PRELIMINARY SITE ASSESSMENT

AND

WORK PLAN FOR INSTALLATION OF MONITORING WELL

TRACY PUMPING STATION AND SUBSTATION

MOUNTAIN HOUSE AND KELSO ROADS

ALAMEDA COUNTY, CA

PREPARED FOR:

Mr. Herb Ng
U.S. Bureau of Reclamation
Rural Route 1, Box 35
Byron, CA 94514-9614

PREPARED BY:

COTTLE ENGINEERING
P.O. Box 7
Antioch, CA 94509

APRIL 1994

COTTLE ENGINEERING
P.O. Box 7
Antioch, CA 94509

Mr. Herb Ng
Rural Route 1, Box 35
Byron, CA 94514-9614

April 28, 1994

RE: PRELIMINARY SITE ASSESSMENT AND WORK PLAN FOR INSTALLATION OF MONITORING WELL: TRACY PUMPING STATION AND SUBSTATION
MOUNTAIN HOUSE AND KELSO ROADS
TRACY, CA

Dear Mr. Ng:

The enclosed report, Preliminary Site Assessment and Work Plan for Installation of Monitoring Well, was prepared subsequent to the February 8, 1994 underground storage tank (UST) removals near the Tracy Pumping Station vehicle maintenance garage.

The scope of our work included research and review of prior environmental investigations pertaining to the site; consultation with county, state, and federal agencies; site reconnaissance visits; interviews with USBR employees; and preparation of this report.

This report summarizes the environmental and hydrogeologic settings, and the background of the site, including previous environmental investigations, subsurface sampling methods, analytical results of soil and groundwater samples, recent UST removal activity, and detected soil contamination subsequent to the tank removals.

This report also includes a work plan for installation of one groundwater monitoring well near the vehicle maintenance garage, and excavation of petroleum-hydrocarbon contaminated soil.

We recommend that a copy of this report be submitted to the following agencies:

- Alameda County Health Agency
  Department of Environmental Health
  80 Swan Way, Room 200
  Oakland, CA 94621
  Attn: Ms. Eva Chu

- California Regional Water Quality Control Board
  3443 Routier Road
  Sacramento, CA 95827

Should you have any questions regarding this project or need additional information, please contact us at (510) 754-8428. Cottle Engineering is pleased to be of service to you on this project.

Sincerely,

Cottle Engineering

Jack Forsythe
Associate Geologist

David E. Cottle, Jr.

David Cottle
Principal

Reviewed by:

HOEXTER CONSULTING, INC.

David F. Hoexter, CEG/REA
Principal

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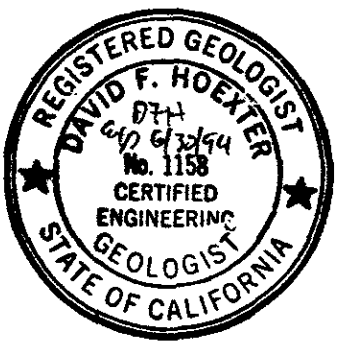

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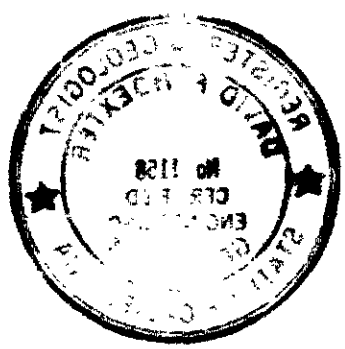

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I. INTRODUCTION

The Tracy Pumping Station and Substation facility operates an electrical substation and large pumping plant that delivers water southward for the Delta-Mendota Canal. The site is located in northeastern Alameda County. The facility is managed by the federal government; the United States Bureau of Reclamation (USBR) has primary responsibility for the pumping plant operations, and the United States Department of Energy, Western Area Power Administration (WAPA), has primary responsibility for the electrical substation operations.

A vehicle maintenance garage, operated by USBR, is located inside the western boundary of the facility's approximately 3.2-acre maintenance yard. On February 8, 1994, Cottle Engineering removed two underground storage tanks (UST) from areas adjacent to the vehicle maintenance garage; excavated soils were stockpiled separately, and the excavation pits were left open. A regular-gasoline tank and a waste oil tank were removed; an unleaded-gasoline tank and a diesel tank remain at the garage. Soil samples were collected after the tanks were removed, and samples associated with the gasoline tank contained elevated concentrations (up to 130 mg/kg) of Total Petroleum Hydrocarbons (TPH) as gasoline (TPHg). USBR and Alameda County personnel are concerned about the possibility of groundwater contamination.

The purpose of this workplan is to describe background information related to the recent storage tank removals, and to provide information for a proposed monitoring well installation.

I. A. Objective and Scope of Proposed Work

Currently, USBR plans include excavation and aeration of contaminated soil from the existing pit where the gasoline tank was located, and installation of a shallow monitoring well down-gradient from the location of the gasoline tank, to determine if groundwater has been affected. Soil that was excavated and stockpiled in order to remove the regular-gasoline tank will also be aerated. A monitoring well currently exists at the eastern end of the waste oil tank excavation pit; soil around the well casing was excavated prior to removal of the tank.

It is anticipated by Cottle Engineering that approximately 75 cubic yards of contaminated soil will be excavated and spread for aeration. Soil samples will be collected, from the floor and walls of the excavated pit after soil is removed, and during drilling of the monitoring well soil boring. Groundwater samples will be collected after the monitoring well is installed and developed. Soil and groundwater samples will be submitted to a State-certified analytical laboratory, and analyzed for detection of purgeable hydrocarbons and purgeable aromatic compounds.

Installation and sampling of one groundwater monitoring well is planned, in order to identify possible groundwater contamination, assist in making hydrogeologic interpretations, assist in determining the extent of soil contamination, and to aid in the development of a remediation plan, if necessary.

General guidance and/or clarification in this matter will be provided by Alameda County Health Care Services Agency, Department of Environmental Health, local oversight program.

I. B. Site Location

The Tracy Pumping Station and Substation is located in the northeastern corner of Alameda County, approximately 10 miles northwest of Tracy and five miles southeast of Byron. The eastern and southern boundaries of the site are defined by Mountain House and Kelso Roads, respectively. The location of the site is shown in Figure 1, Site Location Map.

I. C. Background

The site occupies approximately 64 acres; most of the land is undeveloped. Major features at the site include: a large pumping plant that delivers water southward for the Delta-Mendota Canal; an associated intake canal; an electrical substation; a maintenance yard; and approximately 50 acres of land comprised of open grassy fields, agricultural land, and the pumping station intake canal (references 1 and 2). The pumping plant, substation, and maintenance yard are located near the southern boundary of the site. A site map is presented in Figure 2, Facility Map.

Two USTs were removed from areas adjacent to the garage during February, 1994, by Cottle Engineering. A 1000-gallon waste oil tank was removed from its location approximately five feet south of the building; a 2000-gallon gasoline tank was removed from its location near the northwest corner of the garage, approximately six feet north of the building. Excavated soils were stockpiled separately, and the excavation pits were left open. Soil samples associated with the regular-gasoline tank indicated that soil contamination had occurred; analytical results of a sample collected beneath the location of the tank indicated detection of total petroleum hydrocarbons (TPH) as gasoline (TPHg) at 130 mg/kg. Relatively minor contaminant concentrations were detected in soil samples associated with the waste oil tank.

I. D. Site History

The USBR began operations at the site in 1948; prior to that time, the land was used for agricultural purposes. The entire site was

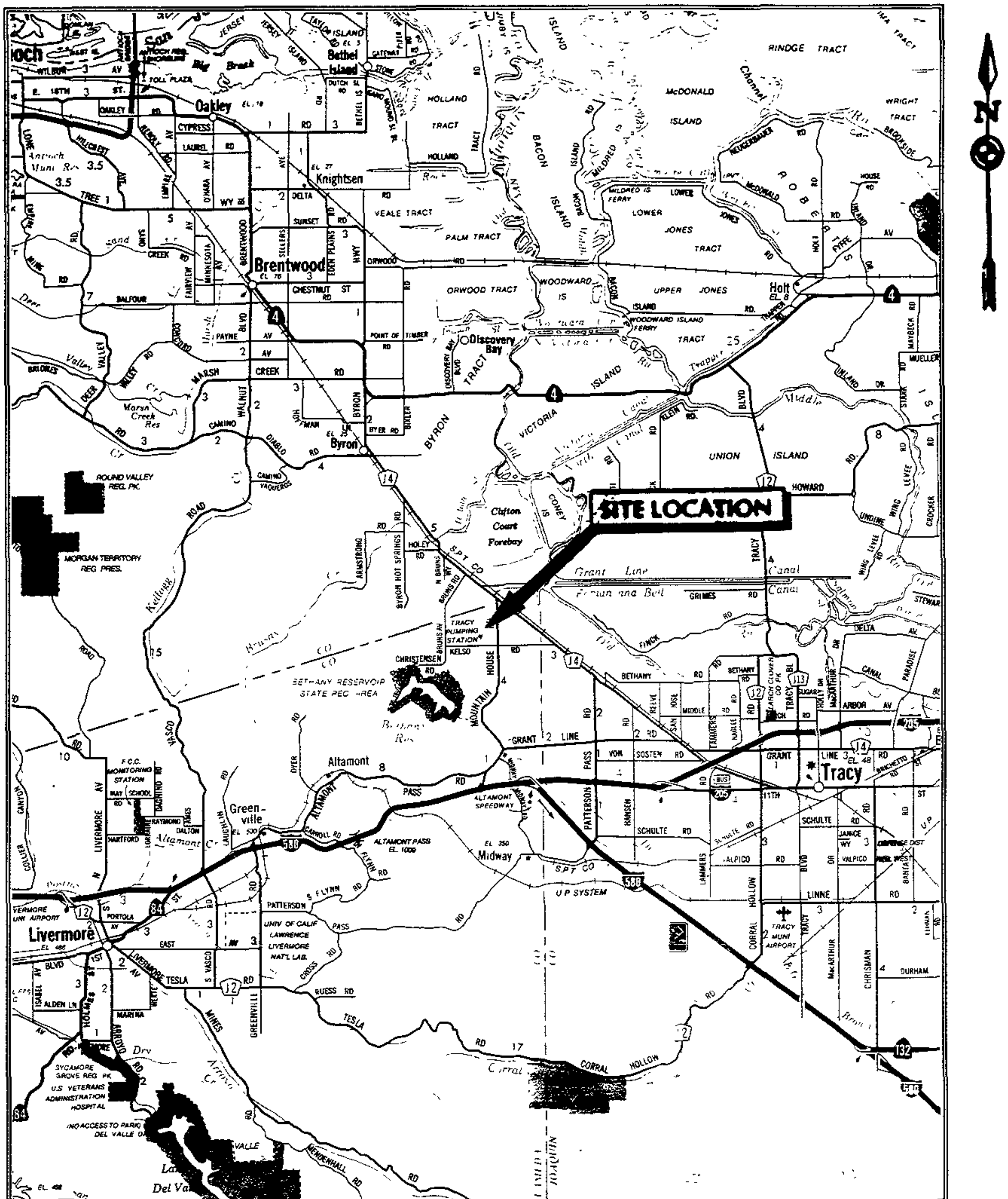

FIGURE 1: SITE LOCATION MAP	APRIL, 1994
TRACY PUMPING STATION & SUBSTATION Mtn. House & Kelso Rds., Tracy, CA	SCALE: 1 inch = approximately 4 miles

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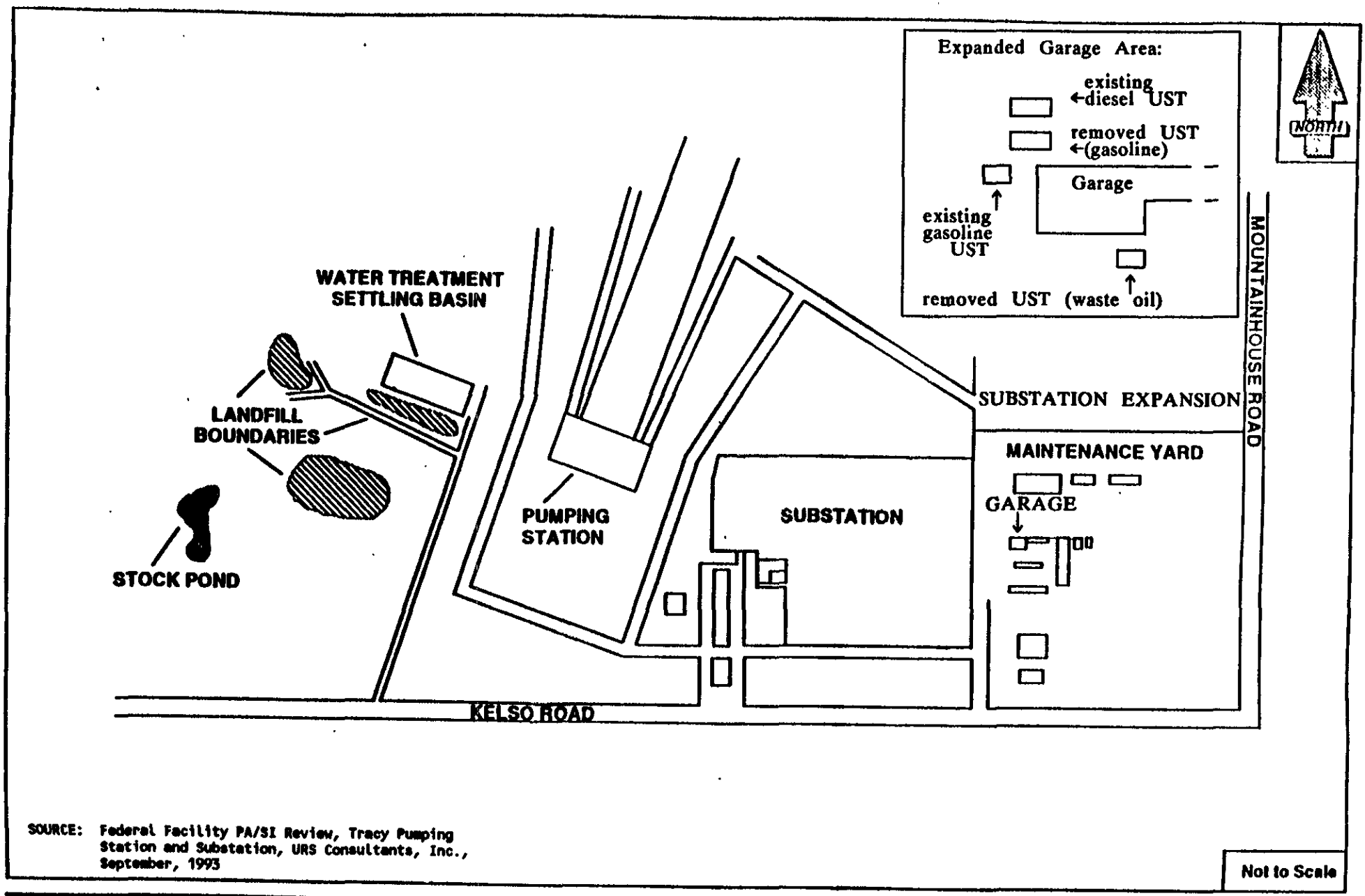

SOURCE: Federal Facility PA/SI Review, Tracy Pumping Station and Substation, URS Consultants, Inc., September, 1993

Not to Scale

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FACILITY MAP

TRACY PUMPING STATION AND SUBSTATION
Mtn. House & Kelso Roads, Tracy, CA

FIGURE
2

operated by USBR until the substation facility was acquired by WAPA in 1978. Substation expansion recently occurred, into the northern half of the maintenance yard and areas north of the substation and maintenance yard, after USBR transferred jurisdiction of those areas to WAPA (1,2). The maintenance yard formerly comprised approximately six acres; currently, the maintenance yard comprises approximately 3.2 acres (1).

I. D. 1. Business and Associated Activities

Past and present activities conducted in the maintenance yard area include, but are not limited to, the following: vehicle maintenance, repair, cleaning, and fueling; transformer storage and repair; mixing and application of pesticide/herbicide components; warehousing and materials storage; maintenance, repair, and storage of electrical substation equipment; storage of fencing materials; pesticide truck washing; and miscellaneous painting activities. Formerly, the area also was used for treatment and storage of wooden utility poles (1,2).

Outside the maintenance yard area, past and present activities conducted at the site include, but are not limited to: pumping plant and substation operations; canal maintenance, including dredging and disposal of tailings on agricultural land; and landfill disposal (1,2).

Three abandoned, fill-covered landfills, comprising approximately four acres, are located near the western side of the pumping station. The landfills primarily were used for disposal of canal dredgings, concrete debris, and office trash. Disposal activities apparently occurred from the early 1950's through the mid-1970's (3). Three groundwater monitoring wells are located within the landfill parcels; these wells are sampled biannually.

I. D. 2.a. Number and Uses of Underground Tanks

The vehicle maintenance garage currently utilizes two, 2000-gallon underground storage tanks; the respective tanks contain diesel fuel and unleaded gasoline. Construction materials of the tanks, and the dates of installation, are unknown. Currently, there are no plans to remove these tanks.

