

**SITE INVESTIGATION REPORT
MOBIL OIL CORPORATION**

**Former Mobil Oil Service Station 10-H6J
1024 Main Street
Pleasanton, California**

Prepared by:

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Project No. 30-065

June 1, 1990

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CC:
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Priority: Normal

Page: 1

Date sent: 1/23/91

OFFICE MEMO

Subject:

Mobil Oil Service Station Site

Time: 4:19 PM

Date: 9/25/90

I just got off the phone with David Noe of Mobil Oil, and Cheri D' Andera of Alton GeoScience. The Station Site will be backfilled sometime in the next week or so. Clean-up of the contaminated soils under the station site will be attempted by a soil vapor extraction system. Groundwater clean-up will be attempted by similar means.

Any Questions, I have more details.

Rick M.

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for
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This report was based on currently available data and was developed in accordance with current hydrogeologic and engineering practices.

This report was prepared by:

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6/1/90

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1.0 INTRODUCTION AND BACKGROUND

Alton Geoscience, Inc. was retained by Mobil Oil Corporation to conduct a preliminary site investigation at former Mobil Service Station 10-H6J, located at 1024 Main Street, Pleasanton, California, and to assess the potential of subsurface soil and/or ground water contamination resulting from past operations at the site. A site vicinity map is shown in Figure 1 (USGS 7.5 minute Livermore and Dublin quadrangles, topographic sheets dated 1961, photorevised 1980), while the site plan is shown in Figure 2.

1.1 Purpose and Scope

The primary purpose of this preliminary site investigation was to: (1) address the concerns of the regulatory agencies, (2) determine the lateral and vertical extent of subsurface contamination, if any, and (3) define an appropriate course of action for further site characterization or remediation, if warranted. The scope of work under this preliminary investigation study included:

1. Drilling of eight soil borings.
2. Completion of three of the soil borings into ground water monitoring wells.
3. Collection and analysis of soil and ground water samples.
4. Assessment of the extent of hydrocarbon contamination in the soil and/or ground water onsite.
5. Preparation of a report presenting the results, findings, and recommendations of the study.

The investigation was conducted in accordance with the requirements and guidelines of the Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7), the San Francisco Bay Regional Water Quality Control Board (RWQCB), and the City of Pleasanton Fire Department (PFD) guidelines.

1.2 Site Description

The site is located on the northeast corner of Stanley Boulevard and Main Street, Pleasanton, California, at approximately 350 feet above mean sea level (NGVD -1929), as shown in Figure 1. The former service station was formally closed in October 1989, when four underground storage tanks were removed.

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The area surrounding the site is primarily residential and commercial, with an operating service station to the south, residential neighborhoods to the north and east, and retail businesses to the west. Amador Valley High School is located approximately 500 feet northwest of the site. The Pleasanton City Hall, Alameda County Fairgrounds, residential neighborhoods, commercial development, and other schools and retail businesses are located within a half-mile of the site. The Arroyo Del Valle Canal is about 500 feet south of the site, and flows in an east/west direction.

1.3 Past Site Activities and Studies

Pertinent information on past site activities and studies was obtained from reports prepared by other consulting firms, and previous activities conducted by Alton Geoscience, Inc.

In March 1989, Mobil Oil Corporation contracted Target Environmental Services, Inc. to conduct a soil gas survey at the site, as part of Mobil Oil's property transfer program in Northern California, Oregon, and Washington. The results of this survey indicated the presence of detectable levels of hydrocarbon constituents in the soil vapor, primarily in the southwest corner of the fueling area.

In October 1989, Balch Petroleum, Inc. was retained by Mobil Oil to remove four underground storage tanks; three for gasoline fuel storage, and one for waste oil. No diesel fuel was ever stored at the site. Visual observation revealed that the tanks removed were in fair condition, with no visible holes. Following the tank removal activities, Alton Geoscience collected soil samples at depths ranging from 12 to 22 feet below grade from the gasoline tank cavity area, and at 8 feet below grade from the waste oil tank area.

Laboratory analysis of the soil samples indicated the presence of total petroleum hydrocarbons (TPH) as gasoline in the western boundary of the former gasoline tank cavity at concentrations ranging from 890 parts per million (ppm) to 2,400 ppm. Diesel-range TPH was not detected in any of the soil samples. A sample collected from the former waste oil tank pit area showed no detectable levels of TPH as gasoline or diesel. For more detailed information on the tank closure activities, and results of the soil sampling and analysis conducted, reference should be made to the Status Report on Tank Removal and Soil Sampling, prepared by Alton Geoscience, dated October 27, 1989.

Following completion of tank removal activities, approximately 260 cubic yards of hydrocarbon-contaminated soil were excavated from the two tank pits for aeration

onsite, prior to disposal. The aeration activities were conducted in accordance with the requirements of the Bay Area Air Quality Management District and other regulatory agencies, in order to dispose of the soil at a Class III facility. In January 1990, PFD approved the transportation and disposal of approximately 150 cubic yards of aerated soil to the Durham Road Landfill for disposal. Reports prepared by Alton Geoscience dated December 13, 1989, and March 20, 1990 provide more detailed information on the soil aeration activities.

As of May 1990, approximately 110 cubic yards of stockpiled soil are still being aerated onsite prior to disposal. Additional soil sampling and laboratory analysis will be conducted prior to requesting PFD for authorization to dispose of the material to a Class III disposal facility.

1.4 Regional Geology and Hydrogeology

The site is located in the Amador Subbasin of the Livermore Valley Basin. The uppermost members of the Livermore Valley Basin primarily consist of Quaternary sediments including gravel deposits, valley fill materials, stream channel deposits, alluvial fan deposits, and basin deposits.

These units are generally loose deposits of sand, gravel, and boulders (stream channel deposits), unconsolidated deposits of clay, silt, sand, and gravel (alluvium deposits), and semiconsolidated deposits of sand and gravel in a matrix of clayey sand (alluvial fan deposits). The thickness of these units ranges from 0 to 200 feet. Stream channel deposits are highly permeable but are limited in extent and thickness. Basin deposits are generally impermeable, while alluvium and alluvial fan deposits are permeable and represent the major water-bearing zone.

The Amador Subbasin is bounded on the east by the middle zone of the Livermore Fault and on the west by the Pleasanton Fault. Ground water occurs in the Amador Subbasin in unconfined to confined conditions. Unconfined ground water occurs in the near-surface zones, however, in the deeper zones ground water is to some extent confined. The ground water in the Amador Subbasin is considered good to excellent quality.

The subbasin is drained by Arroyo del Valle and Arroyo Mocho, the two principal streams of the Livermore Valley. Annual precipitation in the area ranges from 16 to 19 inches. Production rates of existing water supply wells in the

subbasin range from 42 to 2820 gallons per minute (Evaluation of Groundwater Resources: Livermore and Sunol Valley, Bulletin No. 118-2, June 1974).

A hydraulic surface map showing the regional ground water elevation contours for the Pleasanton area (File No. 13320, March 16, 1989) was provided by Alameda County Flood Control and Water Conservation District (Zone 7). This map shows regional ground water flowing westerly to northerly in the vicinity of the site, with a moderately flat gradient. The major ground water-producing aquifer is located at approximately 90 feet below grade, with varying gradient throughout the basin.

There are about 25 wells within a half-mile radius of the site, identified from available records, of which 13 are no longer in use, and three are owned by the City of Pleasanton and used to supply both drinking and irrigation water to the community. These three wells are located approximately 2,000 feet north of the site, and range in total depth from 151 to 647 feet below grade, with depth to water levels of 88 to 90 feet below grade.

Information provided by Zone 7 indicates that the deepest of the three water supply wells was constructed from the ground surface to 130 feet below grade with 36-inch casing, and from 130 to 647 feet below grade with 28-inch casing. The surface seal extends from the ground surface to 130 feet below grade, while the perforated portion extends from 165 to 647 feet below grade. Other than the surface seal, the remaining strata was not sealed against pollution, as indicated by available records.

The Arroyo Del Valle Canal is located approximately 500 feet south of the site. Information obtained from Zone 7 indicates that the canal is used by Kaiser Sand and Gravel for discharging water generated in their operations. The water level in the canal has varied on an irregular basis, by as much as plus or minus 10 feet. This variation could have an effect on the shallow ground water in the immediate vicinity of the canal. A discussion of the potential effect of the water level changes in the canal on the hydrogeology at the site is presented in Section 4.2.

2.0 FIELD METHODS

To assess the lateral and vertical extent of soil and/or ground water contamination, and determine the ground water flow direction and hydraulic gradient at the site, soil borings were drilled and ground water monitoring wells were

installed. The procedures and methods used during field activities were in accordance with the requirements of the City of Pleasanton Fire Department (PFD), the Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7), and the Regional Water Quality Control Board (RWQCB) Guidelines for Addressing Fuel Leaks.

2.1 Soil Borings and Sampling

Prior to commencement of drilling activities, permits for the proposed soil borings/ground water monitoring wells were filed and obtained from Zone 7. An additional permit from the City of Pleasanton Engineering Department was also obtained to drill one soil boring, SB-3, along Stanley Boulevard, within the city right-of-way. Copies of the well permits are presented in Appendix A.

Initial field activities commenced on December 28, 1989, with the drilling of two 8-inch-diameter soil borings (SB-1 and SB-2). Only two soil borings were drilled initially because of limited area and an accessibility problem from the stockpiled soil and two open excavation pits onsite. The two borings were drilled to depths of approximately 45 feet below grade, where a saturated zone was first encountered, and then backfilled with neat cement. Soil samples for laboratory analysis were collected at 5-foot intervals to the depth of the borings. The drilling activities were performed by Baylands Drilling Company using a CME 55 drilling rig with hollow-stem augers.

Subsequent to the removal and disposal of 150 cubic yards of aerated soil, Alton Geoscience supervised the drilling of six additional soil borings (SB-3 through SB-8), three of which were completed as ground water monitoring wells. The boreholes that were not converted into wells were backfilled with neat cement using a tremie line method. ~~The drilling~~ activities were performed between March 21 and 26, 1990, by Kvilhaug Well Drilling and Pump Company, of Concord, California. The locations of the soil borings and ground water monitoring wells are shown in Figure 2.

During drilling, soil samples were collected at 5-foot intervals using a modified, California split-spoon sampler lined with brass tubes. The soil sample tubes were sealed using Teflon sheeting, plastic caps, and duct tape. Samples were immediately placed in an iced cooler for transportation to a state-certified laboratory for analysis.

The soil borings were logged using the Unified Soil Classification System. Soil characteristics such as density, moisture content, color, organic matter, and combustible gas

readings were also noted on the boring logs. A description of drilling procedures and soil sampling protocol is presented in Appendix B-1, while the soil boring logs are presented in Appendix B-2.

2.2 Ground Water Monitoring Well Construction

Soil Borings SB-6, SB-5, and SB-8 were completed as Ground Water Monitoring Wells MW-1, MW-2, and MW-3, respectively. Ground water was initially encountered at depths of approximately 41 feet below grade in SB-6 (MW-1) and SB-5 (MW-2), and at 22 feet below grade in SB-8 (MW-3). The monitoring wells were completed to total depths ranging from 36.5 to 56.5 feet below grade. The difference in ground water levels may be due to a permeability barrier located between MW-3 and MW-2, and the possibility of two discontinuous water-bearing zones.

Monitoring Well MW-1 was completed as a 4-inch-diameter well, while MW-2 and MW-3 were completed as 2-inch-diameter wells. The wells were constructed of flush-threaded, Schedule 40, polyvinyl chloride (PVC) blank casing, and 0.020-inch slotted PVC casing. The deeper wells, MW-1 and MW-2, were completed in a competent, silty clay layer. The shallow well, MW-3, was completed approximately 15 feet below the highest anticipated water level, in silty sand.

Monitoring well installation and construction procedures are presented in Appendix C-1. The well construction diagrams are presented in Appendix C-2.

2.3 Monitoring Well Development and Sampling

Well development and sampling procedures were conducted in accordance with RWQCB guidelines, and the requirements of Zone 7 and the PFD. A description of the general field procedures for well development and sampling is presented in Appendix C-3.

Monitoring Wells MW-1, MW-2, and MW-3 were developed on April 12, 1990, using a 3-foot-long PVC bailer. Approximately 10 well casing volumes of water were purged from each well, with pH, specific conductivity, and temperature measurements recorded. The water development forms are included in Appendix C-4.

On April 16, 1990, more than 72 hours after well development, as required by the PFD, each well was purged of an additional 3 well casing volumes of water prior to sample collection. The water sampling forms are also included in Appendix C-4. The samples were collected in a PVC bailer, decanted into

clean containers, and transported in an iced cooler to a state-certified laboratory for analysis following the proper chain of custody procedures (refer to Appendix C-5).

2.4 Ground Water Monitoring and Surveying

A clear Teflon bailer was lowered into the water table of each well to determine the presence or absence of floating product. No free product or sheen was observed in any of the wells. The wells were then surveyed to the top of the casing, in reference to the City of Pleasanton Bench Mark P1257, to calculate the water table elevations and determine the hydraulic gradient at the site.

On April 12, 1990, using an electronic sounder, the ground water level in each well was measured to the nearest 0.01 foot, to the top of the PVC well casing. The water level in MW-3 stabilized at 23.18 feet below grade, while the water levels in MW-1 and [REDACTED] stabilized approximately 20 feet deeper, at 43.57 and 44.14 feet below grade, respectively. The survey data and water level measurements are presented in Table 1.

3.0 ANALYTICAL METHODS AND RESULTS

All laboratory analysis of soils and ground water samples was performed by Superior Analytical Laboratory, Inc., a California state-certified analytical laboratory, using standard test methods of the U.S. Environmental Protection Agency (EPA) and the California Department of Health Services (Cal-DHS), as discussed below.

3.1 Analysis of Soil Samples

A total of 47 soil samples were collected from eight soil borings, at depths ranging from 4 to 56.5 feet below grade, for laboratory analysis. Selected soil samples were analyzed for: (1) total petroleum hydrocarbons as gasoline (TPH-G) using purge and trap by EPA Method 8015/5030, (2) benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Methods 5030 and 8020, and (3) organic lead (Pb) using the California Department of Health Services (DHS) method.

A summary of the analytical results of the soil sampling is presented in Table 2. The official laboratory reports and chain of custody records are included in Appendix D.

3.2 Analysis of Ground Water Samples

Ground water samples from MW-1, MW-2, and MW-3 were analyzed for: (1) TPH-G by EPA Methods 5030 and 8015, (2) BTEX by EPA Methods 5030 and 602, (3) organic lead by the DHS method, and (4) halogenated volatile organics (HVO) by EPA Method 601. A summary of the analytical results of the water sampling is presented in Table 3. The official chain of custody records are included in Appendix E.

4.0 DISCUSSION OF RESULTS

The findings from the field activities and laboratory analysis of soil and ground water samples as it relates to the site, as well as potential environmental impacts, are discussed below:

4.1 Site Geology

The site is located approximately 500 feet north of the Arroyo Del Valle Canal, at an elevation of about 350 feet above mean sea level (NGVD 1929). A stream gauging station is located less than 1 mile west of the site, along the canal.

Review of the soil boring logs indicates that the predominant soil types at the site are interbedded silt and silty clay layers, with occasional interbedded thin layers of silty sand. A layer of sandy gravel was encountered in five of the eight borings, at or near the water-bearing zone, at depths ranging from 35 to 44 feet. The soil boring logs present a detailed description of the subsurface units encountered during drilling (refer to Appendix B-2).

As described in Section 1.3, Regional Geology and Hydrogeology, the subsurface material at the site is primarily alluvial fill. This depositional environment could produce units with elongated patterns consistent with the direction of preferential flow patterns. Cross Section A to A' (Figure 3) shows the geologic units onsite to be discontinuous in an east/west direction, while Cross Section B to B' (Figure 4) shows that these units are relatively continuous, or consistent, in a north/south direction.

4.2 Site Hydrogeology

Depth to water, after ground water level stabilized, was measured to be 23.18 feet in MW-3, 43.57 feet in MW-1, and 44.14 feet in MW-2. This data indicates that there are

probably two discontinuous, shallow water-bearing zones within 50 feet of the surface.

The first shallow aquifer, on the western edge of the property, is estimated to be at about 20 feet below grade and may overlie the second aquifer. The second, deeper water-bearing zone, encountered in SB-1, SB-2, SB-5, SB-6, and SB-7, towards the center of the property, is at about 44 feet below grade, extending in the north and south directions, and terminating just east of SB-5. A poor recovery rate was observed during development and purging of MW-2, which may indicate that this well lies at the edge of a perched aquifer, or near an impermeable barrier or zone. At this time, the lateral extent of the second deeper aquifer cannot be determined in the easterly direction.

Since the wells appear to have been completed in two separate water-bearing zones, the ground water flow direction and gradient could not be determined from these three wells. Based on field observations during drilling, and information provided by Zone 7, it is estimated that the ground water flow direction is probably between the west and north. From water level data for MW-1 and MW-2, an approximate hydraulic gradient of 0.004 foot per foot, or greater, can be assumed. All wells are estimated to be downgradient of the former underground storage tanks.

