2-8-96

# REPORT ON EXCAVATION OF CONTAMINATED SOIL AND WORKPLAN FOR INSTALLATION OF A GROUNDWATER MONITORING WELL

RAS-CO MANUFACTURING COMPANY, INC.
413 WEST SUNSET BOULEVARD
HAYWARD, CA 94541

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February 8, 1996

Project Number 329

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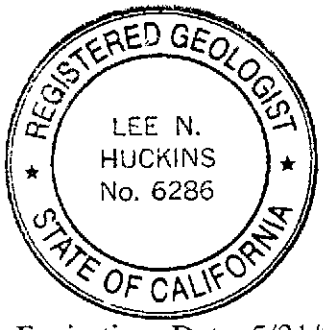
Registered Geologist




Expiration Date 5/31/97

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This report has been prepared by the staff of **Tank Protect Engineering of Northern California, Inc.** under direction of an Engineer and/or Geologist whose seal(s) and/or signature(s) appear hereon.

The findings, recommendations, specifications or professional opinions are presented, within the limits prescribed by the client, after being prepared in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied.

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## 1.0 INTRODUCTION

The subject site is located at 413 West Sunset Boulevard in the City of Hayward in Alameda County, California and is occupied by RAS-CO Manufacturing Company, Inc. [(RAS-CO) see Figure 1]. The contact person is Mr. Oscar Lang; telephone number (510) 782-3161.

Because soil samples collected at the time of tank removal detected gasoline contamination at concentrations of 1,100 ppm and 5,000 ppm in the north and east sidewalls of the excavation, respectively, RAS-CO has contracted with Tank Protect Engineering of Northern California, Inc. (TPE) to investigate and remediate vadose zone soil contamination.

This Report on Excavation of Contaminated Soil and Workplan for Installation of a Groundwater Monitoring Well (RECS\WP) documents overexcavation activities and presents a scope of work for the installation of a groundwater monitoring well as a preliminary investigation of groundwater contamination. The WP was verbally requested by the Alameda County Health Care Services Agency (ACHCSA).

## 2.0 BACKGROUND

On November 10, 1994 TPE removed a 500-gallon and a 250-gallon gasoline, steel, single-walled, underground, storage tank from the subject site. Details on tank closure activities, soil sampling and analytical results are documented in TPE's December 16, 1994 TANK CLOSURE REPORT AND WORKPLAN FOR EXCAVATION OF CONTAMINATED SOIL, RAS-CO MANUFACTURING COMPANY, INC., 413 WEST SUNSET BOULEVARD, HAYWARD, CA 94541 (TCR/WP). On December 22, 1994 the TCR/WP was approved by ACHCSA (see Appendix A).

## 3.0 EXCAVATION AND REMEDIATION OF CONTAMINATED SOIL

As a preliminary investigation and remediation of vadose zone contaminated soil, TPE conducted the following scope of work:

- Conducted an Underground Service Alert (USA) to minimize the potential of encountering unexpected utilities.

- Contacted appropriate agencies prior to beginning excavation activities.

- Excavated contaminated soil from the north and east sidewalls and floor of the excavation and stockpile the soil on site.

- After excavating contaminated soil in the above task, collected verification soil samples from the excavation sidewalls and floor for chemical analysis for total petroleum hydrocarbons as gasoline (TPHG) and benzene, toluene, ethylbenzene, and xylenes (BTEX).

- Collected one "grab" groundwater sample for chemical analysis for TPHG and BTEX.

- Prepared this report.

3.1 Method of Investigation and Remediation of Vadose Zone Contaminated Soil

TPE conducted investigation and remediation of vadose zone soil contamination on March 27, June 9 and 12, 1995 by excavation with a backhoe. Horizontal excavation was conducted to the limit imposed by machinery, building structures and Interstate 880's sound wall. Vertical excavation was conducted to the depth of groundwater.

The extent of excavation was based on field-screening methods that included the detection of apparent soil contamination as evidenced by visible hydrocarbon stains or odors and headspace analysis of excavated soil samples using a Gastech, Inc., Trace-Techtor hydrocarbon vapor tester (HVT).

Headspace analysis will be conducted by sealing a soil sample in a quart-size plastic bag and allowing hydrocarbons, if present, to volatilize into the headspace of the bag. The headspace will be tested by inserting the probe of the HVT into the headspace, while minimizing the entry of fresh air, and recording the response in ppm.

All excavated soil was placed on top of asphalt and covered with plastic sheeting.

3.2 Method of Verification and Stockpile Soil Sampling

When excavation activities were believed to have reached the horizontal and vertical extent of contaminated vadose zone soil (based on the above field-screening methods), or could not be extended due to site restrictions, or the presence of groundwater, discrete verification soil samples were collected from the floor and sidewalls of the excavation for chemical analysis to document cleanup concentrations of TPHG and BTEX.

Soil samples were collected from the sidewalls and/or floor of the excavation by "double" driving a clean 2-inch diameter by 6-inch long brass tube into the exposed surface with a slide-hammer corer. Samples were also collected by excavating soil with the bucket of a backhoe and collecting a sample in a brass tube from soil in the bucket.

Stockpile soil samples were collected for laboratory compositing such that 4 discrete samples were composited into 1 for chemical analysis to characterize the stockpile.

The stockpile samples were collected directly into brass tubes driven by a slide-hammer corer at depths of about 1.5 feet below the stockpile's surface.

After collecting each sample, the brass tube ends were quickly covered with Teflon sheeting and capped with plastic end-caps. Each tube was labeled to show site address, project number, sample name and depth, date and time collected, and sampler name and stored in an individual plastic bag in an iced-cooler.

The samples were transported to a California Department of Health Services (DHS) laboratories, Trace Analysis Laboratory, Inc. (TAL), Priority Environmental Labs (PEL) and Hull Development Labs,Inc. (HULL), located in Hayward CA, Milpitas CA and San Jose CA, respectively, accompanied by chain-of-custody documentation (see Appendix B for TPE's protocol relative to sample handling procedures).

See Appendices C and D for waste handling and decontamination procedures and quality assurance and quality control procedures.

### 3.3 Method of Contaminated Stockpile Remediation

Aeration of the soil was conducted by moving the soil between onsite treatment areas with a front-end loader and dumping the soil from the bucket of the loader while in an elevated position. Chemical oxidation was accomplished by spraying the soil, while being dumped, with a dilute (about 5%) solution of hydrogen peroxide.

### 3.4 Method of Stockpile Verification Soil Sampling

Stockpile verification sampling was based on the understanding that 1 sample for each 20 cubic yards (cyds) is required by the CRWQCB and ACHCSA, for characterizing remediated stockpiles of less than 200 cyds, to analyze for onsite reuse of remediated soil.

The stockpile was divided into 20 cyd cells prior to sampling. Each cell was further subdivided into 4 equal quadrants labeled A, B, C, and D. A systematic random sampling plan was implemented with a discrete sample being collected in numerical and alphabetical order from each larger cell. For example, the first sample was collected from the approximate center of quadrant A in cell 1; the second sample will be collected from the approximate center of quadrant B in cell 2, and so forth, until all larger cells are sampled. The sample depth was rotated, if stockpile depth was adequate. For example, the first sample was collected at a depth of 2 feet; the second sample was collected at a depth of 3 feet; the third sample was collected at a depth of 4 feet; the fourth sample was collected at a depth of 2 feet; and so forth, until all samples were collected (see Appendix B for TPE's protocol relative to sample handling procedures).

3.5 Method of Chemical Analyses

Verification and stockpile soil samples were analyzed for total petroleum hydrocarbons as gasoline (TPHG) by the DHS Method and by the Modified United States Environmental Protection Agency (EPA) Method 8015; for benzene, toluene, ethylbenzene, and xylenes (BTEX) by the Modified EPA Method 8020; and for organic lead by the DHS Method.

3.6 Summary of Excavation, Remediation, Soil Sampling and Analytical Results

3.6.1 March 27, 30 and 31, 1995

Excavation and Collection of Verification and Stockpile Soil Samples

TPE excavated about 150 cyds of contaminated soil from the floor and sidewalls of the excavation that formerly contained the 500-gallon and 250-gallon gasoline tanks. Vertical excavation was conducted to a maximum depth of about 15 feet. Horizontal excavation was conducted on all 4 sidewalls to a distance of about 3 to 5 feet outward from the former tank excavation limits.

TPE collected 6 discrete verification soil samples (VS-1 through VS-6) from sidewalls of the excavation at depths of about 12 to 13 feet at the locations shown in Figure 2. Soil sampling was conducted as described in Section 3.2 Method of Verification and Stockpile soil Sampling.

Eight discrete soil samples (SP2-A through SP2-D and SP3-A through SP3-D) were collected from the stockpiles at the locations shown in Figure 2. The samples were collected at a depth of about 2.5 to 3.0 feet below the stockpile's surface for laboratory compositing by HULL [SP2-A, B, C&D) and SP3-A, B, C&D] to characterize the stockpile for TPHG and BTEX.

Verification soil samples VS-1, VS-2, and VS-3 detected TPHG at concentrations of 6,700 ppm, 7,200 ppm and 9,800 ppm, respectively. Composite stockpile samples SP2-A,B,C&D and SP3-A,B,C&D detected TPHG at a concentrations of 8,500 ppm and

7,900 ppm. Some or all BTEX chemicals were detected in the verification and stockpile composite samples. The reader is referred to Table 1 for BTEX concentrations.

Analytical results are summarized in Table 1 and documented with a certified analytical report and chain-of-custody in Appendix E.

3.6.2 April 4-6, 10-12, 1995

Stockpile Remediation

TPE conducted remediation on approximately 150 cyds of contaminated soil by methods described in Section 3.3 Method of Stockpile Remediation.

3.6.3 May 2, 1995

Stockpile Characterization Sampling

Eight discrete soil samples (SP-1A through SP-1D and SP2A through SP2D) were collected from the stockpiles at the locations shown in Figure 3. The samples were collected at a depth of about 1.5 below the stockpile's surface for laboratory compositing by HULL [SP-1A,1B,1C&1D and SP-2A,2B,2C&2D to characterize the stockpile for TPHG and BTEX so the stockpile could be disposed of at a Class III landfill (see Figure 3). Soil samples were collected as described in Section 3.2 Method of Verification and Stockpile Soil Sampling.

Composite stockpile samples SP-1A,1B,1C&1D and SP-2A,2B,2C&2D detected TPHG at a concentrations of 69 ppm and 73 ppm. Some or all BTEX chemicals were detected in the composite stockpile samples. Organic lead was nondetectable. The reader is referred to Table 1 for BTEX concentrations.

Since low concentrations of TPHG and BTEX were detected in the composite stockpile samples, RAS-CO decided to continue remediation of the contaminated soil stockpile so that the soil could be reused on-site to backfill the excavation.

Analytical results are summarized in Table 1 and documented with a certified analytical report and chain-of-custody in Appendix E.

3.6.4 May 5, 24, 25, and 30, 1995

Stockpile Remediation

TPE conducted remediation on approximately 150 cyds of contaminated soil by methods described in Section 3.3 Method of Stockpile Remediation.

3.6.5 June 5, 1995

Verification Stockpile Sampling

TPE collected eight discrete verification soil samples (VSP1A through VSP8D) from the remediated stockpiled soil (see Figure 4). The samples were collected at a depth of about 1.5 below the stockpile's surface and handled as described above in Section 3.4 Stockpile Verification Soil Sampling .

SS 150 cy ND 6/95

All analytical results were nondetectable.

Analytical results are summarized in Table 1 and documented with a certified analytical report and chain-of-custody in Appendix E.

3.6.6 June 9 and 12, 1995

Excavation and Collection of Verification and Stockpile Soil Samples

Due to elevated levels of TPHG and/or BTEX detected in the soil samples VS-1, VS-2 and VS-3, TPE excavated about 80 cyds of contaminated soil from the floor and sidewalls of the excavation that formerly contained the 500-gallon and 250-gallon gasoline tanks. Vertical excavation was conducted to groundwater (about 23 feet). Horizontal excavation was conducted on the east, north and west sidewalls to a distance of about 1 to 3 feet from the former limit of excavation.

TPE collected 5 discrete verification soil samples (S-1 through S-5) from the sidewalls of the excavation at depths of about 15 to 21 feet at the locations shown in Figure 5. ACHCSA representative was on-site to oversee the verification sampling (see Appendix A). Soil sample was conducted as described in Section 3.2 Method of Verification and Stockpile Soil Sampling.

Four discrete soil samples (P1-A, P2-B, P3-C and P4-D) were collected from the stockpile at the locations shown in Figure 5. The samples were collected at the middle of the stockpile for laboratory compositing by PEL (P-1A,2B,3C&4D) to characterize the stockpile for TPHG and BTEX.

Verification soil samples S-1, S-2, S-3, S-4 and S-5 detected TPHG at concentrations of 160 ppm, 94 ppm, 140 ppm, 11 ppm and 9.1 ppm, respectively. Composite stockpile sample P-1A,2B,3C&4D detected TPHG at a concentration of 190 ppm. Some or all BTEX chemicals were detected in the verification and stockpile composite samples. The reader is referred to Table 1 for BTEX concentrations.

Analytical results are summarized in Table 1 and documented with a certified analytical report and chain-of-custody in Appendix E.

3.6.6.1 Groundwater Sampling

One groundwater "grab" sample (S-1) was collected directly from the excavation (see Figure 4). The sampling was collected with a dedicated disposable bailer and stored in laboratory supplied, preserved, clean, sterilized, 40-milliliter glass vials having Teflon-lined screw caps; and labeled to include: date, time, sample location, project number, and sampler name. The samples were immediately stored in an iced-cooler for transport to California Department of Health Services (DHS) certified PEL, accompanied by chain-of-custody documentation.

**Groundwater "grab" sample S-1 detected TPHG at a concentration of 10,000 parts per billion.**

Analytical results are summarized in Table 2 and documented with a certified analytical report and chain-of-custody in Appendix E.

3.6.7 June 14, 1995

ACHCSA verbally approved the reuse of the remediated stockpile soil for backfilling. TPE backfilled and compacted 150 cyds of the remediated stockpiled soil into the excavation.

3.6.8 June 19, 22, 26, 28, 29 and October 2, 1995

TPE conducted remediation on approximately 80 cyds of contaminated soil by methods described in Section 3.3 Method of Stockpile Remediation.

3.6.9 October 3, 1995

TPE collected eight discrete verification soil samples (VSP10A through VSP14A) from the remediated stockpiled soil (see Figure 5). The samples were collected at a depth

of about 1.5 below the stockpile's surface and handled as described above in Section 3.4 Method of Stockpile Verification Soil Sampling.

All analytical results were nondetectable.

Analytical results are summarized in Table 1 and documented with a certified analytical report and chain-of-custody in Appendix E.

## 4.0 EXCAVATION CLOSURE

On October 10, 1995 ACHCSA verbally approved the reuse of the remediated stockpile soil for backfilling. TPE backfilled and compacted the excavation to grade. No asphalt or concrete was placed on top of the excavation.

## 5.0 PROPOSED WORKPLAN FOR THE INSTALLATION OF A GROUNDWATER MONITORING WELL

Because of elevated levels of TPHG and BTEX found in soil samples VS-2, VS-1, S-3, S-3 and groundwater grab sample S-1, ACHCSA required that a groundwater monitoring well be installed downgradient of the former tank excavation. As a preliminary investigation of groundwater contamination, TPE proposes the following scope of work:

- Obtain a permit for installing a groundwater monitoring well from the Alameda County Flood Control and Water Conservation District Zone 7 (Zone 7) and notify appropriate agencies prior to conducting field activities.

