

# Summary Report

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*Former Temporary Accumulation Area (TAA) 672  
Solid Waste Management Unit (SWMU) 177  
Former Marine Corps Air Station, El Toro, California*

5 July 2002

*Prepared by:*  
Southwest Division, Naval Facilities Engineering Command  
BRAC Programs Office  
San Diego, CA 92101-2404

# Summary Report

*Former Temporary Accumulation Area (TAA) 672  
Solid Waste Management Unit (SWMU) 177  
Former Marine Corps Air Station, El Toro, California*

5 July 2002

*Prepared by:*



Lynn Marie Hornecker  
Project Manager

Southwest Division, Naval Facilities Engineering Command  
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San Diego, CA 92101-2404

## Transmittal

Date: 5 July 2002

From: Lynn Marie Hornecker *LMH*

**To: Triss Chesney**  
State of California Environmental Protection Agency  
Department of Toxic Substances Control (DTSC), Region 4  
Site Mitigation Branch, Base Closure Unit  
5796 Corporate Avenue  
Cypress, CA 90630

**Subj:** Former Temporary Accumulation Area (TAA) 672  
Solid Waste Management Unit (SWMU) 177  
Former Marine Corps Air Station, El Toro

Provided for your review as the attachment is the Summary Report for Former Temporary Accumulation Area (TAA) 672 at the Former Marine Corps Air Station, El Toro. Former TAA 672 is located in the southwestern section of the Station within the investigation boundary of Installation Restoration Program (IRP) Site 24 – the Volatile Organic Compound (VOC) Source Area.

Visual inspections of TAA 672 were conducted in 1991, 1994, and 1995 during the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA), and TAA 672 was designated Solid Waste Management Unit (SWMU) 177. The inspection records indicate that TAA 672 was used for storage of petroleum products, however, hazardous wastes may have been stored there. Hazardous wastes were reportedly stored at the covered storage area designated as TAA 671 located adjacent to TAA 672, and TAA 671 will be addressed in a separate report.

TAA 672 is approximately 25 feet long by 10 feet wide. TAA 672 consists of a concrete slab surrounded by a 6-inch concrete berm. TAA 672 does not have a sump. TAA 672 is located within a fenced compound that was used for maintenance of refueling vehicles.

We reviewed historical RFA documentation and other historical records, calculated screening risk levels based upon the RFA soil data for the adjacent former TAA 671, evaluated residual soil gas contaminant levels based upon the remedial investigation of IRP Site 24, and conducted a visual inspection of the former TAA 672 during June 2002. The concrete slab and concrete curb were in excellent condition and no stains or significant cracks were observed. Additionally, no stains were observed on the asphalt-paved areas or unpaved areas adjacent to former TAA 672.

Based upon our observations from recent visual inspections and our review of historical data, we are recommending that no further action status be designated for former TAA 672 (SWMU 177) and that environmental condition of property (ECP) category 2 be designated for former TAA 672 in the next BRAC Business Plan update.

If we do not receive comments from your office within sixty (60) days of receipt of this transmittal, then we will assume that you concur with our recommendation to designate no further action status for TAA 672.

Please do not hesitate to call me at (619) 532-0783 if you have questions on the attachment. Thank you very much.

Attachment  
Summary Report (SWDIV July 2002)

CF:  
Dean Gould (MCAS El Toro BEC)  
Project File (MCAS El Toro)

## TRANSMITTAL

Date: 24 Sep 2002  
From: Lynn Marie Hornecker *LMAH*  
MCAS El Toro  
To: Diane Silva  
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**Subj: CERCLA Administrative Record Materials**  
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\* TAA 672 is located within the  
boundary of IRP Site 24.

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## **Section 1**

### ***Introduction***

The purpose of this Summary Report is to present information pertaining to a former drum storage area, designated as Temporary Accumulation Area (TAA) 672 (also known as Solid Waste Management Unit (SWMU) 177), in the southwestern section of the former Marine Corps Air Station (MCAS), El Toro. TAA 672 was identified as a drum storage area (DSA) during the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA). The RFA documentation indicates that petroleum products rather than wastes were stored at TAA 672. Former TAA 672 encompasses a concrete-paved area approximately 25 feet long by 10 feet wide, and former TAA 672 was constructed in the late 1980's.

Photograph 11 (taken on 29 October 1980) of the California Department of Health Services (DHS) photographs corresponds with the approximate location of TAA 672. The DHS photographs are included in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Administrative Record (AR) for MCAS El Toro as document identifier M60050.000924.

The former Marine Corps Air Station, El Toro, also known as the Station, comprised approximately 4,700 acres in eastern Orange County approximately 45 miles southeast of Los Angeles, California. Former TAA 672 is located approximately east of Building 672 and south of former TAA 671. Former TAA 672 is located within the investigation boundary of Installation Restoration Program (IRP) Site 24 - the Volatile Organic Compound (VOC) Source Area.

Former TAA 672 is located within the former Refueling Vehicle Maintenance Facility that included Buildings 671 and 672 (the Building 672 compound). Building 672, a vehicle wash rack facility, is located approximately 60 feet west of former TAA 672.

The vicinity of former TAA 672 is shown on Figure 1. Sample locations at or near former TAA 672 from the RFA sampling visit and the soil gas survey of IRP Site 24 are shown on Figure 2.

The Station closed on 2 July 1999 in accordance with the Base Realignment and Closure Act of 1993 (BRAC III). Former TAA 672 is located within a parcel designated for future use as an open space/exposition area according to the Great Park Land Use Plan that was issued by the City of Irvine in June 2002. Exhibit 1 in the Appendix shows the Great Park reuse parcels with the location of former TAA 672.

This Summary Report includes a description of information collected during a review of historical property records and environmental compliance management plans, an evaluation of the results of sampling activities at nearby sites, and the results of visual

inspections of former TAA 672. The historical information and the results of the visual inspections do not indicate that a significant release has occurred at former TAA 672, and consequently, it is recommended that no further action status be designated for the former TAA 672 (SWMU 177). It is also recommended that environmental condition of property (ECP) category 2 (storage or releases of petroleum products) be designated for former TAA 672 in the next BRAC Business Plan update.

## **Section 2**

### ***Field Inspections and Historical Records***

**2.1 Field Inspections and Sampling Activities at nearby Locations of Concern.** SWMU 177 (TAA 672) was described as a drum storage area east of Building 672. A review of records and visual inspections were conducted at various locations during the preparation of the *Installation Restoration Program, Final Resource Conservation and Recovery Act Facility Assessment Report for Marine Corps Air Station, El Toro, California* (Jacobs Engineering Group (JEG) 1993).

The documentation for the visual inspection of SWMU 177 on 25 April 1991 (JEG 1993) states the following:

"The DSA is located adjacent to the southeastern boundary fence of the vehicle parking area for Buildings 671 and 672. The DSA measures 10 ft x 25 ft. It consists of a concrete storage surface surrounded by a 6-in. concrete berm. The storage surface is divided into two sections by a 6-in. berm. An asphalt access ramp leads into the DSA from the northern side of the storage area. The DSA is bordered by a small unpaved area on the southeastern side and asphalt on the other three sides.

The DSA is used to store product materials such as motor oil, hydraulic fluid, and grease. The storage area appeared relatively new. There are no significant stains or cracks in the concrete storage surface or the berm surrounding the storage area."

The visual inspection form (JEG 1993) recommended no further action for this DSA.

TAA 672 (SWMU 177) was visually inspected on 7 October 1993 during the development of the Hazardous Material/Hazardous Waste Management Plan (SAIC 1994), and a photograph that was taken on 7 October 1993 is included in the Appendix. No stains or significant cracks were visible on the concrete slab or berm on the 1993 photograph.

TAA 672 (SWMU 177) was visually inspected on 2 December 1994 and 10 November 1995 during the preparation of the Addendum to the RFA (Bechtel, 1996). Minor stains were observed during the 1994 and 1995 inspections, and a photograph was taken of TAA 672 during the 1994 inspection. Sampling or decontamination activities were not recommended based upon the results of the 1994 and 1995 inspections.

The 1980 photograph (DHS Photograph 11 dated 29 October 1980) shows a drum storage area located approximately east of Building 672 in the vicinity of TAA 672. Photograph 11 shows that the storage area is located upon a paved surface and is approximately 12 feet wide by 30 feet long. Photograph 11 is included with property records, facility maps, and historical photographs in the Appendix to this report.

TAA 672 (SWMU 177) was visually inspected on 28 June 2002. No stains or significant cracks were observed on the concrete surfaces of the slab or the berm. The TAA does not have a sump or a roof. No stains or significant cracks were observed on the surface of the asphalt-paved ramp on the west side of TAA 672. No stains or significant cracks were observed on the on the asphalt-paved parking area and road located adjacent to TAA 672. Based upon the review of the historical facility records and the results of the visual inspection of 28 June 2002, it is estimated that the concrete slab and berm (the structural components of TAA 672) were constructed in the late 1980's.

Photographs of former TAA 672 and the former TAA 672 vicinity from the 28 June 2002 visual inspection are included in the Appendix. Additionally, documentation from the previous RFA visual inspections is included in the Appendix.

## **2.2 Historical Property Records and Environmental Program Records**

Property records and information from previously published environmental compliance and environmental restoration program projects were acquired and reviewed. Some of the documents are included in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Administrative Record. Information pertaining to the TAA 672 (SWMU 177) vicinity is summarized in Tables 1 and 2. No further action decision documents for nearby locations of concern are included in the Appendix.

**Table 1. MCAS El Toro Historical Records for the TAA 672 (SWMU 177) Vicinity.**

| Building Identification Number | Approximate year of acquisition or construction | Type of Use                                 | Comments   |
|--------------------------------|---|---|--|
| Building 672 Compound          |   |   |  |
| 672                            | 1973  | Aircraft Refueling Vehicle Maintenance Shop | Building 672 is located west of TAA 672.<br><br>Size: Approximately 40 feet long by 40 feet wide. Wash racks are located on the north-northeast and south-southwest sides of the structure.<br><br>The RFA documentation (JEG 1993) indicates that TAA 672 (SWMU 177) was recently constructed based upon the visual inspection of 1991.<br><br>A facility construction drawing (N62474-72-C-0208) shows that the vicinity of TAA 671 and TAA 672 was to be paved with asphalt pavement (stamped as-built in 1974).<br><br>Prior to 1973, the vicinity of TAA 672 was an open field according to historical facility maps; the 1948 and 1954 facility maps are included in the Appendix. |
| 671                            | 1973  | Administrative Office                       | Building 671 is located west of Building 672 within the Building 672 compound.   |
| Building 800 Compound          |   |   |  |
| 800                            | 1986  | Vehicle Maintenance Facility                | Building 800 is located several hundred feet south of TAA 672.   |

Information from historical hazardous materials and/or hazardous waste management documents or correspondence is presented in the following paragraphs.

*Hazardous Materials/Hazardous Waste Management Plan (HM/HWMP)*

Visual inspections of TAAs were conducted in 1993, and the HM/HWMP (SAIC 1994) identifies a hazardous waste accumulation area east of Building 672 at the location of either TAA 671 or TAA 672. The HM/HWMP identifies the operator of the accumulation area as the Marine Wing Support Squadron, MWSS 373, Refuelers.

The 1993 photograph in the HM/HWMP shows storage of drums within the storage area, and a copy of the photograph is included in the Appendix.

A list of sites recommended for additional investigation was developed in 1989 (Administrative Record # M60050.000776) and the list entitled "Additional Sites Needing Investigation" is included in the Appendix. The list does not identify drum storage areas at or near Buildings 671 or 672. Also, a Regional Water Quality Control Board, Santa Ana Region letter dated 1989 does not identify storage activities at Buildings 671 or 672.

The Spill Prevention, Control, and Countermeasures Plan (SCS Engineers 1979) identifies the storage or use of JP-4, JP-5, Av-Gas, miscellaneous oil, and greases at Building 672 (wash facility and vehicle storage facility). The document identifies a concern with potential discharges to Agua Chinon Wash. While the wash racks were in operation, wash water discharged to the sanitary sewer through an oil/water separator (OWS 672A), and OWS 672A is under evaluation as of July 2002.

#### *Storm Water Pollution Prevention Plan (SWPPP)*

Visual inspections of areas where hazardous materials and hazardous wastes were stored were conducted in 1993. The SWPPP identifies the use or storage jet fuel (JP-5) at Building 672 (IEM 1997).

The SWPPP also includes a spill history table in Section 5, and this table does not identify historic spills in the Building 672 compound. Extracts from the SWPPP are included in the Appendix.

Surface runoff from the former TAA 672 vicinity discharges to Agua Chinon Wash. Surface water quality was monitored under the Station's National Pollutant Discharge Elimination System (NPDES) Permit for storm water while the Station was operational and surface water samples were collected routinely from Agua Chinon Wash. Additionally, the surface drainage channels, including Agua Chinon Wash, were investigated as IRP Site 25 –the Major Drainages – during the remedial investigation, and a CERCLA Record of Decision (ROD) for No Action was signed for IRP Site 25 in September 1997. An extract from the ROD is included in the Appendix with no further action decision documents.

#### *Underground Storage Tank (UST) Program*

Former TAA 672 is located east of and within approximately 100 feet of former UST Sites 672 and 672B. The tanks were removed and confirmation sampling was conducted with Orange County Health Care Agency (OCHCA) oversight. A site assessment was conducted, and the Regional Water Quality Control Board, Santa Ana Region (RWQCB) concurred with no further action status in 1999. Petroleum hydrocarbons, benzene, toluene, ethylbenzene, and xylenes were detected at former UST Sites 672 and 672B during the IRP Site 24 investigation activities and during the confirmation and verification sampling activities associated with the tank removals.

#### *Temporary Accumulation Areas*

Former TAA 672 is located within approximately 40 feet and south of Former TAA 671. Former TAA 671 was designated as SWMU 172 during the RFA and a sampling visit was conducted in 1992. Seven (7) samples were collected from a 60-foot deep angle boring located on the north side of TAA 671; samples were collected at 10-foot intervals with a field duplicate at 40 feet. No petroleum hydrocarbons, volatile organic compounds, semi-volatile organic compounds, or pesticides/PCBs were identified in soil samples collected from the site; selenium was detected as an estimated value at 0.9 milligrams per kilogram in one sample. The selenium result was qualified as

estimated because the result was below reporting limits and above instrument detection limits. Former TAA 671 will be addressed in a separate report. The sampling visit data for former TAA 671 was evaluated for the former TAA 672 report due to the proximity of TAA 671 to TAA 672. Extracts from the RFA (JEG 1993) are included in the Appendix.

#### *Installation Restoration Program*

Installation Restoration Program (IRP) Site 24 – the VOC Source Area – includes the vicinity of Former TAA 672. Phase I and Phase II remedial investigations have been completed at IRP Site 24, and remediation of the IRP Site 24 vadose zone has been substantially completed as of July 2002 (Earth Tech 2002).

Shallow soil gas samples were collected near TAA 672 during the soil gas survey of IRP Site 24 in 1994. Two soil gas samples were collected from sample point 24SG421 at a depth of 15 feet below ground surface approximately 150 feet north of TAA 672; xylenes were detected at less than 2 micrograms per liter and no other VOCs or petroleum hydrocarbons were detected. One sample was collected from sample point 24SG449 at a depth of 15 feet below ground surface approximately 100 feet east of TAA 672; no volatile organic compounds or petroleum hydrocarbons were identified at or above reporting limits. Other soil gas sample points were located near the former UST Sites 672 and 672B, however, these samples were not considered in this report because the tanks have been removed and the tank sites have been assessed according to RWQCB procedures. Data from soil gas sample points 24SG421 and 24SG449 were considered in this report due to the proximity of the sample points to former TAA 672. Extracts from the soil gas survey report are included in the Appendix with IRP Site 24 information.

Vapor extraction wells for the remediation of the Site 24 vadose zone are located approximately west of TAA 672 along R Street. The effective radius of influence (EROI) for the intermediate vadose zone well, 24SVE141A, is approximately 311 feet. The flow for well 24SVE141A was approximately 170 standard cubic feet per minute, and the trichloroethylene (TCE) vapor concentrations in samples collected from the well were less than 5 micrograms per liter (Earth Tech 2002). Well 24SVE141A, screened from 50 to 80 feet below ground surface, is the closest vadose zone well to TAA 672, and well 24SVE141A is located approximately 300 feet west of TAA 672 within the Building 672 compound.

Extracts from the vadose zone remediation documents are included in the Appendix in the section with IRP Site 24 information.

Selected information from previous field sampling activities in the vicinity of former TAA 672 is presented in Table 2.

**Table 2. Sampling Information from Environmental Restoration Program Projects in the TAA 672 (SWMU 177) Vicinity.**

| Sample Identifier  | Analytical Results   | Comments and/or Risk Screening Calculations   |
|--|--|---|
| <b>IRP Site 24 Data</b>  |  |   |
| Vapor Extraction Well 24SVE141A<br>Sample collected on 20 January 2000                             | TCE: 2.4 micrograms per liter<br>The interim Record of Decision for IRP Site 24 established a cleanup level of 27 micrograms per liter for TCE.  | Vadose Zone Remediation of IRP Site 24 (Earth Tech 2002)<br>Well 24SVE141A is located approximately 300 feet west of former TAA 672.  |
| Station Identifier <b>421 (24_SG421)</b><br>Sample Identifier S145G1721<br>(sample depth: 15 feet) | Total volatile hydrocarbons and volatile organic compounds not detected at or above reporting limits with the exception of Total Xylenes: 1.1 microgram per liter  | Soil gas survey of 1994 (JEG 1994).<br>Located approximately north of TAA 672.  |
| Station Identifier <b>421 (24_SG421)</b><br>Sample Identifier S145G3513<br>(sample depth: 15 feet) | Total volatile hydrocarbons and volatile organic compounds not detected at or above reporting limits with the exception of Total Xylenes: 1.3 microgram per liter  | "   |
| Station Identifier <b>449 (24_SG449)</b><br>Sample Identifier S145G1749<br>(sample depth: 15 feet) | Total volatile hydrocarbons and volatile organic compounds not detected at or above reporting limits.  | Soil gas survey of 1994 (JEG 1994).<br>Located approximately east of TAA 672.   |
| <b>RFA Sampling Visit Data for nearby former TAA 671</b>   |  |   |
| <b>172A1</b><br>- 20-foot sample   | 20-foot sample:<br>Petroleum hydrocarbons (TRPH, TPH-gasoline, TPH-diesel), VOCs, SVOCs, pesticides/PCBs: ND<br>Metals ND except for selenium.<br>Selenium: 0.9 mg/kg "B" (qualified as estimated)<br><br>10-foot, 30-foot, 40-foot, 50-foot, and 60-foot samples: ND for all analytes | RFA Sampling Visit of 1992 (JEG 1993).<br>Located approximately 50 feet north of TAA 672.<br><b>SCREENING RISK CALCULATIONS</b><br>USEPA Region 9 residential PRG for Selenium: 3.9 E02 mg/kg (nc)<br>Hazard Index (HI) = [(conc)/PRG]<br>HI selenium Res = (0.9/390) = 0.0023<br>USEPA Region 9 industrial PRG for Selenium: 1.0 E04 mg/kg (nc)<br>HI selenium Ind: 0.9/1.0E04=0.00009 |
| <b>Screening Risk Summary</b>  |  | Residential Risk: <b>HI Selenium: 0.0023</b><br>Industrial Risk: <b>HI Selenium: 0.00009</b>  |

The screening risk calculations shown in Table 2 for the nearby TAA 671 are based upon the maximum concentration of selenium with USEPA Region IX Preliminary Remediation Goals (PRGs) dated November 2000. Selenium (non-carcinogen) was detected as an estimated value; the result was qualified because it was below reporting limits but above instrument detection limits. The risk calculations for the residential and industrial scenarios are each significantly less than 1.

TAA 672 was identified in the Final Environmental Baseline Survey (EBS) Report (JEG 1995) as an inactive satellite accumulation area (SAA) with an environmental condition of property (ECP) category 2 (storage or release of petroleum products). Extracts from the EBS are included in the Appendix.

The following Summary Table presents historical information pertaining to selected environmental locations of concern in the vicinity of TAA 672.

**Table 3. Selected Locations of Concern in the Former TAA 672 Vicinity.**

| Building or Feature Identifier            | Approximate Date of Construction or Installation                                    | Comments   |
|---|---|--|
| TAA 672 (SWMU 177)                        | Late 1980's   | TAA 672 was visually inspected as SWMU 177 during April 1991, December 1994, and November 1995 during the RFA. According to the RFA visual inspection of 1991, the TAA had been recently constructed. Visual inspections with photographic documentation were completed in 1991, 1993, 1994, 1995, and 2002.   |
| TAA 671 (SWMU 172)                        | Late 1980's   | TAA 671 will be addressed in a separate report. A 60-foot angle boring was advanced in 1992, and soil samples were collected at 10-foot intervals.   |
| UST 672 (SWMU 175)<br>UST 672B (SWMU 176) | 1972  | Underground storage tanks at former fuel vehicle washing facility (Bldg 672). Tanks were removed and the tank sites were closed by the RWQCB in 1999 (Case Number 083003209T).   |
| OWS 672A (SWMU 174)                       | 1982  | Evaluation of OWS Site 672A is in progress as of July 2002 in response to Regional Water Quality Control Board comments on the Site Assessment.  |
| Aerial Photograph Anomalies               | See Comments  | <p>Two USEPA anomaly sites are located near the former wash racks at Building 672:<br/>           USEPA 181 (1980) - possible liquid.<br/>           USEPA 182 (1981) - possible liquid.<br/>           USEPA 182 (1990) - liquid.</p> <p>The wash rack facility at Building 672 was constructed in approximately 1973, and wash water from the facility may have been responsible for the anomalies. Wash water flowed into a tributary to Agua Chinon Wash, and Agua Chinon Wash was investigated during the remedial investigation of IRP Site 25 - the major drainages. Additionally, the Building 672 compound is included within the investigation boundary of IRP Site 24, soil gas samples were collected within the compound during the soil gas survey of 1994, and vapor extraction wells for the vadose zone remediation of IRP Site 24 were located within and near the Building 672 compound.</p> <p>Three SAIC anomaly sites are located within the Building 672 compound or near the Building 672 wash racks:<br/>           SAIC 51 (29 December 1946): dark-toned mounded material located east of Building 672 compound. SAIC states that the mounded materials may have been dredged materials from the drainage ditch (Agua Chinon Wash) and no further investigation was recommended.<br/>           SAIC 304 (13 January 1975): liquid flowing from Building 672.<br/>           SAIC 384 (14 December 1978): liquid flowing from Building 672.</p> <p>The anomalies described as liquids flowing from Building 672 were probably caused by flow of water from the wash racks toward drainage ditches along R Street and South Marine Way; the drainage ditches discharge to Agua Chinon Wash. The remedial investigation of IRP Site 25 included Agua Chinon Wash, and the Building 672 compound is included within the investigation boundary of IRP Site 24.</p> |
| IRP Site 24                               | BCT review of Draft Final Vadose Zone Closure Report is in progress as of July 2002 | IRP Site 24 - VOC Source Area. Phase I and Phase II Remedial Investigations were completed for IRP Site 24, and the Building 672 compound that includes former TAA 672 is located within the investigation boundary of IRP Site 24. The interim Record of Decision (ROD) for the vadose zone was signed in 1997, and vadose zone remediation was conducted with soil vapor extraction (SVE) treatment at a central treatment facility and several remote portable units.   |
| IRP Site 25                               | NFA   | IRP Site 25 - the Major Drainages - included Agua Chinon Wash, east of TAA 672. No Action Record of Decision was signed in 1997.   |

**2.3 Ground Water Conditions**

Ground water conditions have been investigated in the vicinity of TAA 672 during the remedial investigation of IRP Site 24, IRP Site 8 (Defense Reutilization and Marketing Office (DRMO) Yard), and IRP Site 7 (Drop Tank Drainage Area Number 2). The Building 672 compound and TAA 672 are located near the eastern edge of the trichloroethylene (TCE) plume. Groundwater flows toward the northwest in the vicinity

of TAA 672, and the depth to groundwater is approximately 90 feet below ground surface based upon measurements from well 08\_UGMW29 located south of TAA 672. The groundwater plume beneath TAA 672 is addressed in the CERCLA Record of Decision (ROD) for IRP Site 24 and IRP Site 18, and an extract from the Draft Final ROD is included in the Appendix with no further action decision documents and other documents.

## **Section 3**

### ***Findings and Recommendations***

The following findings are based upon various historical documents, the RFA documentation, and the observations during the visual inspections of TAA 672 (SWMU 177):

- TAA 672, a drum storage area, was identified in the Installation Restoration Program, Final Resource Conservation and Recovery Act Facility Assessment Report for Marine Corps Air Station, El Toro, California (Jacobs Engineering Group 1993), as Solid Waste Management Unit (SWMU) 177. TAA 672 corresponds approximately with photograph 11 of the California Department of Health Services (DHS) photographs that were taken in 1980. TAA 672 is approximately 25 feet long by 10 feet wide and consists of a concrete slab surrounded by a 6-inch concrete berm.
- Building 672 was constructed in approximately 1973 and has been used for maintenance and washing of refueling vehicles. TAA 672 is located east of Building 672, and TAA 672 was constructed in the late 1980's.
- Visual inspections were conducted at TAA 672 (SWMU 177) in 1991, 1994, 1995, and June 2002. No significant stains or discolored areas were observed on the concrete surfaces at TAA 672 during the visual inspections. No stains were observed on the paved areas or on the unpaved areas adjacent to TAA 672 during the inspection of June 2002. The visual inspection records of 1991, 1994, and 1995 indicate that TAA 672 was used for storage of petroleum products rather than wastes.
- TAA 672 is located within the investigation boundary of IRP Site 24 - the VOC Source Area. Soil gas samples and other samples were collected in the general vicinity of TAA 672 during the remedial investigation of IRP Site 24, and low levels of xylenes were detected in soil gas samples.
- 24SVE141A, a vapor extraction well for the vadose zone remediation of IRP Site 24, is located approximately 300 feet west of former TAA 672 within the Building 672 compound. The effective radius of influence for well 24SVE141A is approximately 311 feet which encompasses the vicinity of former TAA 672 (Earth Tech June 2002).
- The sampling visit data for the former TAA 671 was evaluated due to the proximity

to former TAA 672. The maximum selenium concentration of 0.9 milligrams per kilogram was evaluated with USEPA Region 9 preliminary remediation goals. The Hazard Index (HI) for selenium was less than 1 for the residential and industrial reuse scenarios.

- The petroleum release at nearby former UST Sites 672 and 672B was identified during the Site 24 investigation activities. Former UST Sites 672 and 672B have been closed by the Regional Water Quality Control Board, Santa Ana Region.

Based upon the review of historical documentation, the low levels of residual contaminants in the vicinity, and the results of visual inspections, it is recommended that no further action status be designated for former TAA 672 (SWMU 177). It is also recommended that environmental condition of property (ECP) category 2 (former storage or release of petroleum products) be designated for former TAA 672 in the next Business Plan Update.

## **Section 4**

### ***References and/or Sources of Information***

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OHM Remediation Services Corporation. 1998. Tank Removal and Site Closure Report, Underground Storage Tanks 672 and 672B, Marine Corps Air Station, El Toro, California. [Navy Contract N68711-93-D-1459, Delivery Order 70]

Roy F. Weston. 1984. Hazardous Materials/Hazardous Waste Engineering Study. [Administrative Record ID # M60050.000899]

Science Applications International Corporation (SAIC). 1994. Final, Marine Corps Air Station, El Toro, Hazardous Material/Hazardous Waste Management Plan {with Appendices C and I, Hazardous Waste Accumulation Areas and Photographs of Accumulation Points and Hazardous Material Storage Areas}. August. [Contract N68711-92-D-4658, Delivery Order Number 4]. ]

SCS Engineers. 1979. Oil and Hazardous Substance Spill Prevention, Control, and Countermeasure Field Survey Report and SPCC Plan (Administrative Record Identifier M60050.000808).

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United States Marine Corps Air Station, El Toro. 1994. Aerial Photograph.

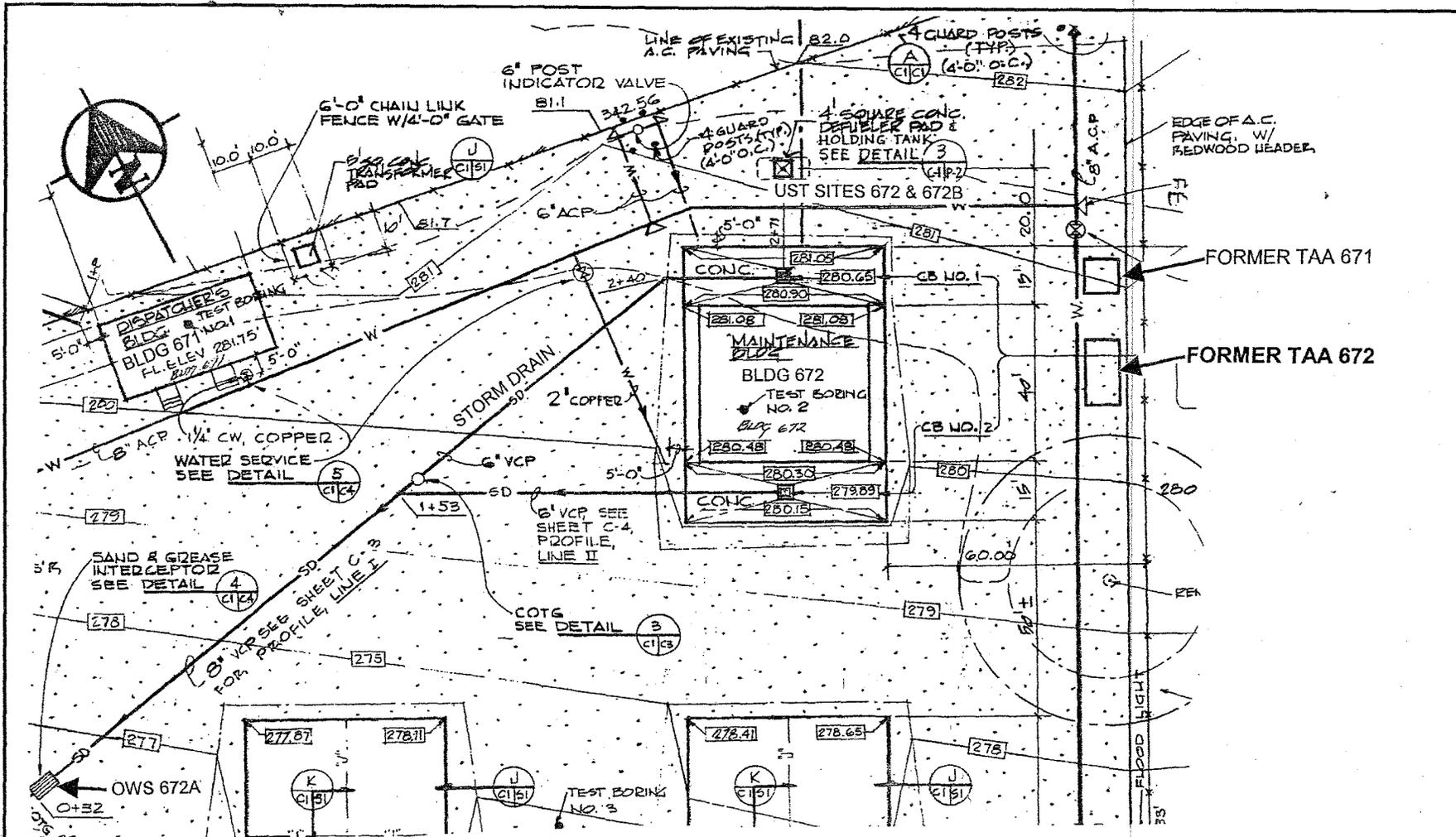
United States Marine Corps Air Station, El Toro. 1997-2001. No Further Action correspondence from RWQCB, OCHCA, and/or DTSC.

M60050.002821  
MCAS EL TORO  
SSIC # 5090.3

## FIGURES

SUMMARY REPORT - FORMER TEMPORARY  
ACCUMULATION AREA (TAA) 672, SOLID  
WASTE MANAGEMENT UNIT (SWMU) 177

DATED JULY 2002



**NOTES:**

- 1) PRIMARY SOURCE OF MAP INFORMATION: MILITARY CONSTRUCTION PROJECT DRAWING N62474-72-C-0208, REFUEL VEHICLE MAINTENANCE FACILITY PLOT PLAN. LOCATIONS OF TAA 672 AND NEARBY LOCATIONS OF CONCERN WERE PLOTTED BASED UPON FIELD OBSERVATIONS FROM THE VISUAL INSPECTION OF 28 JUNE 2002.
- 2) APPROXIMATE SCALE IS 1 INCH = 40 FEET.

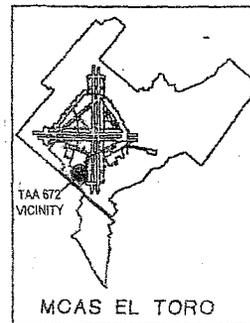
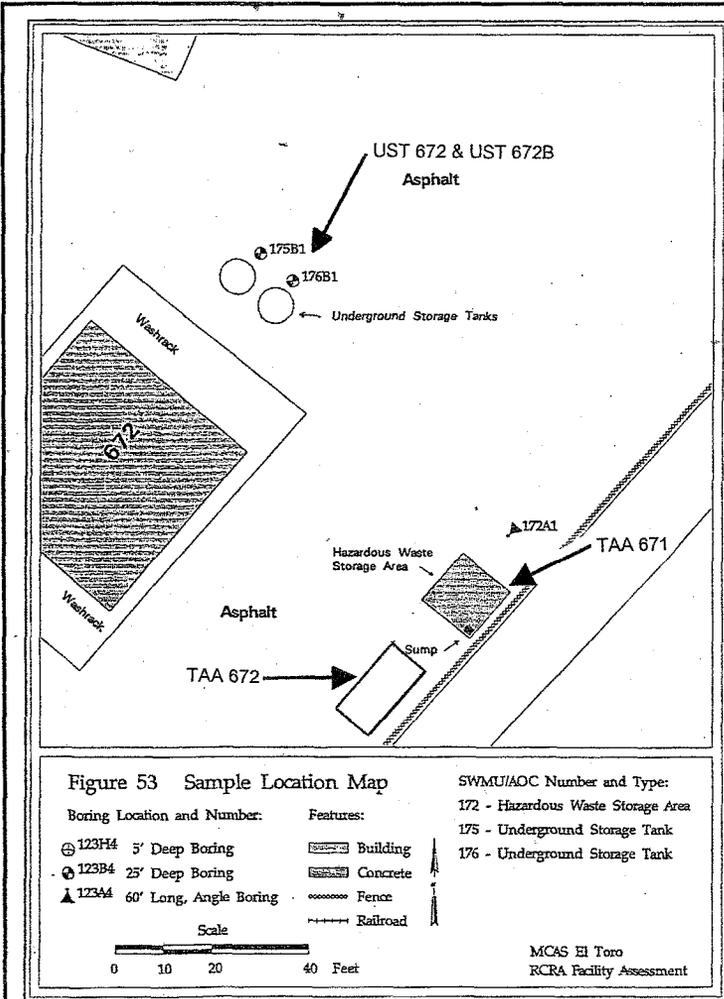


Figure 1.

FORMER TEMPORARY ACCUMULATION AREA (TAA) 672

**VICINITY MAP**

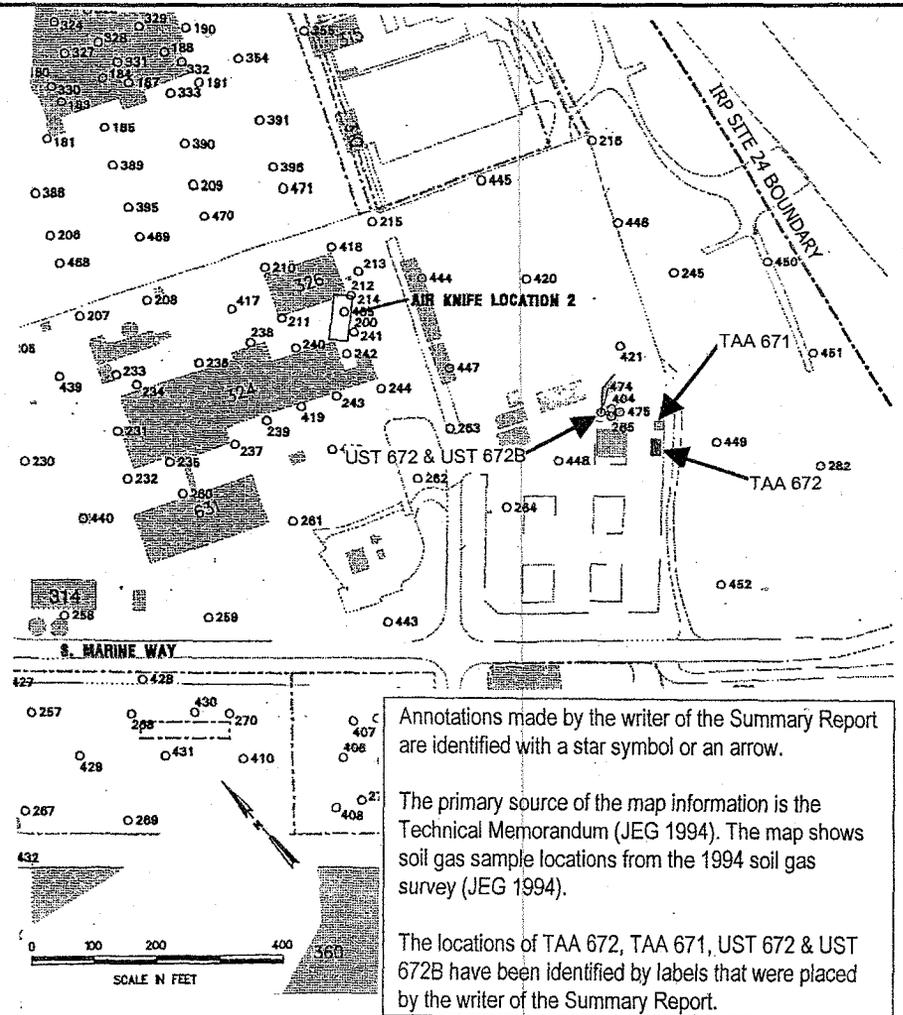
FORMER MARINE CORPS AIR STATION, EL TORO



Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

The primary source of the map information is the RFA Report (JEG 1993). The map shows RFA sampling locations near Building 672.

The locations of TAA 672, TAA 671, UST 672 & UST 672B have been identified by labels that were placed by the writer of the Summary Report.