As discussed in Section 1.3, changes in the water level of as much as 10 feet, at the Arroyo del Valle Canal, could affect the ground water condition at the site. These periodic changes in water level in the canal could result in a temporary reversal of the local ground water flow direction and gradient. If this occurs, hydrocarbon contaminants in ground water at the site could migrate in a southerly direction, opposite from the regional ground water flow direction and gradient.

4.3 Soil Sampling

Laboratory analysis of selected soil samples indicated no detectable concentrations of organic lead in any of the samples, however, TPH as gasoline (TPH-G) and BTEX were detected at various depths in five of the eight borings. Soil Borings SB-1, SB-2, SB-3, SB-4, and SB-8 (MW-3) had low to nondetectable levels of TPH-G and BTEX constituents for the entire depth of the boring.

Laboratory analysis indicates the presence of TPH-G concentrations of up to 3,500 ppm, benzene of up to 53 ppm, toluene of up to 340 ppm, ethylbenzene of up to 120 ppm, and xylenes of up to 610 ppm. The highest levels of TPH-G and

BTEX constituents were detected in SB-5 (MW-2), SB-6 (MW-1), and SB-7, generally in the samples collected between 25 and 45 feet below grade. These borings with the highest level of hydrocarbon constituents are located in the central portion of the property, immediately west of the building and downgradient of the former gasoline tanks.

Within the existing fuel tank cavity, the only remaining hydrocarbon contamination in the soil appears to be limited to the northwestern portion of the excavation area, at depths of 19 to 22 feet below grade. Soil samples collected from the borings (SB-5, SB-6, and SB-7) near the tank cavity, that contain detectable TPH-G levels exceeding 50 ppm, are as follows:

- In SB-5, located approximately 10 feet north: at depths of 35 to 40 feet in clayey silt, 40 to 45 feet in silty sand, and 45 to 46.5 feet in gravelly sand.
- In SB-6, located approximately 10 feet west: at a depth of 31 feet in silty sand.
- In SB-7, located approximately 30 feet northwest: at a depth of 26 feet in clayey silt.

It appears from the results of the above soil sampling that the hydrocarbon contaminants in the unsaturated zone extend immediately north and northwest of the former fuel tank cavity, from a depth of approximately 25 feet below grade, extending to the capillary fringe. A detailed diagram showing the detected levels of TPH-G in the soil samples collected from the tank cavities and soil borings is included as Figure 5.

It does not appear that hydrocarbon contamination in the soil extends to the northern and southeastern boundaries of the property, and beyond 40 to 45 feet below grade, or the total depths of the borings. The concentrations of petroleum hydrocarbon constituents in the soil start to attenuate at depths of 20 to 40 feet below grade, to nondetectable or low levels at the bottom of the borings.

4.4 Ground Water Sampling

Laboratory analysis of the ground water samples indicated no detectable concentrations of organic lead in any of the wells, however, TPH-G, BTEX constituents, and 1,2-Dichloroethane were detected in all three of the samples.

Both the Environmental Protection Agency (EPA) and the Department of Health Services (DHS) have recently adopted

and/or proposed new drinking water standards. The EPA and DHS developed primary maximum contaminant levels (MCLs) under the Safe Drinking Water Act for many inorganic and organic compounds. The MCLs for specific compounds of interest in this investigation are presented below:

DHS Primary Maximum Contaminant Levels (MCLs)
for Drinking Water Standards

Benzene	1 ppb
Ethylbenzene	680 ppb
Toluene	2,000 ppb
Xylenes	1,750 ppb
1,2 Dichloroethane	0.5 ppb

Source: A compilation of Water Quality Goals, November 1989; prepared by Jon B. Marshack, Central Valley Region RWQCB.

The concentrations of benzene and 1,2-Dichloroethane detected in all of the ground water samples exceed the corresponding primary MCLs for drinking water. With the exception of the sample from MW-2, the levels of ethylbenzene, toluene, and xylenes are below the corresponding MCLs.

Monitoring Well MW-2, located by the southwest corner of the service building, has the highest concentrations of hydrocarbon constituents detected. The hydrocarbon contaminant plume in the ground water could possibly extend to the east by the service building and to the west towards Main Street.

Based on the results of the soil analysis, it does not appear that hydrocarbon contaminants have migrated to the north, and offsite of the property. The shallow ground water could be further impacted by the adsorbed-phase petroleum hydrocarbon constituents in the soil to the south and southeast of the property if ground water flow direction and gradient at the site changes as a result of water level fluctuations from the Del Valle Canal.

5.0 FINDINGS AND CONCLUSIONS

The conclusions of this site investigation study were based on the results of laboratory analysis and field activities, and from review of available geologic and hydrogeologic data, and are summarized below:

- The shallow ground water flow direction and hydraulic gradient at the site cannot be determined with certainty at this time. From available information on regional hydrogeology and field observations, it is likely that the shallow ground water flows between the north and west directions.
- From data obtained in this initial study there appears to be at least two discontinuous water bearing zones located within 50 feet of the surface, and about 20 feet vertically from each other. The extent of these shallow water-bearing zones cannot be defined at this time.
- Adsorbed-phase petroleum hydrocarbon constituents in the soil onsite appear to be most pervasive between 25 and 40 feet below grade, in the central and southwestern portions of the property.
- The lateral extent of hydrocarbon constituents in the soil appears to be limited to the immediate vicinity of the potential sources of contamination: the former underground tank area, pump island, product lines, and possibly the remote fill line of the waste oil tank.
- Shallow ground water onsite has been impacted by the hydrocarbon constituents. Samples from all three wells had detectable levels of TPH-G ranging from 2,100 ppb to 64,000 ppb, as well as BTEX constituents.
- Benzene and 1,2-Dichloroethane were detected in the ground water samples from all of the wells at levels exceeding the corresponding state primary maximum contaminant levels (MCLs) for drinking water. Additionally, the water samples from MW-2 exceeded the MCLs for toluene, ethylbenzene, and xylenes. Organic lead was not detected in any of the soil or ground water samples at the site.
- The nature and extent of dissolved-phase hydrocarbon constituents in ground water cannot be defined at this time. However, it appears that there are at least two discontinuous water-bearing zones, possibly bounded by an impermeable barrier or zone, that may limit the potential migration of the contaminants offsite.

- Further site investigation ~~is necessary~~ to determine: (1) the extent of the hydrocarbon contaminant plume in the ground water, (2) potential environmental impact, and (3) appropriate remedial measures.

TABLE 1
 SURVEY AND WATER LEVEL MONITORING DATA
 April 12, 1990

Well Number	Free Product or Sheen	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Elevation (feet)
MW-1	none	351.87	43.57	302.43
MW-2	none	346.43	44.14	302.29
MW-3	none	345.87	23.18	322.70

Note: Ground water elevations based on the depth to water, from the top of the well casing relative to mean sea level.

TABLE 2

SUMMARY OF [REDACTED] SAMPLING ANALYSIS
 At former Mobil Oil Service Station No. 10-H6J

Sample ID	Sampling conducted on December 28, 1989 Detected Concentrations are Reported in mg/Kg (ppm)					
	TPH-Gas	Benzene	Toluene	Ethylbenzene	Xylenes	Organic Lead
SB-1 @ 5'	ND<1.0	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.5
SB-1 @ 10'	ND<1.0	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.5
SB-1 @ 15'	ND<1.0	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.5
SB-1 @ 30'	ND<1.0	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.5
SB-2 @ 5'	ND<1.0	0.013	0.021	0.011	0.040	ND<0.5
SB-2 @ 10'	ND<1.0	0.009	0.010	ND<0.003	0.021	ND<0.5
SB-2 @ 15'	ND<1.0	0.021	0.009	ND<0.003	0.012	ND<0.5
SB-2 @ 20'	ND<1.0	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.5
SB-2 @ 30'	ND<1.0	0.014	0.005	0.005	0.008	ND<0.5
SB-2 @ 39'	ND<1.0	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.5

TABLE 2
(Continued)

SUMMARY OF SOIL SAMPLING ANALYSIS
At former Mobil Oil Service Station No. 10-H6J

Sample ID	Sampling conducted March 21,22,23 and 26, 1990 Detected Concentrations are Reported in mg/Kg (ppm)				
	TPH-Gas	Benzene	Toluene	Ethylbenzene	Xylenes
SB-3 @ 16-16.5'	ND<1.0	ND<0.003	ND<.003	ND<.003	ND<.003
SB-3 @ 21-21.5'	ND<1.0	ND<0.003	ND<.003	ND<.003	ND<.003
SB-3 @ 26-26.5'	ND<1.0	ND<0.003	ND<.003	ND<.003	ND<.003
SB-3 @ 31-31.5'	ND<1.0	0.015	0.007	ND<.003	0.005
SB-3 @ 56-56.5'	ND<1.0	ND<0.003	ND<.003	ND<.003	ND<.003
SB-4 @ 16-16.5'	1.0	0.020	0.010	0.008	0.140
SB-4 @ 21-21.5'	ND<1.0	0.086	0.005	0.052	0.016
SB-4 @ 26-26.5'	ND<1.0	0.250	0.006	0.050	ND<0.003
SB-4 @ 31-31.5'	ND<1.0	ND<0.003	ND<.003	ND<.003	ND<0.003
SB-4 @ 51-51.5'	ND<1.0	ND<0.003	ND<.003	ND<.003	ND<0.003
SB-5 @ 16-16.5'	2.0	0.110	0.055	0.063	0.350
SB-5 @ 21-21.5'	3.0	0.260	0.053	0.090	0.510
SB-5 @ 26-26.5'	3.0	0.470	0.790	0.079	0.450
SB-5 @ 31-31.5'	42.0	2.1	5.2	1.1	5.3
SB-5 @ 36-36.5'	3,500.0	53.0	340.0	120.0	610.0
SB-5 @ 41-41.5'	3,200.0	18.0	130.0	94.0	450.0
SB-5 @ 46-46.5'	5.0	0.079	0.040	51.0	53.0
SB-5 @ 51-51.5'	ND<1.0	0.016	0.026	18.0	65.0
SB-5 @ 56-56.5'	1.0	0.032	0.058	33.0	94.0

MW-2

TABLE 2
(Continued)

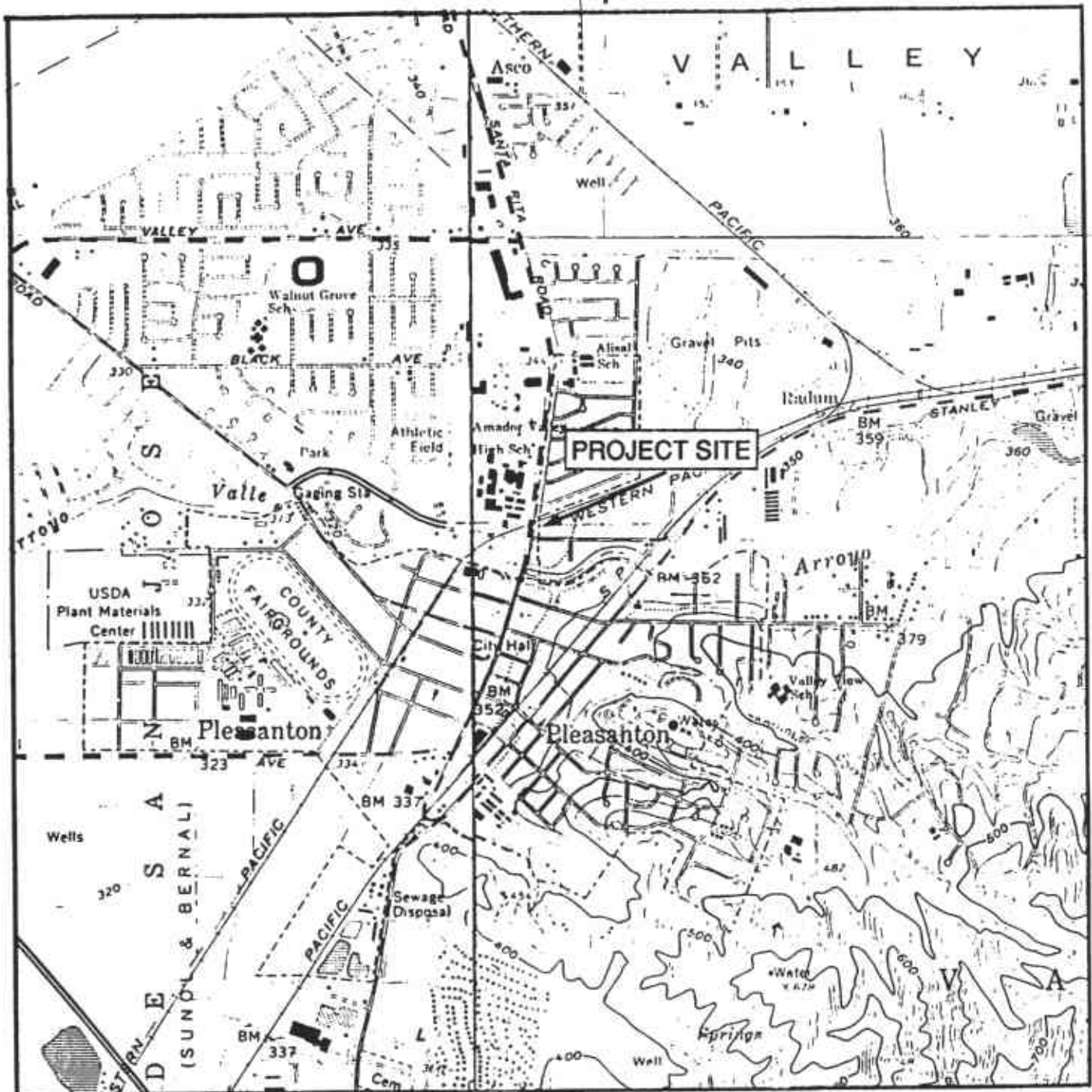
SUMMARY OF SOIL SAMPLING ANALYSIS
At former Mobil Oil Service Station No. 10-H6J

Sample ID	Sampling conducted March 21,22,23 and 26, 1990 Detected Concentrations are Reported in mg/Kg (ppm)				
	TPH-Gas	Benzene	Toluene	Ethylbenzene	Xylenes
<i>MW-1</i> { SB-6 @ 15.5-16' SB-6 @ 21-21.5' SB-6 @ 26-26.5' SB-6 @ 31-31.5' SB-6 @ 36-36.5' SB-6 @ 41-41.5' SB-6 @ 55-55.5'	6.0	0.150	0.670	0.120	0.720
	7.0	1.2	2.5	0.180	1.1
	10.0	1.1	2.2	0.240	1.3
	110.0			2.7	13.0
	42.0	0.160	0.730	0.720	3.6
	1.0	0.004	0.009	0.005	0.016
	ND<1.0	0.005	0.007	0.003	0.009
SB-7 @ 6-6.5' SB-7 @ 21-21.5' SB-7 @ 26-26.5' SB-7 @ 31-31.5' SB-7 @ 36-36.5'	25.0	0.032	0.320	0.520	3.2
	5.0	0.670	1.6	0.150	0.780
	270.0				25.0
	3.0	0.380	0.760	0.083	0.460
	ND<1.0	0.009	0.014	0.05	0.024
<i>MW-3</i> { SB-8 @ 6-6.5' SB-8 @ 21-21.5' SB-8 @ 26-26.5' SB-8 @ 31-31.5' SB-8 @ 36-36.5'	ND<1.0	ND<0.003	ND<0.003	ND<0.003	ND<0.003
	ND<1.0	ND<0.003	ND<0.003	ND<0.003	ND<0.003
	2.0	ND<0.003	0.024	0.011	0.017
	3.0	0.025	0.006	0.180	0.290
	ND<1.0	0.03	0.008	ND<0.003	0.021

TABLE 3

SUMMARY OF GROUND WATER SAMPLING ANALYSIS
 At former Mobil Oil Service Station No. 10-H6J

Sample ID	Sampling conducted on January 16, 1990 Detected Concentrations are Reported in ug/L (ppb)						
	TPH-Gas	Benzene	Toluene	Ethyl benzene	Xylenes	Organic Lead	1,2-Dichlorethane
MW-1	3,600	73	13	3	180	ND<10.0	45
MW-2	64,000		7,600	1,900	7,800	ND<10.0	200
MW-3	2,100	32	56	31	170	ND<10.0	117



DUBLIN AND LIVERMORE QUADRANGLES
 CALIFORNIA
 7.5 MINUTE SERIES (TOPOGRAPHIC)