- Drill a soil boring to further investigate the horizontal and vertical extent of vadose zone soil contamination.

- Review fate of 230 cy of soil OE site. all remed. on-site. Reused after ND.
- Has soil cont. been defined in all directions? Pretty good - can't define east due to I-880.

- OK to reuse 150 c.y on site (6/95) approved to reuse on 6/14/95
- 80 cy removed on 6/9/95 & sampled on 10/95 & came back ND

→ RSA w/p proposed to install 1 well immed. west of UST pit. Grab gw sample was hot 10K ppb TPHg + 35 ppb benzene

→ This is not a good plan:

1) need to define lateral extent of gw contamination first. Perhaps use hydropunch
2) While doing this should complete a well survey w/in 1/4 - 1/2 mile & describe & sample on-site domestic wells.
3) Based on results of this invest. Can determine approp # + best location of wells.

- Collect soil samples from each boring at approximately 5-foot depth intervals, at changes in lithology and at the occurrence of apparent soil contamination for construction of a boring log and for chemical analysis.

- Analyze selected vadose zone soil samples from the borings for TPHG and BTEX.

- Convert the boring into a groundwater monitoring well.

- Develop, purge and sample groundwater from the monitoring well for chemical analysis.

- Analyze 1 groundwater sample and a trip blank sample for TPHG and BTEX. and MTBE

- Prepare a Site Assessment Report.

## 5.1 Predrilling Activities

Before commencing drilling activities, TPE will obtain a well installation permit from Zone 7 and visit the site to mark the groundwater monitoring well location. TPE will conduct a subsurface utility survey, if necessary, and contact Underground Service Alert to minimize the potential of encountering unexpected utilities while installing the well.

## 5.2 Rationale for Location of the Groundwater Monitoring Well

The proposed monitoring well will be located based on gradient information obtained from ACHCSA on two sites located near the subject site, 310 Bartlett Ave and/or 525 West A Street (See Figure 7).

The proposed monitoring well will be located within 10 feet and in the downgradient direction of the overexcavated area according to the California Regional Water Quality

Control Board's "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites," dated August 10, 1990.

5.3 Soil Boring and Sampling Procedures

The boring for well MW-1 will be drilled by a State of California licensed water well driller (C-57 Water Well Driller contractor's license) using 8-inch diameter, continuous-flight, hollow-stem, auger drilling equipment. The augers will be steam-cleaned before drilling each boring to prevent cross contamination between borings or the introduction of offsite contamination for the initial boring. Representative soil samples will be collected from each boring for construction of a lithologic log and for field screening for TPHG and BTEX contamination. The representative samples will be collected at approximately 5-foot depth intervals below the ground surface, at significant changes in lithology and at the occurrence of apparent contamination by advancing a California split-spoon sampler, equipped with three 2-inch diameter by 6-inch long brass tubes, into the undisturbed soil beyond the tip of the augers. The sampling equipment will be cleaned before each sampling event by washing with an Alconox® solution and rinsing in tap water.

All samples will be field-screened for apparent contamination by TPHG and BTEX. Field-screening methods include the detection of apparent soil contamination as evidenced by visible hydrocarbon stains, odors, and headspace analyses of soil samples using a Gastech, Inc., Trace-Techtor Hydrocarbon Vapor Tester (HVT).

Headspace analysis will be conducted by sealing a soil sample in a quart-size plastic bag and allowing hydrocarbons, if present, to volatilize into the headspace of the bag. The headspace will be tested by inserting the probe of the HVT into the headspace, while minimizing the entry of fresh air, and recording the response in ppm.

In the boring of well MW-1, soil samples having apparent contamination, as indicated by the above field-screening methods, will be collected for analysis for TPHG and BTEX. If no apparent contamination is detected in the boring of well MW-1, the vadose zone sample collected nearest to groundwater will be analyzed for TPHG and BTEX.

Each sample collected for chemical analysis will be quickly covered with Teflon sheeting and capped with plastic end-caps. Each tube was labeled to show site address, project number, sample name and depth, date and time collected and sampler name and stored in an individual plastic bag in an iced-cooler. The samples will be transported to a California Department of Health Services (DHS) certified laboratory accompanied by chain-of-custody documentation (see Appendices F, B, C and D document TPE's protocols relative to hollow-stem auger drilling and sampling procedures, sample handling, waste handling and decontamination, and quality assurance and quality control procedures).

Detailed boring logs will be prepared from auger return material and split-spoon samples. The soil will be logged according to the Unified Soil Classification System under the direction of a California Registered Geologist.

Drill cuttings will be stored on site, contained in plastic sheeting or 55-gallon steel drums. The stored cuttings will be labeled to show contents, date stored, suspected chemical contaminant, expected date of removal, company name, contact person and telephone number. Disposal of the cuttings and drums is the responsibility of the client. After the cuttings are characterized by chemical analysis, TPE will provide recommendations to the client and, upon their request, assist them in remediation or disposal of the cuttings and drums, or both in an appropriate manner as an additional work item. Maintenance of the plastic sheeting or drums containing the soil is the responsibility of the client.

## 5.4 Chemical Analyses

All soil samples are proposed to be analyzed for TPHG and BTEX as described in Section 3.4 Method of Chemical Analysis.

## 5.5 Groundwater Investigation

The following discussion proposes groundwater monitoring well construction, development and sampling procedures and chemical analysis. Appendices G, H and

I document TPE's protocols relative to groundwater monitoring well construction, development and sampling procedures.

### 5.5.1 Groundwater Monitoring Well Construction

The boring will be converted into a groundwater monitoring well by installing 2-inch diameter, flush-threaded, schedule 40, polyvinyl chloride (PVC) casing and 0.010-inch machine-slotted screen. The exact depth of each boring and screen length will be determined by the geologic profile, depth of groundwater and whether the groundwater is confined or unconfined. If groundwater is unconfined, the screen is proposed to extend about 5 feet above and about 10 feet below the water table surface. The length of screen below the water table surface may be less than 10 feet if an aquiclude/aquitard or bedrock is encountered. If groundwater is confined, the screen length will extend from the upper contact of the aquifer to a maximum depth of 10 feet. If the aquifer is less than 10 feet thick, the screen length will equal the thickness of the aquifer. A sand pack of Number 2/12 filter sand will be placed in the annular space from the bottom of the boring to a maximum of 2 feet above the top of the screened interval. Approximately 1 foot of bentonite will be placed above the sand pack followed by a neat cement slurry seal. A traffic rated, bolt-locked, vault box will be set in concrete to protect the well. A water tight locking well cap with lock will be installed on each well casing.

### 5.5.2 Groundwater Monitoring Well Development

The monitoring well will be developed a minimum of 48 hours after well construction is completed. Before development, depth-to-groundwater will be measured from the TOC to the nearest 0.01 foot using an electronic Solinst water level meter. A minimum of 3 repetitive measurements will be made for each level determination to ensure accuracy. The well will be checked for floating product using a dedicated polyethylene bailer. If floating product is present, the thickness of product in the well will be measured by an electronic device before sampling and the depth-to-groundwater will be corrected to account for the thickness of floating product.

TANK PROTECT ENGINEERING
of Northern California, Inc.

# TRANSMITTAL FORM

DATE: 2/7/96 PROJECT NO.: 329

TO: Mr. Oscar Lang
RAS-Co Manufacturing Company, Inc.
413 West Sunset Blvd.
Hayward, CA 94541



FROM: Lee N. Huckins
Tank Protect Engineering
2821 Whipple Road
Union City, CA 94587-1233

WE ARE SENDING YOU ☒ ATTACHED ☐ UNDER SEPARATE COVER VIA mail
THE FOLLOWING ITEMS:

☐ LETTER(S) ☐ PROPOSAL(S) ☐ TABLE(S)
☐ FIGURE(S) ☒ REPORT(S) ☐ WORKPLAN(S)

| COPIES | DATED | DESCRIPTION |
|---|---|---|
| 1 | 2/8/96 | Report On Excavation Of Contaminated Soil And Workplan For |
| | | Installation Of A Groundwater Monitoring Well, RAS-Co Manufacturi |
| | | Company, Inc., 413 West Sunset Blvd., Hayward, CA 94541 |

Dear Client: This Report and/or Workplan is sent to you for your review and approval. Please read completely and carefully for accuracy regarding site location, background and history. Although you may n be able to verify the technical aspects of the Report and/or Workplan, read these sections for typographical a obvious errors such as missing pages, pages out of order, another client's data in your report, etc. It is TPE goal to present an accurate, complete, and error free report to the regulatory agencies.

REMARKS:

cc: Ms. Amy Leech, ACHCSA
File

SIGNATURE:

The well will be developed by using a surge block and a 1.7-inch, positive displacement, PVC hand pump or a Well Wizard gas displacement pump until the well is free of sand, silt and turbidity or no further improvement is apparent.

Development water will be stored on site in 55-gallon steel drums labeled to show contents, date filled, suspected chemical contaminant, expected date of removal, company's name, contact person and telephone number. Disposal of the drummed water and the drums containing the water will be the responsibility of the client. After the water is characterized by chemical analysis, TPE will provide recommendations to the client and, upon their request, assist them in remediation or disposal of the fluids and drums, or both, in an appropriate manner as an additional work item.

### 5.5.3 Groundwater Monitoring Well Sampling

After a minimum of 48 hours after well development, depth to stabilized water will be measured and recorded as discussed above under section 5.5.2 Groundwater Monitoring Well Development and the well will be sampled.

Prior to sampling, the well will be purged a minimum of 3 wetted well volumes with a dedicated polyethylene bailer. Temperature, pH and electrical conductivity will be monitored and purging will continue until they are stabilized. After purging is completed, turbidity will be measured and a water sample will be collected in sterilized glass vials having Teflon-lined screw caps, immediately sealed in the vials and labeled to include: date, time, sample location, project number and sampler name. The sample will be immediately stored in an iced-cooler for transport to a DHS certified laboratory accompanied by chain-of-custody documentation. Appendices C and D document TPE's protocols relative to waste handling and decontamination procedures, and quality assurance and quality control procedures.

Purge water will be stored on site in labeled 55-gallon steel drums. Disposal of the drummed water and the drums containing the water is the responsibility of the client. After the drummed water is characterized by chemical analysis, TPE will provide recommendations to the client and, upon their request, assist them in remediation or

disposal of the water and drums, or both, in an appropriate manner as an additional work item.

5.5.3.1 Chemical Analyses

All water samples are proposed to be analyzed for TPHG described in Section 3.5 Method of Chemical Analysis. BTEX chemicals will be analyzed by Modified EPA Method 602.

## 6.0 SITE ASSESSMENT REPORT

After completing the above scope of work, TPE will prepare a report documenting The report will include: copies of all required permits, an area map, the location of the installed monitoring well, a graphic boring log, a graphic monitoring well construction detail, a table summarizing results of chemical analysis, and copies of certified analytical reports and chain-of-custodies.

Conclusions regarding the extent and type(s) of contamination will be presented within the context of this WP. Recommendations for feasible remedial alternatives and/or supplemental sampling and analyses will be included.

The report will be reviewed and signed by a California Registered Geologist or Professional Engineer.

## 7.0 SITE SAFETY PLAN

A Site Safety Plan for conducting work under this workplan is included in Appendix J.

## 8.0 TIME SCHEDULE

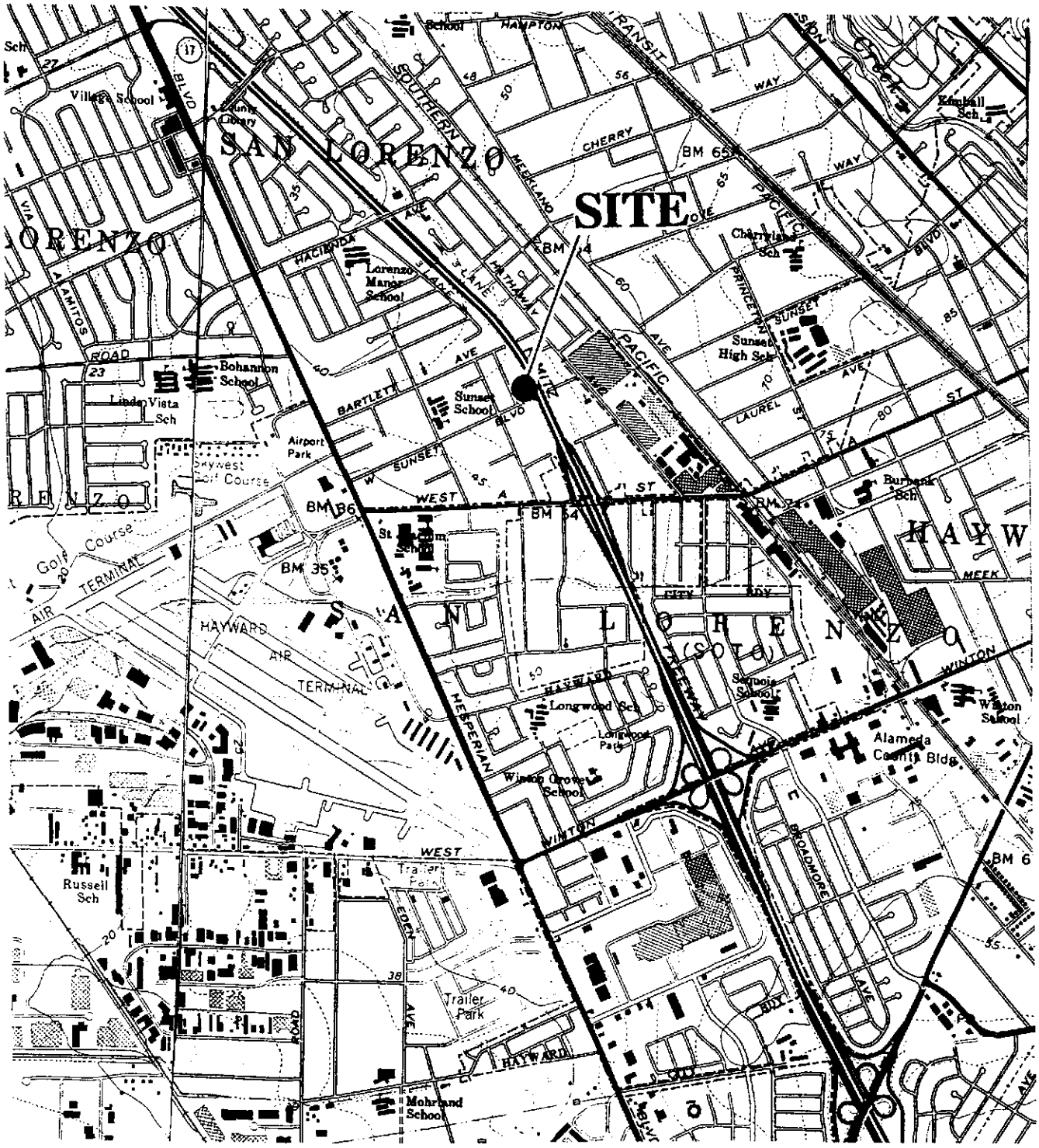
The projected time schedule for implementation of the activities described in this workplan is presented below. The schedule reflects a relatively problem-free program. However, delays in the workplan review, permitting or laboratory analysis could lengthen the project schedule. Access difficulties, adverse weather, and regulator review could also delay the proposed time schedule. TPE will make every effort to adhere to the project schedule.

Week 1: Client Submits WP for Regulator Approval.

Week 4: Regulator Approval Received; Install groundwater monitoring well

Week 6: Receive Chemical Analyses.

Week 12: Submit Report to Client.