I. D. 2.b. Tank Removals

On February 8, 1994, two single-walled USTs were removed from areas adjacent to the garage: a fiberglass, 1000-gallon waste oil tank; and a steel, 2000-gallon, regular-gasoline tank were removed.

Through-going holes were not observed in either of the tanks or product lines. Hazardous Materials Specialist Eva Chu of the Alameda County Health Care Services Agency, Department of Environmental Health, observed the tank removals and supervised the collection of soil samples.

I. D. 2.c. Description of Waste Removal

Copies of the Hazardous Waste Manifest and Certificate of Disposal for each tank are included in Appendix I.

I. D. 2.d. Filing Status of Unauthorized Release Form

To our knowledge, an Unauthorized Release Form has not been filed.

I. D. 2.e. Previous Tank Testing

According to USBR personnel, tank testing records for the two removed tanks do not exist. The two remaining tanks are tested annually; records for the previous two years indicate that leaks have not occurred from these tanks (4).

I. D. 2.f. Estimate of Quantity of Product Lost

The total quantity of product lost is unknown. Because holes were not detected in the tanks or product lines, presumably contamination of the soil beneath the gasoline tank initially occurred as surface spillage, possibly due to over-filling of the tank. or at piping

I. D. 3. Other Spill, Leak, or Accident History

In addition to UST operations, other activities utilizing potentially hazardous materials were conducted at the site. These activities were conducted in the northern portion of the maintenance yard area before substation expansion occurred, and in the area immediately north of the maintenance yard. The following activities may have occurred: solvent dispensing and application; surface and subsurface disposal of solvents and waste oil; pesticide mixing; pesticide truck washing; utility pole treatment and storage; miscellaneous painting operations; and cable and transformer storage (1,2).

Neither the California Regional Water Quality Control Board, nor the California Environmental Protection Agency, Department of Toxic Substances, have file records pertaining to the facility, according to personnel at each of these agencies (5,6).

I. D. 4. Previous Subsurface Work at the Site

Each of the following investigations occurred prior to the recent expansion of the substation into the northern maintenance yard area.

The first known environmental work at the site occurred in January, 1990, when USBR personnel collected water samples from a yellow-colored pool of ponded rainwater located near a pesticide mixing and truck washing area in the northern portion of the maintenance yard. The samples were analyzed by Anlab Analytical Laboratory in Sacramento, California. Analytical results indicated detection of up to 16 mg/L 2-(1-methylpropyl)-4,6-dinitrophenol and 17 mg/L 5-bromo-6-methyl-3-(1-methylpropyl)-2,4(1H,3H)-pyrimidinedione (2).

The second sampling event occurred when Weston, Inc., conducted a Preliminary Site Investigation for the Department of Energy during February, 1990; nine shallow soil borings were drilled, and soil and groundwater samples were collected from the borings. Five borings were located in the northern portion of the maintenance yard; two were located several hundred feet north of that area; one boring was located near the western boundary of the maintenance yard; the remaining boring was located in the southeast corner of the site (2).

Analytical results of metals in groundwater indicated up to 3.19 mg/L chromium, 6.77 mg/L antimony, 10.7 mg/L zinc, 0.006 mg/L nickel, 0.131 mg/L beryllium, 0.0183 mg/L arsenic, 0.0032 mg/L mercury, 0.273 mg/L lead, and 3.69 mg/L copper. Analytical results of organic constituents in groundwater indicated up to 36 ug/L 1,1,1-trichloroethane and 15 ug/L 1,1-dichloroethane (2).

Soil samples contained the same metal constituents found in groundwater samples, however, most values were below health-based thresholds with the exception of arsenic and beryllium, which were detected at concentrations of 12.9 mg/kg and 1.6 mg/kg, respectively. Bis (2-ethylhexyl) phthalate also was detected, at 630 mg/kg (2). Additional contaminants were detected at the following maximum concentrations: 420 mg/kg toluene; 14 mg/kg xylene; and less than 10 mg/kg methylene chloride (1).

The third sampling event, conducted by Chen-Northern, Inc., occurred during August and September, 1990. The investigation was requested by WAPA prior to substation expansion into the northern area of the maintenance yard. Soil samples were collected from backhoe trenches and pits, shallow hand-dug holes, and soil borings during installation of six monitoring wells. Groundwater samples were collected from the six monitoring wells (1). Four of these monitoring wells (MW-1, MW-2, MW-3, and MW-4) were destroyed in October, 1992, by permit from Zone 7, Alameda County Flood Control and Water Conservation District (7).

Soil sample analytical results indicated the following maximum detected contaminant concentrations: 10,220 mg/kg TRPH; 0.03 mg/kg toluene; 24 mg/kg total xylenes; and 630 mg/kg phthalates (1).

Groundwater sample analytical results indicated detection of several chlorinated solvents, at less than 3 ug/L. Concentrations did not exceed federal Maximum Contaminant Levels for public drinking water supplies (1).

Figure 3, Sampling Locations of Previous Investigations, depicts approximate locations where samples were collected during the Weston and Chen-Northern investigations.

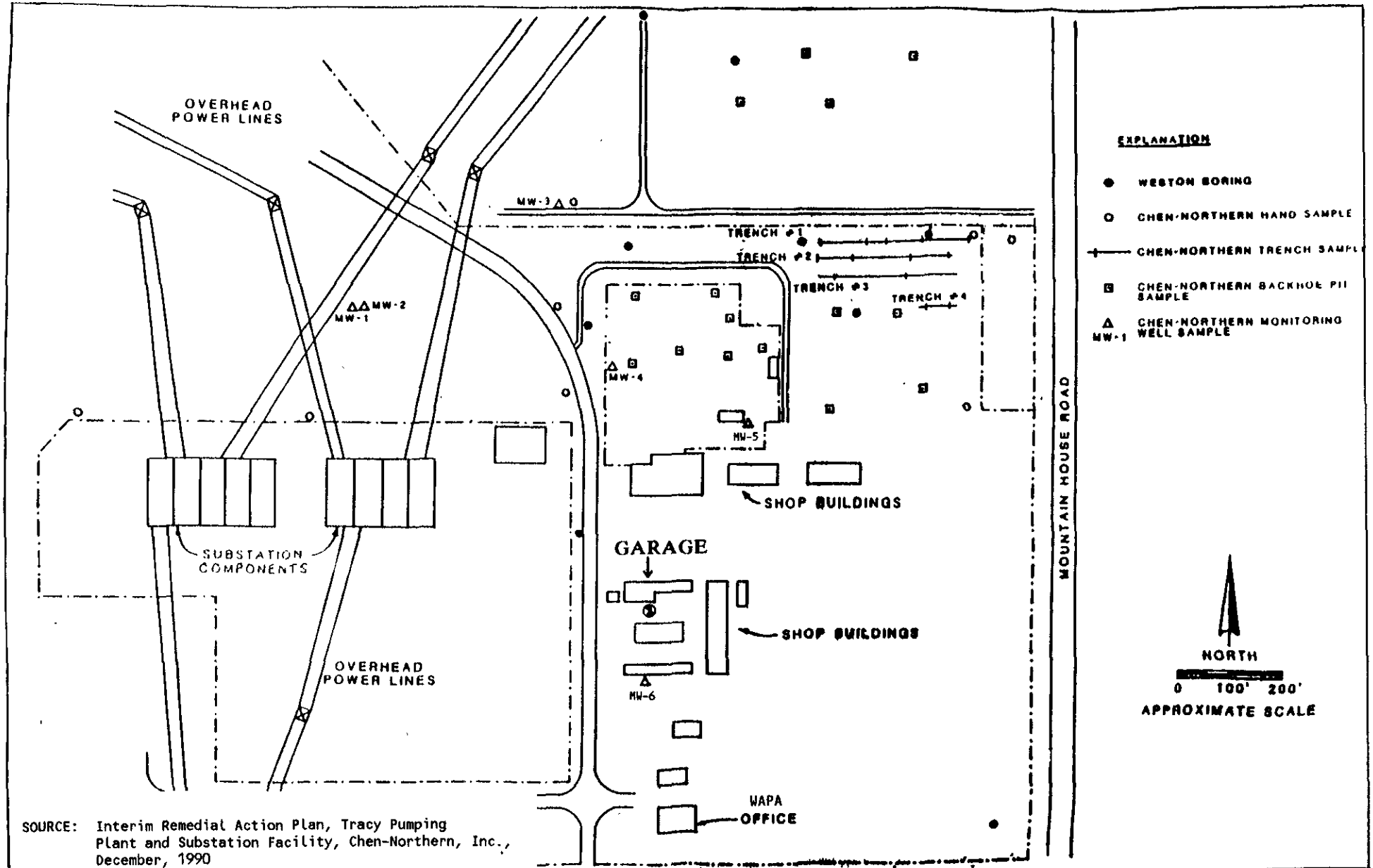
The fourth sampling event was conducted at the landfill portion of the facility by CH2M Hill, Inc., during June, 1991, as part of a Preliminary Endangerment Assessment (PEA) for USBR. The investigation was conducted to identify chemical constituents that potentially could endanger human health and the environment, and to identify potential migration pathways of contaminants (3).

A total of thirty soil samples were collected, comprised of landfill and landfill-perimeter surface soil samples, and subsurface samples from three soil borings located within the landfill parcels. The soil borings were completed as monitoring wells, and groundwater samples were collected from the wells (2,3).

Soil sample analytical results indicated the following maximum detected concentrations of metals/inorganics and organic compounds. Metals/inorganics: 12.4 mg/kg arsenic; 1.2 mg/kg cadmium; 42.4 mg/kg chromium; 59 mg/kg lead; 364 mg/kg nickel; and 114 mg/kg zinc. Organic compounds: 1500 ug/kg benzo(a)anthracene; 650 ug/kg benzo(a)pyrene; 9100 ug/kg benzo(b)fluoranthene; 5100 ug/kg benzo(k)fluoranthene; 1600 ug/kg chrysene; 2400 ug/kg fluoranthene; 1100 ug/kg phenanthrene; and 2400 ug/kg pyrene. Additionally, low concentrations of VOCs, semivolatile compounds, other PNAs, and other metals were detected in surface and subsurface soil samples (2,3).

Analytical results of groundwater samples indicated low levels of PNAs, VOCs, phenol, and dissolved metals. With the exception of manganese, detected concentrations were below California Maximum Contamination Levels (MCLs) for those contaminants for which MCLs have been established. Manganese was detected at 439 ug/L in one sample, which exceeds the established Secondary MCL (2,3).

The fifth episode of environmental work apparently occurred during 1991, when approximately 2400 cubic yards of contaminated soil was excavated from the northeastern area of the maintenance yard.



SOURCE: Interim Remedial Action Plan, Tracy Pumping Plant and Substation Facility, Chen-Northern, Inc., December, 1990

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SAMPLING LOCATIONS OF PREVIOUS INVESTIGATIONS

TRACY PUMPING STATION AND SUBSTATION
Mtn. House & Kelso Roads, Tracy, CA

FIGURE

3

The excavation was conducted by U.S. Pollution Control, Inc. (USPCI) of Boulder, Colorado. Samples were collected by the U.S. Army Corps of Engineers, Sacramento District; the samples were analyzed by ENSECO, Inc. of Sacramento, California and National Analytical Laboratory of Tulsa, Oklahoma. Petroleum products, chloroform, and trichlorofluoromethane were detected in soil samples (2). Additional sampling may have occurred at the site; files were not available for purposes of this report (4,5,6).

In 1993, the U.S. Environmental Protection Agency (EPA) tasked URS Consultants, Inc., to conduct a Federal Facility Preliminary Assessment/Site Investigation Review of documentation pertaining to the facility, in order to determine if further evaluation was required under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The site was entered into the EPA-managed Comprehensive Environmental Response, Compensation, and Liability Information System in 1990. After review of the URS report, EPA determined that further remedial site assessment was not required under CERCLA (2).

II. SITE DESCRIPTION

Working areas at the site generally are relatively flat; the topography in undeveloped areas generally slopes slightly to the north and northeast. Steep banks occur around the pumping station and intake canal.

The maintenance yard and substation areas typically are gravel surfaced, although the area in the vicinity of the maintenance garage is paved with asphalt. Most roads at the facility are paved with asphalt; the remainder are gravel surfaced.

Three, four-inch diameter groundwater monitoring wells are located within the maintenance yard area (Figure 3): a well is located approximately ten feet south of the vehicle maintenance garage, at the eastern end of the waste oil tank excavation pit; a well is located approximately 150 feet south of the garage; and another well is located approximately 400 feet north-northeast of the garage.

II. A. Vicinity Description and Hydrogeologic Setting

The site is located in the northeastern corner of Alameda County, near the western limit of the San Joaquin Valley, at an elevation of approximately 65 feet above sea level. Regional features include the Sacramento-San Joaquin Delta, considerable agricultural development, and several small towns. The eastern foothills of the Diablo Range occur less than one mile west of the site. Generally, native vegetation occurs north and west of the site, and agricultural land occurs to the south and east.

Major surface-water bodies near the facility include the intake canal for the pumping station, the Clifton Court Forebay, the California Aqueduct, and the Old River. There are also numerous lesser canals within the immediate site vicinity. The area receives approximately 12 inches of rainfall per year (1).

II. A. 1. Regional Hydrogeology

The site is located near the western edge of the San Joaquin Valley, near the border of the Coast Range and Great Valley geologic provinces. The Coast Range is comprised of several parallel, northwest-trending ranges that resulted from folding and faulting of marine sediments; the Diablo Range is located west of the site, and is composed primarily of folded Franciscan Formation marine sedimentary rocks. The coastal ranges create a rainshadow for the western San Joaquin Valley, and streams (few) flow intermittently (3).

The Great Valley Province is a structural basin approximately 400 miles long and 50 miles wide; bounded on the eastern and western sides, respectively, by the Sierra Nevada mountains and the Coast Range. Erosion of these upland areas has resulted in deposition of sedimentary material into the valley between, reaching a thickness of up to ten miles (2,3).

The site is underlain by two major geologic units: Recent, primarily fine-grained alluvial sediment, eroded from the Coast Range, and older alluvium of the Tulare Formation. The Recent alluvium primarily is comprised of gray and tan unconsolidated deposits of clay, silt, sand, and gravel; the Tulare consists of consolidated and unconsolidated beds and lenses of clay, sand, and gravel (1,3).

Mixed fine- and coarse-grained alluvial fan deposits of the Diablo Range generally occur south and west of the site, and fine-grained, flood-plain alluvial deposits of the Sacramento-San Joaquin Delta generally occur north and east of the site. The Tulare Formation underlies the recent alluvial deposits in most of western San Joaquin Valley (3).

The Corcoran Clay Member generally occurs in the upper half of the Tulare Formation, and probably underlies the site; it is comprised of a diatomaceous clay that acts as an aquitard between shallow, unconfined aquifers above the clay, and the deeper confined aquifer below. Potable groundwater in the San Joaquin Valley generally occurs above and below the clay member, although groundwater occurring above the Corcoran Clay generally is of poorer quality.

The quality of groundwater above the Corcoran Clay is variable; quality can be affected by agricultural activity, and incursions of Delta water and naturally poorer-quality water from the Coast Ranges. Generally, regional groundwater flows northeasterly from the Diablo Range towards the Delta and Central Valley (1,2).

II. A. 2. Local Hydrogeology

Alluvial aquifers, which occur in the vicinity of the site, are complex and difficult to characterize. Groundwater typically moves anisotropicly, frequently moving more readily in a horizontal direction than a vertical direction, due to the heterogeneous, interbedded and lensed character of the sands, gravels, fine silts and clays that typically comprise alluvial aquifers.

The site is located on a low-gradient alluvial fan, near foothills of the Diablo Range. According to the 1990 Chen-Northern investigation, generally 14 to 18 inches of topsoil overlies a unit of medium- to dark-brown silty clay, which extends to a depth of approximately five to six feet below ground surface. The silty clay is underlain by five to ten feet of tan, silty-clayey sand. Saturated subsurface soils primarily are comprised of interbedded and laterally discontinuous, well-graded sands, silty fine sands, and silty low-plasticity clays (1).

