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Engineering Geology Consultants
Environmental Management Consultants
Technical Information Service

June 27, 1990

KTW & ASSOCIATES
43289 Osgood Road
Fremont, CA 94539
Attn: Mr. Kevin Krause

Subject: Preliminary Site Characterization Investigation for
Mitzi Stockel
3234 Castro Valley Blvd
Castro Valley, California

Gentlemen;

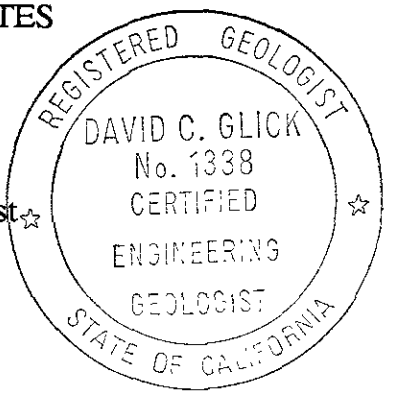
As requested and authorized, the attached Preliminary Site Characterization Investigation Report has been prepared to document the investigation efforts performed at the subject site. The report presents the findings of the subsurface investigation performed at the subject site, describes the installation and sampling of ground water monitoring wells, and presents the results of analytical testing performed on soil and ground water samples obtained during the investigation. The report contains conclusion and recommendations based on these findings.

Questions or comments regarding the attached report should be addressed to the undersigned.

Respectfully submitted,

DAVID C. GLICK ASSOCIATES

David C. Glick, CEG 1338
Principal Engineering Geologist




Enclosure:
(1) Preliminary Site Characterization Investigation Report
Mitzi Stockel, 3234 Castro Valley Blvd
Castro Valley, California

PRELIMINARY

SITE CHARACTERIZATION INVESTIGATION

for

MITZI STOCKEL

3234 CASTRO VALLEY BLVD.

CASTRO VALLEY, CALIFORNIA

PREPARED FOR

KTW & ASSOCIATES

43289 OSGOOD ROAD

FREMONT, CA

June 27, 1990

PRELIMINARY
SITE CHARACTERIZATION INVESTIGATION
for
MITZI STOCKEL
3234 CASTRO VALLEY BLVD.
CASTRO VALLEY, CALIFORNIA

## INTRODUCTION

The project site is located at 3234 Castro Valley Blvd. in the City of Castro Valley, in Alameda County, California. The site is the location of a former automotive repair facility (see Figure 1) and private residence. A 657 gallon underground gasoline storage tank was located along the northern side of the automotive shop and was removed on March 8, 1990 by KTW & Associates.

## BACKGROUND

The former underground tank held leaded gasoline. The storage tank was excavated and removed on March 3, 1990 by KTW & Associates with soil samples obtained from the excavation by David C. Glick Associates personnel. The soil samples were submitted for analytical testing for Total Petroleum Hydrocarbons (TPH) as Gasoline and Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX). Discolored soils were observed in the excavation during the tank removal and strong hydrocarbon vapors were emitted from the removed and in-situ soils. Several small holes (1/2" - 1" diameter) were observed in the lower half of the tank at each end.

Subsequent to the tank removal and soil sampling, the excavation was continued to a depth of 9 feet below existing grade by KTW & Associates personnel to further remove existing fuel contaminated soils in the immediate vicinity of the former tank. Ground water seepage was encountered in the excavation at a depth of 6 feet with free flowing water at a depth of 8 1/2 feet. The excavated soil was stockpiled on-site pending initiation of the site characterization investigation, additional soil excavation, and initiation of on-site soil aeration for reduction of the hydrocarbon content. The ground water level subsequent stabilized at a depth of 6 feet.

## SCOPE OF WORK

To characterize the impact to the underlying soil and ground water resources present at the site resulting from the underground storage tanks, the authorized scope of work for this investigation included:

(1) Advancing 12 subsurface exploration borings to a depth of 8 feet in the accessible areas immediately adjacent to the underground storage tank excavation to define the subsurface conditions and determine the extent of the existing fuel contaminated soils at the site;

(2) Obtaining soil samples from the soil borings for analytical testing;

(3) Installation of 5 ground water monitoring wells in the immediate vicinity of the former tank;

(4) Collection of ground water samples from the monitoring wells for analytical testing to evaluate the impacts to the underlying ground water resources;

and (5) Preparation of this report.

Specifics of the individual investigative phases are described in the following sections.

## SUBSURFACE INVESTIGATION

Twelve (12) soil borings were advanced to a depths of 8 to 20 feet below the ground surface across the project site using an eight (8) inch, nominal diameter, continuous flight hollow stem auger at locations indicated on Figure 2. Boring B-12 was converted to a Monitoring Well upon completion and is also referred to as Monitoring Well MW-4.

Soil samples were obtained during drilling at 5 foot and 8 foot depths through the use of a 2 inch I.D. split-barrel sampler. The sampler was advanced into the undisturbed soil ahead of the auger by a 140 pound hammer repeatedly falling 30 inches. Sand catchers were used as necessary to retain the samples. Pre-cleaned brass liners were placed in the sampler to retain the soil. The blow counts necessary to advance the sampler were recorded for each 6-inch interval. The borings were logged under the supervision of a State of California Certified Engineering Geologist. The Boring Logs are presented as Figures 3-14.

The drilling and sampling equipment was thoroughly steam cleaned before drilling began to prevent the introduction of off-site contamination and the augers were steam cleaned between each boring to prevent cross contamination between borings. The sampling equipment was cleaned between each sample event by washing in a Tri-Sodium Phosphate solution and then rinsed to prevent cross contamination.

The drill cuttings and soil samples were monitored in the field for evidence of hydrocarbon content through the use of a portable organic vapor meter (OVM). The soil samples were immediately sealed in the liners using aluminum foil and plastic caps and properly labeled including: the date, time, sample location, and project number. The samples were placed on ice immediately for storage and were transported to the laboratory under chain-of-custody documentation.

Soil cuttings derived from the soil borings were added to the existing stockpiled soils generated from the tank removal and over-excavation. The soil borings were grout sealed with an 11-sack cement-sand slurry under the observation of a Certified Engineering Geologist.

## SUBSURFACE CONDITIONS

The soil borings and resulting tank excavations revealed that the soils in the vicinity of the former tank consist of a dark-gray, soft, silty clay to an approximate depth of 3 feet underlain by a mottled olive-orange, dense to firm, silty clay/clayey silt to a depth of 8 feet. The soil borings advanced for installation of the ground water monitoring wells (discussed in the following section) encountered similar materials to a depth of 8 feet underlain by orange-brown silty sand and fine-grained sand to a depth of 23 feet (limits of exploration). Ground water was encountered at depths of 8 feet below the ground surface and stabilized at a depth of 6 feet.

Gasoline and motor oil vapors were detected by the OVM and by noticeable odors in the soil samples obtained from the exploration borings. Vapors were not detected by the OVM in the soil samples obtained from the monitoring well borings.

## MONITORING WELL INSTALLATION

Four (4) additional soil borings were advanced for installation of open standpipe piezometer monitoring wells at locations indicated on Figure 2. The borings were advanced to depths of 16 to 23 feet using an eight (8) inch, nominal diameter, continuous flight hollow stem auger. The drilling procedures used in the well installation were

consistent with the procedures for the Soil Borings. Soil cuttings derived from the monitoring well borings were added to the existing stockpiled soils generated from the tank removal and over-excavation. The Boring Logs for the monitoring wells are presented as Figures 15-18. The boring log for Monitoring Well MW-5 is included as Boring B-12.

The monitoring wells were constructed by installing 2-inch diameter polyvinyl chloride (PVC) flush-threaded casing and slotted pipe directly through the hollow stem auger. The slotted section of the PVC pipe installed through the saturated zone had 0.020 inch factory perforations. The PVC materials used in the well construction were thoroughly cleaned prior to introduction into the boring.

The monitoring wells were filter-packed with clean #2/12 Lonestar silica sand throughout the screened interval. The filter-pack material was installed in the annular spacing between the monitoring well pipe and the auger as the auger was removed. The filter-pack was extended two feet above the top of the screened interval. To assure continuity and integrity of the filter material, and to prevent the bore hole from caving, no more than five foot of auger was removed at a time during placement of the filter-pack.

A one foot thick layer of bentonite pellets was placed above the filter material to provide an annular seal. The bentonite was hydrated with water prior to placement of the grout seal. The remainder of the boring was filled with an 11-sack cement sand slurry to within one foot of grade. A locking cap was placed on the PVC well casing and a water tight locking traffic box was installed in concrete over the well casing. Figures 19-23 illustrate typical construction details of the Monitoring Wells.

## WELL DEVELOPMENT AND SAMPLING

The well development proceeded through the use of a 1.7" diameter mechanical hand pump until a minimum of three well volumes had been purged and the discharged water appeared clear of sediment. Electrical conductivity, temperature, and pH of the ground water were recorded throughout the development process. The well development continued until the electrical conductivity, temperature, and pH of the discharged water stabilized. Depth to water measurements were recorded prior to and following the well development activities. Approximately 50 gallons of water were purged from each of the wells.

The wells were allowed to recover for a minimum of 24 hours between the development and sampling activities. Prior to sampling, free product measurements were obtained utilizing a teflon bailer lowered into the well to obtain a surface water sample. The teflon bailer was observed to identify the presence of hydrocarbon odors, visible sheen, or free

product. Free petroleum hydrocarbon products, oily sheens, or hydrocarbon odors were not detected in the water samples collected from the monitoring wells.

Prior to collection of the water samples, a minimum of three well volumes were purged from each well through the use of a teflon bailer. Electrical conductivity, temperature, and pH of the ground water were recorded throughout the purging process. The purging activities continued until the electrical conductivity, temperature, and pH of the discharged water stabilized. Water samples for analytical testing were obtained through the use of the bailer. The water obtained from the monitoring wells during development and sampling activities was contained on-site in 55-gallon drums pending receipt of the laboratory test results. A travel blank (distilled water) was obtained from the Analytical Testing Laboratory, transported to the field, and returned to the laboratory for testing along with the collected samples. The travel blank is identified as sample from Monitoring Well MW-A. A field blank was obtained from a water spigot as labeled as sampled from Monitoring Well MW-B. The field blank was obtained by filling the teflon bailer with tap water and sampling using the sample procedures used for collection of the Monitoring Well samples. Duplicate samples were collected from Monitoring Wells MW-4 and MW-5 and submitted for analytical testing.

The water samples were collected in sterilized glass vials with Teflon lined screw caps. The samples were immediately sealed in the vials and properly labeled including: the date, time, sample location, project number, and indication of any preservatives added to the sample. The samples were placed on ice immediately for transport to the laboratory under chain-of-custody documentation.

## WELL LOCATION SURVEY

The location and elevation of each monitoring well was surveyed following completion of the well construction. The elevation of the top of each monitoring well casing was determined by establishing a Temporary Bench Mark (assumed elevation 100.00 feet) and performing a level survey to record the monitoring well elevations. Vertical control was maintained to the nearest 0.01 inch. Water levels in the wells were measured using an electronic water level probe and were recorded to the nearest 0.01 inch. The depth to water measurements were recorded from the same location on the top of the well casing scribed during the elevation survey.