QUADRANGLE LOCATION



FIGURE 1. Vicinity Map



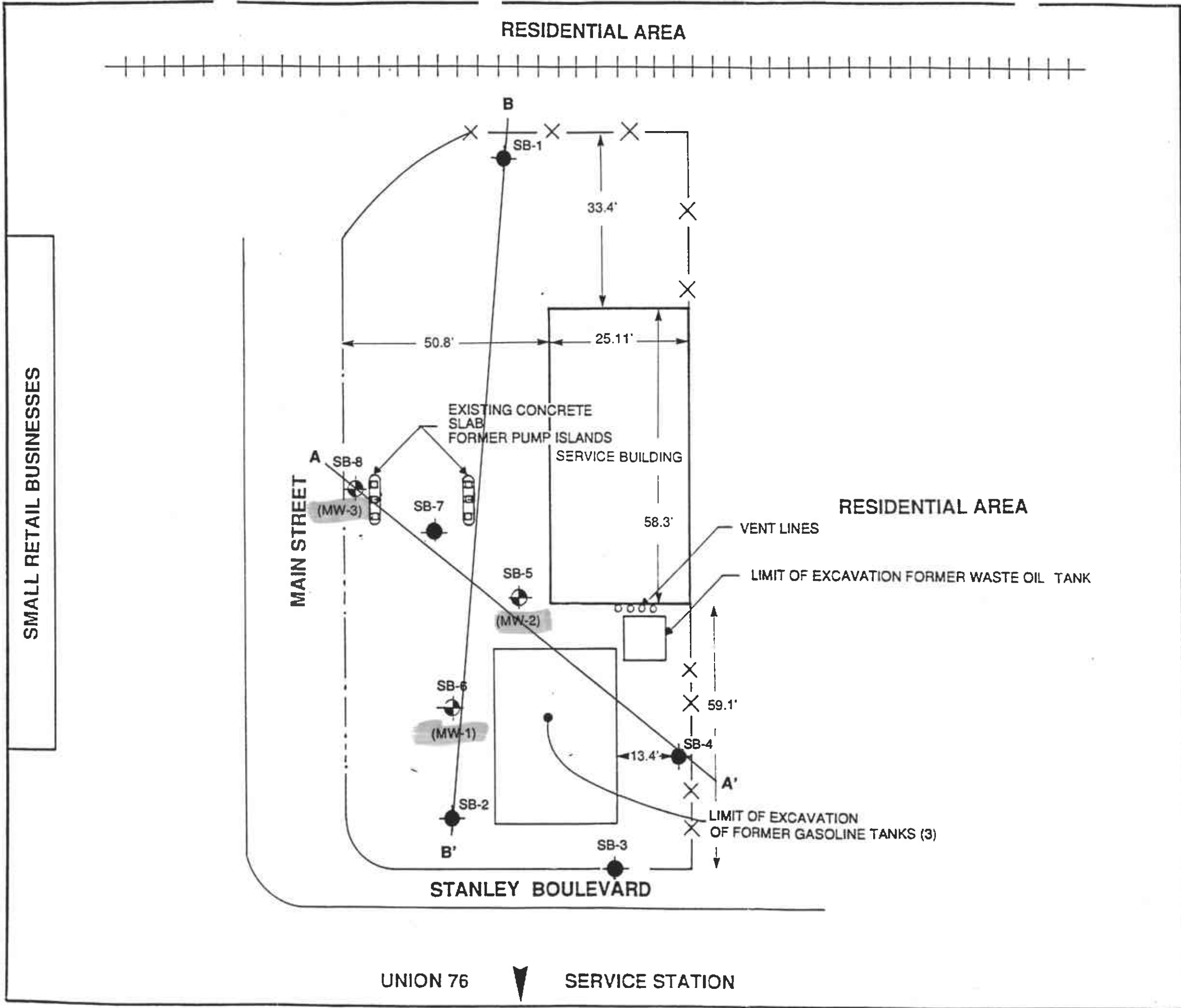
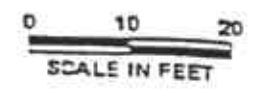


FIGURE 2
 LOCATION OF SOIL BORINGS AND MONITORING WELLS AT FORMER MOBIL SERVICE STATION 10-H6J
 1024 MAIN STREET
 PLEASANTON, CALIFORNIA
 ALTON PROJECT NO. 30-065

- LEGEND:**
- MONITORING WELL LOCATIONS
 - SOIL BORING LOCATIONS
 - RAILROAD TRACKS
 - FENCE
 - PROPERTY LINE

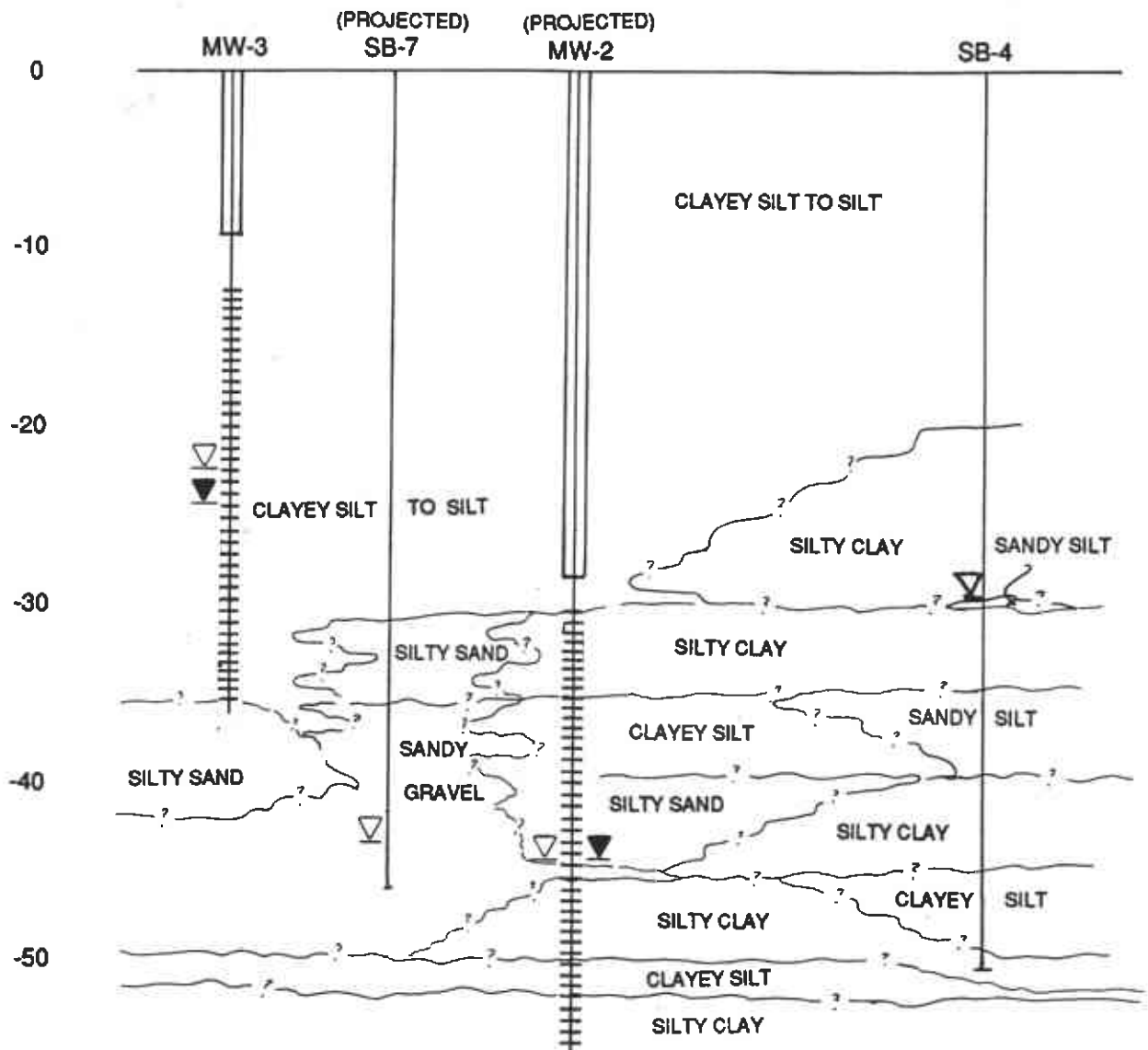


NORTH WEST

SOUTH EAST

A

A'



LEGEND



GROUND WATER MONITORING WELL
SHOWING SLOTTING AND SEAL



WATER LEVEL AT TIME OF DRILLING



WATER ELEVATION APRIL 12, 1990

SCALE 1" = 20' HORIZONTAL
1" = 10' VERTICAL

DISTANCES AND ELEVATIONS IN FEET

FIGURE 3

HYDROGEOLOGIC
CROSS-SECTION A-A'

PROJECT NO. 30-065

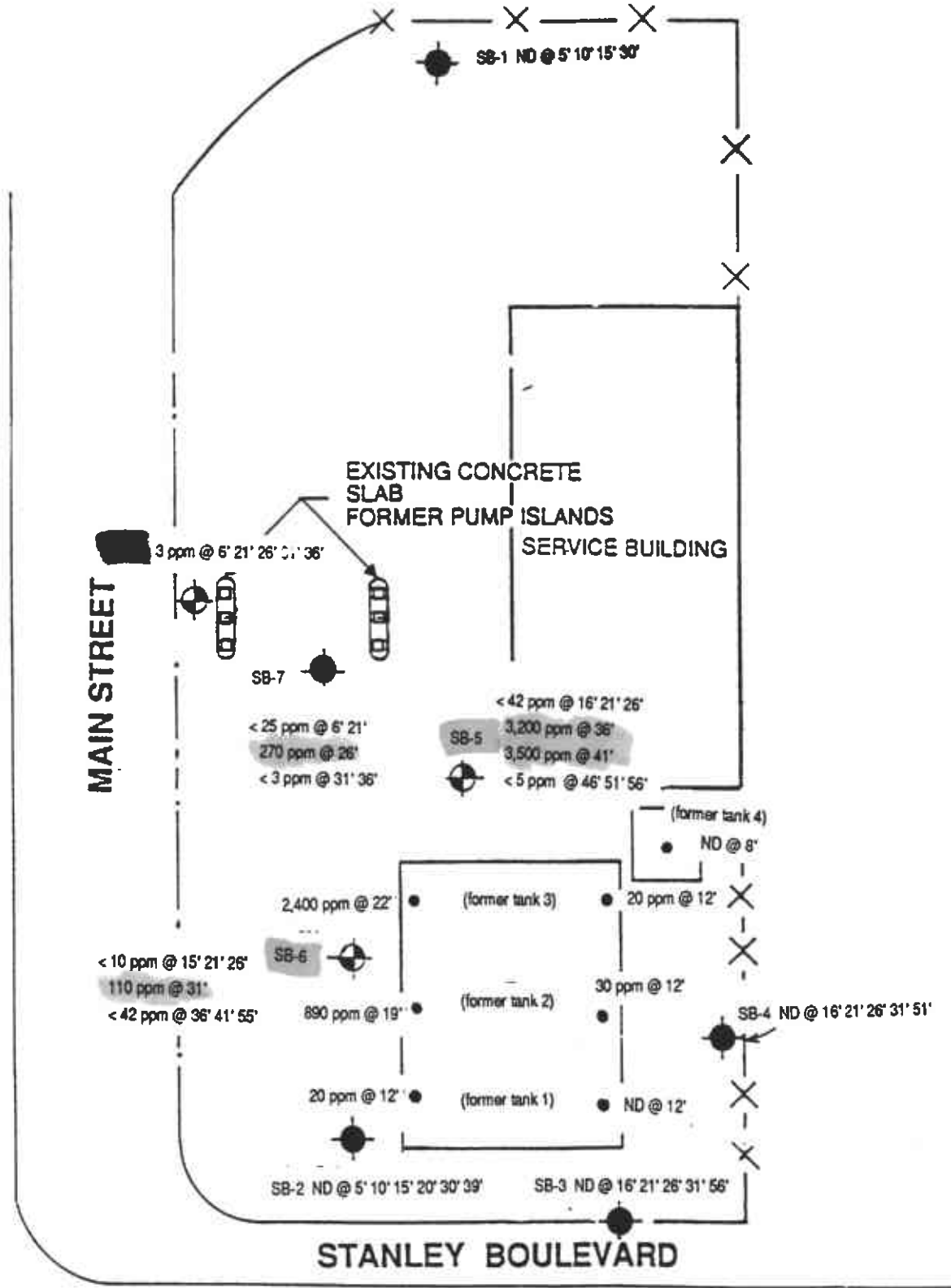
CHECKED BY:
DATE:
DRAWN BY:
DATE:



ALTON GEOSCIENCE
1000 Burnett Ave., Ste 140
Concord, CA 94520

RESIDENTIAL AREA

SMALL RETAIL BUSINESSES



RESIDENTIAL AREA

UNION 76

SERVICE STATION



FIGURE 5

DETAIL SHOWING TOTAL PETROLEUM HYDROCARBONS AS GASOLINE IN SOIL

LEGEND:

- Tank 1 - 8,000 gal. gas
- Tank 2 - 6,000 gal. gas
- Tank 3 - 4,000 gal. gas
- Tank 4 - 260 gal. waste oil
- Soil sampling locations



APPENDIX A

**ALAMEDA COUNTY FLOOD CONTROL AND WATER
CONSERVATION DISTRICT PERMITS AND CITY OF
PLEASANTON PERMITS**



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94566 (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

1) LOCATION OF PROJECT Former Mobil Station 10-H6J
1024 Main Street, Pleasanton, CA 94566

PERMIT NUMBER 89738

LOCATION NUMBER

(2) CLIENT

Name Mobil Oil Corporation
Address 3800 W. Alameda Ave Phone 818-953-2519
City Burbank, CA Zip 91505-4331

PERMIT CONDITIONS

Circled Permit Requirements Apply

(3) APPLICANT

Name Alton Geoscience, Inc.
Address 1170 Burnett Ave., Phone 415-682-1582
City Ste. S, Concord, CA Zip 94520

(4) DESCRIPTION OF PROJECT

Water Well Construction ___ Geotechnical Investigation ___
Cathodic Protection ___ General ___
Well Destruction ___ Contamination X

(5) PROPOSED WATER WELL USE

Domestic ___ Industrial ___ Irrigation ___
Municipal ___ Monitoring X Other ___

(6) PROPOSED CONSTRUCTION

Drilling Method: Hollow stem
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

DRILLER'S LICENSE NO. 384167

WELL PROJECTS (Monitoring well)

Drill Hole Diameter 10 In. Maximum
Casing Diameter 4 In. Depth 70 ft.
Surface Seal Depth 40 ft. Number 1

GEO TECHNICAL PROJECTS (Exploratory)

Number of Borings 6 Maximum
Hole Diameter 6 In. Depth 45 ft.

(7) ESTIMATED STARTING DATE December 29, 1989 *
ESTIMATED COMPLETION DATE January 3, 1990

(8) I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Cheri C. D'Amico Date 12/20/89

A. GENERAL

- 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS

- 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic, irrigation, and monitoring wells unless a lesser depth is specially approved.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

* Starting date rescheduled for 27 December 1989.

Approved Wyman Hong Date 22 Dec 89
Wyman Hong



ENGINEERING
484-8041

WATER
484-8071

O. BOX 520 • PLEASANTON, CALIFORNIA 94566-0802

FIRE
484-8114

(Office)

(Recorder)

STREET ADDRESS		SUITE		RECEIPT NO.	DATE	PROJECT
CITY		STATE		TRACT NAME		
USE OF PERMIT/APPLICATION				APN	BLDGS-UNITS	STORIES
OCCUPANT NAME				MAP #	BLOCK-LOT	MOD #
APPLICANT NAME			APPLICANT PHONE			
CONTRACTOR			STATE LICENSE			
STREET ADDRESS			SUITE		CITY LICENSE	
CITY		STATE	ZIP	CONTRACTOR PHONE		
BLDG OWNER						
STREET ADDRESS			SUITE			
CITY		STATE	ZIP	OWNER PHONE		
ZONING	GEN PLAN	TRS	PUD			
LOT SIZE	F/A	CENS TRACT	SIC	CFIRS	GEO REF	
FSB	LSB	RSB	BSB	PLANNING INT	ENGINEERING INT	PLANS RECEIVED INT
				PAYD BY	FEES	

NOT BE A TRIPPING HAZARD. WELL SHALL BE PROPERLY SECURED TO PREVENT ACCESS BY NON-AUTHORIZED PERSONNEL. PERFORM TO REQUIREMENTS OF ZONE 7 PERMITS.

This permit is issued under the applicable provisions of the City of Pleasanton Code and/or resolution to do work indicated hereon for which fees have been paid. This Permit expires 180 days from last inspection or per chapter 3 of the U.B.C. or on 2/22/90.

APPLICANT

By 000-0244E 22.00

Date 5/23/90

APPENDIX B-1
GENERAL FIELD PROCEDURES
FOR SOIL BOREHOLE DRILLING AND SAMPLING

APPENDIX B-1

ALTON GEOSCIENCE, INC. GENERAL FIELD PROCEDURES FOR SOIL BOREHOLE DRILLING AND SAMPLING

Drilling Procedures

Exploratory borings will be drilled utilizing 8-inch and 12-inch diameter, continuous-flight, hollow-stem augers. The borings will be drilled near, or preferably downgradient of potential sources of contamination. To avoid cross-contamination, the augers will be steam-cleaned prior to drilling each borehole.