LEGEND

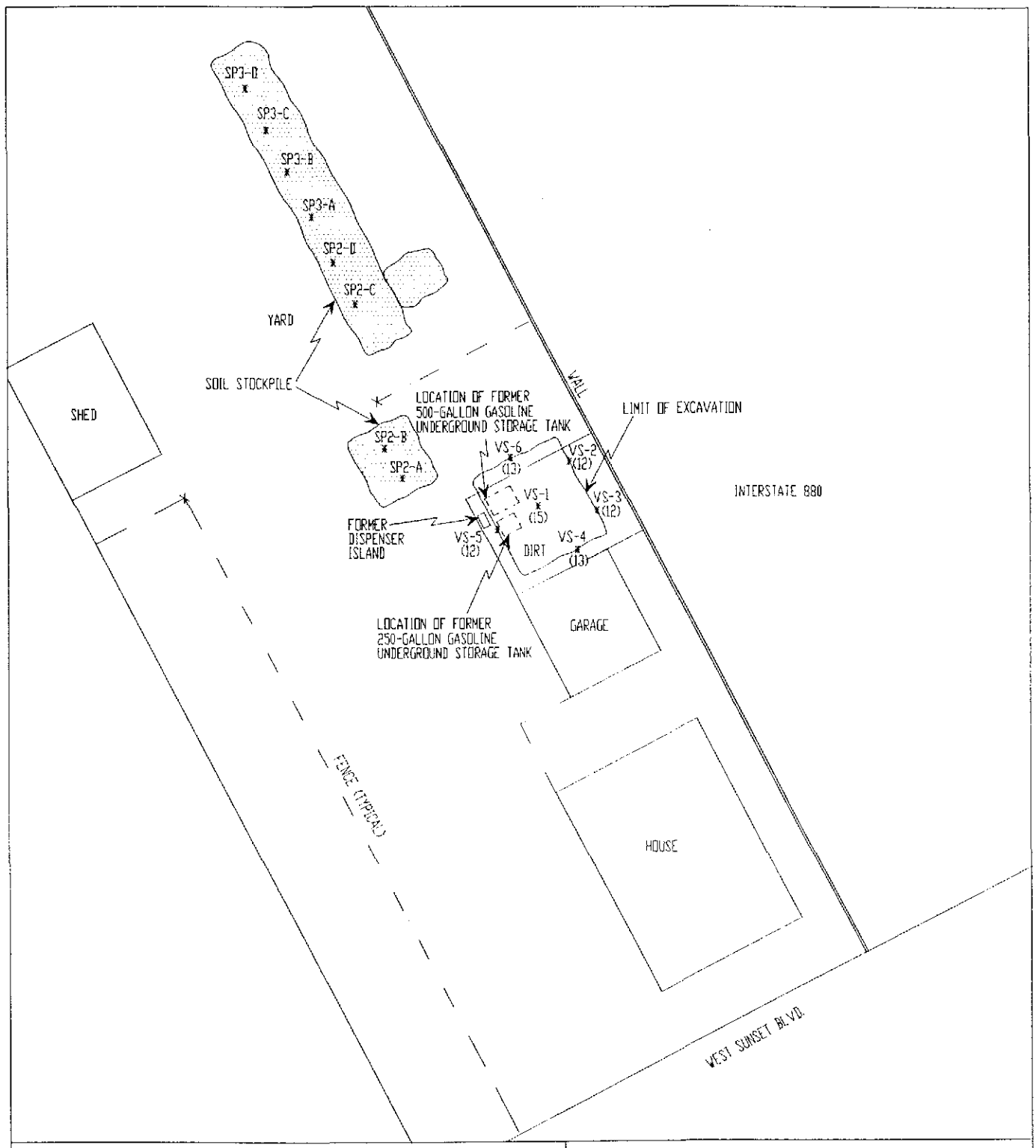
REFERENCE: USGS 7.5 MINUTE
SERIES QUADRANGLE MAP 1959
HAYWARD & SAN LEANDRO, CALIFORNIA
PHOTOREVISED 1980

TANK PROTECT ENGINEERING

SITE VICINITY MAP

RAS-CO MANUFACTURING CO.
413 W. SUNSET BLVD.
HAYWARD, CA 94541

| | |
|---|---|
| DATE | 1/30/96 |
| FIGURE | 1 |
| FILE # | 329-N |
| DRAWN BY | VK |
| CHECKED BY | LNH |




LEGEND

VS-1 * (12) NAME, LOCATION, AND DEPTH OF SOIL SAMPLE

SP2-A * NAME AND LOCATION OF STOCKPILE SOIL SAMPLE

-N-

0 30

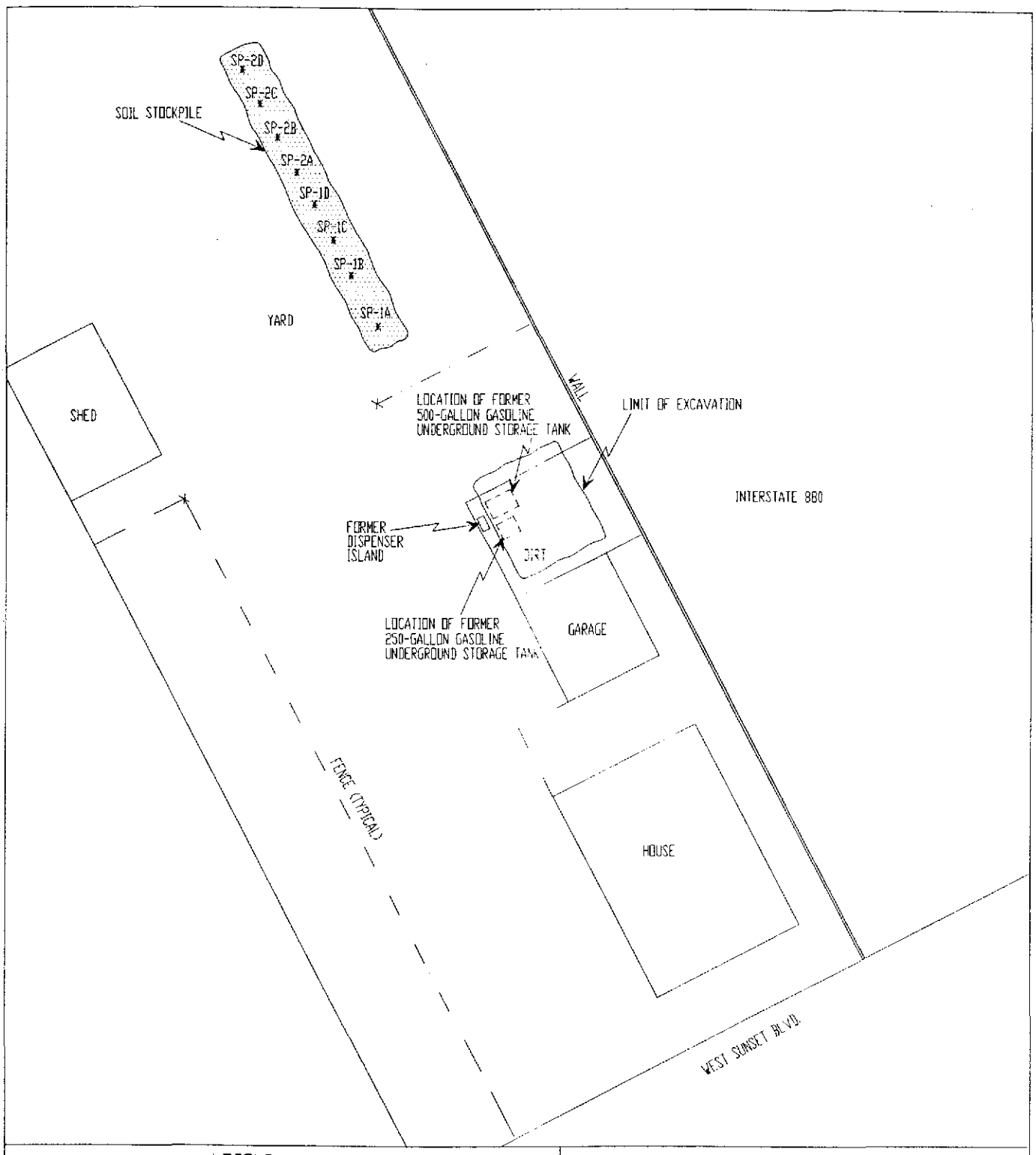
APPROXIMATE SCALE IN FEET

# TANK PROTECT ENGINEERING

SITE PLAN:
VERIFICATION & STOCKPILE SAMPLING
(3/30 AND 3/31/95)

RAS-CO MANUFACTURING CO.
413 W. SUNSET BLVD.
HAYWARD, CA 94541

| | |
|---|---|
| DATE | 1/30/96 |
| FIGURE | 2 |
| FILE # | 329-ON |
| DRAWN BY | VK |
| CHECKED BY | LNH |




LEGEND

SP-2A * NAME AND LOCATION OF STOCKPILE SOIL SAMPLE

-N-

0 30

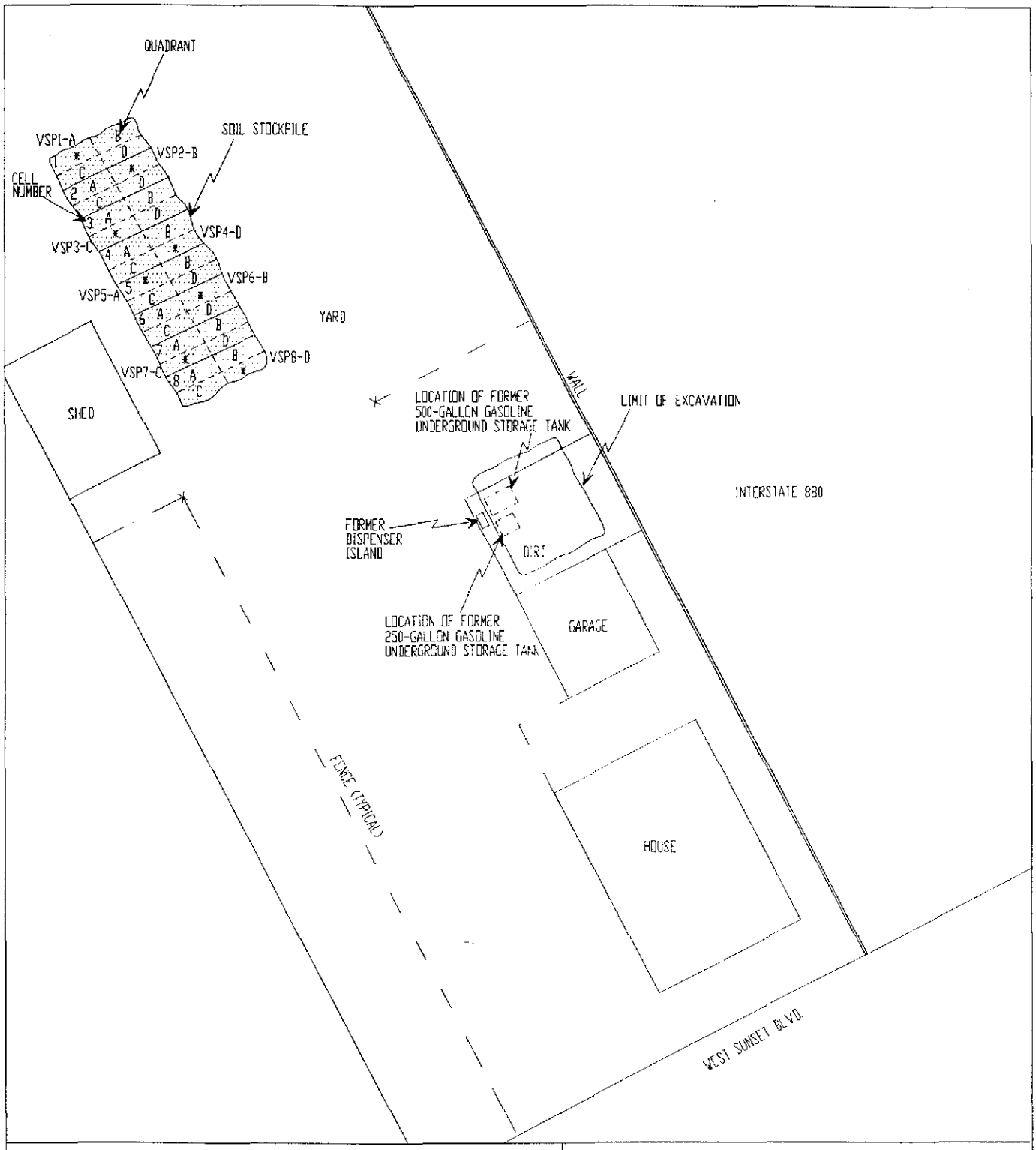
APPROXIMATE SCALE IN FEET

# TANK PROTECT ENGINEERING

SITE PLAN:
STOCKPILE SAMPLING
(5/2/95)

RAS-CO MANUFACTURING CO.
413 W. SUNSET BLVD.
HAYWARD, CA 94541

| | |
|---|---|
| DATE | 1/30/96 |
| FIGURE | 3 |
| FILE # | 329-1N |
| DRAWN BY | VK |
| CHECKED BY | LNH |




LEGEND

VSP1-A * NAME AND LOCATION OF STOCKPILE SOIL SAMPLE

-N-

0 30

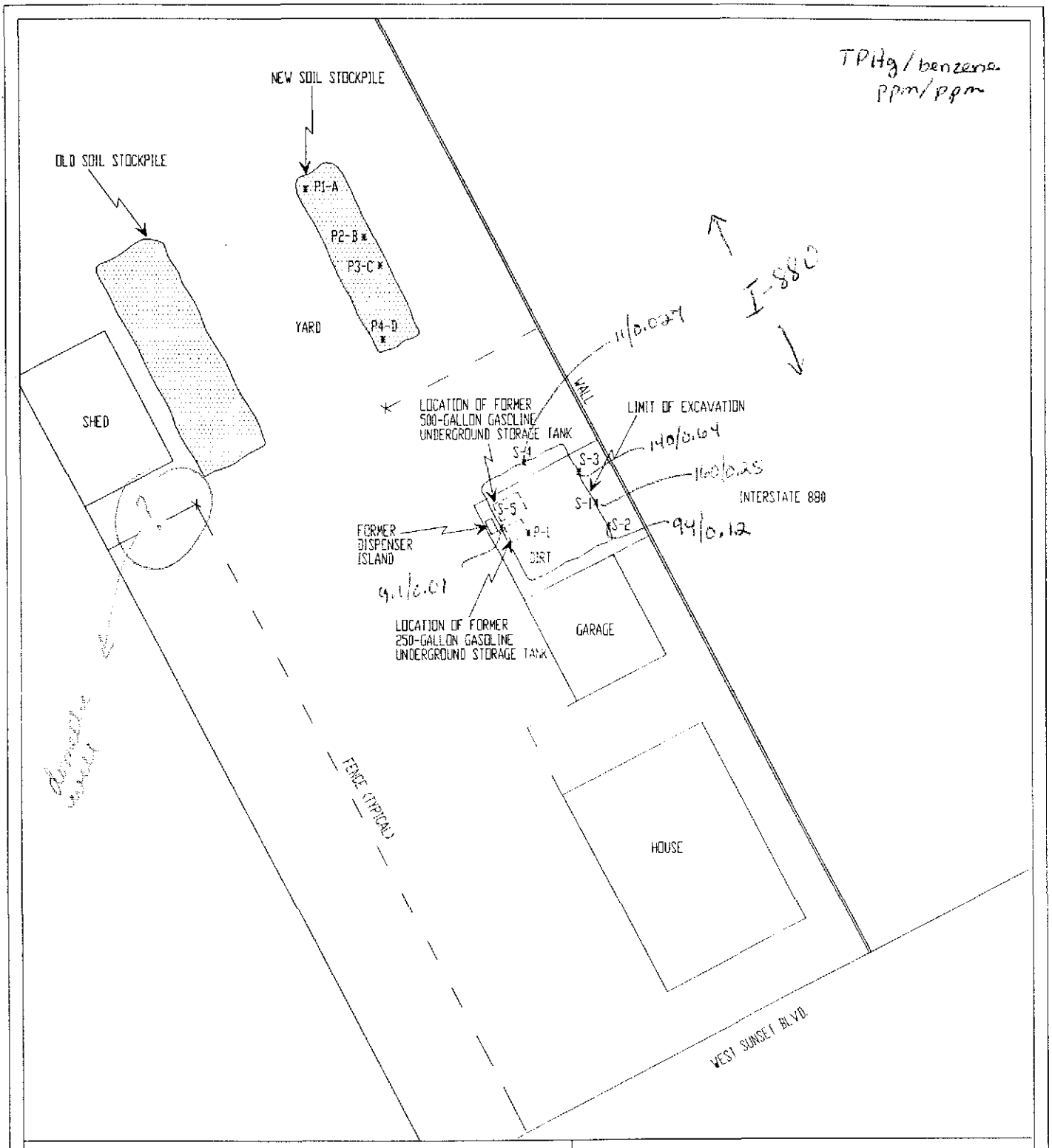
APPROXIMATE SCALE IN FEET

# TANK PROTECT ENGINEERING

SITE PLAN:
VERIFICATION STOCKPILE SAMPLING
(6/5/95)