**Figure 2.**  
**FORMER TEMPORARY ACCUMULATION AREA (TAA) 672**  
**SAMPLE LOCATIONS**  
**FORMER MARINE CORPS AIR STATION, EL TORO**

## **Appendix**

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### **Site Photographs and Documentation**

Site Photographs & Exhibits

Extracts from RFA Documentation

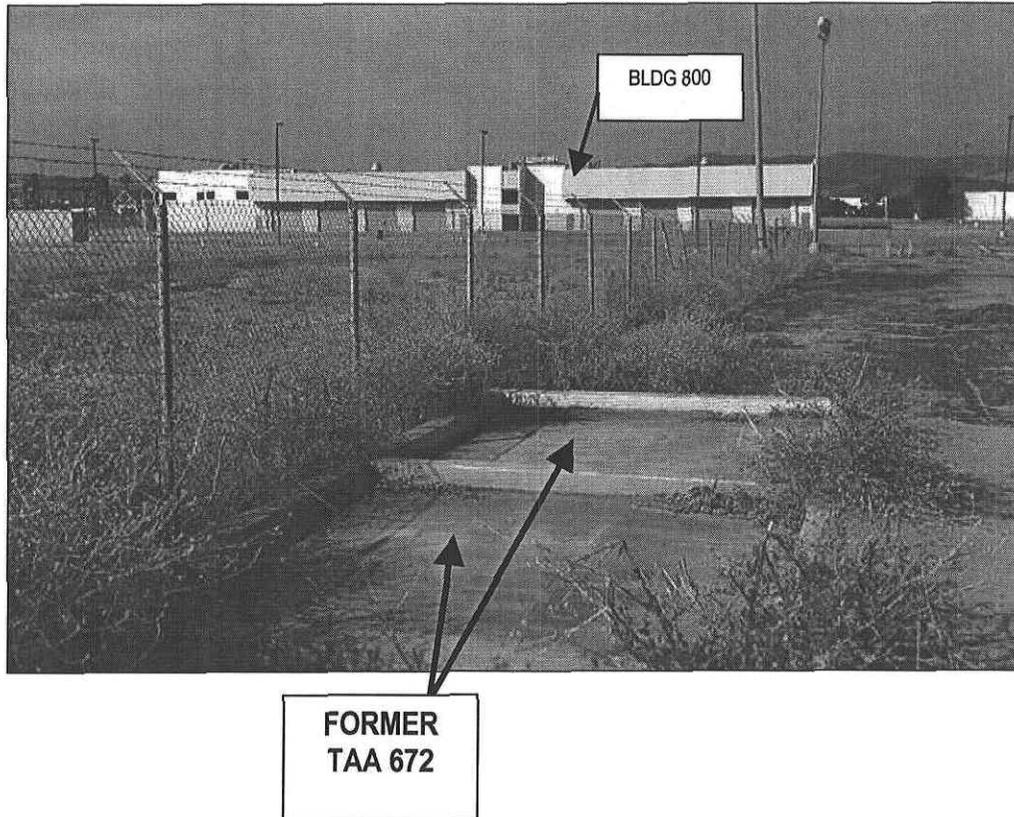
Extracts from historical hazardous waste management documents

Extracts pertaining to Installation Restoration Program Site 24 - Volatile  
Organic Compound (VOC) Source Area

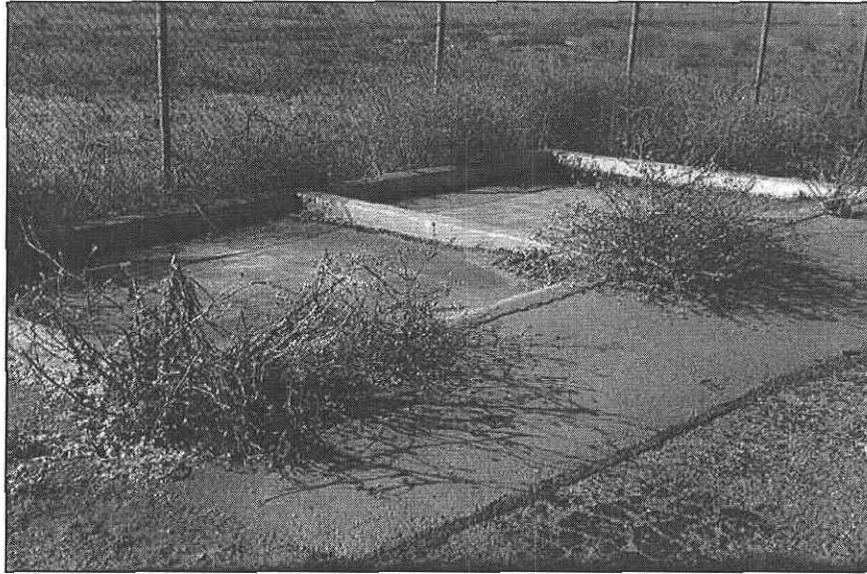
Extracts from MCAS El Toro Property Records, Facility Maps, and  
Historical Photographs

No Further Action Decision Documents and Other Documents for Nearby  
Locations of Concern

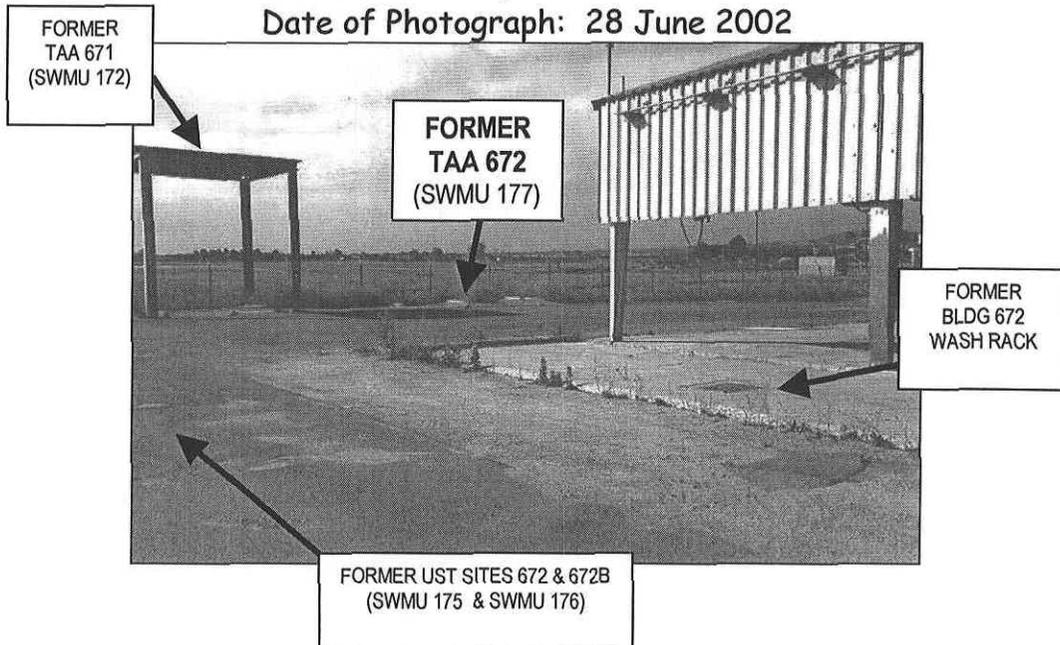
**Photograph 1. Former Temporary Accumulation Area (TAA) 672**  
**[Solid Waste Management Unit (SWMU) 177]**  
**Looking Approximately South Toward Building 800**  
**Former Marine Corps Air Station, El Toro**  
**Date of Photograph: 28 June 2002**



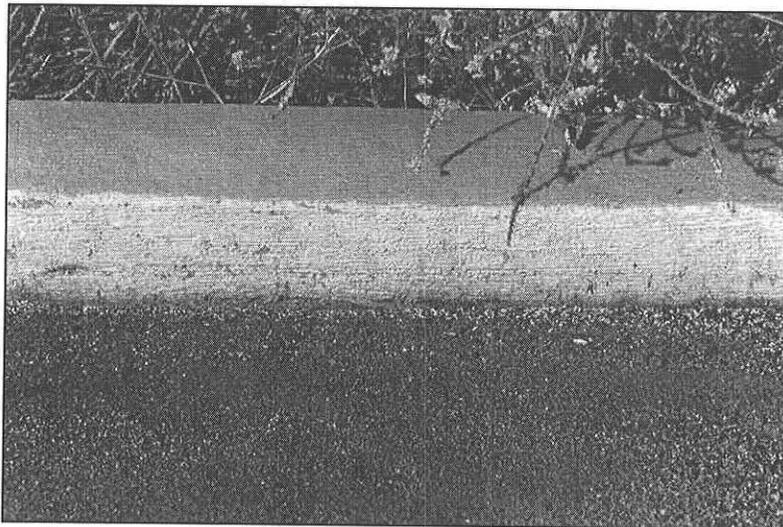
**Photograph 2. Former Temporary Accumulation Area (TAA) 672  
(SWMU 177) with Access Ramp in the Foreground  
Looking Approximately Southeast  
Former Marine Corps Air Station, El Toro  
Date of Photograph: 28 June 2002**



**Photograph 3. Former Temporary Accumulation Area (TAA) 672  
(SWMU 177) Looking Approximately East  
Former Marine Corps Air Station, El Toro  
Date of Photograph: 28 June 2002**



**Photograph 4. Concrete Curb at Former TAA 672**  
Former Marine Corps Air Station, El Toro  
Date of Photograph: 28 June 2002



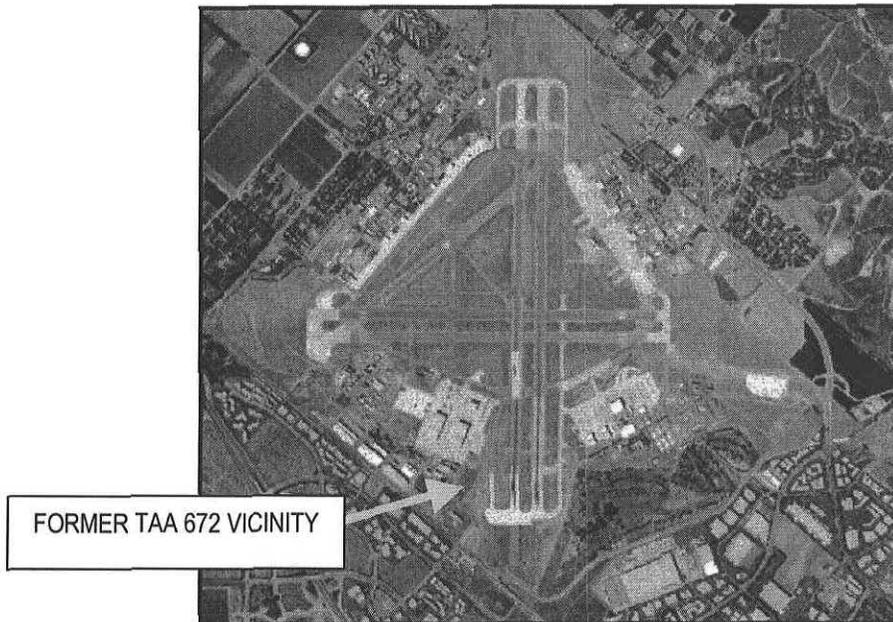
**Photograph 5. Surface of Concrete Slab of Former TAA 672**  
Former Marine Corps Air Station, El Toro  
Date of Photograph: 28 June 2002



**Photograph 6. Former TAA 672 Vicinity**  
Looking Approximately South  
Former Marine Corps Air Station, El Toro  
Date of Photograph: 28 June 2002

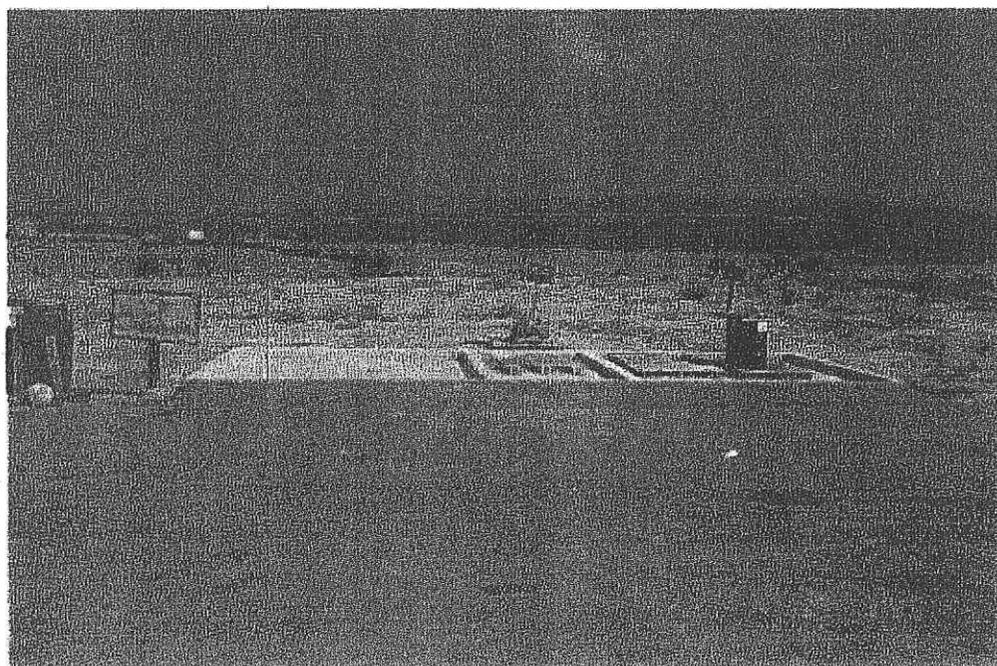


**Aerial Photograph. Vicinity of Former TAA 672**  
Marine Corps Air Station, El Toro  
Date of Aerial Photograph: 1994



October 1993 Photograph  
Former Temporary Accumulation Area (TAA) 672

Source of Photograph:  
Final Marine Corps Air Station El Toro Hazardous Material/Hazardous Waste  
Management Plan (SAIC August 1994)

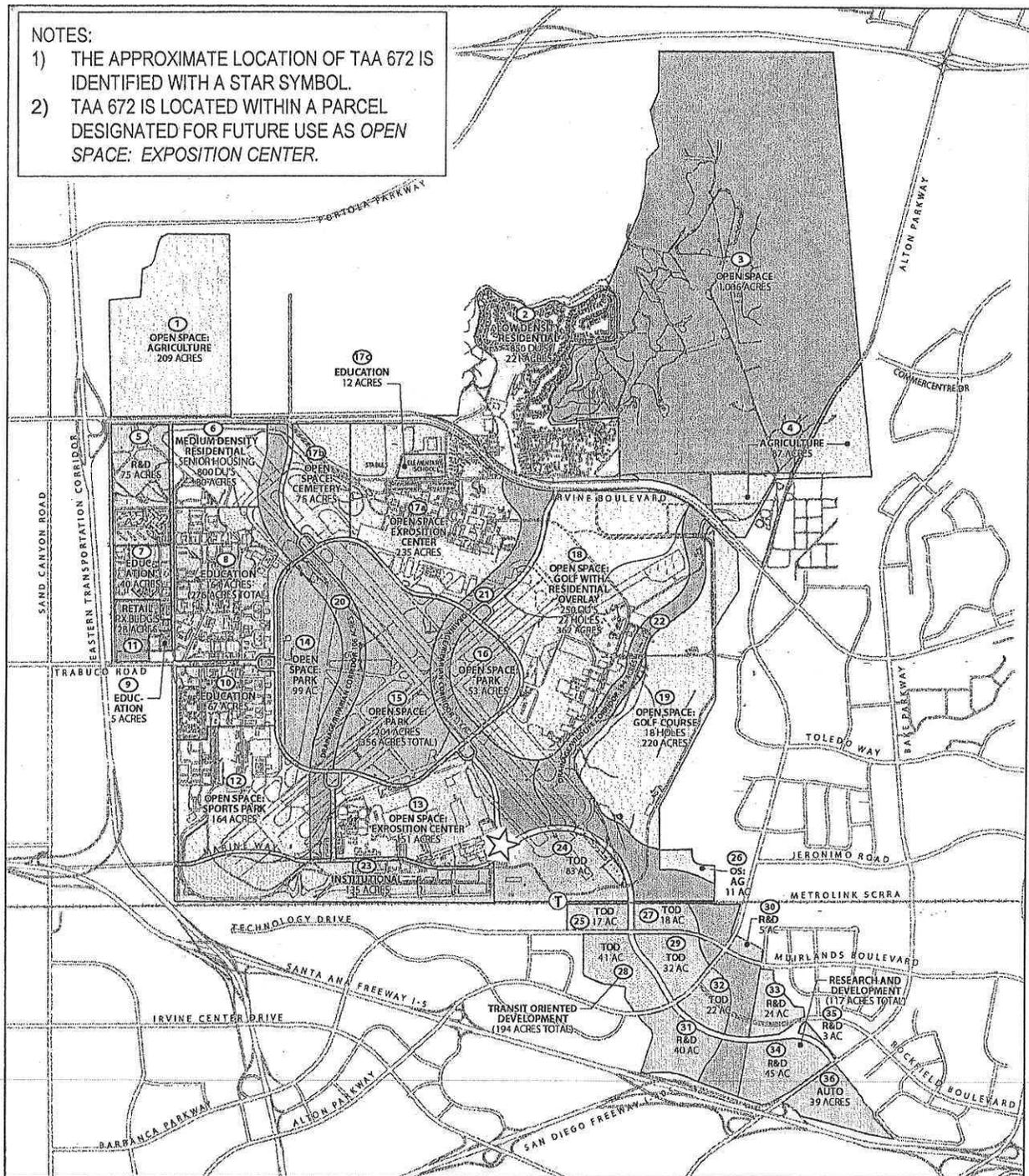


Marine Wing Support Squadron 377 (MWSS 373), Refuelers

Bldg 671

NOTES:

- 1) THE APPROXIMATE LOCATION OF TAA 672 IS IDENTIFIED WITH A STAR SYMBOL.
- 2) TAA 672 IS LOCATED WITHIN A PARCEL DESIGNATED FOR FUTURE USE AS OPEN SPACE: EXPOSITION CENTER.



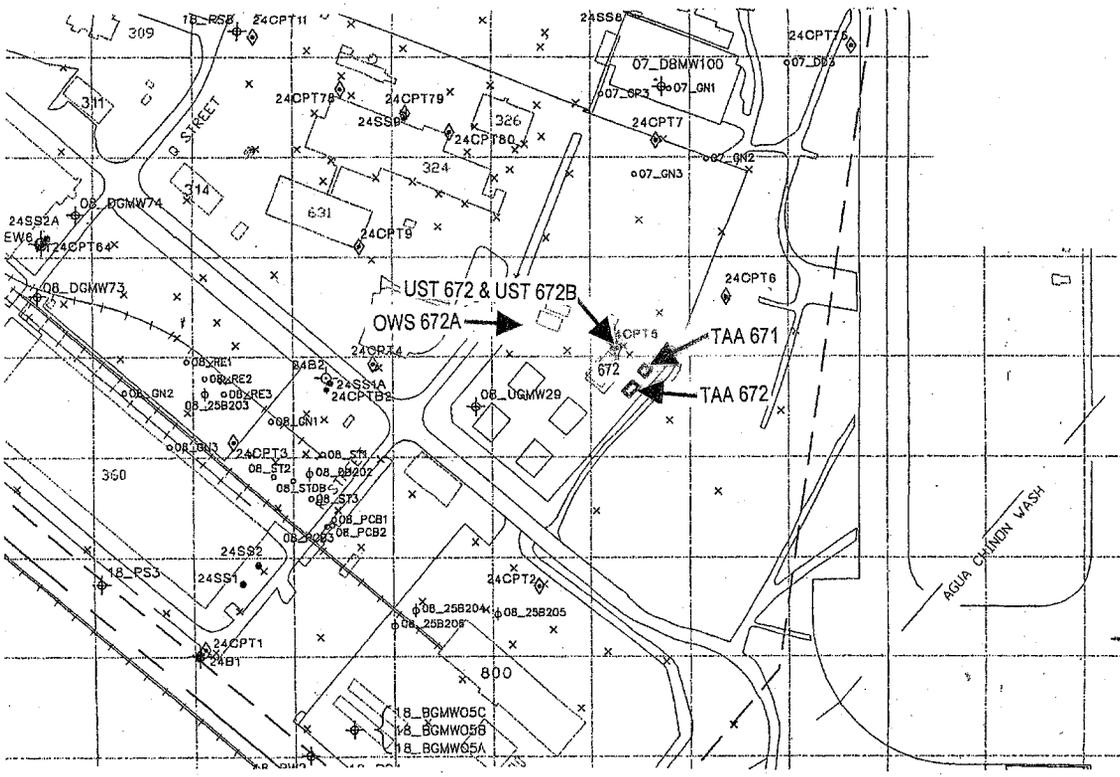
GREAT PARK LAND USE PLAN

# The Orange County Great Park

Prepared for the City of Irvine by ROMA Design Group and Associated Consultants

JUNE 12, 2002

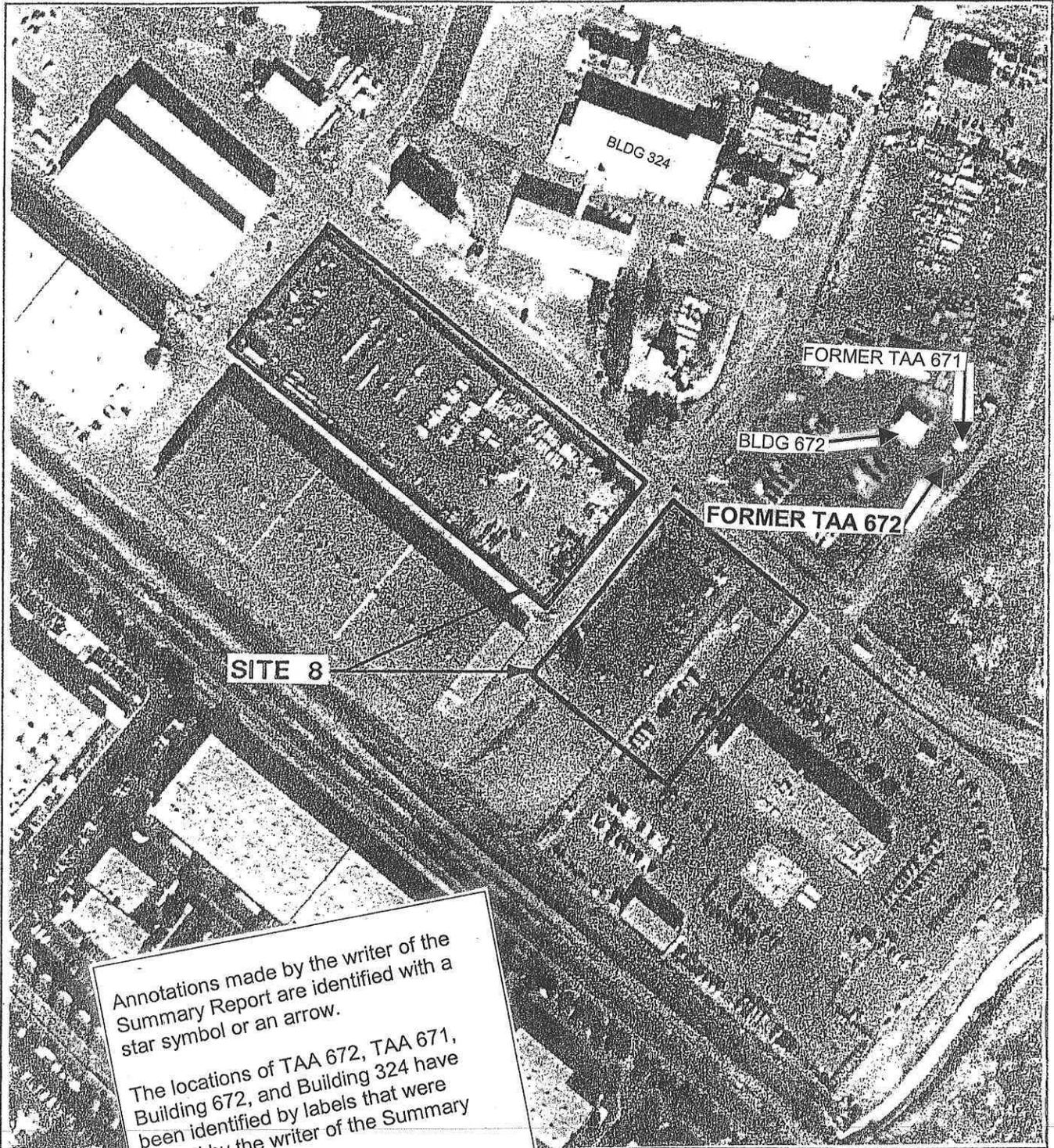
Exhibit 1.  
 FORMER TEMPORARY ACCUMULATION AREA  
 (TAA) 672  
 CITY OF IRVINE REUSE PARCEL LOCATIONS  
 FORMER MARINE CORPS AIR STATION, EL TORO



Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

- NOTES:
- 1) APPROXIMATE LOCATIONS OF TAA 672, TAA 671, OWS 672A, UST 672, & UST 672B ARE SHOWN.
  - 2) APPROXIMATE SCALE IS 1 INCH = 400 FEET.
  - 3) PRIMARY SOURCE OF MAP INFORMATION IS THE DRAFT FINAL PHASE II RI REPORT, IRP SITE 24 (BECHTEL 1997).

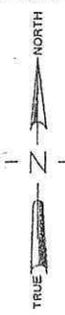
Exhibit 2.  
 FORMER TEMPORARY ACCUMULATION AREA (TAA) 672  
 IRP SITE 24 SAMPLE LOCATIONS NEAR FORMER TAA 672  
 FORMER MARINE CORPS AIR STATION, EL TORO



Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

The locations of TAA 672, TAA 671, Building 672, and Building 324 have been identified by labels that were placed by the writer of the Summary Report.

The primary source of the map information is the Draft Final RI Report, Operable Unit 3A (Bechtel 1997).



SOURCE: AERIAL PHOTOGRAPH INC.  
 SAN DIEGO, CALIFORNIA  
 DATE: 1/12/96

OU-3A Remedial Investigation Report

**Figure 1-3**

Site Aerial Photograph (1/12/96)  
 Site 8 - DRMO Storage Yard

Exhibit 3.  
 FORMER TEMPORARY ACCUMULATION AREA  
 (TAA) 672  
**1996 AERIAL PHOTOGRAPH OF FORMER TAA 672  
 VICINITY**  
 FORMER MARINE CORPS AIR STATION, EL TORO

## Extracts from RFA Documentation

**MARINE CORPS AIR STATION EL TORO  
EL TORO, CALIFORNIA  
INSTALLATION RESTORATION PROGRAM  
FINAL RESOURCE CONSERVATION  
AND RECOVERY ACT (RCRA)  
FACILITY ASSESSMENT REPORT**

EXTRACTS

PREPARED BY:  
Southwest Division, Naval Facilities  
Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5190

THROUGH:  
CONTRACT #N68711-89-D-9296  
CTO #193  
DOCUMENT CONTROL NO:  
CLE-C01-01F193-S2-0001

WITH:  
Jacobs Engineering Group, Inc.  
3655 Nobel Drive, Suite 200  
San Diego, California 92122

In association with:  
International Technology Corporation  
CH2M HILL

*M. W. Arends*

Mike Arends, P.E.  
CLEAN Project Manager  
CH2M HILL, Inc.

*7/16/93*  
Date

*Raoul Portillo*

Raoul Portillo  
CLEAN Technical Reviewer  
Jacobs Engineering Group Inc.

*15 July 1993*  
Date

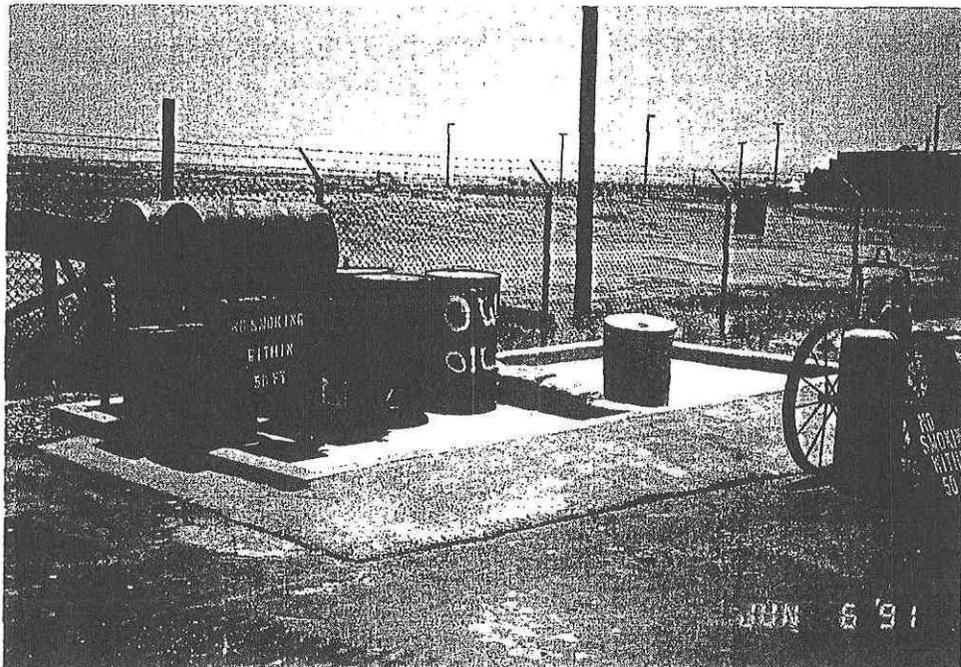
**Evaluation Form  
SWMU/Area of Concern  
Number 177**

Name: Drum Storage Area (east paved)

Location: Southeast of Building 672

Size: 250 sq ft

Date of Site Visit: 25 April 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 177**

Unit Characteristics

The DSA is located adjacent to the southeastern boundary fence of the vehicle parking area for Buildings 671 and 672. The DSA measures 10 ft x 25 ft. It consists of a concrete storage surface surrounded by a 6-in. concrete berm. The storage surface is divided into two sections by a 6-in. berm. An asphalt access ramp leads into the DSA from the northern side of the storage area. The DSA is bordered by a small unpaved area on the southeastern side and asphalt on the other three sides.

The DSA is used to store product materials such as motor oil, hydraulic fluid, and grease. The storage area appeared relatively new. There are no significant stains or cracks in the concrete storage surface or the berm surrounding the storage area.

Waste Characteristics

The following products are stored in the DSA:

Lubrication oil  
Hydraulic fluid  
Grease

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

No further action is recommended for this DSA.

### Evaluation Form SWMU/Area of Concern Number 172

Name: Hazardous Waste Storage Area

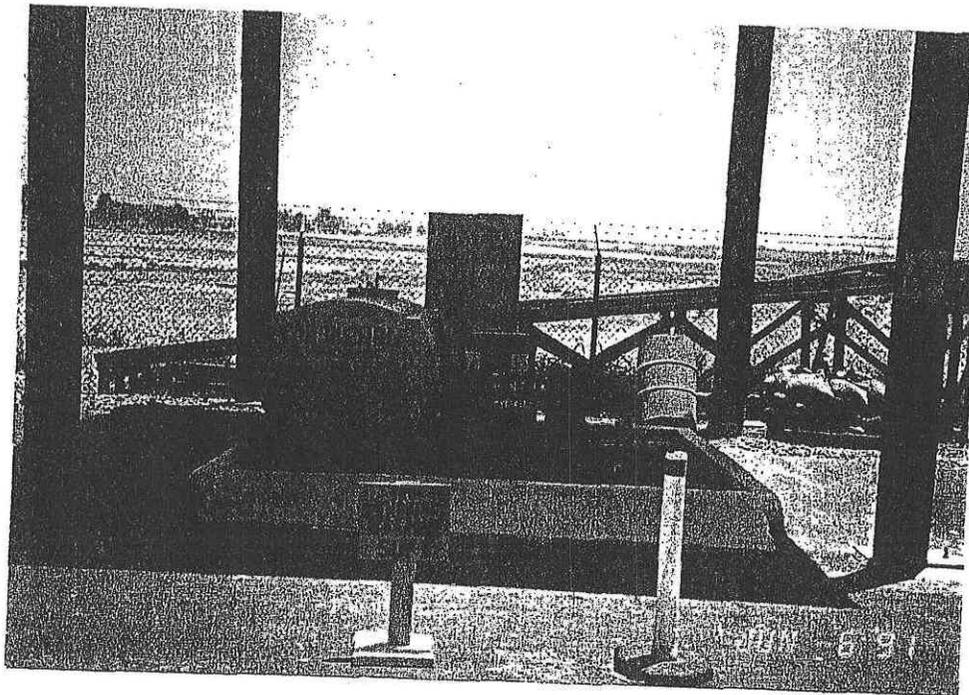
Location: Southeast of Building 672

Size: 144 sq ft

Date of Site Visit: 25 April 1991

Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

★ TAA 671 (SWMU 172) IS LOCATED ADJACENT TO TAA 672 (SWMU 177).



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 172**

Unit Characteristics

The HWSA is located near the southeastern corner of the vehicle storage yard for Buildings 671 and 672. The HWSA measures 10 ft x 10 ft. It consists of a concrete storage pad surrounded by a recently constructed 6-in. concrete berm. Previously, the HWSA had a secondary berm consisting of sandbags piled about 1 to 2 ft high. The HWSA has a sump located near the southwestern corner of the storage pad. An aluminum roof covers the entire storage area. The HWSA is bordered on the outside by a small unpaved area on the southeastern side and asphalt on the other three sides.

A 250-gallon, aboveground waste oil storage tank is located inside the bermed storage area. The tank is elevated about 2 ft above the storage surface. Other wastes stored inside the storage area include hydraulic fluid, JP-5, and Dry-Sweep.

The storage pad had several dark stains; however, the stains did not appear to extend outside the storage area.

Waste Characteristics

Waste oil  
Hydraulic fluid  
JP-5  
Dry-Sweep

Possible Migration Pathways

Soil

Evidence of Release

Stained storage pad

Exposure Potential

Authorized on-Station personnel

**Evaluation Form  
SWMU/Area of Concern  
Number 172**

Recommendations

Although no evidence of a release outside of the HWSA was observed, the identified HWSAs at MCAS El Toro are typically being suggested for a sampling visit in this RFA. Therefore, a sampling visit is recommended for this HWSA.

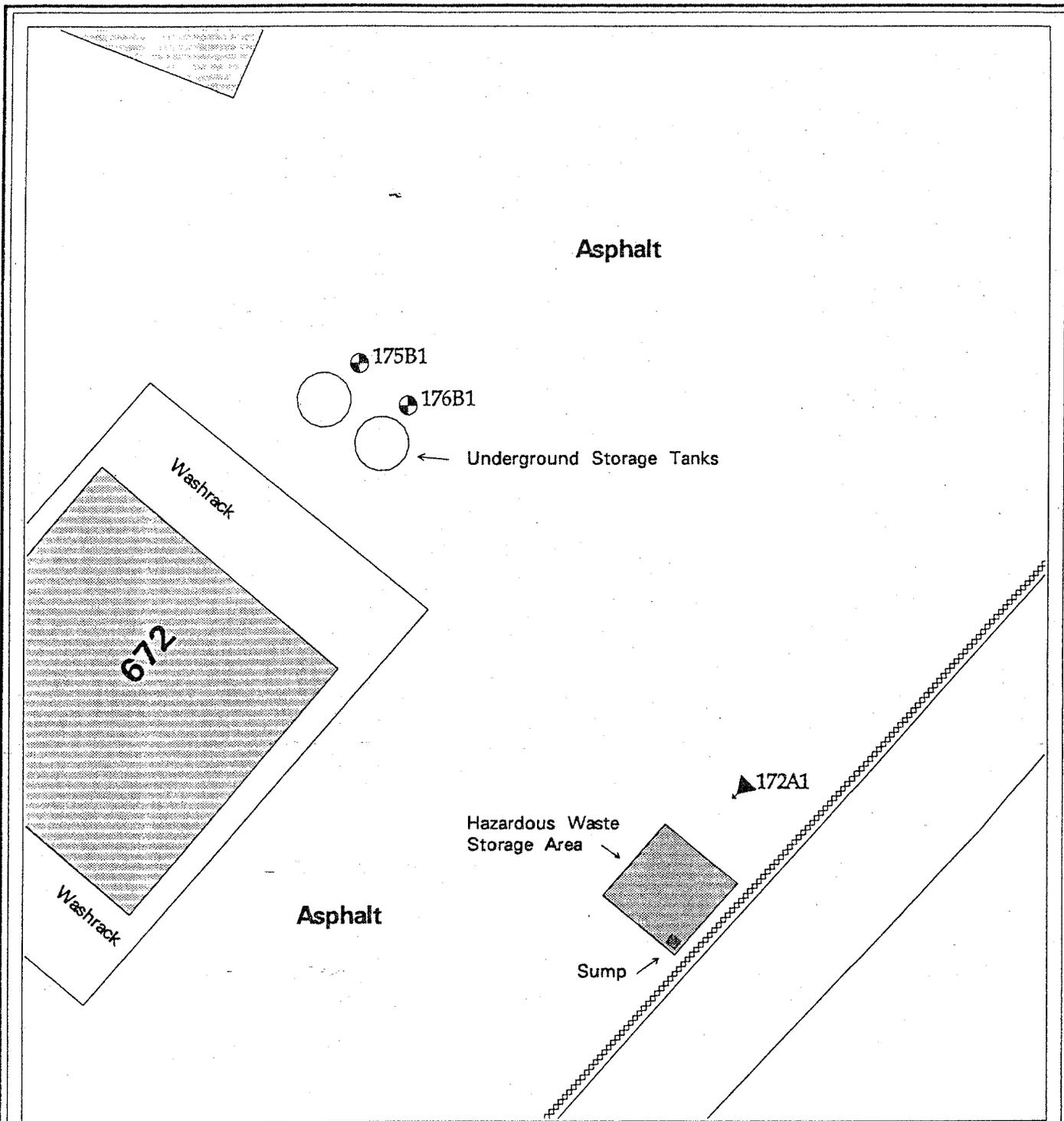


Figure 53 Sample Location Map

Boring Location and Number:

- ⊕ 123H4 5' Deep Boring
- ⊙ 123B4 25' Deep Boring
- ▲ 123A4 60' Long, Angle Boring

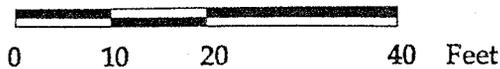
Features:

-  Building
-  Concrete
-  Fence
-  Railroad

SWMU/AOC Number and Type:

- 172 - Hazardous Waste Storage Area
- 175 - Underground Storage Tank
- 176 - Underground Storage Tank

Scale



MCAS El Toro  
RCRA Facility Assessment

**MCAS EL TORO RCRA FACILITY ASSESSMENT -- SAMPLING VISIT RESULTS**

| SWMU/AOC NUMBER | SWMU/AOC TYPE (FIGURE)            | BORING NUMBER | SAMPLE DEPTH (FEET) | ANALYTICAL TEST RESULTS |             |        |  |               |                         |                | RECOMMENDATIONS   |           |
|-----------------|-----------------------------------|---------------|---------------------|-------------------------|-------------|--------|--|---------------|-------------------------|----------------|---|-----------|
|                 |                                   |               |                     | TPH (mg/kg)             | TFH (mg/kg) |        | VOCs (ug/kg)   | SVOCs (ug/kg) | PESTICIDES/PCBs (ug/kg) | METALS (mg/kg) | Action  | Rationale |
|                 |                                   |               |                     |                         | Gasoline    | Diesel |  |               |                         |                |   |           |
| 172             | Hazardous Waste Storage Area (53) | A1            | 10                  | ND                      | ND          | ND     | Methylene Chloride-5 BJ *<br>Acetone-7 BJ *<br>2-Butanone-2 BJ * | ND            | ND                      | Selenium-ND    | NFA<br>TPH/TFH < 100 ppm<br>VOCs < CRDL<br>SVOCs < CRDL<br>Pest/PCBs < CRDL<br>Metals < ETM & PRG<br><br>CRDL - Contract Required Detection Limit |           |
|                 |                                   |               | 20                  | ND                      | ND          | ND     | Methylene Chloride-4 BJ *<br>Acetone-6 BJ *<br>2-Butanone-2 BJ * | ND            | ND                      | Selenium-0.9 B |   |           |
|                 |                                   |               | 30                  | ND                      | ND          | ND     | Methylene Chloride-4 BJ *<br>Acetone-6 BJ *                      | ND            | ND                      | Selenium-ND    |   |           |
|                 |                                   |               | 40                  | ND                      | ND          | ND     | Methylene Chloride-5 BJ *<br>Acetone-6 BJ *                      | ND            | ND                      | Selenium-ND    |   |           |
|                 |                                   |               | 40 (Duplicate)      | ND                      | ND          | ND     | Methylene Chloride-4 BJ *<br>Acetone-7 BJ *                      | ND            | ND                      | Selenium-ND    |   |           |
|                 |                                   |               | 50                  | ND                      | ND          | ND     | Methylene Chloride-5 BJ *<br>Acetone-3 BJ *                      | ND            | ND                      | Selenium-ND    |   |           |
|                 |                                   |               | 60                  | ND                      | ND          | ND     | Methylene Chloride-6 BJ *<br>Acetone-8 BJ *                      | ND            | ND                      | Selenium-ND    |   |           |



|                                  |                         |              |
|----------------------------------|-------------------------|--------------|
| PROJECT NUMBER<br>LA070022.S0.10 | BORING NUMBER<br>172A-1 | SHEET 1 OF 2 |
| <b>SOIL BORING LOG</b>           |                         |              |

