SITE SAFETY PLAN

FOR

Service Station No. 7-0236
6630 East 14th Street
Oakland, California

Project No. 30-0491

1.0 INTRODUCTION

A Site Safety Plan (SSP), designed to address safety provisions needed during the site investigation activities provides procedures to protect onsite personnel from physical and chemical hazards resulting from drilling, excavation, and site restoration. The SSP establishes personnel responsibilities, general safe work practices, safe field procedures, personal protective equipment standards, decontamination procedures, and emergency action plans.

This SSP conforms with health and safety requirements promulgated by the United States Occupational Safety and Health Administration (OSHA) and California Occupational Safety and Health Administration (Cal-OSHA).

2.0 RESPONSIBILITIES OF KEY PERSONNEL

Onsite personnel will have assigned responsibilities. The Project Geologist, assigned to supervise field work, will serve as the Site Safety Officer (SSO). The SSO or a designated alternate, will ensure that all onsite personnel have received a copy of the SSP. The SSO shall be responsible for ensuring that all personnel understand and comply with this SSP. Additionally, the SSO shall be responsible for initiating emergency response procedures, if necessary.

Prior to beginning work, the SSO will conduct a site-specific training session to assure that all onsite personnel are aware of potential physical and chemical hazards and safe work practices. All onsite personnel must initially complete a 40-hour hazardous materials training course as required by Code of Federal Regulations (CFR) 1910.120. Thereafter, all onsite personnel are required to annually complete an 8-hour hazardous materials refresher course. Additionally, all personnel will be required to document their full understanding of this SSP before admission to the site. Compliance with the SSP will be monitored at all times by the SSO.

All onsite employees will take reasonable precautions to avoid unforeseen hazards. Onsite employees will be held responsible to perform only those tasks for which they believe they are qualified. Each onsite employee will be responsible for strict adherence to all procedures described in the SSP. Any deviation observed shall be reported to the SSO and corrected.

3.0 STANDARD OPERATING PROCEDURES

Drillers and other onsite personnel will be briefed each day in "tail-gate" meetings as to the day's goals and equipment to be used. Anticipated contaminants, physical hazards and emergency procedures will be reviewed.

A qualified drilling contractor will be employed to deliver and operate all drilling equipment. Only qualified personnel will have any contact with this equipment. All onsite personnel, including the drilling contractor and his employees, will be required to wear hard hats and steel-toed boots when in close proximity to drilling equipment. Additionally, safety glasses with side shields or goggles and hearing protection is required when necessary. Nitrile or neoprene gloves shall be worn by personnel collecting or handling samples, to prevent exposure to contaminants. Gloves will be changed between samples, and used ones discarded, to avoid cross-contamination.

Proper respiratory equipment shall be worn if vapor contamination levels onsite exceed action levels as determined using a Photo-Ionization Detector (PID) or Organic Vapor Analyzer (OVA). No onsite smoking, open flame, or sparks will be permitted, to prevent accidental ignition of gasoline contamination.

4.0 JOB HAZARD ANALYSIS

Physical and chemical hazards which may be encountered onsite include those associated with mechanical equipment and potentially hazardous chemicals.

4.1 Physical Hazard Assessment

Physical hazards which may be encountered during drilling, excavation, site restoration, and system maintenance operations include:

1. Injury or limb amputation from falling objects, moving machinery, or equipment placed in a walking area

2. Explosion and fires resulting from punctured natural gas pipelines or combustion of flammable/combustible liquids

3. Electrocution from buried or overhead power lines

4. Explosion resulting from trenches or excavations containing flammable/combustible chemicals

5. Asphyxiation or toxic inhalation resulting from confined spaces containing less than 19.5 % oxygen or more than 25% oxygen or containing hazardous chemicals

6. Hearing loss resulting from noise generated from the operation of heavy equipment

7. Heat stress associated with hot weather and/or the use of personal protective equipment (PPE)

4.2 Chemical Hazard Assessment

Hazardous chemicals which may be encountered onsite include gasoline fuel hydrocarbons, benzene, toluene, and xylene (BTX), ethylbenzene, tetraethyl lead, and ethylene dichloride. These chemicals are volatile, flammable and moderately to extremely toxic.

They present a possible inhalation, absorption and ingestion hazard to onsite personnel. They may damage an unprotected individual's liver, kidneys, central nervous system, and bone marrow. Benzene is a known human carcinogen and ethylbenzene in vapor and liquid form is a skin irritant.