Depth to ground water measurements recorded during the investigation suggest that water level is at an average depth of 6 feet below the ground surface. Based on the elevation survey, ground water in the vicinity of the former tank flows in a southwest direction at a gradient of 0.023 ft/ft (see Figure 24). The water level elevations recorded and direction of

ground water flow determined during the investigation indicates that Monitoring Well MW-2 is an "up-gradient" well. Based on the current direction of flow, Monitoring Wells MW-5 constitutes a "down-gradient" well.

## ANALYTICAL TESTING

The soil and ground water samples obtained from the soil borings and monitoring wells were submitted to and tested by Anametrix Laboratories located in San Jose, California. The soil samples were tested for Total Petroleum Hydrocarbons as gasoline by Method GCFID (5030) and Volatile Aromatics by EPA Method 8020. Ground water samples were tested for Total Petroleum Hydrocarbons as gasoline by Method GCFID (5030) and Volatile Aromatics by EPA Method 602. The analytical test data, along with the Chain-of-Custody Forms are presented in Appendix A.

The analytical testing detected Total Petroleum Hydrocarbons as Gasoline and Volatile Aromatic Hydrocarbons in the soil samples collected from Borings 4-8 and Boring 10. Total Petroleum Hydrocarbons as Gasoline ranged from 560 ppm to 11,000 ppm. Soil samples obtained from Borings 1-3, 9, 11, and 12 did not contain detectable quantities of Hydrocarbon products. The analytical testing did not detect Total Petroleum Hydrocarbons as Gasoline or Volatile Aromatic Hydrocarbons in the soil samples collected from the Monitoring Well borings. Volatile constituents (BTEX) were not detected in the water samples obtained from the Monitoring Wells, although, Monitoring Well 5 contained 100 ppb Total Petroleum Hydrocarbons as Gasoline.

## INTERIM REMEDIAL ACTION

Subsequent to receiving the analytical test results for the soil borings, KTW & Associates enlarged the existing tank excavation to further remove soil materials containing high gasoline concentrations. The excavation was continued laterally to within approximately 10 feet of the Monitoring Well soil borings (which had non-detectable concentrations of gasoline and Volatile Hydrocarbons).

The soil excavated from the over-excavation activities remains stockpiled on-site pending initiation of the remedial aeration activities (discussed in the Recommended Remedial Action section of this report). Remedial documentation is not included in this investigation report and would be prepared independently by KTW & Associates.

## SUMMARY OF FINDINGS AND RECOMMENDATIONS

The findings of the investigation are discussed below:

The soil borings and resulting tank excavations revealed that the soils in the vicinity of the former tank consist of a dark-gray, soft, silty clay to an approximate depth of 3 feet underlain by a mottled olive-orange, dense to firm, silty clay/clayey silt to a depth of 8 feet. The soil borings advanced for installation of the ground water monitoring wells encountered similar materials to a depth of 8 feet underlain by orange-brown silty sand and fine-grained sand to a depth of 23 feet (limits of exploration). Ground water was encountered at depths of 8 feet below the ground surface.

The soils encountered in the exploration borings B-4 through B-8 contained Total Petroleum Hydrocarbons as Gasoline at concentrations ranging from 560 to 11,000 ppm. Boring B-10 did not contain detectable quantities of TPH as Gasoline; however, contained the samples contained Total Xylenes at 9 ppb. Soil samples obtained from Borings B-1 through B-3, B-9, B-11, and B-12 and the Monitoring Well soil borings did not contain detectable concentrations of hydrocarbon constituents.

Volatile constituents (BTEX) were not detected in the water samples obtained from the Monitoring Wells; however, the sample from MW-5 contained Total Petroleum Hydrocarbons as Gasoline at a concentration of 100 ppb.

Depth to ground water measurements recorded during the investigation suggest that ground water flows in a southwest direction at a gradient of 0.023 ft/ft. The water level elevations recorded and direction of ground water flow determined during the investigation indicates that Monitoring Well MW-2 is an "up-gradient" well and Monitoring Wells MW-5 represent a "down-gradient" monitoring well.

It is recommended that Monitoring Wells be monitored and sampled on a monthly basis for a minimum of 6 months to observe potential changes in ground water flow conditions and ground water quality.

## RECOMMENDED REMEDIAL ACTION

The fuel contaminated soils removed from the tank excavations along with the soil cuttings generated from the soil borings should be remediated on-site through an enhanced aeration/composting process by and under the direction of KTW & Associates personnel. A detailed remedial action work plan describing the aeration/composting activities and a site specific health and safety plan should be submitted to Alameda County Department of Environmental Health for approval prior to initiating the remedial activities. The aeration process should entailed placing the soil material on a double lined impermeable membrane and tilling the soils to promote volatilization of the hydrocarbon products. The soil material should be thoroughly mixed with a site-specific organic compost mixture and moisture treated to promote degradation of the heavy hydrocarbon products.

Samples of the remediating soils should be taken at frequent time intervals to monitor the hydrocarbon degradation process. Discreet samples should be obtained in lieu of composite multiple samples.

Subsequent to verification of remediation by collection and analysis of soil samples, the remediated soils having petroleum hydrocarbon concentrations less than 100 ppm and lead concentrations below TTLC and STLC as determined by discrete sample laboratory testing could be transported to and disposed of at a permitted Class III Landfill facility.

## LIMITATIONS

We have only observed a small portion of the pertinent soil and ground water conditions present at the site. Subsurface conditions across the site have been extrapolated from information obtained from review of existing documents and from the field investigation. The conclusions and recommendations made herein are based on the assumption that soil conditions do not deviate appreciably from those described in the reports and observed during the field investigation.

David C. Glick Associates provides consulting services in the fields of Geology and Engineering Geology performed in accordance with presently accepted professional practices. Professional judgments presented herein are based partly on information obtained from review of published documents, partly on evaluations of the technical information gathered, and partly on general experience in the fields of geology and engineering geology.

No attempt was made to verify the accuracy of the published information prepared by others used in preparation of this assessment report.

If you have questions regarding the findings, conclusions, or recommendations contained in this report, please contact us. We appreciate the opportunity to serve you.

Respectfully submitted,

DAVID C. GLICK ASSOCIATES

The following Figures and Appendices are attached and complete this report:

| | |
|---|---|
| Figure 1 | Site Plan |
| Figure 2 | Boring/Monitoring Well Location Plan |
| Figures 3-14 | Soil Boring Logs |
| Figures 15-18 | Monitoring Well Logs |
| Figures 19-23 | Monitoring Well Details |
| Figure 24 | Ground Water Gradient Plan |
| Appendix A | Chain-of-Custody Forms/Analytical Test Data |

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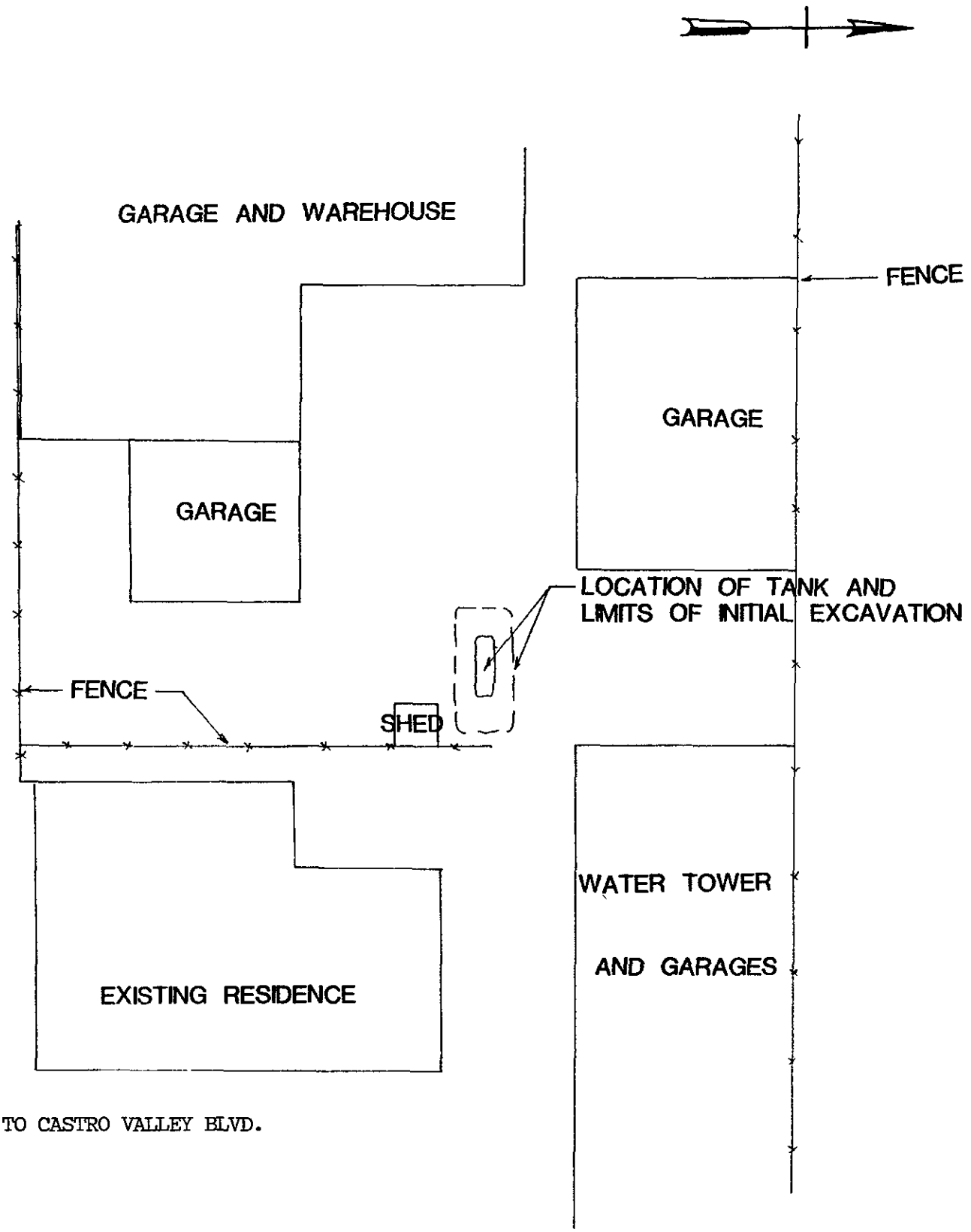
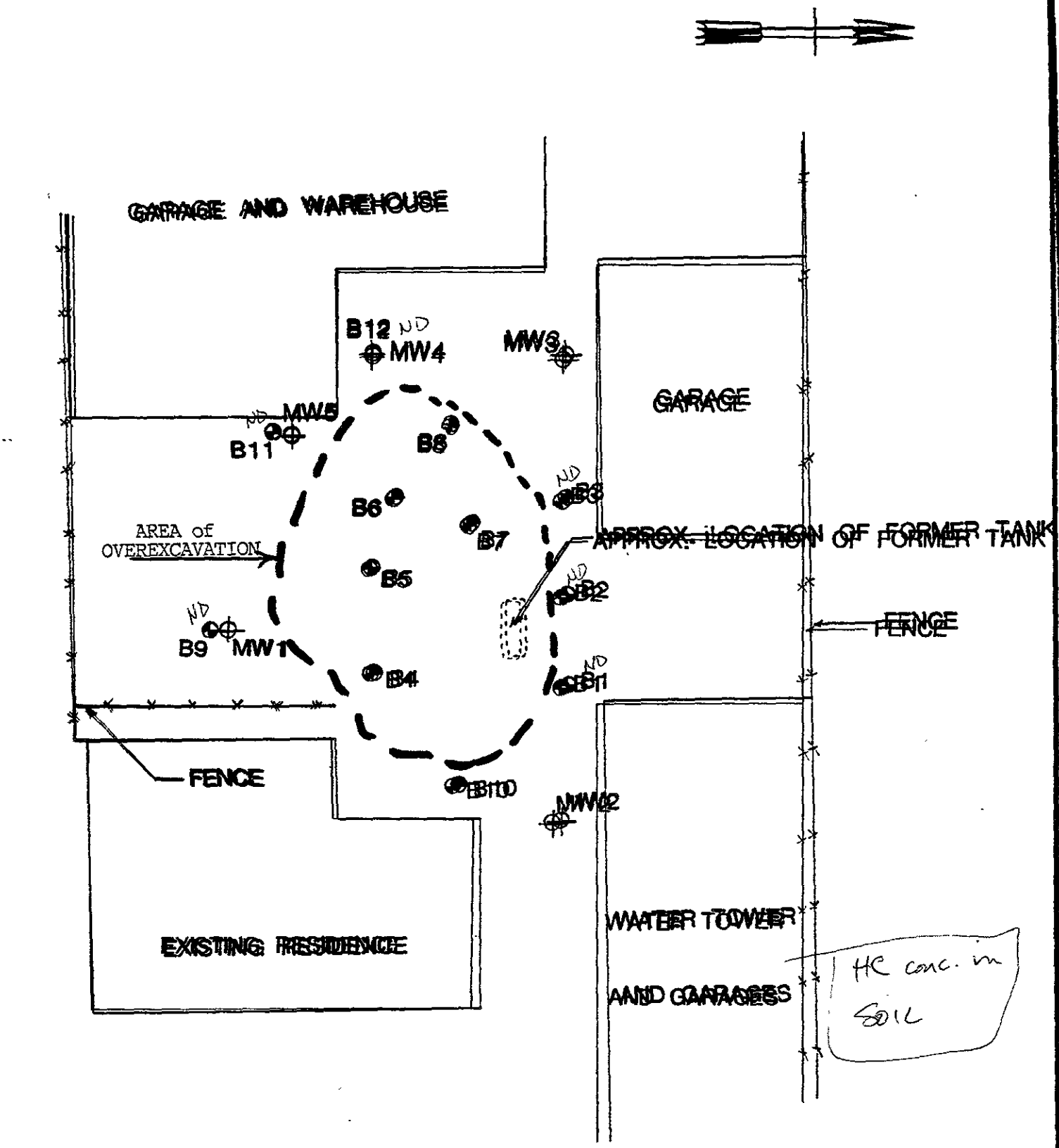