PROJECT NAVY CLEAN RCRA FACILITY ASSESSMENT LOCATION MCAS-EL TORO  
 ELEVATION \_\_\_\_\_ DRILLING CONTRACTOR BEYLIK DRILLING, INC., LA HABRA, CALIFORNIA  
 DRILLING METHOD AND EQUIPMENT HSA, 3-1/4" ID, 6-1/2" OD, GUS PECH BRAT-22  
 WATER LEVELS \_\_\_\_\_ START 10/22/92 FINISH 10/22/92 LOGGER K. HUCKRIEDE

| DEPTH BELOW SURFACE (FT) | SAMPLE   |                 |               | STANDARD PENETRATION TEST RESULTS<br>6" -6" -6" (N) | SOIL DESCRIPTION<br>SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY | COMMENTS<br>DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS TESTS AND INSTRUMENTATION |
|--------------------------|----------|-----------------|---------------|---|--|---|
|                          | INTERVAL | TYPE AND NUMBER | RECOVERY (FT) |   |  |   |
| 5.0                      |          |                 |               |   | 2 inches of asphalt at surface.<br><u>LEAN CLAY WITH SAND (CL)</u> , dark brown, moist, stiff, fine grained sand.                      | Start drilling at 08:15.  |
| 10.0                     | 10.0     |                 |               |   |  |   |
|                          | 12.0     | 1-MC            | 1.7           | 6-33-50-70  | <u>SANDY LEAN CLAY (CL)</u> , brown, moist, hard, fine grained sand.   | Headspace reading between sleeves, similar to background on OVA.                          |
| 15.0                     |          |                 |               |   |  |   |
| 20.0                     | 20.0     |                 |               |   |  |   |
|                          | 22.0     | 2-MC            | 1.0           | 70-19-17-46   | <u>POORLY GRADED SAND WITH CLAY (SP-SC)</u> , brown, moist, dense, fine grained.   |   |
|                          | 24.0     | 2A-MC           | 1.8           | 33-48-89-70   | <u>LEAN CLAY WITH SAND (CL)</u> , dark brown, moist, hard, coarse to fine grained sand.  | Headspace reading similar to background on OVA.   |
| 25.0                     |          |                 |               |   |  |   |
| 30.0                     | 30.0     |                 |               |   |  |   |
|                          | 32.0     | 3-MC            | 1.6           | 15-30-60-40   | <u>POORLY GRADED SAND WITH CLAY (SP-SC)</u> , light brown, moist, very dense, fine to medium grained.                                  | Headspace reading similar to background on OVA.   |



PROJECT NUMBER  
LA070022.S0.10

BORING NUMBER  
172A-1

SHEET 2 OF 2

SOIL BORING LOG

PROJECT NAVY CLEAN RCRA FACILITY ASSESSMENT

LOCATION MCAS-EL TORO

ELEVATION \_\_\_\_\_ DRILLING CONTRACTOR BEYLIK DRILLING, INC., LA HABRA, CALIFORNIA

DRILLING METHOD AND EQUIPMENT HSA, 3-1/4" ID, 6-1/2" OD, GUS PECH BRAT-22

WATER LEVELS \_\_\_\_\_ START 10/22/92 FINISH 10/22/92 LOGGER K. HUCKRIEDE

| DEPTH BELOW SURFACE (FT) | SAMPLE   |                 |               | STANDARD PENETRATION TEST RESULTS<br>6" -6" -6"<br>(N) | SOIL DESCRIPTION<br>SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY | COMMENTS<br>DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS TESTS AND INSTRUMENTATION |
|--------------------------|----------|-----------------|---------------|--|--|---|
|                          | INTERVAL | TYPE AND NUMBER | RECOVERY (FT) |  |  |   |
| 40.0                     | 40.0     |                 |               |  |  |   |
|                          |          | 4-MC            | 1.8           | 31-52-92-147   | CLAYEY SAND (SC), brown, moist, very dense, fine to medium grains.   | Headspace reading 0.4 ppm on OVA.   |
|                          | 42.0     |                 |               |  |  |   |
|                          | 44.0     | 4A-MC           | 1.9           | 37-55-66-70  | SANDY LEAN CLAY (CL), brown, moist, hard, fine to medium grained sand.   |   |
| 45.0                     |          |                 |               |  |  |   |
| 50.0                     | 50.0     |                 |               |  |  |   |
|                          |          | 5-MC            | 1.8           | 24-26-30-53  | WELL GRADED SAND (SW), yellow brown, dry to moist, very dense, particles subrounded.   | Headspace reading 0.6 ppm on OVA, between sleeves.  |
|                          | 52.0     |                 |               |  |  |   |
| 55.0                     |          |                 |               |  |  |   |
| 60.0                     | 60.0     |                 |               |  | Same as 5-MC.  |   |
|                          | 62.0     | 6-MC            |               | 39-39-39-72  |  |   |
|                          |          |                 |               |  | Total Depth at 62.0 Feet.  |   |
| 65.0                     |          |                 |               |  |  |   |

Table 6-15  
Recommendations for SWMUs/AOCs  
MCAS El Toro RFA

| SWMU No. | SWMU/AOC Type                | Recommendation (FA/NFA) | Description of Further Action      | Rationale for Further Action                                 |
|----------|------------------------------|-------------------------|------------------------------------|--|
| 160      | Hazardous Waste Storage Area | NFA                     | --                                 | --   |
| 162      | Underground Storage Tank     | NFA                     | --                                 | --   |
| 164      | Vehicle Wash Rack            | NFA                     | --                                 | --   |
| 171      | Hazardous Waste Storage Area | FA                      | Shallow soil borings               | Potential for SVOCs in surface soil                          |
| 172      | Hazardous Waste Storage Area | NFA                     | --                                 | --   |
| 173      | Oil/Water Separator          | FA                      | Additional boring(s)               | Petroleum hydrocarbon contamination, unknown extent          |
| 175      | Oil/Water Separator          | FA                      | Additional boring(s)               | Petroleum hydrocarbon contamination, unknown extent          |
| 176      | Underground Storage Tank     | FA                      | Additional boring(s)               | Petroleum hydrocarbon contamination, unknown extent          |
| 179      | Oil/Water Separator          | NFA                     | --                                 | --   |
| 181      | Landfarming Area             | NFA                     | --                                 | --   |
| 186      | Hazardous Waste Storage Area | NFA                     | --                                 | --   |
| 187      | Underground Storage Tank     | NFA                     | --                                 | --   |
| 188      | Underground Storage Tank     | NFA                     | --                                 | --   |
| 193      | Oil/Water Separator          | NFA                     | --                                 | --   |
| 194      | Former Incinerator Site      | FA                      | Additional boring(s)               | Petroleum hydrocarbon contamination, unknown extent          |
| 195      | Vehicle Wash Rack            | NFA                     | --                                 | --   |
| 196      | Oil/Water Separator          | NFA                     | --                                 | --   |
| 198      | Vehicle Wash Rack            | FA                      | Repair cracks in pavement          | Prevent future migration of petroleum hydrocarbons           |
| 199      | Oil/Water Separator          | FA                      | Leak test/ inspection of separator | Moderate petroleum hydrocarbon contamination at 15-foot dept |
| 201      | Vehicle Wash Rack            | FA                      | Repair cracks in pavement          | Prevent future migration of petroleum hydrocarbons           |
| 202      | Underground Storage Tank     | NFA                     | --                                 | --   |
| 204      | Vehicle Wash Rack            | FA                      | Repair cracks in pavement          | Prevent future migration of petroleum hydrocarbons           |
| 205      | Oil/Water Separator          | NFA                     | --                                 | --   |
| 208      | Oil/Water Separator          | NFA                     | --                                 | --   |
| 211      | Oil/Water Separator          | NFA                     | --                                 | --   |
| 213      | Vehicle Wash Rack            | FA                      | Repair cracks in pavement          | Prevent future migration of petroleum hydrocarbons           |
| 214      | Underground Storage Tank     | NFA                     | --                                 | --   |
| 220      | Oil/Water Separator          | NFA                     | --                                 | --   |
| 222      | Hazardous Waste Storage Area | NFA                     | --                                 | --   |
| 223      | Hazardous Waste Storage Area | NFA                     | --                                 | --   |

Southwest Division  
Naval Facilities Engineering Command  
Contracts Department  
1220 Pacific Highway, Room 135  
San Diego, CA 92132-5187

Contract No. N68711-92-D-4670

**COMPREHENSIVE LONG-TERM ENVIRONMENTAL  
ACTION NAVY  
CLEAN II**

**FINAL ADDENDUM TO THE  
RCRA FACILITY ASSESSMENT  
MCAS EL TORO, CALIFORNIA  
(VOLUME 6 OF THE FINAL RFA REPORT)**

**CTO-0065/0170**

**May 1996**

Prepared by:

BECHTEL NATIONAL, INC.  
401 West A Street, Suite 1000  
San Diego, CA 92101



Signature: \_\_\_\_\_

Jacques Lord, CTO Leader

Date: \_\_\_\_\_

31 May 1996

Section 1 Introduction

Table 1-2 (continued)

| SWMU <sup>a</sup> /TAA <sup>b</sup> | Description; Location        | Proposed Action(s)   |
|-------------------------------------|------------------------------|--|
| <b>GROUP 2 TAAs (continued)</b>     |                              |  |
| 147/TAA 602                         | Drum Storage Area; Bldg. 602 | Evaluate removal and/or decontamination strategy                       |
| 149/TAA 605                         | Drum Storage Area; Bldg. 605 | Evaluate removal and/or decontamination strategy                       |
| 255/TAA 606                         | HWSA; Bldg. 606              | Evaluate removal and/or decontamination strategy                       |
| 160/TAA 636                         | HWSA; Bldg. 636              | Evaluate removal and/or decontamination strategy                       |
| 165/TAA 651                         | Drum Storage Area; Bldg. 651 | Evaluate removal and/or decontamination strategy;<br>possible sampling |
| 171/TAA 658                         | HWSA; Bldg. 658              | Evaluate removal and/or decontamination strategy                       |
| 172/TAA 671                         | HWSA; Bldg. 671              | Evaluate removal and/or decontamination strategy                       |
| 177/TAA 672                         | Drum Storage Area; Bldg. 672 | Evaluate removal and/or decontamination strategy                       |
| 186/TAA 673                         | HWSA; Bldg. 673              | Evaluate removal and/or decontamination strategy                       |
| 266/TAA 765                         | Drum Storage Area; Bldg. 765 | Evaluate removal and/or decontamination strategy                       |
| 222/TAA 769                         | HWSA; Bldg. 769              | Evaluate removal and/or decontamination strategy                       |
| 223/TAA 770                         | HWSA; Bldg. 770              | Evaluate removal and/or decontamination strategy                       |
| 224/TAA 771                         | HWSA; Bldg. 771              | Evaluate removal and/or decontamination strategy                       |
| 225/TAA 772                         | HWSA; Bldg. 772              | Evaluate removal and/or decontamination strategy                       |
| 226/TAA 778                         | HWSA; Bldg. 778              | Evaluate removal and/or decontamination strategy                       |
| 227/TAA 779                         | HWSA; Bldg. 779              | Evaluate removal and/or decontamination strategy                       |
| 229/TAA 800                         | HWSA; Bldg. 800              | Evaluate removal and/or decontamination strategy;<br>possible sampling |
| 234/TAA 856                         | HWSA; Bldg. 856              | Evaluate removal and/or decontamination strategy                       |

Notes:

- <sup>a</sup> SWMU – solid waste management unit
- <sup>b</sup> TAA – temporary accumulation areas, formerly known as satellite accumulation areas
- <sup>c</sup> TAA identified in the 1994 Draft Oil and Hazardous Substances Spill Prevention and Countermeasure Plan and Contingency Plan but not in the Resource Conservation and Recovery Act Facility Assessment; will be assigned a SWMU number and may require sampling
- <sup>d</sup> HWSA – hazardous waste storage area
- <sup>e</sup> HMS – hazardous materials storage
- <sup>f</sup> CTO – Contract Task Order

# ACCUMULATION AREA EVALUATION CHECKLIST

(CIRCLE AS APPROPRIATE AND FILL IN COMPLETELY)

JOB 22214  
NAVY CLEAN II

CTO-0065  
MCAS EL TORO RFA CONFIRMATION ACTIVITIES

## GENERAL DESCRIPTION:

SWMU #: 177                      Accumulation Area (AA) #: 672  
Location (bldg): **Drum Storage Area/Bldg. 672**  
Site Contact: **Leta Suarez**                      Ext: 2772  
Permission for Access? ~~Y~~  N If yes, explain:  
Type of Wastes Observed: **None**

## TYPE: (CIRCLE AS APPROPRIATE)

~~Locker~~      ~~Cabinet~~       Pad       Concrete/Soil/Asphalt floor  
 Berm      ~~Fence~~      ~~Fence Type:~~      ~~Indoor~~  
 Pallets       Drum(s)      No. of Drums: 7       Outdoor

## CONDITION:

Stain(s)      ~~Odor(s)~~      ~~Crack(s)~~  
Placards/Labels:  Y ~~N~~ If Yes, list: **3M 6% AFI  
Oil & Lube Oil  
Grease.  
Empty Drum Site  
Gasoline**

Observations: **Moderate oil stains. Typical parking lot type - not candidates for decontamination.**

Status: **Active as of 11-10-95.**

## DIMENSIONS: (ESTIMATED SIZE OR AREA IN FT)

AA/SWMU: **6x20 ft.**  
"Stain(s)": **Minor.**  
Any Restrictions To Access?: **Fence to one side.**

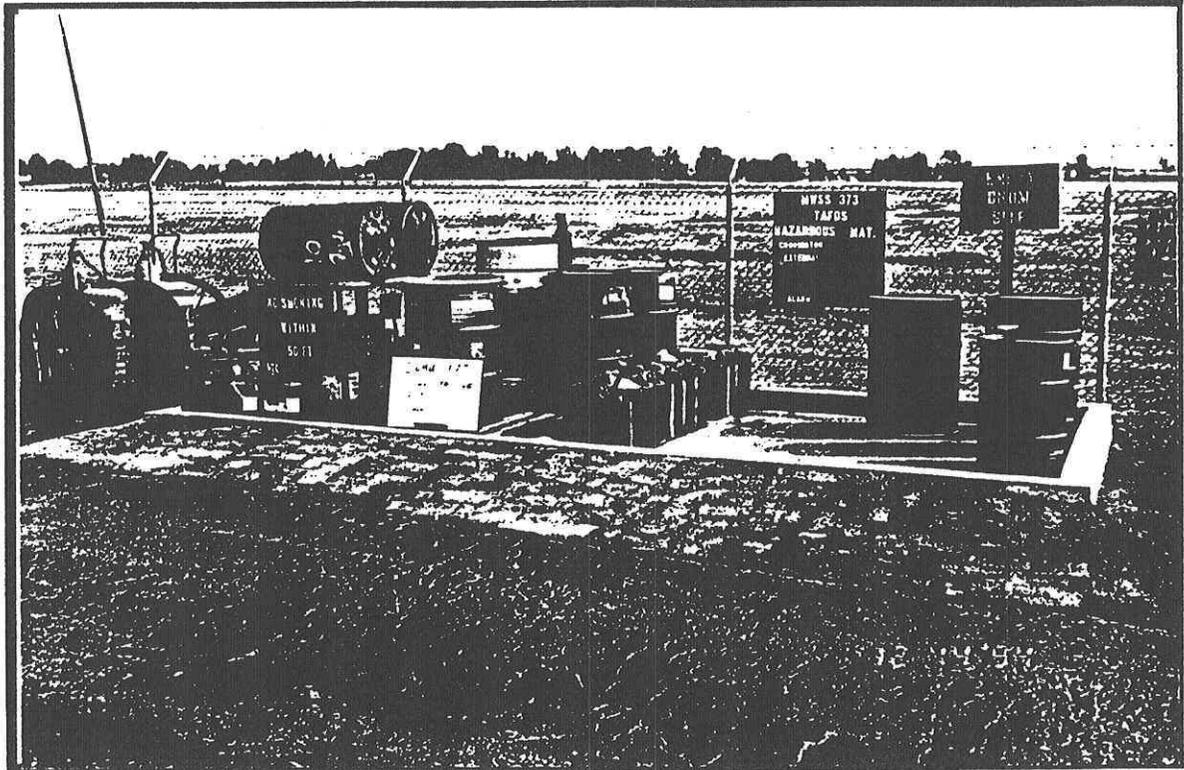
## EVALUATION OF REMOVAL/DECONTAMINATION STRATEGY (CIRCLE AS APPROPRIATE)

Yes  No      Potential for release evident based on this surveillance  
Yes  No      Potential for simple removal  
Yes  No      Potential for decontamination activities prior to removal  
Yes  No      Potential for sampling (describe:                      )  
Yes  No      Potential for removal after additional assessment activities

## SKETCH: (MAKE A SKETCH or ATTACH PHOTO(S) OF RELEVANT ACCESS, OBJECTS, WORK SPACE, ETC., AS APPROPRIATE, ON REVERSE OF THIS FORM)

DATE/TIME OF SURVEILLANCE: 12-2-94/14:50  
UPDATED: 11-10-95/11:54  
SURVEILLANCE PERFORMED BY: **Larry Bauman**

# PHOTO LOG



**SWMU #: 177**

**PHOTO DATE: 12-14-94**

# ACCUMULATION AREA EVALUATION CHECKLIST

(CIRCLE AS APPROPRIATE AND FILL IN COMPLETELY)

JOB 22214 CTO-0065  
NAVY CLEAN II MCAS EL TORO RFA CONFIRMATION ACTIVITIES

## GENERAL DESCRIPTION:

SWMU #: 172 Accumulation Area (AA) #: 671  
Location (bldg): HWSA/Bldg. 671  
Site Contact: Leta Suarez Ext: 2772  
Permission for Access? ~~Y~~  N If yes, explain:  
Type of Wastes Observed None

## TYPE: (CIRCLE AS APPROPRIATE)

~~Locker~~ ~~Cabinet~~  Pad  Concrete ~~Soil/Asphalt~~ floor  
 Berm ~~Fence~~ Fence Type: ~~Indoor~~  
 Pallets  Drum(s) No. of Drums: 3  Outdoor

## CONDITION:

~~Stain(s)~~ ~~Odor(s)~~ ~~Crack(s)~~  
Placards/Labels:  Y ~~N~~ If Yes, list: MWSS 373 TAFDS HAZWASTE  
Oily Rags and Floor sweep.  
Observations: Clean berm and pad. Roof over berm.  
Status: Active as of 11-10-95.

## DIMENSIONS: (ESTIMATED SIZE OR AREA IN FT)

AA/SWMU: 10x10 ft.  
"Stain(s)": None.  
Any Restrictions To Access?: Roof and poles.

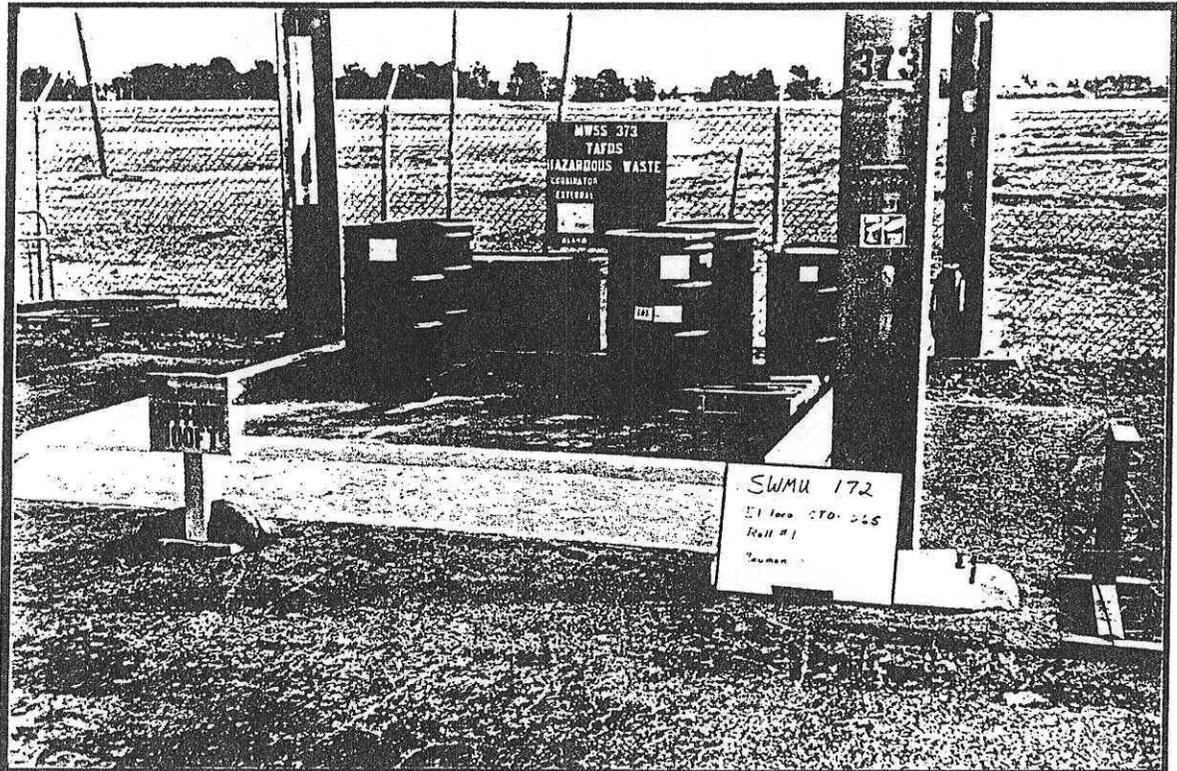
## EVALUATION OF REMOVAL/DECONTAMINATION STRATEGY (CIRCLE AS APPROPRIATE)

Yes  No Potential for release evident based on this surveillance  
Yes  No Potential for simple removal  
Yes  No Potential for decontamination activities prior to removal  
Yes  No Potential for sampling (describe: )  
Yes  No Potential for removal after additional assessment activities

SKETCH: (MAKE A SKETCH or ATTACH PHOTO(S) OF RELEVANT ACCESS, OBJECTS, WORK SPACE, ETC., AS APPROPRIATE, ON REVERSE OF THIS FORM)

DATE/TIME OF SURVEILLANCE: 12-2-94/14:45  
UPDATED: 11-10-95/11:55  
SURVEILLANCE PERFORMED BY: Larry Bauman

PHOTO LOG



SWMU #: 172

PHOTO DATE: 12-14-94

## Extracts from historical hazardous waste management documents

Final

EXTRACTS

Marine Corps Air Station El Toro  
Hazardous Material/Hazardous Waste  
Management Plan

August 1994

Annotations made by the writer of the  
Summary Report are identified with a  
star symbol or an arrow.



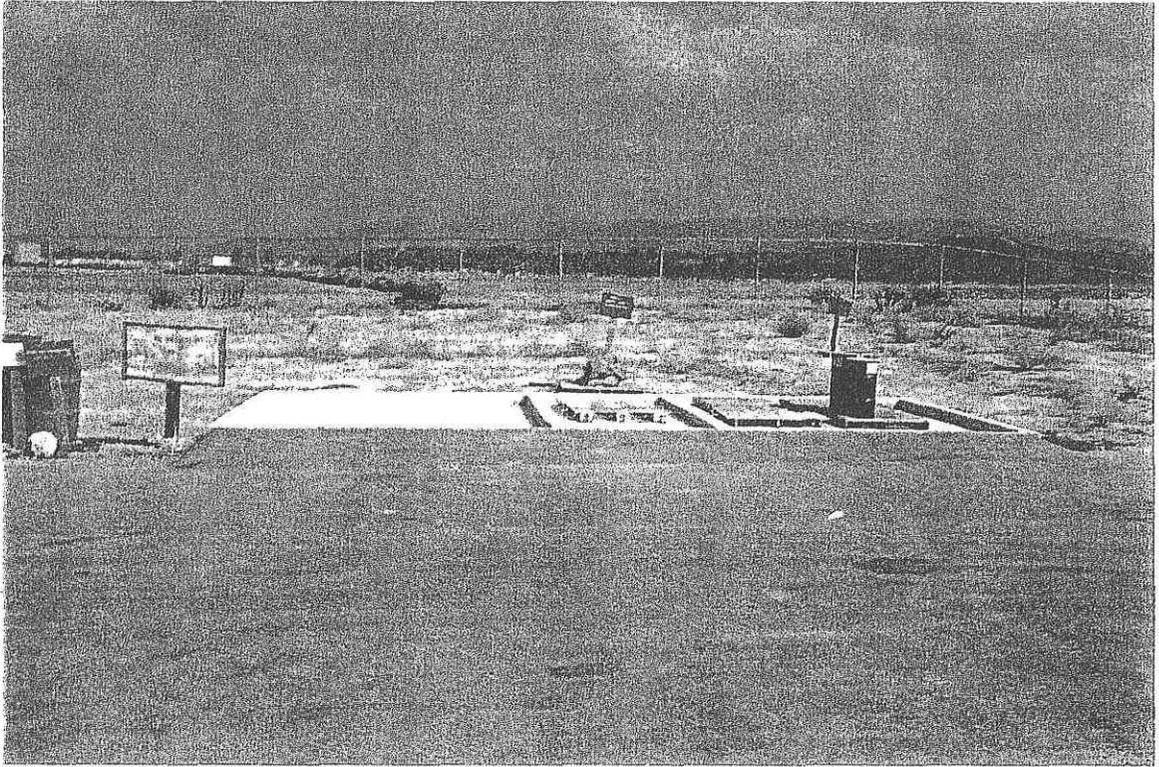
Prepared for:

Southwest Division Naval Facilities Engineering Command  
1220 Pacific Highway  
San Diego, CA 92132-5190

Prepared by:

Science Applications International Corporation  
Engineering Sciences Division  
10260 Campus Point Drive  
San Diego, CA 92121

Contract No. N68711-92-D-4658  
Delivery Order No. 0004



Marine Wing Support Squadron 377 (MWSS 373), Refuelers

Bldg 671



Marine Wing Support Squadron 373 (MWSS 373), Headquarters

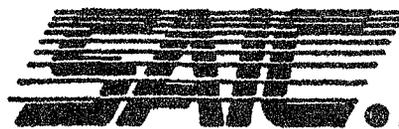
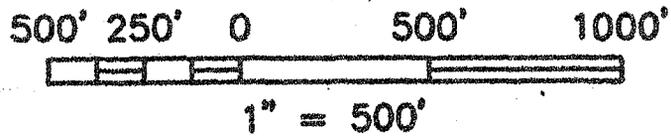
Bldg 800

- ▲ HAZARDOUS MATERIALS STORAGE
- HAZARDOUS WASTE ACCUMULATION POINT
- ONE YEAR PERMITTED HAZARDOUS WASTE STORAGE AREA

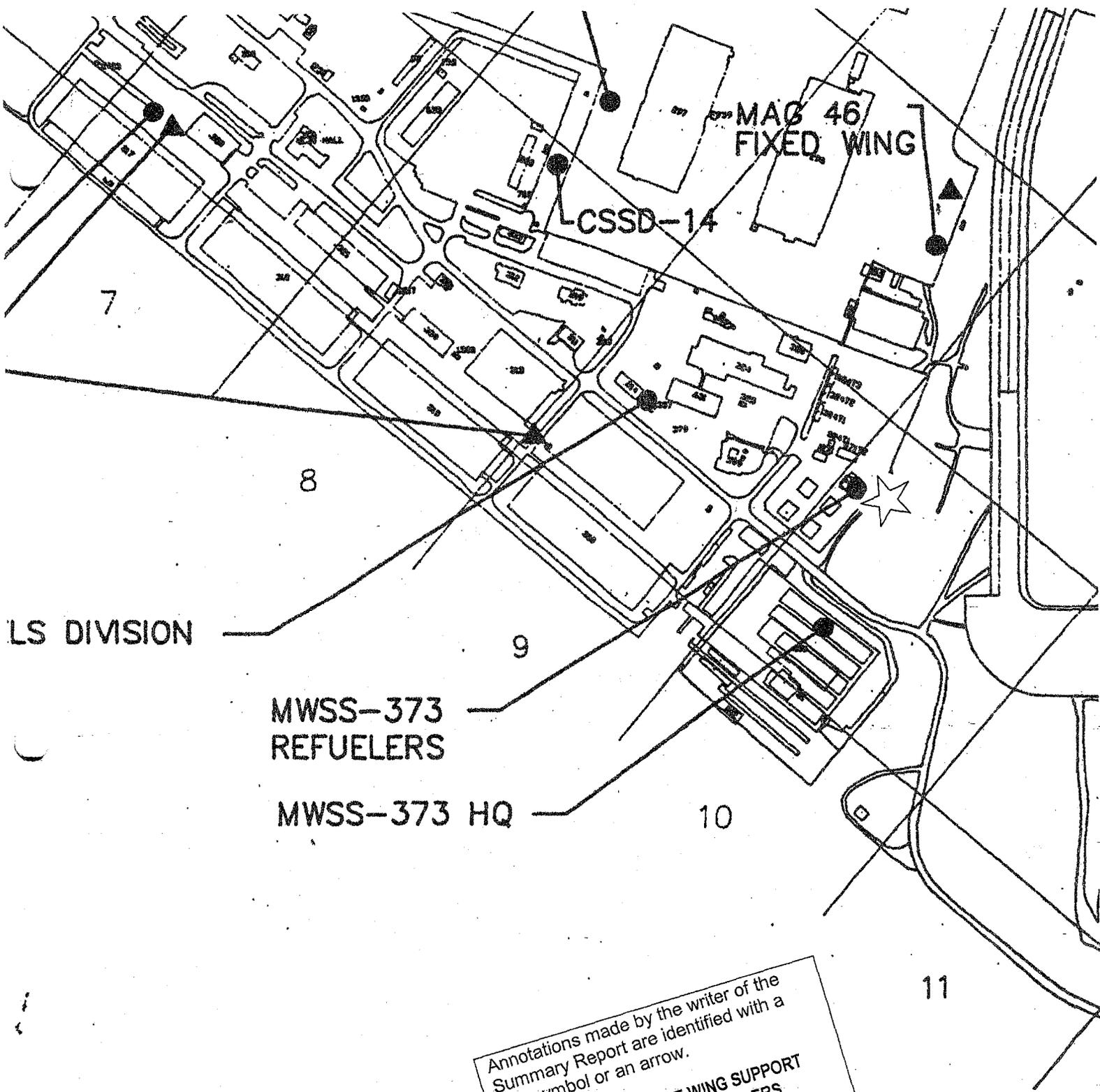
MCAS El Toro  
Santa Ana, California

# HAZARDOUS WASTE ACCUMULATION POINTS AND HAZARDOUS MATERIAL STORAGE LOCATIONS

NOVEMBER 5, 1993



**Science Applications  
International Corporation**  
● An Employee-Owned Company



M60050.000776 (1-2)  
4/17/89 TDP FTE

MCAS EL TORO

ADDITIONAL SITES NEEDING INVESTIGATION

Tom D. Peltier

|                        |                                     |
|------------------------|-------------------------------------|
| Test Cells 658 and 447 |                                     |
| Bldg. 626              | Wash Rack                           |
| Bldg. 392              | Wash Rack and Drum Storage Area     |
| Bldg. 127              | Wash Rack                           |
| Bldg. 673              | Wash Rack and Drum Storage          |
| Bldg. 390              | Wash Rack                           |
| Bldg. 386              | Steam Cleaning Area                 |
| Bldg. 298              | Maintenance Shop                    |
| Bldg. 388              | Wash Rack                           |
| Hanger 605             | Aircraft Wash Area                  |
| Hanger 606             | Aircraft Wash Area                  |
| Hanger 114             | Aircraft Wash Area                  |
| Hanger 463             | Aircraft Wash Area                  |
| Hanger 461             | Aircraft Wash Area                  |
| Hanger 297             | Aircraft Wash Area and Drum Storage |
| Bldg. 320              | Trichloroethylene Drum Storage      |
| Bldg. 357              | Drum Storage                        |
| Bldg. 454/456          | Drum Storage                        |
| Bldg. 317              | Drum Storage                        |
| Bldg. 534              | Drum Storage                        |
| Bldg. 655              | Drum Storage                        |
| Bldg. 359              | Drum Storage                        |
| Bldg. 130              | Drum Storage                        |
| Bldg. 602              | Drum Storage                        |
| Salvage Yard           | Drum Storage                        |

DUPLICATE

M60050.000776  
MCAS El Toro

The 1989 List Does Not Identify Waste Storage near Building 672.

TITLE: ADDITIONAL SITES NEEDING INVESTIGATION, POTENTIAL AREAS OF CONTAMINATION

AUTHOR: TOM D. PELTIER/?

DATE: 4/17/89

CATEGORY: 1.2

OTHER POTENTIAL AREAS OF CONTAMINATION

Mag. 13                      Paint Sheds  
Auto Hobby Shop            Leaking waste Oil Tank  
Bldg. 103                    Paint Shed  
Heavy Equipment            Vehicle Wash Area  
Empty or Destroyed Buildings 143, 343, and 1789  
Combat Ready Vehicle Storage and Wash Area  
Bldgs. 359 & 651            Wash Areas  
Bldg. 262                    Wash Rack  
Exchange Car Wash

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SANTA ANA REGION  
INDIANA AVENUE, SUITE 200  
SANTA ANA, CALIFORNIA 92506  
PHONE: (714) 782-4130

ML0050.001130



**The RWQCB Letter dated 1989 Does Not Identify Drum Storage or Waste Storage  
near Building 672.**

**DUPLICATE**

June 23, 1989

LTJG Michael Rehor, Environmental Director  
MCAS El Toro (Code 1JG)  
Santa Ana, CA 92709-5001

MCAS EL TORO - SITE INSPECTION PLAN OF ACTION

Dear LTJG Rehor:

As we discussed in our May 30, 1989 meeting, we are hereby transmitting our recommendations for additional sites at the El Toro Marine Corps Air Station (MCAS) which we believe should be included in the Site Inspection Plan of Action.

Although the Installation Restoration (IRP) program is intended to address only past facility operations, we believe that some currently operating facilities should be included in the IRP program. Past and current chemical use and disposal practices at these sites may have allowed contaminants to be discharged where they could impact water quality. We believe that it is appropriate to include these sites in the present phase of investigation. The sites listed are areas where trichloroethylene (TCE) is either known or suspected to have been used. Chemical use and disposal practices, documented in the November 1987 Oil and Hazardous Substance Spill Prevention Control and Countermeasure (SPCC) plan, strongly suggest that there are areas on the base where TCE was routinely discharged to bare ground and unlined channels.

Although some of these areas are located near sites that have already been selected for investigation, we believe that the sites require individual investigation to adequately evaluate the threat to water quality from past chemical use practices. In some cases adequate coverage may be provided by expanding the specific site investigations. However, in most cases separate site investigations will be necessary. Investigation of these sites should focus on potential discharge areas and any adjacent drainage channels. The following sites should be given highest priority:

1. Building 359 - corrosion control facility, which housed 2 TCE degreasers.
2. Three engine test cells - the SPCC plan documents oily discharges from two of these test cells, located in buildings 658 and 447, that eventually entered storm drains. The location of the third test cell is not indicated.

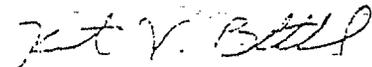
June 23, 1989

3. Six drum storage areas - The SPCC plan depicts numerous drum storage areas on bare ground. The plan documents solvent storage in the following areas:
  - A. Northeast of building 392
  - B. Southeast of building 602
  - C. Between buildings 454 and 456
  - D. Northeast of building 320
  - E. Northeast of building 317
  - F. East of building 359
4. Hazardous and flammable materials storehouses 320 and 357.
5. Oil/water separators at Bee Canyon Wash and Agua Chinon Wash.

In addition, the SPCC plan identifies 23 wash areas including seven aircraft wash facilities. Each of these wash areas should be evaluated to determine whether solvents were used. If solvents were used at any wash area, that area should be included in the investigation.

Please submit a proposed sampling program for the sites discussed above in the form of an amendment to the Site Inspection Plan of Action. If you should have any questions, please call me or Steven Overman of our Pollutant Investigation Section.

Sincerely,



Kurt V. Berchtold  
Supervising Engineer

cc: OCWD - Jim Reilly

TDP/mcaset2

DUPLICATE

TITLE:

OIL & HAZARDOUS SUBSTANCE SPILL  
PREVENTION, CONTROL &  
COUNTERMEASURE FIELD SURVEY  
REPORT & SPCC PLAN

AUTHOR:

SCS ENGINEERS

DATE:

11/01/79

CATEGORY: 1.2

EXTRACTS

Annotations made by the writer of the  
Summary Report are identified with a  
star symbol or an arrow.



**SCS ENGINEERS**

STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS, INC.

| SPCC<br>Key Map<br>Quadrant | Activity Description  | Item Stored<br>or Handled                             | Spill or<br>Discharge* | Path to Waterway  | Potential<br>Impact | Improvements<br>Required | Corrective Measures-<br>Improvements (see notes) |
|-----------------------------|---|---|------------------------|---|---------------------|--------------------------|--|
| U-8                         | Corrosion Control Building #359 (Paint shop and 2 degreasing tanks)           | Paints, Trichloroethylene                             | S3                     | Various in building   | Minor               | No                       |  |
| ★ U-9 & U-10                | Refueling Vehicle Maintenance Facility #672 - Vehicle Fuel Tank Cleaning Area | JP-5<br>JP-4<br>AV-Gas                                | D                      | Directly to storm sewer via oil-water separator to Aqua Chinon Wash | Yes                 | Yes                      | (1)  |
| U-9, U-10                   | Refueling Vehicle Maintenance Facility #672 - Vehicle Storage Area            | JP-5<br>JP-4<br>AV-Gas<br>Misc. oil<br>Greases        | S3                     | W to storm sewer to Aqua Chinon Wash                                | Yes                 | Yes                      | (4)  |
| Various Locations<br>26     | 55-gal drum heating oil (1 drum mounted horizontally on rack)                 | Heating oil   | S2                     | Various - infiltration  | Minor               | No                       |  |
| M-3                         | 55-gal drums NE of Building #626 and Vehicle Maintenance Area Building #625   | Lube oil<br>Grease                                    | S2                     | SW to oil-water separator indirect to Rifle Range Road Ditch        | Minor               | Service                  | Pump out oil-water separator regularly           |
| M-9                         | 55-gal drum storage NE of Building #392                                       | Lube oil,<br>Misc. oil<br>Solvents<br>Hydraulic fluid | S2                     | W and SW to storm sewer to Aqua Chinon Wash                         | Yes                 | Yes                      | (5)(6)   |
| M-9                         | 55-gal drum storage SE of Building #602                                       | Methyl chloroform                                     | S2                     | SW overland - infiltration  | Yes                 | Yes                      | (7)  |
| M-9                         | (8) 55-gal drums W of Building #130   | Cleaning compound,<br>Misc. oils                      | S2                     | W to storm sewer to Aqua Chinon Wash                                | Yes                 | Yes                      | (7)  |
| O-8                         | (3) 55-gal drums SW of Building #1793   | Misc. oils  | S2                     | SW to storm sewer to Aqua Chinon Wash                               | Yes                 | Yes                      | (5)(6)   |
| P-5                         | 55-gal drum storage NE of Building #5   | Lube oil, Hydraulic fluid, Misc. oils                 | S2                     | W overland indirect to Rifle Range Road Ditch                       | Yes                 | Yes                      | (5)(6)   |

| SPCC Key Map Quadrant | Activity Description  | Item Stored or Handled                            | Spill or Discharge* | Path to Waterway                        | Potential Impact | Improvements Required | Corrective Measures-Improvements (see notes) |
|-----------------------|---|---|---------------------|---|------------------|-----------------------|--|
| U-9                   | (11) 55-gal drums E of Building #631  | Lube oil, Waste oil                               | S2                  | SW overland indirect to Bee Canyon Wash | Yes              | Yes                   | (7)  |
| U-9                   | 55-gal drum storage in Salvage Yard   | Waste oils, Misc. oils, Hydraulic fluid, Lube oil | S2                  | W to drainage swale to Bee Canyon Wash  | Yes              | Yes                   | (5)(6)                                       |
| U-9                   | 55-gal drum storage SW Building #1749                                       | Waste oils, Lube oil                              | S2                  | SW to storm sewer to Aqua Chinon Wash   | Yes              | Yes                   | (5)(6)                                       |
| U-9                   | Leak in storm sewer line SE corner of Combat Ready Vehicle Storage Compound | Sewage containing oils and grease                 | D                   | SE overland to Aqua Chinon Wash         | Yes              | Yes                   | Repair leak in sewer line.                   |

\* S = Potential Spill Source (1 = 0-10 gal, 2 = 10-100 gal, 3 = 100-1000 gal, 4 = greater than 1000 gal).  
 SD = Active Source of Discharge

1. Environmental Pollution Abatement Project P-325 should be implemented.
2. Inspect and provide necessary maintenance to insure proper operation.
3. Construct impervious berm or curbing around facility and direct drainage to sump or oil-water separator with sufficient capacity to contain maximum spill.
4. Provide an oil water separator system to treat discharges prior to release into waterways.
5. Provide centralized 55-gal drum storage with secondary containment at strategic points around the base. Issue memorandum to tenants on base requiring stricter drum inventories.
6. Provide shelter over facility to eliminate rain water infiltration.
7. Position storage containers and/or drums, within pens with secondary containment.
8. Construct permanent concrete crash crew pit with secondary containment and oil-water separator.
9. Discontinue spill washdown operations unless emergency situation exists - contain and control spills with absorbent materials.
10. Provide adequate lighting at facility.