RAS-CO MANUFACTURING CO.
413 W. SUNSET BLVD.
HAYWARD, CA 94541

| | |
|---|---|
| DATE | 1/30/96 |
| FIGURE | 4 |
| FILE # | 329-2N |
| DRAWN BY | VK |
| CHECKED BY | LNH |




## LEGEND

S-1 * NAME AND LOCATION OF SOIL SAMPLE

P-1 * NAME AND LOCATION OF WATER SAMPLE

-N-

0 30

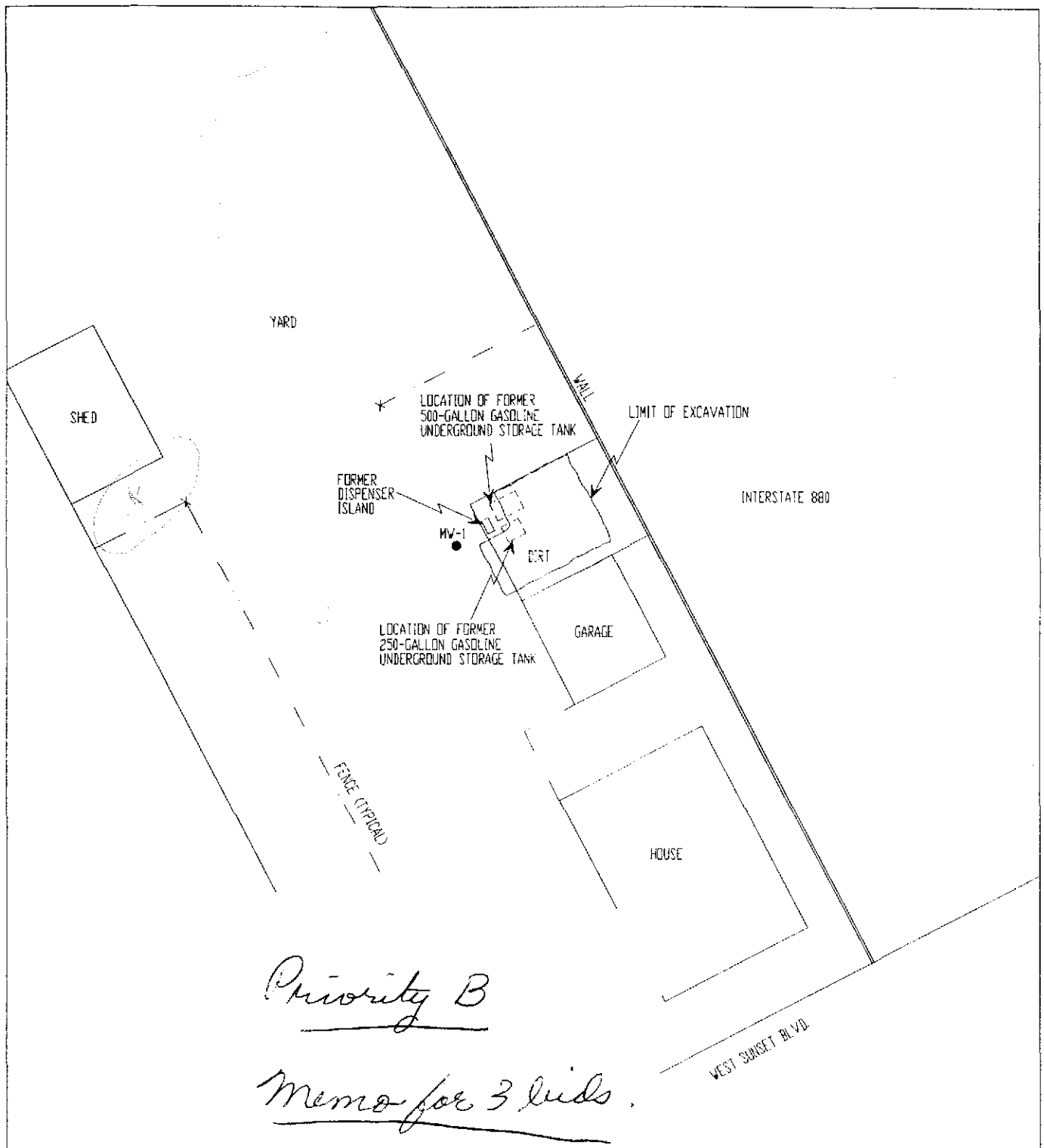
APPROXIMATE SCALE IN FEET

# TANK PROTECT ENGINEERING

SITE PLAN:
VERIFICATION & STOCKPILE SAMPLING
(6/12/95)

RAS-CO MANUFACTURING CO.
413 W. SUNSET BLVD.
HAYWARD, CA 94541

| | |
|---|---|
| DATE | 1/30/96 |
| FIGURE | 5 |
| FILE # | 329-3N |
| DRAWN BY | VK |
| CHECKED BY | LNH |




Priority B

Memo for 3 bids.

MW-1 ● NAME AND LO
GROUNDWATER

TANK PROTECT ENGINEERING

SITE PLAN:
SED GROUNDWATER MONITORING WELL LOCATION MAP

APPROXIMATE
SCALE IN FEET

MANUFACTURING CO.
415 W. SUNSET BLVD.
HAYWARD, CA 94541

| | |
|---|---|
| DATE | 1/30/96 |
| FIGURE | 7 |
| FILE # | 329-6N |
| DRAWN BY | VK |
| CHECKED BY | LNH |

TABLE 1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
(ppm[1])

| Sample ID Name | Date | Depth (Feet) | TPHG | Benzene | Toluene | Ethyl-benzene | Xylenes | Organic Lead |
|---|---|---|---|---|---|---|---|---|
| SP2-A,B,C,D | 03/30/95 | 3.0 | 8,500 | 5.7 | 84 | 40 | 500 | NA[2] |
| SP3-A,B,C,D | 03/30/95 | 2.5 | 7,900 | <.005 | 88 | 54 | 450 | NA |
| VS-1 | 03/31/95 | 15.5 | 6,700 | 13 | 190 | 190 | 550 | NA |
| VS-2 | 03/31/95 | 12.0 | 7,200 | 8.4 | 200 | 180 | 570 | NA |
| VS-3 | 03/31/95 | 12.0 | 9,800 | 10 | 180 | 180 | 510 | NA |
| VS-4 | 03/31/95 | 13.0 | <.500 | <.005 | <.005 | <.005 | <.015 | NA |
| VS-5 | 03/31/95 | 12.0 | <.500 | <.005 | <.005 | <.005 | <.015 | NA |
| VS-6 | 03/31/95 | 13.0 | <.500 | <.005 | <.005 | <.005 | <.015 | NA |
| SP-1A,1B,1C,1D | 05/02/95 | 1.5 | 69 | .010 | .066 | .092 | .370 | <1.7 |
| SP-2A,2B,2C,2D | 05/02/95 | 1.5 | 73 | <.150 | <.150 | .150 | .660 | NA |
| VSP 1-A | 06/05/95 | 1.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |
| VSP 2-B | 06/05/95 | 1.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |
| VSP 3-C | 06/05/95 | 1.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |
| VSP 4-D | 06/05/95 | 1.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |
| VSP 5-A | 06/05/95 | 1.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |
| VSP 6-B | 06/05/95 | 1.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |
| VSP 7-C | 06/05/95 | 1.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |
| VSP 8-D | 06/05/95 | 1.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |
| P-1A,1B,1C,1D | 06/09/95 | 1.5 | 190 | .430 | 1.2 | .900 | 2.3 | NA |
| S-1 | 06/09/95 | 15.0 | 160 | .250 | .610 | .450 | 2.0 | NA |
| S-2 | 06/09/95 | 20.0 | 94 | .120 | .420 | .440 | 1.6 | NA |
| S-3 | 06/09/95 | 20.0 | 140 | .640 | .990 | .220 | 1.5 | NA |
| S-4 | 06/09/95 | 20.0 | 11 | .027 | .045 | .024 | .240 | NA |
| S-5 | 06/09/95 | 21.0 | 9.1 | .010 | .029 | .023 | .200 | NA |
| VSP 10A | 10/03/95 | 1.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |
| VSP 11B | 10/03/95 | 2.0 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |
| VSP 12C | 10/03/95 | 2.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |

TABLE 1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
(ppm[1])

| Sample ID Name | Date | Depth (Feet) | TPHG | Benzene | Toluene | Ethyl-benzene | Xylenes | Organic Lead |
|---|---|---|---|---|---|---|---|---|
| VSP 13D | 10/03/95 | 1.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |
| VSP 14D (14B?) | 10/03/95 | 2.0 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA |

[1] PARTS PER MILLION
[2] NOT ANALYZED

TABLE 2
SUMMARY OF WATER SAMPLE ANALYTICAL RESULTS
(ppb[1])

| Sample ID Name | Date | TPHG | Benzene | Toluene | Ethyl-benzene | Xylenes |
|---|---|---|---|---|---|---|
| S-1 | 06/12/95 | 10,000 | 35 | 45 | 19 | 88 |

[1] PARTS PER BILLION

# APPENDIX A

- ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY, DECEMBER 22, 1994 LETTER
- ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH, HAZARDOUS MATERIALS INSPECTION FORM

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program

**Alameda County Environmental Health**
**Environmental Protection Division**
**1131 Harbor Bay Parkway, Rm. 250**
**Alameda, CA 94502-6577 CC:430-4510**

StId #4118

December 22, 1994

Oscar Lang
Ras-Co Manufacturing
413 W Sunset Blvd
Hayward CA 94541

Subject: Tank Closure Report and Workplan for investigations at 413 W Sunset Blvd, Hayward, CA 94541

Dear Mr. Lang:

This office has reviewed Tank Protect Engineering's Tank Closure Report and Workplan dated December 16, 1994.

The Tank Closure Report and Workplan are acceptable. Please be aware, however, the workplan submitted addresses only soil and **not** groundwater investigations. Information obtained from the soil investigation will assist in determining groundwater investigative action.

If you have questions please call me at (510)567-6755. Also, please notify this office at least 48 hours before work begins.

Sincerely,

Amy Leech

cc: Louis Travis III
Tank Protect Engineering
of Norther California, Inc.
2821 Whipple Rd
Union City CA 94587

Ed Howell:File(ALL)

white -env.health
yellow -facility
pink -files

# ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

## Hazardous Materials Inspection Form

1131 Harbor Bay Pkwy
Alameda CA 94502
510/567-6700

II, III

Site ID # _____ Site Name Rasco Today's Date 6/12/95

Site Address 413 W Sunset

City Hayward Zip 94 Phone _____

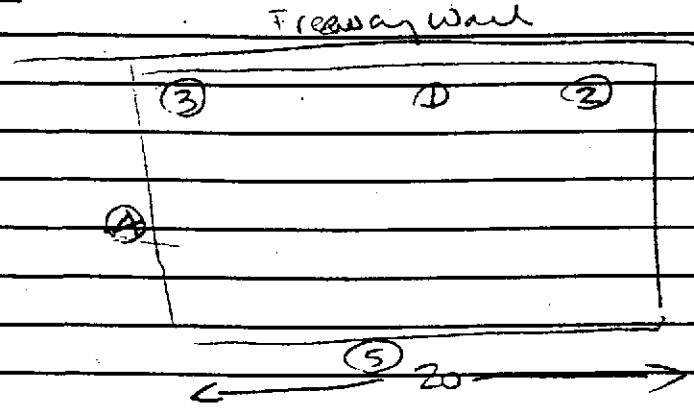
_____ MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

**Inspection Categories:**

_____ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
_____ II. Hazardous Materials Business Plan, Acutely Hazardous Materials
_____ III. Underground Storage Tanks ovorexc. Sampling

* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

**Comments:**




① SS at ~ 15' stringy sand - sl. odor. no staining

② SS at ~ 20' sandy clay - sl. discoloration - sl. odor

③ SS at ~ 20' sandy clay - sl staining, sl odor

④ SS at ~ 20' sandy clay - sl odor, no stain. → not gasoline.

⑤ SS at ~ 21' sandy clay - sl odor - no stain

Analyze for TPH-G and BTEX.

II, III

Contact MARIC RIVARNEY
Title GEOLOGIST
Signature _____

Inspector Eva Chu
Signature _____

# APPENDIX B

## SAMPLE HANDLING PROCEDURES

# APPENDIX B

## SAMPLE HANDLING PROCEDURES

Soil and groundwater samples will be packaged carefully to avoid breakage or contamination and will be delivered to the laboratory in an iced-cooler. The following sample packaging requirements will be followed.

- Sample bottle/sleeve lids will not be mixed. All sample lids will stay with the original containers and have custody seals affixed to them.

- Samples will be secured in coolers to maintain custody, control temperature and prevent breakage during transportation to the laboratory.

- A chain-of-custody form will be completed for all samples and accompany the sample cooler to the laboratory.

- Ice, blue ice or dry ice (dry ice will be used for preserving soil samples collected for the Alameda County Water District) will be used to cool samples during transport to the laboratory.

- Water samples will be cooled with crushed ice. In the Alameda County Water District, water samples will be buried in the crushed ice with a thermometer, and the laboratory will be requested to record thermometer temperature at the time of receipt.

- Each sample will be identified by affixing a pressure sensitive, gummed label or standardized tag on the container(s). This label will contain the site identification, sample identification number, date and time of sample collection and the collector's initials.

- Soil samples collected in brass tubes will be preserved by covering the ends with Teflon tape and capping with plastic end-caps. The tubes will

be labeled, sealed in quart size bags and placed in an iced-cooler for transport to the laboratory.

All groundwater sample containers will be precleaned and will be obtained from a State Department of Health Services certified analytical laboratory.

Sample Control/Chain-of-Custody: All field personnel will refer to this workplan to verify the methods to be employed during sample collection. All sample gathering activities will be recorded in the site file; all sample transfers will be documented in the chain-of-custody; samples will be identified with labels; all sample bottles will be custody-sealed. All information is to be recorded in waterproof ink. All TPE field personnel are personally responsible for sample collection and the care and custody of collected samples until the samples are transferred or properly dispatched.