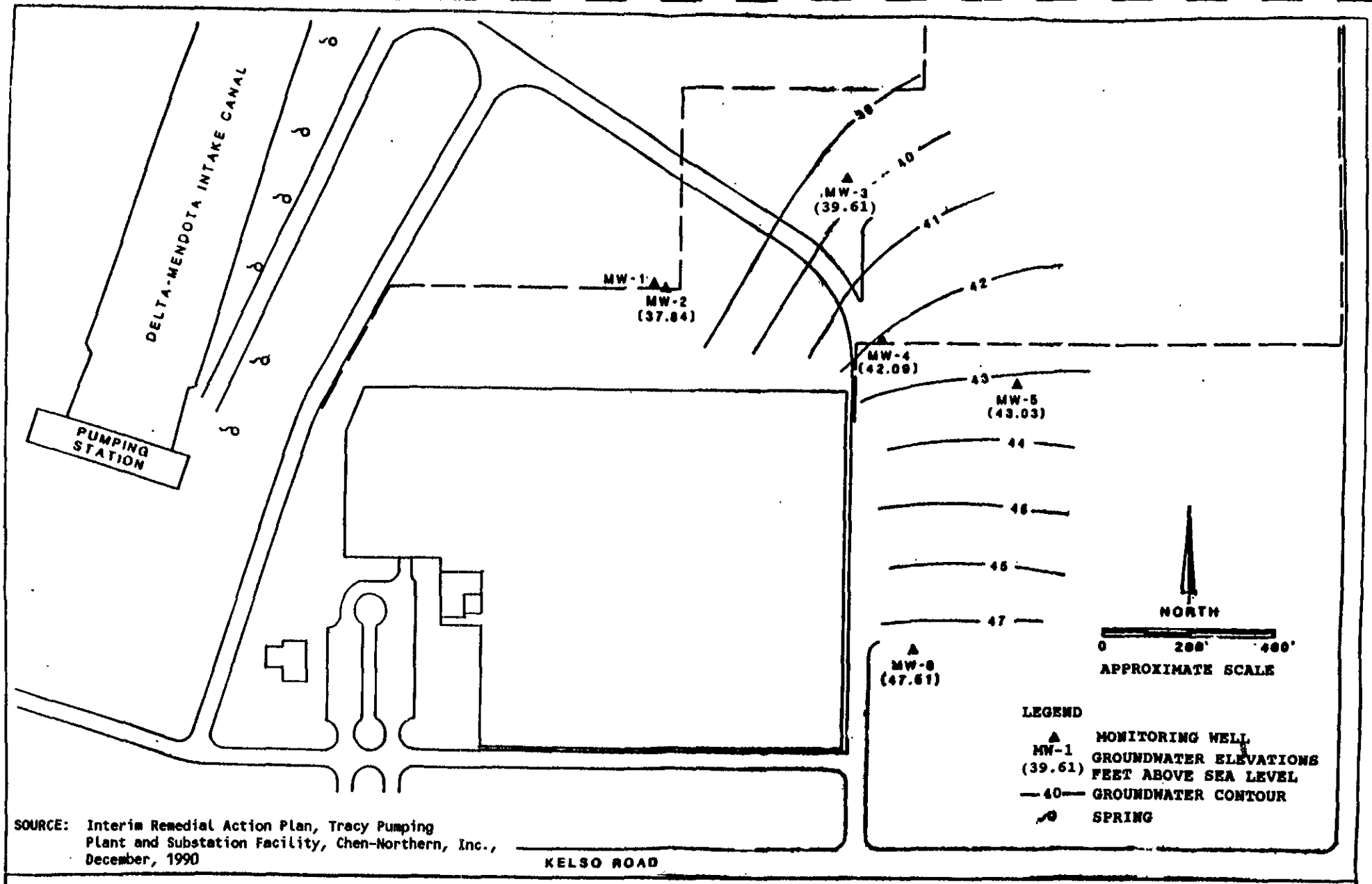
According to the Chen-Northern study, groundwater beneath the maintenance yard area occurs at 11 to 16 feet below ground surface, and apparently moves north initially, changing to northwesterly near the northern limit of the maintenance yard. Seeps and springs along the eastern side of the Delta-Mendota Canal, northwest of the maintenance yard, indicate shallow groundwater discharge areas. The average horizontal gradient of the water table is approximately 0.01 ft/ft (1). Figure 4, Water Table Elevation Contours, depicts the approximate direction of groundwater flow beneath the maintenance yard area.

Studies have found that shallow groundwater is of relatively poor quality in the general vicinity of the site; shallow groundwater typically contains high concentrations of total dissolved solids, including chloride, sulfate, and boron (3).

II. B. Site Maps

Figure 5, Potential Groundwater Users, shows locations of known or likely private wells.

Figure 6, Maintenance Garage Area, shows locations of existing and removed USTs, and the existing monitoring well located at the eastern end of the waste oil tank excavation.



SOURCE: Interim Remedial Action Plan, Tracy Pumping Plant and Substation Facility, Chen-Northern, Inc., December, 1990

WATER TABLE ELEVATION CONTOURS

FIGURE 4

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Mtn. House & Kelso Roads, Tracy, CA

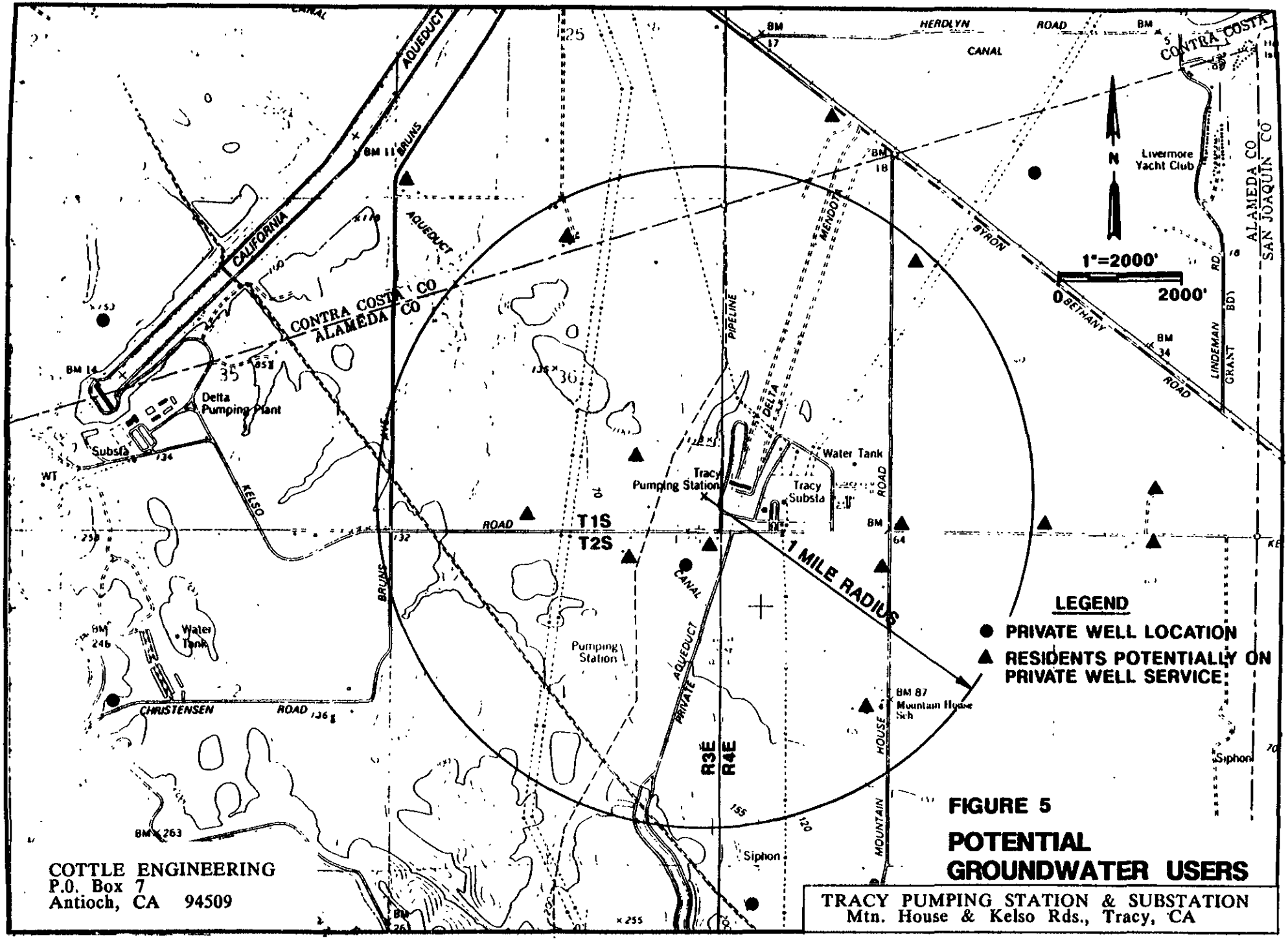

FIGURE 5

POTENTIAL GROUNDWATER USERS

TRACY PUMPING STATION & SUBSTATION
Mtn. House & Kelso Rds., Tracy, CA

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SOURCE: Final Preliminary Endangerment Assessment Report,
U.S. Bureau of Reclamation Landfill Site, Tracy, CA,
CH2M Hill, November, 1992

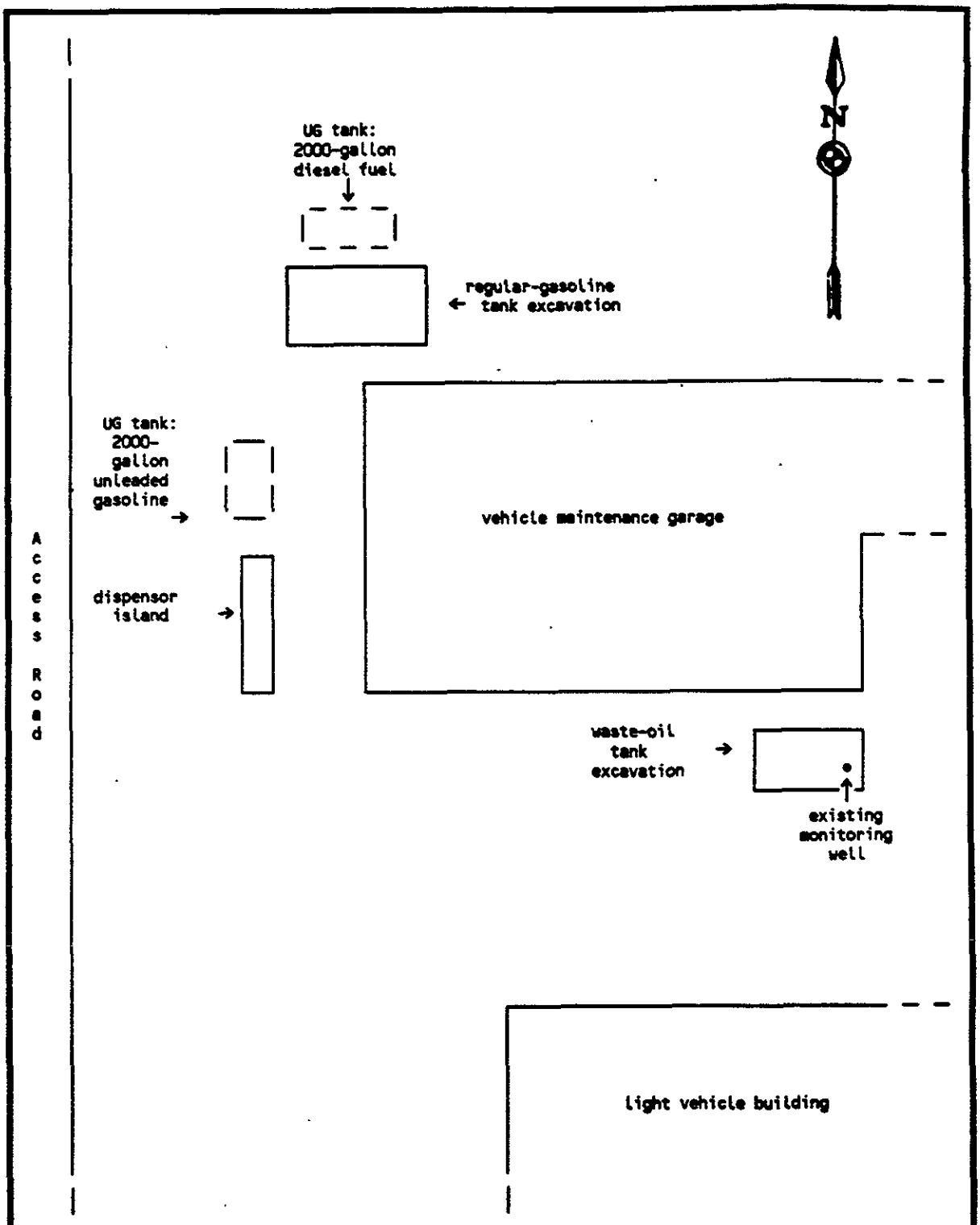

FIGURE 6: MAINTENANCE GARAGE AREA	APRIL, 1994
TRACY PUMPING STATION & SUBSTATION Mtn. House & Kelso Rds., Tracy, CA	SCALE: 1 inch = approximately 20 feet
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Figure 7, Underground Utility Map, shows locations of underground utility lines.

II. C. Existing Soil Contamination and Excavation Results

Cottle Engineering removed two single-walled USTs during February, 1994, from asphalt-paved areas adjacent to the vehicle maintenance garage. A fiberglass, 1000-gallon waste oil tank, and a steel, 2000-gallon, regular-gasoline tank were removed. Soil that was excavated in order to remove each of the tanks was stockpiled separately near each respective excavation pit, and the excavation pits were left open. Groundwater was not encountered during the excavations.

Soil samples were collected after the tanks were removed: two samples were collected from the floor of the gasoline tank excavation; one sample was collected from the floor of the waste oil tank excavation; and eight samples were collected from the soil stockpiles, for waste characterization. Four samples were collected from each stockpile; each group of discrete stockpile samples subsequently was combined at the analytical laboratory, forming one composited sample for each respective stockpile. Figure 8, UST Removal Soil Samples, indicates locations where excavation soil samples were collected.

The samples were submitted to McCampbell Analytical laboratory, in Pacheco, California (State-certification #1644). All samples were analyzed for detection of the following: total petroleum hydrocarbons (TPH) as gasoline (TPHg), using EPA Method 5030/8015; benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020; and lead using EPA Method 7420. Additionally, soil samples associated with the waste oil tank also were analyzed for detection of the following: TPH as diesel, using EPA Method 3550/8015; volatile and semi-volatile organic compounds using EPA Method 8240 or 8270; total recoverable petroleum hydrocarbons (TRPH) as oil and grease, using EPA Method 418.1 or 9073; and the metals cadmium (EPA Method 7130), chromium (EPA Method 7190), nickel (EPA Method 7520), and zinc (EPA Method 7950).

The waste oil tank was located approximately five feet south of the maintenance garage. One soil sample was collected from the floor of the tank-removal pit; analytical results indicated detection of 19 ug/kg total xylenes, 5.1 mg/kg lead, 41 mg/kg chromium, 28 mg/kg nickel, and 36 mg/kg zinc.