EXTRACTS

**STORM WATER POLLUTION PREVENTION PLAN  
(SWPPP)**

FOR

**MARINE CORPS AIR STATION EL TORO  
EL TORO, CALIFORNIA**

CONTRACT NO. N68711-96-D-2059  
DELIVERY ORDER NO. 0002

**VOLUME 1**

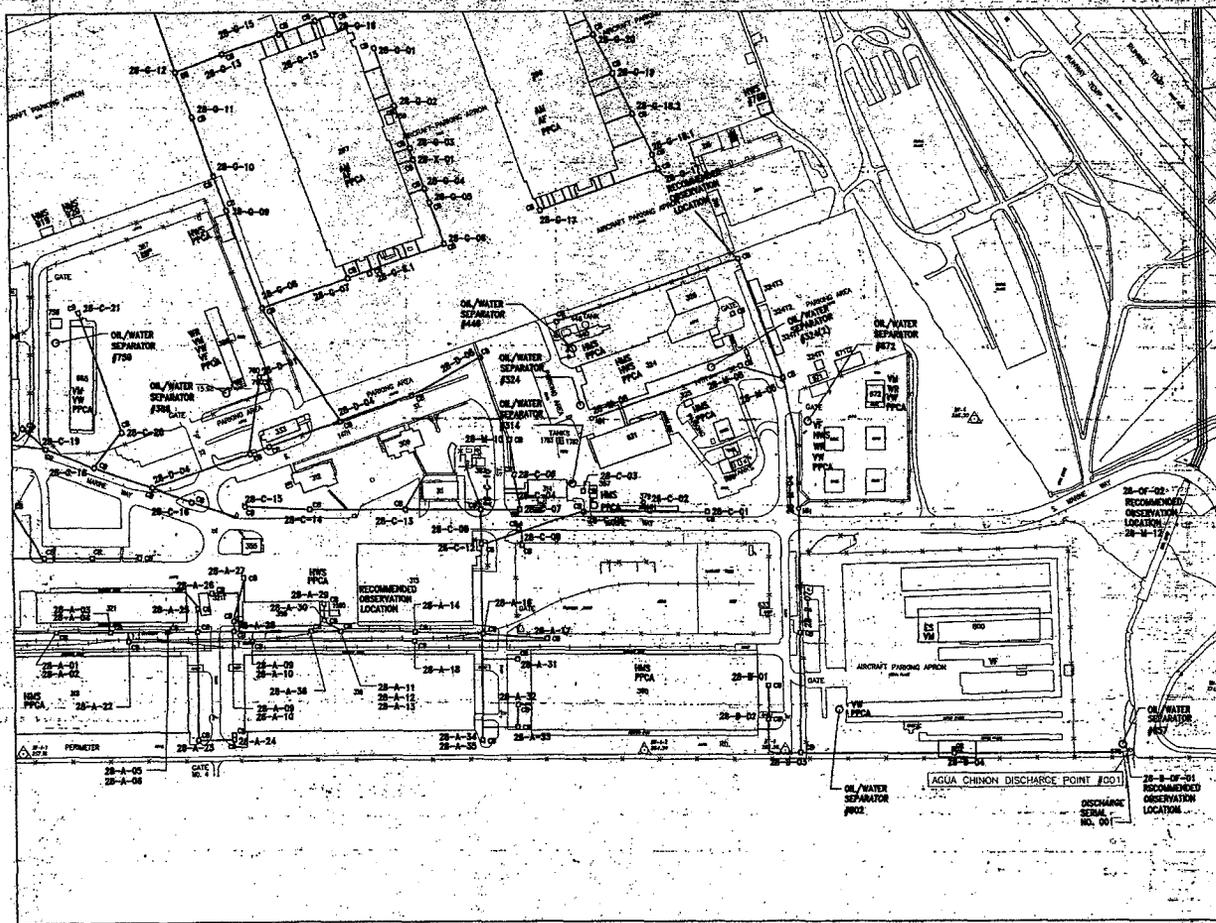
JULY, 1997

INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.

**TABLE 7-1  
 MCAS EL TORO MATERIALS INVENTORY**

| BLDG # | BASIN | BUILDING DESCRIPTION    | TENANT                 | Concern Level | TRADE/Common Name       | MAX. DAY  | AVE. Day | CONT.     |
|--------|-------|-------------------------|------------------------|---------------|-------------------------|-----------|----------|-----------|
| 655    | 01    | Field Maint Shop        | CSSD-14 HM Storage     | Concern       | Grease, auto/altillery  | 85 gal    | 10 gal   | 5 gal     |
| 655    | 01    | Field Maint Shop        | CSSD-14 HM Storage     | Concern       | Lubricating oil         | 385 gal   | 110 gal  | 55 gal    |
| 655    | 01    | Field Maint Shop        | CSSD-14 HM Storage     | Concern       | Lubricating oil, 30W    | 55 gal    | 25 gal   | 55 gal    |
| 655    | 01    | Field Maint Shop        | CSSD-14                | Concern       | Lubricating oil, 80/90W | 110 gal   | 25 gal   | 55 gal    |
| 658    | 08    | Engine Test Cell        | MALS-11                | Concern       | Hydraulic Oil           | N/A       | N/A      | 55 gal    |
| 658    | 08    | Engine Test Cell        | MALS-11                | Concern       | Jet Fuel JP-5           | N/A       | N/A      | N/A       |
| 658 A  | 08    | UST-Engine Test Cell    | MALS-11                | Concern       | Jet Fuel JP-5           | 10000 gal | 5000 gal | 10000 gal |
| 658 B  | 08    | UST-Engine Test Cell    | MALS-11                | Concern       | Jet Fuel JP-5           | 10000 gal | 5000 gal | 10000 gal |
| 658    | 08    | Engine Test Cell        | MALS-11                | Concern       | Lubricating Oil         | N/A       | N/A      | 55 gal    |
| 671T1  | 02    | Refueler Truck Parking  | MWSS-373 F/Tanker Park | Concern       | Diesel Fuel             | 4000 gal  | 2500 gal | 4500 gal  |
| 671    | 02    | Refueler Admin          | MWSS-373               | Concern       | Fuels                   | N/A       | N/A      | N/A       |
| 671T1  | 02    | Refueler Truck Parking  | MWSS-373 F/Tanker Park | Concern       | Jet Fuel JP-5           | 4000 gal  | 2500 gal | 4500 gal  |
| 672    | 02    | Refueling Vehicle Maint | MWSS-373               | Concern       | Jet Fuel JP-5           | N/A       | N/A      | N/A       |

| TABLE 7-1<br>MCAS EL TORO MATERIALS INVENTORY |       |                               |              |               |                   |          |          |        |
|---|-------|-------------------------------|--------------|---------------|-------------------|----------|----------|--------|
| BLDG #  | BASIN | BUILDING DESCRIPTION          | TENANT       | Concern Level | TRADE/COMMON NAME | MAX. DAY | AVE. Day | CONT.  |
|   |       | Shop                          |              |               |                   |          |          |        |
| 673   | 10    | Ground Support Equipment Shop | MALS-16      | Concern       | Grease            | N/A      | N/A      | N/A    |
| 673   | 10    | Ground Support Equipment Shop | MALS-16      | Concern       | Lubricating Oil   | N/A      | N/A      | N/A    |
| 674   | 01    | Oil/Water Separator           | Installation | Concern       | N/A               |          |          |        |
| 675   | 02    | Oil/Water Separator           | Installation | Concern       | N/A               |          |          |        |
| 676   | 30    | Community Storage Misc.       | Housing      | Concern       | N/A               |          |          |        |
| 693   | 26    | OFT (KC-130)                  | Training     | Concern       | N/A               | N/A      | N/A      | 55 gal |
| 713   | 30    | Haz/Flam Storehouse           | MAG-11       | Concern       | Aerosol           | N/A      | N/A      | N/A    |
| 713   | 30    | Haz/Flam Storehouse           | MAG-11       | Concern       | Cleaner           | N/A      | N/A      | N/A    |
| 713   | 30    | Haz/Flam Storehouse           | MAG-11       | Concern       | Clorox Bleach     | N/A      | N/A      | N/A    |
| 713   | 30    | Haz/Flam Storehouse           | MAG-11       | Concern       | Insecticide       | N/A      | N/A      | N/A    |
| 713   | 30    | Haz/Flam Storehouse           | MAG-11       | Concern       | Lacquer           | N/A      | N/A      | N/A    |
| 713   | 30    | Haz/Flam Storehouse           | MAG-11       | Concern       | Paints            | N/A      | N/A      | N/A    |
| 713   | 30    | Haz/Flam Storehouse           | MAG-11       | Concern       | Thinner           | N/A      | N/A      | N/A    |
| 716   | 07    | Hush House                    | MALS-11      | Concern       | N/A               |          |          |        |
| 717   | 01    | Crash, Fire, Rescue           | Sta/G-3      | Concern       | Aerosol Paints    | N/A      | N/A      | N/A    |

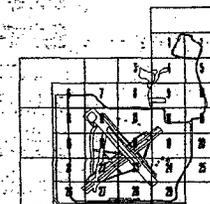


**'MCAS' EL TORO - AREA 28**  
SCALE: 1"=150'-0"

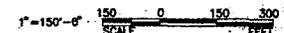
| REVISIONS |             |           |      |          |
|-----------|-------------|-----------|------|----------|
| SYMBOL    | DESCRIPTION | PREP'D BY | DATE | APPROVED |
|           |             |           |      |          |

**LEGENDS**

- AST - ABOVE GROUND STORAGE TANK
- AM - AIRCRAFT MAINTENANCE
- AW - AIRCRAFT WASHING
- AF - AIRCRAFT FUELING
- AP - AIRCRAFT PAINTING
- CB - CATCH BASIN
- ES - EQUIPMENT STORAGE
- EM - EQUIPMENT MAINTENANCE
- HMS - HAZARDOUS MATERIAL STORAGE
- HWS - HAZARDOUS WASTE STORAGE
- HWTA - HAZARDOUS WASTE TRANSFER AREA
- MH - MANHOLE
- OWS - OIL/WATER SEPARATOR
- PCA - POLLUTANT CONTACT AREA
- PPCA - POTENTIAL POLLUTANT CONTACT AREA
- UGT - UNDERGROUND STORAGE TANK
- VP - VEHICLE PAINTING
- VE - VEHICLE FUELING
- VM - VEHICLE MAINTENANCE
- YW - VEHICLE WASHING
- WR - WASH RACK
- WTA - WASTE TRANSFER AREA



**KEY PLAN**  
SCALE: NONE



IF SHEET IS LESS THAN 22x34 IT IS A REDUCED PRINT SCALE ACCORDINGLY

**ITEM**  
INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.

1000 WEST JENSEN - SUITE 400 - SANTA ANA, CALIFORNIA 92705 TEL: 949-447-1100 FAX: 949-447-1099

|                       |                               |                                     |
|-----------------------|-------------------------------|-------------------------------------|
| PROJECT NO.           | DEPARTMENT OF THE ARMY        | ARMY FACILITIES ENGINEERING COMMAND |
| EL TORO               | SOUTHWEST DIVISION            |                                     |
| SCALE: 1"=150'-0"     | WARREN CORPS AIR STATION      | EL TORO, CA                         |
| DRAWN BY: [ ]         | <b>'MCAS' EL TORO</b>         |                                     |
| DATE: [ ]             |                               |                                     |
| APP'D: [ ]            | <b>AREA 28 - STORM DRAINS</b> |                                     |
| DATE: [ ]             |                               |                                     |
| FILE: [ ]             | DES: [ ]                      | DATE: [ ]                           |
| APPROVED: [ ]         | DATE: [ ]                     | SCALE: [ ]                          |
| DATE FOR COMMENT: [ ] | SCALE: [ ]                    | SHEET: [ ] OF [ ]                   |

| TABLE 5-39<br>MCAS EL TORO<br>SPILL HISTORY |              |  |
|---|--------------|--|
| Date  | Incident No. | Description  |
| November 28, 1995                           | N/A          | Approximately 2 quarts of hydraulic fluid were lost on the roadway and shoulder when a forklift's hydraulic line was inadvertently punctured. A drip pan was placed under the leaking line to contain the leak and contaminated soil was removed and drummed as hazardous waste. |
| September 18, 1995                          | N/A          | A one gallon container of liquid scale dissolver spilled when it was dropped by warehouse personnel. The spill was diked and absorbed with ash. Spill contained to the warehouse floor.  |
| September 12, 1995                          | N/A          | Three quarts of hydraulic fluid spilled onto the concrete warehouse floor when a forklift's fork punctured the stored material during issuance. Spilled cleaned up with speedy dry absorbent. Spill contained to the warehouse floor.  |
| July 21, 1995                               | N/A          | Approximately 80 gallons of JP-5 fuel spilled when a fuel truck attempted to fuel an aircraft with an open fuel cell. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.   |
| July 20, 1995                               | N/A          | Approximately 10 gallons of JP-5 fuel spilled when an aircraft vented it's tanks. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.   |
| June 29, 1995                               | N/A          | Approximately 70 gallons of JP-5 fuel spilled from an aircraft fuel tank with a dysfunctional valve. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.  |
| November 1, 1994                            | N/A          | Approximately 400 gallons of JP-5 fuel leaked from an F/A-18 aircraft. Three hundred gallons were recovered and 100 gallons were cleaned up with speedy dry absorbent. Spill contained to the flightline.  |
| November 1, 1994                            | N/A          | Approximately 250 gallons of JP-5 fuel leaked from an F/A-18 aircraft.<br><br>Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.   |

**TABLE 5-39**  
**MCAS EL TORO**  
**SPILL HISTORY**

| Date              | Incident No. | Description  |
|-------------------|--------------|--|
| September 1, 1994 | N/A          | Approximately 1 gallon of hydrochloric acid and another gallon of chlorine spilled when their lines ruptured. Pumping through the line was stopped immediately and the spill was cleaned up with sodium bicarbonate. Spill contained to the flightline.  |
| August 12, 1994   | N/A          | A small amount of paint stripper (methylene chloride) from a 5 gallon can spilled when the can overheated and blew its cap. The small amount evaporated before cleanup could occur.  |
| July 14, 1994     | 249777       | Approximately 25 gallons of transformer oil, possibly containing more than 55 ppm PCBs, spilled when the personnel handling the transformer overturned it. The initial responders laid down absorbent socks, mats pads and Lite-Dri absorbent around the spill and on the liquid. Workers then removed and drummed soil from the spill-area as hazardous waste. Cleanup began immediately on 14 July 94 and was completed 15 July 94. Additional hazardous waste included the absorbent materials, personal protective gear rags and mops used to cleanup the spill. |
| April 26, 1994    | N/A          | Approximately 100 gallons of JP-5 fuel spilled when an aircraft vented its tanks. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.   |
| March 8, 1994     | N/A          | Approximately 20 gallons of JP-5 fuel spilled when an aircraft was refueling. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.   |
| May 11, 1993      | 318          | Caustic soap leaked from a container behind Bldg. 317.   |
| March 1, 1993     | 146          | Approximately one quart of methyl ethyl ketone spilled to the ground at Bldg. 306.   |
| September 9, 1992 | 873          | Unknown quantity of fumigant released into the soil at Strawberry Field.   |
| August 16, 1992   | 788          | Fire occurred at Bldg. 751 with a van containing Hg, Li, Cd, and Pb-acid batteries. This caused a chemical release into the atmosphere.  |

| <b>TABLE 5-39</b><br><b>MCAS EL TORO</b><br><b>SPILL HISTORY</b> |                     |   |
|--|---------------------|---|
| <b>Date</b>  | <b>Incident No.</b> | <b>Description</b>  |
| June 1, 1992   | 560                 | Approximately 3,950 gallons of JP-5 spilled from a refueler. Fuel was contained and did not enter storm drains. |
| May 28, 1992   | 552                 | JP-5 smell coming from storm drain at Bldg. 368. Flow from drain diverted to oil/water separators.              |
| March 5, 1992  | 228                 | Three quarts of Hg spilled at Bldg. 297. The spill was contained.   |
| March 5, 1992  | 223                 | Tractor trailer spilled 15-20 gallons of diesel fuel into sanitary sewer. Sewer system was diked and covered.   |
| February 5, 1992   | 121                 | One gallon of transformer oil containing PCBs spilled at Bldg. 439. The spill was contained.                    |
| January 17, 1992   | 053                 | Approximately 100 gallons of antifreeze spilled into ditch and then to Agua Chinon.                             |
| December 18, 1991  | 1092                | Lithium battery exploded at Bldg. 17. The debris was contained with some off-gassing.                           |
| November 19, 1991  | 997                 | Approximately 10 Lithium Batteries leaking and off-gassing at Bldg. 673T3.                                      |
| September 16, 1991   | 754                 | Contaminated oil spilled into sewer at Bldg 295.  |
| July 12, 1991  | 580                 | Paint stripper spilled into ditch near Bldg. 800. The spill was diverted to oil/water separator.                |
| May 23, 1991   | 453                 | Unknown white substance found at Officer's Club crystal room.   |

A reference to a major spill is contained in the May 1990 SPCCP written for the MCAS. The SPCC states that "one major unauthorized release has occurred in the last two years. In August 1988, a 108,000 gallon JP-5 storage tank pipe was reported to have leaked causing soil and ground water contamination. The leak was reportedly repaired in early 1990."

Extracts pertaining to Installation Restoration Program Site 24 - Volatile  
Organic Compound (VOC) Source Area

**MARINE CORPS AIR STATION EL TORO  
EL TORO, CALIFORNIA  
INSTALLATION RESTORATION PROGRAM  
REMEDIAL INVESTIGATION/FEASIBILITY STUDY  
FINAL SOIL GAS SURVEY  
TECHNICAL MEMORANDUM  
SITES 24 AND 25**

Revision 0

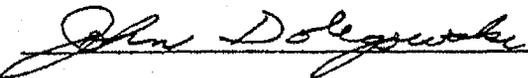
EXTRACTS

PREPARED BY:  
Southwest Division, Naval Facilities  
Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5190

THROUGH:  
CONTRACT #N68711-89-D-9296  
CTO #145  
DOCUMENT CONTROL NO:  
CLE-C01-01F145-S2-0004

WITH:  
Jacobs Engineering Group Inc.  
3655 Nobel Drive, Suite 200  
San Diego, California 92122

In association with:  
International Technology Corporation  
CH2M HILL

 28 Oct '94  
Date

John Dolegowski  
CLEAN Project Manager  
CH2M HILL, Inc.

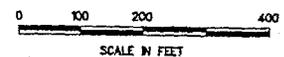
 27 OCT '94  
Date

Michael Bitner, R.G.  
CLEAN Technical Reviewer  
CH2M HILL, Inc.



- FEATURES:
- BUILDING OR PAD
  - SAMPLE LOCATION
  - ROAD
  - STRATUM BOUNDARY
  - WASH OR STREAM
  - SITE BOUNDARY

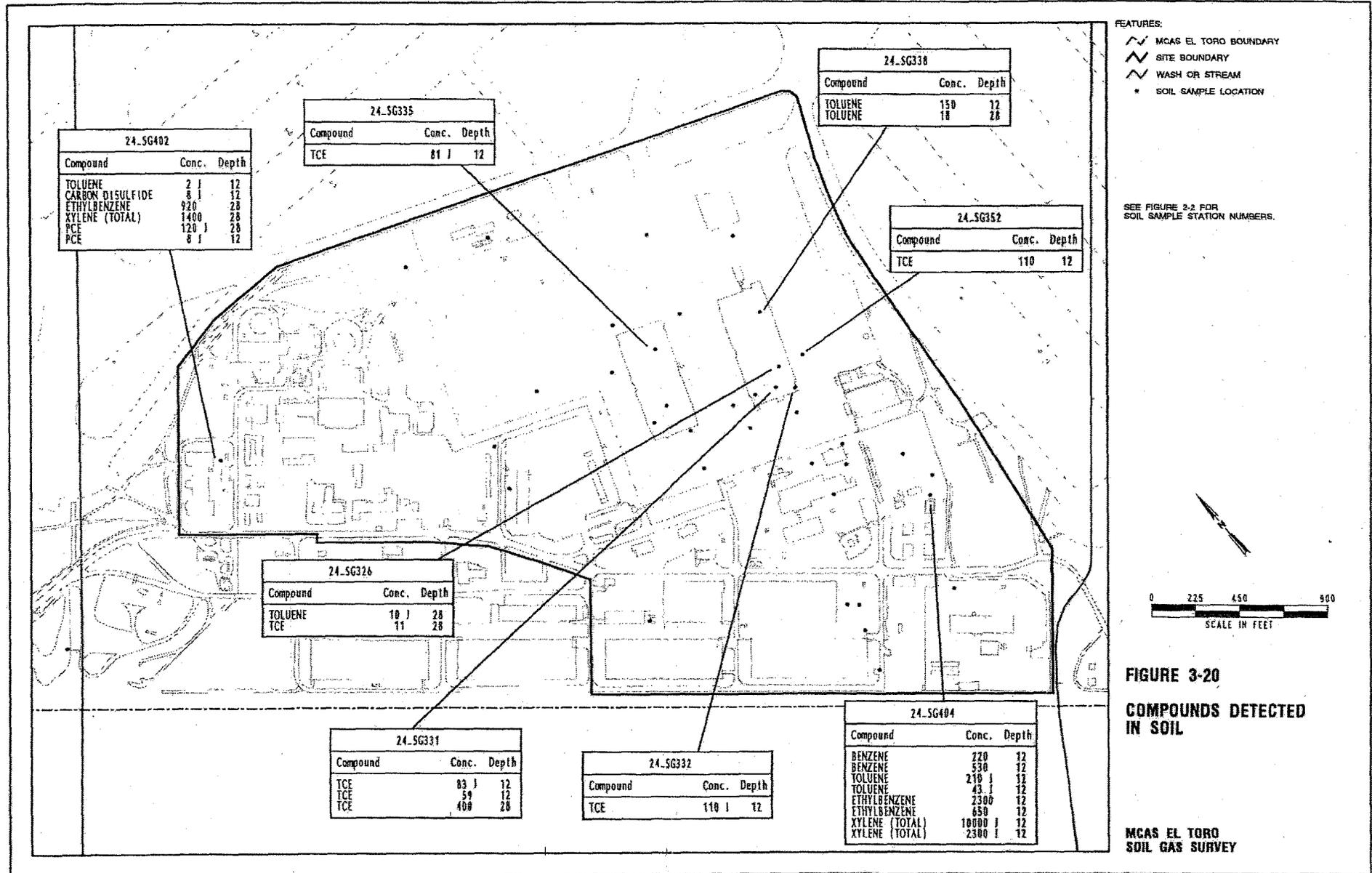
ALL STATION IDENTIFICATIONS BEGIN WITH 24\_SG



**PLATE 1  
SAMPLE LOCATION MAP**

**MCAS EL TORO  
SOIL GAS SURVEY WORK PLAN**





**FIGURE 3-20**  
**COMPOUNDS DETECTED**  
**IN SOIL**

**MCAS EL TORO**  
**SOIL GAS SURVEY**

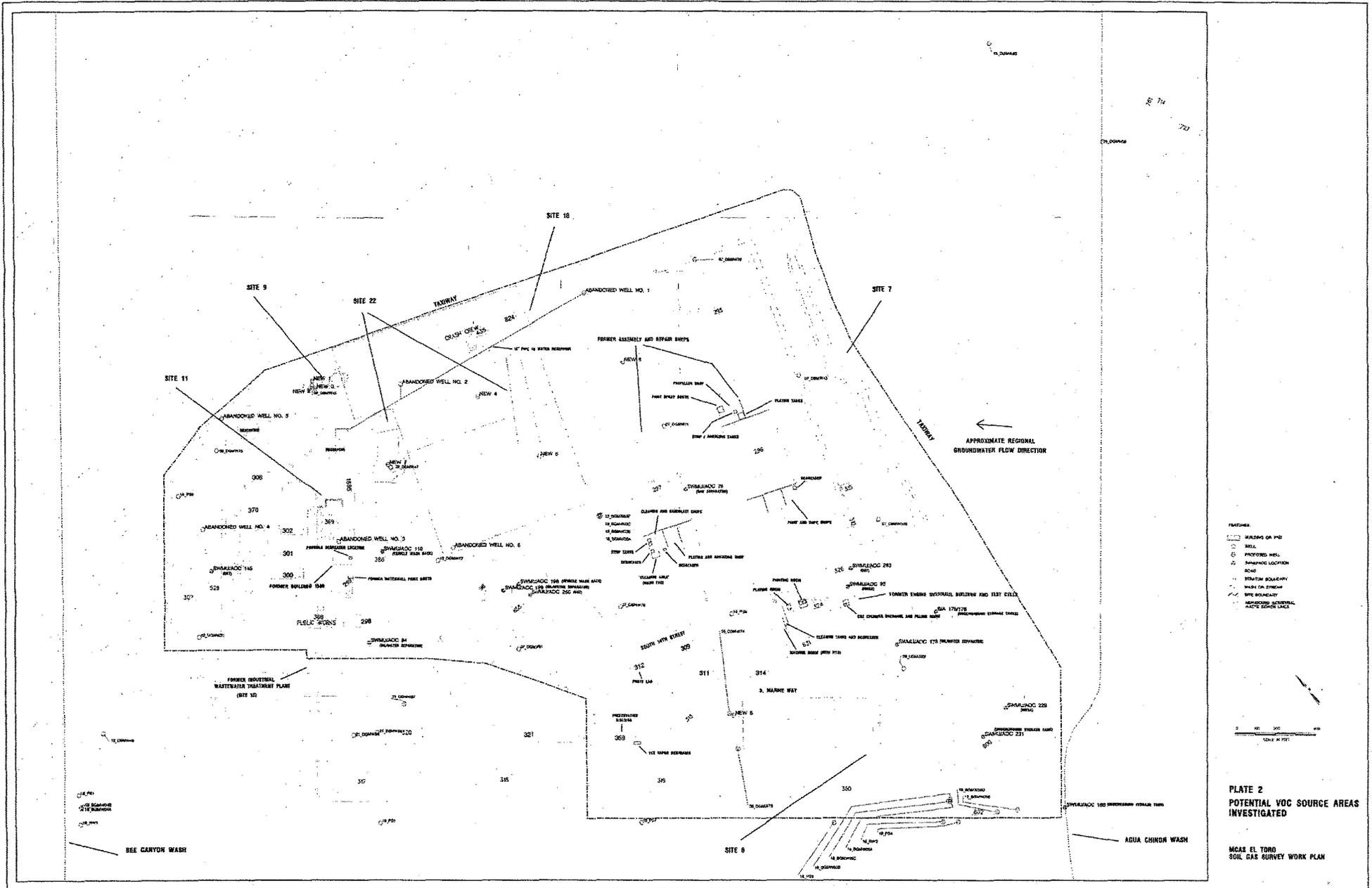


Table 4-2  
Summary of Areas with Aromatic Hydrocarbons and Total Petroleum Hydrocarbons  
MCAS El Toro Soil Gas Survey Technical Memorandum

| Location   | Possible Sources  | Analytes and General Concentrations Detected by Media (a)   |   |  | Recommendations  |
|--|---|---|---|--|--|
|  |   | Soil Gas  | Soil  | Depth Trends   |  |
| Bee Canyon Wash                                  | Releases to unlined wash releases from OWS system   | <p>Station ID 24_SG037:<br/>TPH = 110 ug/L<br/>Toluene = 5.5 ug/L<br/>1,1-DCE = 1.3 ug/L</p> <p>Station ID 24_SG139:<br/>TPH = 180 ug/L<br/>Toluene = 1.7-7.9 ug/L<br/>Total Xylenes = 2.2 ug/L<br/>1,1-DCE = 2.5 ug/L<br/>Vinyl Chloride = 5.2 ug/L</p> <p>Station ID 24_SG143:<br/>Total Xylenes = 5.9 ug/L</p> | No VOCs detected in soil samples collected in the Soil Gas Survey. During the Phase I RI, results for angle boring 18_BEAB226 at Bee Canyon Wash were:<br>9' bgs -<br>Toluene = 3J<br>26' bgs -<br>TPH-diesel=750/1560 ug/kg<br>TPH-gasoline=719/1260 ug/kg | Soil gas samples were only collected at 12 feet bgs at Station IDs 24_SG037 and 139. At Station ID 24_SG143, total xylenes were at 12 feet bgs but not at 20 feet. | Recommend further investigation of horizontal and vertical extent of soil and soil gas. Recommend that the integrity of the OWS system/UST be evaluated. If found to be leaking, consider repair of system/removal of UST (b).                   |
| SWMU/AOC 145                                     | <p>UST No. 529</p> <ul style="list-style-type: none"> <li>- 25,000-gallon concrete tank</li> <li>- Contents: waste oil</li> <li>- Installed: 1944</li> <li>- Status: inactive</li> </ul>  | <p>Station ID 24_SG062:<br/>TPH = 120 ug/L<br/>Ethylbenzene = 3 ug/L<br/>Total Xylenes = 5 ug/L<br/>PCE = 1.1 ug/L</p> <p>Station ID 24_SG402:<br/>TPH = 350-575 ug/L<br/>Total Xylenes = 2.4-7 ug/L<br/>Ethylbenzene = 3.3-12.3 ug/L</p>   | <p>Station ID 24_SG402:<br/>Toluene = 2 J ug/kg<br/>Ethylbenzene = 920 ug/kg<br/>Total Xylenes = 1,400 ug/kg<br/>PCE = 8 J - 120 J ug/kg</p>  | In soil, concentrations increased with depth (ethylbenzene, total xylenes, and PCE). In soil gas, concentrations generally increase with depth.                    | It appears that the UST is the source of contamination at this location. Therefore, it is recommended that the tank be removed and further investigation be performed to determine the extent of contamination.                                  |
| SWMUs/AOCs 175 and 176                           | <p>SWMU/AOC 175</p> <ul style="list-style-type: none"> <li>- OWS No. 672-A</li> <li>- 400-gallon concrete/steel</li> <li>- Installed: 1982</li> <li>- Status: active</li> </ul> <p>SWMU/AOC 176</p> <ul style="list-style-type: none"> <li>- UST No. 672-B</li> <li>- 500-gallon steel</li> <li>- Contents: waste oil</li> <li>- Installed: 1982</li> <li>- Status: active</li> </ul> | <p>Highest concentrations were measured at Station ID 24_SG404:<br/>TPH = 6,600-12,300 ug/L<br/>Benzene = 68-145 ug/L<br/>Toluene = 30-71 ug/L<br/>Ethylbenzene = 113-216 ug/L<br/>Total Xylenes = 286-565 ug/L</p> <p>High concentrations were also detected at 24_SG265, 474, and 475.</p>                      | <p>Station ID 24_SG404:<br/>Benzene = 220-530 ug/kg<br/>Toluene = 43 J - 216 J ug/kg<br/>Ethylbenzene = 650-1,200 ug/kg<br/>Total Xylenes=2,300-10,000 ug/kg (all detected at original and duplicate samples at 12 feet bgs)</p>                            | Soil gas concentrations generally decrease with depth.   | It appears that the OWS/UST system is the source of contamination at this location. Therefore, it is recommended that the tank be removed and further investigation be performed to determine the extent of contamination.                       |
| South Side of Building 43S (Crash Crew Building) | <p>Vehicle maintenance and repair activities at Crash Crew Building. Former UST location at south side of building (Tank No. 43S; 1,000-gallon steel diesel tank removed in 1991)</p>   | <p>Station ID 24_SG015:<br/>TPH = 53.4-115.2 ug/L<br/>Toluene = 3.6-9.2 ug/L<br/>Ethylbenzene = 2.7-5.7 ug/L<br/>Total Xylenes = 2-6.5 ug/L</p> <p>Station ID 24_SG401:<br/>PCE = 1 ug/L</p>  | No VOCs were detected in the soil sample collected at Station ID 24_SG401. No soil samples were collected at Station ID 24_SG015.   | Soil gas concentrations for aromatic hydrocarbons and TPH generally increase with depth. For PCE, only one soil gas sample was collected.                          | Concentrations detected in soil gas were relatively low, but were found to generally increase with depth, indicating that deeper contamination may exist. It is recommended that further evaluation of the extent of contamination be performed. |
| Tarmac Area South of Buildings 296 and 297       | Operations associated with the former assembly and repair shops in Buildings 296 and 297  | <p>TPH = 82-890 ug/L<br/>Toluene = 3.4-108 ug/L<br/>Ethylbenzene = 2.9 ug/L<br/>Total Xylenes = 1-10.6 ug/L</p>   | No VOCs detected in soil samples.   | Soil gas collected at 15 feet bgs only.  | Due to the proximity of this area to Bldgs. 296 and 297, it is recommended that this area be further evaluated (vertical and horizontal extent of contamination) as part of the investigation at the Main Soil Gas Source Area.                  |

Notes:  
(a) Groundwater is not included in this table because aromatic hydrocarbons and TPH were not detected in groundwater in the southwest quadrant of the Station during the Phase I RI.  
(b) The Station's NPDES Permit requires the oil/water separator system at Bee Canyon Wash (and Agua Chicon Wash) to remain in operation.