The custody record will be completed by the field technician or professional who has been designated by the TPE project manager as being responsible for sample shipment to the appropriate laboratory. The custody record will include, among other things, the following information: site identification, name of person collecting the samples, date and time samples were collected, type of sampling conducted (composite/grab), location of sampling station, number and type of containers used and signature of the TPE person relinquishing samples to a non-TPE person with the date and time of transfer noted. The relinquishing individual will also put all the specific shipping data on the custody record.

Records will be maintained by a designated TPE field employee for each sample: site identification, sampling location, station number, date, time, sampler's name, designation of the sample as a grab or composite, notation of the type of sample (e.g., groundwater, soil boring, etc.), preservatives used, onsite measurement data and other observations or remarks.

# APPENDIX C

## WASTE HANDLING AND DECONTAMINATION PROCEDURES

# APPENDIX C

## WASTE HANDLING AND DECONTAMINATION PROCEDURES

Decontamination: Any drilling, sampling or field measurement equipment that comes into contact with soil or groundwater will be properly decontaminated prior to its use at the site and after each incident of contact with the soil or groundwater being investigated. Proper decontamination is essential to obtain samples that are representative of environmental conditions and to accurately characterize the extent of soil and groundwater contamination. Hollow-stem auger flights and the drill bit will be steam-cleaned between the drilling of each well.

All sample equipment, including the split-spoon sampler and brass tubes, will be cleaned by washing with trisodium phosphate or alconox detergent, followed by rinsing with tap water. Where required by specific regulatory guidelines, a nonphosphate detergent will be used.

Waste Handling: Waste materials generated during site characterization activities will be handled and stored as hazardous waste and will be stored on site in appropriately labeled containers. Waste materials anticipated include excavated soil, drill cuttings, development and purge water, water generated during aquifer testing, water generated during decontamination and used personnel protection equipment such as gloves and Tyvek. The site owner will be responsible for providing the storage containers and will be responsible for the disposal of the waste materials. Drill cuttings from individual borings will be stored separately in drums or covered by plastic sheeting, and the appropriate disposal procedure will be determined by the site owner or TPE following receipt of the soil sample analytical results. Drums will be labeled to show material stored, known or suggested contaminant, date stored, expected removal date, company name, contact and telephone number.

# APPENDIX D

## QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

# APPENDIX D

## QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

The overall objectives of the field sampling program include generation of reliable data that will support development of a remedial action plan. Sample quality will be checked by the use of proper sampling, handling and testing methods. Additional sample quality control methods may include the use of background samples, equipment rinsate samples and trip and field blanks. Chain-of-custody forms, use of a qualified laboratory, acceptable detection limits and proper sample preservation and holding times also provide assurance of accurate analytical data.

TPE will follow a quality assurance and quality control (QA/QC) program in the field to ensure that all samples collected and field measurements taken are representative of actual field and environmental conditions and that data obtained are accurate and reproducible. These activities and laboratory QA/QC procedures are described below.

Field Samples: Additional samples may be taken in the field to evaluate both sampling and analytical methods. Three basic categories of QA/QC samples that may be collected are trip blanks, field blanks and duplicate samples.

Trip blanks are a check for cross-contamination during sample collection, shipment, and laboratory analysis. They are water samples that remain with the collected samples during transportation and are analyzed along with the field samples to check for residual contamination. Analytically confirmed organic-free water will be used for organic parameters and deionized water for metal parameters. Blanks will be prepared by the laboratory supplying the sample containers. The blanks will be numbered, packaged and sealed in the same manner as the other samples. One trip blank will be used for each sample set of less than 20 samples. At least 5% blanks will be used for sets greater than 20 samples. The trip blank is not to be opened by either the sample collectors or the handlers.

The field blank is a water sample that is taken into the field and is opened and exposed at the sampling point to detect contamination from air exposure. The water

sample is poured into appropriate containers to simulate actual sampling conditions. Contamination due to air exposure can vary considerably from site to site.

The laboratory will not be informed about the presence of trip and field blanks, and false identifying numbers will be put on the labels. Full documentation of these collection and decoy procedures will be made in the site log book.

Duplicate samples are identical sample pairs (collected in the same place and at the same time), placed in identical containers. For soils, adjacent sample liners will be analyzed. For the purpose of data reporting, one is arbitrarily designated the sample, and the other is designated as a duplicate sample. Both sets of results are reported to give an indication of the precision of sampling and analytical methods.

The laboratory's precision will be assessed without the laboratory's knowledge by labeling one of the duplicates with false identifying information. Data quality will be evaluated on the basis of the duplicate results.

Laboratory QA/QC: Execution of a strict QA/QC program is an essential ingredient in high-quality analytical results. By using accredited laboratory techniques and analytical procedures, estimates of the experimental values can be very close to the actual value of the environmental sample. The experimental value is monitored for its precision and accuracy by performing QC tests designed to measure the amount of random and systematic errors and to signal when correction of these errors is needed.

The QA/QC program describes methods for performing QC tests. These methods involve analyzing method blanks, calibration standards, check standards (both independent and the United States Environmental Protection Agency-certified standards), duplicates, replicates and sample spikes. Internal QC also requires adherence to written methods, procedural documentation and the observance of good laboratory practices.

# APPENDIX E

## CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

# Hull Development Labs, Inc.

**Tank Protect Engineering**
**2821 Whipple Road**
**Union City, CA 94587**
**Attn: Lee Huchins**

| | |
|---|---|
| Date: | 04/17/95 |
| Date Received: | 04/04/95 |
| Date Analyzed: | 04/11/95 |
| Lab #: | See Table |
| P.O. #: | 1027 |
| Sampled By: | Client |

## Certified Analytical Report

**Soil Sample Analysis:**

| Sample ID | Sample Date | Lab # | DF | TPH-Gas | Benzene | Toluene | Ethyl Benzene | Xylene |
|---|---|---|---|---|---|---|---|---|
| Composite of SP2-A,B,C&D | 3/30/95 | B3896 | 5000 | **8,500** | **5.7** | **84** | **40** | **500** |
| Composite of SP3-A,B,C&D | 3/30/95 | B3897 | 2000 | **7,900** | **ND** | **88** | **54** | **450** |

1. Analysis performed by Hull Development Labs, Inc. (CAELAP #1369)
2. PQL=Dilution Factor x MDL

**Summary of Methods and Detection Limits:**

| Test | TPH-Gas | Benzene | Toluene | Ethylbenzene | Xylenes |
|---|---|---|---|---|---|
| EPA Method # | 8015M | 8020 | 8020 | 8020 | 8020 |
| Units | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| MDL | 1.0 mg/kg | 0.005 mg/kg | 0.005 mg/kg | 0.005 mg/kg | 0.005 mg/kg |

Michael N. Golden, Lab Director

DF=Dilution Factor
MDL=Method Detection Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above PQL

HULL DEVELOPMENT LABS INC.
1149 Minnesota ave
San Jose. CA 95125

## QUALITY CONTROL RESULTS SUMMARY
## FOR GASOLINE ANALYSIS

GASOLINE
QC sample No.: BLANK SPIKE & DUP  Date analyzed: 04-05-95

Matrix: WATER

Units: ug/L  Dilution factor: 1

| COMPOUND | SA ug/L | SR ug/L | MS ug/L | MS PR | MSD ug/L | MSD PR | RPD | QC LIMITS (ADVISORY) RPD | QC LIMITS (ADVISORY) PR |
|---|---|---|---|---|---|---|---|---|---|
| GASOLINE | 311 | 0 | 333 | 107 | 323 | 104 | 3 | 25 | 50-150 |

MS = Spike sample
MSD = Spike sample duplicate
SR = Sample result
SA = Spike added

NC = Not calculated
** = Out of limits

RPD = 100 x (MS-MSD)/((MS+MSD)/2)

PR = 100 x ((MS or MSD) - SR)/SA

HULL DEVELOPMENT LABS INC.
1149 Minnesota ave
San Jose. CA 95125

# QUALITY CONTROL RESULTS SUMMARY
## BTEX

QC sample No.: BLANK SPIKE & DUP  Date analyzed: 04-05-95

Matrix: WATER

Units: ug/L  Dilution factor: 1

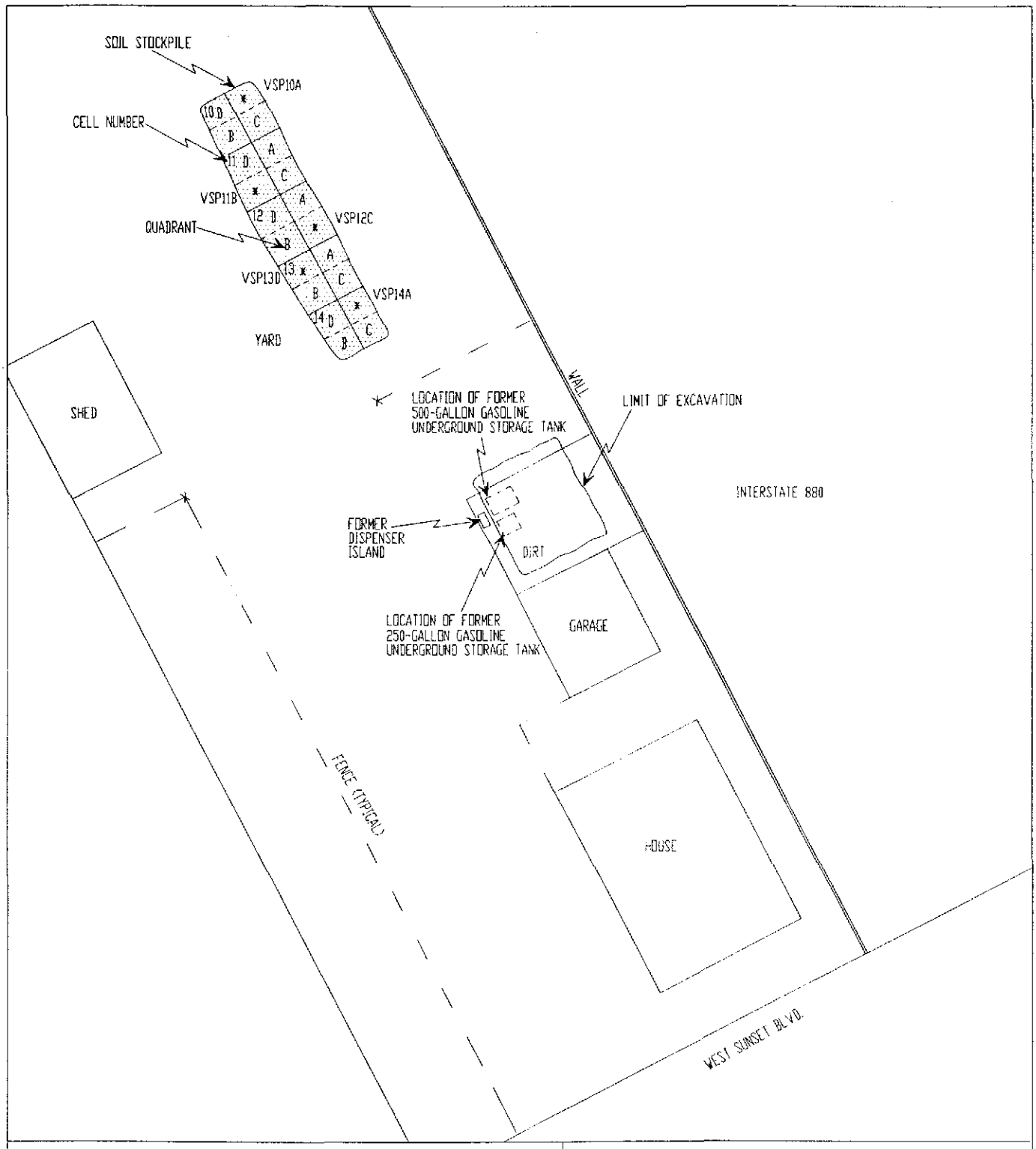
| COMPOUND | SA ug/L | SR ug/L | MS ug/L | MS PR | MSD ug/L | MSD PR | RPD | QC LIMITS (ADVISORY) RPD | QC LIMITS (ADVISORY) PR |
|---|---|---|---|---|---|---|---|---|---|
| BENZENE | 20 | 0 | 20 | 100 | 20 | 100 | 0 | 25 | 50-150 |
| TOLUENE | 20 | 0 | 18 | 90 | 18 | 90 | 0 | 25 | 50-150 |

MS = Spike sample
MSD = Spike sample duplicate
SR = Sample result
SA = Spike added

NC = Not calculated
** = Out of limits

RPD = 100 x (MS-MSD)/((MS+MSD)/2)

PR = 100 x ((MS or MSD) - SR)/SA




LEGEND

VSP10A * NAME AND LOCATION OF STOCKPILE SOIL SAMPLE

-N-

0 30

APPROXIMATE SCALE IN FEET

# TANK PROTECT ENGINEERING

SITE PLAN:
VERIFICATION STOCKPILE SAMPLING
(10/3/95)

RAS-CO MANUFACTURING CO.
413 W. SUNSET BLVD.
HAYWARD, CA 94541

| | |
|---|---|
| DATE | 1/30/96 |
| FIGURE | 6 |
| FILE # | 329-4N |
| DRAWN BY | VK |
| CHECKED BY | LNH |

TANK PROTECT ENGINEERING
2821 WHIPPLE ROAD
UNION CITY, CA 94587
(415)429-8088
(800)523-8088
FAX(415)429-8089

LAB: Hull Development

TURNAROUND: _____

P.O. #: 1027

PAGE 1 OF 1

# CHAIN OF CUSTODY

PROJECT NO.: 329033095

SITE NAME & ADDRESS: RASCO 413 W. Sunset

SAMPLER NAME, ADDRESS, AND TELEPHONE NUMBER: Lee Huckins, 2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088

| ID NO. | DATE | TIME | SOIL | WATER | SAMPLING LOCATION | (1) TYPE OF CONTAINER | TOTAL LIGHT HC | AROMATIC HC (BTX) | TOTAL HEAVY HC | OIL & GREASE | VOC SCAN (624's) | OTHER | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SP [redacted]2-A | 3/30 | 1640 | X | | 3.0 | Brass | X | X | | | | | Composite into 1 sample B3896 |
| SP [redacted]2-B | | 1640 | X | | 3.0 | | X | X | | | | | |
| SP [redacted]2-C | | 1642 | X | | 3.0 | | X | X | | | | | |
| SP [redacted]2-D | | 1642 | X | | 3.0 | | X | X | | | | | |
| SP [redacted]3-A | | 1650 | X | | [redacted] 2.5 | | X | X | | | | | Composite into 1 sample B3897 |
| SP [redacted]3-B | | 1650 | X | | [redacted] 2.5 | | X | X | | | | | |
| SP [redacted]3-C | | 1652 | X | | [redacted] 2.5 | | X | X | | | | | |
| SP [redacted]3-D | | 1652 | X | | [redacted] 2.5 | | X | X | | | | | |

| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
|---|---|---|---|---|---|
| Lee Huckins | 4/4/95 2:30 | [signature] | [signature] | 4/4/95 2:37 | |
| [signature] | 4/4/95 2:35 | | | | |
| Relinquished by : (Signature) | Date / Time | Received for Laboratory by: (Signature) | Date / Time | Remarks | |
| | | | | | |

DATE: 4-4-95

**Trace Analysis Laboratory, Inc.**
3423 Investment Boulevard, #8 • Hayward, California 94545
Telephone (510) 783-6960
Facsimile (510) 783-1512

TAL

April 17, 1995

Mr. Jeff Farhoomand
Tank Protect Engineering
2821 Whipple Road
Union City, California 94587

Dear Mr. Farhoomand:

Trace Analysis Laboratory received six soil samples on April 4, 1995 for your Project No. 329-033195, Rasco, 413 West Sunset (our custody log number 5386).

