GETTLER-RYAN INC.

TRANSMITTAL

TO: Mr. Edward Loss
Tri-Valley Transportation
5481 Brisa, Street
Livermore, CA 94550

DATE: July 2, 2001
PROJ. #: 948166.02-1
SUBJECT: Work Plan
Tri- Valley Transportation
Brisa Street,
Livermore, California

FROM:
Douglas J. Lee
Project Manager
Gettler-Ryan Inc.
6747 Sierra Court Suite J
Dublin, California

WE ARE SENDING YOU:

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COMMENTS:

Enclosed is a copy of the referenced Work Plan. If you have any questions, please call me at (925) 551-7555.

Cc: Ms. Eva Chu, Alameda County Environmental Health Services, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502-6577

GETTLER-RYAN INC.

Rec'd 7/3/01

Include analysis for soluble lead (filter sample in field or collect in non-preserved bottle)

WORK PLAN FOR LIMITED SUBSURFACE INVESTIGATION

at

Tri- Valley Transportation
5481 Brisa Street
Livermore, California

Report No. 948166.02-1

Prepared for:

Mr. Edward Loss
Tri-Valley Transportation, Inc.
5481 Brisa, Street
Livermore, California

Prepared by:

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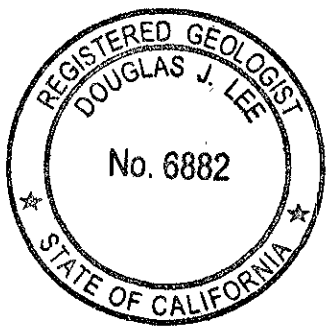
Andrew Smith
Staff Geologist

Douglas J. Lee
Project Manager
R.G. No. 6882



July 2, 2001

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at

Tri- Valley Transportation
5481 Brisa Street
Livermore, California

Report No. 948166.02-1

INTRODUCTION

At the request of Tri-Valley Transportation, Gettler-Ryan Inc. (GR), has prepared this Work Plan for the installation of one Geoprobe® with grab groundwater sampling at the subject site. This work is proposed as a Preliminary Site Assessment (PSA) to determine if soil beneath the product dispensers and groundwater in the vicinity of the former UST pit has been impacted by petroleum hydrocarbons. This work was requested by the Alameda County Environmental Health Services (ACEHS) in a letter to Tri-Valley Transportation dated May 4, 2001. The May 4, 2001 ACEHS letter states that no soil samples were collected beneath the former dispensers during the UST removal activities. This is due to the dispensers being located within the limits of the former UST, which prevented collection of native soil sample beneath their locations. As agreed in a phone conversation with Ms. Eva Chu of the ACHES on June 14, 2001, no additional soil sampling is being proposed in the vicinity of the former dispensers.

The proposed work includes: preparing a site safety plan; obtaining the required drilling permit from the Alameda County Flood Control and Water Conservation District (Zone 7 Water Agency); installing one Geoprobe® soil boring; collecting and submitting selected soil and grab groundwater samples for chemical analysis; and preparing a report presenting the observations and analytical data associated with the investigation.

The scope of work proposed in this Work Plan is intended to comply with the State of California Water Resources Control Board's *Leaking Underground Fuel Tanks (LUFT) Manual* and *California Underground Storage Tank Regulations,* the California Regional Water Quality Control Board (CRWQCB) *Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites*, and the ACEHS guidelines.

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SITE DESCRIPTION

General

The subject site is located at 5481 Brisa Street in Livermore (Figure 1). The site consists of a paved parking lot, an office and warehouse building with a loading dock, and a truck scale. Pertinent site features and the locations of the former gasoline and diesel USTs are shown on Figure 2.

Previous Environmental Work

In February, 2001, GR removed one 2,500 gallon gasoline Underground Storage Tank (UST), one 6,000 gallon diesel UST, the former product lines, fiber trenches and two dispensers were also removed. Upon removal, GR personnel visually inspected the USTs for evidence of failure. No holes or cracks were observed in the USTs. Five compliance soil samples were collected from beneath the USTs (Figure 3) at depths ranging from 10.5 to 15.0 feet below ground surface (bgs). The samples from beneath the USTs contained: Total Petroleum Hydrocarbons as gasoline (TPHg) ranging from non- detect (ND) to 680 parts per million (ppm) and Total Petroleum Hydrocarbons as diesel (TPHd) ranging from ND to 960 ppm. No Benzene or Methyl tertiary-Butyl Ether (MTBE) were detected in the five compliance samples.