Table C-1  
Concentrations in Soil Gas  
MCAS El Toro Soil Gas Survey Technical Memorandum

Concentration in ug/L

(1) Key to Full Parameter names in Legend.

| Station ID | Depth | Sample ID | Smpl Date | Smpl Time | PCE (ECD) | PCE (FID) | TCE (ECD) | TCE (FID) | C12DCE | 112DCE | 11DCA | 11DCE (ECD) | 11DCE (FID) | VC  | 111TCA | 112TCA | TCTFA | CT  | CHCL3 | 12DCP | MeCL2 | TPH   | Benzene | Toluene | Ethylbenzene | Total Xylenes |
|------------|-------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|-------|-------------|-------------|-----|--------|--------|-------|-----|-------|-------|-------|-------|---------|---------|--------------|---------------|
| 24_SG241   | 12    | S145G2009 | 6/1/94    | 17:02     | 4.8       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 2.6 J | 1 U | 1 U   | 1 U   | 1 U   | 83    | 1 U     | 1 U     | 1 U          | 5             |
| 24_SG241   | 12    | S145G2010 | 6/1/94    | 20:13     | 4.8       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 2.6 J | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1.8           |
| 24_SG241   | 12    | S145G2011 | 6/2/94    | 14:08     | 4.1       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1.1 J | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG241   | 12    | S145G2012 | 6/4/94    | 12:00     | 6.5 E     | 2.1 FI    | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 2.9 J | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG242   | 15    | S145G1242 | 6/29/94   | 11:59     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 121 E       | 1.4 FI      | 8.7 | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 17    | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG243   | 12    | S145G1243 | 6/10/94   | 9:05      | 3.9 E     | 2.9 FI    | 2         |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 3.9 J | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG243   | 20    | S145G1543 | 6/10/94   | 9:10      | 3.3 E     | 2.2 FI    | 2         |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 2.6 J | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG243   | 20    | S145G3133 | 6/10/94   | 9:11      | 3.5 E     | 2.4 FI    | 2.1       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 2.8 J | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG244   | 12    | S145G1244 | 6/9/94    | 8:19      | 3.8 E     | 2.7 FI    | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 2.5 J | 1 U | 1 U   | 1 U   | 1 U   | 18 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG244   | 12    | S145G3128 | 6/9/94    | 8:20      | 2.1 E     | 1.3 FI    | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1.4 J | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG244   | 20    | S145G1544 | 6/9/94    | 8:25      | 3.6 E     | 2.7 FI    | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 3.2 J | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG245   | 15    | S145G1245 | 6/10/94   | 8:34      | 1 U       |           | 13.5 E    | 79.1 FI   | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG245   | 15    | S145G1246 | 6/15/94   | 9:50      | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG247   | 15    | S145G1247 | 6/15/94   | 10:12     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG248   | 15    | S145G1248 | 6/15/94   | 14:18     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG249   | 15    | S145G1249 | 6/15/94   | 10:45     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG250   | 15    | S145G1250 | 6/15/94   | 14:00     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG251   | 15    | S145G1251 | 6/15/94   | 11:10     | 1 U       |           | 1.1       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG252   | 15    | S145G1252 | 6/15/94   | 11:20     | 1 U       |           | 1         |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG253   | 15    | S145G1253 | 6/15/94   | 13:25     | 1 U       |           | 1         |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG254   | 15    | S145G1254 | 6/15/94   | 13:40     | 1 U       |           | 1         |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG254   | 15    | S145G3150 | 6/15/94   | 13:41     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG255   | 15    | S145G1255 | 6/15/94   | 10:47     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG256   | 15    | S145G1256 | 6/15/94   | 11:07     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG257   | 12    | S145G1257 | 6/10/94   | 9:09      | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG257   | 20    | S145G1557 | 6/10/94   | 9:18      | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG258   | 15    | S145G1258 | 6/15/94   | 13:48     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 45          |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG259   | 15    | S145G1259 | 6/15/94   | 14:11     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG260   | 12    | S145G1260 | 6/10/94   | 11:15     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1.3 J | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG260   | 20    | S145G1560 | 6/10/94   | 11:20     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG261   | 15    | S145G1261 | 7/1/94    | 10:50     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG262   | 12    | S145G1262 | 6/9/94    | 9:40      | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG262   | 20    | S145G1562 | 6/9/94    | 9:48      | 1 U       |           | 1 U       |           | 1.1    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG263   | 12    | S145G1263 | 6/9/94    | 8:55      | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG263   | 20    | S145G1563 | 6/9/94    | 9:14      | 1 U       |           | 1 U       |           | 1.1    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG264   | 15    | S145G1264 | 6/15/94   | 14:39     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG265   | 15    | S145G1265 | 6/15/94   | 15:18     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 10          |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10000 | 121     | 80      | 180          | 448           |
| 24_SG265   | 15    | S145G3084 | 6/15/94   | 15:18     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 8900  | 112     | 71      | 157          | 375           |
| 24_SG266   | 15    | S145G1266 | 6/18/94   | 11:35     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG267   | 12    | S145G1267 | 6/10/94   | 8:41      | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 28.5 E      | 1.9 FI      | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG267   | 20    | S145G1567 | 6/10/94   | 8:49      | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG268   | 12    | S145G1268 | 6/10/94   | 9:39      | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG268   | 20    | S145G1568 | 6/10/94   | 9:47      | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1.1 | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG269   | 12    | S145G1269 | 6/10/94   | 10:05     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 21.4 E      | 1.3 FI      | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG269   | 20    | S145G1569 | 6/10/94   | 10:11     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 24.5 E      | 1.7 FI      | 5 U | 1 U    | 1 U    | 1 U   | 1.2 | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG270   | 12    | S145G1270 | 6/10/94   | 10:30     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 4.3 | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG270   | 20    | S145G1570 | 6/10/94   | 10:46     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 4.4 | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG270   | 20    | S145G3089 | 6/10/94   | 10:48     | 1 U       |           | 1.4       |           | 1 U    | 1 U    | 1 U   | 200 E       | 1.1 FI      | 5 U | 1 U    | 1 U    | 1 U   | 4.8 | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG271   | 12    | S145G1271 | 6/10/94   | 11:06     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 2.5 | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG271   | 20    | S145G1571 | 6/10/94   | 11:16     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG272   | 12    | S145G1272 | 6/10/94   | 12:59     | 1 U       |           | 4.8       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG272   | 20    | S145G1572 | 6/10/94   | 13:06     | 1 U       |           | 3.8       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG273   | 12    | S145G1273 | 6/10/94   | 13:27     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG273   | 20    | S145G1573 | 6/10/94   | 13:36     | 1         |           | 11.4 E    | 9.5 FI    | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 4.7 | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 1 U           |
| 24_SG274   | 15    | S145G1274 | 6/18/94   | 14:23     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 4.2           |
| 24_SG274   | 15    | S145G3088 | 6/18/94   | 14:23     | 1 U       |           | 1 U       |           | 1 U    | 1 U    | 1 U   | 1 U         |             | 5 U | 1 U    | 1 U    | 1 U   | 1 U | 1 U   | 1 U   | 1 U   | 10 U  | 1 U     | 1 U     | 1 U          | 4.6           |

Table C-1  
Concentrations in Soil Gas  
MCAS E1 Tere Soil Gas Survey Technical Memorandum

Concentration in ug/L

(1) Key to Full Parameter names in Legend.

| Station_ID | Depth | Sample_ID | Smpl_Date | Smpl_Time | PCE (ECD) | PCE (FID) | TCE (ECD) | TCE (FID) | G12DCE | T12DCE | 11DCA | 11DCE (ECD) | 11DCE (FID) | VC  | 111TCA | 112TCA | TCTFA | CT  | CHCL3 | 12DCP | MeCL2 | TPH   | Benzene | Toluene | Ethylbenzene | Total Xylenes |
|------------|-------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|-------|-------------|-------------|-----|--------|--------|-------|-----|-------|-------|-------|-------|---------|---------|--------------|---------------|
| 24_SG394   | 15    | S145G1684 | 8/21/94   | 14:17     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 31J   | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG395   | 15    | S145G1695 | 8/21/94   | 15:50     | 1U        |           | 8 E       | 32.1 FI   | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 15.2J | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG396   | 15    | S145G1696 | 8/23/94   | 11:43     | 2.2       |           | 21.4 E    | 94.4 FI   | 1U     | 1U     | 1U    | 410 E       | 18.8 FI     | 5U  | 1U     | 1U     | 15.9J | 1.1 | 1U    | 1U    | 1U    | 29    | 1U      | 1U      | 1U           | 1U            |
| 24_SG397   | 15    | S145G1697 | 8/23/94   | 12:03     | 1.7       |           | 7.5       |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1.5    | 1U     | 1U    | 1.1 | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 3.1           |
| 24_SG398   | 15    | S145G1698 | 8/27/94   | 9:10      | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG398   | 27    | S145G1698 | 8/27/94   | 9:20      | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG399   | 15    | S145G1699 | 8/27/94   | 11:35     | 2         |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG399   | 27    | S145G1699 | 8/27/94   | 11:45     | 7.6 E     | 30.4 FI   | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG400   | 15    | S145G1700 | 8/29/94   | 13:55     | 1U        |           | 10.1 E    | 33.3 FI   | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG400   | 27    | S145G1900 | 8/29/94   | 14:05     | 1U        |           | 12 E      | 48 FI     | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG401   | 15    | S145G1701 | 8/30/94   | 10:25     | 1.2       |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG401   | 27    | S145G1801 | 8/30/94   | 10:30     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG402   | 15    | S145G1702 | 8/30/94   | 13:40     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG402   | 27    | S145G1902 | 8/30/94   | 13:50     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG403   | 15    | S145G1703 | 8/30/94   | 18:00     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 575   | 1U      | 1U      | 12.3         | 7             |
| 24_SG403   | 27    | S145G1903 | 8/30/94   | 18:10     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG404   | 15    | S145G1704 | 8/27/94   | 14:36     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 20          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 12300 | 145     | 71      | 218          | 585           |
| 24_SG404   | 21    | S145G1904 | 8/27/94   | 14:50     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 11          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 6800  | 88      | 30      | 119          | 288           |
| 24_SG405   | 15    | S145G1705 | 8/28/94   | 9:35      | 4.9 E     | 8.4 FI    | 1.8       |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 15.1J | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG405   | 27    | S145G1905 | 8/28/94   | 9:50      | 2.5       |           | 1         |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 6.2J  | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG406   | 15    | S145G1706 | 8/29/94   | 9:20      | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG406   | 27    | S145G1906 | 8/29/94   | 9:35      | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 2.4 E       | 1.9 FI      | 8.2 | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG407   | 15    | S145G1707 | 8/30/94   | 9:10      | 1U        |           | 5         |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG407   | 30    | S145G1907 | 8/30/94   | 9:25      | 1.2       |           | 13 E      | 61.4 FI   | 1U     | 1U     | 1U    | 60 E        | 2.4 FI      | 5U  | 1U     | 1U     | 1U    | 1.2 | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG407   | 30    | S145G1811 | 8/30/94   | 9:25      | 1         |           | 12.5 E    | 55.6 FI   | 1U     | 1U     | 1U    | 46 E        | 2.2 FI      | 5U  | 1U     | 1U     | 1U    | 1.1 | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG409   | 15    | S145G1708 | 8/30/94   | 8:30      | 1U        |           | 1         |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG409   | 30    | S145G1908 | 8/30/94   | 8:40      | 1U        |           | 5.2 E     | 28.6 FI   | 1U     | 1U     | 1U    | 13.2 E      | 3.3 FI      | 5U  | 1U     | 1U     | 1U    | 2.4 | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG409   | 15    | S145G1709 | 8/29/94   | 12:00     | 1U        |           | 2.7       |           | 1U     | 1.3    | 1U    | 5.3 E       | 1 FI        | 5.1 | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG410   | 15    | S145G1710 | 8/30/94   | 13:16     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG411   | 15    | S145G1711 | 8/28/94   | 15:15     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG411   | 30    | S145G1911 | 8/28/94   | 15:30     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG412   | 15    | S145G1712 | 8/29/94   | 15:35     | 1U        |           | 2.8       |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG412   | 16    | S145G1712 | 8/29/94   | 15:35     | 1U        |           | 2.5       |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG412   | 30    | S145G1912 | 8/29/94   | 15:50     | 1U        |           | 4.4       |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG413   | 15    | S145G1713 | 8/28/94   | 13:35     | 1U        |           | 6.2       |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 2             |
| 24_SG413   | 15    | S145G1715 | 8/28/94   | 13:35     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG413   | 30    | S145G1913 | 8/28/94   | 13:45     | 1U        |           | 9.9       |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG414   | 15    | S145G1714 | 8/28/94   | 14:25     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG414   | 30    | S145G1914 | 8/28/94   | 14:35     | 1U        |           | 3.3       |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 2.1           |
| 24_SG415   | 15    | S145G1715 | 8/28/94   | 16:10     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG415   | 30    | S145G1915 | 8/28/94   | 16:20     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG416   | 15    | S145G1716 | 8/29/94   | 16:25     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 6.4 | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG416   | 30    | S145G1916 | 8/29/94   | 16:35     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5.4 | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG417   | 15    | S145G1717 | 8/28/94   | 8:48      | 1U        |           | 1         |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG418   | 18    | S145G1718 | 8/29/94   | 11:31     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 9.5J  | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG419   | 15    | S145G1719 | 8/27/94   | 10:51     | 1U        |           | 1.8       |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1.8J  | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG420   | 15    | S145G1720 | 8/29/94   | 14:09     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG421   | 15    | S145G1721 | 8/29/94   | 14:49     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1.1           |
| 24_SG421   | 15    | S145G3513 | 8/29/94   | 14:49     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1.3           |
| 24_SG422   | 15    | S145G1722 | 8/27/94   | 11:50     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 3.1         |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1.2           |
| 24_SG423   | 15    | S145G1723 | 8/28/94   | 8:38      | 2.5       |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG424   | 15    | S145G1724 | 8/27/94   | 10:05     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG425   | 15    | S145G1725 | 8/27/94   | 8:28      | 1U        |           | 8         |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG428   | 18    | S145G1728 | 8/28/94   | 11:00     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG427   | 15    | S145G1727 | 7/1/94    | 11:30     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |
| 24_SG428   | 15    | S145G1728 | 7/1/94    | 11:59     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U  | 1U     | 1U     | 1U    | 1U  | 1U    | 1U    | 1U    | 10U   | 1U      | 1U      | 1U           | 1U            |

Table C-1  
Concentrations in Soil Gas  
MCAS El Toro Soil Gas Survey Technical Memorandum

Concentration in ug/L

(1) Key to Fuel Parameter names in Legend.

| Station ID | Depth | Sample ID | Smp. Date | Smp. Time | PCE (ECD) | PCE (FID) | TCE (ECD) | TCE (FID) | C12DCE | T12DCE | 11DCA | 11DCE (ECD) | 11DCE (FID) | VC | 111TCA | 112TCA | TCTFA  | CT    | CHCL5 | 12DCP | MeCL2 | TPH   | Benzene | Toluene | Ethylbenzene | Total Xylenes |
|------------|-------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|-------|-------------|-------------|----|--------|--------|--------|-------|-------|-------|-------|-------|---------|---------|--------------|---------------|
| 24_SG429   | 15    | S145G1729 | 8/30/94   | 8:50      | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG430   | 15    | S145G1730 | 8/30/94   | 13:36     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG431   | 15    | S145G1731 | 8/30/94   | 9:21      | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 12.8 E      | 2 FI        | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG432   | 15    | S145G1732 | 8/27/94   | 16:43     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1             |
| 24_SG433   | 15    | S145G1733 | 8/28/94   | 15:40     | 1U        |           | 1.7       |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG434   | 12    | S145G1734 | 8/30/94   | 10:18     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG435   | 15    | S145G1735 | 8/29/94   | 15:17     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG436   | 15    | S145G1736 | 7/1/94    | 13:05     | 1U        |           | 1.8       |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG437   | 15    | S145G1737 | 7/1/94    | 19:48     | 1U        |           | 1.4       |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG438   | 15    | S145G1738 | 7/1/94    | 10:19     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG439   | 15    | S145G1739 | 8/28/94   | 14:27     | 1U        |           | 1.1       |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG441   | 15    | S145G1741 | 7/1/94    | 10:25     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG442   | 15    | S145G1742 | 8/28/94   | 15:38     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 4.3 J  | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG443   | 15    | S145G1743 | 7/1/94    | 16:23     | 1U        |           | 12.9 E    | 59.6 FI   | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 21.8  | 1U      | 1U      | 1U           | 1U            |
| 24_SG444   | 15    | S145G1744 | 7/1/94    | 15:04     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 12.1 J | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG445   | 15    | S145G1745 | 7/1/94    | 14:42     | 2.8 E     | 7 FI      | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 2.2 J | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG446   | 15    | S145G1746 | 7/1/94    | 14:21     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG447   | 15    | S145G1747 | 7/1/94    | 15:24     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 3.1 J  | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG447   | 15    | S145G3519 | 7/1/94    | 15:24     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 3.1 J  | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG448   | 15    | S145G1748 | 6/27/94   | 16:50     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 15.8        |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 150   | 1.8     | 1       | 3.3          | 13            |
| 24_SG449   | 15    | S145G1749 | 7/1/94    | 11:35     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG450   | 15    | S145G1750 | 7/1/94    | 13:00     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG451   | 15    | S145G1751 | 7/1/94    | 12:10     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG452   | 7     | S145G1752 | 7/1/94    | 11:15     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG453   | 15    | S145G1753 | 7/1/94    | 9:20      | 1.2       |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG453   | 15    | S145G3184 | 7/1/94    | 9:20      | 1         |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG454   | 15    | S145G1754 | 7/1/94    | 9:00      | 4.6 E     | 18.3 FI   | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG455   | 15    | S145G1755 | 8/30/94   | 11:14     | 5.5 E     | 34.8 FI   | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG458   | 15    | S145G1756 | 8/30/94   | 11:38     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 76 E        | 8.2 FI      | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG457   | 15    | S145G1757 | 8/30/94   | 13:57     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 49.8 E      | 20.5 FI     | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG458   | 15    | S145G1758 | 8/30/94   | 10:51     | 3.8 E     | 10.5 FI   | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG459   | 15    | S145G1759 | 8/30/94   | 14:17     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 46.1        |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG459   | 15    | S145G3516 | 8/30/94   | 14:17     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG460   | 15    | S145G1760 | 7/1/94    | 9:50      | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 34.8 E      | 1.3 FI      | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG461   | 15    | S145G1761 | 6/30/94   | 14:34     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG462   | 15    | S145G1762 | 6/30/94   | 15:06     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG463   | 15    | S145G1763 | 6/30/94   | 15:25     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 8.5         |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG464   | 15    | S145G1764 | 6/30/94   | 14:51     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG466   | 15    | S145G1766 | 6/28/94   | 11:26     | 1.8       |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG467   | 15    | S145G1767 | 6/29/94   | 10:15     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG468   | 15    | S145G1768 | 6/29/94   | 9:23      | 1.8       |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 3.1 J  | 1U    | 1U    | 1U    | 1U    | 167   | 1U      | 1U      | 1U           | 3             |
| 24_SG469   | 15    | S145G1769 | 6/28/94   | 18:05     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG470   | 15    | S145G1770 | 6/28/94   | 18:26     | 1U        |           | 1.4       |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 2.3 J  | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG470   | 15    | S145G3510 | 6/28/94   | 18:26     | 1U        |           | 1.8       |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 2.6 J  | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG471   | 15    | S145G1771 | 6/29/94   | 9:47      | 1.3       |           | 5.2       |           | 1U     | 1U     | 1U    | 232 E       | 11.7 FI     | 5U | 1U     | 1U     | 10.8 J | 1U    | 1U    | 1U    | 1U    | 85    | 1U      | 1U      | 1U           | 1U            |
| 24_SG472   | 15    | S145G1772 | 7/1/94    | 8:40      | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 136 E       | 1.7 FI      | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 725   | 1U      | 1.1     | 22.8         | 24.5          |
| 24_SG473   | 15    | S145G1773 | 7/1/94    | 8:20      | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 1U          |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 1U    | 1U      | 1U      | 1U           | 1U            |
| 24_SG474   | 15    | S145G1774 | 6/27/94   | 18:10     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 19.2        |             | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 10500 | 163     | 1U      | 171          | 415           |
| 24_SG475   | 6     | S145G1775 | 6/27/94   | 15:40     | 1U        |           | 1U        |           | 1U     | 1U     | 1U    | 5.7 E       | 8.2 FI      | 5U | 1U     | 1U     | 1U     | 1U    | 1U    | 1U    | 1U    | 207   | 2       | 1.3     | 3.9          | 10.5          |

Comprehensive Long-Term Environmental Action Navy (CLEAN) II  
Contract No. N62742-94-D-0048  
Contract Task Order No. 0068

Draft Final Site Closure Report  
**Vadose Zone Remediation  
IRP Site 24,  
Volatile Organic Compounds  
Source Area**  
Former Marine Corps Air Station, El Toro, California

Prepared for

Department of the Navy  
Pacific Division  
Naval Facilities Engineering Command  
258 Makalapa Drive, Suite 100  
Pearl Harbor, Hawaii 96860-3134

Prepared by

Earth Tech, Inc.  
841 Bishop Street, Suite 500  
Honolulu, Hawaii 96813-3920

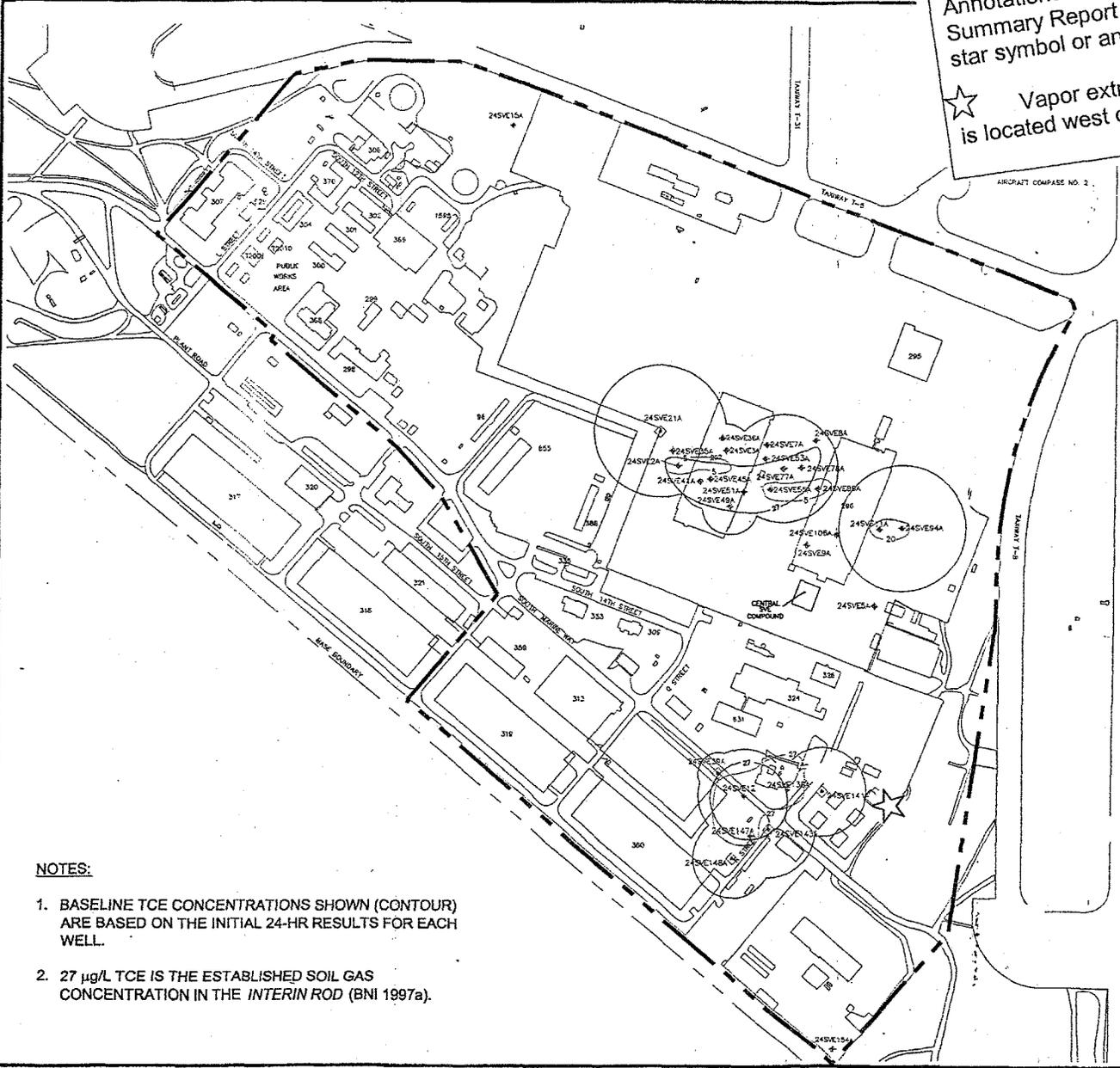
June 2002

**EXTRACTS**

Annotations made by the writer of the  
Summary Report are identified with a  
star symbol or an arrow.

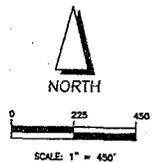
Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

★ Vapor extraction well 24SVE141A is located west of TAA 672.



**EXPLANATION**

- 24SVE7A      SOIL VAPOR EXTRACTION WELL
- 24SVE21A    ADDITIONAL SOIL VAPOR EXTRACTION WELL INSTALLED DURING DECEMBER 1998 AND JANUARY 2000
- 27 —      CONTOUR LINE OF TRICHLOROETHENE (TCE) SOIL GAS CONCENTRATION IN  $\mu\text{g/L}$  (SOURCE: SEOR MAY 1999)
- 27 —      CONTOUR LINE OF BASELINE TRICHLOROETHENE (TCE) SOIL GAS CONCENTRATION IN  $\mu\text{g/L}$
- EFFECTIVE RADIUS OF INFLUENCE (EROI) BOUNDARY
- SITE 24 BOUNDARY



- NOTES:**
1. BASELINE TCE CONCENTRATIONS SHOWN (CONTOUR) ARE BASED ON THE INITIAL 24-HR RESULTS FOR EACH WELL.
  2. 27  $\mu\text{g/L}$  TCE IS THE ESTABLISHED SOIL GAS CONCENTRATION IN THE INTERIM ROD (BNI 1997a).

|   |       |  |        |
|---|-------|--|--------|
| Site Closure Report   |       | Draft Final                              |        |
| <b>Intermediate Zone Baseline TCE Concentrations vs. EROI and Surveyed Well Locations</b> |       |  |        |
| Vadose Zone Remediation IRP Site 24, VOC Source Area                                      |       |  |        |
| Date  | 06-02 | Former MCAS El Toro                      |        |
| Project No.   | 29307 |  | Figure |
|   |       | A <b>tjco</b> INTERNATIONAL LTD. COMPANY | 2-2    |

Table 2 -1: Summary of Baseline Concentrations (continued)

| Well No.  | Sample Date | Applied Vac in. H <sub>2</sub> O | Flow scfm | TCE     | PCE      | CFC       | 1,1,DCE  | CCL <sub>4</sub> |
|-----------|-------------|----------------------------------|-----------|---------|----------|-----------|----------|------------------|
| 24SVE106B | 6/23/99     | 50                               | >15       | 0.004 J | 0.014 UJ | 0.0015 UJ | 0.008 UJ | 0.013 UJ         |
| 24SVE107  | 5/25/99     | 90                               | 50        | 7.1     | 0.16     | 120 D     | 0.2J     | 0.087 U          |
| 24SVE116  | 5/25/99     | 90                               | 110       | 41      | 1.2      | 63        | 1.1 J    | 0.43 U           |
| 24SVE117  | 5/25/99     | 90                               | 70        | 14      | 4.4      | 330       | 0.98 J   | 0.76             |
| 24SVE128B | 5/25/99     | 70                               | 280       | 50      | 0.7 U    | 37        | 0.4 U    | 0.65 U           |
| 24SVE129  | 1/14/00     | 40                               | 112       | 9.4     | 0.14     | 3.3       | 0.079 U  | 0.16             |
| 24SVE131B | 1/14/00     | 25                               | 135       | 0.5     | 0.014 U  | 0.15      | 0.0079 U | 0.013 U          |
| 24SVE161  | 6/2/99      | 97                               | 70        | 46      | 0.7      | 13        | 0.53     | 0.65             |
| 24SVE12   | 1/27/99     | 92                               | 128       | 235.0   | 5.55     | 99        | 2.75     | 6.85             |
| 24SVE13   | 4/28/99     | 94                               | 32        | 2.6     | 69       | 1.5       | 0.4 U    | 0.65 U           |
| 24SVE15   | 8/27/99     | 10                               | 75        | 2.7     | 0.08     | 0.31      | 0.02 U   | 0.032 U          |
| 24SVE15A  | 8/27/99     | 10                               | 75        | 0.01    | 0.014 U  | 0.041     | 0.0079 U | 0.013 U          |
| 24SVE15B  | 8/27/99     | 10                               | 75        | 0.011 U | 0.014 U  | 0.015 U   | 0.0079 U | 0.013 U          |
| 24SVE16   | 1/4/00      | 10                               | 78        | 0.4     | 25.5     | 0.28 U    | 0.16 U   | 0.26 U           |
| 24SVE18   | 7/20/99     | 12                               | 80        | 3.1     | 43       | 2.7       | 0.4 U    | 0.65 U           |
| 24SVE39A  | 1/13/00     | 100                              | 50        | 20      | 0.42     | 22        | 0.6      | 1.2              |
| 24SVE68   | 1/6/00      | 8                                | 77        | 0.6     | 21       | 0.55      | 0.099 UJ | 0.16 U           |
| 24SVE138A | 6/9/99      | 90                               | 70        | 139.8   | 5.24     | 215.3     | 0.95 U   | 5.27             |
| 24SVE141A | 1/20/00     | 66                               | 170       | 2.4     | 0.28 U   | 33        | 0.16 U   | 0.26 U           |
| 24SVE143A | 1/11/00     | 100                              | 100       | 14.0    | 0.37     | 0.3       | 0.099 U  | 0.29             |
| 24SVE147A | 6/15/99     | 98                               | 60        | 137.5   | 3.29     | 5.88      | 1.12     | 2.95             |
| 24SVE148A | 1/6/00      | 38                               | 160       | 9.7     | 0.5      | 0.14      | 0.14     | 0.43             |
| 24SVE154  | 10/14/99    | 54                               | 10        | 3.1     | 0.18     | 0.047 U   | 0.026 U  | 0.043 U          |
| 24SVE154A | 10/14/99    | 54                               | 10        | 12      | 0.94     | 0.21      | 0.079 U  | 0.13 U           |
| 24SVE154B | 10/14/99    | 54                               | 10        | 0.02    | 0.014 U  | 0.014 U   | 0.0079 U | 0.013 U          |

**Notes:**

All concentrations of contaminants are reported in micrograms per liter (µg/L)

U = The compound or analyte was analyzed for but not detected at or above the

UJ = The compound or analyte was analyzed for but not detected

ND = not detected

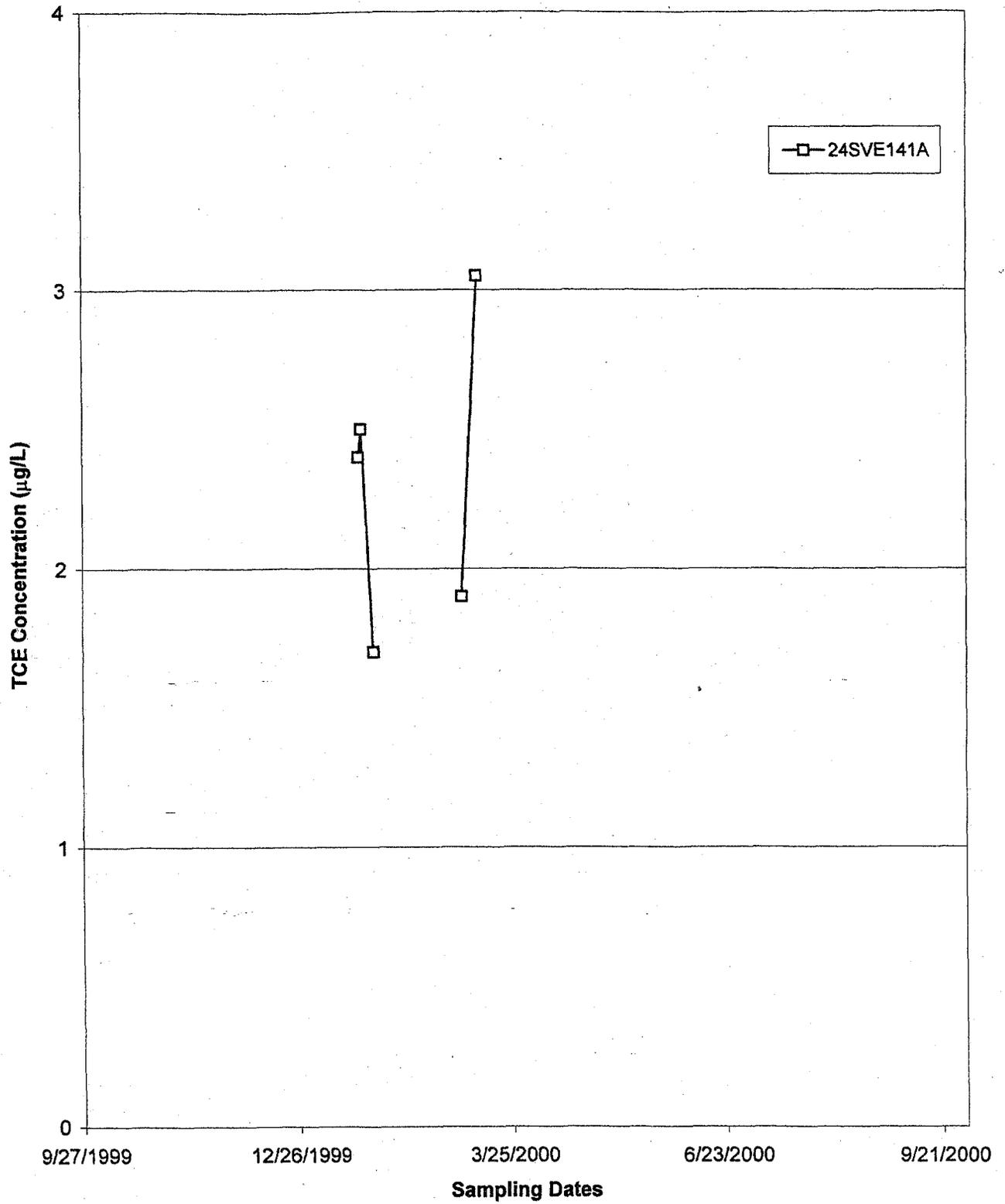
scfm = standard cubic feet per minute

Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

★ Vapor extraction well 24SVE141A is located west of TAA 672.

On January 14, 2000, 24-hour baseline samples were collected from the six newly installed wells (24SVE129, 24SVE50, 24SVE92, 24SVE131) near hangars 296 and 297. None of the samples exceeded the maximum value of 27 µg/L for TCE, and the results were used to confirm the extent of the plume boundary. However, two of the wells (24SVE21 and 24SVE131) exceeded 10 µg/L for TCE at 26 µg/L and 11 µg/L, respectively. Extraction from 24SVE21 and 24SVE131 continued until the TCE concentrations decreased below 10 µg/L.

In January 2000, 24-hour baseline samples were also collected from the six newly installed wells (24SVE141A, 24SVE39A, 24SVE148A, 24SVE16, 24SVE68, and 24SVE143A) not close to hangars 296 and 297. Two portable treatment systems were used. None of the samples exceeded the



**Note:**

1. Sample collected on 3/3/00 was a restart sample.

Table C-4. Summary of EROI Estimates (continued)

| Well ID Number | Completion Zone | Screen Interval |           | Screen Length | Vacuum            | Flow   | EROI   | ROI    |
|----------------|-----------------|-----------------|-----------|---------------|-------------------|--------|--------|--------|
|                |                 | From (feet)     | To (feet) | (feet)        | (inches of water) | (scfm) | (feet) | (feet) |
| 24SVE161       | Deep            | 70.3            | 95.3      | 25            | 70                | 57     | 110    | 104    |
| 24SVE2A        | Intermediate    | 40              | 70        | 30            | 42                | 56     | 90     | 200    |
| 24SVE3A        | Intermediate    | 45              | 60        | 15            | 120               | 55     | 176    | 115    |
| 24SVE11A       | Intermediate    | 43              | 73        | 30            | 90                | 27     | 67     | 104    |
| 24SVE12*       | Intermediate    | 34              | 74        | 40            | 98                | 100    | 241    | 200    |
| 24SVE21A       | Intermediate    | 50              | 75        | 25            | 75                | 160    | 384    | 286    |
| 24SVE35A       | Intermediate    | 50              | 75        | 25            | 80                | 70     | 168    | 128    |
| 24SVE39A       | Intermediate    | 50              | 75        | 25            | 100               | 45     | 88     | 126    |
| 24SVE45A       | Intermediate    | 50              | 70        | 20            | 60                | 56     | 135    | 144    |
| 24SVE49A       | Intermediate    | 45              | 65        | 20            | 110               | 50     | 122    | 140    |
| 24SVE55A       | Intermediate    | 40              | 70        | 30            | 100               | 0      | 0      | 0      |
| 24SVE77A       | Intermediate    | 39              | 54        | 15            | 30                | 100    | 235    | 235    |
| 24SVE78A       | Intermediate    | 45              | 60        | 15            | 90                | 49     | 156    | 90     |
| 24SVE94A       | Intermediate    | 49.5            | 69.5      | 20            | 40                | 115    | 274    | 295    |
| 24SVE138A      | Intermediate    | 44              | 70        | 26            | 100               | 105    | 201    | 131    |
| ★ 24SVE141A*   | Intermediate    | 50              | 80        | 30            | 63                | 163    | 311    | 190    |
| 24SVE143A*     | Intermediate    | 50*             | 75        | 25            | 100               | 103    | 200    | 219    |
| 24SVE147A      | Intermediate    | 57              | 77        | 20            | 49                | 61     | 116    | 86     |
| 24SVE148A*     | Intermediate    | 55              | 75        | 20            | 38                | 160    | 302    | 170    |
| 24SVE32B*      | Shallow         | 20              | 40        | 20            | 59                | 125    | 241    | 278    |
| 24SVE35B       | Shallow         | 15              | 35        | 20            | 60                | 175    | 417    | 231    |
| 24SVE36B*      | Shallow         | 15              | 40        | 25            | 80                | 125    | 241    | 214    |
| 24SVE45B       | Shallow         | 20              | 40        | 20            | 35                | 154    | 362    | 171    |
| 24SVE62B       | Shallow         | 15              | 40        | 25            | 110               | 35     | 0      | 0      |
| 24SVE67B       | Shallow         | 17              | 32        | 15            | 99                | 133    | 254    | 135    |
| 24SVE77B       | Shallow         | 18              | 33        | 15            | 30                | 175    | 409    | 181    |
| 24SVE94B       | Shallow         | 25              | 45        | 20            | 55                | 175    | 335    | 232    |
| 24SVE104B      | Shallow         | 25.3            | 45.3      | 20            | 19                | 308    | 701    | 293    |
| 24SVE128B      | Shallow         | 15              | 40        | 25            | 40                | 170    | 324    | 349    |
| 24SVE131B*     | Shallow         | 20              | 40        | 20            | 45                | 175    | 334    | 318    |

Notes:

\* indicates the well ROI and EROI were evaluated after the fourteen additional wells were installed.

bgs = below ground surface

EROI = effective radius of influence

ROI = effective radius of influence

scfm = standard cubic feet per minute

Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

★ Vapor extraction well 24SVE141A is located west of TAA 672.