These samples were analyzed for Total Petroleum Hydrocarbons as Gasoline, Benzene, Toluene, Ethylbenzene, and Xylenes. Our analytical report and the completed chain of custody form are enclosed for your review.

Trace Analysis Laboratory is certified under the California Environmental Laboratory Accreditation Program. Our certification number is 1199.

If you should have any questions or require additional information, please call me.

Sincerely yours,

Scott T. Ferriman
Project Specialist

Enclosures

**Trace Analysis Laboratory, Inc.**
3423 Investment Boulevard, #8 • Hayward, California 94545
Telephone (510) 783-6960
Facsimile (510) 783-1512

TAL

LOG NUMBER: 5386
DATE SAMPLED: 03/31/95
DATE RECEIVED: 04/04/95
DATE EXTRACTED: 04/12/95
DATE ANALYZED: 04/13/95 and 04/14/95
DATE REPORTED: 04/17/95

CUSTOMER: Tank Protect Engineering

REQUESTER: Jeff Farhoomand

PROJECT: No. 329-033195, Rasco 413 West Sunset

Sample Type: Soil

| Method and Constituent: | Units | VS-1 Concentration | VS-1 Reporting Limit | VS-2 Concentration | VS-2 Reporting Limit | VS-3 Concentration | VS-3 Reporting Limit |
|---|---|---|---|---|---|---|---|
| DHS Method: | | | | | | | |
| Total Petroleum Hydrocarbons as Gasoline | ug/kg | 6,700,000 | 71,000 | 7,200,000 | 74,000 | 9,800,000 | 67,000 |
| Modified EPA Method 8020 for: | | | | | | | |
| Benzene | ug/kg | 13,000 | 1,400 | 8,400 | 1,500 | 10,000 | 1,300 |
| Toluene | ug/kg | 190,000 | 1,400 | 200,000 | 1,500 | 180,000 | 1,300 |
| Ethylbenzene | ug/kg | 190,000 | 1,400 | 180,000 | 1,500 | 180,000 | 1,300 |
| Xylenes | ug/kg | 550,000 | 4,300 | 570,000 | 4,500 | 510,000 | 4,000 |

| Method and Constituent: | Units | VS-4 Concentration | VS-4 Reporting Limit | VS-5 Concentration | VS-5 Reporting Limit | VS-6 Concentration | VS-6 Reporting Limit |
|---|---|---|---|---|---|---|---|
| DHS Method: | | | | | | | |
| Total Petroleum Hydrocarbons as Gasoline | ug/kg | ND | 500 | ND | 500 | ND | 500 |
| Modified EPA Method 8020 for: | | | | | | | |
| Benzene | ug/kg | ND | 5.0 | ND | 5.0 | ND | 5.0 |
| Toluene | ug/kg | ND | 5.0 | ND | 5.0 | ND | 5.0 |
| Ethylbenzene | ug/kg | ND | 5.0 | ND | 5.0 | ND | 5.0 |
| Xylenes | ug/kg | ND | 15 | ND | 15 | ND | 15 |

Concentrations reported as ND were not detected at or above the reporting limit.

LOG NUMBER: 5386
DATE SAMPLED: 03/31/95
DATE RECEIVED: 04/04/95
DATE EXTRACTED: 04/12/95
DATE ANALYZED: 04/13/95 and 04/14/95
DATE REPORTED: 04/17/95
PAGE: Two

Sample Type: Soil

| Method and Constituent: | Units | Method Blank Concentration | Method Blank Reporting Limit |
|---|---|---|---|
| DHS Method: | | | |
| Total Petroleum Hydrocarbons as Gasoline | ug/kg | ND | 500 |
| Modified EPA Method 8020 for: | | | |
| Benzene | ug/kg | ND | 5.0 |
| Toluene | ug/kg | ND | 5.0 |
| Ethylbenzene | ug/kg | ND | 5.0 |
| Xylenes | ug/kg | ND | 15 |

QC Summary:

% Recovery: 89
% RPD: 1.6

Concentrations reported as ND were not detected at or above the reporting limit.

Louis W. DuPuis
Quality Assurance/Quality Control Manager

5386

TANK PROTECT ENGINEERING
2821 WHIPPLE ROAD
UNION CITY, CA 94587
(415)429-8088
(800)523-8088
FAX(415)429-8089

LAB: TAL

TURNAROUND: 15 day

P.O. #: 1028

PAGE 1 OF 1

# CHAIN OF CUSTODY

| PROJECT NO. | SITE NAME & ADDRESS |
|---|---|
| 329033195 | RASCO 413 W Sunset |

SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER
Lee Hudkins
2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088

| ID NO. | DATE | TIME | SOIL | WATER | SAMPLING LOCATION | (1) TYPE OF CONTAINER | TOTAL LIGHT HC | AROMATIC HC (BTX) | TOTAL HEAVY HC | OIL & GREASE | VOC SCAN (624's) | OTHER | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VS-1 | 3/31 | 9:50 | X | | 15.5' | Brass | X | X | | | | | |
| VS-2 | 3/31 | 10:05 | X | | 12.0 | | X | X | | | | | |
| VS-3 | 3/31 | 10:15 | X | | 12.0 | | X | X | | | | | |
| VS-4 | 3/31 | 1028 | X | | 13.0 | | X | X | | | | | |
| VS-5 | 3/31 | 1055 | X | | 17.0 | | X | X | | | | | |
| VS-6 | 3/31 | 11:10 | X | | 13.5 | | ✓ | X | | | | | |
| | | | | | | | X | X | | | | | |
| | | | | | | | | C | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
|---|---|---|---|---|---|
| Lee Hudkins | 4/4/95 10:00 | | | 4/4/95 2:30 | |
| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
| | | | | | |
| Relinquished by : (Signature) | Date / Time | Received for Laboratory by: [Signature] | Date / Time | Remarks | |
| | | | 4/4/95 2:30 p.m. | | |

P/u, Soil, 1-DT each, on ice, Y-1, Reg

DATE: 4-4-95

**Trace Analysis Laboratory, Inc.**
3423 Investment Boulevard, #8 • Hayward, California 94545
Telephone (510) 783-6960
Facsimile (510) 783-1512

TAL

May 16, 1995

Mr. Jeff Farhoomand
Tank Protect Engineering
2821 Whipple Road
Union City, California 94587

Dear Mr. Farhoomand:

Trace Analysis Laboratory received eight soil samples on May 2, 1995 for your Project No. 329, Rasco Manufacturing, 413 West Sunset Boulevard (our custody log number 5474A).

Four of these samples were composited and analyzed for Total Petroleum Hydrocarbons as Gasoline, Benzene, Toluene, Ethylbenzene, Xylenes, and Organic Lead. Our analytical report and the completed chain of custody form are enclosed for your review.

Trace Analysis Laboratory is certified under the California Environmental Laboratory Accreditation Program. Our certification number is 1199.

If you should have any questions or require additional information, please call me.

Sincerely yours,

Scott T. Ferriman
Project Specialist

Enclosures

**Trace Analysis Laboratory, Inc.**
3423 Investment Boulevard, #8 • Hayward, California 94545
Telephone (510) 783-6960
Facsimile (510) 783-1512

TAL

LOG NUMBER: 5474
DATE SAMPLED: 05/02/95
DATE RECEIVED: 05/02/95
DATE EXTRACTED: 05/02/95
DATE ANALYZED: 05/03/95
DATE REPORTED: 05/05/95

CUSTOMER: Tank Protect Engineering

REQUESTER: Jeff Farhoomand

PROJECT: No. 329, Rasco Manufacturing, 413 West Sunset Boulevard

Sample Type: Soil

| Method and Constituent: | Units | Composite of SP-1A,1B,1C,and 1D Concentration | Composite of SP-1A,1B,1C,and 1D Reporting Limit | Method Blank Concentration | Method Blank Reporting Limit |
|---|---|---|---|---|---|
| DHS Method: | | | | | |
| Total Petroleum Hydrocarbons as Gasoline | ug/kg | 69,000 | 3,500 | ND | 500 |
| Modified EPA Method 8020 for: | | | | | |
| Benzene | ug/kg | 10 | 5.0 | ND | 5.0 |
| Toluene | ug/kg | 66 | 5.0 | ND | 5.0 |
| Ethylbenzene | ug/kg | 92 | 5.0 | ND | 5.0 |
| Xylenes | ug/kg | 370 | 15 | ND | 15 |

QC Summary:

% Recovery: 91
% RPD: 17

Concentrations reported as ND were not detected at or above the reporting limit.

Louis W. DuPuis
Quality Assurance/Quality Control Manager

**Trace Analysis Laboratory, Inc.**
3423 Investment Boulevard, #8 • Hayward, California 94545
Telephone (510) 783-6960
Facsimile (510) 783-1512

TAL

LOG NUMBER: 5474A
DATE SAMPLED: 05/02/95
DATE RECEIVED: 05/02/95
DATE INITIATED: 05/04/95
DATE EXTRACTED: 05/09/95
DATE ANALYZED: 05/10/95
DATE REPORTED: 05/16/95

CUSTOMER: Tank Protect Engineering

REQUESTER: Jeff Farhoomand

PROJECT: No. 329, Rasco Manufacturing, 413 West Sunset Boulevard

Sample Type: Soil

| Method and Constituent: | Units | Composite of SP-2A,2B,2C,and 2D Concentration | Composite of SP-2A,2B,2C,and 2D Reporting Limit | Method Blank Concentration | Method Blank Reporting Limit |
|---|---|---|---|---|---|
| DHS Method: | | | | | |
| Total Petroleum Hydrocarbons as Gasoline | ug/kg | 73,000 | 7,400 | ND | 500 |
| Modified EPA Method 8020 for: | | | | | |
| Benzene | ug/kg | ND | 150 | ND | 5.0 |
| Toluene | ug/kg | ND | 150 | ND | 5.0 |
| Ethylbenzene | ug/kg | 150 | 150 | ND | 5.0 |
| Xylenes | ug/kg | 660 | 440 | ND | 15 |

QC Summary:

% Recovery: 71
% RPD: 0.2

Concentrations reported as ND were not detected at or above the reporting limit.

TAL Trace Analysis Laboratory, Inc.

LOG NUMBER: 5474A
DATE SAMPLED: 05/02/95
DATE RECEIVED: 05/02/95
DATE INITIATED: 05/04/95
DATE EXTRACTED: 05/10/95
DATE ANALYZED: 05/16/95
DATE REPORTED: 05/16/95
PAGE: Two

Sample Type: Soil

| Method and Constituent: | Units | Composite of SP-1A,1B,1C,and 1D Concentration | Composite of SP-1A,1B,1C,and 1D Reporting Limit | Method Blank Concentration | Method Blank Reporting Limit |
|---|---|---|---|---|---|
| DHS Method: | | | | | |
| Organic Lead | ug/kg | ND | 1,700 | ND | 1,700 |

QC Summary:

% Recovery: 105
% RPD: 2.7

Concentrations reported as ND were not detected at or above the reporting limit.

Louis W. DuPuis
Quality Assurance/Quality Control Manager

5474A

TANK PROTECT ENGINEERING
2821 WHIPPLE ROAD
UNION CITY, CA 94587
(415)429-8088
(800)523-8088
FAX(415)429-8089

LAB: TRACE

TURNAROUND: 5 ~~15~~ DAY

P.O. #: 0968

PAGE 1 OF 1

# CHAIN OF CUSTODY

PROJECT NO.: 329

SITE NAME & ADDRESS: RAS-CO MFG 413 W. SUNSET BLVD.

SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER: 2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088

| ID NO. | DATE | TIME | SOIL | WATER | SAMPLING LOCATION | (1) TYPE OF CONTAINER | ANALYTES REQUESTED: TOTAL LIGHT HC | AROMATIC HC (BTX) | TOTAL HEAVY HC | OIL & GREASE | VOC SCAN (624's) | OTHER: Organic Lead on 5-Day 5/4/15 | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SP-1A | 5.2 | 10:07 | X | | 1.5' | BRASS | X | X | | | | X | |
| SP-1B | | 10:12 | | | | | X | X | | | | X | COMPOSITE SP1-A THROUGH SP-1D |
| SP-1C | | 10:15 | | | | | X | X | | | | X | CALL W/ RESULTS BEFORE TESTING |
| SP-1D | | 10:17 | | | | | X | X | | | | X | SECOND COMPOSITE. |
| SP-2A | | 10:29 | | | | | X | X | | | | | |
| SP-2B | | 10:30 | | | | | X | X | | | | | SECOND COMPOSITE IS SP-2A |
| SP-2C | | 10:32 | | | | | X | X | | | | | THROUGH SP-2D Initiate on 5-Day |
| SP-2D | | 10:34 | | | | | X | X | | | | | per Jeff F. 5/4/15. |
| | | | | | | | | | | | | | |

| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
|---|---|---|---|---|---|
| [signature] | 5/4/15 1:10pm | | | | |
| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
| | | | | | |
| Relinquished by : (Signature) | Date / Time | Received for Laboratory by: [Signature] | Date / Time | Remarks | |
| | | [signature] | 5/5/15 1:10pm | | |

Pla, Soil, 1-BT each, y-3, on ice 5-Day

DATE: _____

# PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory


June 08,1995 PEL # 9506018

TANK PROTECT ENGINEERING, INC.

Attn: Lee Huckins

Re: Eight soil samples for Gasoline/BTEX analysis.

Project name: Rasco MTG
Project location: 413 W. Sunset
Project number: 329060595

Date sampled:June 05, 1995
Date extracted:June 06-08, 1995

Date submitted:June 06, 1995
Date analyzed:June 06-08, 1995

RESULTS:

| SAMPLE I.D. | Gasoline (mg/Kg) | Benzene (ug/Kg) | Toluene (ug/Kg) | Ethyl Benzene (ug/Kg) | Total Xylene (ug/Kg) |
|---|---|---|---|---|---|
| VSP 1-A | N.D. | N.D. | N.D. | N.D. | N.D. |
| VSP 2-B | N.D. | N.D. | N.D. | N.D. | N.D. |
| VSP 3-C | N.D. | N.D. | N.D. | N.D. | N.D. |
| VSP 4-D | N.D. | N.D. | N.D. | N.D. | N.D. |
| VSP 5-A | N.D. | N.D. | N.D. | N.D. | N.D. |
| VSP 6-B | N.D. | N.D. | N.D. | N.D. | N.D. |
| VSP 7-C | N.D. | N.D. | N.D. | N.D. | N.D. |
| VSP 8-D | N.D. | N.D. | N.D. | N.D. | N.D. |
| Blank | N.D. | N.D. | N.D. | N.D. | N.D. |
| Spiked Recovery | 93.7% | 90.4% | 86.0% | 89.4% | 93.8% |
| Detection limit | 1.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Method of Analysis | 5030 / 8015 | 8020 | 8020 | 8020 | 8020 |

David Duong
Laboratory Director


1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

TANK PROTECT ENGINEERING
2821 WHIPPLE ROAD
UNION CITY, CA 9451
(415)429-8088
(800)523-8088
FAX(415)429-8089

LAB: Priority En
TURNAROUND:
P.O. #: 1058

**PEL #** 9506018
**INV #** 26026

PAGE 1 OF 1

# CHAIN OF CUSTODY

PROJECT NO.: 329060595
SITE NAME & ADDRESS: Rasco mfg 413 W. Sunset
SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER: Lee Huckins, 2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088

| ID NO. | DATE | TIME | SOIL | WATER | SAMPLING LOCATION | (1) TYPE OF CON-TAINER | ANALYTES REQUESTED: TOTAL LIGHT HC | AROMATIC HC (BTX) | TOTAL HEAVY HC | OIL & GREASE | VOC SCAN (624's) | OTHER | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VSP1-A | 6/5 | 1444 | X | | 1.5 | Brass | X | X | | | | | |
| VSP2-B | 6/5 | 1448 | X | | 1.5 | Brass | X | X | | | | | |
| VSP3-C | 6/5 | 1452 | X | | 1.5 | Brass | X | X | | | | | |
| VSP4-D | 6/5 | 1456 | X | | 1.5 | Brass | X | X | | | | | |
| VSP5-A | 6/5 | 1458 | X | | 1.5 | Brass | X | X | | | | | |
| VSP6-B | 6/5 | 1502 | X | | 1.5 | Brass | X | X | | | | | |
| VSP7-C | 6/5 | 1506 | X | | 1.5 | Brass | X | X | | | | | |
| VSP8-D | 6/5 | 1510 | X | | 1.5 | Brass | X | X | | | | | |
| | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished by : (Signature) Lee Huckins | Date / Time 6/6/95 10:20 | Received by : (Signature) | Relinquished by : (Signature) | Date / Time 6/6/95 10:25 | Received by : (Signature) |
| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
| Relinquished by : (Signature) | Date / Time | Received for Laboratory by: (Signature) | Date / Time 06/06/95 10:20 AM | Remarks | |

DATE: _____

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

June 14,1995 PEL # 9506045

TANK PROTECT ENGINEERING, INC.