| DAVID C. GLICK ASSOCIATES | | |
|---|---|---|
| DATE 4-27-90 | SCALE 1" = 20' | DRAWN BY DRG |
| SITE PLAN | | |
| | Figure 1 | |




EXCAVATION BORDER (To Groundwater)

SOIL BORING

MONITORING WELL

DAVID C. GLICK ASSOCIATES

| DATE | SCALE | DRAWN BY |
|---|---|---|
| 6 SEP 1989 | 1"=20' | DCG |

BORING LOCATION PLAN

Figure 2

# SUBSURFACE DATA LOG

LOG No. B-1 DATE: 4-24-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY CLAY, mottled yellow-brown, dry |
| | | | | | | | SILTY CLAY, dark gray, damp, soft |
| | 18 | 5.5 | S1 | 5 | | | CLAYEY SILT, mottled orange-brown and olive-gray, moist, firm |
| | 18 | 65 | S2 | 8 | | | SILTY SAND, mottled orange-brown and olive-gray, moist, medium dense |
| | | | | | | | Bottom of Boring 8 feet<br>Ground Water Seepage in Bottom of Boring |

Figure 3

# SUBSURFACE DATA LOG

LOG No. B-2 DATE: 4-24-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft.) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | 0 | | | 2 1/2" A.C. over 2" redish-brown sand<br>SILTY CLAY, dark gray, damp, soft |
| | 31 | 19 | S1 | 5 | | | SILTY CLAY, mottled orange-brown and olive-gray, damp, soft |
| | 18 | 63 | S2 | 8 | | | Bottom of Boring 8 Feet<br>Ground Water Seepage in Bottom of Boring |

Figure 4

# SUBSURFACE DATA LOG

LOG No. B-3 DATE: 4-24-90

LOCATION: Mitzi Stockel

EQUIPMENT:

PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY CLAY, dark gray, moist, soft |
| | | | | | | | SILTY CLAY/CLAYEY SILT, mottled orange-brown and olive-gray, moist, firm |
| | | 23 | S1 | 5 | | | |
| | | 24 | | | | | SILT, mottled orange-brown and olive-gray |
| | | 9 | S2 | 8 | | | |
| | | | | | | | Bottom of Boring 8 feet |

Figure 5.

# SUBSURFACE DATA LOG

LOG No. B-4 DATE: 4-24-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY CLAY, dark gray, damp, firm |
| | | 33 | 34 | S1 | 5 | | SILT, olive-gray, damp, firm, noticable gasoline vapors |
| | | 18 | 105 | S2 | 8 | | SILTY SAND, olive-green, damp, medium dense, noticable gasoline/oil vapors |
| | | | | | | | Bottom of Boring 8 Feet |

Figure 6

# SUBSURFACE DATA LOG

LOG No. B-5 DATE: 4-24-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY CLAY, dark gray, damp, firm |
| | 20 | 380 | S1 | 5 | | | SILTY CLAY, olive-gray, damp, firm |
| | 17 | 1138 | S2 | 8 | | | SILTY SAND, mottled orange-brown and olive-gray, moist, medium dense , strong gasoline odors |
| | | | | | | | Bottom of Boring 8 Feet. |

Figure 7

# SUBSURFACE DATA LOG

LOG No. B-6 DATE: 4-24-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | | SAMPLE TYPE | DEPTH (ft) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | SILTY CLAY, dark gray, damp, firm |
| | | | | | | | | SILT, olive-orange, damp, firm to medium dense |
| | | 18 | 543 | S1 | 5 | | | SILTY SAND, orange-gray, moist, medium dense |
| | | | | | | | | SILT, mottled orange-olive-gray, moist, medium dense |
| | | 12 | 24 | S2 | 8 | | | |
| | | | | | | | | Bottom of Boring 8 feet. |

Figure 8

# SUBSURFACE DATA LOG

LOG No. B-7 DATE: 4-24-90

LOCATION: Mitzi Stockel

EQUIPMENT:

PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft.) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY CLAY, dark gray, damp, firm |
| | | | | | | | SILT, mottled orange-olive-gray, damp, medium dense, strong gasoline odors |
| | 27 | 110 | S1 | 5 | | | |
| | | | | | | | SILTY SAND, mottled blue-orange-brown, moist medium dense, strong gasoline odors |
| | 12 | 114 | S2 | 8 | | | |
| | | | | | | | Bottom of Boring 8 feet. |

Figure 9

# SUBSURFACE DATA LOG

LOG No. B-8 DATE: 4-24-90

LOCATION: Mitzi Stockel

EQUIPMENT:

PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY CLAY, dark gray, damp, firm |
| | | | | | | | SILT, olive-gray, moist, medium dense, strong gasoline odors |
| | 28 | 435 | S1 | 5 | | | SILT, olive-gray, moist, medium dense, strong gasoline odors |
| | | | | | | | CLAYEY SILT, mottled orange-gray, moist, stiff |
| | 12 | 548 | S2 | 8 | | | Bottom of Boring 8 Feet. |

Figure 10

# SUBSURFACE DATA LOG

LOG No. B-9 DATE: 4-24/25-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft.) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SAND, fine-grained, gray, dry, dense |
| | 62 | 273 | S1 | 5 | | | SILT, with some gravel, orange-brown, damp, dense |
| | | | | | | | CLAYEY SILT, olive-brown, dry, firm to stiff |
| | 16 | 54 | S2 | 8 | | | CLAYEY SILT, mottled olive-brown and orange, damp, firm |
| | sample not retained | | | 10 | | | |
| | | | | | | | SILTY CLAY, brown-orange, moist |
| | sample not retained | | | 15 | | | |
| | | | | | | | SAND, fine-grained, medium brown, saturated, loos |
| | 41 | N.D. | S3 | 20 | | | Bottom of Boring 20 Feet. |

Figure 11

# SUBSURFACE DATA LOG

LOG No. B-10 DATE: 4-25-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY SAND, with gravel, medium brown, dry, loose |
| | | | | | | | SILTY CLAY, dark gray, damp, firm |
| | 51 | N.D. | S1 | 5 | | | CLAYEY SILT, orange-brown, damp, firm to stiff |
| | 19 | N.D. | S2 | 8 | | | Bottom of Boring 8 Feet |

Figure 12

# SUBSURFACE DATA LOG

LOG No. B-11 DATE: 5-11-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY CLAY, dark gray, damp, firm |
| | | 35 | 1.1 | S1 | 5 | | SILT, mottled orange-brown, damp, stiff |
| | | 8 | N.D. | S2 | 8 | | SAND, fine-grained, orange-brown, saturated, loose |
| | | | | | 10 | | |
| | | | | | | | SAND, fine to medium grained, medium brown, saturated, loose |
| | | 14 | N.D. | S3 | 15 | | |
| | | | | | | | Bottom of Boring 16 feet |

Figure 13

# SUBSURFACE DATA LOG

LOG No. B-12/MW-5 DATE: 5-16-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft.) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY SAND, tan, dry, loose |
| | | | | | | | SILTY CLAY, dark gray, damp, firm |
| | | | | 5 | | | SILTY CLAY, mottled orange-brown, moist, stiff |
| | 29 | N.D. | S1 | 8 | | | |
| | | | | 10 | | | CLAYEY SAND, mottled brown-gray, wet to saturated dense |
| | 56 | N.D. | S2 | 15 | | | SAND, silt to fine to medium grained, mottled brown and gray |
| | | | | 20 | | | Bottom of Boring 20 feet.<br>2" Dia. Monitoring Well Installed |

Figure 14

# SUBSURFACE DATA LOG

LOG No. MW-1 DATE: 4-25-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY SAND, dark gray, dry, firm |
| | | | | 5 | | | SILTY SAND, gray, dry, firm |
| | | | | | | | SILT, orange, moist, medium dense |
| | 8 | N.D. | S1 | 10 | | | SILTY CLAY, orange, moist, soft |
| | | | | | | | SAND, silty fine grained, orange-olive, wet, loose |
| | 14 | N.D. | S2 | 15 | | | |
| | | | | | | | Bottom of Boring 16 Feet<br>2" Dia. Monitoring Well Installed |