Also in February, 2001, GR returned to the site to remove additional hydrocarbon impacted soil from the southwest corner of the UST pit. (see Figure 3). The size of the overexcavated area was 7 feet in length, by 7 feet in width and extended 17.5 feet in depth. Approximately 10 cubic yards of soil was removed from the UST pit. Confirmation soil samples were collected at the sidewalls of the UST pit at a depth of 15 feet bgs. One soil sample was collected at the base of the overexcavated pit at 17.5 feet bgs. The soil samples contained TPHg in concentrations ranging from ND to 8.4 ppm and TPHd in concentrations ranging from ND to 2.9 ppm. No Benzene or Methyl tertiary-Butyl Ether (MTBE) were detected in the confirmation samples.

Geology and Hydrogeology

The site is situated on gently sloping, northwest-trending topography in the eastern portion of the Livermore Valley. Based on review of regional geologic maps (U.S. Geological Survey Open-File Report 80-538 "Preliminary Geologic Map of the Altamont Quadrangle, Alameda, California" by Thomas W. Dibblee. Jr., 1980), the subject site is inferred to be underlain by Quaternary–age alluvium. The closest surface water is Arroyo Seco Creek, which is located 3,000 feet west-southwest of the site. Based on the topography, the regional groundwater flow direction is inferred to be to the northwest. Groundwater is anticipated to be encountered within approximately 20 to 30 feet below ground surface (bgs).

PROPOSED SCOPE OF WORK

In order to determine if groundwater down gradient of the UST pit has been impacted by petroleum hydrocarbons, GR proposes to install one Geoprobe® downgradient of the former UST pit. Soil and grab groundwater samples will be collected from the Geoprobe. All field work will be conducted in accordance

with GR's Field Methods and Procedures (Appendix A). To perform this scope of work, GR proposes the following tasks:

Task 1 Pre-Field Activities

GR will prepare a site-specific safety plan, and obtain the necessary drilling permit from the Zone 7 Water Agency. The proposed Geoprobe location will be marked and Underground Service Alert (USA) will be notified a minimum of 48 hours prior to drilling.

Task 2 Geoprobe® Installation

One geoprobe will be installed at the location shown on Figure 2. Probing activities will be performed by a California-licensed driller (C-57 license). A GR geologist will observe drilling, collect soil samples for lithologic description and chemical analysis, prepare a boring log, and collect groundwater samples for chemical analyses. The geoprobe will be advanced using a Geoprobe® rig utilizing direct-push technology.

Soil samples for lithologic description and possible chemical analysis will be collected continuously to develop an accurate profile of subsurface hydrogeologic conditions. Soil from selected sample intervals will be screened in the field for the presence of volatile organic compounds using a photoionization detector (PID). These data will be collected for reconnaissance purposes only, and will not be used as verification of the presence or absence of petroleum hydrocarbons. Screening data will be recorded on the boring logs.

Selected soil samples will be submitted for chemical analyses. Although the actual number of samples submitted for chemical analysis will depend on site conditions and field screening data, we anticipate a minimum of one soil sample from the soil/groundwater interface will be submitted for chemical analysis as described in Task 4.

Task 3 Groundwater Sampling

A grab groundwater sample will be collected from the geoprobe in accordance with GR Field Methods and Procedures (Appendix A). The groundwater samples will be analyzed as described in Task 4.

Task 4 Laboratory Analyses

All samples will be submitted to a California-certified Hazardous Materials Testing Laboratory. Soil and groundwater samples will be analyzed for total petroleum hydrocarbons as gasoline (TPHg) and total petroleum hydrocarbons as diesel by Environmental Protection Agency (EPA) Method 8015/Modified, benzene, toluene, ethylbenzene, total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8020. In addition, the grab groundwater sample will be analyzed for ethanol, tert-butyl alcohol (TBA), MTBE, di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE),

Collect enough water to run for BVOCs, if elevated TPHd is detected.

1,2-dichloroethane (1,2 DCA) tert-amyl methyl ether (TAME) and ethylene dibromide (EDB) by EPA method 8260.

Task 5 Reporting

Following receipt and analysis of all data, a report will be prepared which summarizes the procedures and the findings associated with this investigation. This report will be submitted to Tri-Valley Transportation for their use and distribution.