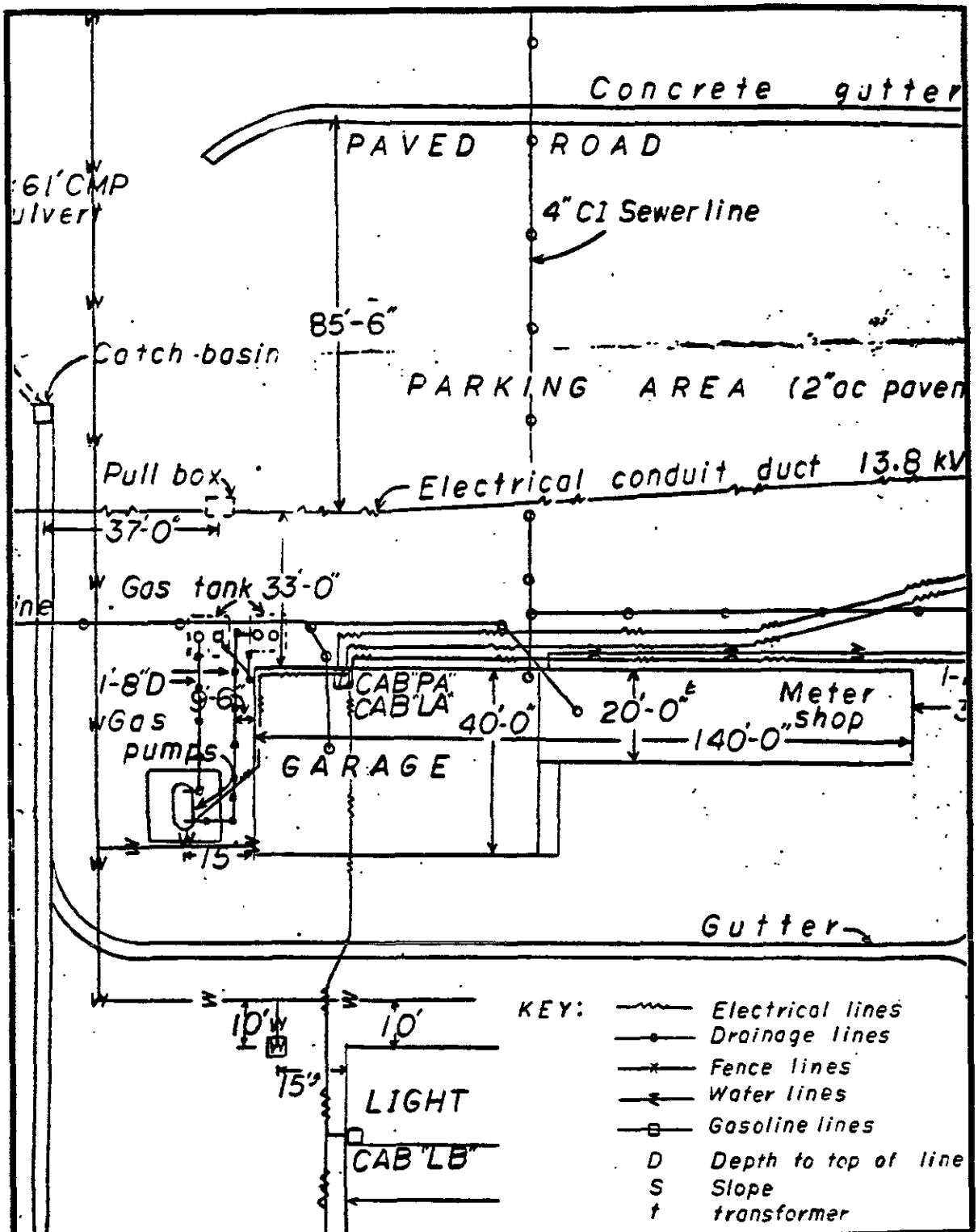

FIGURE 7: UNDERGROUND UTILITY MAP	APRIL, 1994
TRACY PUMPING STATION & SUBSTATION Mtn. House & Kelso Rds., Tracy, CA	SCALE: 1 inch = approximately 33 feet
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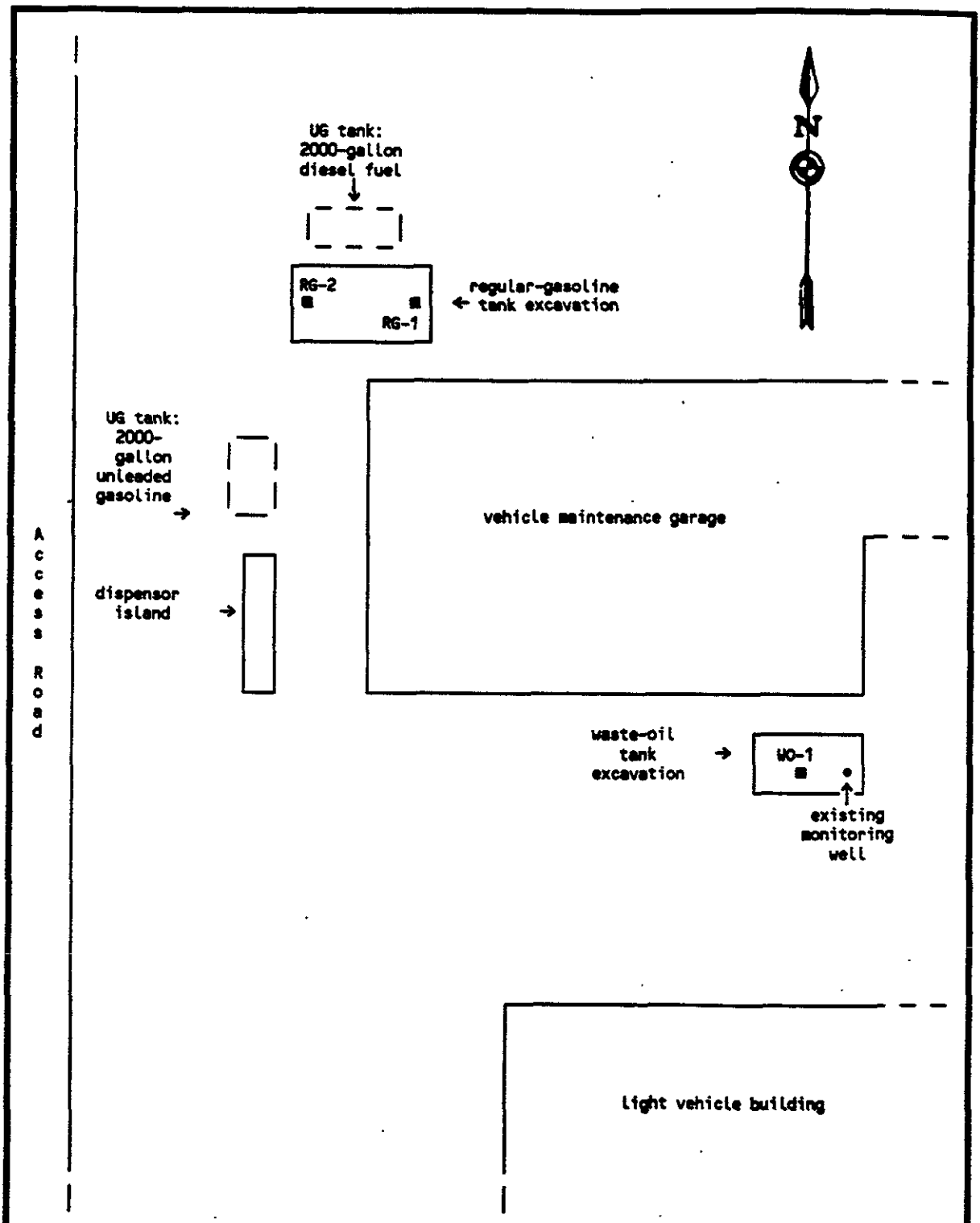

FIGURE 8: UST REMOVAL SOIL SAMPLES	APRIL, 1994
TRACY PUMPING STATION & SUBSTATION Mtn. House & Kelso Rds., Tracy, CA	SCALE: 1 inch = approximately 20 feet
COTTLE ENGINEERING	

The regular-gasoline tank was located near the northwest corner of the garage, approximately six feet north of the building. Two samples were collected from the floor of the tank-removal pit: samples RG-1 and RG-2, respectively, were collected from 11- and 12-foot depths, near the eastern and western ends of the excavation. Analytical results for sample RG-1 indicated detection of 3.1 mg/kg TPHg. Analytical results for sample RG-2 indicated detection of 130 mg/kg TPHg, 0.16 mg/kg toluene, 0.76 mg/kg ethylbenzene, 1.9 mg/kg xylenes, and 5.7 mg/kg lead.

The composite soil stockpile sample associated with the waste oil tank contained the following contaminant concentrations: 7.4 ug/kg total xylenes; 56 mg/kg TRPH as oil and grease; 27 mg/kg chromium; 14 mg/kg nickel; and 37 mg/kg zinc.

The composite soil stockpile sample associated with the regular-gasoline tank contained the following contaminant concentrations: 94 mg/kg TPHg; 0.006 mg/kg benzene; 0.62 mg/kg toluene, 0.01 mg/kg ethylbenzene, 0.98 mg/kg xylenes, and 10 mg/kg lead.

III. PLAN FOR DETERMINING THE EXTENT OF SOIL CONTAMINATION

Currently, USBR plans include excavation of contaminated soil from the existing pit where the gasoline tank was located, aeration of all soils excavated from that area, and installation of a down-gradient monitoring well.

III. A. Determining Extent of Contamination Within the Excavation

A photoionization detector (PID), or similar instrument, will be used to screen soil for petroleum hydrocarbon vapors and to guide the progress of the excavation. Samples will be periodically collected from each wall and from the floor of the excavation and subjected to a headspace analysis using the PID. Upon collection of a sample to be analyzed, the soil will be placed inside a zip-lock plastic bag. The sample will then be crumbled inside the bag and allowed to bake in the sunlight for approximately five minutes in order to volatilize any hydrocarbons in the sample into vapors. The probe of the PID will then be inserted into the bag and the level of hydrocarbon vapors measured and recorded.

III. B. Sampling Methods and Procedures

When field analysis of headspace samples indicates that a majority of the contaminated soils have been excavated, confirmatory soil samples will be collected for laboratory analysis. Soil samples will be collected from the floor and sidewalls of the excavation pit, approximately every 15 lineal feet.

For laboratory analysis, soil samples will be collected in two-inch outside diameter, six-inch long, hand-driven, brass or stainless-steel sampling tubes. Soil samples from the floor of the tank pit will be collected from excavated soils in the bucket of a back-hoe. Care will be taken in recovering the sample at locations away from the walls of the bucket in order to reduce the possibility of contamination from the bucket. Upon recovery of each sample, the ends of the brass tube will be sealed with teflon, capped with plastic end-caps, secured with tape, and labeled. The label information will include the date, the identification number of the sample, and the project name. Under proper Chain of Custody procedures, the samples will be cooled inside a thermally-insulated cooler for subsequent transport to a State-certified analytical laboratory. A properly completed Chain of Custody form will accompany all laboratory samples.

Laboratory analytical results will determine the status of the excavation: if contaminant concentrations are greater than 10 mg/kg TPHg, or if benzene is detected, further excavation will occur; if contaminants are not detected, or if concentrations are below 10 mg/kg TPHg and benzene is not detected, the excavation will be terminated and the excavation pit may be back-filled with clean imported soil.

III. C. On-Site Aeration of Excavated Soil

It is the opinion of Cottle Engineering that approximately 75 cubic yards of contaminated soil will be removed from the regular-gasoline tank excavation pit. On-site aeration will be utilized to remediate contaminated soils. Approximately 53 cubic yards of soil that was stockpiled in order to remove the regular-gasoline tank will also be aerated.

Soil will be distributed on plastic sheeting, to a maximum depth of 18 inches, in the area immediately north of the maintenance garage. To facilitate aeration, the soil will be turned weekly. If wet weather occurs, the soil will be covered with plastic sheeting. Chain-link fencing will be utilized to enclose the aerating soils and excavation pit.

Soil samples will be collected periodically from the aerating soils, and submitted to a State-certified laboratory. After contaminant concentrations are reduced to an acceptable level (less than 10 mg/kg TPHg and non-detection of benzene), the soil will be disposed of on-site or used to backfill the regular-gasoline tank excavation pit. Personnel from the Alameda County Health Care Services Agency, Department of Environmental Health, will be consulted prior to final disposal of the excavated soils.

IV. PLAN FOR DETERMINING GROUNDWATER CONTAMINATION

To investigate possible groundwater contamination, USBR plans include installation, development, and sampling of a shallow monitoring well down-gradient from the former location of the gasoline tank.

Cottle Engineering recommends that construction and placement of the well follow California Regional Water Quality Control Board (RWQCB) guidelines.

A monitoring well currently exists at the eastern end of the waste oil tank excavation pit. Another monitoring well is located approximately 150 feet south of the garage; a third well is located approximately 400 feet north-northeast of the garage.

IV. A. Placement of Monitoring Well and Rationale for Location

Installation and sampling of a two-inch diameter groundwater monitoring well is recommended by Cottle Engineering. Figure 9, Proposed Well Location, depicts the approximate anticipated location of the monitoring well. The location was selected with regard to the area of possible existing soil contamination; specifically, the area where the regular-gasoline tank was located.

Based on the results of previous groundwater studies at the site, the chosen location is assumed to be down-gradient from the area where the gasoline tank was located.

IV. B. Well Drilling Method and Decontamination Procedures

Drilling will be performed by a Bureau of Reclamation drill crew or a state-licensed (C-57) drilling contractor, using a continuous-flight, minimum eight-inch outer diameter (OD), hollow-stem auger. All augers and other down-hole drilling equipment will be thoroughly steam-cleaned prior to their use at the site.

A geologic drilling (boring) log will be maintained, recording the materials encountered and the locations of collected soil samples. The log will include field descriptions of the soil properties and lithologic variations using the Unified Soil Classification System (USCS), penetration rate of the split-spoon sampler (blows per 6-inch interval), moisture conditions, well construction, and any unusual characteristics that may indicate the presence of chemical contamination. The log will be signed by a Registered Professional Engineer or Registered Geologist.

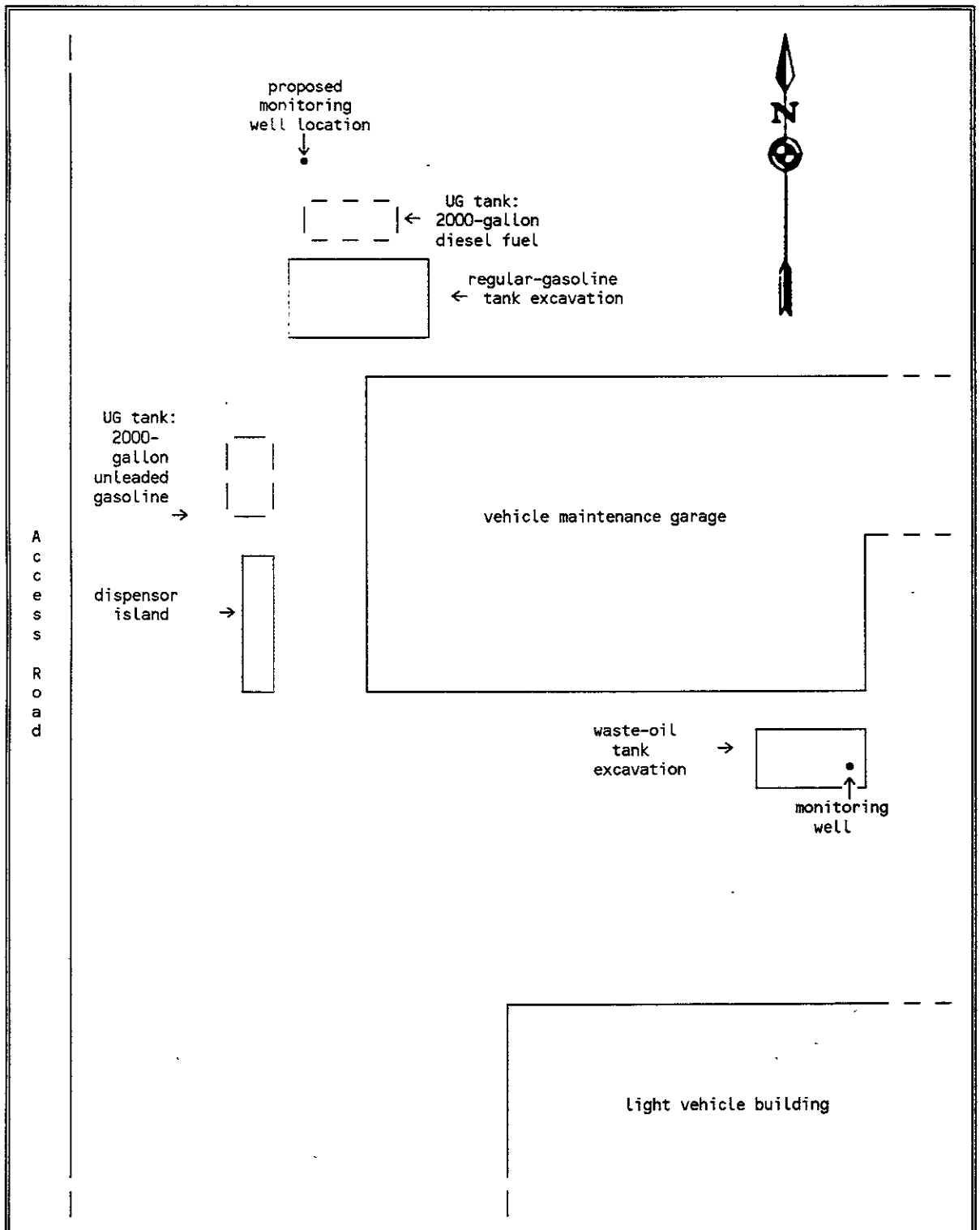

FIGURE 9: PROPOSED WELL LOCATION	APRIL, 1994
TRACY PUMPING STATION & SUBSTATION Mtn. House & Kelso Rds., Tracy, CA	SCALE: 1 inch = approximately 20 feet
COTTLE ENGINEERING	

IV. B. 1. Expected Depth and Diameter of Monitoring Well

One two-inch diameter monitoring well will be installed to a depth of approximately 25-30 feet, or to a depth at least 10 feet below the water table. The depth to groundwater is assumed to be approximately 15 feet below surface grade. The well will be screened from an approximate depth of 10 feet (approximately 5 ft. above the water table) to approximately 25-30 feet, unless a confining layer is encountered at a shallower depth. The monitoring wells will be properly permitted, and installed in accordance with RWQCB guidelines.

The well boring will be advanced until a water saturated zone is encountered. When the saturated zone is encountered, the boring may extend through the depth of the aquifer to an underlying clay layer or aquitard. If the layer of the saturated zone is more than 15 feet thick, the well will be completed at a depth of up to 15 feet below the depth that the saturated zone was first encountered. A soil sample will be collected from directly above the water table.

IV. B. 2. Expected Drilling Date

Cottle Engineering expects that drilling will occur within the next 90 days.

IV. B. 3. Sampling Method and Sampling Interval

Soil samples will be collected using a two-inch O.D., six-inch long, brass or stainless-steel sampling sleeve contained in a California-modified split-spoon sampler. Soil sampling will commence at approximately five feet below surface grade. The samples will be taken at five-foot increments to a depth directly above the groundwater saturated zone. Soil samples will be collected from each well boring at 5-foot intervals, immediately above the saturated zone, at lithology changes, and if visible staining of the soil indicates the possibility of contamination.

Between sampling intervals, the California-modified split spoon sampler will be steam-cleaned or cleaned in a non-phosphate detergent and water solution, rinsed with clean tap water, rinsed with deionized water, and air-dried prior to re-assembly. The sampler will be re-assembled with three laboratory-supplied brass sample liners and carefully lowered through the hollow stem auger.

The soils in the bottom liner of the sampler will be taken as the sample to be tested, if the sample is in good condition. The samples will be labeled and sealed in the field in their original liners. The ends of the sample liners will be capped with teflon, and sealed with plastic end-caps and aluminized tape.

Soils within the top liner of the sampler will be extruded at the drilling site, and examined for lithology information required in the boring logs. Bore cuttings will be examined during drilling, to provide a continuous log of the materials encountered. The cuttings, and the soil samples not retained for chemical analysis, will be stockpiled on-site until the waste classification is determined.