Figure 15

# SUBSURFACE DATA LOG

LOG No. MW-2 DATE: 4-25-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft.) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY SAND, medium brown, dry, medium dense |
| | | | | | | | SILTY CLAY, dark gray, damp, stiff |
| | | 27 | 1.0 | S1 | 5 | | SILT, mottled orange-olive, damp, stiff |
| | | | | | | | CLAYEY SILT, mottled orange-brown, damp, soft |
| | | 10 | N.D. | S2 | 10 | | CLAYEY SILT, orange-brown, damp, firm |
| | | 12 | N.D. | S3 | 15 | | SAND, silty to coarse-grained, olive-brown and orange, wet, medium dense |
| | | | | | | | Bottom of Boring 16 Feet |
| | | | | | | | 2" Dia. Monitoring Well Installed |

Figure 16

# SUBSURFACE DATA LOG

LOG No. MW-3 DATE: 4-25-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft.) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY CLAY, redish-brown, damp, firm |
| | | | | | | | SILTY CLAY, dark gray, damp, firm |
| | | 21 | 1.6 | S1 | 5 | | CLAYEY SILT, mottled olive-orange, moist, medium dense |
| | | 20 | 2.0 | S2 | 10 | | SILTY CLAY |
| | | | | | | | CLAYEY SILT |
| | | 31 | ND | S3 | 15 | | SILTY SAND, mottled olive-brown-orange, wet, dense |
| | | | | | | | Bottom of Boring 16 Feet. |
| | | | | | | | 2" Dia. Monitoring Well Installed |

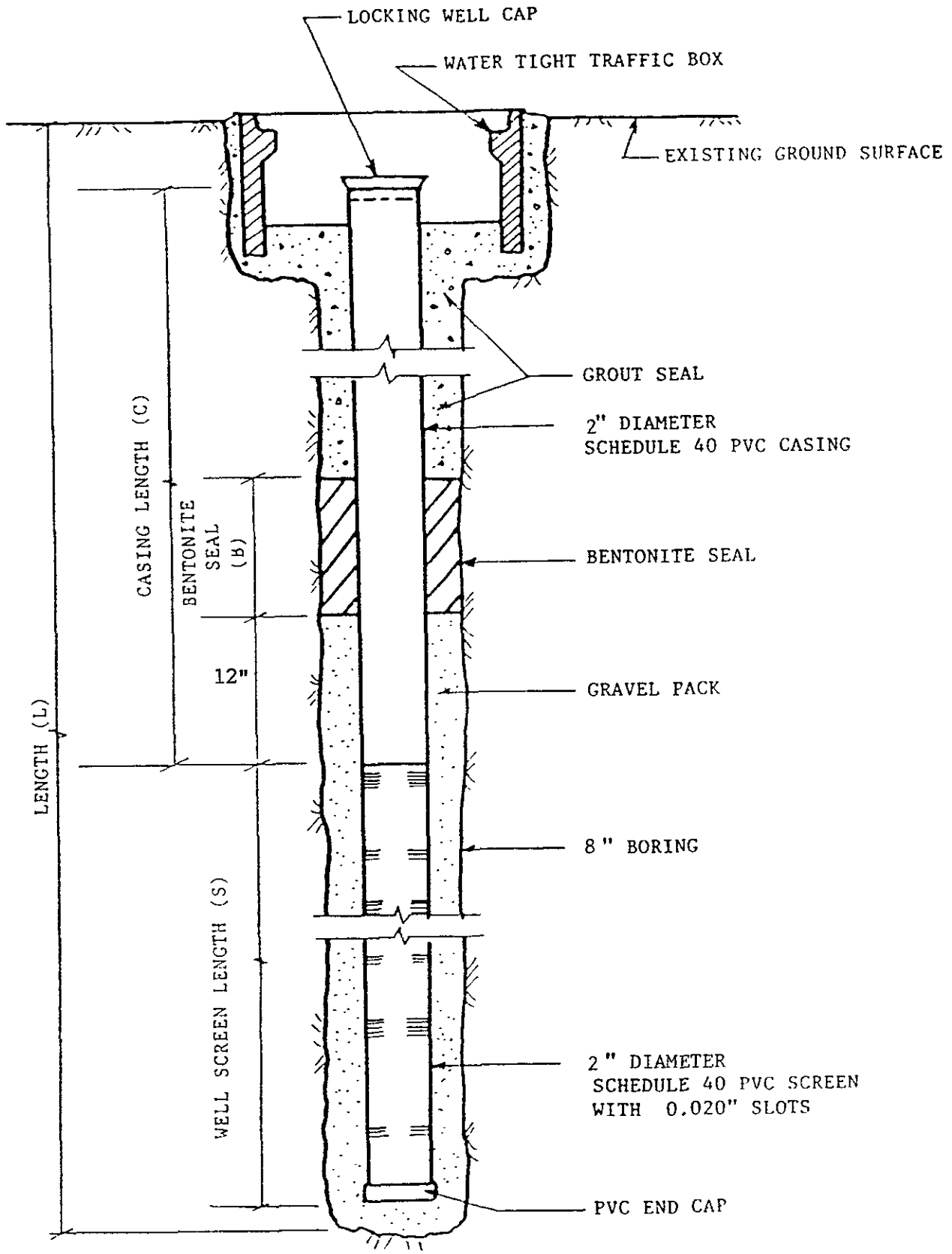
Figrue 17

# SUBSURFACE DATA LOG

LOG No. MW-4 DATE: 5-11-90
LOCATION: Mitzi Stockel
EQUIPMENT:
PROJECT No.

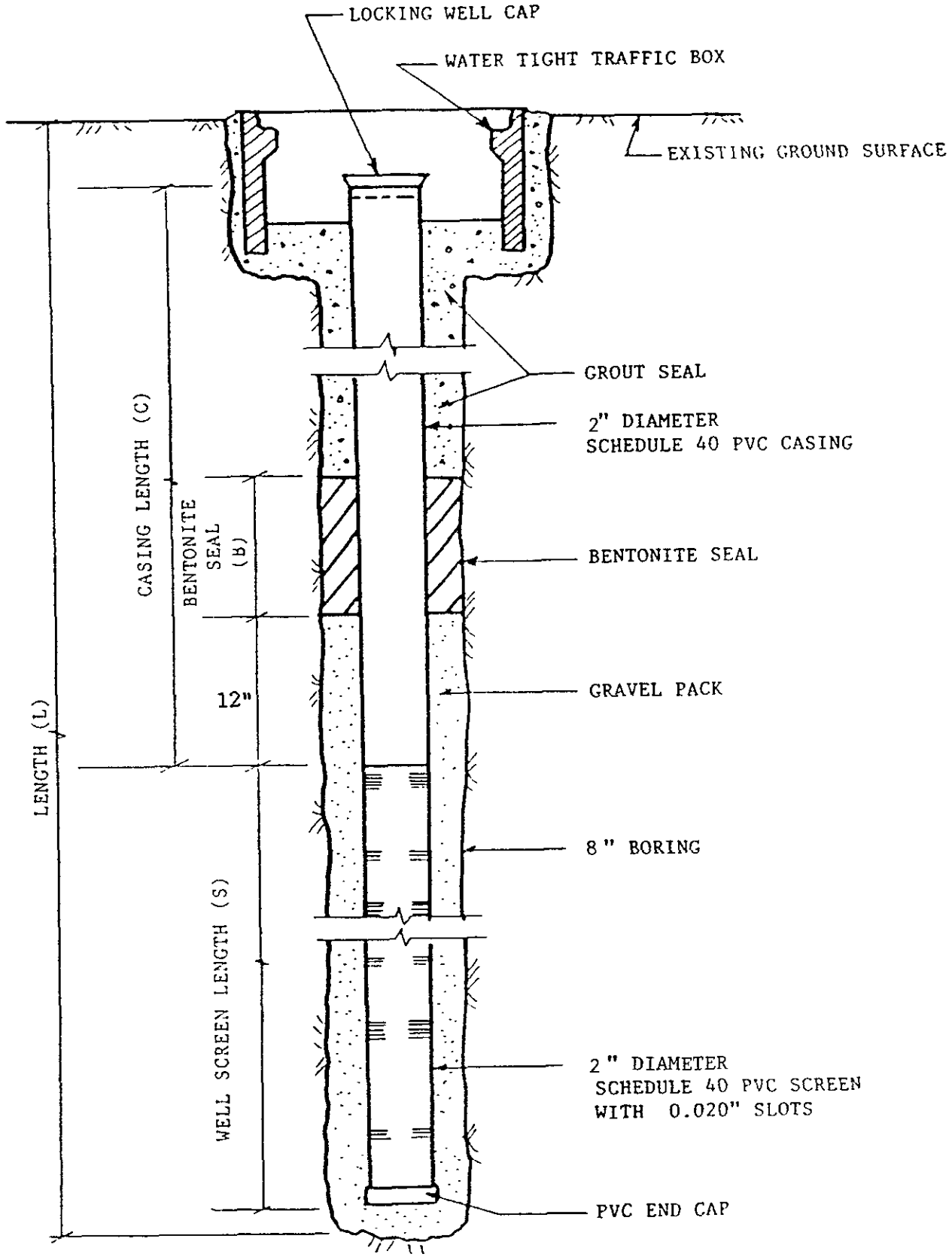
| DRY DENSITY (lbs cu. ft.) | MOISTURE (% of dry wt.) | "N" VALUE (blows/ft.) | SAMPLE TYPE | DEPTH (ft.) | LOG | U.S.C. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | SILTY CLAY, dark gray, moist, firm |
| | 36 | 1.1 | S1 | 5 | | | CLAYEY SILT, mottled orange-brown, moist, stiff |
| | 33 | 2.3 | S2 | 10 | | | SILTY SAND, orange-brown, moist, medium dense |
| | 42 | 1.8 | S3 | 15 | | | transitions to FINE SAND |
| | 50/5" | N.D. | S4 | 20 | | | SILTY SAND, mottled orange-brown, wet, dense |
| | | | | | | | Bottom of Boring 23 Feet<br>2" Dia. Monitoring Well Installed |