PROJECT STAFF

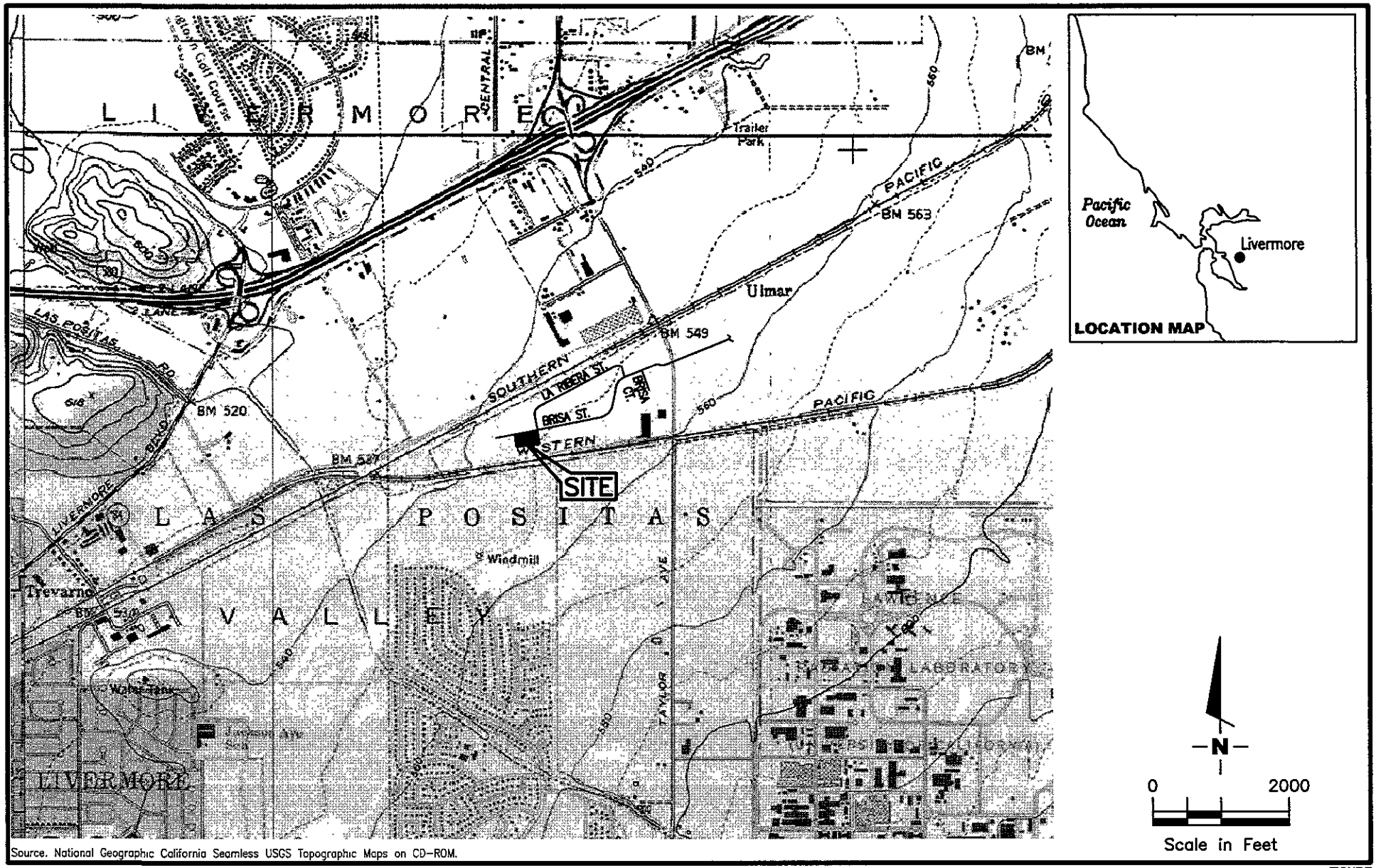
Mr. Douglas J. Lee, Project Manager (California Registered Geologist No. 6882) will provide technical oversight and review of the work and will supervise and direct field and office operations. GR employs a staff of geologist, engineers, and technicians who will assist with the project.

SCHEDULE

Implementation of the proposed scope of work will commence upon receipt of regulatory approval and the drilling permit from the Zone 7 Water Agency.

REFERENCES

Gettler - Ryan Inc., 2001, Soil Sampling During UST Removal at Tri-Valley Transportation Facility Report, dated April 20, 2001.