## Extracts from MCAS El Toro Property Records, Facility Maps, and Historical Photographs

|      |       |                              |               |          |    |        |      |     |    |             |             |      |      |
|------|-------|------------------------------|---------------|----------|----|--------|------|-----|----|-------------|-------------|------|------|
| 6421 | 71171 | SAN JOAQUIN OFFICER'S HSG    | N6247471C4170 | 19731001 | SF | 2,085  | 72   | 42  | 12 | \$17,630    | \$48,747    | 1973 |      |
| 6422 | 71171 | SAN JOAQUIN OFFICER'S HSG    | N6247471C4170 | 19731001 | SF | 2,085  | 72   | 42  | 12 | \$17,630    | \$48,747    | 1973 |      |
| 6423 | 71171 | SAN JOAQUIN OFFICER'S HSG    | N6247471C4170 | 19731001 | SF | 2,085  | 72   | 42  | 12 | \$17,630    | \$48,747    | 1973 |      |
| 6424 | 71171 | SAN JOAQUIN OFFICER'S HSG    | N6247471C4170 | 19731001 | SF | 2,085  | 72   | 42  | 12 | \$17,630    | \$48,747    | 1973 |      |
|      | 81230 | SAN JOAQUIN HSG ELECT DISTR  | N6247471C4170 | 19731001 |    | 0      | 0    | 0   | 0  | \$177,833   | \$484,794   | 1973 | 1979 |
|      | 85110 | ROADS - SAN JOAQUIN HSG      | N6247471C4170 | 19731001 | SY | 61,800 | 0    | 0   | 0  | \$311,035   | \$860,012   | 1973 |      |
|      | 85220 | SIDEWALKS SAN JOAQUIN HSG    | N6247471C4170 | 19731001 | SY | 7,662  | 0    | 0   | 0  | \$45,784    | \$126,593   | 1973 |      |
|      | 75036 | T/V DISTR-SAN JOAQUIN HSG    | N6247471C4170 | 19731001 | SY | 0      | 0    | 0   | 0  | \$22,146    | \$61,234    | 1973 |      |
|      | 82410 | GAS MAINS SAN JOAQUIN HSG    | N6247471C4170 | 19731001 |    | 0      | 0    | 0   | 0  | \$105,565   | \$291,887   | 1973 |      |
|      | 83210 | SANITARY SEWER-SAN JOAQUIN   | N6247471C4170 | 19731001 |    | 0      | 0    | 0   | 0  | \$190,308   | \$526,202   | 1973 |      |
|      | 87110 | STORM SEWER-SAN JOAQUIN HSG  | N6247471C4170 | 19731001 | SY | 0      | 0    | 0   | 0  | \$181,781   | \$502,624   | 1973 |      |
|      | 87130 | IRRIGATION FAC-SAN JOAQUIN   | N6247471C4170 | 19731001 | SY | 0      | 0    | 0   | 0  | \$305,471   | \$844,627   | 1973 |      |
|      | 84210 | WATER DISTR-SAN JOAQUIN HSG  | N6247471C4170 | 19731001 |    | 0      | 0    | 0   | 0  | \$129,458   | \$357,951   | 1973 |      |
|      | 87215 | INTERIOR FENCE-SAN JOAQUIN   | N6247471C4170 | 19731001 | SY | 0      | 0    | 0   | 0  | \$34,911    | \$96,529    | 1973 |      |
|      | 81240 | SECURITY LIGHTNG-SAN JOAQUIN | N6247471C4170 | 19731001 |    | 0      | 0    | 0   | 0  | \$4,987     | \$13,789    | 1973 |      |
| 672  | 21430 | REFUELING VEHICLE MAINT      | N6247472C0208 | 19731101 | SF | 1,600  | 40   | 40  | 17 | \$24,054    | \$66,509    | 1973 |      |
| 671  | 61072 | REFUEL VEHICLE ADMIN OFFICE  | N6247472C0208 | 19731101 | SF | 840    | 42   | 20  | 12 | \$30,735    | \$84,982    | 1973 |      |
| 702  | 73025 | GATE/SENTRY HOUSE            |               | 19760801 | SF | 81     | 9    | 9   | 8  | \$7,213     | \$15,943    | 1976 | 1984 |
| 707  | 69010 | SIGN-STATION ACTIVITIES      |               | 19760101 | SY | 0      | 0    | 0   | 11 | \$4,105     | \$7,892     | 1976 | 1988 |
| 708  | 69010 | SIGN-STATION ACTIVITIES      |               | 19760101 | SY | 0      | 0    | 0   | 11 | \$3,518     | \$7,901     | 1976 |      |
| 709  | 21188 | POWR CH PAD-NO SUPPRESSION   | N6247476C2858 | 19770101 | SY | 0      | 0    | 0   | 0  | \$15,215    | \$31,366    | 1977 | 1979 |
| 710  | 21188 | POWR CH PAD-NO SUPPRESSION   | N6247476C2858 | 19770101 | SY | 0      | 0    | 0   | 0  | \$15,215    | \$31,366    | 1977 | 1979 |
| 713  | 44130 | GENERAL STORAGE SHED         | N6247476C2826 | 19770401 | SF | 3,600  | 90   | 40  | 12 | \$27,284    | \$68,007    | 1977 |      |
| 683  | 43110 | COLD STORAGE/READY ISSUE     | N6247473C5299 | 19740901 | SF | 15,183 | 241  | 63  | 16 | \$649,981   | \$1,705,916 | 1974 | 1988 |
| 717  | 14120 | GENERAL STORAGE SHED         | N6247477C6402 | 19780301 | SF | 1,000  | 50   | 20  | 8  | \$28,942    | \$51,095    | 1978 | 1990 |
| 716  | 21101 | ACFT ACOUSTICAL ENCLOSURE    | N6247475C6679 | 19780301 | SF | 8,880  | 154  | 130 | 28 | \$1,670,187 | \$2,458,377 | 1978 | 1986 |
| 714  | 14130 | FLIGHT LINE NO. 2            | N6247477C2118 | 19780331 | SF | 1,000  | 50   | 20  | 9  | \$56,875    | \$120,259   | 1977 | 1982 |
| 715  | 21115 | FLIGHT LINE FACILITY NO. 1   | N6247477C2118 | 19780301 | SF | 1,000  | 50   | 20  | 9  | \$55,850    | \$118,737   | 1977 |      |
|      | 41170 | VAPOR RECOVERY SYSTEM        | N6247474C3613 | 19771130 | SY | 0      | 0    | 0   | 0  | \$320,423   | \$588,340   | 1977 | 1983 |
|      | 85115 | LOADING DOCK                 | N6247477C6403 | 19780512 | SY | 227    | 67   | 30  | 0  | \$17,838    | \$34,731    | 1978 |      |
| 718  | 74064 | EM/SNCO MODULAR CLUB         | N6247476C7215 | 19780701 | SF | 43,960 | 240  | 200 | 23 | \$2,771,551 | \$5,390,923 | 1978 | 1989 |
| 694  | 74023 | COMMISSARY                   | N6247473C5755 | 19760101 | SF | 47,120 | 248  | 190 | 20 | \$1,706,234 | \$4,063,560 | 1975 | 1986 |
| 693  | 17135 | C-130F FLIGHT TRAINER FAC    | N6247474C3849 | 19770706 | SF | 5,467  | 77   | 71  | 24 | \$343,806   | \$700,431   | 1977 | 1986 |
|      | 81320 | SUBSTATION FOR B.693         | N6247474C3849 | 19770706 |    | 0      | 0    | 0   | 0  | \$31,000    | \$65,906    | 1977 |      |
| 722  | 74002 | CONVENIENCE FOOD STORE       | N6247477C2352 | 19800819 | SF | 12,000 | 120  | 100 | 19 | \$788,088   | \$1,269,290 | 1980 | 1988 |
| 725  | 73025 | GATE 9 SENTRY HOUSE          | NA            | 19791201 | SF | 24     | 6    | 4   | 8  | \$2,144     | \$3,167     | 1979 | 1985 |
| 726  | 21115 | FLIGHT LINE SHELTER          | NA            | 19810501 | SF | 1,000  | 50   | 20  | 8  | \$12,775    | \$18,971    | 1981 |      |
| 727  | 21115 | FLIGHT LINE SHELTER          | NA            | 19810501 | SF | 1,000  | 50   | 20  | 8  | \$16,232    | \$23,998    | 1981 | 1984 |
| 728  | 14130 | FLIGHT LINE SHELTER          | P6104981      | 19830301 | SF | 1,000  | 50   | 20  | 8  | \$23,559    | \$32,084    | 1983 | 1985 |
| 729  | 73025 | MAIN GATE SENTRY HOUSE       | NA            | 19790101 | SF | 48     | 8    | 6   | 8  | \$2,989     | \$4,954     | 1979 | 1990 |
|      | 85235 | GOLF CART PATHS HOLES 1-9    |               | 19790601 | SY | 5,167  | 9300 | 5   | 0  | \$13,929    | \$24,223    | 1979 |      |
| 730  | 61010 | COMMUNICATION CENTER         | N6247476C7131 | 19800919 | SF | 6,500  | 130  | 50  | 16 | \$956,918   | \$1,487,285 | 1980 | 1990 |
| 731  | 72111 | UEPH                         | N6247479C5203 | 19800701 | SF | 41,157 | 269  | 51  | 28 | \$3,018,822 | \$4,760,374 | 1980 | 1984 |
| 732  | 72111 | UEPH                         | N6247479C5203 | 19800701 | SF | 41,157 | 269  | 51  | 28 | \$3,053,201 | \$4,813,652 | 1980 | 1985 |
|      | 13510 | SCANDATA COMPUTER LINES      | N6247479C0503 | 19791107 |    | 0      | 380  | 0   | 0  | \$14,507    | \$25,228    | 1979 |      |
|      | 13410 | VORTAC ANTENNA PAD/SCREEN    | N6247479C0497 | 19800314 | SY | 0      | 0    | 0   | 0  | \$6,230     | \$10,037    | 1980 |      |
|      | 81320 | TRANSFORMER @ B. 716         | N6247475C6679 | 19780301 |    | 0      | 0    | 0   | 0  | \$13,500    | \$26,285    | 1978 |      |
| 737  | 72210 | VACANT                       | NA            | 19810401 | SF | 1,000  | 50   | 20  | 8  | \$2,850     | \$3,927     | 1981 | 1984 |
| 1815 | 21115 | METAL STORAGE BUILDING       | NA            | 19791001 | SF | 100    | 10   | 10  | 6  | \$439       | \$769       | 1979 |      |
|      | 14930 | E-28 ARRESTING GEAR R/W 7R   | N6247480C4481 | 19810210 | SY | 0      | 0    | 0   | 0  | \$95,615    | \$141,988   | 1981 |      |
|      | 14930 | E-28 ARRESTING GEAR R/W 7L   | N6247480C4481 | 19810210 | SY | 0      | 0    | 0   | 0  | \$95,615    | \$141,988   | 1981 |      |
|      | 13464 | RUNWAY DISTANCE MARKERS      | N6247480C4483 | 19810220 | SY | 0      | 0    | 0   | 0  | \$81,900    | \$121,622   | 1981 |      |
| 733  | 82109 | BEQ BOILER BLDG              | N6247477C2811 | 19800505 | SF | 1,689  | 52   | 45  | 11 | \$252,776   | \$399,757   | 1980 | 1984 |

BLDG CLASS 2 PROPERTY RECORD  
 (004) UIC..M60050 (001) PR NO.....2-02419  
 MCAS EL TORO SANTA ANA CA (005) FACILITY NO..672  
 (106) SPEC AREA....

LOCATION  
 (101) COUNTRY..US UNITED STATES  
 (102) STATE....06 CALIFORNIA  
 (103) COUNTY...059 ORANGE  
 (104) CITY.....0000  
 (107) MAP GRID.U10

GENERAL INFORMATION  
 (007) ACTION.....CORRECTION  
 (008) FAM HOUSING....NO  
 + (009) EE DATE.....01 NOV 76  
 + (011) PR REVIEW DATE.07 SEP 88  
 (010) FACILITY NAME..  
 REFUELING VEHICLE MAINT

ACQUISITION  
 (201) ESTATE.....11 MCON  
 (202) ACQ CONTRACT...N62474-72C0208  
 (203) ACQ DATE.....01 NOV 73  
 (204) GOVT COST..... \$24,054  
 (207) LAND CCN.....91140

MEASUREMENTS  
 (301) LENGTH.... 40 FT  
 (302) WIDTH..... 40 FT  
 (303) HEIGHT.... 17 FT  
 (304)/(308) AREA/UM... 1,600 SF  
 (305) STORIES... 01  
 (307) IRREGULAR. NO

CONSTRUCTION  
 (401) YEAR BUILT.....1973  
 (402) CONSTRUCTION TYPE..PERMANENT  
 (403) YEAR IMPROVED.....  
 (404) ABMP CODE.....  
 (409) PROJECT ID.....P125  
 (410) HISTORIC IND...

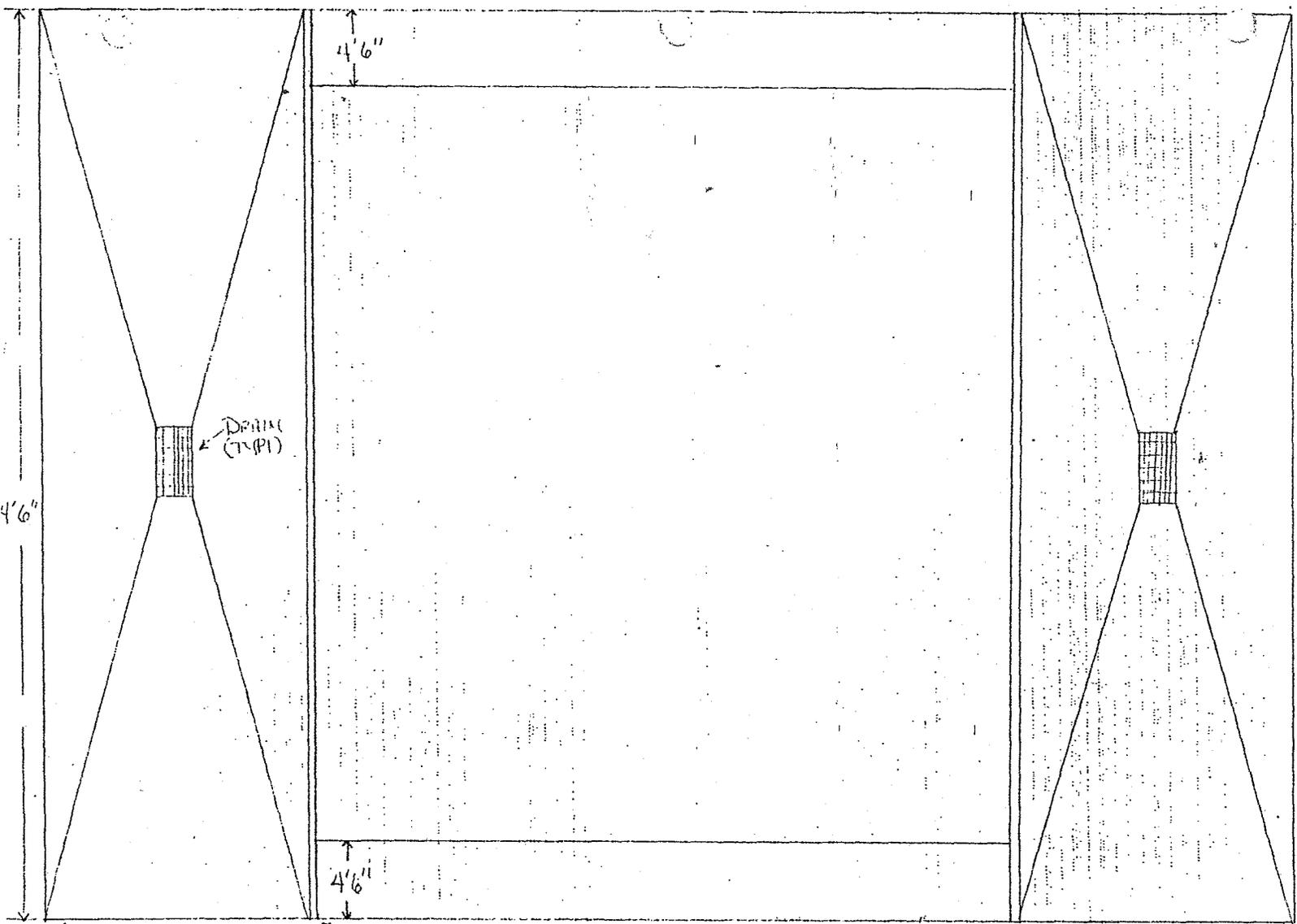
MAINTENANCE  
 (701) MAINT UIC..M60050 (702) PRIME USE....21430 (703) MFC...4 USMC

STATUS / UTILIZATION  
 (502) CATEGORY CODE...21430 (501) USE..MWSS-373 REFUELING VEH SH  
 (510) USER UIC.....M09023.....MABS 11

| AREA/SF*                 | OTHER/   | ALT/  | DEF CODES |
|--------------------------|----------|-------|-----------|
| ADEQ (515) .....1,600.00 | (516)    | (517) | (524)     |
| SBST (518)               | (519)    | (520) | (525)     |
| INAD (521)               | (522)    | (523) | (526)     |
| TOTAL                    | 1,600.00 |       |           |

Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

★ PROPERTY RECORD FOR BUILDING 672



**BUILDING 672 PLAN**

DG 672-1 | MAP GRID U9

DATE  
7 MAY 84

BLDG CLASS 2 PROPERTY RECORD  
 (004) UIC..M60050 (001) PR NO.....2-02420  
 MCAS EL TORO SANTA ANA CA (005) FACILITY NO..671  
 (106) SPEC AREA....

LOCATION  
 (101) COUNTRY..US UNITED STATES  
 (102) STATE....06 CALIFORNIA  
 (103) COUNTY...059 ORANGE  
 (104) CITY.....0000  
 (107) MAP GRID.U9

GENERAL INFORMATION  
 (007) ACTION.....CORRECTION  
 (008) FAM HOUSING....NO  
 +(009) EE DATE.....01 NOV 76  
 +(011) PR REVIEW DATE.07 SEP 88  
 (010) FACILITY NAME..  
 REFUEL VEHICLE ADMIN OFFICE

ACQUISITION  
 (201) ESTATE.....11 MCON  
 (202) ACQ CONTRACT...N62474-72C0208  
 (203) ACQ DATE.....01 NOV 73  
 (204) GOVT COST..... \$30,735  
 (207) LAND CCN.....91140

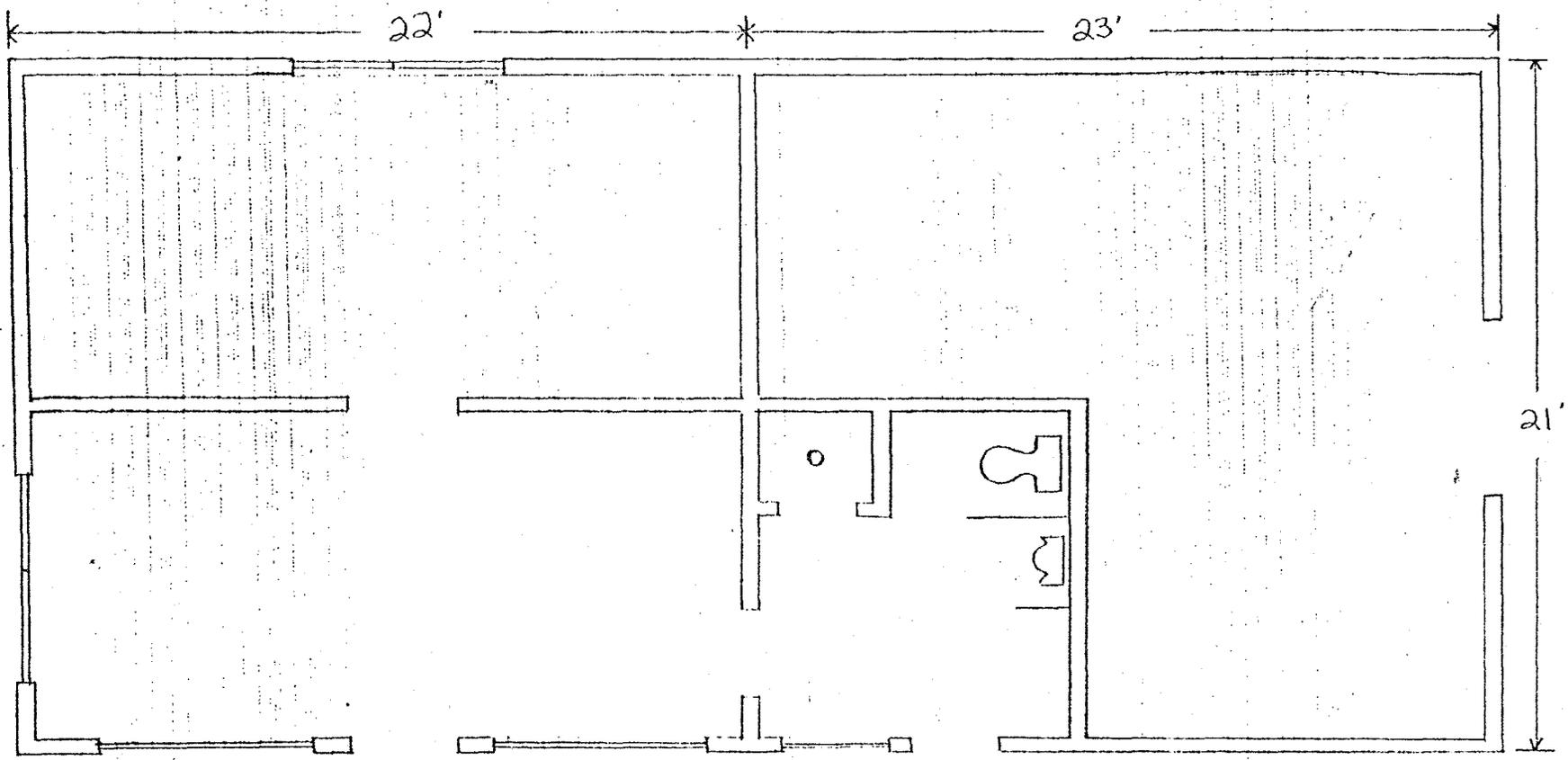
MEASUREMENTS  
 (301) LENGTH.... 42 FT  
 (302) WIDTH..... 20 FT  
 (303) HEIGHT.... 12 FT  
 (304)/(308) AREA/UM... 840 SF  
 (305) STORIES... 01  
 (307) IRREGULAR. NO

CONSTRUCTION  
 (401) YEAR BUILT.....1973  
 (402) CONSTRUCTION TYPE..PERMANENT  
 (403) YEAR IMPROVED.....  
 (404) ABMP CODE.....  
 (409) PROJECT ID.....P125  
 (410) HISTORIC IND...

MAINTENANCE  
 (701) MAINT UIC..M60050 (702) PRIME USE....61072 (703) MFC...4 USMC

+STATUS / UTILIZATION  
 (502) CATEGORY CODE...61072 (501) USE..MWSS-373 RFLR DISPATCH OF  
 (510) USER UIC.....M09023.....MABS 11

| AREA/SF*               | OTHER/ | ALT/  | DEF CODES |
|------------------------|--------|-------|-----------|
| ADEQ (515) .....840.00 | (516)  | (517) | (524)     |
| SBST (518)             | (519)  | (520) | (525)     |
| INAD (521)             | (522)  | (523) | (526)     |
| TOTAL                  | 840.00 |       |           |



|     |      |  |         |    |
|-----|------|--|---------|----|
| 569 | K-13 | ANTENNA, COMMUNICATIONS                | 1       | EA |
| 570 | K-13 | ANTENNA, COMMUNICATIONS                | 1       | EA |
| 571 | K-13 | ANTENNA, COMMUNICATIONS                | 1       | EA |
| 572 | K-13 | ANTENNA, COMMUNICATIONS                | 1       | EA |
| 573 | K-13 | ANTENNA, COMMUNICATIONS                | 1       | EA |
| 574 | K-8  | AIRCRAFT DIRECT FUELING STATION        | 400     | GM |
| 575 | D-8  | AIRCRAFT DIRECT FUELING STATION        | 400     | GM |
| 576 | D-8  | AIRCRAFT DIRECT FUELING STATION        | 400     | GM |
| 577 | D-8  | AIRCRAFT DIRECT FUELING STATION        | 400     | GM |
| 578 | M-2  | PUBLIC TOILET (300)                    | 240     | SF |
| 579 | F-14 | WATER DISTRIBUTION BLDG                | 80      | SF |
| 580 | F-14 | STANDBY GENERATOR PLANT                | 2,500   | SF |
| 581 | L-9  | POST OFFICE                            | 1,500   | SF |
| 582 | K-12 | PUBLIC WORKS SHOP                      | 2,500   | SF |
| 583 | J-12 | RESEVOR, POTABLE                       | 300,000 | GA |
| 584 | D-5  | LOW FREQUENCY HONKER BLDG              | 140     | EA |
| 585 | L-9  | OBSTRUCTION LIGHT                      | 1       | EA |
| 586 | K-17 | OBSTRUCTION LIGHT                      | 1       | EA |
| 587 | C-18 | OBSTRUCTION LIGHT                      | 1       | EA |
| 588 | L-14 | OBSTRUCTION LIGHT                      | 1       | EA |
| 589 | F-10 | OBSTRUCTION LIGHT                      | 1       | EA |
| 590 | L-13 | OBSTRUCTION LIGHT                      | 1       | EA |
| 591 | K-14 | OBSTRUCTION LIGHT                      | 1       | EA |
| 592 | L-15 | OBSTRUCTION LIGHT                      | 1       | EA |
| 593 | U-8  | LOG/STORAGE FACILITY                   | 864     | SF |
| 594 | P-4  | STORAGE, MARINE CORPS                  | 4,708   | SF |
| 595 | K-1  | PUBLIC TOILET                          | 92      | SF |
| 596 | M-9  | CONSTRUCTION EQUIPMENT SHOP            | 4,800   | SF |
| 597 | K-11 | AVIATION ADMIN                         | 3,150   | SF |
| 598 | P-8  | RATCO CENTER                           | 78      | SF |
| 599 | M-1  | MAINT. HGR. OHS (HIGH BAY)(25598)      | 12,900  | SF |
| 600 | M-1  | MAINT. HANGAR OHS (CREW/EQUIP)         | 5,350   | SF |
| 601 | M-1  | MAINT. HGR. OHS (HIGH BAY)(25598)      | 12,900  | SF |
| 602 | M-1  | MAINT. HANGAR OHS (CREW/EQUIP)         | 5,350   | SF |
| 603 | M-1  | MAINT. HANGAR OHS (ADMIN)              | 5,348   | SF |
| 604 | R-13 | POTABLE WATER TANK, 2ND LEVEL, POTABLE | 25,000  | GA |
| 605 | M-9  | MISSILE                                | 930     | GM |
| 606 | L-10 | PLUMBING                               | 2,110   | EA |
| 607 | L-10 | PLUMBING                               | 1       | EA |
| 608 | L-10 | PLUMBING                               | 1       | EA |
| 609 | L-10 | PLUMBING                               | 1       | EA |
| 610 | M-2  | PLAY AREA                              | 2       | EA |
| 611 | M-2  | PLAY AREA                              | 2       | EA |
| 612 | M-2  | PLAY AREA                              | 2       | EA |
| 613 | M-2  | PLAY AREA                              | 2       | EA |
| 614 | M-2  | PLAY AREA                              | 2       | EA |
| 615 | M-2  | PLAY AREA                              | 2       | EA |
| 616 | M-2  | PLAY AREA                              | 2       | EA |
| 617 | M-2  | PLAY AREA                              | 2       | EA |
| 618 | M-2  | PLAY AREA                              | 2       | EA |
| 619 | M-2  | PLAY AREA                              | 2       | EA |
| 620 | M-2  | PLAY AREA                              | 2       | EA |
| 621 | M-2  | PLAY AREA                              | 2       | EA |
| 622 | M-2  | PLAY AREA                              | 2       | EA |
| 623 | M-2  | PLAY AREA                              | 2       | EA |
| 624 | M-2  | PLAY AREA                              | 2       | EA |
| 625 | M-2  | PLAY AREA                              | 2       | EA |
| 626 | M-2  | PLAY AREA                              | 2       | EA |
| 627 | M-2  | PLAY AREA                              | 2       | EA |
| 628 | M-2  | PLAY AREA                              | 2       | EA |
| 629 | M-2  | PLAY AREA                              | 2       | EA |
| 630 | M-2  | PLAY AREA                              | 2       | EA |
| 631 | M-2  | PLAY AREA                              | 2       | EA |
| 632 | M-2  | PLAY AREA                              | 2       | EA |
| 633 | M-2  | PLAY AREA                              | 2       | EA |
| 634 | M-2  | PLAY AREA                              | 2       | EA |
| 635 | M-2  | PLAY AREA                              | 2       | EA |
| 636 | M-2  | PLAY AREA                              | 2       | EA |
| 637 | M-2  | PLAY AREA                              | 2       | EA |
| 638 | M-2  | PLAY AREA                              | 2       | EA |
| 639 | M-2  | PLAY AREA                              | 2       | EA |
| 640 | M-2  | PLAY AREA                              | 2       | EA |
| 641 | M-2  | PLAY AREA                              | 2       | EA |
| 642 | M-2  | PLAY AREA                              | 2       | EA |
| 643 | M-2  | PLAY AREA                              | 2       | EA |
| 644 | M-2  | PLAY AREA                              | 2       | EA |
| 645 | M-2  | PLAY AREA                              | 2       | EA |
| 646 | M-2  | PLAY AREA                              | 2       | EA |
| 647 | M-2  | PLAY AREA                              | 2       | EA |
| 648 | M-2  | PLAY AREA                              | 2       | EA |
| 649 | M-2  | PLAY AREA                              | 2       | EA |
| 650 | M-2  | PLAY AREA                              | 2       | EA |
| 651 | M-2  | PLAY AREA                              | 2       | EA |
| 652 | M-2  | PLAY AREA                              | 2       | EA |
| 653 | M-2  | PLAY AREA                              | 2       | EA |
| 654 | M-2  | PLAY AREA                              | 2       | EA |
| 655 | M-2  | PLAY AREA                              | 2       | EA |
| 656 | M-2  | PLAY AREA                              | 2       | EA |
| 657 | M-2  | PLAY AREA                              | 2       | EA |
| 658 | M-2  | PLAY AREA                              | 2       | EA |
| 659 | M-2  | PLAY AREA                              | 2       | EA |
| 660 | M-2  | PLAY AREA                              | 2       | EA |
| 661 | M-2  | PLAY AREA                              | 2       | EA |
| 662 | M-2  | PLAY AREA                              | 2       | EA |
| 663 | M-2  | PLAY AREA                              | 2       | EA |
| 664 | M-2  | PLAY AREA                              | 2       | EA |
| 665 | M-2  | PLAY AREA                              | 2       | EA |
| 666 | M-2  | PLAY AREA                              | 2       | EA |
| 667 | M-2  | PLAY AREA                              | 2       | EA |
| 668 | M-2  | PLAY AREA                              | 2       | EA |
| 669 | M-2  | PLAY AREA                              | 2       | EA |
| 670 | M-2  | PLAY AREA                              | 2       | EA |
| 671 | M-2  | PLAY AREA                              | 2       | EA |
| 672 | M-2  | PLAY AREA                              | 2       | EA |
| 673 | M-2  | PLAY AREA                              | 2       | EA |
| 674 | M-2  | PLAY AREA                              | 2       | EA |
| 675 | M-2  | PLAY AREA                              | 2       | EA |
| 676 | M-2  | PLAY AREA                              | 2       | EA |
| 677 | M-2  | PLAY AREA                              | 2       | EA |
| 678 | M-2  | PLAY AREA                              | 2       | EA |
| 679 | M-2  | PLAY AREA                              | 2       | EA |
| 680 | M-2  | PLAY AREA                              | 2       | EA |
| 681 | M-2  | PLAY AREA                              | 2       | EA |

|       |      |                                |        |    |
|-------|------|--------------------------------|--------|----|
| 1601  | T-8  | PUBLIC WORKS MAINT. STORAGE    | 761    | SF |
| 1601* | T-7  | HAZARDOUS & FLAMMABLE STORAGE  | 1,336  | SF |
| 1610  | M-1  | HEAVY EQUIP MAINT SHOP         | 360    | SF |
| 1610  | M-1  | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1643  | M-3  | HAZARDOUS & FLAMMABLE STORAGE  | 360    | SF |
| 1644  | M-3  | HAZARDOUS & FLAMMABLE STORAGE  | 360    | SF |
| 1649  | M-7  | APPLIED INSTRUCTION BLDG       | 360    | SF |
| 1650  | P-12 | ACADEMIC INSTRUCTION BLDG      | 336    | SF |
| 1651  | M-3  | GENERAL WAREHOUSE              | 1,344  | SF |
| 1651  | M-3  | ACADEMIC INSTRUCTION BLDG      | 360    | SF |
| 1652  | M-3  | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1653  | M-3  | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1656  | P-12 | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1657  | G-1  | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1658  | M-9  | AUTV VEHICLE MAINT SHOP        | 360    | SF |
| 1660  | P-12 | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1662  | P-12 | ACADEMIC INSTRUCTION BLDG      | 360    | SF |
| 1663  | R-17 | ELECTRONIC MAINTENANCE SHOP    | 360    | SF |
| 1665  | Q-17 | LINE MAINTENANCE SHELTER       | 360    | SF |
| 1666  | P-12 | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1670  | D-11 | AVIATION ADMINISTRATION SHOP   | 360    | SF |
| 1672  | M-9  | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1674  | U-8  | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1676  | P-12 | ADMENOR ENLISTED QUARTERS      | 360    | SF |
| 1677  | P-13 | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1682  | P-12 | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1683  | M-1  | LINE MAINTENANCE SHELTER       | 360    | SF |
| 1684  | M-1  | LINE MAINTENANCE SHELTER       | 360    | SF |
| 1695  | R-11 | AVIATION ADMINISTRATION SHOP   | 360    | SF |
| 1696  | Q-12 | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1697  | Q-13 | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1698  | Q-13 | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1699  | Q-13 | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1700  | L-10 | RECREATION FACILITY            | 494    | SF |
| 1700  | D-8  | AIRCRAFT OPERATIONS BLDG       | 360    | SF |
| 1702  | M-3  | EA CUSTOMER DPR CAR WASH       | 1,980  | SF |
| 1703  | M-3  | GENERAL WAREHOUSE SHED         | 360    | SF |
| 1710  | T-4  | GENERAL WAREHOUSE              | 360    | SF |
| 1715  | M-9  | A/E GROUND SUPPORT EQUIP SHOP  | 360    | SF |
| 1719  | P-12 | ACADEMIC INSTRUCTION BLDG      | 360    | SF |
| 1720  | P-12 | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1721  | P-12 | WER                            | 8      | MN |
| 1723  | M-9  | GENERAL WAREHOUSE              | 360    | SF |
| 1727  | T-7  | HAZARDOUS & FLAMMABLE STORAGE  | 1,176  | SF |
| 1728  | M-1  | HAZARDOUS & FLAMMABLE STORAGE  | 1,176  | SF |
| 1729  | M-7  | CONSTRUCTION EQUIPMENT SHOP    | 360    | SF |
| 1739  | M-9  | HAZARDOUS & FLAMMABLE STORAGE  | 360    | SF |
| 1748  | M-9  | ADMINISTRATIVE OFFICE          | 360    | SF |
| 1749  | M-9  | A/E REPAIRING VEHICLE SHOP     | 360    | SF |
| 1752  | K-15 | EQUIPMENT HOLDING SHED         | 49     | SF |
| 1762  | P-3  | PAVEMENT/GROUNDS EQUIP SHED    | 49     | SF |
| 1769  | K-7  | RIDING STABLE                  | 1,200  | SF |
| 1773  | G-15 | HAZARDOUS & FLAMMABLE STORAGE  | 713    | SF |
| 1775  | L-8  | RECREATION FACILITY            | 1      | EA |
| 1777  | M-8  | PUBLIC WORKS MAINT STORAGE     | 16     | EA |
| 1782  | U-9  | HEATING FUEL STORAGE           | 167    | BL |
| 1783  | U-9  | HEATING FUEL STORAGE           | 167    | BL |
| 1787  | M-9  | GENERAL WAREHOUSE              | 836    | SF |
| 1798  | D-4  | GENERAL WAREHOUSE              | 219    | SF |
| 1799  | P-12 | HAZARDOUS & FLAMMABLE STORAGE  | 64     | SF |
| 1791  | P-12 | GENERAL WAREHOUSE              | 1,680  | SF |
| 1793  | D-8  | LINE MAINTENANCE SHELTER       | 360    | SF |
| 1795  | M-3  | SPECIAL SERVICE ISSUE & OFFICE | 4,108  | SF |
| 1798  | K-7  | RIDING STABLE                  | 2,100  | SF |
| 1799  | K-7  | RIDING STABLE                  | 3,300  | SF |
| 1800  | M-7  | RIDING STABLE                  | 10,200 | SF |
| 1801  | T-7  | GENERAL WAREHOUSE              | 54     | SF |
| 1803  | P-12 | APPLIED INSTRUCTION BLDG       | 1,500  | SF |
| 1804  | M-9  | ELECTRICAL DISTRIBUTION BLDG   | 480    | SF |
| 1805  | P-4  | GENERAL STORAGE SHED           | 648    | SF |
| 1806  | P-3  | PUBLIC WORKS SHOP              | 2,260  | SF |
| 1808  | D-4  | HAZARDOUS & FLAMMABLE STORAGE  | 200    | SF |
| 1809  | P-12 | SENTRY HOUSE                   | 30     | SF |
| 1810  | T-7  | LINE MAINTENANCE SHELTER       | 360    | SF |
| 1811  | T-13 | GROUNDS EQUIPMENT SHED         | 1,140  | SF |
| 1812  | M-3  | ADMINISTRATIVE OFFICE          | 360    | SF |

|      |            |                                   |     |    |
|------|------------|-----------------------------------|-----|----|
| 6200 | 1-8        | PUBLIC QUARTERS                   |     |    |
| 6424 | 3-10-11-12 | (OFFICERS) ENLISTED               | 300 | FA |
| 5001 | M-7/A/9    | PUBLIC QUARTERS (ENLISTED)        | 50  | FA |
| 5023 |            |                                   |     |    |
| 5101 | G-3        | PUBLIC QUARTERS (OFFICER)         | 69  | FA |
| 1169 | M-2        |                                   |     |    |
| 5201 | L-9        | RENTAL HOUSING (NAMES) (ENLISTED) | 280 | FA |
| 5242 |            |                                   |     |    |
| 5301 | K-10/11/12 | PUBLIC QUARTERS (ENLISTED)        | 364 | FA |
| 5320 | K-10/11/12 | INC. GARAGES                      |     |    |
| 5521 | L-11/12    | PUBLIC QUARTERS (OFFICER)         | 192 | FA |
| 5762 | U-10/11/12 |                                   |     |    |
|      | K-10/11    | PRG. GARAGES                      |     |    |

NOTE: 1. BUILDING NOS. FOLLOWED BY AN ASTERISK - THUS - ARE MULTIPLE CATEGORY USE BUILDINGS.  
 2. UNLESS OTHERWISE SHOWN THEREAFTER USE OF EXISTING BUILDINGS AND/OR STRUCTURES IS THE SAME AS THE CURRENT USE.