Figure 18



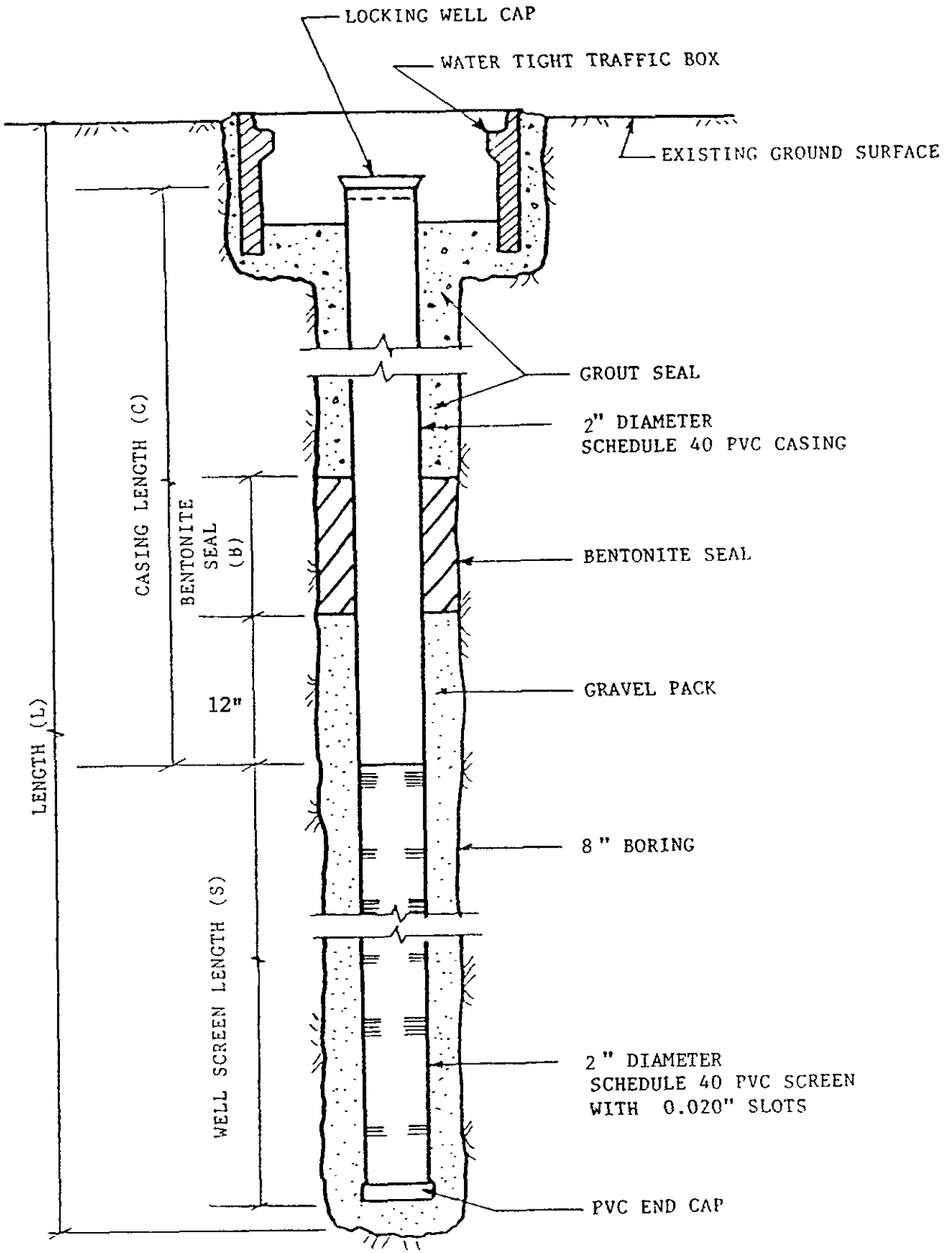

L= 16 Feet
S= 10 Feet
C= 6 Feet
B= 1 Foot

| MONITORING WELL 1 | | |
|---|---|---|
| DATE | SCALE N A | DRAWN BY DCG |
| WELL DETAIL | | |
| MITZI SCOCKEL | Figure 19 | |



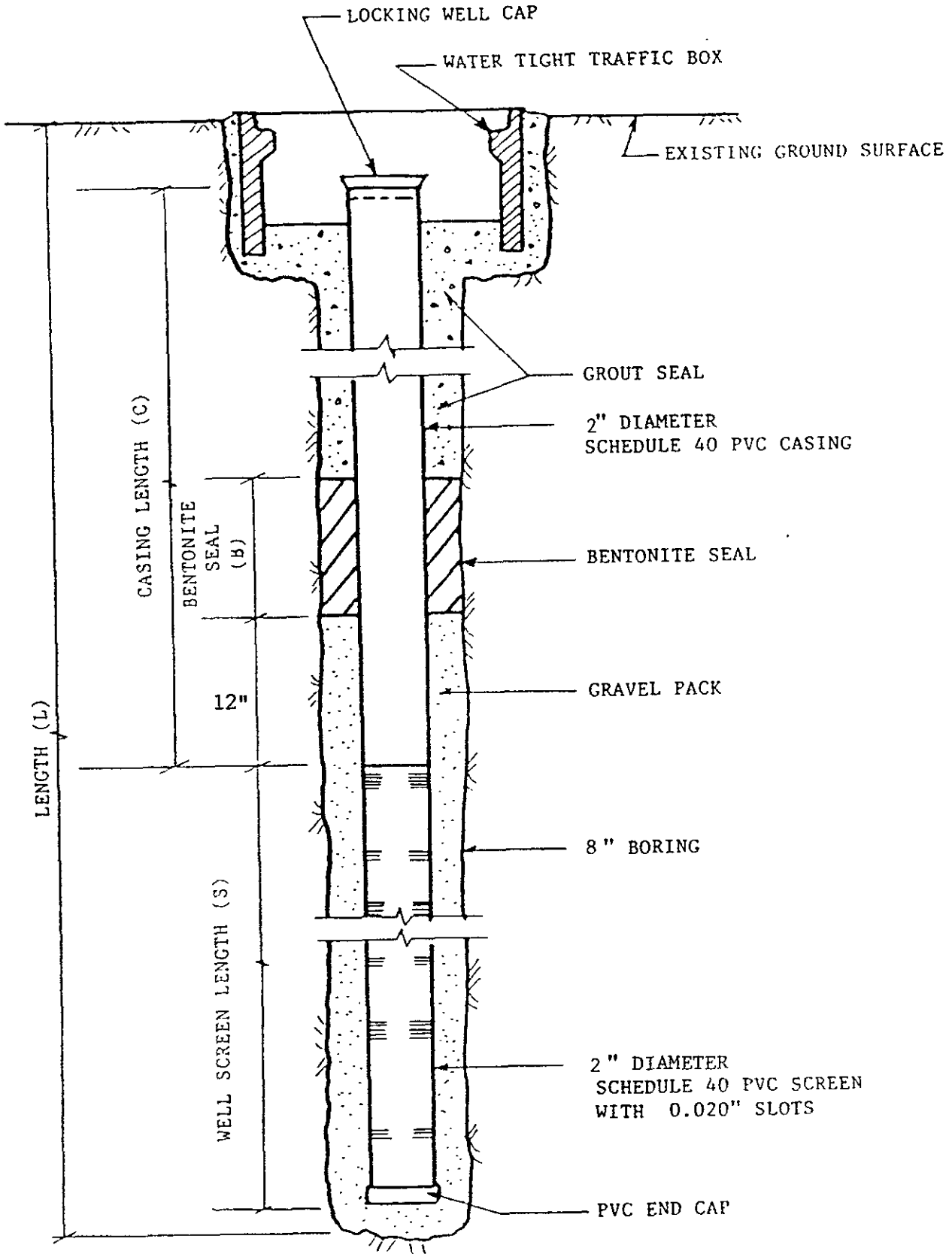

L= 16 Feet
S= 10 Feet
C= 6 Feet
B= 1 Foot

| MONITORING WELL 2 | | |
|---|---|---|
| DATE | SCALE N A | DRAWN BY DCG |
| WELL DETAIL | | |
| MITZI SCOCKEL | Figure 20 | |



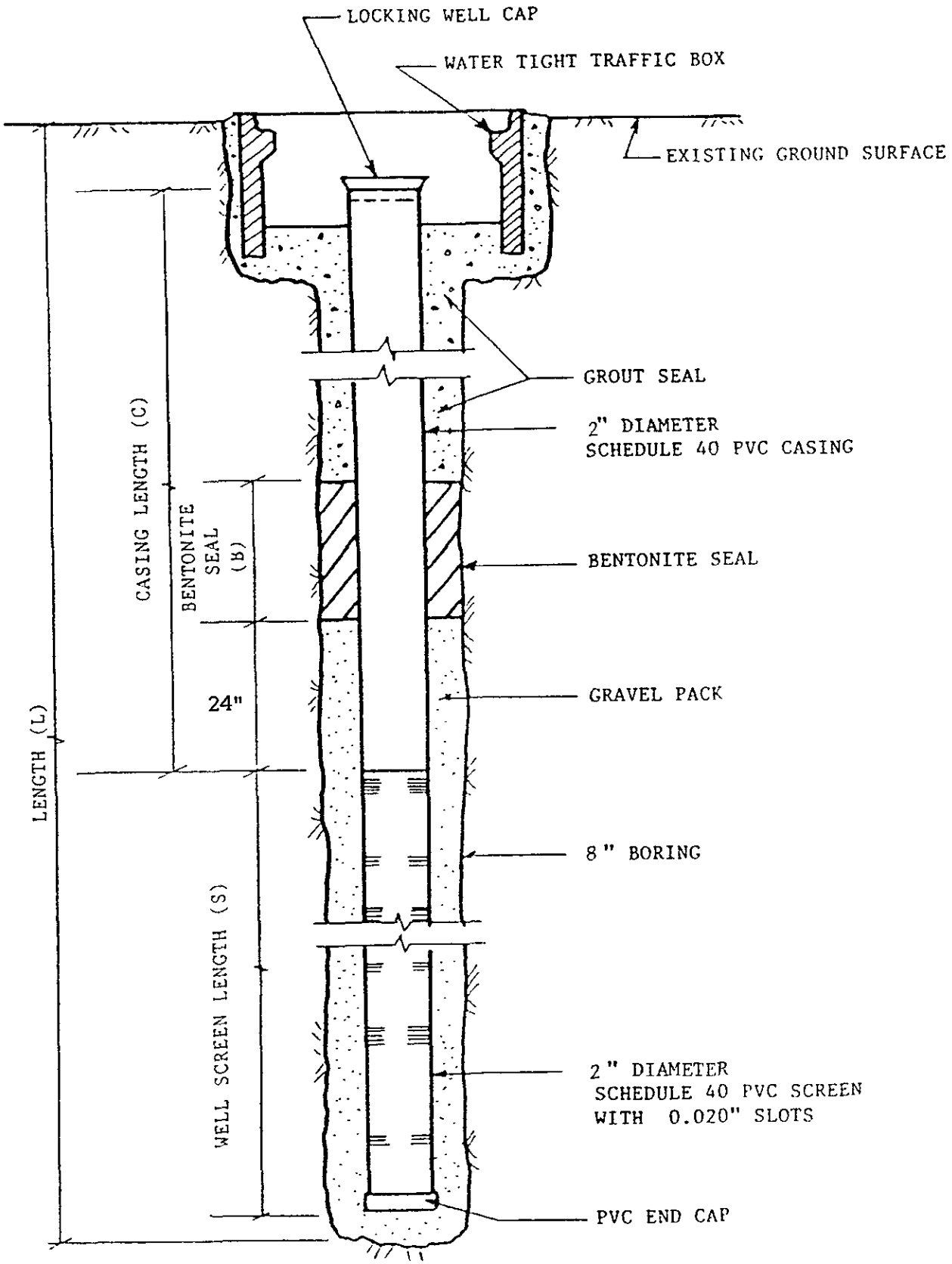

L= 16 Feet
S= 10 Feet
C= 6 Feet
B= 1 Foot

| MONITORING WELL 3 | | |
|---|---|---|
| DATE | SCALE N A | DRAWN BY DCG |
| WELL DETAIL | | |
| MITZI SCOCKEL | Figure 21 | |



