



January 28, 1993

AQUA SCIENCE ENGINEERS, INC
PROPOSAL/WORKPLAN FOR ENVIRONMENTAL ASSESSMENT OF SOIL AND
GROUNDWATER
ASE PROPOSAL NO. 2270

SITE: Thomas A Short Company (TASCO)
3430 Wood Street
Oakland, California

Stid 386

CLIENT: Thomas D. La Flamme
President
Thomas A. Short Company

TASK I

SCOPE OF WORK: Prepare a Workplan and Health and Safety Plan for the assessment project.
Secure drilling permits from the Alameda County Water District.

TASK II

SCOPE OF WORK: Conduct a subsurface soil assessment to define the lateral extent of gasoline contamination in the area of the two underground fuel storage tanks. Collect and analyze a groundwater sample from the existing well (W-1) for gasoline and BTEX. *+ diesel (d UST)*

- 1) Core concrete for drilling of five (5) soil borings. ~~water pump~~
- 2) Drill four 13 foot soil borings at pre-selected locations at the site around the perimeter of the USTs. Drill one 8 foot soil boring adjacent to the fuel product dispensers. (Groundwater is located at 13.5 feet below the ground surface).
- 3) Collect soil samples at 5 ft., 9 ft., and 13 feet below the ground surface in the 13 foot depth borings, and at 4 ft., and 8 ft. below the ground surface in the 8 foot depth boring. The soil samples will be collected according to Federal EPA SW 846 criteria. *→ why?*
(Total of 14 soil sample collected).
- 4) Collect a groundwater sample from the existing well at the subject area.
- 5) Backfill soil borings with neat cement and cap with concrete. Place all drill cuttings and well purge water in 55-gallon steel 17H drums. *→ follow up*

Thomas A. Short Company (TASCO)

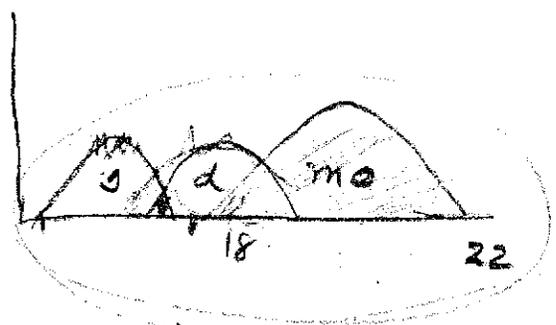
Mike Marella
(714) 833-3667

GC/MS

g 5030 PFT
3550 ext.

8015

TPH g, d, mo



Superior Lab -

①

low conc (g, d, mo) \rightarrow distinguish
1000 ppm ea

②

TRPH \approx TOG

TPH mo \neq TOG
 \neq TRPH

3000 ppm — TPH g, d, mo $\Sigma = 3000$

418.1 ≈ 3000

- 6) Submit 14 soil samples to a CAL-EPA certified laboratory for chemical analysis. All of the soil samples will be analyzed for total petroleum hydrocarbons as gasoline by EPA method 8015M, and for BTEX by EPA method 8020. *→ + diesel*
- 7) Submit one groundwater sample to a CAL-EPA certified laboratory for chemical analysis for gasoline and BTEX by EPA methods 8015M and 602. *+ diesel*

TASK III

SCOPE OF WORK: Conduct a subsurface soil and groundwater assessment in the steam cleaning and underground sump/clarifier area.

*greasy
of valves*

- 1) Core concrete for drilling of three (3) soil borings.
- 2) Drill one 20 foot soil boring, and two 13 foot soil borings at pre-selected locations in the steam cleaning/ sump area.
- 3) Collect soil samples at 2.5 ft., 5 ft., 7.5 ft., 10 ft. and 13 feet below the ground surface in each boring. The soil samples will be collected according to Federal EPA SW 846 criteria. *why?*
(Total of 15 soil sample collected).
- 4) Convert 20 foot boring to a two-inch diameter PVC groundwater monitoring well. Backfill 13 foot borings with neat cement and cap with concrete. Place all drill cuttings in 55-gallon steel 17H drums for temporary on-site storage. *→ follow up*
- 5) Develop well and collect a groundwater sample.
- 6) Submit 15 soil samples to a CAL-EPA certified laboratory for chemical analysis. All of the soil samples will be analyzed for total recoverable petroleum hydrocarbons (TRPH) by EPA method 418.1. Nine soil samples will be analyzed for TTLC CAM 17 Title 22 Metals, and volatile organics by EPA methods 8010 and 8020.
- 7) Submit one groundwater sample to a CAL-EPA Certified Laboratory for chemical analysis for TRPH by EPA method 418.1 and volatile organics by EPA methods 601 and 602.

TASK IV

SCOPE OF WORK: Conduct shallow subsurface soil assessments at various elevated risk areas of the site to identify and characterize possible soil contamination for CAM 17/TTLIC Title 22 metals, volatile organic compounds, and total recoverable petroleum hydrocarbons.

near storage bldg

- 1) Core concrete for drilling of four (4) soil borings. *1 to be converted to 20' mw (☒)*
- 2) Drill four 5 foot soil borings at pre-selected elevated risk areas of the site.
- 3) Collect soil samples at 2 feet and 5 feet below the ground surface. The soil samples will be collected according to Federal EPA SW 846 criteria. *why?*
(Total of 8 soil sample collected).
- 4) Backfill soil borings with neat cement and cap with concrete. Place all drill cuttings in 55-gallon steel 17H drums. *→ follow up*
- 5) Submit 8 soil samples to a CAL-EPA certified laboratory for chemical analysis. All of the soil samples will be analyzed for TRPH by EPA method 418.1, volatile organics by EPA methods 8010 and 8020, and for TTLIC CAM 17 Title 22 Metals.

TASK V

SCOPE OF WORK: Compile investigative data, prepare and complete a final project report which will include descriptions and findings of Tasks I through VI described above. The project report will include a feasibility study for remediation of the gasoline impacted soil in the area of the two underground fuel storage tanks, and remediation of metals and organics contaminated soil in the steam cleaning area. The feasibility study will include cost estimations for each remedial option investigated.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

David Allen for
Michael Marelo, R.G.
Vice President
Principal Geologist

*at cap. fringe of mws borehole,
sample soil for TPH-g, d, +BTEX.*

Wood Street

Ramp/Dock

Former Underground Fuel Tanks

Sand Blasting

Beach Street



B-2
H-1
B-1
W-1

Concrete

Parking Area

Concrete

Storage Building

Fuel Dispenser

Manufacturing Building

Sump

Steam Cleaning Area

Sump

Approximate Property Line

SYMBOLS

- ⊕ Existing well/boring *metals o+c, only down to 5'*
- ⊠ Proposed 20 ft. monitoring well
- ▲ Proposed 13 ft. boring
- △ Proposed 8 ft. boring
- Proposed 5 ft. boring

SCALE

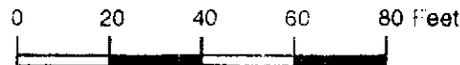


FIGURE 1

Site Plan Showing Existing Wells/Borings and Proposed Additional Wells/Borings
 Site: Thomas A. Short Company
 3430 Wood Street
 Oakland, California

Aqua Science Engineers, Inc.