Attn: Jeff Farhoomand

Re: One water and six soil sample for Gasoline/BTEX analysis.

Project name: Rasco MFG

Date sampled:June 09&12, 1995
Date extracted:June 13-14, 1995
Date submitted:June 12, 1995
Date analyzed:June 13-14, 1995

RESULTS:

| SAMPLE I.D. | Gasoline (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethyl Benzene (ug/L) | Total Xylene (ug/L) |
|---|---|---|---|---|---|
| S-1 | 10000 | 35 | 45 | 19 | 88 |
| Detection Limit | 50 | 0.5 | 0.5 | 0.5 | 0.5 |
| Method of Analysis | 5030 / 8015 | 602 | 602 | 602 | 602 |

| SAMPLE I.D. | Gasoline (mg/Kg) | Benzene (ug/Kg) | Toluene (ug/Kg) | Ethyl Benzene (ug/Kg) | Total Xylene (ug/Kg) |
|---|---|---|---|---|---|
| P-1A,2B,3C,4D* | 190 | 430 | 1200 | 900 | 2300 |
| S-1 | 160 | 250 | 610 | 450 | 2000 |
| S-2 | 94 | 120 | 420 | 440 | 1600 |
| S-3 | 140 | 640 | 990 | 220 | 1500 |
| S-4 | 11 | 27 | 45 | 24 | 240 |
| S-5 | 9.1 | 10 | 29 | 23 | 200 |
| Blank | N.D. | N.D. | N.D. | N.D. | N.D. |
| Spiked Recovery | 93.7% | 90.4% | 86.0% | 89.4% | 93.8% |
| Detection limit | 1.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Method of Analysis | 5030 / 8015 | 8020 | 8020 | 8020 | 8020 |

*Composited soil sample.

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PEL # 9506045

INV # 26053

TANK PROTECT ENGINEERING

2821 WHIPPLE ROAD
UNION CITY, CA 94587
(415)429-8088
(800)523-8088
FAX(415)429-8089

TURNAROUND: NORMAL

P.O. #: 0965

PAGE 1 OF 2

# CHAIN OF CUSTODY

PROJECT NO.

SITE NAME & ADDRESS: RASCO MFG

SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER
MARK R VARNEY
2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088

| ID NO. | DATE | TIME | SOIL | WATER | SAMPLING LOCATION | (1) TYPE OF CONTAINER | TOTAL LIGHT HC | AROMATIC HC (BTX) | TOTAL HEAVY HC | OIL & GREASE | VOC SCAN (624's) | OTHER | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P-1-A | 6/9 | | X | | | BRASS | X | X | | | | | |
| P-1B | 6/9 | | | | | " | X | X | | | | | COMPOSITE |
| P-1C | 6/12 | | | | | " | X | X | | | | | |
| P-1D | | | | | | " | X | X | | | | | |
| S-1 | | 11:45 | | | | " | X | X | | | | | |
| S-2 | | 11:48 | | | | " | X | X | | | | | |
| S-3 | | 11:50 | | | | " | X | X | | | | | |
| S-4 | | 11:52 | | | | " | X | X | | | | | |
| B-15 | | 11:55 | | | | " | X | X | | | | | |

| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
|---|---|---|---|---|---|
| | | | | | |
| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
| | | SHAWN LAM | | | |
| Relinquished by : (Signature) | Date / Time | Received for Laboratory by: [Signature] | Date / Time | Remarks | |
| | 6/12/91 15:25 | PEL | | | |

DATE: _____

TANK PROTECT ENGINEERING
2821 WHIPPLE ROAD
UNION CITY, CA 94587
(415)429-8088
(800)523-8088
FAX(415)429-8089

LAB: _____

TURNAROUND: NORMAL

P.O. #: 0965



# CHAIN OF CUSTODY

PROJECT NO.

SITE NAME & ADDRESS: RASCO MFG

SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER
MARK R VARNEY
2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088

| ID NO. | DATE | TIME | SOIL | WATER | SAMPLING LOCATION | (1) TYPE OF CONTAINER | ANALYTES REQUESTED: TOTAL LIGHT HC | AROMATIC HC (BTX) | TOTAL HEAVY HC | OIL & GREASE | VOC SCAN (624's) | OTHER | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-1 | 6/12 | 9: | | X | | 2-40ml VOAs | X | X | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |

| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
|---|---|---|---|---|---|
| | | | | | |
| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
| | | | | | |
| Relinquished by : (Signature) | Date / Time | Received for Laboratory by: (Signature) | Date / Time | Remarks | |
| | 6/12 15:30 | | | | |

DATE: _____

TANK PROTECT ENGINEERING
2821 WHIPPLE ROAD
UNION CITY, CA 94587
(415)429-8088
(800)523-8089
FAX(415)429-8089

LAB: Priority

TURNAROUND: _____

P.O. #: 1126

PAGE 1 OF 1

# CHAIN OF CUSTODY

PEL # 9510010

INV # 26395

PROJECT NO. 329100395 ~~3671008395~~

SITE NAME & ADDRESS ~~Commercial Auto Sales~~ ~~BMC Electric~~

SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER
Lee Hudkins
2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088

| ID NO. | DATE | TIME | SOIL | WATER | SAMPLING LOCATION | (1) TYPE OF CONTAINER | ANALYTES REQUESTED: TOTAL LIGHT HC | AROMATIC HC (BTX) | TOTAL HEAVY HC | OIL & GREASE | VOC SCAN (624's) | OTHER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VSP 10A | 10/3 | 1305 | X | | 1.0-1.5 | Brass | X | X | | | | |
| VSP 11B | 10/3 | 1307 | X | | 1.5-2.0 | Brass | X | X | | | | |
| VSP12C | 10/3 | 1309 | X | | 2.0-2.5 | Brass | X | X | | | | |
| VSP13D | 10/3 | 1312 | X | | 1.0-1.5 | Brass | X | X | | | | |
| VSP14A | 10/3 | 1314 | X | | 1.5-2.0 | Brass | X | X | | | | |

| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
|---|---|---|---|---|---|
| Rod Hudkins | 10/4/95 1415 | | | | |
| Relinquished by : (Signature) | Date / Time | Received by : (Signature) | Relinquished by : (Signature) | Date / Time | Received by : (Signature) |
| | | TONY LAM | | | |
| Relinquished by : (Signature) | Date / Time | Received for Laboratory by: [Signature] | Date / Time | Remarks | |
| | 10/4/95 1615 | PEL | | | |

DATE: _____

# PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical laboratory

October 06, 1995

PEL # 9510010

TANK PROTECT ENGINEERING

Attn: Lee Huckins

Re: Five soil samples for Gasoline/BTEX analysis.

Project name: Raso Manufacturing
Project location: 317 W. Sunset - Hayward
Project number: 329100395

Date sampled: Oct 03, 1995
Date extracted: Oct 04-05, 1995

Date submitted: Oct 04, 1995
Date analyzed: Oct 04-05, 1995

RESULTS:

| SAMPLE I.D. | Gasoline (mg/Kg) | Benzene (ug/Kg) | Toluene (ug/Kg) | Ethyl Benzene (ug/Kg) | Total Xylene (ug/Kg) |
|---|---|---|---|---|---|
| VSP 10A | N.D. | N.D. | N.D. | N.D. | N.D. |
| VSP 11B | N.D. | N.D. | N.D. | N.D. | N.D. |
| VSP 12C | N.D. | N.D. | N.D. | N.D. | N.D. |
| VSP 13D | N.D. | N.D. | N.D. | N.D. | N.D. |
| VSP 14A | N.D. | N.D. | N.D. | N.D. | N.D. |
| Blank | N.D. | N.D. | N.D. | N.D. | N.D. |
| Spiked Recovery | 85.1% | 92.2% | 94.9% | 107.4% | 109.9% |
| Detection limit | 1.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Method of Analysis | 5030 / 8015 | 8020 | 8020 | 8020 | 8020 |

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9563

# APPENDIX F

## HOLLOW-STEM AUGER DRILLING AND SOIL SAMPLING PROCEDURES

# APPENDIX F

## HOLLOW-STEM AUGER DRILLING AND SOIL SAMPLING PROCEDURES

Undisturbed soil samples will be recovered from soil without introducing liquids into the borings. At a minimum, soil samples as core will be taken at 5-foot depth intervals, changes in lithology and when encountering apparent soil contamination to termination depth, or through the aquifer zone of interest for lithologic logging.

Borings will be drilled with a hollow-stem auger and sampled with a California or modified California-type split-spoon sampler. Soil samples will be of sufficient volume to perform the analyses which may be required, including replicate analyses.

Soil from all borings will be described in detail using the Unified Soil Classification System and will be logged under the direction of a geologist, civil engineer or engineering geologist who is registered or certified by the State of California and is experienced in the use of the Unified Soil Classification System.

All wet zones above the free water zone will be noted and accurately logged.

Soil samples will be collected in clean brass or stainless steel sampling tubes in the split-spoon. Sediment traps will be used when unconsolidated sands and gravels fall from the sampler during retrieval. The brass tubes will be cut apart using a clean knife. The ends of the tubes will be covered with Teflon sheets or aluminum foil beneath plastic end caps and sealed with electrical or duct tape and properly labeled. In lieu of electrical or duct tape, the tubes may be individually sealed in plastic bags. The samples will be stored in an iced-cooler at a temperature of 4 degrees Celsius. In the Alameda County Water District, the samples will be stored in an iced-cooler containing dry ice.

Drill cuttings will be stored on site in 55-gallon drums or covered with plastic sheeting. Analytical results will be submitted immediately to the site owner for determination of appropriate disposal procedures. The soil borings not completed as wells will be backfilled with a cement grout.

# APPENDIX G

## GROUNDWATER MONITORING WELL CONSTRUCTION PROCEDURES

# APPENDIX G

## GROUNDWATER MONITORING WELL CONSTRUCTION PROCEDURES

### BOREHOLE DESIGN

Casing Diameter: The minimum diameter of well casings will be 2 inches (nominal).

Borehole Diameter: The diameter of the borehole will be a minimum of 4 inches and a maximum of 12 inches greater than the diameter of the well casing. The minimum annular space will be 2.5 inches as measured from the outside diameter of the casing to the drill hole wall.

Shallow (Unconfined Zone) Wells: When unconfined groundwater is encountered, the borehole will be advanced through the aquifer to an underlying clay layer or aquitard or to a maximum depth of 15 feet into the saturated zone, or the maximum depths required by regulatory guidelines. The screened interval will begin a minimum of 5 feet above the saturated zone or above the anticipated seasonal high level of groundwater. The screen will extend the full thickness of the aquifer or no more than 15 feet (or 20 feet if required by regulatory guidelines) into the saturated zone, whichever is reached first. The well screen will not extend into the aquitard, nor will the screened interval exceed 20 feet in length (or 30 feet if required by regulatory guidelines).

Deep (Confined Zone) Wells: Any monitoring well to be screened below the upper aquifer will be installed as a double-cased well. A steel conductor casing will be placed through the upper water-bearing zone to prevent aquifer cross-contamination.

The conductor casing will be installed in the following manner: a large diameter borehole (typically 18 inches) will be drilled until it is determined that the first competent aquitard has been reached; a low carbon steel conductor casing will be placed in the borehole to the depth drilled and centralizers will be used to center the casing in the borehole. The annular space between the conductor casing and the

formation will be cement-grouted from bottom to top by the tremie pipe method. The grout will be allowed to set for a minimum of 72 hours.

Drilling will continue inside the conductor casing, with a drill bit of smaller diameter than the conductor casing. If additional known aquifers are to be fully penetrated, the procedure will be repeated with successively smaller diameter conductor casings.

The bottom of the well screen in a confined aquifer will be determined by presence or lack of a clay layer or aquitard as described above. The screened interval in a confined zone will extend across the entire saturated zone of the aquifer or up to a length of 20 feet, whichever is less. The screened zone and filter pack will not cross-connect to another aquifer.

## CONSTRUCTION MATERIALS

Casing and Screen Materials: Well casing and screen will be constructed of clean materials that have the least potential for affecting the quality of the sample. The most suitable material for a particular installation will depend upon the parameters to be monitored. Acceptable materials include PVC, stainless steel or low carbon steel.

Casing Joints: Joints will be connected by flush threaded couplers. Organic bonding compounds and solvents will not be used on joints.

Well Screen Slots: Well screen will be factory slotted. The size of the slots will be selected to allow sufficient groundwater flow to the well for sampling, minimize the passage of formation materials into the well and ensure sufficient structural integrity to prevent the collapse of the intake structure.

Casing Bottom Plug: The bottom of the well casing will be permanently plugged, either by flush threaded screw-on or friction cap. Friction caps will be secured with stainless steel set screws. No organic solvents or cements will be applied.

Filter Pack Material: Filter envelope materials will be durable, water worn, and washed clean of silt, dirt and foreign matter. Sand size particles will be screened silica sand.

Particles will be well rounded and graded to an appropriate size for retention of aquifer materials.

Bentonite Seal Material: Bentonite will be pure and free of additives that may affect groundwater quality. Bentonite will be hydrated with potable or tap water.

Grout Seal Material: Neat cement grout or sand-cement grout will consist of a proper mixture of Type 1/11 Portland cement, hydrated with potable or tap water. Up to 3% bentonite may be added to the mixture to control shrinkage.

## CONSTRUCTION PROCEDURES

Decontamination: All downhole tools, well casings, casing fittings, screens, and all other components that are installed in the well will be thoroughly cleaned immediately before starting each well installation. When available, each component will be cleaned with a high temperature, high pressure washer for a minimum of 5 minutes. When a washer is not available, components will be cleaned with water and detergent, rinsed in potable or tap water, then rinsed in distilled water.

Soil and water sampling equipment and material used to construct the wells will not donate to, capture, mask or alter the chemical composition of the soil and groundwater.

Drilling Methods: Acceptable drilling methods include solid and hollow-stem auger, percussion, direct circulation mud and air rotary and reverse rotary. The best alternative is that which minimizes the introduction of foreign materials or fluids. If drilling fluid is employed, drilling fluid additives will be limited to inorganic and non-hazardous compounds. Compressed air introduced into the borehole will be adequately filtered to remove oil and particulates.