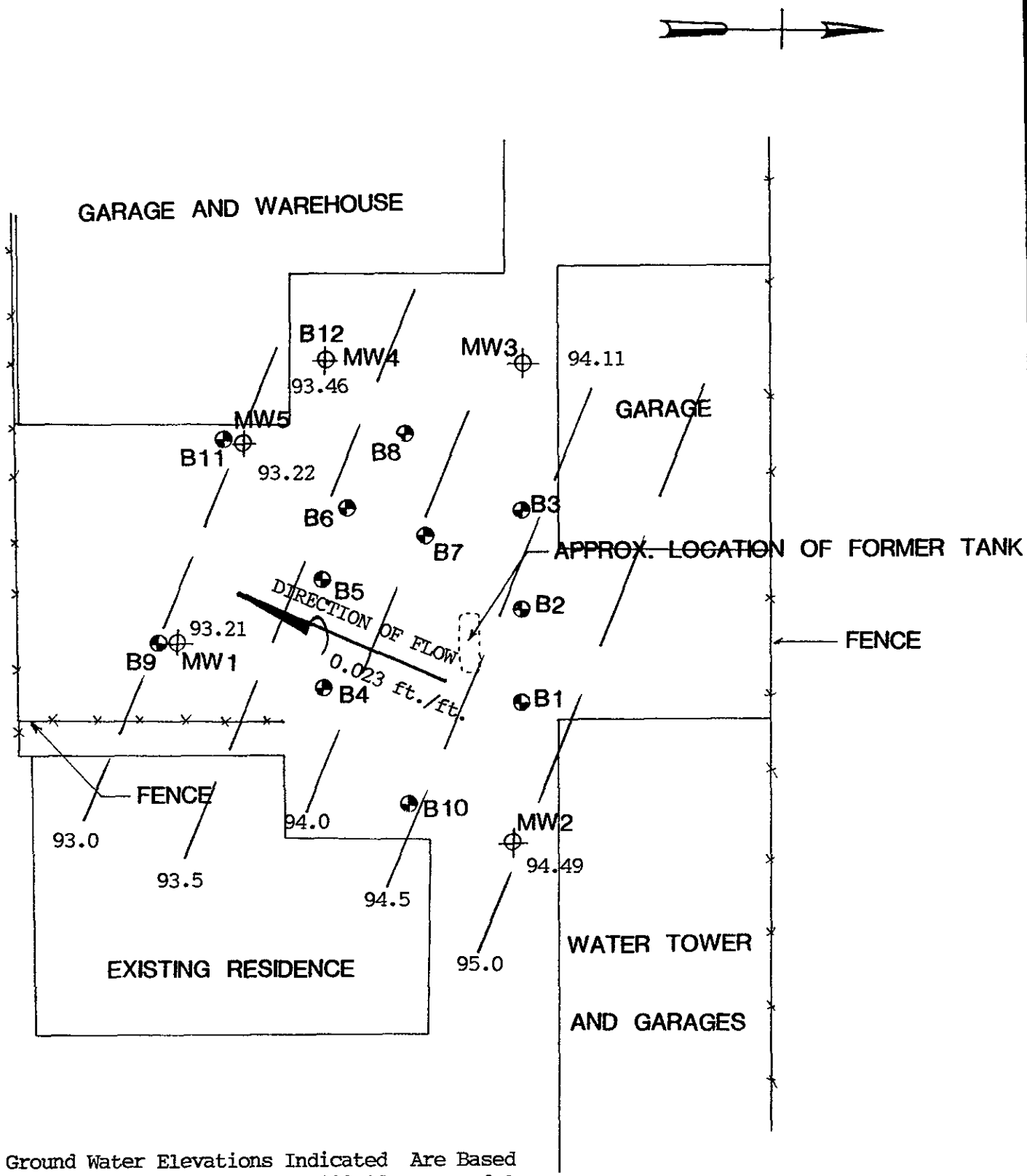

L= 23 Feet
S= 15 Feet
C= 7 Feet
B= 2 Feet

| MONITORING WELL 4 | | |
|---|---|---|
| DATE | SCALE N A | DRAWN BY DCG |
| WELL DETAIL | | |
| MITZI SCOCKEL | Figure 22 | |




L= 20 Feet
S= 13 Feet
C= 7 Feet
B= 1 Foot

| MONITORING WELL 5 | | |
|---|---|---|
| DATE | SCALE N A | DRAWN BY DCG |
| WELL DETAIL | | |
| MITZI SCOCKEL | Figure 23 | |




Ground Water Elevations Indicated Are Based On An Assumed Elevation of 100.00 Feet and An Temporary Bench Marck placed on the concrete floor slab in the garage adn warehouse.

◕ SOIL BORING

⊕ MONITORING WELL

| DAVID C. GLICK ASSOCIATES | | |
|---|---|---|
| DATE 6-27-90 | SCALE 1" = 20' | DRAWN BY DCG |
| GROUND WATER GRADIENT PLAN | | |
| | Figure 24 | |

# APPENDIX A

# CHAIN-OF-CUSTODY FORMS
# AND
# ANALYTICAL TEST DATA

**DAVID C. GLICK ASSOCIATES**
179 EUNICE AVE, MOUNTAIN VIEW, CA 94040 (415) 962-1948

# CLIENT CHAIN-OF-CUSTODY RECORD

1 of 3

PROJECT NUMBER | NAME KTW & ASSOCIATES STOCKEL

Send Report Attention of: KTW KEVIN KRAUSE | Report Due / / | Verbal Due / /

| Sample Number | Date | Time | Comp | Grab | Station Location | Number of Cntnrs | Type of Containers | Type of Analysis: TPH GAS/BTXE | Condition of Samples | Initial |
|---|---|---|---|---|---|---|---|---|---|---|
| B1-S1 | 4-24-90 | 0924 | | | Boring 1 5.5-6.0 | 1CA | BRASS | ✓ | | |
| B1-S2 | | 0930 | | | Boring 1 ~~7.5-8.0~~ 7.0-7.5 DO | | | ✓ | | |
| B2-S1 | | 950 | | | Boring 2 5.0-5.5 | | | ✓ | | |
| B2-S2 | | 955 | | | Boring 2 8.5-9.0 | | | ✓ | | |
| B3-S1 | | 1020 | | | Boring 3 5.5-6.0 | | | ✓ | | |
| B3-S2 | | 1030 | | | Boring 3 8.0-8.5 | | | ✓ | | |
| B4-S1 | | 1110 | | | Boring 4 5.5-6.0 | | | ✓ | | |
| B4-S2 | | 1115 | | | Boring 4 ~~8.0-8.5~~ 7.0-7.5 DO | | | ✓ | | |
| B5-S1 | | 1133 | | | Boring 5 5.5-6.0 | | | ✓ | | |
| B5-S2 | | 1138 | | | Boring 5 ~~8.0-8.5~~ 7-7.5 DO | | | ✓ | | |
| B6-S1 | | 1237 | | | Boring 6 5.5-6.0 | | | ✓ | | |
| B6-S2 | ↓ | 1241 | | | Boring 6 8.0-8.5 | ↓ | ↓ | ✓ | | |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
|---|---|---|---|
| [signature] | 4-25-90 1740 | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| | | Jennifer J. Payne | 4-25-90 17:40 |

Remarks: STANDARD TURN AROUND

COMPANY: KTW & ASSOCIATES
ADDRESS:
PHONE : (415) 623-0480 FAX :

2066

# CLIENT CHAIN-OF-CUSTODY RECORD

273

PROJECT NUMBER NAME KTW & ASSOCIATES STOCKEL

Send Report Attention of: KTW KEVIN KRAUSE | Report Due / / | Verbal Due / /

| Sample Number | Date | Time | Comp | Grab | Station Location | Number of Cntnrs | Type of Containers | Type of Analysis: TPH GAS / BTXE | Condition of Samples | Initial |
|---|---|---|---|---|---|---|---|---|---|---|
| B7-S1 | 4-24-90 | 1310 | | | BORING 7 5.5-6.0 | 1EA | BRASS | ✓ | | |
| B7-S2 | | 1314 | | | BORING 7 8.0-8.5 | | | ✓ | | |
| B8-S1 | | 1345 | | | BORING 8 5.5-6.0 | | | ✓ | | |
| B8-S2 | | 1350 | | | BORING 8 8.0-8.5 | | | ✓ | | |
| B9-S1 | | 1455 | | | BORING 9 5.5-6.0 | | | ✓ | | |
| B9-S2 | | 1508 | | | BORING 9 8.0-8.5 | | | ✓ | HOLD DLG | |
| ~~B9-S3~~ DLG | ~~4-25-90~~ | ~~0915~~ DLG | | | ~~BORING 9~~ DLG ~~20-20.5~~ | | | DLG HOLD | HOLD DLG | |
| B10-S1 | | 0825 | | | BORING 10 5.0-5.5 | | | ✓ | | |
| B10-S2 | | 0831 | | | BORING 10 8.0-8.5 | | | ✓ | | |
| MW1-S1 | | 0955 | | | MONITORING WELL No 1 11-11.5 | | | ✓ | | |
| MW2-S1 | | 1140 | | | MONITORING WELL No 2 5.5-6.0 | | | | HOLD | |
| MW2-S2 | | 1142 | | | MONITORING WELL No 2 10.5-11.0 | | | ✓ | | |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
|---|---|---|---|
| [signature] | 4-25-90 7:40 | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| | | Jennifer J. Payne | 4-25-90 17:40 |

Remarks: STANDARD TURN AROUND

COMPANY: KTW & ASSOCIATES
ADDRESS: 43289 OSGOOD ROAD, FREMONT CA
PHONE (415) 623-0480 FAX :

2066

# CLIENT CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER

NAME KTW & ASSOCIATES
STOCKEL

Send Report Attention of: KTW
KEVIN KRAUSE

Report Due / /

Verbal Due / /

| Sample Number | Date | Time | Comp | Grab | Station Location | Number of Cntnrs | Type of Containers | Type of Analysis: TPH GAS/BTXE | Condition of Samples | Initial |
|---|---|---|---|---|---|---|---|---|---|---|
| MW2-S3 | 4-25-90 | 1150 | | | MONITORING WELL NO2 15.5-16 | 1EA | BRASS | | HOLD | |
| MW3-S1 | ↓ | 1255 | | | MONITORING WELL NO3 5.5-6.0 | ↓ | ↓ | ✓ | | |
| MW3-S2 | ↓ | 1302 | | | MONITORING WELL NO.3 10.0-10.5 | ↓ | ↓ | ✓ | | |
| B4-S3 | 4-24-90 | 1115 | | | BORING 4 8-8.5 | ↓ | ↓ | ✓ | | |
| B5-S3 | 4-24-90 | 1138 | | | BORING 5 8-8.5 | ↓ | ↓ | ✓ | | |
| B8-S3 | 4-24-90 | 1350 | | | BORING 8 8-8.5 | ↓ | ↓ | ✓ | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | TOTAL | 30 ~~7~~ | | | | |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
|---|---|---|---|
| [signature] | 4-25-90 1740 | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| | | Jennifer J. Payne | 4-25-90 17:40 |