Source. National Geographic California Seamless USGS Topographic Maps on CD-ROM.

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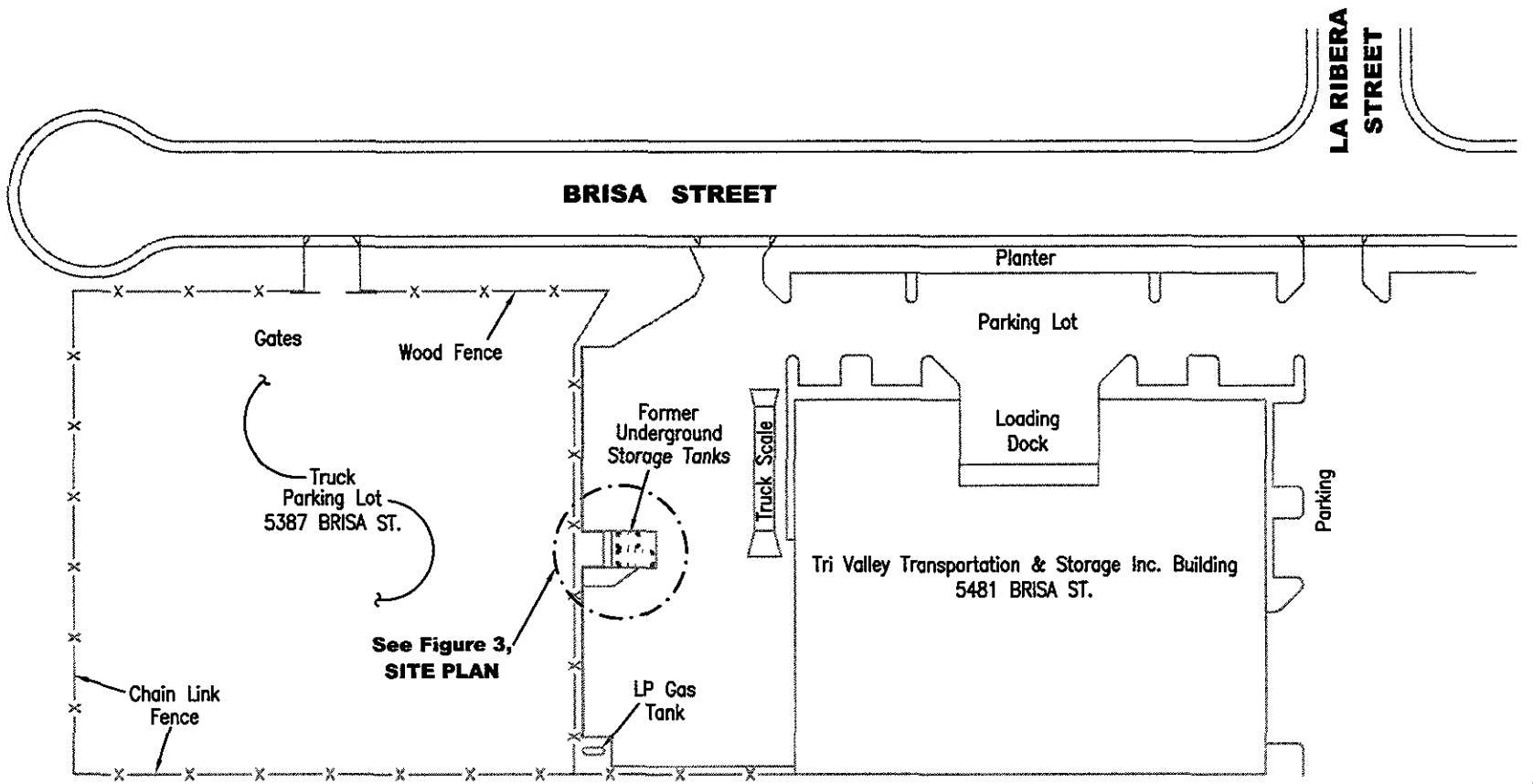
VICINITY MAP
Tri Valley Transportation and Storage Inc.
5481 Brisa Street
Livermore, California

FIGURE
1

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
948166		6/01	

FILE NAME: P:\ENVIRO\3VALLEY\VIC-5481.DWG | Layout Tab: CA-North



Source: Figure modified from drawing provided by Carl Holwick Co. Building Construction (6-16-86) and field observations (11-27-00).