Soil Sampling Protocol

During drilling, samples will be collected at 5-foot intervals, beginning at 5 feet below grade and terminating at approximately 50 feet below grade. The samples will be retrieved ahead of the lead auger, utilizing an 18-inch-long by 2-inch-diameter, split-spoon sampler lined with steam clean brass tubes. The sampler was driven by a 30-inch free fall of a 140-pound hammer. Blow counts will be recorded for three successive 6-inch intervals. Before each sampling event, the sampler and sample tubes will be washed using a TriSodium Phosphate/water solution, and two tap water rinses.

Upon retrieval, the bottom sample tube will be immediately removed from the sampler and securely sealed with Teflon sheeting and polyurethane caps, and wrapped with duct tape. The sample will be labeled with the identification, sample depth, sampler's initials, and date of collection. The soil sample will be kept on dry or blue ice prior to and during transport to a state-certified laboratory.

A staff or project level geologist, hydrogeologist, or civil engineer will describe the soil samples using the Unified Soil Classification System, and include field estimates of density/consistency, moisture, color, grading, and soil type on the boring logs. The boring logs will be reviewed and stamped by geologist or civil engineer, who is registered and/or certified in the State of California.

APPENDIX B-1 (con't)

**ALTON GEOSCIENCE, INC.
GENERAL FIELD PROCEDURES
FOR
SOIL BOREHOLE DRILLING AND SAMPLING**

One sample from each sampling interval will be retained for laboratory analysis and analyzed for the substances that have been historically stored in the underground tanks, as well as constituents formed by the possible degradation or transformation of the primary tank contents. The samples will be transported following the proper Chain of Custody procedures, presented in Appendix A-4.

Borings that will not be converted into ground water monitoring wells will be sealed from the bottom of the boring to the ground surface, using neat cement.

APPENDIX B-2
SOIL BORING LOGS



LOG OF EXPLORATORY BORING

PROJECT NO. 30-065 . DATE 12/28/89
 CLIENT Mobil
 LOCATION 1024 Main St. Pleasanton
 LOGGED BY CD'A DRILLER Baylands

BORING NO. SB-1
 Sheet 2
 of 2

Field location of boring:

Drilling method _____
 Hole Dia. 6" HSA
 Casing Installation Data No well installed. Hole was backfilled with neat cement.

Ground Elev. _____

Datum _____

Blow Counts	PID OVA	Depth	Sample	Soil Group Symbol (uscs)	Litho-graphic Symbol	Water Level	45				
						Time	12:00				
						Date	12/28				
DESCRIPTION											
27, 50 for 5"	0	38		GP		SANDY GRAVEL: Gray, loose, damp to moist, sands are coarse grained angular to subrounded gravels up to 1 1/2" diameter, chert, shale, blue schist, quartz.					
		40									
		42									
		44				SANDY GRAVEL: Gray, loose, wet, sands are coarse grain. Gravels are angular to 1" diameter.					
11, 18, 37	0	46				Bottom hole @ 45'.					
		48				Groundwater encountered at 45".					
		50									



LOG OF EXPLORATORY BORING

PROJECT NO. 30-065 ATE 12/28-89
 CLIENT Mobil
 LOCATION 1024 Main St. Pleasanton
 LOGGED BY CD'A DRILLER Baylands

BORING NO. SB-2
 Sheet Pg 1
 of 2

Field location of boring:



Drilling method CME 55 HSA
 Hole Dia. 6"
 Casing Installation Data No. well installed. Hole was backfilled with neat cement.

Ground Elev. Datum

Blow Counts	PID OVA	Depth	Sample	Soil Group Symbol (USCS)	Litho-graphic Symbol	Water Level	38.5				
						Time	2:00				
						Date	12/28				
DESCRIPTION											
						ASPHALT PAVEMENT: 0-3"					
		2		SC		CLAYEY SAND: Medium brown, loose, dry. Sands are coarse grained.					
3,4,5		4				CLAYEY MICACEOUS SILT: Medium brown, soft, dry, with burrow marks. Slightly spongy.					
		6		MH							
		8				SILTY CLAY: Dark brown, spongy, organic odor.					
	150	10		ML/CL							
		12				CLAYEY SILT: Dark gray, soft, damp, micaceous, organic odor.					
5,6,7	160	14									
		16		ML							
		18				Same As Above.					
2,3,5	100	20									
		22									
4,6,10	25	24				SILTY CLAY: Dark gray, soft, spongy, damp, organic odor.					
		26		ML/CL							
		28				SILTY CLAY: Mottled gray & red brown with clayey silt lens. Soft, moist, organic odor.					
7,8,12	100	30				SILTY SAND: Gray, damp loose sands are very fine grained, organic odor.					
	50	30		SM							
		32									
7,6,8	350	34				CLAYEY SILT: Mottled medium brown & gray. Soft, damp micaceous, odorous.					
		36		ML							

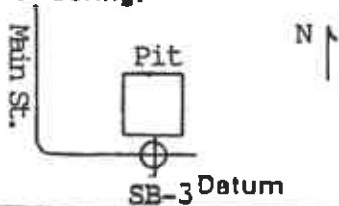


LOG OF EXPLORATORY BORING

PROJECT NO. 30-065 DATE 3/26/90
 CLIENT Mobil Oil Corporation
 LOCATION 1024 Main Street, Pleasanton
 LOGGED BY AW DRILLER Kvilhaug

BORING NO. SB-3
 Sheet 1
 of 2

Field location of boring:



Drilling method Hollow Stem Auger

Hole Dia. _____

Casing Installation Data No well installed. Hole was backfilled with neat cement.

Blow Counts	CGI	Depth	Soil Group Symbol (USCS)	Litho-graphic Symbol	DESCRIPTION	Water Level					
						Time	Date				
		0			Asphalt Pavement 0-3"						
5,8,12	0	6	ML		SILT: medium brown, compact, humid.						
15,15,15	100	10			CLAYEY SILT: medium brown with dark brown mottling, compact, humid.						
		16	ML		Same						
7,10,12	120	20			CLAYEY SILT: dark brown, compact, moist.						
		26	ML		CLAYEY SILT: dark brown, mottled red brown, moist.						
6,7,12	150	32	SC/SM		CLAY/SANDY SILT: mottled dark grey clay and medium brown sandy silt, moist, 60% clay, 40% silt						
6,10,10	100	36	SM		SILTY SAND: medium brown, clayey patches, loose, very moist						



LOG OF EXPLORATORY BORING

PROJECT NO. 30-065 DATE 3/26/90
 CLIENT Mobil Oil Corporation
 LOCATION 1024 Main Street, Pleasanton
 LOGGED BY AW DRILLER Kvilhaug

BORING NO. _____
 SB-3
 Sheet 2
 of 2

Field location of boring:

Drilling method _____
 Hole Dia. _____
 Casing Installation Data _____

Ground Elev. _____

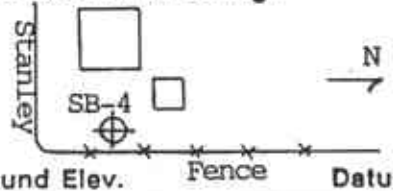
Datum _____

Blow Counts	CGI	Depth	Sample	Soil Group Symbol (uscs)	Lithographic Symbol	Water Level					
						Time					
						Date					
						DESCRIPTION					
		38		SM							
12,12,16	20	40		CL		CLAY: medium brown with red brown mottling, stiff, moist					
		42		CL							
		44									
10,10,10	20	46		ML/CL		SILTY CLAY: medium brown, moist					
		48		ML/CL							
10,8,18	0	50		CL		CLAY: medium brown with red-brown and dark grey mottling 5% angular gravel, (1-10 mm) stiff, moist					
		52		CL							
		54									
8,12,15	0	56		CL		SANDY CLAY: medium brown with red-brown and dark grey mottling 10% sand, 5% small subangular gravels (< 5 mm), stiff, moist					
						Bottom of hole @ 56.5 ft.					

LOG OF EXPLORATORY BORING

PROJECT NO. 30-065 DATE 3/21/90 BORING NO. SB-4
 CLIENT Mobil Oil Corporation
 LOCATION 1024 Main Street, Pleasanton Sheet 1
 LOGGED BY CD'A/AW DRILLER Kvilhaug of 2

Field location of boring:



Drilling method Hollow Stem Auger
 Hole Dia. 8"

Casing Installation Data No well installed. Hole was backfilled with neat cement.

Blow Counts	PID OVA	Depth	Sample	Soil Group Symbol (uscs)	Lithographic Symbol	Water Level									
						Time									
						Date									
						DESCRIPTION									
		2													
		4													
3,5,7	45	6		ML											<u>SILT: Medium brown, with 4% grass fragments, moist to very moist, spongy.</u>
		8													
5,6,7	40	10		ML											<u>CLAYEY SILT: dark medium brown, moist, spongy.</u>
		12		ML											
		14													
5,6,7	75	16		ML											<u>SILT: medium olive brown, moist, soft.</u>
		18													
5,10,15	30	20		ML/CL											<u>SILTY CLAY: medium olive brown, moist, (odors), firm.</u>
		22		ML/CL											
		24													
5,7,13	45	26		ML/CL											<u>SILTY CLAY: medium brown, mottled with grey, firm damp.</u>
		28													
7,10,10	75	30		SM											<u>SANDY SILT: medium brown, very moist to wet, loose to compact.</u>
		32		ML/CL											<u>SILTY CLAY: dark olive brown, moist, firm.</u>
		34													
6,7,10	50	36		SM											<u>SANDY SILT: medium brown, saturated, spongy, soft.</u>



LOG OF EXPLORATORY BORING

PROJECT NO. 30-065 DATE 3/21/90
 CLIENT Mobil Oil Corporation
 LOCATION 1024 Main Street, Pleasanton
 LOGGED BY CD'A/AW DRILLER Kvilhaug

BORING NO. SB-4
 Sheet 2
 of 2

Field location of boring:

Drilling method _____
 Hole Dia. _____

Casing Installation Data _____

Ground Elev. _____

Datum _____

Blow Counts	PID OVA	Depth	Sample	Soil Group Symbol (uscs)	Litho-graphic Symbol	Water Level					
						Time					
						Date					
DESCRIPTION											
8,12,12	0	38		SM							
		40									
		42		ML/CL							
		44									
8,12,12	0	46		ML							
		48									
		50		ML/CL							
		52									
Bottom of hole @ 51½ feet.											

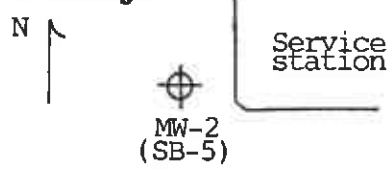
SILTY CLAY: medium -yellow brown, humid to damp, stiff, slightly spongy.

CLAYEY SILT: medium brown, damp, firm.

SILTY CLAY: dark brown, damp, stiff.

LOG OF EXPLORATORY BORING

PROJECT NO. 30-065 DATE 3/22/90 BORING NO. SB-5 (MW-2)
 CLIENT Mobil Oil Corporation Sheet 1
 LOCATION 1024 Main Street, Pleasanton of 2
 LOGGED BY CD'A DRILLER Kvilhaug

Field location of boring:

 Ground Elev. _____ Datum _____

Drilling method Hollow Stem Auger
 Hole Dia. 8"
 Casing Installation Data 0-30' Blank 2" PVC Casing
30-55' Slotted (.020") PVC Casing

Blow Counts	PID OVA	Depth	Sample	Soil Group Symbol (uscs)	Lithographic Symbol	Water Level					
						44'					
						Time	4:30				
Date	3/22/90										
DESCRIPTION											
						5" Concrete Core, 2" Asphalt					
		2									
		4									
4,4,6	25	6		ML		SILT: dark medium brown, very soft, 1% fine grass parts, humid.					
		8									
8,10,14	70	10				CLAYEY SILT: dark olive brown, compact, damp					
		12		ML							
		14				SILT: medium brown, loose, damp					
6,8,10	75	16									
		18		ML							
6,8,10	125	20				CLAYEY SILT: medium brown, loose-compact, damp					
		22		ML							
		24									
6,10,12	200	26				CLAYEY SILT: medium brown, 40% clay, 60% silt, compact, damp					
		28		ML							
10,18,18	50 >500	30				SILTY CLAY: medium brown, very stiff, humid					
		32		SP		SAND LENS: medium brown, sands are very fine to fine grained (approximately 5% silt)					
		34		ML/CL		SILTY CLAY: medium brown					
5,10,12	500	36		ML		CLAYEY SILT: medium brown, loose, moist					

LOG OF EXPLORATORY BORING

PROJECT NO. 30-065 DATE 3/22/90 BORING NO. SB-5 (MW-2)
 CLIENT Mobil Oil Corporation LOCATION 1024 Main Street, Pleasanton Sheet 2
 LOGGED BY CD'A DRILLER Kvilhaug of 2

Field location of boring:

Drilling method _____
 Hole Dia. _____
 Casing Installation Data _____

Ground Elev. _____ Datum _____

Blow Counts	PID OVA	Depth	Sample	Soil Group Symbol (uscs)	Litho-graphic Symbol	Water Level						
						Time						
						Date						
DESCRIPTION												
		38		ML								
10,20,20	450	40		SM								
		42		SM								
		44		SP								
8,14,14	500	46		SP								
		48		ML/CL								
		50		ML								
12,15,15	500	52		ML								
		54		ML								
10,18,24	0	56		ML/CL								
		58										
		60										
Bottom of Hole @ 56.5 feet												

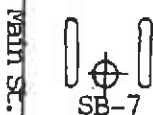


LOG OF EXPLORATORY BORING

PROJECT NO. 30-065 DATE 3/23/90
 CLIENT Mobil Oil Corporation
 LOCATION 1024 Main Street, Pleasanton
 LOGGED BY AW DRILLER Kvilhaug

BORING NO. SB-7
 Sheet 1
 of 2

Field location of boring:



Drilling method Hollow Stem Auger
 Hole Dia. 8"

Casing Installation Data No well installed. Hole was backfilled with neat cement.

Ground Elev. _____

Datum _____

Blow Counts	CGI	Depth	Sample	Soil Group Symbol (USCS)	Litho-graphic Symbol	Water Level		DESCRIPTION			
						43'		Time	11:30	Date	3/23/90
		0						5" Concrete Core, 2" Asphalt			
4,4,5	0	4		ML				SILT: dark olive brown, damp, loose.			
9,13,11	0	10						CLAYEY SILT: dark brown, loose, moist.			
10,12,12	10	14		ML				CLAYEY SILT: dark brown, loose, moist			
7,10,12	25	20						CLAYEY SILT: dark brown, medium, moist.			
6,6,12	400	26		ML				CLAYEY SILT: <i>medium compact</i> medium brown, loose, moist			
14,16,16	350	30						SILTY SAND: <i>medium compact</i> medium brown, loose, 10% clay, moist.			
20,50	20	36		GP				SANDY GRAVEL: dark grey, 60% gravel, subrounded, comprised of blueschists and quartz from 2 mm to 2 cm in diameter, sands fine to coarse grained.			