Remarks: STANDARD TURN AROUND

COMPANY: KTW & ASSOCIATE
ADDRESS: 43284 OSGOOD ROAD, FREMONT, CA
PHONE : 415 G FAX :

2066

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL B1-S1 | Anametrix I.D. | : 9004214-01 |
| Matrix | : SOIL | Analyst | : GV |
| Date sampled | : 04/24/90 | Supervisor | : TC |
| Date anl.TPHg | : 04/27/90 | Date released | : 05/08/90 |

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B1-S2
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 04/26/90

Anametrix I.D. : 9004214-02
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL B2-S1 | Anametrix I.D. | : 9004214-03 |
| Matrix | : SOIL | Analyst | : GV |
| Date sampled | : 04/24/90 | Supervisor | : TC |
| Date anl.TPHg | : 04/26/90 | Date released | : 05/08/90 |

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL B2-S2 | Anametrix I.D. | : 9004214-04 |
| Matrix | : SOIL | Analyst | : GV |
| Date sampled | : 04/24/90 | Supervisor | : TC |
| Date anl.TPHg | : 04/26/90 | Date released | : 05/08/90 |

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B3-S1
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 04/26/90

Anametrix I.D. : 9004214-05
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B3-S2
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 04/26/90

Anametrix I.D. : 9004214-06
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B4-S1
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 04/26/90

Anametrix I.D. : 9004214-07
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 20000 | ND |
| 108-88-3 | Toluene | 20000 | 200000 |
| 100-41-4 | Ethylbenzene | 20000 | 120000 |
| 1330-20-7 | Total Xylenes | 20000 | 850000 |
| | TPH as Gasoline | 400000 | 9400000 |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B4-S2
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 04/27/90

Anametrix I.D. : 9004214-08
Analyst : GU
Supervisor : RS
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 50 | 180 |
| 108-88-3 | Toluene | 50 | 1300 |
| 100-41-4 | Ethylbenzene | 50 | 460 |
| 1330-20-7 | Total Xylenes | 50 | 2600 |
| | TPH as Gasoline | 1000 | 36000 |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B4-S3
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 05/02/90

Anametrix I.D. : 9004214-27
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B5-S1
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 04/26/90

Anametrix I.D. : 9004214-09
Analyst : GV.
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 20000 | 26000 |
| 108-88-3 | Toluene | 20000 | 340000 |
| 100-41-4 | Ethylbenzene | 20000 | 130000 |
| 1330-20-7 | Total Xylenes | 20000 | 790000 |
| | TPH as Gasoline | 400000 | 11000000 |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B5-S2
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 05/01/90

Anametrix I.D. : 9004214-10
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5000 | 24000 |
| 108-88-3 | Toluene | 5000 | 230000 |
| 100-41-4 | Ethylbenzene | 5000 | 82000 |
| 1330-20-7 | Total Xylenes | 5000 | 460000 |
| | TPH as Gasoline | 100000 | 6000000 |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B5-S3
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 05/01/90

Anametrix I.D. : 9004214-28
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | 6 |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | 9 |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B6-S1
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 04/26/90

Anametrix I.D. : 9004214-11
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 20000 | ND |
| 108-88-3 | Toluene | 20000 | 140000 |
| 100-41-4 | Ethylbenzene | 20000 | 52000 |
| 1330-20-7 | Total Xylenes | 20000 | 280000 |
| | TPH as Gasoline | 400000 | 5600000 |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B6-S2
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 05/01/90

Anametrix I.D. : 9004214-12
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B7-S1
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 05/01/90

Anametrix I.D. : 9004214-13
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5000 | 16000 |
| 108-88-3 | Toluene | 5000 | 87000 |
| 100-41-4 | Ethylbenzene | 5000 | 34000 |
| 1330-20-7 | Total Xylenes | 5000 | 170000 |
| | TPH as Gasoline | 100000 | 2700000 |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B7-S2
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 05/01/90

Anametrix I.D. : 9004214-14
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 10 | 24 |
| 108-88-3 | Toluene | 10 | 58 |
| 100-41-4 | Ethylbenzene | 10 | ND |
| 1330-20-7 | Total Xylenes | 10 | 41 |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B8-S1
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 05/01/90

Anametrix I.D. : 9004214-15
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 2000 | ND |
| 108-88-3 | Toluene | 2000 | 2700 |
| 100-41-4 | Ethylbenzene | 2000 | 3700 |
| 1330-20-7 | Total Xylenes | 2000 | 24000 |
| | TPH as Gasoline | 40000 | 560000 |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL B8-S2 | Anametrix I.D. | : 9004214-16 |
| Matrix | : SOIL | Analyst | : GJ |
| Date sampled | : 04/24/90 | Supervisor | : TC |
| Date anl.TPHg: | 05/01/90 | Date released | : 05/08/90 |

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 50 | ND |
| 108-88-3 | Toluene | 50 | 75 |
| 100-41-4 | Ethylbenzene | 50 | 52 |
| 1330-20-7 | Total Xylenes | 50 | 260 |
| | TPH as Gasoline | 1000 | 21000 |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL B8-S3 | Anametrix I.D. | : 9004214-29 |
| Matrix | : SOIL | Analyst | : GV |
| Date sampled | : 04/24/90 | Supervisor | : TC |
| Date anl.TPHg | : 05/01/90 | Date released | : 05/08/90 |

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | 6 |
| 108-88-3 | Toluene | 5 | 6 |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | 5 |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B9-S1
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 04/27/90

Anametrix I.D. : 9004214-17
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B9-S2
Matrix : SOIL
Date sampled : 04/24/90
Date anl.TPHg: 04/27/90

Anametrix I.D. : 9004214-18
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B10-S1
Matrix : SOIL
Date sampled : 04/25/90
Date anl.TPHg: 04/27/90

Anametrix I.D. : 9004214-19
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | 9 |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B10-S2
Matrix : SOIL
Date sampled : 04/25/90
Date anl.TPHg: 04/27/90

Anametrix I.D. : 9004214-20
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | 5 |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL MW1-S1
Matrix : SOIL
Date sampled : 04/25/90
Date anl.TPHg: 04/27/90

Anametrix I.D. : 9004214-21
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL MW2-S2
Matrix : SOIL
Date sampled : 04/25/90
Date anl.TPHg: 04/27/90

Anametrix I.D. : 9004214-23
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL MW3-S1 | Anametrix I.D. | : 9004214-25 |
| Matrix | : SOIL | Analyst | : GU |
| Date sampled | : 04/25/90 | Supervisor | : TC |
| Date anl.TPHg | : 05/01/90 | Date released | : 05/08/90 |

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL MW3-S2
Matrix : SOIL
Date sampled : 04/25/90
Date anl.TPHg: 05/01/90

Anametrix I.D. : 9004214-26
Analyst : GV
Supervisor : TC
Date released : 05/08/90

| CAS # | Compound Name | Detection Limit (ug/kg) | Amount Found (ug/kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | ND |
| 108-88-3 | Toluene | 5 | ND |
| 100-41-4 | Ethylbenzene | 5 | ND |
| 1330-20-7 | Total Xylenes | 5 | ND |
| | TPH as Gasoline | 1000 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL MW3-S1
Matrix : SOIL
Date sampled : 04/25/90
Date analyzed : 05/01/90

Anametrix I.D. : 9004214-25
Analyst : GV
Supervisor : TC
Date Released : 05/08/90

| COMPOUND | SPIKE AMT. (ug/Kg) | MS (ug/Kg) | %REC MS | MSD (ug/Kg) | %REC MSD | RPD | %REC LIMITS |
|---|---|---|---|---|---|---|---|
| Gasoline | 1000 | 780 | 78% | 910 | 91% | 15% | 44-120 |

* Limits established by Anametrix, Inc.

# CLIENT CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER | NAME KTW & ASSOCIATES STOCKTON

Send Report Attention of: KEVIN KRAUSE | Report Due / / | Verbal Due / /

| Sample Number | Date | Time | Comp | Grab | Station Location | Number of Cntnrs | Type of Containers | Type of Analysis: TPH GAS / BTEX | Condition of Samples | Initial |
|---|---|---|---|---|---|---|---|---|---|---|
| B11-S1 | 5-11-90 | 910 | | | Boring 11 5.5-6.0 | 1EA | BRASS | ✓ | | |
| B11-S2 | | 917 | | | Boring 11 9.0-9.5 | | | ✓ | | |
| B12-S1 | | 1138 | | | Boring 12 5.5-6.0 | | | ✓ | | |
| B12-S2 | | 1150 | | | Boring 12 9.0-9.5 | | | ✓ | | |
| B12-S3 | ↓ | 1158 | | | Boring 12 16-16.5 | ↓ | ↓ | ✓ | | |
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| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
|---|---|---|---|
| [signature] | 5-11-90 1840 | [signature] | 5-11-90 1840 |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |

Remarks: STANDARD TURN AROUND

COMPANY: KTW & ASSOCIATES
ADDRESS: 43284 OSGOOD FREMONT
PHONE : 415 623 0480 FAX :

2066

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B11-S1
Matrix : SOIL
Date sampled : 05/11/90
Date anl.TPHg: 05/15/90
Date ext.TPHd: N/A
Date anl.TPHd: N/A

Anametrix I.D. : 9005145-01
Analyst : CB
Supervisor : TC
Date released : 05/21/90
Date ext. TOG : N/A
Date anl. TOG : N/A

| CAS # | Compound Name | Reporting Limit (mg/Kg) | Amount Found (mg/Kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.005 | ND |
| 108-88-3 | Toluene | 0.005 | ND |
| 100-41-4 | Ethylbenzene | 0.005 | ND |
| 1330-20-7 | Total Xylenes | 0.005 | ND |
| | TPH as Gasoline | 1 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL B11-S2 | Anametrix I.D. | : 9005145-02 |
| Matrix | : SOIL | Analyst | : CB |
| Date sampled | : 05/11/90 | Supervisor | : TC |
| Date anl.TPHg | : 05/15/90 | Date released | : 05/21/90 |
| Date ext.TPHd | : N/A | Date ext. TOG | : N/A |
| Date anl.TPHd | : N/A | Date anl. TOG | : N/A |

| CAS # | Compound Name | Reporting Limit (mg/Kg) | Amount Found (mg/Kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.005 | ND |
| 108-88-3 | Toluene | 0.005 | ND |
| 100-41-4 | Ethylbenzene | 0.005 | ND |
| 1330-20-7 | Total Xylenes | 0.005 | ND |
| | TPH as Gasoline | 1 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B12-S1
Matrix : SOIL
Date sampled : 05/11/90
Date anl.TPHg: 05/15/90
Date ext.TPHd: N/A
Date anl.TPHd: N/A

Anametrix I.D. : 9005145-03
Analyst : CB
Supervisor : TC
Date released : 05/21/90
Date ext. TOG : N/A
Date anl. TOG : N/A

| CAS # | Compound Name | Reporting Limit (mg/Kg) | Amount Found (mg/Kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.005 | ND |
| 108-88-3 | Toluene | 0.005 | ND |
| 100-41-4 | Ethylbenzene | 0.005 | ND |
| 1330-20-7 | Total Xylenes | 0.005 | ND |
| | TPH as Gasoline | 1 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B12-S2
Matrix : SOIL
Date sampled : 05/11/90
Date anl.TPHg: 05/15/90
Date ext.TPHd: N/A
Date anl.TPHd: N/A