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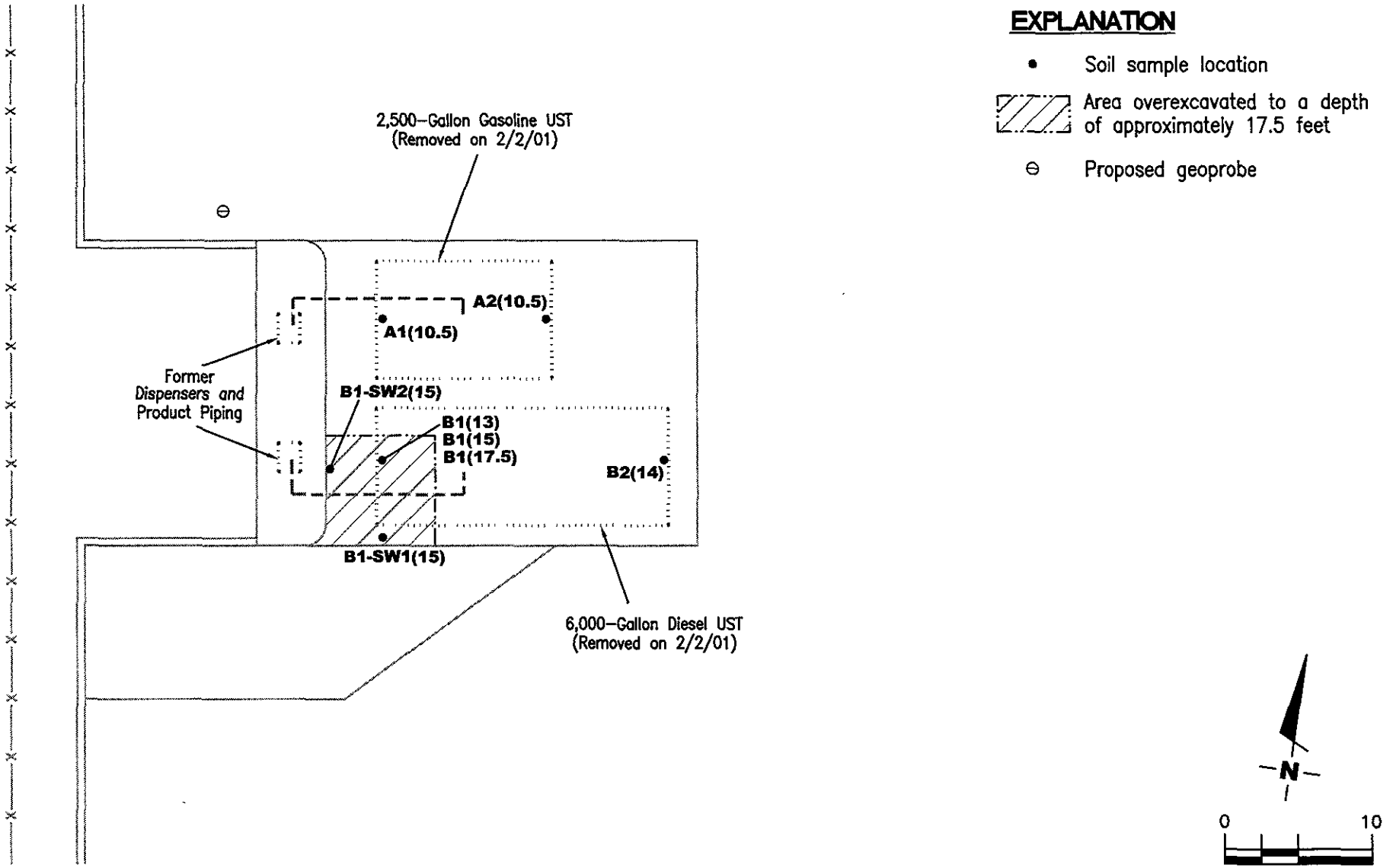
EXTENDED SITE PLAN
Tri Valley Transportation and Storage Inc.
5481 Brisa Street
Livermore, California

FIGURE 2

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
101217		6/01	

FILE NAME: P:\ENVIRO\3VALLEY\A01-5481.DWG | Layout Tab: Boring Rpt 6-01



Source: Figure modified from drawing provided by Carl Holwick Co. Building Construction (6-16-86) and field observations (11-27-00).

