass**

Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Analytical Notes:

Analyte	Spike Sample Recovery µg/L	Spike Duplicate Recovery µg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Phenol	19.2	24.8	**26%**	35%	**Pass**
2-Chlorophenol	49.8	62.6	**23%**	50%	**Pass**
1,4-Dichlorobenzene	23.4	29.7	**24%**	27%	**Pass**
N-Nitrosodi-n-propylamine	19.9	21.4	**7%**	38%	**Pass**
1,2,4-Trichlorobenzene	22.6	26.6	**16%**	28%	**Pass**
4-Chloro-3-Methylphenol	56.6	61.0	**8%**	33%	**Pass**
Acenaphthene	29.6	31.5	**6%**	23%	**Pass**
4-Nitrophenol	25.9	27.4	**5%**	50%	**Pass**
2,4-Dinitrotoluene	38.9	39.8	**2%**	47%	**Pass**
Pentachlorophenol	64.2	64.8	**1%**	47%	**Pass**
Pyrene	26.9	26.4	**2%**	36%	**Pass**

Calscience
Environmental
Laboratories, Inc.

May 25, 2001

Marilu Escher
Centrum Analytical Laboratories, Inc.
1401 Research Park Drive
Suite 100
Riverside, CA 92507-2111

Subject: **Calscience Work Order No.:** **01-05-1040**
Client Reference: **Moreno Ranch Property/18546**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/23/01 and analyzed in accordance with the attached chain-of-custody.

The results in this analytical report are limited to the samples tested and any reproduction of this report must be made in its entirety.

If you have any questions regarding this report, require sampling supplies or field services, or information on our analytical services, please feel free to call me at (714) 895-5494.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Stephen Nowak
Project Manager

William H. Christensen
Quality Assurance Manager

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.
1401 Research Park Drive
Suite 100
Riverside, CA 92507-2111

Date Received: 05/23/01
Work Order No: 01-05-1040
Preparation: EPA 3510B
Method: EPA 8081A

Project: Moreno Ranch Property/18546

Client Sample Number:	Lab Sample Number:	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	QC Batch ID:
FillareeWell	01-05-1040-1	05/22/01	Aqueous	05/23/01	05/23/01	0105237

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Alpha-BHC	ND	0.10	1		ug/L	Endrin	ND	0.10	1		ug/L
Gamma-BHC	ND	0.10	1		ug/L	Endrin Aldehyde	ND	0.10	1		ug/L
Beta-BHC	ND	0.10	1		ug/L	4,4'-DDD	ND	0.10	1		ug/L
Heptachlor	ND	0.10	1		ug/L	Endosulfan II	ND	0.10	1		ug/L
Delta-BHC	ND	0.10	1		ug/L	4,4'-DDT	ND	0.10	1		ug/L
Aldrin	ND	0.10	1		ug/L	Endosulfan Sulfate	ND	0.10	1		ug/L
Heptachlor Epoxide	ND	0.10	1		ug/L	Methoxychlor	ND	0.10	1		ug/L
Endosulfan I	ND	0.10	1		ug/L	Chlordane	ND	1.0	1		ug/L
Dieldrin	ND	0.10	1		ug/L	Toxaphene	ND	2.0	1		ug/L
4,4'-DDE	ND	0.10	1		ug/L	Endrin Ketone	ND	0.10	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	113	50-135		2,4,5,6-Tetrachloro-m-Xylene	92	50-135	

Method Blank	095-01-015-937	N/A	Aqueous	05/23/01	05/23/01	0105237

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Alpha-BHC	ND	0.10	1		ug/L	Endrin	ND	0.10	1		ug/L
Gamma-BHC	ND	0.10	1		ug/L	Endrin Aldehyde	ND	0.10	1		ug/L
Beta-BHC	ND	0.10	1		ug/L	4,4'-DDD	ND	0.10	1		ug/L
Heptachlor	ND	0.10	1		ug/L	Endosulfan II	ND	0.10	1		ug/L
Delta-BHC	ND	0.10	1		ug/L	4,4'-DDT	ND	0.10	1		ug/L
Aldrin	ND	0.10	1		ug/L	Endosulfan Sulfate	ND	0.10	1		ug/L
Heptachlor Epoxide	ND	0.10	1		ug/L	Methoxychlor	ND	0.10	1		ug/L
Endosulfan I	ND	0.10	1		ug/L	Chlordane	ND	1.0	1		ug/L
Dieldrin	ND	0.10	1		ug/L	Toxaphene	ND	2.0	1		ug/L
4,4'-DDE	ND	0.10	1		ug/L	Endrin Ketone	ND	0.10	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	108	50-135		2,4,5,6-Tetrachloro-m-Xylene	74	50-135	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.
1401 Research Park Drive
Suite 100
Riverside, CA 92507-2111