RECORD OF PLASTERED BUILDINGS

COMPILED BY  
 APPROVED BY  
 D.M. MALLISTER 31 JULY 1973

MCAS EL TORO  
 SANTA ANA, CALIFORNIA  
 GENERAL DEVELOPMENT MAP  
 INDEX OF STRUCTURES  
 EXISTING & PLANNED PRE-M DAY

RW. DWG.  
 S-2010A  
 P. 2004

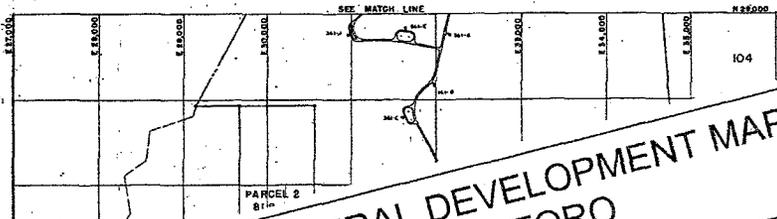
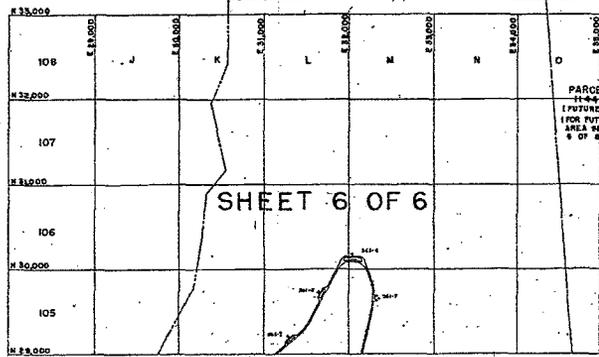
1973  
 EXTRACT

# El Toro Building Guide

| BLDG  | GRI | DESCRIPTION                  | TENANT       | CATCO | CAC  | SIZE    |
|-------|-----|------------------------------|--------------|-------|------|---------|
| 660   | O2  | Bachelor Enlisted Quarters   | Billeting    | 72111 | EBGO | 336 PN  |
| 660   | O2  | Bachelor Enlisted Quarters   | Billeting    | 72112 | EBGO | 14 PN   |
| 661   | O2  | Transient Enlisted Quarters  | Billeting    | 72111 | EBGO | 345 PN  |
| 661   | O2  | Transient Enlisted Quarters  | Billeting    | 72112 | EBGO | 11 PN   |
| 662   | O2  | Heating Plant Bldg           | Installation | 82109 | EABO | 546 SF  |
| 664   | P12 | Substation Bldg              | MALS-11      | 81310 | EHAO | 625 SF  |
| 665   | N8  | Fire Hose Drying Structure   | Security     | 73011 | EBLO | 1 EA    |
| 666   | M2  | Bachelor Enlisted Quarters   | Billeting    | 72111 | EBGO | 66 PN   |
| 666   | M2  | Bachelor Enlisted Quarters   | Billeting    | 72112 | EBGO | 153 PN  |
| 667   | M2  | Bachelor Enlisted Quarters   | Billeting    | 72111 | EBGO | 66 PN   |
| 667   | M2  | Bachelor Enlisted Quarters   | Billeting    | 72112 | EBGO | 153 PN  |
| 668   | M2  | Bachelor Enlisted Quarters   | Billeting    | 72113 | EBGO | 84 PN   |
| 669   | M2  | (Bachelor Enlisted Quarters) | Vacant       | 72111 | EBGO | 84 PN   |
| 669   | M2  | National Guard               | National     | 61010 | EBFO | 22408   |
| 670   | M1  | Gas Storage Tanks            | Supply       | 82320 | EHGO | 1 EA    |
| 671   | U9  | Refueler Admin               | MWSS-373     | 61072 | EBFO | 840 SF  |
| → 672 | U10 | Refueling Vehicle Maint Shop | MWSS-373     | 21430 | EBBO | 1600 SF |
| 673   | P12 | Acft Ground Supt Equip Shop  | MALS-16      | 21861 | EBBO | 4600 SF |
| 673   | P12 | Ground Supt Equip Shed       | MALS-16      | 21860 | EBBO | 9200 SF |
| 674   | U5  | Oil Water Separator          | Installation | 87111 | EEDO | 1 EA    |
| 675   | U10 | Oil Water Separators         | Installation | 87111 | EEDO | 1 EA    |
| 676   | L9  | Community Storage Misc       | Housing      | 71477 | EBBO | 1750 SF |
| 677   | P8  | Meteorological Bldg          | Sta/G-3      | 13471 | ECXO | 8 SF    |
| 678   | K12 | Housing/Maint Storage        | Housing      | 71477 | EBBO | 1750 SF |
| 679   | L7  | Stable/Stallion Pen          | MWR/Rec      | 74079 | EBLO | 1100 SF |
| 680   | K8  | Stable Feed Room             | MWR/Rec      | 74079 | EBLO | 400 SF  |
| 681   | L2  | Rec Grounds (Area #2)        | MWR/Rec      | 75057 | ECNO | 1 EA    |
| 682   | P12 | (Gate Sentry House)          | Vacant       | 73025 | EBLO | 200 SF  |
| 683   | R4  | (Cold Storage Warehouse)     | Vacant       | 43110 | EBRO | 8585 SF |
| 683   | R4  | (General Warehouse MC)       | Vacant       | 44111 | EBDO | 6598 SF |
| 684   | Q4  | (Applied Instruction Bldg)   | Vacant       | 17120 | EBAO | 804 SF  |
| 685   | P4  | Elec Distribution Bldg       | Installation | 81209 | EHAO | 200 SF  |
| 686   | K8  | Riding Stable, Tack Locker   | MWR/Rec      | 74079 | EBLO | 2500 SF |
| 687   | L1  | Public Toilet/Picnic Area #2 | MWR/Rec      | 73075 | EBLO | 176 SF  |
| 688   | J12 | (Receiver Building)          | Vacant       | 13135 | EBMO | 144 SF  |
| 689   | J12 | Receiver/Activity TV Antenna | Installation | 75035 | ECNO | 1 EA    |
| 692   | Q4  | Clasif Material Incinerator  | Adjutant     | 61030 | EBFO | 120 SF  |
| 693   | O2  | OFT (KC-130)                 | Training     | 17135 | EBAO | 5467 SF |
| 694   | P2  | Commissary                   | WCCC/DeC     | 74023 | EBLO | 47120   |
| 695   | N8  | Line Maint Shelter           | HMM-268      | 21115 | EBQO | 900 SF  |
| 696   | N8  | Line Maint Shelter           | HMM-268      | 21115 | EBQO | 900 SF  |
| 697   | N9  | Line Maint Shelter           | HMM-161      | 21115 | EBQO | 900 SF  |
| 698   | N9  | Line Maint Shelter           | HMM-163      | 21115 | EBQO | 900 SF  |
| 700   | U7  | Filling Station C-Pool       | Supply       | 12315 | ECBO | 36 SF   |
| 701   | M9  | Flagpole                     | MAG-11       | 69010 | ECLO | 1 EA    |
| 702   | P1  | Gate Sentry House #20        | PMO          | 73025 | EBLO | 81 SF   |

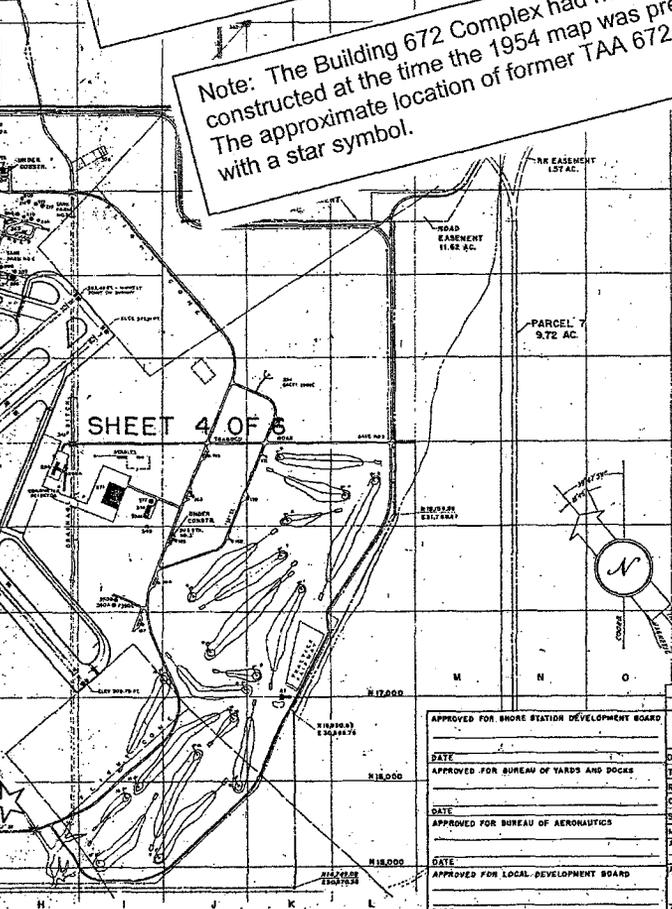
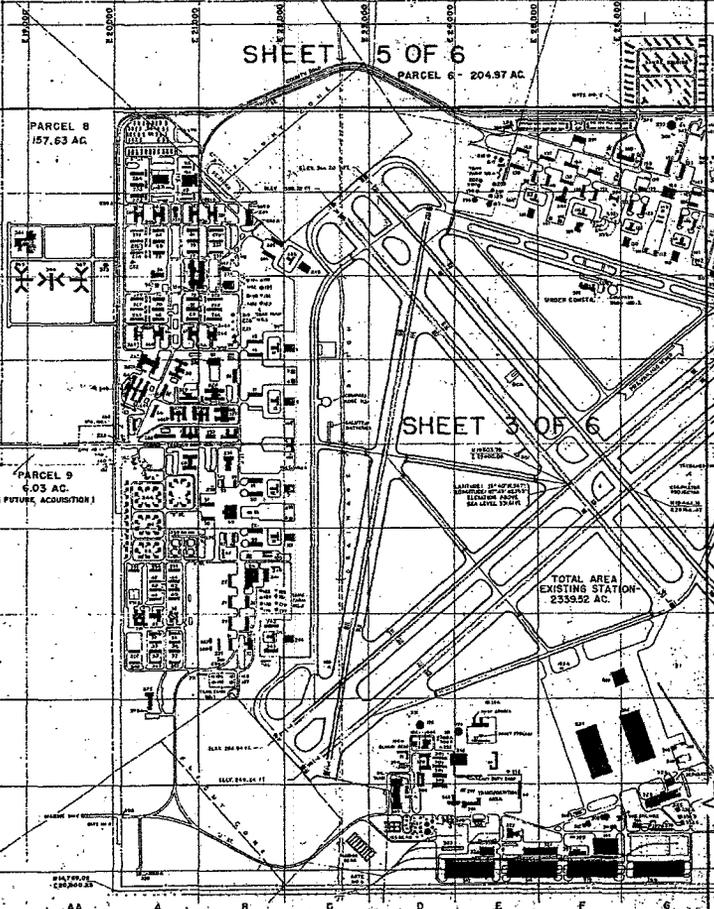
MCAS EL TORO BUILDING GUIDE

| BLDG<br>NO. | MAP<br>GRID | DESCRIPTION                  | TENANT       | CAT<br>CODE<br>NUMB | COST<br>ACCOUNT<br>CODE |
|-------------|-------------|------------------------------|--------------|---------------------|-------------------------|
| 637         | M8          | Exchange Gas Station         | MWR          | 74031               | 71JO                    |
| 638         | Q10         | Wind Direction Indicator     | G-3          | 13462               | 75YO                    |
| 639         | N8          | Electric Power Plant Bldg    | FMD          | 81109               | 7610                    |
| 640         | N8          | Electric Power Plant Bldg    | FMD          | 81109               | 7610                    |
| 641         | N8          | Electric Power Plant Bldg    | FMD          | 81109               | 7610                    |
| 642         | N9          | Electric Power Plant Bldg    | FMD          | 81109               | 7610                    |
| 643         | N8          | Fixed ACFT Start System      | FMD          | 14915               | 7560                    |
| 649         | O2          | Exchange Warehouse           | MWR          | 74085               | 71JO                    |
| 649         | O2          | Exchange Retail Store        | MWR          | 74001               | 71JO                    |
| 649         | O2          | Cafeteria                    | MWR          | 74004               | 71JO                    |
| 650         | P2          | Exchange Retail Store        | MWR          | 74001               | 71JO                    |
| 651         | O2          | Exchange Auto Repair Station | MWR          | 74030               | 71JO                    |
| 655         | U8          | Field Maint Shop             | FSSG         | 21453               | 7120                    |
| 656         | P3          | Child Care Center            | Fam Serv/G-1 | 74074               | 71JO                    |
| 657         | Q3          | Gate Sentry House            | PMO          | 73025               | 7305                    |
| 658         | N10         | Engine Test Cell             | H&MS-11      | 21181               | 71UO                    |
| 659         | N10         | Storage Tank/Nonpotable      | FMD          | 84440               | 76FO                    |
| 660         | O2          | Bachelor Enlisted Quarters   | Billeting    | 72111               | 7170                    |
| 661         | O2          | Bachelor Enlisted Quarters   | Billeting    | 72111               | 7170                    |
| 661         | O2          | Bachelor Enlisted Quarters   | Billeting    | 72111               | 7170                    |
| 662         | O2          | Heating Plant Bldg           | FMD          | 82109               | 7620                    |
| 665         | N8          | Fire Drying Structure        | Security     | 73011               | 71JO                    |
| 666         | M2          | Bachelor Enlisted Quarters   | Billeting    | 72111               | 7170                    |
| 667         | M2          | Bachelor Enlisted Quarters   | Billeting    | 72111               | 7170                    |
| 668         | M2          | Bachelor Enlisted Quarters   | Billeting    | 72113               | 7170                    |
| 669         | M2          | Bachelor Enlisted Quarters   | Billeting    | 72111               | 7170                    |
| 670         | M1          | Gas Storage Tanks            | Supply       | 82320               | 7680                    |
| 671         | U9          | Refueler Admin               | MWSS-373     | 61072               | 7160                    |
| → 672       | U10         | Refueling Vehicle Maint Shop | MWSS-373     | 21430               | 7120                    |
| 673         | P12         | ACFT Ground Supt Equip Shop  | H&MS-11      | 21860               | 7120                    |
| 673         | P12         | Ground Supt Equip Shed       | H&MS-11      | 21860               | 7120                    |
| 675         | U10         | Oil Water Separators         | FMD          | 87111               | 7450                    |
| 676         | L9          | Community Storage Misc       | FMD          | 71477               |                         |
| 677         | P8          | Meteorological Bldg          | G-3          | 13471               | 75TO                    |
| 678         | K12         | Public Works Maint Storage   | FMD          | 21925               | 7120                    |
| 679         | L7          | Stable/Stallion Pen          | MWR          | 74079               | 71JO                    |
| 680         | K8          | Stable Feed Room             | MWR          | 74079               | 71JO                    |
| 681         | L2          | Recreational Grounds         | MWR          | 75057               | 75GO                    |
| 682         | K15         | Gate Sentry House            | Sta Ordn     | 73025               | 71JO                    |
| 683         | R4          | Subsistence Warehouse        | Supply       | 43110               | 71PO                    |
| 684         | Q4          | Applied Instruction Bldg.    | APTU         | 17120               | 7110                    |
| 685         | P4          | Elec Distribution Bldg       | FMD          | 81209               | 7710                    |
| 686         | K8          | Riding Stable, Tack Locker   | MWR          | 74079               | 71JO                    |
| 687         | L1          | Public Toilet/Picnic Area #2 | G-4/MWR      | 73075               | 71JO                    |
| 688         | J12         | Receiver Bldg (Cable TV)     | FMD          | 13135               | 71KO                    |
| 689         | J12         | Receiver/Activity TV Antenna | FMD          | 75035               | 75GO                    |
| 692         | Q4          | Class Material Destr Bldg    | G-1          | 61030               | 7160                    |
| 693         | O2          | Operational Trainer Facility | Training     | 17135               | 7110                    |

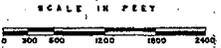


**1954 GENERAL DEVELOPMENT MAP  
MCAS EL TORO**

Note: The Building 672 Complex had not been constructed at the time the 1954 map was prepared. The approximate location of former TAA 672 is identified with a star symbol.

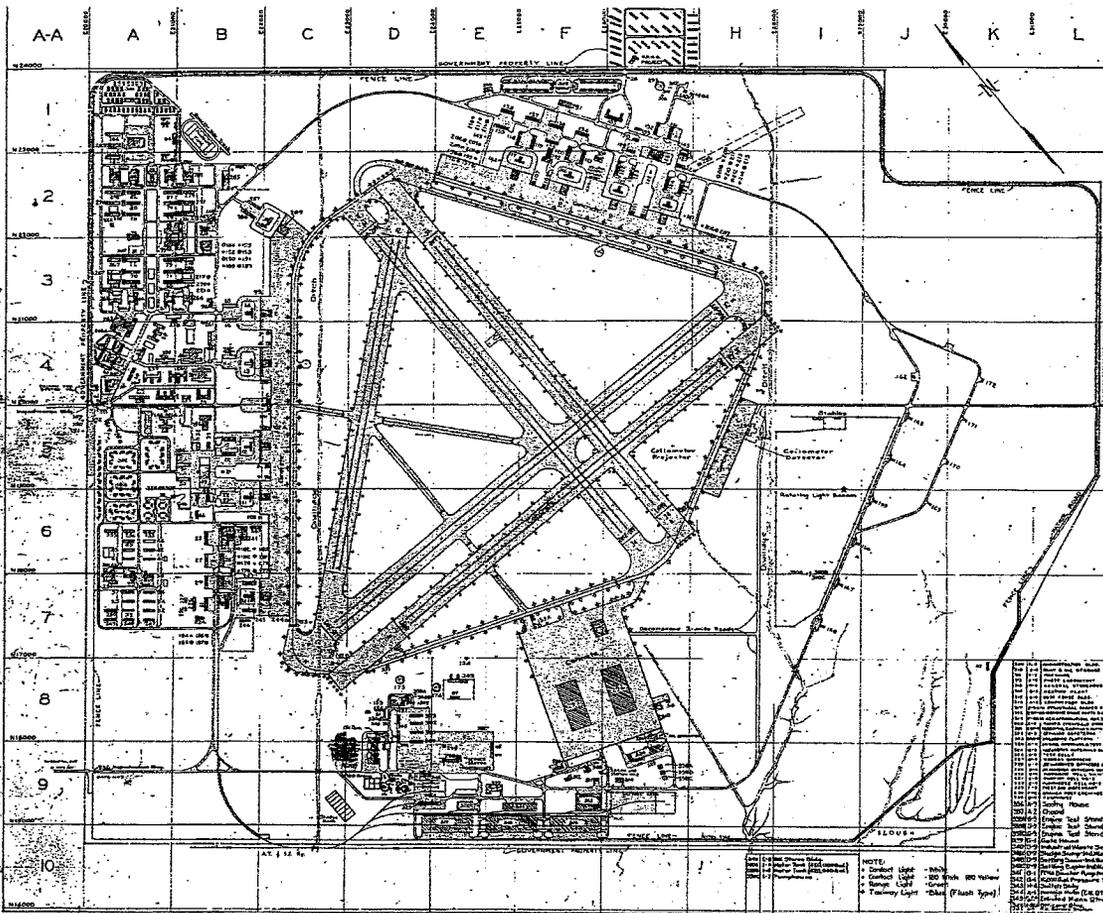


- NOTES**
1. FOR PROPOSED & FUTURE BUILDINGS SEE SHEETS 4 THROUGH 6
  2. DECLARATION OF TARIFF FILED FOR PARCELS 2, 5, 6, 7, & 8 24 APR. 55. CASE ASSIGNED NO. 1281-55.

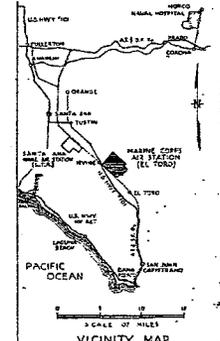


CONDITIONS AS OF 30 JUNE 1954

|  |                                   |   |
|--|-----------------------------------|---|
| APPROVED FOR SHORE STATION DEVELOPMENT BOARD | REV. DATE                         | DESCRIPTION   |
| DATE   | R.W. DRAWING NO.<br>R.S. 1098.    | U.S. MARINE CORPS AIR STATION<br>EL TORO, CALIFORNIA<br>PUBLIC WORKS DEPARTMENT |
| APPROVED FOR BUREAU OF YARDS AND DOCKS       | DRAWN BY                          | MASTER SHORE STATION<br>DEVELOPMENT PLAN<br>PART III SECTION 2                  |
| DATE   | TRACED BY                         | GENERAL DEVELOPMENT PLAN<br>KEY MAP   |
| APPROVED FOR BUREAU OF AERONAUTICS           | REVIEWED                          | APPROVED _____ DATE _____   |
| DATE   | CHECKED BY                        | APPROVED _____ DATE _____   |
| APPROVED                                     | SUBMITTED BY<br>MGR. WELCH BRANCH | APPROVED _____ DATE _____   |
| DATE   | APPROVED                          | APPROVED _____ DATE _____   |
| APPROVED FOR LOCAL DEVELOPMENT BOARD         | ENGINEER DIRECTOR                 | SCALE: 1" = 600'  |
| DATE   | APPROVED                          | SHEET 1 OF 6  |
| DATE   | COMMANDING OFFICER                | Y.S.D.  |
| DATE   | STATION DEVELOPMENT BOARD         | OWG NO. 870-218   |



|     |                     |     |     |                         |
|-----|---------------------|-----|-----|-------------------------|
| 101 | Officer's Quarters  | 110 | G-2 | Mass Hangar             |
| 102 | De                  | 111 | G-2 | Firehouse (Armory Bldg) |
| 103 | De                  | 112 | G-2 | De                      |
| 104 | Administration Bldg | 113 | G-2 | Mass Hangar             |
| 105 | De                  | 114 | G-2 | Sanitation Headquarters |
| 106 | De                  | 115 | G-2 | De                      |
| 107 | De                  | 116 | G-2 | De                      |
| 108 | De                  | 117 | G-2 | De                      |
| 109 | De                  | 118 | G-2 | De                      |
| 110 | De                  | 119 | G-2 | De                      |
| 111 | De                  | 120 | G-2 | De                      |
| 112 | De                  | 121 | G-2 | De                      |
| 113 | De                  | 122 | G-2 | De                      |
| 114 | De                  | 123 | G-2 | De                      |
| 115 | De                  | 124 | G-2 | De                      |
| 116 | De                  | 125 | G-2 | De                      |
| 117 | De                  | 126 | G-2 | De                      |
| 118 | De                  | 127 | G-2 | De                      |
| 119 | De                  | 128 | G-2 | De                      |
| 120 | De                  | 129 | G-2 | De                      |
| 121 | De                  | 130 | G-2 | De                      |
| 122 | De                  | 131 | G-2 | De                      |
| 123 | De                  | 132 | G-2 | De                      |
| 124 | De                  | 133 | G-2 | De                      |
| 125 | De                  | 134 | G-2 | De                      |
| 126 | De                  | 135 | G-2 | De                      |
| 127 | De                  | 136 | G-2 | De                      |
| 128 | De                  | 137 | G-2 | De                      |
| 129 | De                  | 138 | G-2 | De                      |
| 130 | De                  | 139 | G-2 | De                      |
| 131 | De                  | 140 | G-2 | De                      |
| 132 | De                  | 141 | G-2 | De                      |
| 133 | De                  | 142 | G-2 | De                      |
| 134 | De                  | 143 | G-2 | De                      |
| 135 | De                  | 144 | G-2 | De                      |
| 136 | De                  | 145 | G-2 | De                      |
| 137 | De                  | 146 | G-2 | De                      |
| 138 | De                  | 147 | G-2 | De                      |
| 139 | De                  | 148 | G-2 | De                      |
| 140 | De                  | 149 | G-2 | De                      |
| 141 | De                  | 150 | G-2 | De                      |
| 142 | De                  | 151 | G-2 | De                      |
| 143 | De                  | 152 | G-2 | De                      |
| 144 | De                  | 153 | G-2 | De                      |
| 145 | De                  | 154 | G-2 | De                      |
| 146 | De                  | 155 | G-2 | De                      |
| 147 | De                  | 156 | G-2 | De                      |
| 148 | De                  | 157 | G-2 | De                      |
| 149 | De                  | 158 | G-2 | De                      |
| 150 | De                  | 159 | G-2 | De                      |
| 151 | De                  | 160 | G-2 | De                      |
| 152 | De                  | 161 | G-2 | De                      |
| 153 | De                  | 162 | G-2 | De                      |
| 154 | De                  | 163 | G-2 | De                      |
| 155 | De                  | 164 | G-2 | De                      |
| 156 | De                  | 165 | G-2 | De                      |
| 157 | De                  | 166 | G-2 | De                      |
| 158 | De                  | 167 | G-2 | De                      |
| 159 | De                  | 168 | G-2 | De                      |
| 160 | De                  | 169 | G-2 | De                      |
| 161 | De                  | 170 | G-2 | De                      |
| 162 | De                  | 171 | G-2 | De                      |
| 163 | De                  | 172 | G-2 | De                      |
| 164 | De                  | 173 | G-2 | De                      |
| 165 | De                  | 174 | G-2 | De                      |
| 166 | De                  | 175 | G-2 | De                      |
| 167 | De                  | 176 | G-2 | De                      |
| 168 | De                  | 177 | G-2 | De                      |
| 169 | De                  | 178 | G-2 | De                      |
| 170 | De                  | 179 | G-2 | De                      |
| 171 | De                  | 180 | G-2 | De                      |
| 172 | De                  | 181 | G-2 | De                      |
| 173 | De                  | 182 | G-2 | De                      |
| 174 | De                  | 183 | G-2 | De                      |
| 175 | De                  | 184 | G-2 | De                      |
| 176 | De                  | 185 | G-2 | De                      |
| 177 | De                  | 186 | G-2 | De                      |
| 178 | De                  | 187 | G-2 | De                      |
| 179 | De                  | 188 | G-2 | De                      |
| 180 | De                  | 189 | G-2 | De                      |
| 181 | De                  | 190 | G-2 | De                      |
| 182 | De                  | 191 | G-2 | De                      |
| 183 | De                  | 192 | G-2 | De                      |
| 184 | De                  | 193 | G-2 | De                      |
| 185 | De                  | 194 | G-2 | De                      |
| 186 | De                  | 195 | G-2 | De                      |
| 187 | De                  | 196 | G-2 | De                      |
| 188 | De                  | 197 | G-2 | De                      |
| 189 | De                  | 198 | G-2 | De                      |
| 190 | De                  | 199 | G-2 | De                      |
| 191 | De                  | 200 | G-2 | De                      |
| 192 | De                  | 201 | G-2 | De                      |
| 193 | De                  | 202 | G-2 | De                      |
| 194 | De                  | 203 | G-2 | De                      |
| 195 | De                  | 204 | G-2 | De                      |
| 196 | De                  | 205 | G-2 | De                      |
| 197 | De                  | 206 | G-2 | De                      |
| 198 | De                  | 207 | G-2 | De                      |
| 199 | De                  | 208 | G-2 | De                      |
| 200 | De                  | 209 | G-2 | De                      |
| 201 | De                  | 210 | G-2 | De                      |
| 202 | De                  | 211 | G-2 | De                      |
| 203 | De                  | 212 | G-2 | De                      |
| 204 | De                  | 213 | G-2 | De                      |
| 205 | De                  | 214 | G-2 | De                      |
| 206 | De                  | 215 | G-2 | De                      |
| 207 | De                  | 216 | G-2 | De                      |
| 208 | De                  | 217 | G-2 | De                      |
| 209 | De                  | 218 | G-2 | De                      |
| 210 | De                  | 219 | G-2 | De                      |
| 211 | De                  | 220 | G-2 | De                      |
| 212 | De                  | 221 | G-2 | De                      |
| 213 | De                  | 222 | G-2 | De                      |
| 214 | De                  | 223 | G-2 | De                      |
| 215 | De                  | 224 | G-2 | De                      |
| 216 | De                  | 225 | G-2 | De                      |
| 217 | De                  | 226 | G-2 | De                      |
| 218 | De                  | 227 | G-2 | De                      |
| 219 | De                  | 228 | G-2 | De                      |
| 220 | De                  | 229 | G-2 | De                      |
| 221 | De                  | 230 | G-2 | De                      |



| NO  | LOCATION | USE                  | NO  | NO  | USE |
|-----|----------|----------------------|-----|-----|-----|
| 222 | A-2      | Inventory Water Tank | 231 | 231 | De  |
| 223 | A-2      | Density Meter        | 232 | 232 | De  |
| 224 | D-7      | De                   | 233 | 233 | De  |
| 225 | D-7      | De                   | 234 | 234 | De  |
| 226 | D-7      | De                   | 235 | 235 | De  |
| 227 | D-7      | De                   | 236 | 236 | De  |
| 228 | D-7      | De                   | 237 | 237 | De  |
| 229 | D-7      | De                   | 238 | 238 | De  |
| 230 | D-7      | De                   | 239 | 239 | De  |
| 231 | D-7      | De                   | 240 | 240 | De  |
| 232 | D-7      | De                   | 241 | 241 | De  |
| 233 | D-7      | De                   | 242 | 242 | De  |
| 234 | D-7      | De                   | 243 | 243 | De  |
| 235 | D-7      | De                   | 244 | 244 | De  |
| 236 | D-7      | De                   | 245 | 245 | De  |
| 237 | D-7      | De                   | 246 | 246 | De  |
| 238 | D-7      | De                   | 247 | 247 | De  |
| 239 | D-7      | De                   | 248 | 248 | De  |
| 240 | D-7      | De                   | 249 | 249 | De  |
| 241 | D-7      | De                   | 250 | 250 | De  |
| 242 | D-7      | De                   | 251 | 251 | De  |
| 243 | D-7      | De                   | 252 | 252 | De  |
| 244 | D-7      | De                   | 253 | 253 | De  |
| 245 | D-7      | De                   | 254 | 254 | De  |
| 246 | D-7      | De                   | 255 | 255 | De  |
| 247 | D-7      | De                   | 256 | 256 | De  |
| 248 | D-7      | De                   | 257 | 257 | De  |
| 249 | D-7      | De                   | 258 | 258 | De  |
| 250 | D-7      | De                   | 259 | 259 | De  |
| 251 | D-7      | De                   | 260 | 260 | De  |
| 252 | D-7      | De                   | 261 | 261 | De  |
| 253 | D-7      | De                   | 262 | 262 | De  |
| 254 | D-7      | De                   | 263 | 263 | De  |
| 255 | D-7      | De                   | 264 | 264 | De  |
| 256 | D-7      | De                   | 265 | 265 | De  |
| 257 | D-7      | De                   | 266 | 266 | De  |
| 258 | D-7      | De                   | 267 | 267 | De  |
| 259 | D-7      | De                   | 268 | 268 | De  |
| 260 | D-7      | De                   | 269 | 269 | De  |
| 261 | D-7      | De                   | 270 | 270 | De  |
| 262 | D-7      | De                   | 271 | 271 | De  |
| 263 | D-7      | De                   | 272 | 272 | De  |
| 264 | D-7      | De                   | 273 | 273 | De  |
| 265 | D-7      | De                   | 274 | 274 | De  |
| 266 | D-7      | De                   | 275 | 275 | De  |
| 267 | D-7      | De                   | 276 | 276 | De  |
| 268 | D-7      | De                   | 277 | 277 | De  |
| 269 | D-7      | De                   | 278 | 278 | De  |
| 270 | D-7      | De                   | 279 | 279 | De  |
| 271 | D-7      | De                   | 280 | 280 | De  |
| 272 | D-7      | De                   | 281 | 281 | De  |
| 273 | D-7      | De                   | 282 | 282 | De  |
| 274 | D-7      | De                   | 283 | 283 | De  |
| 275 | D-7      | De                   | 284 | 284 | De  |
| 276 | D-7      | De                   | 285 | 285 | De  |
| 277 | D-7      | De                   | 286 | 286 | De  |
| 278 | D-7      | De                   | 287 | 287 | De  |
| 279 | D-7      | De                   | 288 | 288 | De  |
| 280 | D-7      | De                   | 289 | 289 | De  |
| 281 | D-7      | De                   | 290 | 290 | De  |
| 282 | D-7      | De                   | 291 | 291 | De  |
| 283 | D-7      | De                   | 292 | 292 | De  |
| 284 | D-7      | De                   | 293 | 293 | De  |
| 285 | D-7      | De                   | 294 | 294 | De  |
| 286 | D-7      | De                   | 295 | 295 | De  |
| 287 | D-7      | De                   | 296 | 296 | De  |
| 288 | D-7      | De                   | 297 | 297 | De  |
| 289 | D-7      | De                   | 298 | 298 | De  |
| 290 | D-7      | De                   | 299 | 299 | De  |
| 291 | D-7      | De                   | 300 | 300 | De  |
| 292 | D-7      | De                   | 301 | 301 | De  |
| 293 | D-7      | De                   | 302 | 302 | De  |
| 294 | D-7      | De                   | 303 | 303 | De  |
| 295 | D-7      | De                   | 304 | 304 | De  |
| 296 | D-7      | De                   | 305 | 305 | De  |
| 297 | D-7      | De                   | 306 | 306 | De  |
| 298 | D-7      | De                   | 307 | 307 | De  |
| 299 | D-7      | De                   | 308 | 308 | De  |
| 300 | D-7      | De                   | 309 | 309 | De  |
| 301 | D-7      | De                   | 310 | 310 | De  |
| 302 | D-7      | De                   | 311 | 311 | De  |
| 303 | D-7      | De                   | 312 | 312 | De  |
| 304 | D-7      | De                   | 313 | 313 | De  |
| 305 | D-7      | De                   | 314 | 314 | De  |
| 306 | D-7      | De                   | 315 | 315 | De  |
| 307 | D-7      | De                   | 316 | 316 | De  |
| 308 | D-7      | De                   | 317 | 317 | De  |
| 309 | D-7      | De                   | 318 | 318 | De  |
| 310 | D-7      | De                   | 319 | 319 | De  |
| 311 | D-7      | De                   | 320 | 320 | De  |

FOR OFFICIAL USE ONLY

**MAP OF 467951**  
**MARINE CORPS AIR STATION**  
**EL TORO, CALIF.**  
**ELEVENTH NAVAL DISTRICT**  
**SAN DIEGO, CALIF.**

SHOWING CONDITIONS AS OF  
**JUNE 30, 1946**

SCALE OF FEET

DATE: 1946  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 PUBLIC WORKS OFFICE

1461-3-30

EXTRACTS

**MARINE CORPS AIR STATION EL TORO  
EL TORO, CALIFORNIA  
INSTALLATION RESTORATION PROGRAM  
FINAL ENVIRONMENTAL  
BASELINE SURVEY REPORT**

01 April 1995

Revision 0

Annotations made by the writer of the  
Summary Report are identified with a  
star symbol or an arrow.

**PREPARED BY:**  
Southwest Division, Naval Facilities  
Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5190

**THROUGH:**  
CONTRACT #N68711-89-D-9296  
CTD #284  
DOCUMENT CONTROL NO:  
CLE-C01-01F284-S2-0004

**WITH:**  
Jacobs Engineering Group Inc.  
401 West A Street, Suite 1905  
San Diego, California 92101

In association with:  
International Technology Corporation  
CH2M HILL

**Table 3-7**  
**Less Than 90-Day Accumulation Area Inventory**  
**MCAS El Toro EBS Report - April 1995**

| Database Tracking | Building Number | Status   | SWMU/AOC | Comments   | AREA TYPE |
|-------------------|-----------------|----------|----------|--|-----------|
| SAA 441           | 441             | Inactive | 256      | RFA recommended NFA                                    | 3         |
| SAA 442           | 442             | Inactive | 126      | Sampling Visit Not Recommended During PR/VI            | 2         |
| SAA 445           | 445             | Inactive | 127      | Sampling Visit Not Recommended During PR/VI            | 2         |
| SAA 447           | 447             | Inactive | 130      | RFA recommended NFA                                    | 3         |
| SAA 456           | 456             | Inactive | 135      | Sampling Visit Not Recommended During PR/VI            | 2         |
| SAA 461           | 461             | Active   | 138      | RFA recommended NFA (1)                                | 2         |
| SAA 462           | 462             | Active   | 140      | Sampling Visit Not Recommended During PR/VI            | 2         |
| SAA 529           | 529             | Inactive | 144      | RFA recommended NFA                                    | 2         |
| SAA 534           | 534             | Inactive | 146      | Sampling Visit Not Recommended During PR/VI            | 2         |
| SAA 602           | 602             | Inactive | 147      | RFA recommended NFA                                    | 3         |
| SAA 605           | 605             | Active   | 149      | RFA recommended NFA                                    | 3         |
| SAA 606           | 606             | Active   | 255      | RFA recommended NFA                                    | 2         |
| SAA 626           | 626             | Active   | 158      | IRP Site 20 (1)  | 7         |
| SAA 634           | 634             | Active   |          | Identified in 1994 SPCC Plan                           | 7         |
| SAA 636           | 636             | Inactive | 160      | RFA recommended NFA                                    | 3         |
| SAA 651           | 651             | Active   | 165      | Located within SWMU/AOC 164                            | 3         |
| SAA 658           | 658             | Active   | 171      | Shallow soil borings recommended                       | 7         |
| SAA 671           | 671             | Active   | 172      | RFA recommended NFA                                    | 2         |
| SAA 672           | 672             | Inactive | 177      | Sampling Visit Not Recommended During PR/VI            | 2         |
| SAA 673           | 673             | Active   | 186      | RFA recommended NFA                                    | 2         |
| SAA 693           | 693             | Active   |          | Identified in Station's HW Open Drum Inspection Report | 7         |
| SAA 698           | 698             | Active   |          | Identified in 1994 SPCC Plan                           | 7         |
| SAA 744           | 744             | Active   |          | Identified in 1994 SPCC Plan                           | 7         |
| SAA 746           | 746             | Active   |          | Identified in Station's HW Open Drum Inspection Report | 7         |
| SAA 747           | 747             | Active   |          | Identified in Station's HW Open Drum Inspection Report | 7         |
| SAA 761           | 761             | Inactive |          | Located at IRP Site 6 (2)                              | 7         |
| SAA 765           | 765             | Inactive | 266      | Sampling Visit Not Recommended During PR/VI            | 2         |
| SAA 769           | 769             | Inactive | 222      | RFA recommended NFA                                    | 2         |
| SAA 770           | 770             | Inactive | 223      | RFA recommended NFA                                    | 3         |
| SAA 771           | 771             | Inactive | 224      | RFA recommended NFA                                    | 2         |
| SAA 772           | 772             | Inactive | 225      | RFA recommended NFA                                    | 3         |
| SAA 778           | 778             | Inactive | 226      | RFA recommended NFA                                    | 3         |
| SAA 779           | 779             | Inactive | 227      | RFA recommended NFA                                    | 3         |
| SAA 800           | 800             | Active   | 229      | RFA recommended NFA                                    | 2         |
| SAA 831           | 831             | Active   |          | Identified in Station's HW Open Drum Inspection Report | 7         |
| SAA 856           | 856             | Active   | 234      | RFA recommended NFA                                    | 3         |
| SAA 900           | 900             | Active   |          | Environmental Office accumulation area                 | 7         |

| Table 3-7<br>Less Than 90-Day Accumulation Area Inventory<br>MCAS El Toro EBS Report - April 1995  |                 |        |          |          |           |
|--|-----------------|--------|----------|----------|-----------|
| Database Tracking  | Building Number | Status | SWMU/AOC | Comments | AREA TYPE |
| NOTES:<br>(1) - SWMUs/AOCs that were determined to be located within RI/FS site boundaries were eliminated from RFA sampling visits. These SWMUs/AOCs will be investigated in the IRP.<br>(2) - Accumulation areas are currently being evaluated for removal and/or decontamination strategies.<br>* - Indicates RFA recommendation of "no further action" is pending U.S. EPA approval.<br>PR/VSJ - Preliminary Review/Visual Site Inspection performed as part of the RFA.<br>IRP - Installation Restoration Program<br>RFA - RCRA Facility Assessment<br>NFA - No Further Action<br><br>Sources:<br>Jacobs, 1993. MCAS El Toro Final RCRA Facility Assessment Report.<br>MCAS El Toro Hazardous Waste Open Drum Inspection Report Sheet<br>SAIC, 1994. Draft Oil and Hazardous Substances Spill Prevention and Countermeasure Plan and Contingency Plan (SPCC). |                 |        |          |          |           |

A 10080 0001 915

Final Report  
Aerial Photograph Assessment  
MCAS El Toro  
Contract No. N68711-91-D-4658  
Delivery Order 0002  
SAIC Project No. 01-0892-02-0817

EXTRACTS

Submitted to:

Naval Facilities Engineering Command  
Southwest Division  
1220 Pacific Highway, Room 18  
San Diego, CA 92132-5181

Submitted by:

Science Applications International Corporation  
Engineering Sciences Division  
10260 Campus Point Drive, MS F1  
San Diego, CA 92121

October 25, 1993

Annotations made by the writer of the  
Summary Report are identified with a  
star symbol or an arrow.

PLATE 1  
LOCATIONS OF SITES AND AREAS  
OF POTENTIAL CONCERN IDENTIFIED  
DURING THE USEPA INVESTIGATION

MCAS El Toro  
Santa Ana, California

Prepared for:  
Southwest Division  
Naval Facilities Engineering  
Command  
Contract N68711-92-D-4658

LEGEND:

256

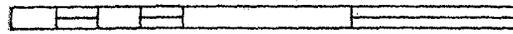
Approximate location of site or area of  
potential concern.

Note: The number refers to comments in  
Appendix A of this report. See also  
Reference B, Site Analysis, El Toro MCAS,  
Orange County, California, USEPA, 1991.

— SAP Amendment RI/FS Sites



600' 300' 0 600' 1200'

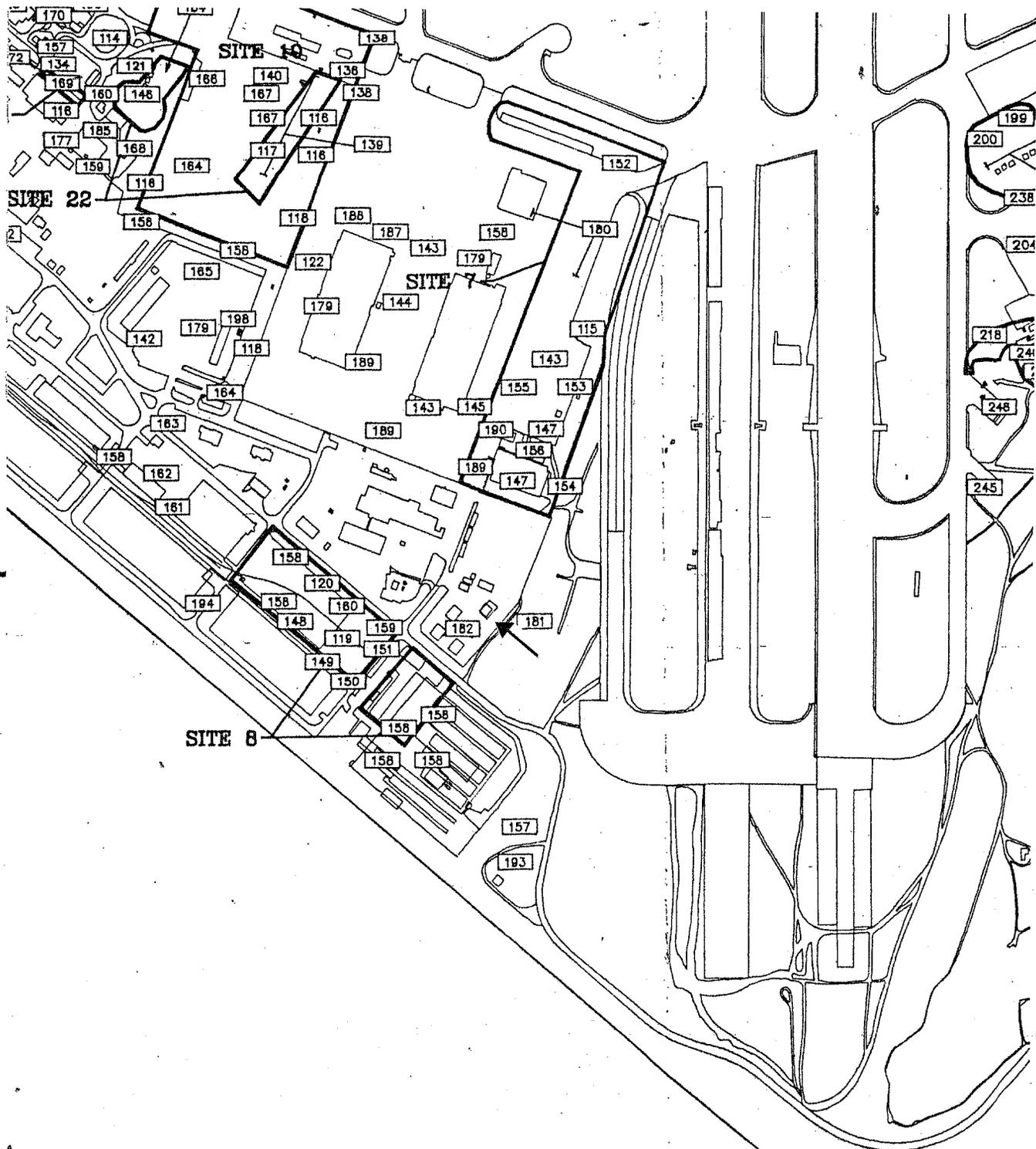


1" = 600'

*Reduced*



Science Applications  
International Corporation  
® An Employee-Owned Company



Reduced  
USEPA  
Anomalies

|        |      |                                    |
|--------|------|------------------------------------|
| → 181. | 1980 | POSS LQ                            |
| → 182. | 1980 | POSS LQ                            |
| →      | 1991 | LQ                                 |
| 183.   | 1980 | LT M                               |
|        | 1986 | PROB LQ                            |
| 184.   | 1980 | FBR                                |
|        | 1986 | FBR                                |
| 185.   | 1965 | ST                                 |
|        | 1986 | ST                                 |
| 186.   | 1986 | ST                                 |
|        | 1991 | ST                                 |
| 187.   | 1986 | LQ                                 |
| 188.   | 1986 | LQ                                 |
|        | 1991 | ST                                 |
| 189.   | 1986 | ST                                 |
| 190.   | 1986 | LQ, POSS LQ                        |
| 191.   | 1986 | POSS LQ                            |
| 192.   | 1991 | ST                                 |
| 193.   | 1991 | POSS LQ                            |
| 194.   | 1991 | ST, 3 VT                           |
| 195.   | 1991 | 14 POSS VT, ST                     |
| 196.   | 1991 | LQ                                 |
| 197.   | 1991 | 2 PROB VT                          |
| 198.   | 1986 | ST                                 |
|        | 1991 | ST                                 |
| 199.   | 1952 | PROB ST                            |
| 200.   | 1952 | ST                                 |
|        | 1970 | ST                                 |
|        | 1986 | LQ                                 |
| 201.   | 1952 | POSS PIT                           |
| 202.   | 1952 | (2) VT                             |
| 203.   | 1952 | POSS WS                            |
| 204.   | 1952 | LT MM                              |
| 205.   | 1965 | From Top FA, CRANE, DK M, LT M, TR |
| 206.   | 1965 | POSS LQ                            |
| 207.   | 1965 | ST                                 |
| 208.   | 1965 | VT                                 |
|        | 1970 | VT                                 |
|        | 1980 | VT                                 |
|        | 1986 | VT                                 |
|        | 1991 | VT                                 |
| 209.   | 1965 | PROB LDA                           |
| 210.   | 1965 | VT                                 |
|        | 1980 | VT                                 |
| 211.   | 1965 | FBR, POSS LQ                       |
|        | 1970 | FBR, ST                            |

PLATE 2  
LOCATION OF SITES AND AREAS OF  
POTENTIAL CONCERN IDENTIFIED DURING  
THE SAIC INVESTIGATION

MCAS El Toro  
Santa Ana, California

Prepared for:

Southwest Division  
Naval Facilities Engineering  
Command

Contract N68711-92-D-4658

LEGEND:

(453)

Approximate location of site or area of  
potential concern.