APPENDIX C-1
GENERAL FIELD PROCEDURES
FOR GROUND WATER MONITORING WELL CONSTRUCTION

APPENDIX C-1

ALTON GEOSCIENCE, INC. GENERAL FIELD PROCEDURES FOR GROUND WATER MONITORING WELL CONSTRUCTION

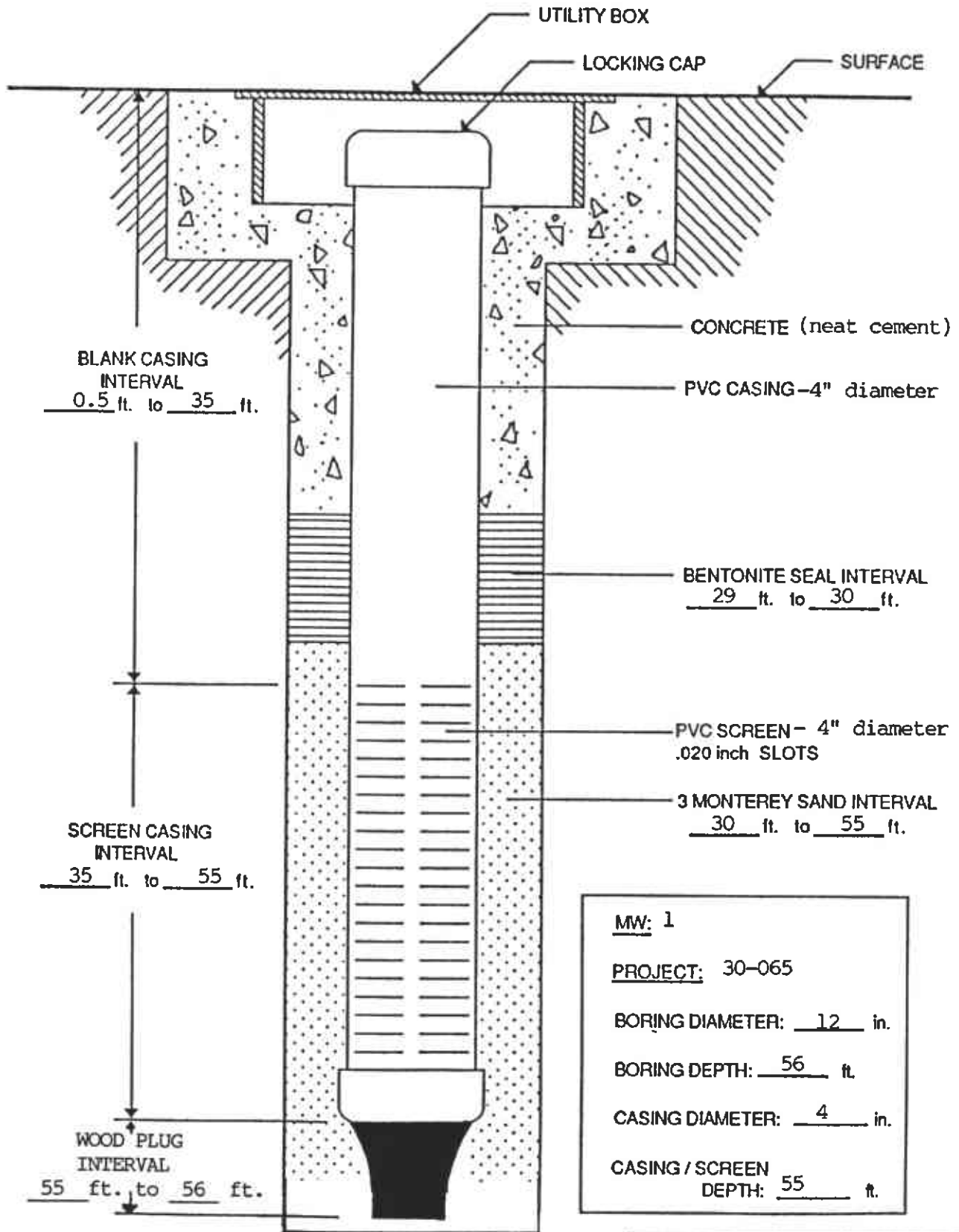
Ground Water Well Construction

The number, location, and depths of the ground water monitoring wells will be selected prior to commencement of work, and may require relocation or modification as the work proceeds. The ground water wells will be constructed of clean 2-inch-diameter, flush-threaded, Schedule 40 PVC blank casing which extends from grade level to a depth estimated at the highest anticipated water level, and 2-inch diameter screened casing with 0.010 or 0.020-inch perforations extending to a depth of at least 10 feet into the water table. The casings, fittings, screens, and other components of the well construction shall be thoroughly steam cleaned before installing the well.

The annular space surrounding the screened portion will be backfilled with No. 3 Monterey sand (filter pack) to approximately 2 foot above the top of the screened section. A bentonite annular seal (approximately 1-foot thick) will be placed above the filter pack. The remaining annulus will be grouted with neat cement to the surface. Monument well boxes will be installed slightly above grade to minimize infiltration of surface waters. Locking, water-tight well caps will be installed to ensure the integrity of the well.

APPENDIX C-2
MONITORING WELL CONSTRUCTION DETAILS

MONITORING WELL CONSTRUCTION DETAIL



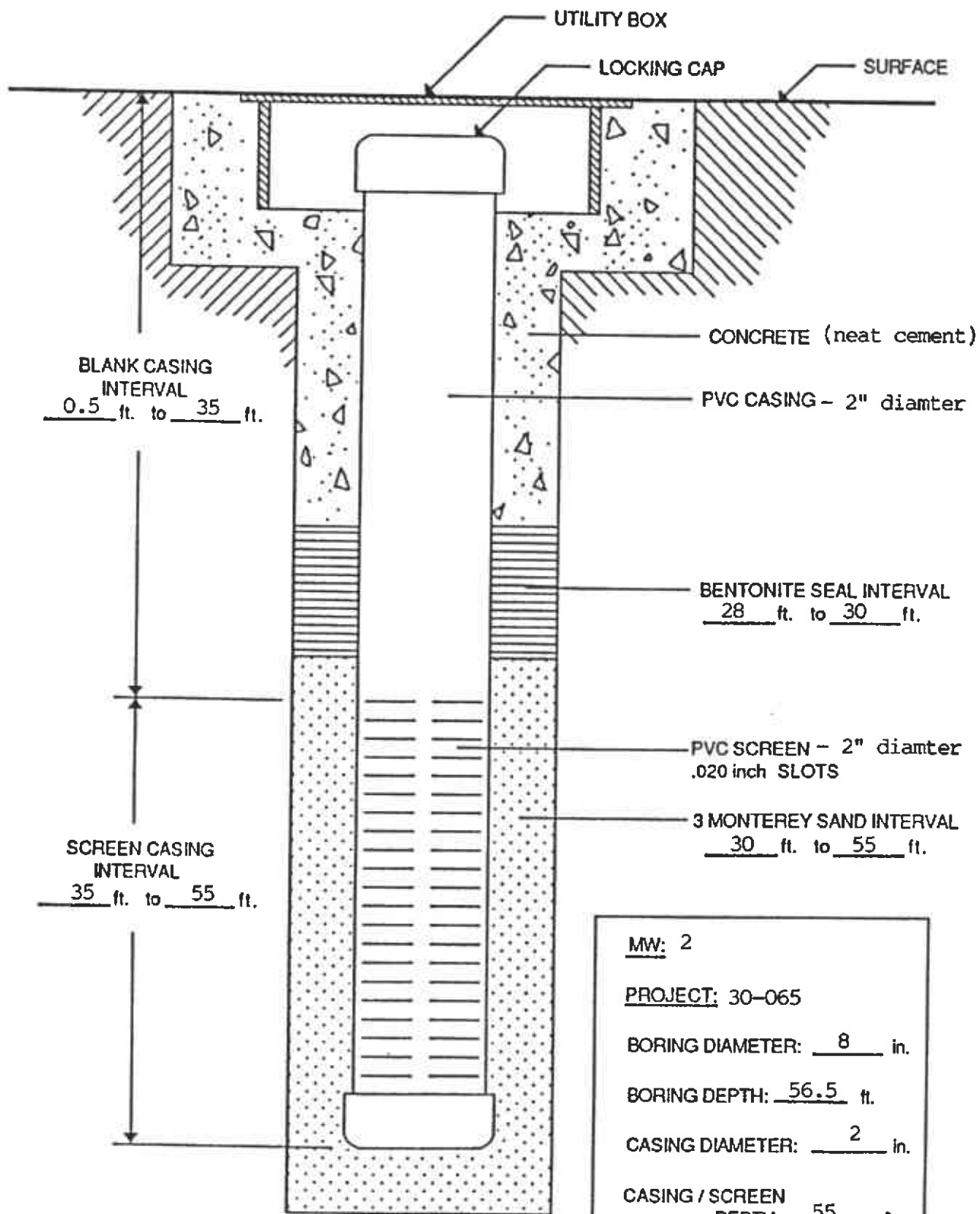
MW: 1
PROJECT: 30-065
BORING DIAMETER: 12 in.
BORING DEPTH: 56 ft.
CASING DIAMETER: 4 in.
CASING / SCREEN DEPTH: 55 ft.

NOTE: DRAWING IS NOT TO SCALE



ALTON GEOSCIENCE
 1000 Burnett Ave., Ste 140
 Concord, CA 94520

MONITORING RING WELL CONSTRUCTION DETAIL



MW: 2

PROJECT: 30-065

BORING DIAMETER: 8 in.

BORING DEPTH: 56.5 ft.

CASING DIAMETER: 2 in.

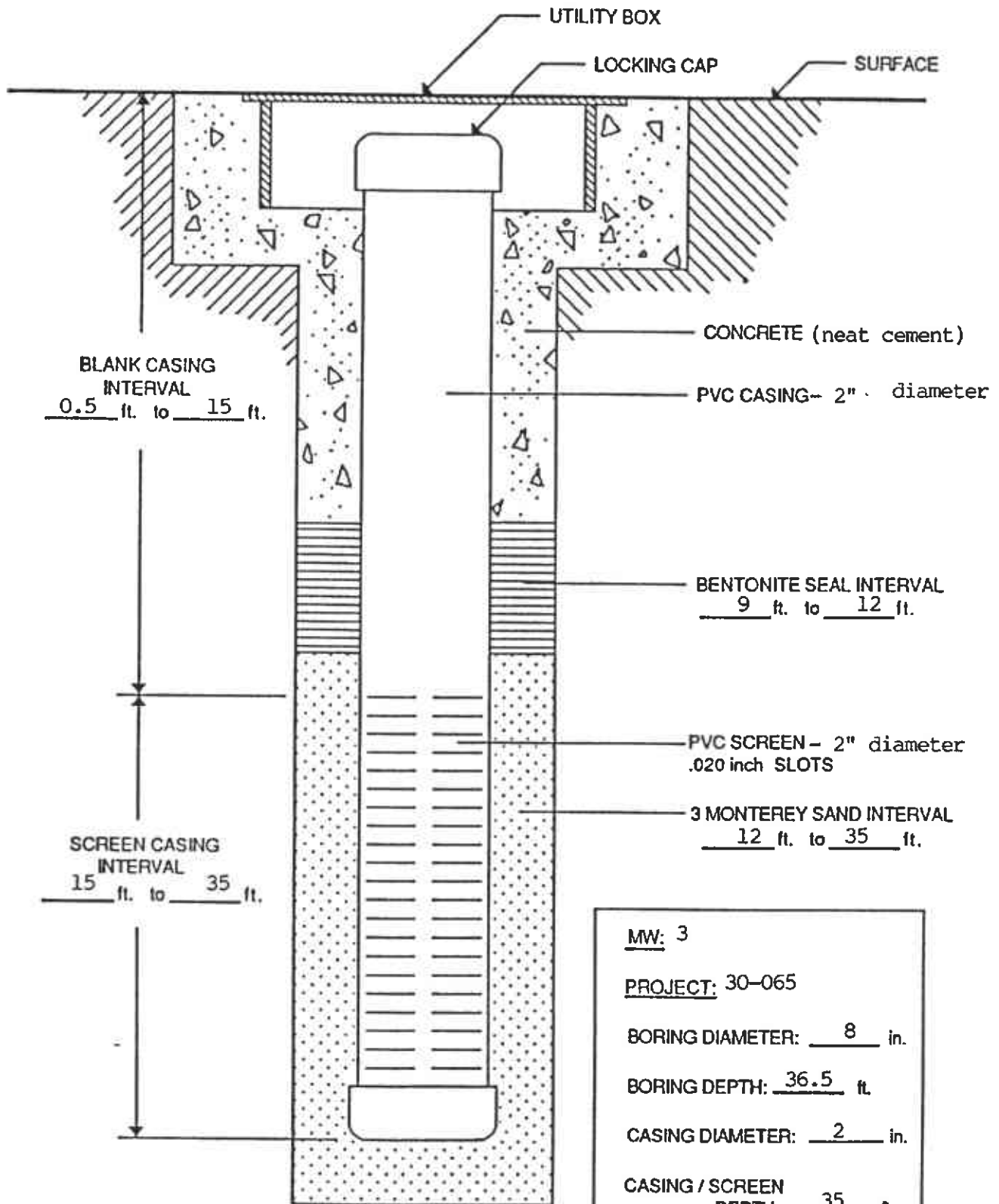
CASING / SCREEN DEPTH: 55 ft.

NOTE: DRAWING IS NOT TO SCALE



ALTON GEOSCIENCE
1000 Burnett Ave., Ste 140
Concord, CA 94520

MONITORING WELL CONSTRUCTION DETAIL



MW: 3
PROJECT: 30-065
BORING DIAMETER: 8 in.
BORING DEPTH: 36.5 ft.
CASING DIAMETER: 2 in.
CASING / SCREEN DEPTH: 35 ft.

NOTE: DRAWING IS NOT TO SCALE



ALTON GEOSCIENCE
 1000 Burnett Ave., Ste 140
 Concord, CA 94520

APPENDIX C-3

**GENERAL FIELD PROCEDURES FOR GROUND WATER MONITORING,
WELL DEVELOPMENT AND GROUND WATER SAMPLING**

APPENDIX C-3

ALTON GEOSCIENCE, INC. GENERAL FIELD PROCEDURES FOR GROUND WATER MONITORING WELL DEVELOPMENT AND SAMPLING

Ground Water Monitoring Well Development

New ground water monitoring wells will be initially developed to clean the well and to stabilize the sand, gravel, and aquifer materials around the perforated section of the well. Well development will be conducted using one of several acceptable methods, such as bailing, mechanical or air lift pumping, surging or swabbing. Well development will continue until the well is thoroughly developed and if possible, free of sand, silt and turbidity.

The water generated from the development process will be placed into labeled 55-gallon drums, pending laboratory results of the ground water samples, to determine the appropriate disposal method. Disposal of the water will conform to applicable hazardous waste requirements.

Ground Water Monitoring Well Sampling

Prior to well sampling, the ground water level shall be measured from the north rim of the top of the PVC well casing, using an electric water level sensor. The well shall also be monitored for the presence/absence of floating product, utilizing a clear bailer.

To ensure that the ground water sample is representative of the aquifer the well will than be purged of four to ten well casing volumes, before sample collection. This purging can be accomplished using a bailer or a pump. During purging, the sampler will note the following: (1) a description of the initial discharge of the ground water, (2) pH, temperature and conductivity readings at 5 or 10 gallon intervals, (3) volume of water purged, and (4) recharge rates.

The ground water samples will be collected using a steam cleaned teflon bailer, and then decanted into the appropriate laboratory supplied containers. The sampler will wear nitril gloves at all times during purging and well sampling. To ensure field QA/QC, trip blanks will accompany each well

APPENDIX C-3 (con't)

**ALTON GEOSCIENCE, INC.
GENERAL FIELD PROCEDURES
FOR**

GROUND WATER MONITORING WELL DEVELOPMENT AND SAMPLING

sampling kit (provided by the laboratory), and field blanks will be collected prior to sample collection for selected wells.

The water samples will be handled and preserved in accordance with the RWQCB guidelines. The samples will be clearly labeled with the well number, site identification, date and time of sample collection, sampler's initials, and transported to a state-certified laboratory following proper chain of custody protocol.

APPENDIX C-4
GROUND WATER FIELD SAMPLING FORMS

Project # 30-065 Site: Main St., Pleasanton Date: 4/12/90

Well: MW-1 Sampling Team: A. Watts & M. Bennett

Well Development Method: Bailer

Sampling Method: Bailer

Describe Equipment Before Sampling This Well: Triple Rinsed with TSP, tap water and deionized water.

Well Development

Total Well Depth: 51.73 feet Time: 2:30 Water level Before Pumping: 43.57

Water Column	Casing Diameter	Volume	Factor	Volume to Purge
	2-inch	4-inch		
<u>8.16</u> feet x	<u>0.16</u>	<u>0.65</u>	<u>10</u>	<u>53</u>

Depth Purging From: 47 feet. Time Purging Begins: 2:00

Notes on Initial Discharge: Turbid, Brown

Time	Volume	pH	x1000 Conductivity	T	Notes
<u>2:30</u>	<u>20</u>	<u>3.11</u>	<u>8.25</u>	<u>73.4</u>	<u>Turbid, Brown</u>
<u>2:50</u>	<u>30</u>	<u>8.18</u>	<u>10.89</u>	<u>72.4</u>	<u>Turbid, Brown</u>
<u>3:05</u>	<u>40</u>	<u>8.22</u>	<u>11.64</u>	<u>76.1</u>	<u>Turbid, Brown</u>
<u>3:10</u>	<u>50</u>	<u>8.08</u>	<u>12.39</u>	<u>76.7</u>	<u>Turbid, Brown</u>
<u>3:15</u>	<u>53</u>	<u>7.80</u>	<u>10.8</u>	<u>70.2</u>	<u>Turbid, Brown</u>

Time Field Parameter Measurement Begins: 2:00

	Rep #1	Rep #2	Rep #3	Rep #4
pH	<u>8.18</u>	<u>8.29</u>	<u>8.08</u>	<u>7.80</u>
Conductivity	<u>10.89</u>	<u>11.64</u>	<u>12.39</u>	<u>10.8</u>
Temperature (F)	<u>72.4</u>	<u>76.1</u>	<u>76.7</u>	<u>70.2</u>

Comments: _____

**ALTON GEOSCIENCE, INC.
Well Development**

Project # 30-065 Site: Main St., Pleasanton Date: 4/12/90

Well: MW-2 Sampling Team: A. Watts & M. Bennett

Well Development Method: Bailer

Sampling Method: Bailer

Describe Equipment Before Sampling This Well: Triple Rinsed with TSP, tap water and deionized water.