Date Received: 05/23/01
Work Order No: 01-05-1040
Preparation: EPA 8151
Method: EPA 8151A

Project: Moreno Ranch Property/18546

Client Sample Number:	Lab Sample Number:	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	QC Batch ID:
FilareeWell	01-05-1040-1	05/22/01	Aqueous	05/23/01	05/24/01	0105235

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	13	1		ug/L	2,4-D	ND	5.0	1		ug/L
Dicamba	ND	0.50	1		ug/L	2,4,5-TP (Silvex)	ND	0.50	1		ug/L
MCPP	ND	500	1		ug/L	2,4,5-T	ND	0.50	1		ug/L
MCPA	ND	500	1		ug/L	2,4-DB	ND	5.0	1		ug/L
Dichlorprop	ND	5.0	1		ug/L	Dinoseb	ND	2.5	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	101	0-123	

Method Blank	095-01-034-79	N/A	Aqueous	05/23/01	05/24/01	0105235

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Dalapon	ND	13	1		ug/L	2,4-D	ND	5.0	1		ug/L
Dicamba	ND	0.50	1		ug/L	2,4,5-TP (Silvex)	ND	0.50	1		ug/L
MCPP	ND	500	1		ug/L	2,4,5-T	ND	0.50	1		ug/L
MCPA	ND	500	1		ug/L	2,4-DB	ND	5.0	1		ug/L
Dichlorprop	ND	5.0	1		ug/L	Dinoseb	ND	2.5	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	117	0-123	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	05/22/01
1401 Research Park Drive, Suite 100	Date Received:	05/23/01
Riverside, CA 92507-2111	Date Extracted:	05/23/01
	Date Analyzed:	05/23/01
	Work Order No.:	01-05-1040
Attn: Marilu Escher	Method:	EPA 8141A
RE: Moreno Ranch Property/18546	Page 1 of 2	

All concentrations are reported in mg/L (ppm).

Sample Number: Filaree Well

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.01
Mevinphos	ND	0.01
Ethoprop	ND	0.01
Phorate+Naled	ND	0.04
Demeton-O	ND	0.01
Demeton-S	ND	0.01
Diazinon	ND	0.01
Methyl Parathion	ND	0.01
Ronnel	ND	0.01
Fenthion	ND	0.01
Trichloronate	ND	0.01
Merphos	ND	0.01
Stirophos	ND	0.01
Tokuthion	ND	0.01
Bolstar	ND	0.01
Fensulfothion	ND	0.01
Azinphos Methyl	ND	0.01
Coumaphos	ND	0.01
Chlorpyrifos	ND	0.01

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Centrum Analytical Laboratories, Inc.	Date Sampled:	NA
1401 Research Park Drive, Suite 100	Date Received:	NA
Riverside, CA 92507-2111	Date Extracted:	05/23/01
	Date Analyzed:	05/23/01
	Work Order No.:	01-05-1040
Attn: Marilu Escher	Method:	EPA 8141A
RE: Moreno Ranch Property/18546	Page 2 of 2	

All concentrations are reported in mg/L (ppm).

Sample Number: Method Blank

Analyte	Concentration	Reporting Limit
Dichlorvos	ND	0.01
Mevinphos	ND	0.01
Ethoprop	ND	0.01
Phorate+Naled	ND	0.04
Demeton-O	ND	0.01
Demeton-S	ND	0.01
Diazinon	ND	0.01
Methyl Parathion	ND	0.01
Ronnel	ND	0.01
Fenthion	ND	0.01
Trichloronate	ND	0.01
Merphos	ND	0.01
Stirophos	ND	0.01
Tokuthion	ND	0.01
Bolstar	ND	0.01
Fensulfothion	ND	0.01
Azinphos Methyl	ND	0.01
Coumaphos	ND	0.01
Chlorpyrifos	ND	0.01

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL intact and with chain-of-custody attached.