At least two soil samples from the boring will be analyzed, and the samples will be from different depths. Soil and water samples will be collected, handled, and stored according to Regional Water Quality Control Board (RWQCB) guidelines.

Each sample container will be properly sealed, labeled and identified. The label information will include the date, identification number, project name, and the name of the person that collected the sample.

The samples will be submitted to a State-certified analytical laboratory within 3 days of sample collection. The sealed samples will be opened only by laboratory personnel who will perform the chemical analyses. Samples will be analyzed within 14 days from their collection date.

Before, during and after transport to the laboratory, samples will be continually kept on ice and/or refrigerated. In the field, ice will be used for all sample storage prior to transport to the laboratory.

A Chain of Custody form will be properly completed prior to relinquishing samples to the analytical laboratory. The chain of custody form will include the site address, consulting firm name and telephone number, project name, sample identification number, date and time of sampling, type of matrix, preservation method, number and size of containers, and analysis requested.

IV. B. 4. Well Design and Construction Specifications

Clean, inert, two-inch OD, Schedule 40 PVC pipe will be used as casing in the bore-hole. Pipe sections will be threaded and screwed together without the use of cement. Screening of two relatively permeable aquifer lenses, which appear to be separated by a relatively impermeable layer, will not occur.

The well screen will be two-inch OD, Schedule 40 PVC pipe, typically with 0.010- or 0.020-inch continuous slot, depending on design criteria. Slot size will be determined by the sizes of soil grains encountered during drilling; a field decision will be based upon a qualitative analysis of the soil. The slotted pipe will extend above the estimated seasonal high groundwater level.

The annulus of the perforated section will be packed with clean number-two or number-three Monterey sand, or the equivalent, for the length of the screen and approximately two feet above the uppermost slot. The size of the material used for the sand pack will be from three to five times the 50% size of the soil grains and will be determined in the field. The slot size selected will restrict at least 90% of the sand pack material.

Well completion will occur at surface grade. Surface-grade completion will require a steel casing and a Christy (or equivalent) traffic box. A locking, watertight cap will be installed on the well head. The cover of each well will be marked "Monitoring Well."

IV. B. 5. Type of Seal

Two feet of bentonite (expansive clay) will be placed on top of the sand pack, in order to create a spacer between the sand and annular seal. An annular seal of cement grout composed of Portland Type I/II cement (94 pounds/5 gallons water) will be placed immediately above the bentonite layer to approximately three feet below surface grade. A sand-cement slurry may also be used, with a minimum 11 sacks of Portland Type I/II cement per cubic yard of sand. If a sand-cement slurry is used it must be mixed off-site at a batch plant. If more than 30 feet of seal is required, the sealant must be tremie-piped to a minimum depth of three feet above the bentonite seal.

IV. B. 6. Construction Diagram for Well

A typical well construction is shown in Figure 10, Well Construction Diagram.

IV. B. 7. Well Development Method

The well will be developed no earlier than 72 hours after seal emplacement and no later than one week after the well is initially installed.

The well will be developed until water is relatively free of fine-grained sediments. At least five, and up to ten, well volumes of water will be removed during development of the well. Water removal will be accomplished by either bailing with a PVC bailer or using a displacement pump. All down-hole tubing will be cleaned with a mixture of detergent and water, rinsed with tap water, rinsed with distilled water and air dried prior to and after use.

TYPICAL WELL CONSTRUCTION DIAGRAM

FLUSH MOUNT

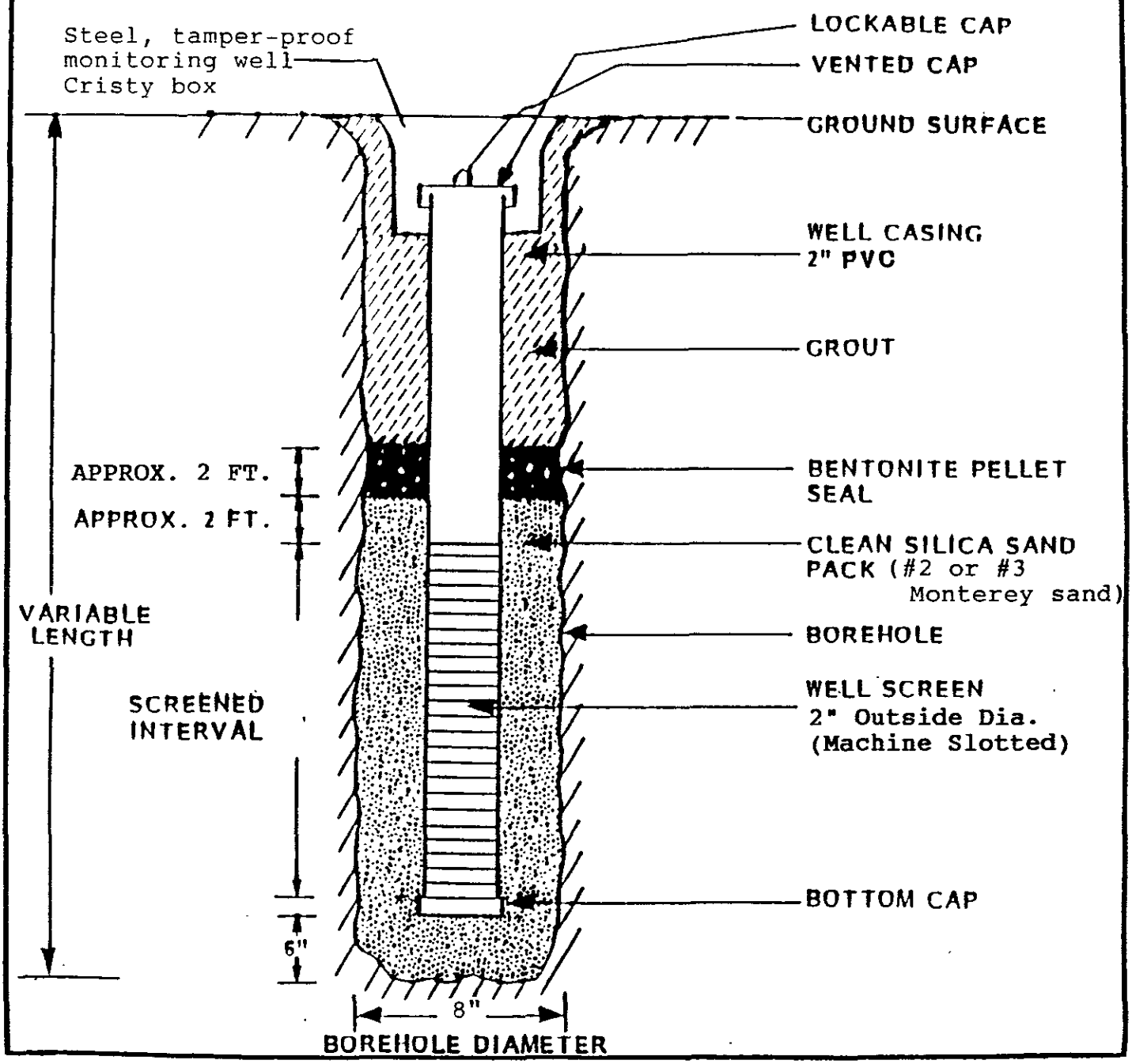

FIGURE 10

IV. B. 8. Soil Cuttings/Purged Water Characterization and Disposal

During the drilling process, all drill cuttings will be placed on thick plastic sheeting. Pending the analytical results of soil samples, drill cuttings will be covered with thick plastic sheeting and stored on site.

Water extracted during well development will be collected in 55-gallon drums; these drums will be labeled, covered and stored on-site for later disposition contingent on analytical results of the water samples. Stored water will not be kept on site more than 90 days after the time of initial placement in the drums. Upon receipt of analytical results, the water will be properly disposed of either on site (if not contaminated) or by manifest to a certified disposal facility. Disposal of contaminated water will conform to applicable hazardous waste requirements.

IV. B. 9. Surveying of Well

The well-head elevation will be surveyed to an average mean sea level (AMSL) elevation and horizontally to a permanent bench mark. This data will be recorded on the boring log.

IV. C. Groundwater Sampling Plans

The well will be sampled on a quarterly basis. Dependent on the results of the soil and groundwater investigation, more frequent sampling may be required. If contamination is not detected during four consecutive quarterly sampling events, or if detected concentrations are acceptably low (as determined by Alameda County Health Agency), USBR may choose to apply for case closure.

IV. C. 1. Water Level Measurement

Prior to purging and sampling, the static groundwater level in the monitoring well will be measured to a precision of 0.01 feet from the top of the four-inch diameter, PVC well casing, using an electronic water-level indicator or other device of equivalent accuracy. Water level measurements will be recorded on a water sampling log. The well also will be sounded to the maximum depth.

Prior to each measurement, the portion of the water-level indicator that will be submerged in the well will be cleaned with detergent and rinsed with de-ionized water.

IV. C. 2. Free Product Sheen and Odor Detection

The initial bailer extraction will be checked for product odor, and visually checked for the presence of phase-separated free product.

IV. C. 3. Well Purging

The well will be purged of 4-5 well volumes of stale water prior to collection of the water sample. For each well-volume of purged water, the pH, conductivity, temperature, color, and phase-separated hydrocarbons (if present) will be recorded.

The well will be purged with a clean teflon or acrylic bailer. Before and after purging, the bailer will be cleaned in a detergent and water solution, rinsed in fresh tap water, then rinsed with de-ionized water and air dried. Purged waters will be containerized in 55-gallon drums and stored on-site until laboratory analytical results determine which disposal method is appropriate.

IV. C. 4. Characterization and Disposal of Purged Well Water

While awaiting analytical results, the purged water will be stored on-site in labeled 55-gallon drums; the water will be stored on-site no longer than 90 days. Upon receipt of analytical results, the water will be properly disposed of either on site (if not contaminated) or by manifest to a certified disposal facility.

IV. C. 5. Water Sample Collection Protocol

The well will be sampled no earlier than 72 hours after well development.

All water collected for chemical analysis will be placed in laboratory-supplied, 40-milliliter VOA (Volatile Organic Analysis) glass vials and/or 1-liter amber glass bottles, and sealed with a screw cap with teflon liner and septum. The containers will be topped-off to avoid air space, inverted and visually inspected for the presence of air bubbles. If bubbles are detected, the sample will be discarded and a new sample collected. After collection, the samples will at all times be kept on ice or refrigerated.

Groundwater samples will be collected from the well by using a clean teflon or acrylic bailer. Prior to collection of each sample, the bailer will be thoroughly steam-cleaned and rinsed with de-ionized water, or cleaned in a detergent and water solution, rinsed with clean tap water, then rinsed with de-ionized water.

Prior to collection of a groundwater sample, final rinsate from the bailer will be collected as a water sample blank. Water sample blanks will be placed in 40-milliliter VOA glass vials and/or 1-liter amber glass bottles, sealed with a teflon screw cap, and properly labeled. One water sample blank will be taken for each water sample collected from the well. Additionally, a laboratory-prepared trip blank will be carried inside the cooler utilized to transport the samples.

Upon recovery of each sample, the sample will be labeled. The label information will include the date, the identification number of the sample, and the project name. Under proper Chain of Custody procedures, the samples will be cooled inside a thermally-insulated cooler for subsequent transport to a State-certified analytical laboratory. A properly completed Chain of Custody form will accompany all laboratory samples.

Soil samples and water samples will be analyzed at a State-certified analytical laboratory for detection of TPH as gasoline (EPA Method 5030/8015); and benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA Method 602/8020).

V. STATEMENT OF QUALIFICATIONS

Technical review of this report was conducted by RG/CEG/REA David F. Hoexter, of Hoexter Consulting, Inc.; Appendix II contains background information about Mr. Hoexter.

The project will be supervised by Mr. David Cottle of Cottle Engineering; final review of the subsequent technical report will be conducted by Mr. Hoexter.

VI. LIMITATIONS

This work plan has been prepared according to generally accepted geologic and environmental practices. The analytical results are based on data collected from the sampling locations only, and Cottle Engineering does not have full knowledge of the underlying conditions at the site. Conditions at the project site may change with time due to the works of man and/or acts of nature. Accordingly, the findings of this report may be subject to change in light of new information.

VII. REFERENCES

1. Chen-Northern, Inc., Interim Remedial Action Plan, Tracy Pumping Plant and Substation Facility, Prepared for Western Area Power Administration, December 31, 1990.

2. URS Consultants, Inc., Federal Facility PA/SI Review, Western Area Power Administration, Tracy Pumping Station and Substation, Prepared for U.S. Environmental Protection Agency, September 7, 1993.

3. CH2M Hill, Final Preliminary Endangerment Assessment Report, U.S. Bureau of Reclamation Landfill Site, Tracy, California, November, 1992.

4. Shinmoto, Brian, U.S. Bureau of Reclamation, and Jack Forsythe, Cottle Engineering, telephone conversation, April, 1994.

5. Sabota, John, California Regional Water Quality Control Board, and Jack Forsythe, Cottle Engineering, telephone conversation, March 22, 1994.

6. Nepomuceno, Cris, California Environmental Protection Agency Department of Toxic Substances Control, and Jack Forsythe, Cottle Engineering, telephone conversation, April 15, 1994.

7. Review of Alameda County Flood Control and Water Conservation District (Zone 7) records, by Jack Forsythe, Cottle Engineering, March 21, 1994.

APPENDIX I - UST Removals

Analytical Test Results
Chain of Custody
Tank Removal Permits
Hazardous Waste Manifest

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Cottle Industries P O. Box 7 Antioch. CA 94509	Client Project ID: Bureau Of Reclaimation	Date Sampled: 02/08/94
		Date Received: 02/09/94
	Client Contact: Roy Pantle	Date Extracted: 02/09/94
	Client P.O:	Date Analyzed: 02/09-02/11/94

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

E P.A methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
34155	W0-1	S	ND	ND	ND	ND	ND	109
34156	W0-Comp	S	ND	ND	ND	ND	ND	110
34157	RG-1	S	3.1,g	ND	ND	ND	ND	99
34158	RG-2	S	130,b,d	ND< 0.025	0.16	0 76	1.9	100
34159	RG-Comp	S	94,g	0 006	0.062	0.010	0.98	94
Detection Limit unless other-wise stated; ND means Not Detected		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak co-elutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds are significant, no recognizable pattern, e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510 798-1622

Cottle Industries P.O. Box 7 Antioch, CA 94509	Client Project ID. Bureau Of Reclaimation	Date Sampled. 02/08/94
		Date Received: 02/09/94
	Client Contact. Roy Pantle	Date Extracted. 02/15/94
	Client P.O:	Date Analyzed: 02/15/94

Lead*

EPA analytical method 239.2 or 7420^

Lab ID	Client ID	Matrix	Extraction°	Lead*
34157	RG-1	S	TTLC	ND
34158	RG-2	S	TTLC	5.7
34159	RG-Comp	S	TTLC	10
Detection Limit unless otherwise stated; ND means Not Detected		W	TTLC	0.005mg/L
		S	TTLC	4.0 mg/kg
		—	STLC,TCLP	0.20 mg/L

* soil samples are reported in mg/kg, and water samples and all STLC & TCLP extracts in mg/L

^ Lead is analyzed using EPA method 7420 (AA Flame)for soils, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC from CA Title 22

DHS Certification No. 1644

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Tele: 510-798-1620 Fax: 510 798-1622

Cottle Industries
P O. Box 7
Antioch, CA 94509

Client Project ID: Bureau Of Reclaimation
Client Contact: Roy Pantle
Client P.O:

Date Sampled: 02/08/94
Date Received: 02/09/94
Date Extracted: 02/15/94
Date Analyzed: 02/15/94

LUFT Metals*

			EPA analytical methods	239.2,7420+	213.1,7130	218.1,7190	249.1,7520	289.1,7950
Lab ID	Client ID	Matrix	Extraction°	Lead*	Cadmium*	Chromium*	Nickel*	Zinc*
34155	WO-1	S	TTLC	5.1	ND	41	28	36
34156	WO-Comp	S	TTLC	ND	ND	27	14	37
Detection Limit unless otherwise stated: ND means Not Detected		W	TTLC	0.005mg/L	0.05	0.25	0.10	0.05
		S	TTLC	4.0 mg/kg	1.0	5.0	2.0	1.0
		—	STLC,TCLP	0.20 mg/L	0.05	0.25	0.10	0.05

* soil samples are reported in mg/kg, and water samples and all STLC & TCLP extracts in mg/l.