Well Development

Total Well Depth: 49.75 feet Time: 2:30 Water level Before Pumping: 44.14

Water Column	Casing Diameter		Volume	Factor	Volume to Purge
	2-inch	4-inch			
<u>5.61</u> feet x	<u>0.16</u>	<u>0.65</u>	<u>.90</u>	<u>10</u>	<u>9</u>

Depth Purging From: 50 feet. Time Purging Begins: 2:15

Notes on Initial Discharge: Clear

Time	Volume	pH	Conductivity ^{x1000}	T	Notes
<u>3:00</u>	<u>5</u>	<u>7.70</u>	<u>13.71</u>	<u>71.0</u>	<u>Turbid, Brown</u>
<u>4:30</u>	<u>6</u>	<u>7.42</u>	<u>13.0</u>	<u>68.0</u>	<u>Turbid, Running Dry</u>
<u>5:30</u>	<u>7</u>	<u>7.41</u>	<u>14.34</u>	<u>68.9</u>	<u>Cloudy, Grey</u>
<u>5:32</u>	<u>8</u>	<u>7.31</u>	<u>12.85</u>	<u>65.9</u>	<u>Turbid, Brown</u>
<u>5:35</u>	<u>9</u>	<u>7.34</u>	<u>11.84</u>	<u>65.2</u>	<u>Turbid, Brown</u>

Time Field Parameter Measurement Begins: _____

	Rep #1	Rep #2	Rep #3	Rep #4
pH	<u>7.45</u>	<u>7.41</u>	<u>7.31</u>	<u>7.34</u>
Conductivity	<u>13.0</u>	<u>14.34</u>	<u>12.85</u>	<u>11.84</u>
Temperature (F)	<u>68.0</u>	<u>68.9</u>	<u>65.9</u>	<u>65.2</u>

Comments: _____

ALTON GEOSCIENCE, INC.

Water Sampling Field Survey

Project # 30-065 Site: Main St., Pleasanton Date: 4/16/90

Well: MW-1 Sampling Team: A. Watts & M. Bennett

Well Development Method: Bailer

Sampling Method: Bailer

Describe Equipment Before Sampling This Well: Triple Rinsed with TSP, tap water and deionized water.

Well Sampling Data

Total Well Depth: 51.40 feet Time: 11:50 Water level Before Pumping: 44.76

Water Column	Casing Diameter	Volume	Factor	Volume to Purge
	<u>2-inch</u> <u>4-inch</u>			
<u>6.64</u> feet x	<u>0.16</u> <u>0.65</u>	<u>4.32</u>	<u>3</u>	<u>13</u>

Depth Purging From: 48 feet. Time Purging Begins: 11:55

Notes on Initial Discharge: Silty, Brown

Time	Volume	pH	Conductivity ^{x1000}	T	Notes
<u>12:05</u>	<u>5</u>	<u>9.20</u>	<u>13.59</u>	<u>68.3</u>	<u>Silty, Brown</u>
<u>12:10</u>	<u>7</u>	<u>9.10</u>	<u>10.93</u>	<u>64.4</u>	<u>Silty, Brown</u>
<u>12:16</u>	<u>9</u>	<u>9.00</u>	<u>11.03</u>	<u>63.4</u>	<u>Silty, Brown</u>
<u>12:20</u>	<u>11</u>	<u>8.97</u>	<u>11.06</u>	<u>63.9</u>	<u>Silty, Brown</u>
<u>12:23</u>	<u>13</u>	<u>8.93</u>	<u>10.78</u>	<u>63.6</u>	<u>Silty, Brown</u>

Time Field Parameter Measurement Begins: 11:55

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>9.10</u>	<u>9.0</u>	<u>8.97</u>	<u>8.93</u>
Conductivity	<u>10.93</u>	<u>11.03</u>	<u>11.06</u>	<u>10.78</u>
Temperature (F)	<u>64.4</u>	<u>63.4</u>	<u>63.9</u>	<u>63.6</u>

Presample Collection Gallons Purged: 13

Time Sample Collection Begins: 12:30

Time Sample Collection Ends: 12:35

Total Gallons Purged: 13.5

Comments: _____

ALTON GEOSCIENCE, INC.

Water Sampling Field Survey

Project # 30-065 Site: Main St., Pleasanton Date: 4/16/90

Well: MW-2 Sampling Team: A. Watts & M. Bennett

Well Development Method: Bailer

Sampling Method: Bailer

Describe Equipment Before Sampling This Well: Triple Rinsed with TSP, tap water and deionized water.

Well Sampling Data

Total Well Depth: 50.26 feet Time: 11:45 Water level Before Pumping: 45.27

Water Column	Casing Diameter	Volume	Factor	Volume to Purge
	<u>2-inch</u> <u>4-inch</u>			
<u>4.99</u> feet x	<u>0.16</u> <u>0.65</u>	<u>.80</u>	<u>3</u>	<u>2.5</u>

Depth Purging From: 49 feet. Time Purging Begins: 12:40

Notes on Initial Discharge: cloudy, grey

Time	Volume	pH	Conductivity x 100	T	Notes
<u>12:45</u>	<u>.5</u>	<u>8.86</u>	<u>13.83</u>	<u>66.7</u>	<u>Cloudy, grey</u>
<u>12:50</u>	<u>1</u>	<u>8.61</u>	<u>12.15</u>	<u>64.9</u>	<u>Salty, brown</u>
<u>12:53</u>	<u>1.5</u>	<u>8.45</u>	<u>11.54</u>	<u>64.2</u>	<u>Silty, brown-dry 12:55</u>
<u>2:00</u>	<u>1.75</u>	<u>8.73</u>	<u>12.01</u>	<u>65.3</u>	<u>Cloudy, grey</u>

Time Field Parameter Measurement Begins: _____

	Rep #1	Rep #2	Rep #3	Rep #4
pH	<u>8.86</u>	<u>8.61</u>	<u>8.45</u>	<u>8.73</u>
Conductivity x 100	<u>13.83</u>	<u>12.15</u>	<u>11.54</u>	<u>12.01</u>
Temperature (F)	<u>66.7</u>	<u>64.9</u>	<u>64.2</u>	<u>65.3</u>

Presample Collection Gallons Purged: 1.75

Time Sample Collection Begins: 2:15

Time Sample Collection Ends: 2:25

Total Gallons Purged: 2.0

Comments: Well went dry 12:55, sample taken 22:20. Barely enough water to fill the containers.

Water Sampling Field Survey

Project # 30-065 Site: Main St., Pleasanton Date: 4/16/90Well: MW-3 Sampling Team: A. Watts & M. BennettWell Development Method: BailerSampling Method: BailerDescribe Equipment Before Sampling This Well: Triple rinsed with TSP, tap water and deionized water.

Well Sampling Data

Total Well
Depth: 33.54 feet Time: 11:55 Water level
Before Pumping: 21.60

Water Column	Casing Diameter	Volume	Factor	Volume to Purge
	2-inch	4-inch		
<u>11.94</u> feet x	<u>0.16</u>	<u>0.65</u>	<u>3</u>	<u>6.0</u>

Depth Purging From: 28 feet. Time Purging Begins: 12:50Notes on Initial Discharge: Cloudy, grey

Time	Volume	pH	Conductivity	T	Notes
<u>12:58</u>	<u>2</u>	<u>8.49</u>	<u>15.08</u>	<u>72.8</u>	<u>Silty, brown</u>
<u>1:04</u>	<u>3</u>	<u>8.10</u>	<u>14.38</u>	<u>66.8</u>	<u>Silty, brown</u>
<u>1:06</u>	<u>4</u>	<u>8.03</u>	<u>15.12</u>	<u>65.7</u>	<u>Silty, brown</u>
<u>1:09</u>	<u>5</u>	<u>7.98</u>	<u>14.46</u>	<u>65.4</u>	<u>Silty, brown</u>
<u>1:11</u>	<u>6</u>	<u>7.96</u>	<u>14.86</u>	<u>65.1</u>	<u>Silty, brown</u>

Time Field Parameter Measurement Begins: 12:55

	Rep #1	Rep #2	Rep #3	Rep #4
pH	<u>8.10</u>	<u>8.03</u>	<u>7.98</u>	<u>7.96</u>
Conductivity	<u>14.38</u>	<u>15.12</u>	<u>14.46</u>	<u>14.86</u>
Temperature (F)	<u>66.8</u>	<u>65.7</u>	<u>65.4</u>	<u>65.1</u>

Presample Collection Gallons Purged: 6Time Sample Collection Begins: 1:15Time Sample Collection Ends: 1:20Total Gallons Purged: 6.5

Comments: _____

APPENDIX C-5

**GENERAL FIELD PROCEDURES FOR
CHAIN OF CUSTODY DOCUMENTATION**

APPENDIX C-5

ALTON GEOSCIENCE, INC.
GENERAL FIELD PROCEDURES
FOR
CHAIN OF CUSTODY DOCUMENTATION

Chain of Custody Protocol

All samples collected shall be properly handled in accordance with the California DOHS guidelines. Each sample will be properly labeled in the field, and immediately stored in laboratory supplied coolers, preserved with blue or dry ice, for transport to a state-certified laboratory for analysis.

The official chain of custody record will accompany the samples, and include the site and sample identification, date and time of sample collection, analysis requested, name and the signature of sampler. When transferring the possession of the samples, the transferee shall sign and date the time on the chain of custody record. The field sampler will properly package and dispatch the samples to the appropriate laboratory for analysis, and ensure that the sample is properly preserved.

APPENDIX D

**OFFICIAL LABORATORY REPORT FOR SOIL SAMPLING AND
CHAIN OF CUSTODY RECORDS**

SUPERIOR ANALYTICAL LABORATORY INC.

825 ARNOLD, STE. 2 • MARTINEZ, CALIFORNIA 94553 • (415) 229-1512

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

LABORATORY NO.: 80422
CLIENT: Alton Geoscience
CLIENT JOB NO.: 30-065 MOBIL

DATE RECEIVED: 01/04/90
DATE REPORTED: 01/12/90

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration (mg/kg) Gasoline Range
1	B-1 @ 5'	ND<1
2	B-1 @ 10'	ND<1
3	B-1 @ 15'	ND<1
6	B-1 @ 30'	ND<1
9	B-1 @ 45'	ND<1
10	B-2 @ 5'	ND<1
11	B-2 @ 10'	ND<1
12	B-2 @ 15'	ND<1
13	B-2 @ 20'	ND<1
15	B-2 @ 30'	ND<1
17	B-2 @ 39'	ND<1

mg/kg - parts per million (ppm)

Method Detection Limit for Gasoline in Soil: 1.0 mg/kg
Method Detection Limit for Gasoline in Water: 0.1 mg/L

QAQC Summary:

Daily Standard run at 2mg/L: RPD Gasoline = 4%
MS/MSD Average Recovery = 109%: Duplicate RPD = 4%

Edward R. Morales



Laboratory Manager

SAN FRANCISCO

MARTINEZ

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY INC.

825 ARNOLD, STE. 2 • MARTINEZ, CALIFORNIA 94553 • (415) 229-1512

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

LABORATORY NO.: 80422
CLIENT: Alton Geoscience
CLIENT JOB NO.: 30-065 MOBIL

DATE RECEIVED: 01/04/90
DATE REPORTED: 01/12/90

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/kg)			
		Benzene	Toluene	Ethyl Benzene	Xylenes
1	B-1 @ 5'	ND<3	ND<3	ND<3	ND<3
2	B-1 @ 10'	ND<3	ND<3	ND<3	ND<3
3	B-1 @ 15'	ND<3	ND<3	ND<3	ND<3
6	B-1 @ 30'	ND<3	ND<3	ND<3	ND<3
9	B-1 @ 45'	ND<3	ND<3	ND<3	ND<3
10	B-2 @ 5'	13	21	11	40
11	B-2 @ 10'	9	10	ND<3	21
12	B-2 @ 15'	21	9	ND<3	12
13	B-2 @ 20'	ND<3	ND<3	ND<3	ND<3
15	B-2 @ 30'	14	5	5	8
17	B-2 @ 39'	ND<3	ND<3	ND<3	ND<3

ug/L - parts per billion (ppb)
ug/kg - parts per billion (ppb)

Method Detection Limit in Soil: 3 ug/kg
Method Detection Limit in Water: 0.3 ug/L

QAQC Summary:

Daily Standard run at 20ug/L: RPD = <15%
MS/MSD Average Recovery = 102 %: Duplicate RPD = <4%

Edward R. Morales



Laboratory Manager

SAN FRANCISCO

MARTINEZ

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY INC.

825 ARNOLD, STE. 2 • MARTINEZ, CALIFORNIA 94553 • (415) 229-1512

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

LABORATORY NO.: 80422
CLIENT: Alton Geoscience
CLIENT JOB NO.: 30-065 MOBIL

DATE RECEIVED: 01/04/90
DATE REPORTED: 01/16/90

ANALYSIS FOR ORGANO LEAD by DHS Method

LAB #	Sample Identification	Concentration (mg/kg)* Organo Lead
1	B-1 @ 5'	
2	B-1 @ 10'	ND<0.5
3	B-1 @ 15'	ND<0.5
6	B-1 @ 30'	ND<0.5
9	B-1 @ 45'	ND<0.5
10	B-2 @ 5'	ND<0.5
11	E-2 @ 10'	ND<0.5
12	B-2 @ 15'	ND<0.5
13	B-2 @ 20'	ND<0.5
15	B-2 @ 30'	ND<0.5
17	B-2 @ 39'	ND<0.5

*- Samples subcontracted to Curtis & Tompkins for this analysis

mg/kg - parts per million (ppm)

QAQC Summary: MS/MSD Average Recovery : 97%
Duplicate RPD : 3

Edward R. Morales



Laboratory Manager

SAN FRANCISCO

MARTINEZ

OUTSTANDING QUALITY AND SERVICE

80422



ALTON GEOSCIENCE
1170 BURNETT AVE, Suite 5
Concord CA 94520

CHAIN of CUSTODY RECORD

PAGE 1 of 2

DATE: 12/29/89

RESULTS DUE BY: 1/11/90

PROJECT NUMBER: 30-065

PROJECT NAME AND ADDRESS: 30-065 - Mobil
1024 Main St. Pleasanton

PROJECT MANAGER: C. D'Andrea

SAMPLER'S SIGNATURE: *Chris C. D'Andrea*

LABORATORY: Superior

REMARKS OR SPECIAL INSTRUCTIONS:
5 DAY T.A.T.
* TPH as Gasoline

NOTE: PLEASE INDICATE VERBAL REQUESTS FOR ADDITIONAL ANALYSES IN THIS BOX.

SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATERIAL	SAMPLE TYPE:		NUMBER OF CONTAINERS	SAMPLE PREP.			SOIL ANALYSIS			WATER ANALYSIS						
				GRAB	COMP.		3510: SOLV. EXTR.	3810: HEAD SPACE	5030: PURGE & TRAP	418.1: TPHC (IR)	8010: HALOCARBONS	# 8020: BTXE / TPH & OIS	ORGANIC Pb	Hold	418.1: TPHC (IR)	801: HALOCARBONS	602: BTXE	DHS METHOD: TPHC (GC)	7421: TOTAL Pb
	12/28/89	B-1 @ 5'	Soil									X	X						
		B-1 @ 10'										X	X						
		B-1 @ 15'										X	X						
		B-1 @ 20'													X				
		B-1 @ 25'													Y				
		B-1 @ 30'										X	X						
		B-1 @ 35'													X				
		B-1 @ 40'													X				
		B-1 @ 45'										X	X						

TOTAL NO. OF CONTAINERS:

RELINQUISHED BY: <i>Chris C. D'Andrea</i>	DATE/TIME: 12/29/89	RECEIVED BY: <i>[Signature]</i>	DATE/TIME: 1/4/90 10:15 AM	METHOD OF SHIPMENT:
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:	SHIPPED BY:
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:	COURIER:



ALTON GEOSCIENCE
1170 BURNETT AVE., SUITE 5
CONCORD, CA 94520

CHAIN OF CUSTODY RECORD

PAGE 2 of 2

DATE: 12/29/89

RESULTS DUE BY: 1/11/90

PROJECT NUMBER: 30-065

PROJECT NAME AND ADDRESS: 1024 Main St., Pleasanton

PROJECT MANAGER: C. D'Andrea

SAMPLER'S SIGNATURE: *Cheri C. D'Andrea*

LABORATORY: Superior

REMARKS OR SPECIAL INSTRUCTIONS:

5 DAY T.A.T.

* TP14 as Gasoline

NOTE: PLEASE INDICATE VERBAL REQUESTS FOR ADDITIONAL ANALYSES IN THIS BOX.

SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATERIAL	SAMPLE TYPE:		NUMBER OF CONTAINERS	SAMPLE PREP.			SOIL ANALYSIS				WATER ANALYSIS					
				GRAB	COMP.		3510: SOLV. EXTR.	3810: HEAD SPACE	5030: PURGE & TRAP	418.1: TPHC (IR)	8010: HALOCARBONS	8020: BTXE/TPH 8015	DHS METHOD: TPHC (GC)	ORGANIC Pb	418.1: TPHC (IR)	601: HALOCARBONS	602: BTXE	DHS METHOD: TPHC (GC)	7421: TOTAL Pb
	12/28/89	B-2 @ 5'	Soil								X	X							
		B-2 @ 10'									X	X							
		B-2 @ 15'									X	X							
		B-2 @ 20'									X	X							
		B-2 @ 25'											X						
		B-2 @ 30'									X	X							
		B-2 @ 35'											X						
		B-2 @ 39'	↓								X	X							
	↓																		

TOTAL NO. OF CONTAINERS:

RELINQUISHED BY: <i>Cheri C. D'Andrea</i>	DATE/TIME: 12/29/89	RECEIVED BY: <i>[Signature]</i>	DATE/TIME: 1/4/90, 10:15 AM	METHOD OF SHIPMENT:
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:	SHIPPED BY:
RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:	COURIER:

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

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

LABORATORY NO.: 80685
CLIENT: Alton Geoscience
CLIENT JOB NO.: 30-065

DATE RECEIVED: 03/27/90
DATE REPORTED: 04/03/90

Page 1 of 7

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
80685- 1	B-3 @5.5-6'	03/26/90	
80685- 2	B-3 @11-11.5'	03/26/90	
80685- 3	B-3 @16-16.5'	03/26/90	03/28/90
80685- 4	B-3 @21-21.5'	03/26/90	03/30/90
80685- 5	B-3 @26-26.5'	03/26/90	03/30/90
80685- 6	B-3 @31-31.5'	03/26/90	03/30/90
80685- 7	B-3 @36-36.5'	03/26/90	
80685- 8	B-3 @41-41.5'	03/26/90	
80685- 9	B-3 @46-46.5'	03/26/90	
80685-10	B-3 @51-51.5'	03/26/90	

Laboratory Number:	80685	80685	80685	80685	80685
	1	2	3	4	5

ANALYTE LIST	Amounts/Quantitation Limits (ug/Kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	NA	NA	ND<1000	ND<1000	ND<1000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	NA	NA	ND<3	ND<3	ND<3
TOLUENE:	NA	NA	ND<3	ND<3	ND<3
ETHYL BENZENE:	NA	NA	ND<3	ND<3	ND<3
XYLENES:	NA	NA	ND<3	ND<3	ND<3

Laboratory Number:	80685	80685	80685	80685	80685
	6	7	8	9	10

ANALYTE LIST	Amounts/Quantitation Limits (ug/kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<1000	NA	NA	NA	NA
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	15	NA	NA	NA	NA
TOLUENE:	7	NA	NA	NA	NA
ETHYL BENZENE:	ND<3	NA	NA	NA	NA
XYLENES:	5	NA	NA	NA	NA

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

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

LABORATORY NO.: 80685
 CLIENT: Alton Geoscience
 CLIENT JOB NO.: 30-065

DATE RECEIVED: 03/27/90
 DATE REPORTED: 04/03/90

Page 2 of 7

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
80685-11	B-3 @56-56.5'	03/26/90	03/28/90
80685-12	B-4 @6-6.5'	03/21/90	
80685-13	B-4 @11-11.5'	03/21/90	
80685-14	B-4 @16-16.5'	03/21/90	03/28/90
80685-15	B-4 @21-21.5'	03/21/90	03/28/90
80685-16	B-4 @26-26.5'	03/21/90	03/30/90
80685-17	B-4 @31-31.5'	03/21/90	03/30/90
80685-18	B-4 @35-35.5'	03/21/90	
80685-19	B-4 @40-41.5'	03/21/90	
80685-20	B-4 @46-46.5'	03/21/90	

Laboratory Number:	80685	80685	80685	80685	80685
	11	12	13	14	15

ANALYTE LIST	Amounts/Quantitation Limits (ug/Kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<1000	NA	NA	1000	ND<1000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<3	NA	NA	20	86
TOLUENE:	ND<3	NA	NA	10	5
ETHYL BENZENE:	ND<3	NA	NA	8	52
XYLENES:	ND<3	NA	NA	140	16

Laboratory Number:	80685	80685	80685	80685	80685
	16	17	18	19	20

ANALYTE LIST	Amounts/Quantitation Limits (ug/Kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<1000	ND<1000	NA	NA	NA
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	250	ND<3	NA	NA	NA
TOLUENE:	6	ND<3	NA	NA	NA
ETHYL BENZENE:	50	ND<3	NA	NA	NA
XYLENES:	ND<3	ND<3	NA	NA	NA

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

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

LABORATORY NO.: 80685
 CLIENT: Alton Geoscience
 CLIENT JOB NO.: 30-065

DATE RECEIVED: 03/27/90
 DATE REPORTED: 04/03/90

Page 3 of 7

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
80685-21	B-4 @51-51.5'	03/21/90	03/28/90
80685-22	B-5 @6-6.5'	03/22/90	
80685-23	B-5 @10.5-11'	03/22/90	
80685-24	B-5 @16-16.5'	03/22/90	03/30/90
80685-25	B-5 @21-21.5'	03/22/90	03/30/90
80685-26	B-5 @26-26.5'	03/22/90	03/30/90
80685-27	B-5 @31-31.5'	03/22/90	03/30/90
80685-28	B-5 @36-36.5'	03/22/90	04/02/90
80685-29	B-5 @41-41.5'	03/22/90	04/02/90
80685-30	B-5 @46-46.5'	03/23/90	04/02/90

Laboratory Number:	80685	80685	80685	80685	80685
	21	22	23	24	25

ANALYTE LIST	Amounts/Quantitation Limits (ug/Kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<1000	NA	NA	2000	3000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<3	NA	NA	110	260
TOLUENE:	ND<3	NA	NA	55	530
ETHYL BENZENE:	ND<3	NA	NA	63	90
XYLENES:	ND<3	NA	NA	350	510

Laboratory Number:	80685	80685	80685	80685	80685
	26	27	28	29	30

ANALYTE LIST	Amounts/Quantitation Limits (ug/Kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	3000	42000	3500000	3200000	5000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	470	2100	53000	18000	79
TOLUENE:	790	5200	340000	130000	40
ETHYL BENZENE:	79	1100	120000	94000	51
XYLENES:	450	5300	610000	450000	53

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

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

LABORATORY NO.: 80685
CLIENT: Alton Geoscience
CLIENT JOB NO.: 30-065

DATE RECEIVED: 03/27/90
DATE REPORTED: 04/03/90

Page 4 of 7

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
80685-31	B-5 @51-51.5'	03/23/90	03/30/90
80685-32	B-5 @56-56.5'	03/23/90	03/30/90
80685-33	B-6 @6-6.5'	03/21/90	
80685-34	B-6 @11-11.5'	03/21/90	
80685-35	B-6 @15.5-16'	03/21/90	03/28/90
80685-36	B-6 @21-21.5'	03/21/90	03/30/90
80685-37	B-6 @26-26.5'	03/21/90	03/30/90
80685-38	B-6 @31-31.5'	03/21/90	03/30/90
80685-39	B-6 @36-36.5'	03/21/90	03/31/90
80685-40	B-6 @41-41.5'	03/21/90	03/31/90

Laboratory Number:	80685	80685	80685	80685	80685
	31	32	33	34	35

ANALYTE LIST	Amounts/Quantitation Limits (ug/Kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<1000	1000	NA	NA	6000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	16	32	NA	NA	150
TOLUENE:	26	58	NA	NA	670
ETHYL BENZENE:	18	33	NA	NA	120
XYLENES:	65	94	NA	NA	720

Laboratory Number:	80685	80685	80685	80685	80685
	36	37	38	39	40

ANALYTE LIST	Amounts/Quantitation Limits (ug/Kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	7000	10000	110000	42000	1000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	1200	1100	1700	160	4
TOLUENE:	2500	2200	8100	730	9
ETHYL BENZENE:	180	240	2700	720	5
XYLENES:	1100	1300	13000	3600	16

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.

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

LABORATORY NO.: 80685
 CLIENT: Alton Geoscience
 CLIENT JOB NO.: 30-065

DATE RECEIVED: 03/27/90
 DATE REPORTED: 04/03/90

Page 5 of 7

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
80685-41	B-6 @51-51.5'	03/21/90	
80685-42	B-6 @55-55.5'	03/21/90	03/31/90
80685-43	B-7 @6-6.5'	03/23/90	03/31/90
80685-44	B-7 @11-11.5'	03/23/90	
80685-45	B-7 @16-16.5'	03/23/90	
80685-46	B-7 @21-21.5'	03/23/90	03/31/90
80685-47	B-7 @26-26.5'	03/23/90	04/03/90
80685-48	B-7 @31-31.5'	03/23/90	03/31/90
80685-49	B-7 @36-36.5'	03/23/90	03/31/90
80685-50	B-7 @41-41.5' (1/2 full)	03/23/90	

Laboratory Number:	80685	80685	80685	80685	80685
	41	42	43	44	45

ANALYTE LIST	Amounts/Quantitation Limits (ug/Kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	NA	ND<1000	25000	NA	NA
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	NA	5	32	NA	NA
TOLUENE:	NA	7	320	NA	NA
ETHYL BENZENE:	NA	3	520	NA	NA
XYLENES:	NA	9	3200	NA	NA

Laboratory Number:	80685	80685	80685	80685	80685
	46	47	48	49	50

ANALYTE LIST	Amounts/Quantitation Limits (ug/Kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	5000	270000	3000	ND<1000	NA
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	670	7800	380	9	NA
TOLUENE:	1600	28000	760	14	NA
ETHYL BENZENE:	150	5900	83	5	NA
XYLENES:	780	25000	460	24	NA

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.

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

LABORATORY NO.: 80685
CLIENT: Alton Geoscience
CLIENT JOB NO.: 30-065

DATE RECEIVED: 03/27/90
DATE REPORTED: 04/03/90

Page 6 of 7

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
80685-51	B-8 @6-6.5'	03/23/90	03/31/90
80685-52	B-8 @11-11.5'	03/23/90	
80685-53	B-8 @16-16.5'	03/23/90	
80685-54	B-8 @21-21.5'	03/23/90	03/31/90
80685-55	B-8 @26-26.5'	03/23/90	03/31/90
80685-56	B-8 @31-31.5'	03/23/90	03/31/90
80685-57	B-8 @36-36.5'	03/23/90	04/03/90

Laboratory Number:	80685	80685	80685	80685	80685
	51	52	53	54	55

ANALYTE LIST	Amounts/Quantitation Limits (ug/Kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<1000	NA	NA	ND<1000	2000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<3	NA	NA	ND<3	ND<3
TOLUENE:	ND<3	NA	NA	ND<3	24
ETHYL BENZENE:	ND<3	NA	NA	ND<3	11
XYLENES:	ND<3	NA	NA	ND<3	17

Laboratory Number:	80685	80685
	56	57

ANALYTE LIST	Amounts/Quantitation Limits (ug/Kg)	
OIL AND GREASE:	NA	NA
TPH/GASOLINE RANGE:	3000	ND<1000
TPH/DIESEL RANGE:	NA	NA
BENZENE:	25	30
TOLUENE:	6	8
ETHYL BENZENE:	180	ND<3
XYLENES:	290	21

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

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

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
Diesel by Modified EPA SW-846 Method 8015
Gasoline by Purge and Trap: EPA Method 8015/5030
ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

Page 7 of 7
QA/QC INFORMATION
SET: 80685

NA = ANALYSIS NOT REQUESTED

ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT

ug/L = part per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:

Duplicate RPD NA

Minimum Detection Limit in Soil: 20mg/kg

Modified EPA Method 8015 for Extractable Hydrocarbons:

Minimum Quantitation Limit for Diesel in Soil: 10mg/kg

Daily Standard run at 200mg/L; RPD Diesel = NA

MS/MSD Average Recovery = NA: Duplicate RPD = NA

8015/5030 Total Purgable Petroleum Hydrocarbons:

Minimum Quantitation Limit for Gasoline in Soil: 1000ug/Kg

Daily Standard run at 2mg/L; RPD Gasoline = 4%

MS/MSD Average Recovery = 92%: Duplicate RPD = 5%

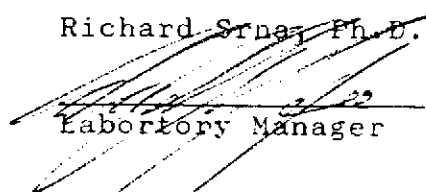
8020/BTXE

Minimum Quantitation Limit in Soil: 3ug/Kg

Daily Standard run at 20ug/L; RPD = <15%

MS/MSD Average Recovery = 96%: Duplicate RPD = <10%

Richard Srna, Ph.D.


Laboratory Manager

OUTSTANDING QUALITY AND SERVICE

M11# 00000



ALTON GEOSCIENCE
1000 BURNETT AVE, STE. 140
CONCORD, CA 94520 (415) 682-1582

CHAIN of CUSTODY RECORD

PAGE 1 of 6

DATE: 3/26/90 DUE BY: 4/3/90
LABORATORY: Superior

PROJECT NUMBER / MANAGER: C.D. Andrea SAMPLERS SIGNATURE:

PROJECT NAME / ADDRESS: Mobil Oil Corp. 1024 Main St., Pleasanton. Project No 30-065

REMARKS OR SPECIAL INSTRUCTIONS:

Lab Fees Quoted by John Hart on 3/26/90 Include a 12% discount on all samples analyzed for this project.
5 DAY T.A.T.

TYPE & NUMBER OF CONTAINERS

ANALYSIS ANALYSIS

SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATRIX	SAMPLE TYPE:		TPH = Gas/BTEX	ANALYSIS										
				GRAB	COMP.												
1 ✓	3/26/90	B-3 @ 5 1/2'	Soil														X
2 ✓		B-3 @ 11-11 1/2'															X
3		B-3 @ 16-16 1/2'				X											
4		B-3 @ 21-21 1/2'				X											
5		B-3 @ 26-26 1/2'				X											
6		B-3 @ 31-31 1/2'				X											
7		B-3 @ 36-36 1/2'															X
8		B-3 @ 41-41 1/2'															X
9		B-3 @ 46-46 1/2'															X
10		B-3 @ 51-51 1/2'															X
11 ✓		B-3 @ 56-56 1/2'				X											

CHAIN OF CUSTODY

SIGNATURE	INCLUSIVE DATES/TIMES	SIGNATURE	INCLUSIVE DATES/TIMES
1. <u>Alison Watt</u>	<u>3/26/90 5:00pm</u>	4. _____	_____
2. <u>Alison Watt</u>	<u>3/26/90 6:00pm</u>	5. <u>[Signature]</u>	<u>3-26-90 6pm</u>
3. _____	_____	6. _____	_____



ALTON GEOSCIENCE
1000 BURNETT AVE., STE. 140
CONCORD, CA 94520 (415) 682-1582

CHAIN of CUSTODY RECORD

PAGE 2 of 6

DATE: 3/26/90

DUE BY: 4/3/90

LABORATORY:

PROJECT NUMBER / MANAGER: C. D'ANDREA

SAMPLERS SIGNATURE: *Chris D'Andrea*

PROJECT NAME / ADDRESS: *WORLDIL CORP. 1024 Main St. Pleasanton, Project No 30-065*

REMARKS OR SPECIAL INSTRUCTIONS:

Lab fees quoted by John Hart on 3/26/90 include a 12% discount on all samples analyzed for this project 5 DAY T.A.T.

TYPE & NUMBER OF CONTAINERS

ANALYSIS ANALYSIS

THAS GAS/BTEX

HOLD SAMPLE

SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATRIX	SAMPLE TYPE:								
				GRAB	COMP.							
12	3/21/90 10:30	B-4 @ 6-6 1/2'	Soil									X
13	10:40	B-4 @ 11-11 1/2'										X
14	10:45	B-4 @ 16-16 1/2'					X					
15	10:50	B-4 @ 21-21 1/2'					X					
16	10:55	B-4 @ 26-26 1/2'					X					
17	11:01	B-4 @ 31-31 1/2'					X					
18	11:16	B-4 @ 35-35.5' (wet)										X
19	11:40	B-4 @ 40-41 1/2'										X
20	11:50	B-4 @ 45-46 1/2'										X
21	11:55	B-4 @ 51-51 1/2'					X					
												X

CHAIN OF CUSTODY

SIGNATURE
1. *Chris D'Andrea*
2. *Chantal Ward*
3. _____

INCLUSIVE DATES/TIMES
1. 3/24/90 7:00
2. 3/26/90 6:00
3. _____

SIGNATURE
4. _____
5. _____
6. _____

INCLUSIVE DATES/TIMES
1. 3/26/90 6pm
2. _____
3. _____



ALTON GEOSCIENCE
1000 BURNETT AVE, STE. 140
CONCORD, CA 94520 (415) 882-1582

CHAIN of CUSTODY RECORD

PAGE 3 of 6

DATE: 3/26/90 DUE BY: 4/3/90
LABORATORY: Superior

PROJECT NUMBER / MANAGER: C. D'ANDREA SAMPLERS SIGNATURE: *Cheri D'Andrea*
PROJECT NAME / ADDRESS: MOBIL OIL CORP, 1024 MAIN ST, PLEASANTON, CA PROJ. No. 30-065

REMARKS OR SPECIAL INSTRUCTIONS:
Lab fee Quoted by John Hart on 3/26/90, Include a 12% discount on all samples analyzed for this project 5 DAY T.A.T.