Gasoline vapors in high concentrations (>300 parts per million-ppm) can cause eye, nose and throat irritation, headaches, dizziness, and anesthesia. Skin contact with liquid gasoline may result in irritation, dermatitis and absorption of specific toxic petroleum fractions.

OSHA and the American Conference of Governmental Industrial Hygienists (ACGIH) have established exposure limits for these chemicals. The Permissible Exposure Limit (PEL) is the maximum permitted 8-hour time-weighted average (TWA) airborne contaminant that an employee may be exposed to. The Short Term Exposure Limit (STEL) is a 15-minute TWA exposure which is not to be exceeded at any time during a workday even if the 8-hour TWA is below the PEL. The Ceiling Limit (CL) is the maximum concentration of an airborne contaminant to which an employee may be exposed at any time.

PEL, STEL and CL are measured in parts per million (ppm) and/or milligrams per meter cubed (mg/m^3). Exposure limits established by OSHA and ACGIH for contaminants which may become airborne at this site are listed in the table below. Values are from OSHA unless otherwise noted.

Compound	TLV (in ppm)	PEL (in ppm)	STEL (in ppm)	CL (in ppm)
Gasoline		300	500	
Benzene	0.10*	1.0	5.0 1.0*	
Ethyl benzene	100	100	125	
Toluene	100	150	100	500
Xylene	100	150	100	300
Tetraethyl lead		0.075 mg/m^3		
1,2-Dichloroethane (Ethylene dichloride)	1.0	1.0	2.0	200

Note: * Values specified by ACGIH
For purposes of health and safety the strictest established exposure limit shall be used.

5.0 SITE MONITORING

Physical and chemical hazards must be monitored onsite to ensure that workers are not exposed to hazardous situations. The monitoring which shall be performed during this project is described below.

5.1 Monitoring of Physical Hazards

Exposure to excessive heat, noise, and hazardous work conditions shall be monitored throughout the project. All workers entering areas where two people cannot carry-on a normal conversation will be required to wear hearing protection. If heat stress is anticipated due to hot weather or the use of PPE, workers will be monitored by the SSP and will be provided beverages, shaded rest areas, and breaks to prevent heat stress.

Work area safety inspections will be conducted daily before the start of work and as conditions change by the SSO. Hazardous conditions reported to or observed by the SSO shall be immediately corrected.

5.2 Exposure Monitoring Plan

The fire, explosive, and toxic inhalation hazards previously mentioned will be evaluated throughout the project.

A direct-reading combustible gas/oxygen meter (CGI) will be used to evaluate the possible formation of flammable atmospheres around the work area. Continuous flammability measurements will be taken at the top of the boring near the work crew throughout well installation. Periodic measurements will be obtained from soil piles, within excavations, and in confined areas where flammable/combustible vapors may accumulate. Work will be suspended if combustible readings exceed 10% of the lower explosive limit (LEL).

A Photo-Ionization Detector (PID) or colorimetric indicator tube sampler will be used to monitor potentially harmful airborne concentrations of benzene, toluene, xylenes and ethylbenzene. Should concentrations exceed TLV's, protective measures outlined in Section 6.0 will be implemented.

6.0 SAFETY PRACTICES AND PRECAUTIONS

Simple precautions will reduce or eliminate physical and chemical hazards associated with drilling, excavation, site restoration, and system maintenance operations. Precautions include using qualified trained personnel, ensuring compliance with the SSP, ensuring proper engineering controls, good housekeeping procedures, utilizing proper protective equipment, and familiarity with emergency response procedures.

To prevent injury from moving machinery, automobiles, fires or other physical hazardous the following procedures will be implemented:

1. Keep drill rig and mast at least 50 feet away from overhead electrical power lines

2. Identify underground utilities prior to operation. Shut down, lock out and tag power lines and pipelines, as appropriate, particularly the power supply and emergency "shut offs" for dispenser pumps and associated delivery lines

3. Bond and ground drilling and excavating equipment during all operations. Bond and ground handling and transporting equipment during loading of soils and during pumping and transfer of leachate

4. Maintain all equipment in proper working order and inspect equipment prior to each use

5. Use spark resistant tools in areas where an ignition source could start a fire

6. Clean up spills or deposits of oil or flammable, combustible or hazardous liquids

7. Water down (if necessary) working areas, excavated material, and unpaved roadways during excavation, handling, stockpiling, and backfilling to minimize dust

8. Remove or properly contain waste materials daily. Store excavated materials in closed-top barrels to prevent any volatile organic compounds (VOCs) from escaping into the atmosphere