+ Lead is analyzed using EPA method 7420 (AA Flame)for soils, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC), STLC from CA Title 22

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	Client P.O:	Date Analyzed: 02/09/94

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method OCFID(3550) or OCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
34155	WO-1	S	ND	97
34156	WO-Comp	S	ND,g	98
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	
		S	10 mg/kg	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) modified diesel?; light(C_L) or heavy(C_H) diesel compounds are significant); d) gasoline range compounds are significant; e) medium boiling point pattern (that does not match diesel(?)); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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Tele: 510-798-1620 Fax: 510-798-1622

Cottle Industries P.O. Box 7 Antioch, CA 94509	Client Project ID: Bureau Of Reclaimation	Date Sampled 02/08/94
		Date Received: 02/09/94
	Client Contact: Roy Pantle	Date Extracted: 02/11/94
	Client P.O:	Date Analyzed: 02/11/94

Total Recoverable Petroleum Hydrocarbons as Oil & Grease (with Silica Gel Clean-up) by Scanning IR Spectrometry*

EPA method 418.1 or 9073; Standard Methods 5520 C&F

Lab ID	Client ID	Matrix	TRPH+
34155	WO-1	S	ND
34156	WO-Comp	S	56
Detection Limit unless otherwise stated; ND means Not Detected		W	5 mg/L
		S	50 mg/kg

*water samples are reported in mg/L and soils in mg/kg

+ If TPH(d) is not requested then all positive results are run by direct injection chromatography with FID detection. The following comments pertain to these GC results: a) gasoline-range compounds (C6-C12) present; b) diesel range compounds (C10-C23) present; c) oil-range compounds (> C18) present; d) other patterned solvent(?); e) isolated peaks; f) GC compounds are absent or insignificant relative to TRPH inferring that complex biologically derived molecules (lipids?)are the source of IR absorption.

DHS Certification No. 1644

Edward Hamilton, Lab Director

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

February 21, 1994

ChromaLab File # 9402178
Submission #: 9402000178

MCCAMPBELL ANALYTICAL, INC.
Attn: Ed Hamilton

Date Sampled: February 8, 1994 Date Submitted: February 14, 1994
Date Extracted: February 18, 1994 Date Analyzed: February 18, 1994

Project Name: C/BOR
Project No: 2060
Sample I.D.: WO-1

Method of analysis: EPA 8270
Matrix: Soil
Dilution Factor: None

COMPOUND NAME	Sample mg/kg	MDL mg/kg	Spike Recovery
PHENOL	N.D.	0.05	63% 82%
BIS(2-CHLOROETHYL) ETHER	N.D.	0.05	-----
2-CHLOROPHENOL	N.D.	0.05	86% 89%
1,3-DICHLOROBENZENE	N.D.	0.05	-----
1,4-DICHLOROBENZENE	N.D.	0.05	-----
BENZYL ALCOHOL	N.D.	0.10	-----
1,2-DICHLOROBENZENE	N.D.	0.05	-----
2-METHYLPHENOL	N.D.	0.05	-----
BIS(2-CHLOROISOPROPYL) ETHER	N.D.	0.05	-----
4-METHYLPHENOL	N.D.	0.05	-----
N-NITROSO-DI-N-PROPYLAMINE	N.D.	0.05	-----
HEXACHLOROETHANE	N.D.	0.05	-----
NITROBENZENE	N.D.	0.05	-----
ISOPHORONE	N.D.	0.05	-----
2-NITROPHENOL	N.D.	0.05	-----
2,4-DIMETHYLPHENOL	N.D.	0.05	-----
BENZOIC ACID	N.D.	0.25	-----
BIS(2-CHLOROETHOXY)METHANE	N.D.	0.05	-----
2,4-DICHLOROPHENOL	N.D.	0.05	-----
1,2,4-TRICHLOROBENZENE	N.D.	0.05	95% 98%
NAPHTHALENE	N.D.	0.05	-----
4-CHLOROANILINE	N.D.	0.10	-----
HEXACHLOROBUTADIENE	N.D.	0.05	-----
4-CHLORO-3-METHYLPHENOL	N.D.	0.10	81% 100%
2-METHYLNAPHTHALENE	N.D.	0.05	-----
HEXACHLOROCYCLOPENTADIENE	N.D.	0.05	-----
2,4,6-TRICHLOROPHENOL	N.D.	0.05	-----
2,4,5-TRICHLOROPHENOL	N.D.	0.05	-----
2-CHLORONAPHTHALENE	N.D.	0.05	-----
2-NITROANILINE	N.D.	0.25	-----
DIMETHYL PHTHALATE	N.D.	0.05	-----
ACENAPHTHYLENE	N.D.	0.05	-----
3-NITROANILINE	N.D.	0.25	-----
ACENAPHTHENE	N.D.	0.05	83% 89%
2,4-DINITROPHENOL	N.D.	0.25	-----
4-NITROPHENOL	N.D.	0.25	-----
DIBENZOFURAN	N.D.	0.05	-----

(continued on next page)

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

February 22, 1994 ChromaLab File#: 9402178

MCCAMPBELL ANALYTICAL, INC.
Attn: Ed Hamilton
Project: C/BOR Project#: 2050
Submitted: February 14, 1994
re: One sample for Volatile Organic Compounds analysis.

Sample: WO-1/34155 *Matrix:* SOIL
Lab #: 43639-2298 *Sampled:* February 8, 1994 *Analyzed:* February 17, 1994
Method: EPA 8240

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
ACETONE	N.D.	25	N.D.	--
BENZENE	N.D.	5	N.D.	--
BROMODICHLOROMETHANE	N.D.	5	N.D.	--
BROMOFORM	N.D.	5	N.D.	--
BROMOMETHANE	N.D.	5	N.D.	--
2-BUTANONE	N.D.	5	N.D.	--
CARBON TETRACHLORIDE	N.D.	5	N.D.	--
CHLOROBENZENE	N.D.	5	N.D.	--
CHLOROETHANE	N.D.	5	N.D.	--
2-CHLOROETHYLVINYLETHER	N.D.	5	N.D.	--
CHLOROFORM	N.D.	5	N.D.	--
CHLOROMETHANE	N.D.	5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5	N.D.	--
1,1-DICHLOROETHANE	N.D.	5	N.D.	79
1,2-DICHLOROETHANE	N.D.	5	N.D.	--
1,1-DICHLOROETHENE	N.D.	5	N.D.	--
1,2-DICHLOROETHENE (CIS)	N.D.	5	N.D.	--
1,2-DICHLOROETHENE (TRANS)	N.D.	5	N.D.	--
1,2-DICHLOROPROPANE	N.D.	5	N.D.	--
1,3-DICHLOROPROPENE (CIS)	N.D.	5	N.D.	--
1,3-DICHLOROPROPENE (TRANS)	N.D.	5	N.D.	--
ETHYL BENZENE	N.D.	5	N.D.	
2-HEXANONE	N.D.	5	N.D.	
METHYLENE CHLORIDE	N.D.	25	N.D.	--
4-METHYL-2-PENTANONE	N.D.	5	N.D.	--
STYRENE	N.D.	5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5	N.D.	85
TETRACHLOROETHENE	N.D.	5	N.D.	95
TOLUENE	N.D.	5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5	N.D.	--
TRICHLOROETHENE	N.D.	5	N.D.	88
TRICHLOROFLUOROMETHANE	N.D.	5	N.D.	--
VINYL ACETATE	N.D.	5	N.D.	--
VINYL CHLORIDE	N.D.	5	N.D.	--
XYLENES (TOTAL)	19	5	N.D.	--

ChromaLab, Inc.

David Wintergrass
Chemist

Eric Tam
Laboratory Director

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CHROMALAB, INC.

Environmental Laboratory (1094)

6 DAYS TURNAROUND

Chromalab File # 9402178

Project Name: C/BOR
Project No: 2050
Sample I.D.: MO-1
Method of Analysis: EPA 8270 Matrix: soil

COMPOUND NAME	Sample mg/kg	MDL mg/kg	Spike Recovery
2,4-DINITROTOLUENE	N.D.	0.05	-----
2,6-DINITROTOLUENE	N.D.	0.05	75% 80%
DIETHYL PHTHALATE	N.D.	0.05	-----
4-CHLORO-PHENYL PHENYL ETHER	N.D.	0.05	-----
FLUORENE	N.D.	0.05	-----
4-NITROANILINE	N.D.	0.25	-----
4,6-DINITRO-2-METHYL PHENOL	N.D.	0.25	-----
N-NITROSODIPHENYLAMINE	N.D.	0.05	-----
4-BROMOPHENYL PHENYL ETHER	N.D.	0.05	-----
HEXACHLOROBENZENE	N.D.	0.05	-----
PENTACHLOROPHENOL	N.D.	0.25	87% 111%
PHENANTHRENE	N.D.	0.05	-----
ANTHRACENE	N.D.	0.05	-----
DI-N-BUTYL PHTHALATE	N.D.	0.05	-----
FLUORANTHENE	N.D.	0.05	-----
PYRENE	N.D.	0.05	106% 129%
BUTYLBENZYLPHTHALATE	N.D.	0.05	-----
3,3'-DICHLOROBENZIDINE	N.D.	0.10	-----
BENZO(A)ANTHRACENE	N.D.	0.05	-----
BIS(2-ETHYLHEXYL) PHTHALATE	N.D.	0.05	-----
CHRYSENE	N.D.	0.05	-----
DI-N-OCTYLPHTHALATE	N.D.	0.05	-----
BENZO(B)FLUORANTHENE	N.D.	0.05	-----
BENZO(K)FLUORANTHENE	N.D.	0.05	-----
BENZO(A)PYRENE	N.D.	0.05	-----
INDENO(1,2,3 C,D)PYRENE	N.D.	0.05	-----
DIBENZO(A,H)ANTHRACENE	N.D.	0.05	-----
BENZO(G,H,I)PERYLENE	N.D.	0.05	-----

Chromalab, Inc.

Alex Tam
Analytical Chemist

Eric Tam
Lab Director

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CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

February 21, 1994

ChromaLab File # 9402178
Submission #: 9402000178

MCCAMPBELL ANALYTICAL, INC.
Attn: Ed Hamilton

Date Sampled: February 8, 1994 Date Submitted: February 14, 1994
Date Extracted: February 18, 1994 Date Analysed: February 18, 1994

Project Name: C/BOR
Project No: 2050
Sample I.D.: WO COMP

Method of analysis: EPA 8270
Matrix: Soil
Dilution Factor: None

COMPOUND NAME	Sample mg/kg	MDL mg/kg	Spike Recovery
PHENOL	N.D.	0.05	63% 82%
BIS(2-CHLOROETHYL) ETHER	N.D.	0.05	-----
2-CHLOROPHENOL	N.D.	0.05	66% 89%
1,3-DICHLOROBENZENE	N.D.	0.05	-----
1,4-DICHLOROBENZENE	N.D.	0.05	-----
BENZYL ALCOHOL	N.D.	0.10	-----
1,2-DICHLOROBENZENE	N.D.	0.05	-----
2-METHYLPHENOL	N.D.	0.05	-----
BIS(2-CHLOROISOPROPYL) ETHER	N.D.	0.05	-----
4-METHYLPHENOL	N.D.	0.05	-----
N-NITROSO-DI-N-PROPYLAMINE	N.D.	0.05	-----
HEXACHLOROETHANE	N.D.	0.05	-----
NITROBENZENE	N.D.	0.05	-----
ISOPHORONE	N.D.	0.05	-----
2-NITROPHENOL	N.D.	0.05	-----
2,4-DIMETHYLPHENOL	N.D.	0.05	-----
BENZOIC ACID	N.D.	0.25	-----
BIS(2-CHLOROETHOXY)METHANE	N.D.	0.05	
2,4-DICHLOROPHENOL	N.D.	0.05	-----
1,2,4-TRICHLOROBENZENE	N.D.	0.05	95% 98%
NAPHTHALENE	N.D.	0.05	-----
4-CHLOROANILINE	N.D.	0.10	---
HEXACHLOROBUTADIENE	N.D.	0.05	-----
4-CHLORO-3-METHYLPHENOL	N.D.	0.10	81% 100%
2-METHYLNAPHTHALENE	N.D.	0.05	-----
HEXACHLOROCYCLOPENTADIENE	N.D.	0.05	-----
2,4,6-TRICHLOROPHENOL	N.D.	0.05	-----
2,4,5-TRICHLOROPHENOL	N.D.	0.05	-----
2-CHLORONAPHTHALENE	N.D.	0.05	-----
2-NITROANILINE	N.D.	0.25	-----
DIMETHYL PHTHALATE	N.D.	0.05	-----
ACENAPHTHYLENE	N.D.	0.05	-----
3-NITROANILINE	N.D.	0.25	- --
ACENAPHTHENE	N.D.	0.05	83% 89%
2,4-DINITROPHENOL	N.D.	0.25	-----
4-NITROPHENOL	N.D.	0.25	-----
DIBENZOFURAN	N.D.	0.05	-----

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CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

ChromaLab File # 9402178

Project Name: C/BOR
Project No: 2050
Sample I.D.: WO-COMP
Method of Analysis: EPA 8270 Matrix: soil

COMPOUND NAME	Sample mg/kg	MDL mg/kg	Spike Recovery
2,4-DINITROTOLUENE	N.D.	0.05	-----
2,6-DINITROTOLUENE	N.D.	0.05	75% 80%
DIETHYL PHTHALATE	N.D.	0.05	-----
4 CHLORO-PHENYL PHENYL ETHER	N.D.	0.05	-----
FLUORENE	N.D.	0.05	-----
4-NITROANILINE	N.D.	0.25	-----
4,6-DINITRO-2-METHYL PHENOL	N.D.	0.25	-----
N-NITROSODIPHENYLAMINE	N.D.	0.05	-----
4-BROMOPHENYL PHENYL ETHER	N.D.	0.05	-----
HEXACHLOROBENZENE	N.D.	0.05	-----
PENTACHLOROPHENOL	N.D.	0.25	87% 111%
PHENANTHRENE	N.D.	0.05	-----
ANTHRACENE	N.D.	0.05	-----
DI-N-BUTYL PHTHALATE	N.D.	0.05	-----
FLUORANTHENE	N.D.	0.05	-----
PYRENE	N.D.	0.05	106% 129%
BUTYLBENZYLPHTHALATE	N.D.	0.05	-----
3,3'-DICHLOROBENZIDINE	N.D.	0.10	-----
BENZO(A)ANTHRACENE	N.D.	0.05	-----
BIS(2-ETHYLHEXYL) PHTHALATE	N.D.	0.05	-----
CHRYSENE	N.D.	0.05	-----
DI-N-OCTYLPHTHALATE	N.D.	0.05	-----
BENZO(B)FLUORANTHENE	N.D.	0.05	-----
BENZO(K)FLUORANTHENE	N.D.	0.05	-----
BENZO(A)PYRENE	N.D.	0.05	-----
INDENO(1,2,3 C,D)PYRENE	N.D.	0.05	-----
DIBENZO(A,H)ANTHRACENE	N.D.	0.05	-----
BENZO(G,H,I)PERYLENE	N.D.	0.05	-----

ChromaLab, Inc.

Alex Tam
Analytical Chemist

Eric Tam
Lab Director

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

February 22, 1994 ChromaLab File#: 9402178

MCCAMPBELL ANALYTICAL, INC.
Attn: Ed Hamilton
Project: C/BOR Project#: 2050
Submitted: February 14, 1994
re: One sample for Volatile Organic Compounds analysis.

Sample: WO-COMP/34156 *Matrix:* SOIL
Lab #: 43040 2298 *Sampled:* February 8, 1994 *Analyzed:* February 17, 1994
Method: EPA 8260

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
ACETONE	N.D.	25	N.D.	--
BENZENE	N.D.	5	N.D.	--
BROMODICHLOROMETHANE	N.D.	5	N.D.	--
BROMOFORM	N.D.	5	N.D.	--
BROMOMETHANE	N.D.	5	N.D.	--
2-BUTANONE	N.D.	5	N.D.	--
CARBON TETRACHLORIDE	N.D.	5	N.D.	--
CHLOROBENZENE	N.D.	5	N.D.	--
CHLOROETHANE	N.D.	5	N.D.	--
2-CHLOROETHYLVINYLETHER	N.D.	5	N.D.	--
CHLOROFORM	N.D.	5	N.D.	--
CHLOROMETHANE	N.D.	5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5	N.D.	--
1,1-DICHLOROETHANE	N.D.	5	N.D.	79
1,2-DICHLOROETHANE	N.D.	5	N.D.	--
1,1-DICHLOROETHENE	N.D.	5	N.D.	--
1,2-DICHLOROETHENE (CIS)	N.D.	5	N.D.	--
1,2-DICHLOROETHENE (TRANS)	N.D.	5	N.D.	--
1,2-DICHLOROPROPANE	N.D.	5	N.D.	--
1,3-DICHLOROPROPENE (CIS)	N.D.	5	N.D.	--
1,3-DICHLOROPROPENE (TRANS)	N.D.	5	N.D.	--
ETHYL BENZENE	N.D.	5	N.D.	--
2-HEXANONE	N.D.	5	N.D.	--
METHYLENE CHLORIDE	N.D.	25	N.D.	--
4-METHYL-2-PENTANONE	N.D.	5	N.D.	--
STYRENE	N.D.	5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5	N.D.	85
TETRACHLOROETHENE	N.D.	5	N.D.	95
TOLUENE	N.D.	5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5	N.D.	--
TRICHLOROETHENE	N.D.	5	N.D.	88
TRICHLOROFLUOROMETHANE	N.D.	5	N.D.	--
VINYL ACETATE	N.D.	5	N.D.	--
VINYL CHLORIDE	N.D.	5	N.D.	--
XYLENES (TOTAL)	7.4	5	N.D.	--

ChromaLab, Inc.