TYPE & NUMBER OF CONTAINERS	ANALYSIS				ANALYSIS			
	TPH as Gas/BTEX							HOLD SAMPLE
								X
								X
	X							
	X							
	X							
	X							
	X							
	X							
	X							
	X							
	X							

SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION DESCRIPTION	SAMPLE MATRIX	SAMPLE TYPE:	
				GRAB	COMP.
22	3/22/90 4:06	B-5 @ 6-6 1/2'	Soil		
23	4:16	B-5 @ 10 1/2 - 11'			
24	4:22	B-5 @ 16-16 1/2'			
25	4:27	B-5 @ 21-21 1/2'			
26	4:29	B-5 @ 26-26 1/2'			
27	4:36	B-5 @ 31-31 1/2'			
28	4:45	B-5 @ 36-36 1/2'			
29	4:52	B-5 @ 41-41 1/2'			
30	3/23/90 9:15	B-5 @ 46-46 1/2'			
31	9:20	B-5 @ 51-51 1/2'			
32	9:25	B-5 @ 56-56 1/2'			

CHAIN OF CUSTODY

SIGNATURE	INCLUSIVE DATES/TIMES	SIGNATURE	INCLUSIVE DATES/TIMES
1. <i>Cheri D'Andrea</i>	5:20	4. <i>[Signature]</i>	3/26/90 6:00
2. <i>[Signature]</i>	6:00	5. <i>[Signature]</i>	
3. _____	_____	6. _____	_____



ALTON GEOSCIENCE
1000 BURNETT AVE., STE. 140
CONCORD, CA 94520 (415) 682-1582

CHAIN of CUSTODY RECORD

PAGE 4 of 6

DATE: 3/26/90 DUE BY: 4/3/90

LABORATORY: Superior

PROJECT NUMBER / MANAGER: C. D'ANDREA SAMPLERS SIGNATURE: *Cherie D'Andrea*

PROJECT NAME / ADDRESS: MOBILE OIL CORP., 1024 Main St. Pleasanton, Proj No. 30-065

REMARKS OR SPECIAL INSTRUCTIONS:

Lab fees Quoted by John Hart on 3/26/90, Includes a 12% discount on all samples analyzed for this project.

5 DAY T.A.T.

TYPE & NUMBER OF CONTAINERS

ANALYSIS ANALYSIS

SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATRIX	SAMPLE TYPE:		TPH as GAS / BTEX	ANALYSIS				HOLD SAMPLE		
				GRAB	COMP.								
33	3/21/90 1:45	B-6 @ 6-6 1/2'	Soil									X	
34	3/21/90 1:50	B-6 @ 11-11 1/2'	↓									X	
35	3/21/90 1:55	B-6 @ 15 1/2 - 16'					X						
36	3/21/90 2:15	B-6 @ 21-21 1/2'					X						
37	3/21/90 2:40	B-6 @ 26-26 1/2'					X						
38	3/21/90 2:45	B-6 @ 31-31 1/2'					X						
39	3/21/90 2:50	B-6 @ 36-36 1/2'					X						
40	3/21/90 2:55	B-6 @ 41-41 1/2'					X						
41	3/21/90 3:45	B-6 @ 51-51 1/2'											X
42	3/21/90 3:55	B-6 @ 55-55 1/2'					X						

CHAIN OF CUSTODY

SIGNATURE
1. *Cherie D'Andrea*
2. *Adrian Watt*
3. _____

INCLUSIVE DATES/TIMES
5:20
6:00 3/26/90

SIGNATURE
4. _____
5. *[Signature]*
6. _____

INCLUSIVE DATES/TIMES
3/26/90 6:00



ALTON GEOSCIENCE
1000 BURNETT AVE., STE. 140
CONCORD, CA 94520 (415) 682-1592

CHAIN of CUSTODY RECORD

PAGE 5 of 6

DATE: 3/26/90 DUE BY: 4/3/90

LABORATORY: Superior

PROJECT NUMBER / MANAGER: C. D'Andrea
PROJECT NAME / ADDRESS: Mobil Oil Corp., 1024 Main St, Pleasanton, Project No. 30-065

SAMPLERS SIGNATURE: *Cheri Sander*

REMARKS OR SPECIAL INSTRUCTIONS:
Lab Fees Quoted by John Hart on 3/26/90 Include a 12% discount on all sample analyzed for this project.
5 DAY T.A.T.

TYPE & NUMBER OF CONTAINERS

ANALYSIS ANALYSIS

SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATRIX	SAMPLE TYPE:		TPH as GAS/BTEX	ANALYSIS				HOLD SAMPLE		
				GRAB	COMP.								
43	3/23/90 10:30	B-7 @ 6-6 1/2'	Soil			X							
44	10:34	B-7 @ 11-11 1/2'	↓									X	
45	10:40	B-7 @ 16-16 1/2'											X
46	10:45	B-7 @ 21-21 1/2'					X						
47	10:50	B-7 @ 26-26 1/2'					X						
48	10:55	B-7 @ 31-31 1/2'					X						
49	11:03	B-7 @ 36-36 1/2'					X						
50	11:10	B-7 @ 41-41 1/2' (1/2 full)											X

CHAIN OF CUSTODY

SIGNATURE
1. *Cheri Sander*
2. *Alison Math*
3. _____

INCLUSIVE DATES/TIMES
3/26/90 10:53
6:00 3/26/90

SIGNATURE
4. _____
5. *[Signature]*
6. _____

INCLUSIVE DATES/TIMES
3/26/90 6:00



ALTON GEOSCIENCE
1000 BURNETT AVE., STE. 140
CONCORD, CA 94520 (415) 682-1582

CHAIN OF CUSTODY RECORD

PAGE 6 of 6

DATE: 3/26/90 DUE BY: 4/3/90

LABORATORY: Superior

PROJECT NUMBER / MANAGER: C. D'Andrea SAMPLERS SIGNATURE: *Cheri D'Andrea*

PROJECT NAME / ADDRESS: Mobil Oil Corp, 1024 Main St., Pleasanton, Project No 30-065

REMARKS OR SPECIAL INSTRUCTIONS:

Lab Fees Quoted by John Hart on 3/26/90 Include a 12% discount on all samples analyzed for this project.
5-DAY T.A.T.

TYPE & NUMBER OF CONTAINERS

ANALYSIS ANALYSIS

TPH as GAS/BTEX

HOLD SAMPLE

SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATRIX	SAMPLE TYPE:		TYPE & NUMBER OF CONTAINERS	ANALYSIS				HOLD SAMPLE		
				GRAB	COMP.								
51	3/23/90 1:40	B-8 @ 6-6 1/2'	Soil				X						
52	1:45	B-8 @ 11-11 1/2'											X
53	1:50	B-8 @ 16-16 1/2'											X
54	1:57	B-8 @ 21-21 1/2'					X						
55	2:04	B-8 @ 26-26 1/2'					X						
56	2:37	B-8 @ 31-31 1/2'					X						
57	2:57	B-8 @ 36-36 1/2'					X						

CHAIN OF CUSTODY

SIGNATURE

INCLUSIVE DATES/TIMES

SIGNATURE

INCLUSIVE DATES/TIMES

1. *Cheri D'Andrea*
2. *Alison White*

3/26/90 10:50
6:00 pm 3/26/90

4. _____
5. _____
6. _____

3/26/90 _____

APPENDIX E

**OFFICIAL LABORATORY REPORT FOR GROUND WATER SAMPLING
AND CHAIN OF CUSTODY RECORDS**

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

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

LABORATORY NO.: 51940
CLIENT: Alton Geoscience
CLIENT JOB NO.: 30-065

DATE RECEIVED: 04/17/90
DATE REPORTED: 04/30/90

ANALYSIS FOR TOTAL ORGANIC LEAD
by DHS Method MAY 1988 LUFT Manual

LAB NO.	Sample Identification	Concentration (mg/L)
1	MW-1	ND<0.01
2	MW-2	ND<0.01
3	MW-3	ND<0.01

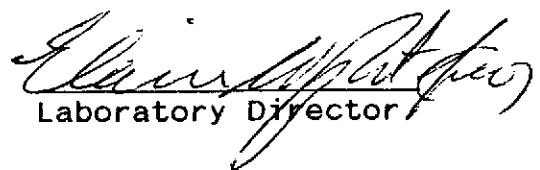
mg/L - parts per million (ppm)

Minimum Detection Limit For Organic Lead in water: 0.01mg/l

QAQC Summary:
MS/MSD Average Recovery: 99%
Duplicate RPD = <0.01

Subcontracted to Kennedy/Jenks/Chilton Laboratory DHS #113

Richard Srna, Ph.D.



Laboratory Director

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

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

LABORATORY NO.: 51940
CLIENT: Alton Geoscience
CLIENT JOB NO.: 30-065

DATE RECEIVED: 04/17/90
DATE REPORTED: 04/30/90

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration (ug/L) Gasoline Range
1	MW-1	3600
2	MW-2	64000
3	MW-3	2100

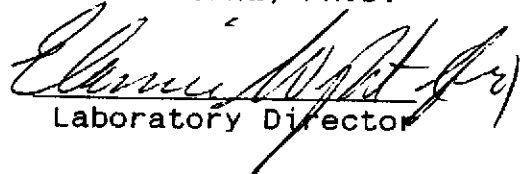
ug/L - parts per billion (ppb)

Minimum Detection Limit for Gasoline in Water: 50ug/L

QAQC Summary:

Daily Standard run at 2mg/L: RPD Gasoline = <15%
MS/MSD Average Recovery = 83%: Duplicate RPD = 12%

Richard Srna, Ph.D.



Laboratory Director

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

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

LABORATORY NO.: 51940
CLIENT: Alton Geoscience
CLIENT JOB NO.: 30-065

DATE RECEIVED: 04/17/90
DATE REPORTED: 04/30/90

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/L)			
		Benzene	Toluene	Ethyl Benzene	Xylenes
1	MW-1	73	13	3	180
2	MW-2	5500	7600	1900	7800
3	MW-3	32	56	31	170

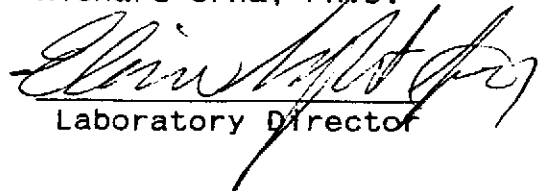
ug/L - parts per billion (ppb)

Minimum Detection Limit in Water:0.3ug/L

QAQC Summary:

Daily Standard run at 20ug/L: RPD = <15%
MS/MSD Average Recovery = 96% : Duplicate RPD = 8%

Richard Srna, Ph.D.



Laboratory Director

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

LABORATORY NO.: 51940-1
CLIENT: Alton Geoscience
JOB NO.: 30-065

DATE SAMPLED: 4/16/90
DATE RECEIVED: 4/17/90
DATE ANALYZED: 4/27/90

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: MW-1

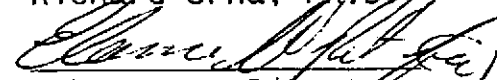
Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane	0.5	ND
Bromomethane	0.5	ND
Vinyl chloride	1.0	ND
Dichlorodifluoromethane	0.5	ND
Chloroethane	0.5	ND
Methylene chloride	4.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.2	ND
1,1-Dichloroethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,2-Trichlorotrifluoroethane	0.5	ND
1,2-Dichloroethane	0.5	45
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	ND
Bromodichloromethane	0.5	ND
1,2-Dichloropropane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
Trichloroethylene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dibromochloromethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Bromoform	0.5	ND
Tetrachloroethene /		
1,1,2,2-Tetrachloroethane	0.5	ND
Chlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND

MDL = Method Detection Limit ; ug/l = parts per billion (ppb)

QA/QC Summary: Daily Standard RPD = <15%

MS/MSD average recovery = 107% : MS/MSD RPD = < 5%

Richard Srna, Ph.D.


Laboratory Director

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 51940-2
CLIENT: Alton Geoscience
JOB NO.: 30-065

DATE SAMPLED: 4/16/90
DATE RECEIVED: 4/17/90
DATE ANALYZED: 4/27/90

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: MW-2

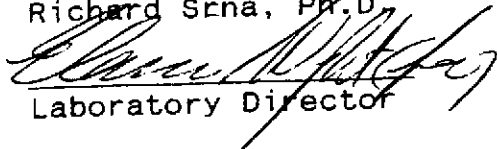
Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane	0.5	ND
Bromomethane	0.5	ND
Vinyl chloride	1.0	ND
Dichlorodifluoromethane	0.5	ND
Chloroethane	0.5	ND
Methylene chloride	4.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.2	ND
1,1-Dichloroethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,2-Trichlorotrifluoroethane	0.5	ND
1,2-Dichloroethane	0.5	200
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	ND
Bromodichloromethane	0.5	ND
1,2-Dichloropropane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
Trichloroethylene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dibromochloromethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Bromoform	0.5	ND
Tetrachloroethene /		
1,1,2,2-Tetrachloroethane	0.5	ND
Chlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND

MDL = Method Detection Limit ; ug/l = parts per billion (ppb)

QA/QC Summary: Daily Standard RPD = <15%

MS/MSD average recovery = 107% : MS/MSD RPD =< 5%

Richard Scna, Ph.D.


Laboratory Director

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

CERTIFICATE OF ANALYSIS

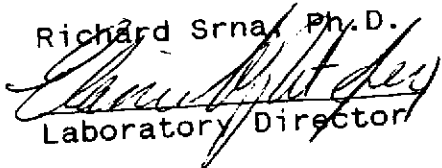
LABORATORY NO.: 51940-3
 CLIENT: Alton Geoscience
 JOB NO.: 30-065

DATE SAMPLED: 4/16/90
 DATE RECEIVED: 4/17/90
 DATE ANALYZED: 4/27/90

EPA SW-846 METHOD 8010
 HALOGENATED VOLATILE ORGANICS
 SAMPLE: MW-3

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane	0.5	ND
Bromomethane	0.5	ND
Vinyl chloride	1.0	ND
Dichlorodifluoromethane	0.5	ND
Chloroethane	0.5	ND
Methylene chloride	4.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.2	ND
1,1-Dichloroethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,2-Trichlorotrifluoroethane	0.5	117
1,2-Dichloroethane	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	ND
Bromodichloromethane	0.5	ND
1,2-Dichloropropane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
Trichloroethylene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Dibromochloromethane	0.5	ND
2-Chloroethylvinyl ether	1.0	ND
Bromoform	0.5	ND
Tetrachloroethene /		ND
1,1,2,2-Tetrachloroethane	0.5	ND
Chlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND

MDL = Method Detection Limit ; ug/l = parts per billion (ppb)
 QA/QC Summary: Daily Standard RPD = <15%
 MS/MSD average recovery = 107% : MS/MSD RPD = < 5%

Richard Srna, Ph.D.

 Laboratory Director

OUTSTANDING QUALITY AND SERVICE



ALTON GEOSCIENCE
1000 BURNETT AVE., STE. 140
CONCORD, CA 94520 (415) 682-1582

51940

CHAIN of CUSTODY RECORD

DATE: 4/16/90 DUE BY:
LABORATORY:

PROJECT NUMBER / MANAGER: 30-065
D'ANDREA

SAMPLERS SIGNATURE: Alison Watt

PAGE 1 of 1

PROJECT NAME / ADDRESS:
REMARKS OR SPECIAL INSTRUCTIONS:

Normal TAT

SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATRIX	SAMPLE TYPE:		TYPE & NUMBER OF CONTAINERS	ANALYSIS		
				GRAB	COMP.		TPH as GAS/BTEX	Organic Lead	Halogenated (BOD) Volatile Organics
	<u>4/16/90</u> <u>12:35 pm</u>	<u>MW-1</u>	<u>Water</u>	<u>✓</u>		<u>4x40ml</u>	<u>✓</u>		
	<u>↓</u>	<u>MW-1</u>	<u>↓</u>			<u>1x1lt.</u>		<u>✓</u>	
		<u>MW-1</u>	<u>↓</u>			<u>2x40ml</u>		<u>✓</u>	
	<u>4/16/90</u> <u>2:10</u>	<u>MW-2</u>				<u>4x40ml</u>	<u>✓</u>		
	<u>↓</u>	<u>MW-2</u>				<u>2x40ml</u>		<u>✓</u>	
		<u>MW-2</u>				<u>1x1lt.</u>		<u>✓</u>	
	<u>4/16/90</u> <u>1:20 pm</u>	<u>MW-3</u>				<u>4x40ml</u>	<u>✓</u>		
	<u>↓</u>	<u>MW-3</u>				<u>2x40ml</u>		<u>✓</u>	
		<u>MW-3</u>				<u>1x1lt.</u>		<u>✓</u>	

SIGNATURE
1. Alison Watt
2. Dorena Rod
3. _____

CHAIN OF CUSTODY
INCLUSIVE DATES/TIMES
5:40 pm 4/16/90
6:40 pm 4/16/90

SIGNATURE
4. _____
5. B. Rods
6. _____

INCLUSIVE DATES/TIMES
5:40 pm 4/16/90
4-17-90 8:05