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SITE PLAN
Tri Valley Transportation and Storage Inc.
5481 Brisa Street
Livermore, California

FIGURE
3

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
948166		6/01	

FILE NAME: P:\ENVIRO\3VALLEY\A01-5481.DWG | Layout Tab: Site Plan 6-01

APPENDIX A

GR FIELD METHODS AND PROCEDURES

GETTLER-RYAN INC.

FIELD METHODS AND PROCEDURES

Site Safety Plan

Field work performed by Gettler-Ryan Inc. (GR) is conducted in accordance with GR's Health and Safety Plan and the Site Safety Plan. GR personnel and subcontractors who perform work at the site are briefed on the contents of these plans prior to initiating site work. The GR geologist or engineer at the site when the work is performed acts as the Site Safety Officer. GR utilizes a photoionization detector (PID) to monitor ambient conditions as part of the Health and Safety Plan.

Collection of Soil Samples

Soil borings are drilled by a California-licensed well driller. A GR geologist is present to observe the drilling, collect soil samples for description, physical testing, and chemical analysis, and prepare a log of the exploratory soil boring. Soil samples are collected from the soil boring with a split-barrel sampling device fitted with 2-inch-diameter, clean brass tube or stainless steel liners. The sampling device is driven approximately 18 inches with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler each successive 6 inches is recorded on the boring log. The encountered soils are described using the Unified Soil Classification System (ASTM 2488-84) and the Munsell Soil Color Chart.

After removal from the sampling device, soil samples for chemical analysis are covered on both ends with teflon sheeting or aluminum foil, capped, labeled, and place in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Samples are selected for chemical analysis based in part on:

a. depth relative to underground storage tanks and existing ground surface
b. depth relative to known or suspected groundwater
c. depth relative to areas of known hydrocarbon impact at the site
d. presence or absence of contaminant migration pathways
e. presence or absence of discoloration or staining
f. presence or absence of obvious gasoline hydrocarbon odors
g. presence or absence of organic vapors detected by headspace analysis

Field Screening of Soil Samples

A PID is used to perform head-space analysis in the field for the presence of organic vapors from the soil sample. This test procedure involves removing some soil from one of the sample tubes not retained for chemical analysis and immediately covering the end of the tube with a plastic cap. The PID probe is inserted into the headspace inside the tube through a hole in the plastic cap. Head-space screening results are recorded on the boring log. Head-space screening procedures are performed and results recorded as reconnaissance data. GR does not consider field screening techniques to be verification of the presence or absence of hydrocarbons.

Construction of Monitoring Wells

Monitoring wells are constructed in the exploratory soil borings with Schedule 40 polyvinyl chloride (PVC) casing. All joints are thread-joined; no glues, cements, or solvents are used in well construction. The screened interval is constructed of machine-slotted PVC well screen which generally extends from the total well depth to a point above the groundwater. An appropriately-sized sorted sand is placed in the annular space adjacent to the entire screened interval. A bentonite transition seal is placed in the annular space above the sand, and the remaining annular space is sealed with neat cement or cement grout.

Wellheads are protected with water-resistant traffic-rated vault boxes placed flush with the ground surface. The top of the well casing is sealed with a locking waterproof cap. A lock is placed on the well cap to prevent vandalism and unintentional introduction of materials into the well.

Measurement of Water Levels

The top of the newly-installed well casing is surveyed by a California-licensed Land Surveyor to mean sea level (MSL). Depth-to-groundwater in the well is measured from the top of the well casing with an electronic water-level indicator. Depth-to-groundwater is measured to the nearest 0.01-foot, and referenced to MSL.

Well Development and Sampling

The purpose of well development is to improve hydraulic communication between the well and the surrounding aquifer. Prior to development, each well is monitored for the presence of floating product and the depth-to-water is recorded. Wells are then developed by alternately surging the well with a vented surge block, then purging the well with a pump or bailer to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized.

Storing and Sampling of Drill Cuttings

Drill cuttings are stockpiled on and covered with plastic sheeting and samples are collected and analyzed for disposal classification on the basis of one composite sample per 100 cubic yards of soil. Stockpile samples are composed of four discrete soil samples, each collected from an arbitrary location on the stockpile. The four discrete samples are then composited in the laboratory prior to analysis.

Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and them driving the stainless steel or brass sample tube into the stockpiled material with a hand, mallet, or drive sampler. The sample tubes are then covered on both ends with teflon sheeting or aluminum foil, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.