David Wintergrass
Chemist

Eric Tam
Laboratory Director

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McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/08-02/09/94 Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.000	1.880	2.014	2.03	93	99	6.9
Benzene	0.000	0.194	0.206	0.2	97	103	6.0
Toluene	0.020	0.222	0.230	0.2	101	105	3.5
Ethylbenzene	0.000	0.206	0.216	0.2	103	108	4.7
Xylenes	0.050	0.664	0.684	0.6	102	106	3.0
TPH (diesel)	0	312	309	300	104	103	0.8
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

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

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
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QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/11-02/12/94 Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.000	2.059	2.142	2.03	101	106	4.0
Benzene	0.000	0.222	0.206	0.2	111	103	7.5
Toluene	0.000	0.228	0.212	0.2	114	106	7.3
Ethylbenzene	0.000	0.226	0.210	0.2	113	105	7.3
Xylenes	0.000	0.692	0.644	0.6	115	107	7.2
TPH (diesel)	0	309	302	300	103	101	2.5
TRPH (oil & grease)	0.0	24.5	24.8	20.8	118	119	1.2

% Rec. = (MS - Sample) / amount spiked x 100

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

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR AA METALS

Date: 02/15/94 Matrix: Soil

Analyte	Concentration (mg/kg,mg/L) Sample	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
Total Lead	6.9	109.0	103.0	100	102	96	5.7
Total Cadmium	0.0	105.0	102.0	100	105	102	2.9
Total Chromium	40.9	395.0	387.0	300	118	115	2.0
Total Nickel	27.5	122.0	120.0	100	95	93	1.7
Total Zinc	0.0	315.0	295.0	300	105	98	6.6
STLC Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	4.01	4.10	4.0	100	102	2.2

% Rec. = (MS - Sample) / amount spiked x 100

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

2050 Arnold Dr

McCAMPBELL ANALYTICAL

110 2nd AVENUE, # D7
PACHECO, CA 94553
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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

REPORT TO: Cottle Eng. BILL TO: Cottle Eng.
COMPANY: Cottle Eng.
P.O. Box
Antioch CA 94509
TEL: 510-754-8935 FAX #: 510-754-8423
PROJECT NUMBER: PROJECT NAME: Bureau of Reclamation
PROJECT LOCATION: Mt House Rd at Kelso SAMPLER SIGNATURE:

SAMPLE ID	LOCATION	SAMPLING DATE	SAMPLING TIME	# CONTAINERS	TYPE CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	METHOD PRESERVED: HCL	HNO_3	OTHER	BTEX & TPH as Gasoline (602/8020 & 8015)	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/5520 B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080 - PCBs Only	EPA 624/8240/8260	EPA 625/8270	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD (7240/7421: 239.2/6010) Total	ORGANIC LEAD	VOC	OTHER
WO-1	Waste Oil 11'	2-8	2:20	1	SLV		X							X	X	X		X				X	X						X
WO-Comp	WO Stockpile	2-8	3:45	4	SLV		X							X	X	X						X	X						X
RG-1	Gasoline 11'	2-8	2:45	1	SLV		X							X												X			
RG-2	Gasoline 12'	2-8	3:00	1	SLV		X							X												X			
RG-Comp	Gas Stock Pile	2-8	3:30	4	SLV		X							X												X			

ICE/T ✓ GOOD CONDITION ✓ HEAD SPACE ABSENT ✓ PRESERVATIVE APPROPRIATE ✓ CONTAINERS ✓

WAS DISCREPANCY NOTED?

RELINQUISHED BY	DATE	TIME	RECEIVED BY
	2-8	4:55	
RELINQUISHED BY	DATE	TIME	RECEIVED BY
	2-9-94		
RELINQUISHED BY	DATE	TIME	RECEIVED BY LABORATORY

REMARKS:
See Attached Map.

COMMENTS
Cd, Cr, Pb, Ni, Zn

34155
34156
34157
34158
34159

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM A

COMPLETE THIS FORM FOR EACH FACILITY/SITE

MARK ONLY ONE ITEM: ☐ 1 NEW PERMIT ☐ 2 INTERIM PERMIT ☐ 3 RENEWAL PERMIT ☐ 4 AMENDED PERMIT ☐ 5 CHANGE OF INFORMATION ☒ 6 [redacted] SITE CLOSURE PARTIAL ☐ 7 PERMANENTLY CLOSED SITE

I. FACILITY/SITE INFORMATION & ADDRESS - (MUST BE COMPLETED)

DBA OR FACILITY NAME: TRACY PUMPING PLANT	NAME OF OPERATOR: U.S. BUREAU OF RECLAMATION
ADDRESS: MOUNTAIN HOUSE AND KELSO ROADS	NEAREST CROSS STREET:	PARCEL # (OPTIONAL):
CITY NAME: TRACY	STATE: CA	ZIP CODE: 95376	SITE PHONE # WITH AREA CODE: 209-836-6220

✓ BOX TO INDICATE: ☐ CORPORATION ☐ INDIVIDUAL ☐ PARTNERSHIP ☐ LOCAL-AGENCY DISTRICTS ☐ COUNTY-AGENCY ☐ STATE-AGENCY ☒ FEDERAL-AGENCY

TYPE OF BUSINESS: ☐ 1 GAS STATION ☐ 2 DISTRIBUTOR ☐ 3 FARM ☐ 4 PROCESSOR ☒ 5 OTHER

☐ ✓ IF INDIAN RESERVATION OR TRUST LANDS | # OF TANKS AT SITE: 4 | E. P. A. I. D. # (optional):

EMERGENCY CONTACT PERSON (PRIMARY)		EMERGENCY CONTACT PERSON (SECONDARY) - optional	
DAYS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE	DAYS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE
ROY PANTLE	510-754-9935	SCOTT FERGUSON	408-730-1852
NIGHTS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE	NIGHTS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE
ROY PANTLE	510-754-8428	SCOTT FERGUSON	408-730-1852

II. PROPERTY OWNER INFORMATION - (MUST BE COMPLETED)

NAME: U.S. BUREAU OF RECLAMATION	CARE OF ADDRESS INFORMATION: DARLENE BUNBRAKE
MAILING OR STREET ADDRESS: RT. 1 BOX 35	✓ box to indicate: ☐ INDIVIDUAL ☐ LOCAL-AGENCY ☐ STATE-AGENCY ☐ CORPORATION ☐ PARTNERSHIP ☐ COUNTY-AGENCY ☒ FEDERAL-AGENCY
CITY NAME: BYRON	STATE: CA	ZIP CODE: 94514-9614	PHONE # WITH AREA CODE: 209-836-6220

III. TANK OWNER INFORMATION - (MUST BE COMPLETED)

NAME OF OWNER: U.S. BUREAU OF RECLAMATION	CARE OF ADDRESS INFORMATION: DARLENE BUNBRAKE
MAILING OR STREET ADDRESS: RT 1, BOX 35	✓ box to indicate: ☐ INDIVIDUAL ☐ LOCAL-AGENCY ☐ STATE-AGENCY ☐ CORPORATION ☐ PARTNERSHIP ☐ COUNTY-AGENCY ☒ FEDERAL-AGENCY
CITY NAME: BYRON	STATE: CA	ZIP CODE: 94514-9614	PHONE # WITH AREA CODE:

IV. BOARD OF EQUALIZATION UST STORAGE FEE ACCOUNT NUMBER - Call (916) 323-9555 if questions arise.

TY (TK) HQ 44- ☐☐☐☐☐☐

V. PETROLEUM UST FINANCIAL RESPONSIBILITY - (MUST BE COMPLETED) – IDENTIFY THE METHOD(S) USED

✓ box to indicate: ☒ 1 SELF-INSURED ☐ 2 GUARANTEE ☐ 3 INSURANCE ☐ 4 SURETY BOND ☐ 5 LETTER OF CREDIT ☐ 6 EXEMPTION ☐ 99 OTHER

VI. LEGAL NOTIFICATION AND BILLING ADDRESS

Legal notification and billing will be sent to the tank owner unless box I or II is checked.

CHECK ONE BOX INDICATING WHICH ABOVE ADDRESS SHOULD BE USED FOR LEGAL NOTIFICATIONS AND BILLING: I. ☐ II. ☐ III. ☒

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

APPLICANT'S NAME (PRINTED & SIGNATURE)	APPLICANT'S TITLE	DATE MONTH/DAY/YEAR
DAVID E. COTTLE Sr. David E. Cottle	CONTRACTOR	12-8-93

LOCAL AGENCY USE ONLY

COUNTY #	JURISDICTION #	FACILITY #
☐☐	☐☐☐	☐☐☐☐☐☐

LOCATION CODE - *OPTIONAL*	CENSUS TRACT # - *OPTIONAL*	SUPVISOR - DISTRICT CODE - *OPTIONAL*

THIS FORM MUST BE ACCOMPANIED BY AT LEAST (1) OR MORE PERMIT APPLICATION - FORM B, UNLESS THIS IS A CHANGE OF SITE INFORMATION ONLY.

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B

COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM.

MARK ONLY ONE ITEM: ☐ 1 NEW PERMIT ☐ 2 INTERIM PERMIT ☐ 3 RENEWAL PERMIT ☐ 4 AMENDED PERMIT ☐ 5 CHANGE OF INFORMATION ☐ 6 TEMPORARY TANK CLOSURE ☐ 7 PERMANENTLY CLOSED ON SITE ☒ 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED: U.S. BUREAU of RECLAMATION TRACY PUMP PLANT

I. TANK DESCRIPTION

COMPLETE ALL ITEMS -- SPECIFY IF UNKNOWN

A. OWNER'S TANK I. D. # #2	B. MANUFACTURED BY: UNKNOWN
C. DATE INSTALLED (MO/DAY/YEAR) UNKNOWN	D. TANK CAPACITY IN GALLONS: 1,000.

II. TANK CONTENTS

IF A-1 IS MARKED, COMPLETE ITEM C.

A. ☐ 1 MOTOR VEHICLE FUEL ☐ 2 PETROLEUM ☐ 3 CHEMICAL PRODUCT ☒ 4 OIL ☐ 80 EMPTY ☐ 95 UNKNOWN

B. ☐ 1 PRODUCT ☒ 2 WASTE

C. ☐ 1a REGULAR UNLEADED ☐ 1b PREMIUM UNLEADED ☐ 2 LEADED ☐ 3 DIESEL ☐ 4 GASAHOL ☐ 5 JET FUEL ☐ 6 AVIATION GAS ☐ 7 METHANOL ☐ 99 OTHER (DESCRIBE IN ITEM D. BELOW)

D. IF (A 1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED C. A. S #:

III. TANK CONSTRUCTION

MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D

A. TYPE OF SYSTEM: ☐ 1 DOUBLE WALL ☒ 2 SINGLE WALL ☐ 3 SINGLE WALL WITH EXTERIOR LINER ☐ 4 SECONDARY CONTAINMENT (VAULTED TANK) ☐ 95 UNKNOWN ☐ 99 OTHER

B. TANK MATERIAL (Primary Tank): ☒ 1 BARE STEEL ☐ 2 STAINLESS STEEL ☐ 3 FIBERGLASS ☐ 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC ☐ 5 CONCRETE ☐ 6 POLYVINYL CHLORIDE ☐ 7 ALUMINUM ☐ 8 100% METHANOL COMPATIBLE W/FRP ☐ 9 BRONZE ☐ 10 GALVANIZED STEEL ☐ 95 UNKNOWN ☐ 99 OTHER

C. INTERIOR LINING: ☐ 1 RUBBER LINED ☐ 2 ALKYD LINING ☐ 3 EPOXY LINING ☐ 4 PHENOLIC LINING ☐ 5 GLASS LINING ☒ 6 UNLINED ☐ 95 UNKNOWN ☐ 99 OTHER
IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___

D. CORROSION PROTECTION: ☐ 1 POLYETHYLENE WRAP ☒ 2 COATING ☐ 3 VINYL WRAP ☐ 4 FIBERGLASS REINFORCED PLASTIC ☐ 5 CATHODIC PROTECTION ☐ 91 NONE ☐ 95 UNKNOWN ☐ 99 OTHER

IV. PIPING INFORMATION

CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE	A U 1 SUCTION	A U 2 PRESSURE	A (U) 3 GRAVITY	A U 99 OTHER	
B. CONSTRUCTION	A (U) 1 SINGLE WALL	A U 2 DOUBLE WALL	A U 3 LINED TRENCH	A U 95 UNKNOWN	A U 99 OTHER
C. MATERIAL AND CORROSION PROTECTION	A (U) 1 BARE STEEL	A U 2 STAINLESS STEEL	A U 3 POLYVINYL CHLORIDE (PVC)	A U 4 FIBERGLASS PIPE	
	A U 5 ALUMINUM	A U 6 CONCRETE	A U 7 STEEL W/ COATING	A U 8 100% METHANOL COMPATIBLE W/FRP	
	A U 9 GALVANIZED STEEL	A U 10 CATHODIC PROTECTION	A U 95 UNKNOWN	A U 99 OTHER	
D. LEAK DETECTION	☐ 1 AUTOMATIC LINE LEAK DETECTOR	☐ 2 LINE TIGHTNESS TESTING	☐ 3 INTERSTITIAL MONITORING	☒ 99 OTHER NONE	

V. TANK LEAK DETECTION

☐ 1 VISUAL CHECK ☐ 2 INVENTORY RECONCILIATION ☐ 3 VAPOR MONITORING ☐ 4 AUTOMATIC TANK GAUGING ☐ 5 GROUND WATER MONITORING
☒ 6 TANK TESTING ☐ 7 INTERSTITIAL MONITORING ☐ 91 NONE ☐ 95 UNKNOWN ☐ 99 OTHER

VI. TANK CLOSURE INFORMATION

1. ESTIMATED DATE LAST USED (MO/DAY/YR)	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING	3. WAS TANK FILLED WITH INERT MATERIAL ?
6-12-93	20 GALLONS	YES ☐ NO ☒

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

APPLICANT'S NAME (PRINTED & SIGNATURE)	DATE
DAVID E. OTTLE SR. David E. Ottle Sr.	12-8-93

LOCAL AGENCY USE ONLY

THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.# COUNTY # JURISDICTION # FACILITY # TANK #

PERMIT NUMBER	PERMIT APPROVED BY/DATE	PERMIT EXPIRATION DATE

FORM B (9-90) THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED.

FOR0038-R4

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B

COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM.

MARK ONLY ONE ITEM: ☐ 1 NEW PERMIT ☐ 2 INTERIM PERMIT ☐ 3 RENEWAL PERMIT ☐ 4 AMENDED PERMIT ☐ 5 CHANGE OF INFORMATION ☐ 6 [redacted] TANK CLOSURE ☒ 7 PERMANENTLY CLOSED ON SITE ☒ 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED: U.S. BUREAU OF RECLAMATION TRACY PUMP PLANT

I. TANK DESCRIPTION

COMPLETE ALL ITEMS – SPECIFY IF UNKNOWN

A. OWNER'S TANK I.D. # #3	B. MANUFACTURED BY: UNKNOWN
C. DATE INSTALLED (MO/DAY/YEAR) UNKNOWN	D. TANK CAPACITY IN GALLONS: 2,000

II. TANK CONTENTS

IF A-1 IS MARKED, COMPLETE ITEM C.

A. ☒ 1 MOTOR VEHICLE FUEL ☐ 2 PETROLEUM ☐ 3 CHEMICAL PRODUCT ☐ 4 OIL ☐ 80 EMPTY ☐ 95 UNKNOWN

B. ☒ 1 PRODUCT ☐ 2 WASTE

C. ☒ 1a REGULAR UNLEADED ☐ 1b PREMIUM UNLEADED ☐ 2 LEADED ☐ 3 DIESEL ☐ 4 GASAHOL ☐ 5 JET FUEL ☐ 6 AVIATION GAS ☐ 7 METHANOL ☐ 99 OTHER (DESCRIBE IN ITEM D. BELOW)

D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED C. A. S. #:

III. TANK CONSTRUCTION

MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

A. TYPE OF SYSTEM: ☐ 1 DOUBLE WALL ☒ 2 SINGLE WALL ☐ 3 SINGLE WALL WITH EXTERIOR LINER ☐ 4 SECONDARY CONTAINMENT (VAULTED TANK) ☐ 95 UNKNOWN ☐ 99 OTHER

B. TANK MATERIAL (Primary Tank): ☒ 1 BARE STEEL ☐ 2 STAINLESS STEEL ☐ 3 FIBERGLASS ☐ 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC ☐ 5 CONCRETE ☐ 6 POLYVINYL CHLORIDE ☐ 7 ALUMINUM ☐ 8 100% METHANOL COMPATIBLE W/FRP ☐ 9 BRONZE ☐ 10 GALVANIZED STEEL ☐ 95 UNKNOWN ☐ 99 OTHER

C. INTERIOR LINING: ☐ 1 RUBBER LINED ☐ 2 ALKYD LINING ☐ 3 EPOXY LINING ☐ 4 PHENOLIC LINING ☐ 5 GLASS LINING ☒ 6 UNLINED ☐ 95 UNKNOWN ☐ 99 OTHER

IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___

D. CORROSION PROTECTION: ☐ 1 POLYETHYLENE WRAP ☐ 2 COATING ☐ 3 VINYL WRAP ☐ 4 FIBERGLASS REINFORCED PLASTIC ☐ 5 CATHODIC PROTECTION ☒ 91 NONE ☐ 95 UNKNOWN ☐ 99 OTHER

E. SPILL AND OVERFILL: SPILL CONTAINMENT INSTALLED (YEAR) NONE OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) NONE

IV. PIPING INFORMATION

CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE: A (U) 1 SUCTION A U 2 PRESSURE A U 3 GRAVITY A U 99 OTHER

B. CONSTRUCTION: A (U) 1 SINGLE WALL A U 2 DOUBLE WALL A U 3 LINED TRENCH A U 95 UNKNOWN A U 99 OTHER

C. MATERIAL AND CORROSION PROTECTION: A (U) 1 BARE STEEL A U 2 STAINLESS STEEL A U 3 POLYVINYL CHLORIDE (PVC) A U 4 FIBERGLASS PIPE A U 5 ALUMINUM A U 6 CONCRETE A U 7 STEEL W/ COATING A U 8 100% METHANOL COMPATIBLE W/FRP A U 9 GALVANIZED STEEL A U 10 CATHODIC PROTECTION A U 95 UNKNOWN A U 99 OTHER

D. LEAK DETECTION: ☐ 1 AUTOMATIC LINE LEAK DETECTOR ☐ 2 LINE TIGHTNESS TESTING ☐ 3 INTERSTITIAL MONITORING ☒ 99 OTHER NONE

V. TANK LEAK DETECTION

☐ 1 VISUAL CHECK ☒ 2 INVENTORY RECONCILIATION ☐ 3 VADOZE MONITORING ☐ 4 AUTOMATIC TANK GAUGING ☐ 5 GROUND WATER MONITORING ☒ 6 TANK TESTING ☐ 7 INTERSTITIAL MONITORING ☐ 91 NONE ☐ 95 UNKNOWN ☐ 99 OTHER

VI. TANK CLOSURE INFORMATION

1. ESTIMATED DATE LAST USED (MO/DAY/YR)	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING	3. WAS TANK FILLED WITH INERT MATERIAL?
6-15-93	12 GALLONS	YES ☐ NO ☒

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

APPLICANT'S NAME (PRINTED & SIGNATURE)	DATE
DAVID E. COTTER SR. David E. Cotter, Sr.	12-8-93

LOCAL AGENCY USE ONLY

THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.# COUNTY # JURISDICTION # FACILITY # TANK #

PERMIT NUMBER | PERMIT APPROVED BY/DATE | PERMIT EXPIRATION DATE

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED.

FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

ALAMEDA COUNTY FIRE DEPARTMENT

APPLICATION # 94-2-2-03

FIRE DEPARTMENT/PLANS APPLICATION

FIRE MARSHAL'S OFFICE
1426 164th Avenue
San Leandro, CA 94578
510-670-5853 • FAX 510-276-5915

APPLICATION TYPE: TANK REMOVAL DATE REC'D: 2-2-94 BY:

CATEGORY: 5/79

➤ PROJECT INFORMATION

PROJECT ADDRESS: Mountain House & Kelso Roads CROSS STREET: Kelso

CITY: Tracy ZIP: 95376 JOB PHONE: 209-836-6220

APN #: SDR #: PM/TRACT MAP #:

DESCRIPTION OF WORK/ACTIVITY:

BUILDING PERMIT #:

➤ APPLICANT

NAME: COTTLE INDUSTRIES PHONE # (H): 510-754-9135 (W):

ADDRESS: P.O. Box 163 ANTIOCH, CA ZIP: 94509

➤ OWNER

NAME: U.S. BUREAU of RECLAMATION PHONE # (H): 209-836-6220 (W):

ADDRESS: RT 1, Box 35 BYRON, CA ZIP: 94514-9614

➤ CONTRACTOR

NAME: COTTLE INDUSTRIES PHONE # (H): 510-754-9135 (W):

ADDRESS: P.O. Box 163, ANTIOCH, CA 0 ZIP: 94509

CONTRACTOR'S LICENSE TYPE & NUMBER: A 481444

➤ = APPLICANT TO FILL IN THESE SECTIONS

APPLICANT'S SIGNATURE: DATE: 2-2-94

FOR OFFICE ONLY

FEES

Fees are due and payable by check or money order, made out to Alameda County Fire Department, upon submittal of plans and application. If additional fees are required, such shall be paid prior to issuance of a Certificate of Occupancy, project final, or a Fire Permit.

BASE FEE REQUIRED: $ 120 REC'D BY: DATE: 2/2/94

CONSULTANT'S FEE: $ REC'D BY: DATE:

ADDITIONAL FEES: $ REC'D BY: DATE:

APPROVALS

FIRE PERMIT #: 94-2-2-30 ISSUED DATE: 2-2-94 EXPIRATION DATE: 3-2-94

PERMIT ISSUED BY: DATE: 2-2-94 FEE: 120

APPLICATION/PLANS APPROVAL: BY: DATE:

ALAMEDA COUNTY HEALTH CARE SERVICES
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 510/271-4320

2 sets 1/13/94
Note changes/additions in RED

UNDERGROUND TANK CLOSURE PLAN
*** * * Complete according to attached instructions * * ***

1. Business Name U.S. Bureau of Reclamation - Tracy, California
   Business Owner U.S. Bureau of Reclamation
2. Site Address Mountain House and Kelso Roads
   City Tracy, CA Zip 95376 Phone 209-836-6220
3. Mailing Address Route 1, Box 35
   City Byron Zip CA Phone 94514-9614
4. Land Owner U.S.A. Bureau of Reclamation
   Address Rt. 1, Box 35 City, State Byron, CA Zip 94514-9614
5. Generator name under which tank will be manifested
   U.S. BUREAU OF RECLAMATION
   EPA I.D. No. under which tank will be manifested CAC 00[illegible]83448

6. Contractor Cottle Engineering

Address P.O. BOX 7

City Antioch CA 94509 Phone 510-754-9935

License Type* A ID# 481444

*Effective January 1, 1992, Business and Professional Code Section 7058.7 requires prime contractors to also hold Hazardous Waste Certification issued by the State Contractors License Board. Indicate that the certificate has been received, in addition, to holding the appropriate contractors license type.

7. Consultant N/A

Address

City Phone

8. Contact Person for Investigation

Name Roy Pantle Title Project Manager

Phone 510-754-9935

9. Number of tanks being closed under this plan 2

Length of piping being removed under this plan 20'

Total number of tanks at facility 4

10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

** Underground tanks are hazardous waste and must be handled ** as hazardous waste

a) Product/Residual Sludge/Rinsate Transporter

Name Sea View Industries EPA I.D. No. AD983669052

Hauler License No. License Exp. Date

Address 98 Hagenberger Loop

City Oakland State CA Zip 94621

b) Product/Residual Sludge/Rinsate Disposal Site

Name REFINERIES SERVICE EPA I.D. No.

Address

City Patterson State CA Zip

c) Tank and Piping Transporter

Name Erickson EPA I.D. No. CAD009466392

Hauler License No. _____ License Exp. Date _____

Address 255 Parr Blvd.

City Richmond State CA Zip 94803

d) Tank and Piping Disposal Site

Name Erickson EPA I.D. No. CAD009466392

Address 255 Parr Blvd.

City Richmond State CA Zip 94803

11. Experienced Sample Collector

Name Roy Pantle

Company Cattle Engineering

Address P.O. Box 7

City Antioch State CA Zip 94509 Phone 510-754-9935

12. Laboratory

Name MC Campbell Analytical

Address 110 2nd Avenue South

City Pacheco State CA Zip 94553

State Certification No. 1644

13. Have tanks or pipes leaked in the past? Yes [ ] No [ ] Unknown

If yes, describe. _____

14. Describe methods to be used for rendering tank inert

Introduction of dry ice at a ratio of 2.5 lbs. per 100 gallons of tank volume.

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be plugged.

The Bay Area Air Quality Management District (771-6000), along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of explosion proof combustible gas meters to verify tank inertness. It is the contractor's responsibility to bring a working combustible gas meter on site to verify tank inertness.

15. Tank History and Sampling Information

Tank		Material to be sampled (tank contents, soil, groundwater, etc.)	Location and Depth of Samples
Capacity	Use History (see instructions)		
2000 gal 1,000 gal	Gasoline Waste Oil Tanks used until mid 1993	Soil #If groundwater is present in excavation, one groundwater sample and five soil samples to be collected from walls next to tank ends.	One Foot below bottoms of tanks at each end. into native

One soil sample must be collected for every 20 feet of piping that is removed. A ground water sample must be collected should any ground water be present in the excavation.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (Estimated) 35 Yards	Sampling Plan Two Composite Soil Samples from the stockpiled excavated soil with analyses as listed below.

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

16. Chemical methods and associated detection limits to be used for analyzing samples

The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed. See attached Table 2.

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Method Number	Method Detection Limit
TPHG, BTXE		8020, 8015	Soil: 1ppm Water: 50ppb
TPHD		8015	
Oil & Grease		5520E&F/5520B&F	Soil: .5ppm
Chlorinated Hydrocarbons		8240	Water: .5ppb
Metals Cd, Cr, Pb, Ni, Zn		ICAP or AA	
semi volatile cpds		8270	

17. Submit Site Health and Safety Plan (See Instructions)

18. Submit Worker's Compensation Certificate copy

Name of Insurer Republic Indemnity

19. Submit Plot Plan (See Instructions)

20. Enclose Deposit (See Instructions)

21. **Report any leaks or contamination to this office within 5 days of discovery.** The report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report form. (see Instructions)

22. Submit a closure report to this office within 60 days of the tank removal. This report must contain all the information listed in item 22 of the instructions.

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true.

I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

Signature of Contractor

Name (please type) DAVID E. COTTLE, JR.

Signature David E. Cottle, Jr.

Date 12-8-93

Signature of Site Owner or Operator

Name (please type) DARLENE BUNBOKE

Signature

Date 12-9-93

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances C
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CA C000983448 Manifest Document No. 4419641
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
U.S. BUREAU OF RECLAMATION
RD 1, Box 35 Byron CA 94514-9614

4. Generator's Phone (209) 836-6245

5. Transporter 1 Company Name: ERICKSON INC.
6. US EPA ID Number: CAD009460392

7. Transporter 2 Company Name
8. US EPA ID Number

9. Designated Facility Name and Site Address
Erickson, Inc.
255 Parr Blvd.
Richmond, Ca. 94801
10. US EPA ID Number: CAD009466392

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. Waste Empty Storage Tank NON-RCRA Hazardous Waste Solid.	02	T	2500	P
b.				
c.				
d.				

15. Special Handling Instructions and Additional Information
Keep away from sources of ignition. Always wear hardhats when working around U.G.S.T.'s 24 Hr. Contact Name HERB NG & Phone 209 836-6248 business 209 823-1581 home

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the 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 federal, state and international laws.

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
Walter D. Jourdan	Walter D. Jourdan	0 2	0 8	9 4

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
L.K. Bodfield	L.K. Bodfield	0 2	0 8	9 4

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR
TRANSPORTER
FACILITY

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

92144964

DO NOT WRITE BELOW THIS LINE.

DTSC 8022A (7/92)
EPA 8700—22

Blue: GENERATOR SENDS THIS COPY TO DTSC WITHIN 30 DAYS.
To: P.O. Box 400, Sacramento, CA 95812-0400

APPENDIX II - Qualifications

HOEXTER CONSULTING, INC.

734 Torreya Court
Palo Alto, California 94303

(415) 494-2505

DAVID F. HOEXTER

ENVIRONMENTAL QUALIFICATIONS

BACKGROUND SUMMARY

David F. Hoexter is an engineering geologist with 18 years of varied geoscience consulting experience. His career has included both engineering geology and environmental consultations, including soil and ground water remediation studies, property transfer assessments, and geologic input to environmental impact reports. He has particular experience within Northern California, as well as throughout the United States, and abroad. Mr. Hoexter founded Hoexter Consulting, Inc., in October, 1991.

PROFESSIONAL EDUCATION

M.S. Engineering Geology, 1975, Stanford University.
B.A. Geology and Political Science, 1972, University of California, Santa Barbara.

REGISTRATION

Registered Geologist, RG 3536, 1981.
Certified Engineering Geologist, CEG 1158, 1983.
Registered Environmental Assessor, REA 762, 1988.

GENERAL EXPERIENCE

* Soil and ground water remediation of industrial, commercial, underground tank sites.
* Property transfer/environmental assessments, including initial Phase I and Phase II soil and ground water quality studies; studies conducted for developers, financial institutions, engineers.
* Completed and current certifications of Health and Safety Training for Hazardous Waste Workers [OSHA 29CFR 1910.120(e)]: 40 hour basic, 8 hour update, and 8 hour supervisor's training.
* Corporate Health and Safety Manager for 60 person firm.
* Engineering geologic studies for site development, including subdivisions, residences, office and commercial structures; dam sites; slope stability studies; fault rupture hazard; seismicity; stream erosion; environmental impact reports.
* Expert witness testimony.
* Damage causation evaluations for insurance companies, attorneys, homeowners.
* Publications in engineering geology and environmental studies.
* Current chairman (1992-94) of 400 member San Francisco Section of the Association of Engineering Geologists.

REPRESENTATIVE EXPERIENCE

Parcel Distribution Facility, Richmond California: conducted preliminary environmental assessment and follow-up subsurface investigations and remediation of 63 acre former industrial site; initial studies resulted in delineation of 12 areas of possible contamination and consequent soil and ground water quality investigation. Delineated contaminated areas. Contaminants consisted of TCE, petroleum hydrocarbons, oils, and heavy metals. Conducted hydrogeologic parameter and beneficial use studies. Negotiated cleanup standards with regulatory agencies. Developed work plan for mitigation and remediation of contaminated soils and ground water. Initiated site remediation.

TCA Release, Industrial Facility, Union City, California: principal investigator of a TCA release from a paint dip tank. Conducted subsurface investigations, consisting of delineating extent of soil and ground water contamination, and supervised excavation and disposal of contaminated soil and ground water. Conducted extensive negotiations among property owner, responsible party, and regulatory agencies.

Clement Street Building, Alameda, California: project manager of cyanide remediation project. Soils contaminated with cyanide and metals from a photoetching company were identified, and the extent of contamination evaluated. The site was located in the basement of a building in use as offices. An innovative combination of soil removal and in-situ encapsulation was developed and implemented. A health-risk evaluation, and extensive regulatory agency negotiations were conducted. Ground water testing indicated minimal risk to drinking water or marine resources.

Los Gatos Parking Structure, Los Gatos, California: during site grading, petroleum hydrocarbon, solvent, and semi-volatile organic compounds were encountered in the vicinity of three previously unknown wooden vats and two underground fuel tanks. A historical review established that the site had been utilized for coal gasification. Managed investigation of this site, including installation of eight monitoring wells and 16 additional borings. Provided observation of tank, vat, and contaminated soil removals, and provided recommendations for soil and ground water remediation.

Pesticide Contamination, Residential Subdivision, Mountain View, California: expert witness for homeowners association. The site was originally a plant nursery. Prior to development of the subdivision, pesticide-contaminated soils were excavated and placed under streets prior to paving. Subsequently, the asphalt has failed, necessitating repairs which may necessitate contact with the encapsulated soils. This will result in significantly increased construction costs. Hoexter Consulting reviewed extensive regulatory agency and consultants' files, and has provided consultations related to the history of activities on the site and options to mitigate the problem. Negotiations are currently being held with the project developer and state agencies.

Proposed San Pablo Shopping Center, San Pablo, California: conducted preliminary environmental assessment of approximate 25 acre property, and delineated potential environmental concerns. Performed soil sampling and analytical testing of a former service station on the site, to determine the extent of soils contaminated by gasoline. Confirmed that there was no contamination of ground water to a depth of 50 feet. Recommended contaminated soil mitigation by removal and encapsulation under

pavement areas. Negotiated clean-up levels with agencies, and observed and documented the soil remediation.

Paradox Basin Nuclear Waste Repository, Moab, Utah: as member of hydrogeologic team assessing 3,000 foot deep proposed nuclear waste repository for Battelle Memorial Institute and the U.S. Department of Energy; supervised drilling and testing of 5,000 foot deep hydrogeologic test borings and wells. Study involved a multi-million dollar budget to determine primary non-military nuclear waste for entire United States.

Waste Chemical Disposal Wells, Tennessee, Louisiana, Ohio, Alabama: responsible for permitting, installation, and rehabilitation of 3-4,000 foot deep waste chemical by-product brine injection wells.

Chemical Plant Studies, California, Idaho, Utah: investigated the seismic setting of 12 chemical production facilities, as input to structural engineering studies of each site. Evaluated production facilities, waste ponds, and chemical storage vessels.

Proposed Subdivision, Lafayette, California: prepared engineering geologic and geotechnical engineering input to environmental impact evaluation and report for proposed subdivision.

Insurance Company Causation Studies, Northern California: evaluated soil and erosion problems at numerous sites for insurance company claims; studies included extensive evaluation of the flooding at Alviso, Santa Clara County, during winter of 1982-83; landslides; settlement; expansive soil; stream erosion.

Tallahalla Creek Oil Field, Mississippi: evaluated the production potential of an operating oil field. Study included correlation and interpretation of geophysical well logs and structural sections, and determination of remaining recoverable oil.

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"Potential for Triggered Slip on Secondary Faults in the East Bay: Implications for the Planning Process", in Borchardt, G, et al, Proceedings of the Second Conference on Earthquake Hazards in the eastern San Francisco Bay Area, California Division of Mines and Geology, Special Publication 113, in press.

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