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Centrum Analytical Laboratories, Inc.	Date Received: 05/23/01
1401 Research Park Drive	Work Order No: 01-05-1040
Suite 100	Preparation: EPA 3510B
Riverside, CA 92507-2111	Method: EPA 8081A
Project: Moreno Ranch Property/18546	

LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-015-937	Aqueous	GC 16	05/23/01	05/23/01	0105237

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gamma-BHC	95	95	50-135	0	0-25	
Heptachlor	97	98	50-135	2	0-25	
Endosulfan I	87	87	50-135	0	0-25	
Dieldrin	93	94	50-135	1	0-25	
Endrin	93	93	50-135	0	0-25	
4,4'-DDT	95	97	50-135	2	0-25	

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Centrum Analytical Laboratories, Inc.		Date Received:	05/23/01
1401 Research Park Drive		Work Order No:	01-05-1040
Suite 100		Preparation:	EPA 8151
Riverside, CA 92507-2111		Method:	EPA 8151A
Project:	Moreno Ranch Property/18546		

LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-034-79	Aqueous	GC 7	05/23/01	05/24/01	0105235

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
2,4-D	102	103	30-130	1	0-30	
2,4,5-T	100	94	30-130	7	0-30	
2,4-DB	116	115	30-130	2	0-30	

Calscience Environmental Laboratories, Inc.

QUALITY ASSURANCE SUMMARY

Method EPA 8141

Centrum Analytical Laboratories, Inc. | Work Order No.: 01-05-1040
Page 1 of 1 | Date Analyzed: 5/23/01

LCS/LCS Duplicate

Analyte	LCS%REC	LCSD%REC	Control Limits	%RPD	Control Limits
Ethoprop	65	78	30 - 130	18	0 - 30
Phorate	58	68	30 - 130	16	0 - 30
Ronnel	65	78	30 - 130	18	0 - 30
Trichloronate	65	75	30 - 130	14	0 - 30
Tokuthion	60	70	30 - 130	15	0 - 30
Fensulfothion	65	82	30 - 130	22	0 - 30

Surrogate Recoveries (in %)

Sample Number	S1
Filaree Well	113
Method Blank	68

Surrogate Compound	%REC Acceptable Limits
S1 > 1,3-Dimethyl-2-Nitrobenzene	30 - 130

Calscience Environmental Laboratories, Inc.

GLOSSARY OF TERMS AND QUALIFIERS

Work Order Number: 01-05-1040

Qualifier	Definition
ND	Not detected at indicated reporting limit.

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

Centrum Analytical Laboratories, Inc.
1401 Research Park Drive, Suite 100
Riverside, CA 92507
Voice: 909.779.0310 • 800.798.9336
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3299 Hill Street, Suite 305
Signal Hill, CA 90806
Voice: 562.498.7005
Fax: 562.498.8617

www.centrum-labs.com lab@centrum-labs.com

Chain of Custody Record RUSH!

Centrum Job # 18546

Page 1 of 1

Project No: 25-0917-01

Project Name: MORENO RANCH PROPERTY

Project Manager: TODD STANFORD

Phone: 818-772-0965 EXT 104

Fax: 818772-1926

Client Name: (Report and Billing) TRC

Address: (Report and Billing) 9700 RESEDA BLVD STE 103 NORTHRIDGE, CA 91324

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	8015M: Gas only	8021B: BTEX/MtBE Only	418.1 (TRPH), 413.2, 1664	GC or GCMS Volatiles by 5035*	GCMS: (8260B), 8021B, 624, 524.2	GCMS: MtBE Conf. Only, BTEX/Oxygenates Only	GCMS: (8270C), 625	8080: (Pesticides), PCBs, Pest/PCB	8141A ORGANOPHOSPHOROUS PEST	Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	8151A CHLORINATED HERBICIDES	Remarks/Special Instructions
1	FILAREE WELL	5/22	9:01	WATER	MORENO RANCH	7 GLASS						X		X	X	X				X	NEED RESULTS BY 5/24/01.

Turn-Around Time
- ☐ 24 Hr. RUSH*
- ☒ 48 Hr. RUSH*
- ☐ Normal TAT

*Requires PRIOR approval, additional charges apply

Requested due date: ______

	Date	Time		Date	Time
1) Relinquished by: (Sampler's Signature) [signature]	5/22/01	3:01	3) Relinquished by:		
2) Received by: [signature]			4) Received by:		
			5) Relinquished by:		
			6) Received for Laboratory by: [signature]	5/22	301p

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
- Samples chilled? ☒ Yes ☐ No ☐ From Field
- Custody seals? ☐ Yes ☒ No
- All sample containers intact? ☒ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☒ Lab disposal

Laboratory Notes:

Sample Locator No. VOA/N

White Copy - Original (Accompanies Samples) Yellow Copy - Centrum Files Pink Copy - Centrum duplicate Gold Copy - Client Copy