9. Remove materials which might fuel or impede regress from a fire from the work area

10. Keep access to fire extinguisher free and clear. Use fire extinguishers on equipment or small fires only

11. Maintain an adequately stocked first aid kit onsite at all times

12. Keep the work area clean and free of obstacles

13. Use a "buddy system" in areas of high automobile traffic

14. Wear ear plugs in areas of high noise (whenever noise makes it difficult for two people to carry on a normal conversation)

15. Do not use drugs or alcohol during response operations, unless directed by a physician

The following procedures should be followed when working with or around hazardous materials or soils which may be contaminated with hazardous chemicals:

1. Do not smoke, eat, drink, or engage in any other activity which would increase hand to mouth contact

2. Wear respiratory protective equipment and clothing as deemed necessary by the SSO. Do not wear a respirator over facial hair which prevents a proper seal

3. Do not walk, sit, lean, or kneel in puddles, leachate, or discolored surfaces

4. Wash hands and face when leaving the work area

5. Wash the entire body if decontamination procedures are in effect for outer garments

6. Clean, sanitize, inspect, and maintain respirators after each use

7. Establish work areas including the hot (contaminated area) zone, decontamination zone, and safe zone, as necessary. Minimize personnel and equipment in the hot zone

8. Establish procedures for exiting the hot zone prior to commencement of onsite activities

7.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) may be required to safely perform onsite work duties. All personnel onsite will have access to respirators with organic vapor cartridges. Replacement cartridges will be available onsite as needed. When handling samples, the onsite geologist will wear nitrile or neoprene gloves. Hard hats and steel-toed boots will be worn by all personnel onsite when in the proximity of drilling equipment. PPE required for this project includes:

1. Half-face air purifying respirator with organic vapor cartridges and dust/mist filters
2. Hard hat
3. Steel-toed boots or chemically resistant booties
4. Safety glasses with side-shields or safety goggles
5. Nitrile or neoprene gloves
6. Ear plugs of muffs
7. Work coveralls or other suitable work clothing

8.0 WORK ZONES AND SECURITY MEASURES

Access to the site and drill rigs located in the streets will be restricted to authorized personnel. Barricades and/or traffic cones will be placed to form a barricade at least 50 feet away from and surrounding the site during drilling operations. All personnel shall wear safety vest while performing work in the street. The Project Geologist will be responsible for site security.

9.0 DECONTAMINATION MEASURES

Avoidance of contamination whenever possible is the best method for protection. To avoid contamination comply with the safety precautions discussed in Section 6.0. Drilling and sampling equipment used will be decontaminated by steam-cleaning. Sampling equipment will be decontaminated before each sample is taken and

drilling equipment will be decontaminated before each boring is commenced.

Drilling and sampling equipment will be steam-cleaned before being brought onsite. Split-spoon sampling equipment will be steam-cleaned before each use. Augers will be steam-cleaned between borings.

The Project Geologist will oversee all operations and log all borings in consultation with drillers. Further, he or she will assure that proper protocol is used at all times in collecting and handling samples.

10.0 TRAINING

The SSO will conduct a pre-job training session to discuss all points of the SSP. The SSO will assure that everyone fully understands site hazards before work begins. All onsite personnel shall be trained in:

1. Anticipated hazards
2. Safety practices to be followed
3. Personal protective equipment to be worn
4. Emergency procedures and location of posted phone numbers

All personnel onsite must initially complete a 40-hour hazardous materials training course as required by Code of Federal Regulations (CFR) 1910.120. Thereafter, all onsite personnel are required to annually complete an 8-hour hazardous materials refresher course.
When respiratory protection is required, use of respirators must be in accordance with the written respiratory protection program. All personnel must be properly trained and fit-tested for the respirator worn.

11.0 MEDICAL SURVEILLANCE

According to CFR 29, 1910.120, Paragraph (f), employees who wear respirators 30 days or more during one year or who have been exposed to hazardous substances or health hazards above established PELs are required to be medically monitored. While airborne contamination levels are anticipated to below permissible PELs, respirators fitted with organic vapor cartridges should be worn whenever the smell of gasoline is present. Consequently, all personnel onsite must participate in a medical surveillance program.

12.0 RECORDKEEPING

Documentation will be kept on all personnel exposed to contaminant hazards on the job site according to OSHA regulations. These will include documentation that employees have received training on the SSP, respiratory protection, MSDS forms, and all emergency procedures. These will be reviewed during the pre-site training meeting.