Casing Installation: The casing will be set under tension, when necessary, to ensure straightness. Centralizers will be used where necessary to prevent curvature or stress to the casing.

Sand Pack Installation: The sand pack will be installed so as to avoid bridging and the creation of void spaces. The tremie pipe method will be used where installation conditions or local regulations require. Drilling mud, when used, will be thinned prior to pack placement. The sand pack will cover the entire screened interval and rise a minimum of 2 feet above the highest perforation.

Bentonite Seal Placement: A bentonite seal will be placed above the sand pack by a method that prevents bridging. Bentonite pellets can be placed by free fall if proper sinking through annular water can be assured. Bentonite slurry will be placed by the tremie pipe method from the bottom upward. The bentonite seal will not be less than 1 to 3-feet in thickness, depending on regulatory guidelines. In the Alameda County Water District, the bentonite seal will be less than 1 foot in thickness.

Grout Seal Placement: The cement grout mixture will be hydrated with potable or tap water and thoroughly mixed prior to placement. If substantial groundwater exists in the bore hole, the grout will be placed by the tremie pipe method from the bottom upward. In a dry borehole, the grout may be surface poured to a depth of 30 feet. Below a depth of 30 feet, grout will be placed by tremie pipe. Grout will be placed in 1 continuous lift and will extend to the surface or to the well vault if the well head is completed below grade. A minimum of 5 feet of grout seal will be installed, unless impractical due to the shallow nature of the well.

Surface Completion: The well head will be protected from fluid entry, accidental damage, unauthorized access and vandalism. A watertight, locking cap will be installed on the well casing. Access to the casing will be controlled by a keyed lock.

Well heads completed below grade will be completed in a concrete and/or steel vault, installed to drain surface runoff away from the vault.

Well Identification: Each well will be labeled to show well number, depth, hole and casing diameter and screened interval.

# APPENDIX H

## GROUNDWATER MONITORING WELL DEVELOPMENT PROCEDURES

# APPENDIX H

## GROUNDWATER MONITORING WELL DEVELOPMENT PROCEDURES

### INTRODUCTION

Newly installed groundwater monitoring wells will be developed to restore natural hydraulic conductivity of the formation, remove sediments from well casing and filter pack, stabilize the filter pack and aquifer material and promote turbidity-free groundwater samples.

Wells may be developed by bailing, hand pumping, mechanical pumping, air lift pumping, surging, swabbing or an effective combination of methods. Wells will be developed until the water is free of sand and silt and minimum turbidity has stabilized.

In some cases where low permeability formations are involved or the drilling mud used fails to respond to cleanup, initial development pumping may immediately dewater the well casing and thereby inhibit development. When this occurs, clean, potable grade water may be introduced into the well, followed by surging of the introduced waters with a surge block. This operation will be followed by pumping or bailing. The procedure may be repeated as required to establish full development.

### METHODOLOGY

Seal Stabilization: Cement and bentonite annular seals will set and cure not less than 24 to 72 hours (according to local regulatory guidelines) prior to well development.

Decontamination: All well development tools and equipment will be thoroughly cleaned immediately before starting each well installation. When available, each component will be cleaned with a high temperature, high pressure washer for a minimum of 5 minutes. When a washer is not available, components will be cleaned with potable or tap water, then rinsed with distilled water.

Development equipment will not donate to, capture, mask or alter the chemical composition of the soil and groundwater.

Introduction of Water: Initial development of wells in low permeability formations may dewater the casing and filter pack. When this occurs, clean, potable or tap water will be introduced into the well to enhance development.

Bailing: Development will begin by bailing to remove heavy sediments from the well casing. Care will be taken not to damage the well bottom cap during lowering of the bailer.

Surging: Care will be exercised when using a surge block to avoid damaging the well screen and casing. When surging wells screened in coarse (sandy/gravelly) aquifers, the rate of surge block lifting will be slow and constant. When surging wells screened in fine (silty) aquifers, more vigorous lifting may be required. Between surging episodes, wells will be bailed to remove accumulated sediments.

Pumping: Development pumping rates will be less than the recharge rate of the well in order to avoid dewatering.

Discharged Water Containment and Disposal: All water and sediment generated by well development will be collected in labeled 55-gallon steel drums. Development water will be temporarily contained on site, pending sampling and laboratory analysis. No hazardous development water will be released to the environment. Disposal of development water will be the responsibility of the client

# APPENDIX I

## GROUNDWATER MONITORING WELL SAMPLING PROCEDURES

# APPENDIX I

## GROUNDWATER MONITORING WELL SAMPLING PROCEDURES

Groundwater monitoring wells will not be sampled until at least 24 to 72 hours (according to local regulatory guidelines) after well development. Groundwater samples will be obtained using a bladder pump, clear Teflon bailer or dedicated polyethylene bailer. Prior to collecting samples, the sampling equipment will be thoroughly decontaminated to prevent introduction of contaminants into the well and to avoid cross-contamination. Monitoring wells will be sampled after 3 to 10 wetted casing volumes of groundwater have been evacuated and pH, electrical conductivity and temperature have stabilized as measured with a Hydac Digital Tester. If the well is emptied before 3 to 10 well volumes are removed, the sample will be taken when the water level in the well recovers to 80% or more of its initial water level.

When a water sample is collected, turbidity of the water will be measured and recorded with a digital turbidimeter. Degree of turbidity will be measured and recorded in nephelometric turbidity units (NTU).

TPE will also measure the thickness of any floating product in the monitoring wells using an interface probe or clear Teflon or polyethylene bailer. The floating product will be measured after well development but prior to the collection of groundwater samples. If floating product is present in the well, TPE will recommend to the client that product removal be commenced immediately and reported to the appropriate regulatory agency.

Unless specifically waived or changed by the local, prevailing regulatory agency, water samples will be handled and preserved according to the latest United States Environmental Protection Agency methods as described in the Federal Register (Volume 44, No. 233, Page 69544, Table ll) for the type of analysis to be performed.

Development and/or purge water will be stored on site in labeled containers. The disposal of the containers and development and/or purge water is the responsibility of the client.

MEASUREMENTS

Purged Water Parameter: During purging, discharged water will be measured for the following parameters.

| Parameter | Units of Measurement |
|---|---|
| pH | None |
| Electrical Conductivity | Micromhos |
| Temperature | Degrees F or C |
| Depth to Water | Feet/Hundredths |
| Volume of Water Discharged | Gallons |
| Turbidity | NTU |

Documentation: All parameter measurements will be documented in writing on TPE development logs.

SITE HEALTH AND SAFETY PLAN
TANK PROTECT ENGINEERING OF NORTHERN CALIFORNIA, INC.

Site: **Ras-co Manufacturing Company, Inc.** Project Number: **329**
**413 West Sunset Blvd.**
**Hayward, CA 94541**

Original Site Safety Plan: Yes (X) No ( ) Revision Number:
Plan Prepared by: **Tank Protect Engineering** Date: **01/30/96**
Plan Approved by: **Lee N. Huckins** Date: **01/30/96**

Please respond to each item as completely as possible. Where an item is not applicable, please mark "N/A".

## 1. KEY PERSONNEL AND RESPONSIBILITIES

| | | |
|---|---|---|
| Project Manager: | **Lee N. Huckins,** | **(510) 429-8088** |
| Site Safety Manager: | **Mark Varney,** | **(510) 429-8088** |
| Alternate Site Safety Manager: | | |
| Field Team Members: | **N/A** | |

Agency Reps: Please specify by one of the following symbols: Federal: (F), State: (S), Local: (L), Contractor(s): (C)

**(L) Alameda County Health Care Services Agency: (510) 567-6700**

## 2. JOB HAZARD ANALYSIS

### 2.1 OVERALL HAZARD EVALUATION

| | | | | |
|---|---|---|---|---|
| Hazard Level: | High ( ) | Moderate ( ) | Low (X) | Unknown ( ) |
| Hazard Type: | Liquid (X) | Solid ( ) | Sludge ( ) | Vapor/Gas (X) |

Known or suspected hazardous materials present on site

**Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)**

Characteristics of hazardous materials included above (complete for each chemical presents):

---

**MATERIAL #1**

| | | | |
|---|---|---|---|
| Corrosive ( ) | Ignitable (X) | Toxic (X) | Reactive ( ) |
| Volatile (X) | Radioactive ( ) | Biological Agent ( ) | |
| Exposure Routes: | Inhalation (X) | Ingestion (X) | Contact (X) |

---

**MATERIAL #2**

| | | | |
|---|---|---|---|
| Corrosive ( ) | Ignitable ( ) | Toxic ( ) | Reactive ( ) |
| Volatile ( ) | Radioactive ( ) | Biological Agent ( ) | |
| Exposure Routes: | Inhalation ( ) | Ingestion ( ) | Contact ( ) |

---

**MATERIAL #3**

| | | | |
|---|---|---|---|
| Corrosive ( ) | Ignitable ( ) | Toxic ( ) | Reactive ( ) |
| Volatile ( ) | Radioactive ( ) | Biological Agent ( ) | |
| Exposure Routes: | Inhalation ( ) | Ingestion ( ) | Contact ( ) |

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**MATERIAL #4**

| | | | |
|---|---|---|---|
| Corrosive ( ) | Ignitable ( ) | Toxic ( ) | Reactive ( ) |
| Volatile ( ) | Radioactive ( ) | Biological Agent ( ) | |
| Exposure Routes: | Inhalation ( ) | Ingestion ( ) | Contact ( ) |

## 2.2 JOB-SPECIFIC HAZARDS

For each labor category specify the possible hazards based on information available (i.e., Task-driller, Hazards-trauma from drill rig accidents, etc.). For each hazard, indicate steps to be taken to minimize the hazard.

**Driller/Helper/Geologist-Trauma from drilling rig accidents-wear hard hat, gloves, steel-toed boots.**

The following additional hazards are expected on site (i.e., snake infested area, extreme heat, etc.):

**Temporary open boreholes.**

Measures to minimize the effects of the additional hazards are:

**Protect with barricades, caution tape, or traffic cones when unattended.**

# 3. MONITORING PLAN

## 3.1 (a) Air Monitoring Plan

Action levels for implementation of air monitoring. Action levels should be based on published data available on contaminants of concern. Action levels should be set by persons experienced in industrial hygiene.

| Level (i.e., .5 ppm) | Action Taken (i.e., commence perimeter monitoring) |
|---|---|
| **5 ppm** | **Cease work and commence perimeter monitoring until contamination disperses.** |

(b) Air Monitoring Equipment

Outline the specific equipment to be used, calibration method, frequency of monitoring, locations to be monitored, and analysis of samples (if applicable).

**Gastech, Inc., Trace-Techtor, hexane calibration. Monitor at borehole during each sampling event if vapors detected.**

If air monitoring is not to be implemented for this site, explain why:

**N/A**

3.2 Personnel Monitoring

(Include hierarchy of responsibilities decision making on the site)

**Site safety manager to make decision.**

3.3 Sampling Monitoring

(a) Techniques used for sampling: **Sample air at borehole.**

(b) Equipment used for sampling: **Gastech, Inc., Trace-Techtor.**

(c) Maintenance and calibration of equipment: **Calibrate to hexane prior to operation.**

## 4. PERSONAL PROTECTIVE EQUIPMENT (PPE)

Equipment used by employees for the site tasks and operations being conducted. Be Specific (i.e., hard hat, impact resistance goggles, other protective glove, etc.).

**Hard hat, protective gloves (when necessary), steel-toed boots.**

## 5. SITE CONTROL AND SECURITY MEASURES

The following general work zone security guidelines should be implemented:

- Work zone shall be delineated with traffic cones.
- Boreholes shall be delineated with traffic cones when drilling and sampling activities are not actually taking place.
- Visitors will not be allowed to enter the work zone unless they have attended a project safety briefing.

## 6. DECONTAMINATION PROCEDURE

List the procedures and specific steps to be taken to decontaminate equipment and PPE.

**Wash equipment with a trisodium phosphate/tap water solution and rinse with clean tap water.**

## 7. TRAINING REQUIREMENTS

Prior to mobilization at the job site, employees will attend a safety briefing. The briefing will include the nature of the wastes and the site, donning personal protection equipment, decontamination procedures and emergency procedures.

Supervisory and key contractor personnel will take an instruction course and pass an airports operations test.

## 8. MEDICAL SURVEILLANCE REQUIREMENTS

If any task requires a very high personnel protection level (OSHA Level A or B), personnel shall provide assurances that they have received a physical examination and they are fit to do the task. Also personnel will be instructed

to look for any symptom of heat stress, heat stroke, heat exhaustion or any other unusual symptom. If there is any report of that kind it will be immediately followed through, and appropriate action will be taken.

## 9. STANDARD OPERATION PROCEDURES

Tank Protect Engineering of Northern California, Inc. (TPE) is responsible for the safety of all TPE employees on site. Each contractor shall provide all the equipment necessary to meet safe operation practices and procedures for their personnel on site and be responsible for the safety of their workers.

A "Three Warning" system is utilized to enforce compliance with Health and Safety procedures practices which will be implemented at the site for worker safety:

* Eating, drinking, chewing gum or tobacco, and smoking will be allowed only in designated areas.
* Wash facilities will be utilized by workers in the work areas before eating, drinking, or use of the toilet facilities.
* Containers will be labeled identifying them as waste, debris or contaminated clothing.
* All excavation/drilling work will comply with regulatory agency requirements.
* All site personnel will be required to wear hard hats and advised to take adequate measures for self protection.
* Any other action which is determined to be unsafe by the site safety officer.

## 10. CONFINED SPACE ENTRY PROCEDURES

No one is allowed to enter any confined space operation without proper safety measures. Specifically in case of an excavated Tank Pit no one should enter at any time.

## 11. EMERGENCY RESPONSE PLAN

Fire extinguisher(s) will be on site prior to excavation. Relevant phone numbers:

| Person | Title | Phone No. |
|---|---|---|
| **Lee N. Huckins** | Project Manager | **(510) 429-8088** |
| | Fire | 911 or |
| | Police | 911 or |
| | Ambulance | 911 or |
| | Poison Control Center | (800) 523-2222 |
| | Nearest off-site no. | |
| **Kaiser Permanente Hospital** | Medical Advisor | (510) 784-4251 |
| **Mr. Oscar V. Lang** | Client Contact | (510) 782-3161 |

| | | |
|---|---|---|
| U.S EPA - ERT | | (201) 321-6660 |
| Chemtrec | | (800) 424-9300 |
| Centers for Disease Control | Day | (404) 329-3311 |
| | Night | (404) 329-2888 |
| National Response Center | | (800) 424-8802 |
| Superfund/RCRA Hotline | | (800) 424-8802 |
| TSCA Hotline | | (800) 424-9065 |
| National Pesticide Information Services | | (800) 845-7633 |
| Bureau of Alcohol, Tobacco, and Firearms | | (800) 424-9555 |

## HEALTH AND SAFETY COMPLIANCE STATEMENT

I, _____, have received and read a copy of the project Health and Safety Plan.

I understand that I am required to have read the aforementioned document and have received proper training under the occupational Safety and Health Act (29 CFR, Part 1910.120) prior to conducting site activities at the site.

_____ _____

Signature Date

_____ _____

Signature Date

Nearest Hospital:

**Kaiser Permanente Hospital**
**27400 Hesperian Blvd.**
**Hayward, CA**
**Emergency (510) 784-4251**
**Gen. Info. (510) 784-4000**

Directions From Site:

**Drive westerly on W. Sunset Blvd., to Hesperian Blvd. Turn right (southeast) onto Hesperian Blvd. The hospital will be on the left hand side.**