Anametrix I.D. : 9005145-04
Analyst : CB
Supervisor : TC
Date released : 05/21/90
Date ext. TOG : N/A
Date anl. TOG : N/A

| CAS # | Compound Name | Reporting Limit (mg/Kg) | Amount Found (mg/Kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.005 | ND |
| 108-88-3 | Toluene | 0.005 | ND |
| 100-41-4 | Ethylbenzene | 0.005 | ND |
| 1330-20-7 | Total Xylenes | 0.005 | ND |
| | TPH as Gasoline | 1 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B12-S3
Matrix : SOIL
Date sampled : 05/11/90
Date anl.TPHg: 05/16/90
Date ext.TPHd: N/A
Date anl.TPHd: N/A

Anametrix I.D. : 9005145-05
Analyst : CB
Supervisor : TC
Date released : 05/21/90
Date ext. TOG : N/A
Date anl. TOG : N/A

| CAS # | Compound Name | Reporting Limit (mg/Kg) | Amount Found (mg/Kg) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.005 | ND |
| 108-88-3 | Toluene | 0.005 | ND |
| 100-41-4 | Ethylbenzene | 0.005 | ND |
| 1330-20-7 | Total Xylenes | 0.005 | ND |
| | TPH as Gasoline | 1 | ND |

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL B12-S3
Matrix : SOIL
Date sampled : 05/11/90
Date analyzed : 05/15/90

Anametrix I.D. : 9005145-05
Analyst : DB
Supervisor : JC
Date Released : 05/21/90

| COMPOUND | SPIKE AMT. (mg/Kg) | MS (mg/Kg) | %REC MS | MSD (mg/Kg) | %REC MSD | RPD | %REC LIMITS |
|---|---|---|---|---|---|---|---|
| Gasoline | 1 | 1.2 | 120% | 0.98 | 98% | -20% | 44-120 |

* Limits established by Anametrix, Inc.

# CLIENT CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER | NAME KTW ASSOCIATES STOCKEL PROPERTY

Send Report Attention of: KEVIN KRAUSE | Report Due / / | Verbal Due / /

| Sample Number | Date | Time | Comp | Grab | Station Location | Number of Cntnrs | Type of Containers | Type of Analysis: TPH GAS | Type of Analysis: BTXE | Condition of Samples | Initial |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW2-WS1A | 6/4/90 | 0910 | | | MON WELL 2 | 1xA | 40 ml | ✓ | ✓ | ok | JS |
| MW2-WS1B | | 0910 | | | MON WELL 2 | | | DUPLICATE | | ↓ | " |
| MWA-WS1A | | 0915 | | | MON WELL A | | | ✓ | ✓ | bubble in 2 vials | |
| MWA-WS1B | | 0915 | | | MON. WELL A | | | DUPLICATE | | ok | |
| MW1-WS1A | | 0925 | | | MON WELL 1 | | | ✓ | ✓ | | |
| MW1-WS1B | | 0925 | | | MON WELL 1 | | | DUPLICATE | | | |
| MW5-WS1A | | 0935 | | | MON WELL 5 | | | ✓ | ✓ | | |
| MW5-WS1B | | 0935 | | | MON WELL 5 | | | DUPLICATE | | | |
| MW5-WS1C | | 0935 | | | MON WELL 5 | | | ✓ | ✓ | | |
| MW4-WS1A | | 1020 | | | MON WELL 4 | | | ✓ | ✓ | | |
| MW4-WS1B | | 1020 | | | MON WELL 4 | | | DUPLICATE | | | |
| MW4-WS1C | | 1020 | | | MON WELL 4 | | | ✓ | ✓ | | |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
|---|---|---|---|
| [signature] | 6/4/90 1235 | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| [signature] | | [signature] | 6/5/90 1830 |

Remarks: STANDARD TURNAROUND

COMPANY: KTW & ASSOCIATES
ADDRESS: 43284 OSGOOD BLVD
PHONE : 415 6230480 FAX :

2066

# CLIENT CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER NAME KTW ASSOCIATES STOCKEL PROPERTY

Send Report Attention of: ILEEN KRAUSE | Report Due / / | Verbal Due / /

| | Sample Number | Date | Time | Comp | Grab | Station Location | Number of Cntnrs | Type of Containers | Type of Analysis: TPH Gas | Type of Analysis: BTXE | Condition of Samples | Initial |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | MW3-WS1A | 4/4/90 | 1034 | | | MON WELL 3 | 1 EA | 40 ml | V | V | OK | MS |
| | MW3-WS1B | | 1034 | | | MON WELL 3 | | | Duplicate | | | |
| 7 | MW8-WS1A | | 1047 | | | MON WELL 8 | | | V | V | | |
| | MW8-WS1B | | 1047 | | | MON WELL 8 | | | Duplicate | | | |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
|---|---|---|---|
| [signature] | 4/4/90 1235 | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Date/Time |
| | | [signature] | 4/4/90 12:35 |

Remarks: STANDARD TURN AROUND

COMPANY: KTW & ASSOCIATES
ADDRESS: 43289 OSGOOD ROAD
PHONE : 415 6230480 FAX :

2066

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL PROPERTY MW1-WS1A,B | Anametrix I.D. | : 9006031-03 |
| Matrix | : WATER | Analyst | : GV |
| Date sampled | : 06/04/90 | Supervisor | : DDG |
| Date anl.TPHg | : 06/11/90 | Date released | : 06/15/90 |
| Date ext.TPHd | : N/A | Date ext. TOG | : N/A |
| Date anl.TPHd | : N/A | Date anl. TOG | : N/A |

| CAS # | Compound Name | Reporting Limit (ug/l) | Amount Found (ug/l) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.5 | ND |
| 108-88-3 | Toluene | 0.5 | ND |
| 100-41-4 | Ethylbenzene | 0.5 | ND |
| 1330-20-7 | Total Xylenes | 0.5 | ND |
| | TPH as Gasoline | 50 | ND |

ND - Below reporting limit.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL PROPERTY MW2-WS1A,B | Anametrix I.D. | : 9006031-01 |
| Matrix | : WATER | Analyst | : GV |
| Date sampled | : 06/04/90 | Supervisor | : ODG |
| Date anl.TPHg | : 06/11/90 | Date released | : 06/15/90 |
| Date ext.TPHd | : N/A | Date ext. TOG | : N/A |
| Date anl.TPHd | : N/A | Date anl. TOG | : N/A |

| CAS # | Compound Name | Reporting Limit (ug/l) | Amount Found (ug/l) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.5 | ND |
| 108-88-3 | Toluene | 0.5 | ND |
| 100-41-4 | Ethylbenzene | 0.5 | ND |
| 1330-20-7 | Total Xylenes | 0.5 | ND |
| | TPH as Gasoline | 50 | ND |

ND - Below reporting limit.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL PROPERTY MW3-WS1A,B | Anametrix I.D. | : 9006031-06 |
| Matrix | : WATER | Analyst | : [illegible] |
| Date sampled | : 06/04/90 | Supervisor | : [illegible] |
| Date anl.TPHg | : 06/11/90 | Date released | : 06/15/90 |
| Date ext.TPHd | : N/A | Date ext. TOG | : N/A |
| Date anl.TPHd | : N/A | Date anl. TOG | : N/A |

| CAS # | Compound Name | Reporting Limit (ug/l) | Amount Found (ug/l) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.5 | ND |
| 108-88-3 | Toluene | 0.5 | ND |
| 100-41-4 | Ethylbenzene | 0.5 | ND |
| 1330-20-7 | Total Xylenes | 0.5 | ND |
| | TPH as Gasoline | 50 | ND |

ND - Below reporting limit.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL PROPERTY MW4-WS1A,B,C | Anametrix I.D. | : 9006031-05 |
| Matrix | : WATER | Analyst | : GV |
| Date sampled | : 06/04/90 | Supervisor | : ODG |
| Date anl.TPHg | : 06/11/90 | Date released | : 06/15/90 |
| Date ext.TPHd | : N/A | Date ext. TOG | : N/A |
| Date anl.TPHd | : N/A | Date anl. TOG | : N/A |

| CAS # | Compound Name | Reporting Limit (ug/l) | Amount Found (ug/l) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.5 | ND |
| 108-88-3 | Toluene | 0.5 | ND |
| 100-41-4 | Ethylbenzene | 0.5 | ND |
| 1330-20-7 | Total Xylenes | 0.5 | ND |
| | TPH as Gasoline | 50 | ND |

ND - Below reporting limit.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL PROPERTY MW5-WS1A,B,C | Anametrix I.D. | : 9006031-04 |
| Matrix | : WATER | Analyst | : GV. |
| Date sampled | : 06/04/90 | Supervisor | : DDG |
| Date anl.TPHg | : 06/11/90 | Date released | : 06/15/90 |
| Date ext.TPHd | : N/A | Date ext. TOG | : N/A |
| Date anl.TPHd | : N/A | Date anl. TOG | : N/A |

| CAS # | Compound Name | Reporting Limit (ug/l) | Amount Found (ug/l) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.5 | ND |
| 108-88-3 | Toluene | 0.5 | ND |
| 100-41-4 | Ethylbenzene | 0.5 | ND |
| 1330-20-7 | Total Xylenes | 0.5 | ND |
| | TPH as Gasoline | 50 | 100 |

ND - Below reporting limit.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

| | | | |
|---|---|---|---|
| Sample I.D. | : STOCKEL PROPERTY MWA-WS1A,B | Anametrix I.D. | : 9006031-02 |
| Matrix | : WATER | Analyst | : G.V. |
| Date sampled | : 06/04/90 | Supervisor | : DDG |
| Date anl.TPHg | : 06/11/90 | Date released | : 06/15/90 |
| Date ext.TPHd | : N/A | Date ext. TOG | : N/A |
| Date anl.TPHd | : N/A | Date anl. TOG | : N/A |

| CAS # | Compound Name | Reporting Limit (ug/l) | Amount Found (ug/l) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.5 | ND |
| 108-88-3 | Toluene | 0.5 | ND |
| 100-41-4 | Ethylbenzene | 0.5 | ND |
| 1330-20-7 | Total Xylenes | 0.5 | ND |
| | TPH as Gasoline | 50 | ND |

ND - Below reporting limit.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : STOCKEL PROPERTY MWB-WS1A,B
Matrix : WATER
Date sampled : 06/04/90
Date anl.TPHg: 06/12/90
Date ext.TPHd: N/A
Date anl.TPHd: N/A

Anametrix I.D. : 9006031-07
Analyst : EK
Supervisor : DDG
Date released : 06/15/90
Date ext. TOG : N/A
Date anl. TOG : N/A

| CAS # | Compound Name | Reporting Limit (ug/l) | Amount Found (ug/l) |
|---|---|---|---|
| 71-43-2 | Benzene | 0.5 | ND |
| 108-88-3 | Toluene | 0.5 | ND |
| 100-41-4 | Ethylbenzene | 0.5 | ND |
| 1330-20-7 | Total Xylenes | 0.5 | ND |
| | TPH as Gasoline | 50 | ND |

ND - Below reporting limit.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GC/FID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.