Exposure records on each job will be kept for 30 years to meet requirements. Included will be names and Social Security numbers of employees, medical evaluations, on-the-job logs from entry to exit, first aid administered, visits onsite by outside persons, and personal air monitoring records.

13.0 EMERGENCY RESPONSE AND CONTINGENCY PLAN

In the event of accident, injury, fire, explosion or other emergency, the Project Geologist, SSO, or their designated representative will be responsible for coordinating emergency response activities. The SSO or their representative shall call 911, contact the hospital during a medical emergency, and appropriate government agencies. During an emergency situation the following steps shall be implemented:

1. The SSO shall verbally notify onsite personnel of the emergency and direct personnel to perform any required duties, including shut-down of the sites utilities, if necessary

2. If the emergency cannot be readily contained, extinguished, or controlled by onsite personnel, the SSO shall call 911 and inform them of the location and details of the emergency situation

3. Onsite personnel shall be evacuated and shall meet at the corner of Old Redwood Highway and McDowell Boulevard.

4. The SSO shall notify the Project Manager and the Associate, if necessary

5. The SSO with the assistance of the Project Manager shall be responsible for the decision to resume operations after an incident has been brought under control

13.1 Flammable Atmosphere

In the event that combustible gas indicator readings anywhere at the site exceed 10% LEL, work will be suspended, monitoring will be continued as necessary to isolate the area and some or all of the following engineering controls will be implemented:

1. Contaminated soils will be sprayed down (if necessary) with deodorizing chemicals to reduce vaporization of volatile organic compounds (VOCs) or permeation of other gases

2. Vapors from pooled petroleum produce will be suppressed (if necessary by spraying with foam or an appropriate chemical suppressant

3. Portions of the stockpiled soil will be covered with plastic sheeting

4. Air movers will be used to ventilate the areas of concentration to below 10% LEL

5. Wells emitting excessive concentrations will be ventilated, capped, or shut-in as necessary

13.2 Toxic Atmosphere

In the event that airborne concentrations of the chemicals of concern exceed the threshold limit value (TLV) for the chemical, the above engineering control measures will be implemented to reduce concentrations to or below the TLVs, if practical. If such reduction is not possible, PPE will be used to limit worker exposure during operations.

In the event airborne concentrations of the chemicals exceed 2 times the TLV, then work will be suspended and appropriate engineering controls will be implemented to reduce concentrations to or below 2 times the TLV.

14.0 RESPONSIBLE PARTIES

Responsible parties involved with the installation of the ground water recovery well are:

- Exxon Company USA
  1200 Smith Street, Suite 2726
  Houston, California

  Contact: William Wang
  (510) 246-8768

- Alton Geoscience
  5870 Stoneridge Drive Suite 6
  Pleasanton, California 94588

  Contact: John DeGeorge or Scott Thompson
  Project Manager Supervisor
  (510) 734-8134 (510) 734-8134

15.0 SUMMARY OF SITE ORGANIZATION AND COORDINATION

A. Site Safety Officer (SSO) - John DeGeorge
Subcontractor -
Driller - West HazMat
Driller's helper -

B. Site Access Control - Tim Quane
Drilling is outside and well ventilated. The drilling of two wells will affect the public right-of-way on 66th Avenue and ERast 14 Street. The drilling area will be barricaded following the guidelines of the Work Area Traffic Control Handbook and the requirements of the City of Oakland and the California Department of Transportation.

16.0 EMERGENCY MEDICAL CARE AND PROCEDURES

A. Nearest Emergency Medical Facility

Name: Highland Hospital

Address: 1411 East 31st Street
Oakland, California

Phone Number: (510) 534-8055

Directions: North on East 14 Street

B. Emergency Telephone Numbers:

Fire Department: (510) 444-3322 or 911

Police Department: (510) 238-3211 or 911

Ambulance: (510) 437-4557

I have read and agree to comply with the health and safety plan for the following project:

Exxon Service Station No. 7-0236
6630 East 14th Street, Oakland, California

Signature: _____ Date: _____
Representing: _____
Title: _____

Signature: _____ Date: _____
Representing: _____
Title: _____

Signature: _____ Date: _____
Representing: _____
Title: _____

Signature: _____ Date: _____
Representing: _____
Title: _____

Signature: _____ Date: _____
Representing: _____
Title: _____

FIGURE 1: SITE VICINITY MAP

0 2000

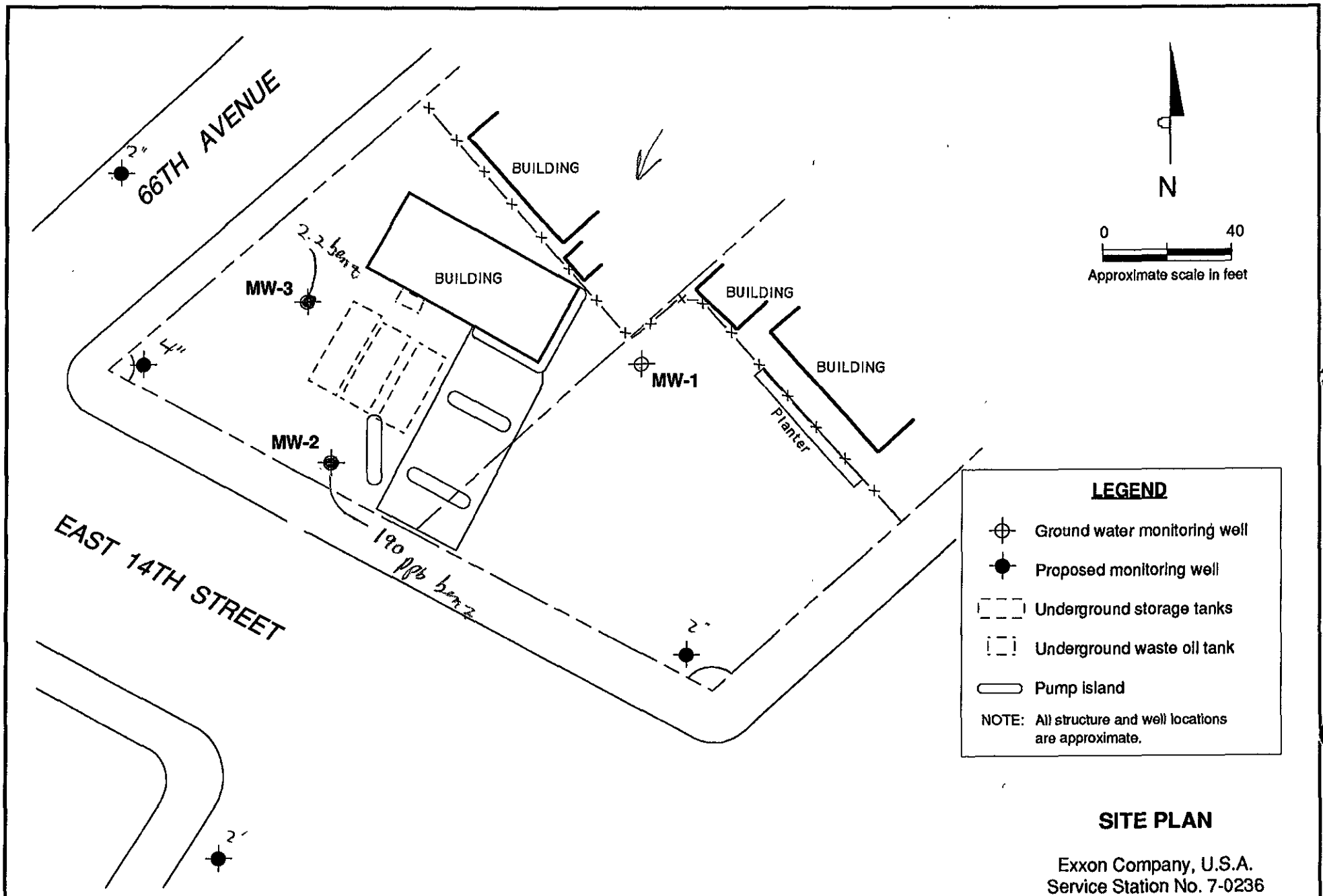
SCALE IN FEET

EXXON COMPANY, U.S.A.
SERVICE STATION NO. 7 - 0236
6630 EAST 14TH STREET
OAKLAND, CALIFORNIA

PROJECT NO. 30 - 491

SOURCE: U.S.G.S. MAP OAKLAND EAST QUADRANGLE
CALIFORNIA. 7.5 MINUTE SERIES (TOPOGRAPHIC)
PHOTOED 1959. PHOTOREVISED 1980

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



ALTON GEOSCIENCE
Pleasanton, California

SITE PLAN

Exxon Company, U.S.A.
Service Station No. 7-0236
6630 East 14th Street
Oakland, California

FIGURE 2

300491/WP