Note: The number refers to comments in  
Section 2 and Appendix B that discuss or  
identify the feature or area of concern.



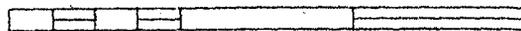
General Areas and Areas of Potential Concern  
Discussed in Section 2 of this Report



SAP Amendment RI/FS Sites



600' 300' 0 600' 1200'



1" = 600'

*Reduced*



Science Applications



## 2.1 1946 PHOTOGRAPHS

FIGURE: 2  
DATE: 29 DECEMBER 1946  
PHOTOGRAPH: GS-CP-8-100

- c 1. An excavation (EX) about 400 feet wide by 500 feet long is noted beneath the present threshold area of Runway 16L. The purpose of the excavation is unknown, but may be an early, undocumented disposal area. The site history, or the site itself, should be investigated to determine if potential contaminants were disposed of in the excavation.
- c 2. A fill area (FA) is located immediately west of the excavation (EX) discussed in the previous comment. The area appears to contain spoil material from the excavation. No additional investigation of the fill material is recommended at this time.
- c 3. A circular graded (GR) area about 300 feet in diameter is located near the present Auto Hobby Shop (Building 625). Along the western border of the area is a dark-toned mound (MMDT) of unknown composition, but may be soil and vegetation debris from the grading. No additional investigation is recommended at this time.
- c 4. Farm buildings (B) and a possible excavation (EX) are located on Irvine Boulevard, north of the activity. The buildings may contain fuel, solvents, pesticides, fertilizers, and other potential contaminants; the excavation may have been used to dispose of these materials. No additional investigation is recommended at this time, unless contamination is detected near, or downgradient of the site, in areas of interest to the IR program.
- c 5. A vertical tank (VT) is noted at N 6th Street and D Street. This is probably Building 222 (Elevated Water Tank). No additional investigation is recommended at this time.
- c 6. There is an excavation (EX) at the present intersection of N 7th Place and K Street. There appears to be wet soil (WS) or liquid (LQ) extending into the excavation from a light-colored building at the edge of the aircraft parking apron. The site should be investigated for past use as a possible disposal area.
- c 7. There are stains (ST) adjacent to the aircraft parking apron at N 6th Place and K Street, and at N 4th Place and K Street. Additional investigation of these sites is recommended.
- c 8. A drainage channel (EX) with probable liquid (LQ) extends from the aircraft parking apron near the approach end of Runway 21 and into a drainage ditch near the approach end of Runway 16R. The channel probably controls runoff from the apron area, and may convey contaminated water. Additional investigation is recommended.

b 42. There are soil stains (ST) beneath the present aircraft parking apron about 500 feet southeast of Tank 174. Additional investigation may be advisable.

b 43. Open storage (OS) areas with possible drums (D) are noted about 700 and 1000 feet southeast of Tank 174, beneath the present aircraft parking apron. Additional investigation may be advised.

c 44. There are soil stains (ST) in an open storage (OS) area now occupied by Buildings 386 and 1389, about 350 feet northeast of Building 368 (Public Works). Additional investigation is advisable.

b 45. There is wet soil (WS) or stains (ST) in the open storage (OS) area about 500 feet northwest of Building 322 (Mess Hall). Additional investigation is advisable.

c 46. There is wet soil (WS) or stains (ST) in the area now occupied by the southwest corner of Building 1389, and in the open storage (OS) area about 200 feet northwest of Building 1389. Additional investigation is be advisable.

c 47. There is an open storage (OS) area with possible drums (D) near the approximate location of Building 359, near South Marine Way and P Street. Additional investigation is recommended.

b 48. There appear to be stains (ST) caused by liquids (LQ) flowing easterly from the aircraft parking apron about 200 feet east of Building 296 (hangar). Additional investigation is recommended.

b 49. There may be drums (D) in an open storage (OS) area about 200 feet east of Building 296 (hangar). Additional investigation is recommended.

c 50. There is an open storage (OS) area at the present location of Building 360, near South Marine Way, between Q and R Streets. Additional investigation may be advisable.

→ c 51. Dark-toned mounded material (MMDT) can be seen adjacent to the drainage ditch between Perimeter Road and the southeast corner of the aircraft parking apron. The mounds appear to be soil related to maintenance of the ditch. No additional investigation is recommended at this time.

c 52. In the area north of the railroad tracks, between Agua Chinon Wash and Borrego Canyon Wash, there are four open storage (OS) areas. All appear to contain refuse (R) or materials in storage. The westerly area appears to have been excavated (EX) and the spoil (FA) placed toward the southeast. The spoil area (FA) and excavated (EX) area appeared to be covered with refuse (R) or other materials. The southerly open storage (OS) area is an aircraft salvage area with several fuselage and wings sections visible. Smaller open storage (OS) areas occur near the four major sites. Additional investigation of the areas is recommended.

## 2.13 1975 PHOTOGRAPHS

FIGURE: 14  
DATE: 13 JANUARY 1975  
PHOTOGRAPHS: 157-10-17 and 157-11-16  
NOTE: Copyrighted photograph, reproduction not authorized.

c 294. Liquid (LQ) can be seen flowing southeast and then southwest from the area of Building 99, near N 3rd Street and West Marine Way. The liquid appears to be irrigation runoff; additional investigation is not recommended at this time.

c 295. Light-toned mounded material (MMLT), probably construction related, can be seen near B Street, between N 4th Street and N 5th Street. Additional investigation is not recommended at this time.

c 296. There is possible liquid (LQ) in the street at the front of Building 443. Additional investigation is not recommended at this time.

c 297. There are disturbed ground (DG) and a fill area (FA) at the site of Building 694, near N 4th Street and Perimeter Road. These features appear to be related to construction. Additional investigation is not recommended at this time.

c 298. Possible wet soil (WS) is noted on the westerly side of West Marine Way, between Buildings 27 and 29. Additional investigation is recommended.

c 299. No significant changes are observed at Crash Crew Pit No. 2 (Site 16), but an impoundment (IM) with possible liquid (LQ) and a fill area (FA) are noted. The current IR program field investigation of Site 16 should include this entire area.

a 300. Liquid (LQ) is flowing southeasterly into the parking area from the east side of Building 435 (Crash Crew). The liquid is noted over a period of several years. Verification of the type of liquid is recommended, however, the current IR program field investigation of the Site 9 area appears to be adequate, relative to the features noted here.

c 301. There are mounded material (MM) and a fill area (FA) about 1000 feet northwest of Building 317, near Bee Canyon Wash Aqueduct. No additional investigation is recommended unless contamination is detected near the site, or downgradient of the site, in areas of interest to the IR program.

c 302. There is probable wet soil (WS) in the open area about 200 feet east of Building 322 (Mess Hall). The feature appears to be related to irrigation. Additional investigation is not recommended at this time.

c 303. Probable wet soil (WS) and liquid (LQ) are noted near the southeast side of Building 360, south of the DRMO Storage Yard (Site 8). Additional investigation is recommended.

→ c 304. There is a southwesterly flow of liquid (LQ) from Building 672, near South Marine Way and R Street. Similar flows have also been noted during other years of photographic coverage. Additional investigation is recommended.

c 305. Possible drums (D) are noted in the open storage (OS) area about 400 feet east of Building 672. The current IR program investigation of Drop Tank Drainage Area No.2 should be expanded to include these features.

b 306. There are several stains (ST) in the westerly and southerly portions of ACER (Site 19). A fuel bladder was removed from the eastern portion of the site, and a new revetment was installed in the western portion of site. No additional investigation is recommended at this time. The current IR program field investigation of Site 19 appears to adequately address this site.

c 307. There is a vertical tank (VT), probably for water, in the compound north of Building 1791, near North Marine Way and N 3rd Street. Verification of the tank's contents is recommended.

c 308. There are probable drums (D) near the angular taxiway extension in the central portion of Drop Tank Drainage Area No.1 (Site 6). The current IR program field investigation of Site 6 should be expanded to include this area.

c 309. Probable drums (D) can be seen in the open storage (OS) area about 100 feet easterly of Building 453, near the southwest corner of the aircraft parking apron. Additional investigation is recommended.

c 310. There is dark-toned mounded material (MMDT) on the southerly side of Z Street, about 200 feet southeast of Building 453. The purpose and type of material are unknown. Additional investigation is recommended if contamination is detected near the site, or downgradient of the site, in areas of interest to the IR program.

c 311. There are stains (ST) and possible flowing liquid (LQ) about 500 feet northeast of Building 457, near South 4th Street and East Marine Way. Similar features are also noted during other years. Determination of the type of liquid is recommended.

c 312. An impoundment (IM), disturbed ground (DG) and an excavation (EX) are noted near the intersection of Perimeter Road and Magazine Road. No significant changes have occurred since these features were previously noted. Additional investigation is not recommended at this time.

## 2.16 1978 PHOTOGRAPHS

FIGURE: 17  
DATE: 14 DECEMBER 1978  
PHOTOGRAPHS: 203-10-22 and 203-11-24  
NOTE: Copyrighted photograph, reproduction not authorized.

c 377. There is light-toned mounded material (MMLT) at the southern end of the running track, near West Marine Way and N 8th Street. The material appears to be soil. No additional investigation is recommended at this time.

c 378. Liquid (LQ) can be seen about 50 feet northeast of Building 268, near N 5th Street and West Marine Way. The liquid appears to flow into the open field. No additional investigation is recommended at this time.

a 379. There is liquid (LQ) flowing from the vicinity of the southwest side of Building 264, near N 5th Street and West Marine Way. The liquid appears to flow into the field on the northeast side of Building 98. No additional investigation is recommended at this time.

a 380. Liquid (LQ) is flowing westerly from near the buildings at the west corner of Trabuco Road and C Street, about 150 feet southeast of Gate No. 1. The liquid appears to be irrigation water runoff. No additional investigation is recommended at this time.

c 381. There are stains (ST) or liquid (LQ) on the aircraft parking apron, in the area between Buildings 9 and 244. There appears to be a southerly flow direction, with possible discharge into a storm drain at the southern end of the apron. Investigation of the site history for a possible spill, or investigation of storm drain may be advisable.

c 382. There is wet soil (WS) or a stain (ST) in the clear area adjacent to the north side of the threshold for Runway 7L. Additional investigation is recommended.

a 383. Liquid (LQ) is flowing westerly from the northwest end of Building 1589, about 200 feet northeast of Building 368 (Public Works), and across the parking areas. Additional investigation is recommended.

→ a 384. Liquid (LQ) is flowing southwesterly from Building 672, near the southeast corner of the aircraft parking apron. Additional investigation is recommended.

c 385. There are possible drums (D) in the open storage (OS) area southeasterly of the aircraft parking apron. Additional investigation is recommended. The Drop Tank Drainage Area No.2 (Site 7) investigation should be expanded to include these areas.

c 386. There are possible drums (D) in the open storage (OS) area easterly of the aircraft parking apron. Additional investigation is recommended.



PHOTO RECORD FILE INDEX

CLE-001 M60050.000924 M60050.000924  
M6005 MCAS EL TORO  
ROLL NO. SSIC # 5090.3

M60050.000924  
MCAS EL TORO  
SSIC # 5090.3

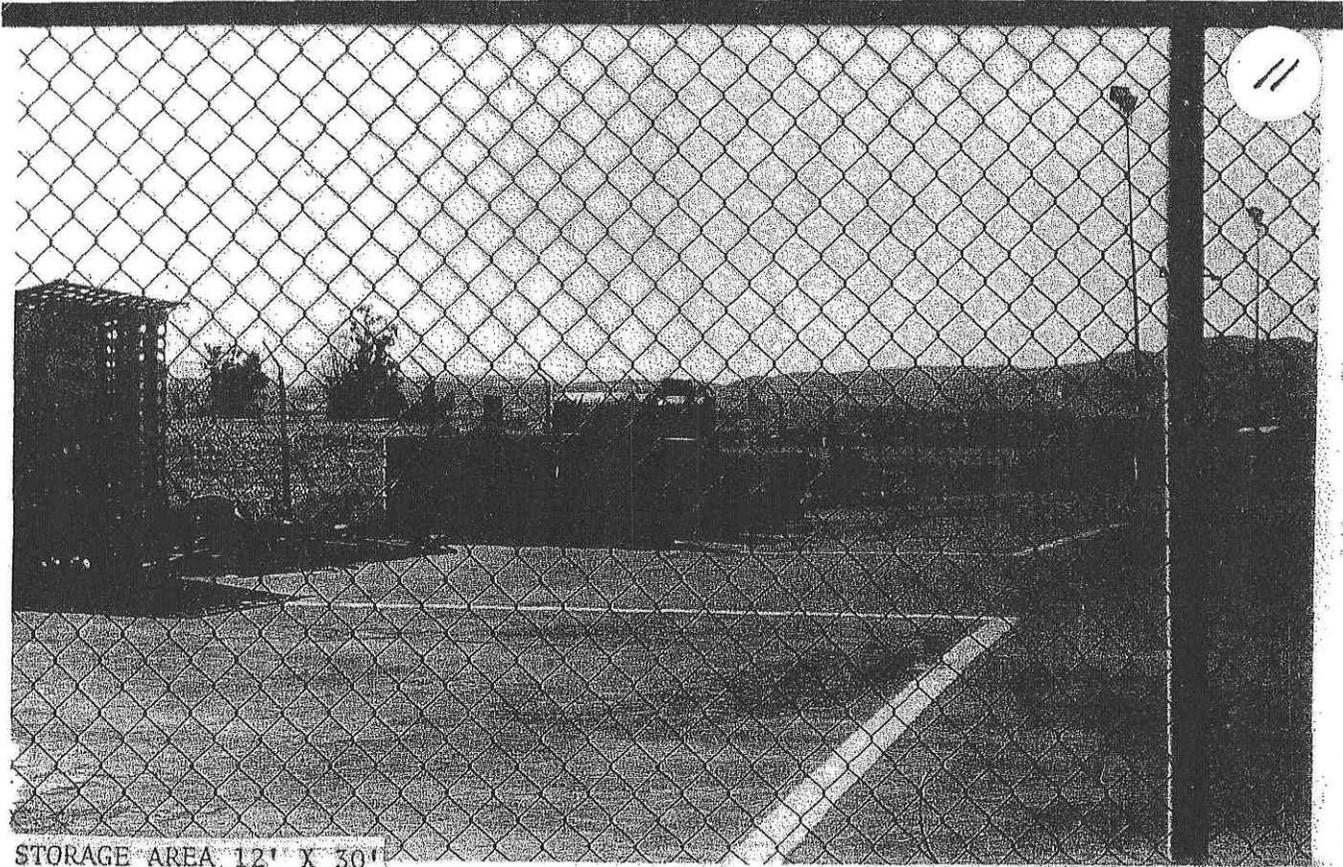
PERIOD FROM \_\_\_\_\_ TO \_\_\_\_\_ 19\_\_\_\_

PROJECT: CTO #193 RFA

PROJECT NO. SCE 70022 MR

PREPARED BY: \_\_\_\_\_

| PICTURE NUMBER | PHOTO DESCRIPTION/LOCATION  | DATE     | DAILY LOG NUMBER |
|----------------|---|----------|------------------|
| 1              | Storage Area View Change - North of Bldg. 360 Facing North        | 12/8/80  |                  |
| 2              | Storage Area 5076 S.F. Available - North of Bldg. 360 Facing East | 12/8/80  |                  |
| 3              | Storage Area 12'x30' 360sq.ft. - West of Bldg. 29                 | 10/29/80 |                  |
| 4              | Cash Crew Training Pit 50' Dia 1963sq.ft. - East of Bldg. 23A     | 10/28/80 |                  |
| 5              | Storage Area 4'x30' 120sq.ft. - East of Bldg. 359                 | 10/29/80 |                  |
| 6              | Storage Area 2'x10' 20sq.ft. - South of Bldg. 186                 | 10/28/80 |                  |
| 7              | Storage Area 172 sq. ft. - South of Bldg. 187                     | 10/28/80 |                  |
| 8              | Storage Area 15'x30' 450sq.ft. - West of Bldg. 297                | 10/29/80 |                  |
| 9              | Storage Area 5'x10' 50sq.ft. - West of Bldg 297                   | 10/29/80 |                  |
| 10             | Storage Area 15'x80' 120sq.ft. - East of Bldg 155                 | 10/29/80 |                  |
| 11             | Storage Area 12'x30' 360sq.ft. - East of Bldg 672                 | 10/29/80 |                  |
| 12             | Storage Area 14'x20'/12'x6' 352sq.ft. - West of Bldg 297          | 10/29/80 |                  |
| 13             | Storage Area 18'x40' 720sq.ft. - West of Bldg 297                 | 10/29/80 |                  |
| 14             | Storage Area 4'x4' 16sq.ft. - West of Bldg 297                    | 10/29/80 |                  |
| 15             | Storage Area 5'x10' 50sq.ft. - North of Bldg 386                  | 10/29/80 |                  |
| 16             | Storage Area 25'x30' 600sq.ft. - West of Bldg 29                  | 10/29/80 |                  |



STORAGE AREA 12' X 30'  
360 sq. ft.

EAST OF BLDG 672

OIL/WATER SEPARATOR SURVEY  
EL TORO MARINE CORPS AIR STATION  
EL TORO, CALIFORNIA

FOR

**EXTRACTS**

DEPARTMENT OF THE NAVY

SOUTHWEST DIVISION

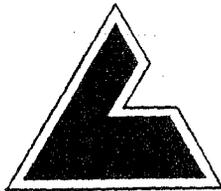
NAVAL FACILITIES ENGINEERING COMMAND

IQ Contract No. N68711-92-D-4652, Delivery Order No. 001

Prepared by Law/Crandall, Incorporated (LCI)

(LCI Project No. S92174.FB)

April 1, 1993

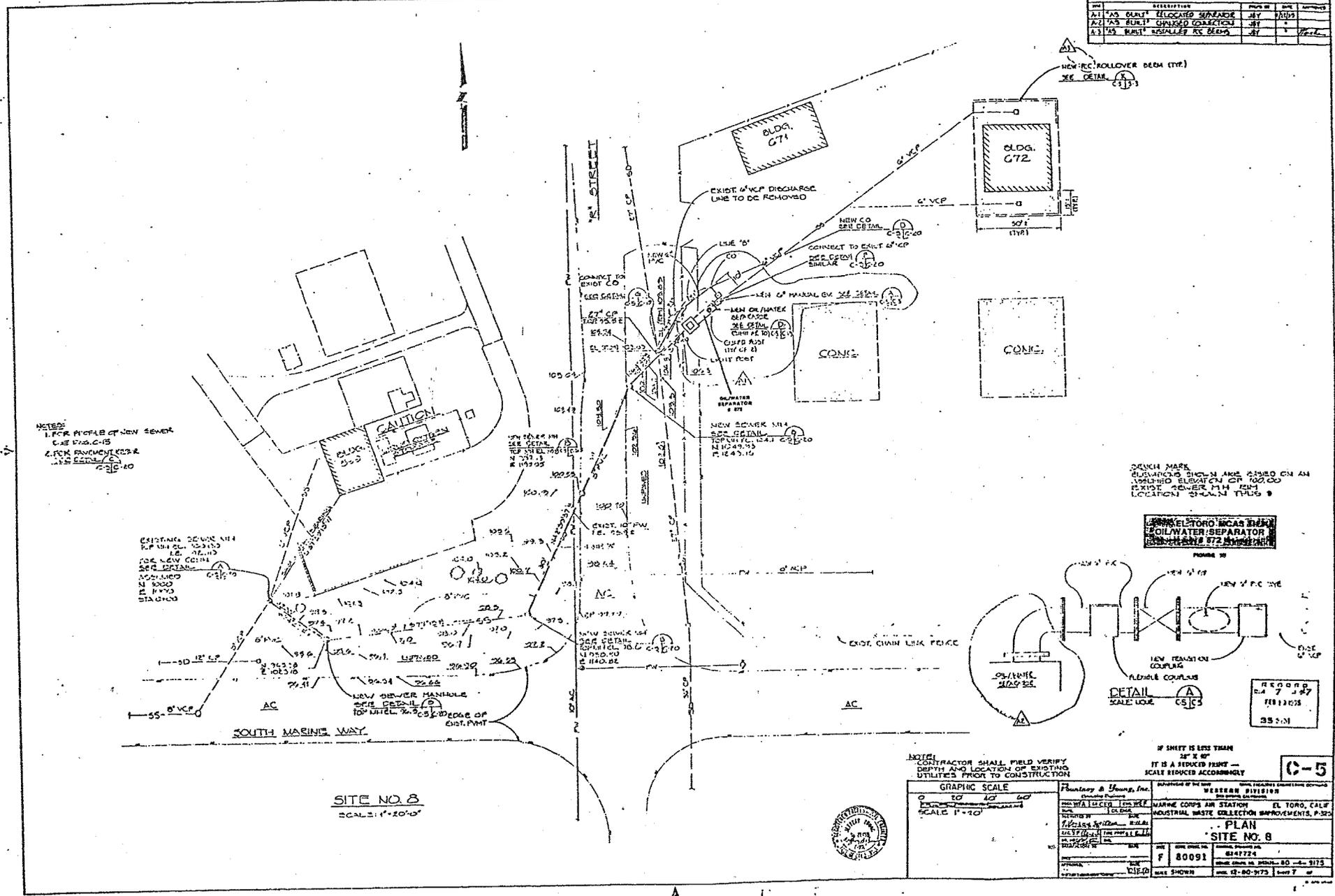


**LAW/CRANDALL, INC.**

ENGINEERING AND ENVIRONMENTAL SERVICES

*ONE OF THE LAW COMPANIES*

| REVISIONS |                              |      |      |       |
|-----------|------------------------------|------|------|-------|
| NO.       | DESCRIPTION                  | DATE | BY   | CHKD. |
| A1        | AS BUILT ALLOCATED SEPARATOR | JULY | PAUS |       |
| A2        | AS BUILT CHANGED CONNECTIONS | JULY |      |       |
| A3        | AS BUILT INSTALLED AS BUILT  | JULY |      |       |



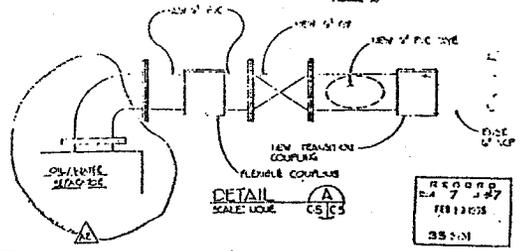
NOTES:  
 1. FOR PROFILE OF NEW SEWER  
 CASE D.I.S.C.H.S  
 2. FOR DIMENSIONS OF  
 AND SEE DETAIL C-5  
 C-5/10

EXISTING SEWER AND  
 R.P. MANHOLE 1000  
 FOR NEW CONDUIT  
 SEE DETAIL  
 MANHOLE  
 1000  
 IN 1000  
 STAGNO

SITE NO. 8  
 SCALE 1" = 20'-0"

CONCRETE MARK  
 ELEVATIONS SHOWN ARE BASED ON AN  
 ASSUMED ELEVATION OF 100.00  
 EXIST. POWER P.M. 15M  
 LOCATION SHOWN PLUS 8

EL TORO INCAS 3124  
 OIL/WATER SEPARATOR  
 SEE DETAIL C-5  
 FIGURE 10



RECORD  
 7 JULY  
 1975  
 35'-0"

NOTES:  
 CONTRACTOR SHALL FIELD VERIFY  
 DEPTH AND LOCATION OF EXISTING  
 UTILITIES PRIOR TO CONSTRUCTION

IF SHEET IS LESS THAN  
 24" X 36"  
 IT IS A REDUCED PRINT -  
 SCALE REDUCED ACCORDINGLY

C-5



| GRAPHIC SCALE  |             |
|----------------|-------------|
| 0              | 10 20 30 40 |
| SCALE 1" = 20' |             |

|   |  |   |                 |
|---|--|---|-----------------|
| Francis & Young, Inc.<br><small>Engineers and Surveyors</small> |  | REGISTERED PROFESSIONAL ENGINEERS<br><small>State of California</small> |                 |
| DATE: 1975  | PROJECT: WASTE COLLECTION IMPROVEMENTS | NO. 80091   | EL TORO, CALIF. |
| DRAWN BY: [Signature]   |  | PLAN SITE NO. 8   |                 |
| CHECKED BY: [Signature]   | DATE: 1975                             | NO. 80091   | NO. 80091       |

O/W Separator Building 643 Fixed Aircraft Start System

The oil/water separator contains excessive sediments and oil and cleaning is recommended.

An underground tank is associated with the oil/water separator, and it is full of oil. The removal of the oil is recommended. We were unable to determine if the waste oil tank and associated piping have secondary containment, and additional investigation is recommended. The waste oil level alarm does not appear to be functional, and electrical testing is recommended.

Two air compressor blow-down lines are disconnected from the oil/water separator, and it is recommended that both lines be repaired.

O/W Separator Building 651/652 Auto Center

The oil/water separator contains excessive oil, and it is recommended that the oil/water separator be cleaned.

It is also recommended that the sink that drains directly to the floor and discharges to a floor drain tributary to the sanitary sewer be plumbed directly to the sanitary sewer.

O/W Separator Building 658 Engine Test Cell

Floor drains inside the Test Cell drain to a sump with a pump capacity of 380 gallons per minute. However, the pump was not functional during our survey. The pumping rate from the sump pump will tend to emulsify oil, and the capacity of the pump appears to exceed the capacity of the oil/water separator. We recommend that the pump be repaired and a larger oil/water separator be installed.

→ O/W Separator Building 672 Refueling Vehicle Maintenance Shop

The oil/water separator contains excessive sediments and cleaning is recommended. The oil/water separator capacity is unknown, and site personnel report that the system backs



up during heavy washing activities. Therefore, it appears the capacity is insufficient or the lines are partially plugged. We recommend that the sediments be removed, the lines be cleaned, and that frequent inspection and maintenance activities be implemented to prevent excessive sedimentation.

The discharge is to the sanitary sewer via gate valves. Run-off enters the system if the valves are not positioned properly subjecting the system to OCSD special permit requirements. As in our general recommendations, we recommend that a written inspection/maintenance program be implemented to ensure that run-off is not discharged to the sanitary sewer. Alternatively, the wash racks could be covered, electrical diversion valves installed to prevent discharging run-off, or a permit for the discharge of run-off to the sanitary sewer could be obtained from the OCSD.

O/W Separator Building 673 Ground Support Equipment Shed

The oil/water separator contains excessive sediments and oil, and cleaning is recommended. Run-off enters the sewer system and requesting a permit for the discharge from OCSD or covering the wash rack is recommended.

O/W Separator 674 Bee Canyon Wash

The check dam indicated on as-built drawings is missing, and it does not appear that dry-weather flows can adequately be captured as generally required under the MCAS' NPDES permit. The installation of a check dam to capture dry weather flows is recommended.

A waste oil tank is associated with the oil/water separator. The waste oil tank was full of water and it should be removed. We were unable to determine if the waste oil tank has secondary containment and additional investigation is recommended.

O/W Separator 675 Agua Chinon Wash

The low flow diversion sump entry channel contained excessive sediments during our survey and it does not appear that there is sufficient capacity to capture dry weather



EL TORO OIL, : SEPARATORS

| Oil Water Separator ID | Location         | Material          | Type                 | Interior Dimensions LxWxD Inches & Feet | Estimated Flow or Capacity | Monitoring/Leak Detection Devices | Rain diversion Valves & Controls |
|------------------------|------------------|-------------------|----------------------|---|----------------------------|-----------------------------------|----------------------------------|
| 626(1) #**             | G26 driveway     | Precast Concrete  | 3-Stage Gravity      | 9' x 5' x 3'                            | 600 gal Capacity           | None                              | No                               |
| 626(2)                 | G26(2)           | Precast Concrete  | 2-Stage Gravity      | 5'6" x 4'4" x 3'2"                      | 560 gal Capacity           | High Level Alarm                  | No                               |
| 651/<br>652            | W B-652          | Precast Concrete  | 2-Stage Gravity      | 5'5" x 2' x 3'6"                        | 280 gal Capacity           | None                              | No                               |
| 658(1)                 | N B-658          | Concrete          | Single Stage Gravity | 6' x 4'2" x 2'4"                        | 400 gal Capacity           | None                              | No                               |
| 658(2) #               | N B-658          | Aboveground Steel | Great Lakes          | 8' x 8' x 10'                           | 200 gpm                    | Level Alarm                       | Progressive Cavity Pump          |
| 672 #                  | SW B-672         | Metal/Concrete    | Unknown              | 24" x 41" x 8'1"                        | 400 gal Capacity           | Level Alarm                       | Yes - Butterfly                  |
| 673                    | WS B-673         | Concrete          | 3-Stage Gravity      | 95" x 52" x 48"                         | 895 gal Capacity           | Level Alarm                       | No                               |
| 674(1) #               | Bee Canyon Wash  | Steel             | Single Stage Gravity | 4' x 4' x 12'                           | 1400 gal, skim at 50 gpm   | None                              | Low Flow Diverter                |
| 674(2)                 | Bee Canyon Wash  | Aboveground Steel | Facet                | 4' x 3' x 3'                            | 5 gpm                      | Level Alarm                       | No                               |
| 675(1) #               | Aqua Chinon Wash | Steel             | Gravity              | 4' x 4' x 12'                           | 1400 gal, skim at 50 gpm   | None                              | Fixed Low Flow Diverter          |
| 675(2) #               | Aqua Chinon Wash | Aboveground Steel | Facet                | 4' x 3' x 3'                            | 5 gpm                      | Level Alarm                       | No                               |

# Oil/Water Separators with associated waste oil tanks

11-97-6620  
H-1

ATTACHMENT H

Source: MCAS El Toro OWS Maintenance Service Contract records

SOUTHWESTNAVFACENGCOM  
CODE 06CC.LMH  
SAN DIEGO, CA 92101

## No Further Action Decision Documents and Other Documents for Nearby Locations of Concern



Winston H. Hickox  
Secretary for  
Environmental  
Protection

# California Regional Water Quality Control Board

## Santa Ana Region



Gray Davis  
Governor

Internet Address: <http://www.swrcb.ca.gov/~rwqcb8>  
3737 Main Street, Suite 500, Riverside, California 92501-3339  
Phone (909) 782-4130 • FAX (909) 781-6288

April 2, 1999

Mr. Wayne D. Lee  
Assistant Chief of Staff  
Environment and Safety  
Marine Corps Air Station El Toro  
P. O. Box 95001  
Santa Ana CA 92709-5001

**SUBJECT: CLOSURE OF UNDERGROUND STORAGE TANK (UST) CASE  
REFUELING AND VEHICLE MAINTENANCE SHOP, USTS 672 & 672B  
BUILDING 672, MARINE CORPS AIR STATION, EL TORO  
CASE NO. 083003209T**

Dear Mr Lee:

This letter confirms the completion of the site investigation and remedial action which were needed to mitigate the releases from the underground storage tanks formerly located at the above described location. Enclosed is the Case Closure Summary for the referenced site for your records.

Two USTs were removed and discolored soil was observed on the southwest and northwest sidewalls of the excavation. Three hand-auger borings were drilled to 20 feet deep. Based on the analytical results of the soil sampling, additional petroleum contaminated soil (200 yds<sup>3</sup>) was removed down to approximately 18 feet below grade. Nine confirmation soil samples were collected. Soil samples were analyzed by EPA method 8015m for TPH and method 8020 for BTEX. One sample was analyzed using the Synthetic Precipitation Leaching Procedure (SPLP). The excavation was backfilled with clean stockpiled soil, imported fill sand and road base material and compacted.

Five soil borings were drilled in the vicinity of the excavation to determine the vertical extent of the petroleum hydrocarbons in the soil. Two soil borings were drilled to 40 feet deep and three were drilled to 80 feet deep. Soil samples were collected and submitted for analysis. Groundwater was not detected at 80 feet. The remaining petroleum concentrations do not appear to be a threat to groundwater.

*California Environmental Protection Agency*

Mr. Lee

- 2 -

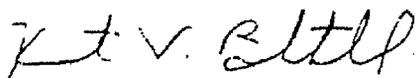
April 2, 1999

Based on the information in the March 12, 1998 Tank Removal and Site Closure Report for USTs 672 and 672B, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground storage tank release is required.

This notice is issued pursuant to a regulation contained in Title 23, California Code of Regulations, Division 3, Chapter 16, Section 2721 (e).

Please telephone Patricia Hannon at (909) 782-4498 if you have any questions regarding this matter.

Sincerely,



Gerard J. Thibeault  
Executive Officer

Attachment: Case Closure Summary

cc w/ attachment: Dept. of Toxic Substances Control - Tayseer Mahmoud  
Kutak Rock, Attorneys - Gregory F. Hurley  
Marine Corps Air Station El Toro - Capt. Jeff Matthews  
Naval Facility Engineering Command, SWDIV - Lynn Homecker  
Orange County Hall of Administration - Courtney Wiercioch  
Orange County Health Care Agency - Arghavan Rashidi-Fard  
State Water Resources Control Board - John Adams  
U. S. EPA, Region IX - Glenn Kistner

BRAO OFFICE  
APR 5 1 20 PM '99

California Environmental Protection Agency



Recycled Paper

# CASE CLOSURE SUMMARY

## Leaking Underground Fuel Tank Program

### I. Agency Information

DATE: March 31, 1999

|                 |  |       |                                 |
|-----------------|--|-------|---------------------------------|
| AGENCY NAME     | California Regional Water Quality Control Board - Santa Ana Region | STAFF | Patricia Hannon                 |
| ADDRESS         | 3737 Main St. Suite 600  | TITLE | Associate Engineering Geologist |
| CITY/STATE/ ZIP | Riverside CA 92501-3339  | PHONE | (909) 782-4498, main # 782-4130 |

### II. Case Information

|   |   |                     |                          |         |
|---|---|---------------------|--------------------------|---------|
| SITE NAME   | Refueling and Vehicle Maintenance Shop, UST Site 672 and 672B |                     |                          |         |
| LOCATION  | Bldg 672, MCAS El Toro  |                     |                          |         |
| REGIONAL BOARD CASE #   | 083003209T  | LOCAL AGENCY CASE # | NA                       |         |
| RESPONSIBLE PARTIE  | ADDRESS   | PHONE NUMBER        |                          |         |
| USMCAS El Toro<br>contact: Wayne D. Lee, Assistant Chief of Staff<br>Environment and Safety | P.O. Box 95000<br>Santa Ana, CA 92709-5000                    |                     |                          |         |
| TANK NO.  | SIZE IN GALLONS   | CONTENTS            | CLOSED IN PLACE/ REMOVED | DATE    |
| 672   | 100   | diesel              | removed                  | 1/29/97 |
| 672B  | 1000  | JP-5                | removed                  | 1/29/97 |

### III. Release and Site Characterization Information

|  |                      |  |  |                         |    |
|--|----------------------|--|--|-------------------------|----|
| MONITORING WELLS INSTALLED?                            | no                   | NUMBER   | NA   | PROPER SCREEN INTERVAL? | NA |
| DEEPEST GW DEPTH                                       | NA                   | SHALLOWEST GW DEPTH  | 83 ft. (well 08UGMW29 located -300 ft. away) |                         |    |
| GROUNDWATER, MOST SENSITIVE CURRENT USE:               | municipal            |  | GW FLOW DIRECTION                            | northwest               |    |
| DRINKING WATER WELL(S) AFFECTED?                       | no                   | AQUIFER NAME   | Irvine Pressure                              |                         |    |
| IS SURFACE WATER AFFECTED?                             | no                   | NEAREST/AFFECTED SW NAME   | na   |                         |    |
| OFF-SITE BENEFICIAL USE IMPACTS (ADDRESSES/LOCATIONS): | none                 |  |  |                         |    |
| REPORT(S) ON FILE?                                     | yes                  | WHERE IS/ARE REPORT(S) FILED?  | R.W.Q.C.B. - Santa Ana Region                |                         |    |
| <b>TREATMENT AND DISPOSAL OF AFFECTED MATERIAL</b>     |                      |  |  |                         |    |
| MATERIAL   | AMOUNT               | ACTION (TREATMENT, DISPOSAL)/ DESTINATION  |  | DATE                    |    |
| TANK/PIPING  | 2 tanks,             | Piping was abandoned in place. USTs were sent to the Defense Reutilization and Marketing Office for recycling. |  | 1/29/97                 |    |
| FREE PRODUCT   | none                 |  |  |                         |    |
| SOIL   | 247 yds <sup>3</sup> | Treated at the Station's bioremediation treatment facility   |  | 1997                    |    |
| GROUNDWATER  | none                 |  |  |                         |    |

**III. Release and Site Characterization Information (Continued)**

| Maximum Document Contaminant Concentration - Before and After Cleanup |                |                |              |         |
|---|----------------|----------------|--------------|---------|
| CONTAMINANT   | SOIL (mg/kg)   |                | WATER (µg/L) |         |
|   | INITIAL        | FINAL          | INITIAL      | CURRENT |
| BENZENE   | 0.528          | 2.9 (29.5 ft.) | NA           | NA      |
| TOLUENE   | 3.3 (5ft)      | 0.270          | NA           | NA      |
| ETHYLBENZENE  | 7.8 (10 ft.)   | 16 (29.5 ft.)  | NA           | NA      |
| XYLENE  | 39 (10 ft.)    | 18 (29.5 ft.)  | NA           | NA      |
| MTBE  | na             | na             | NA           | NA      |
| TPH- JP-5   | 11000          | 6200           | NA           | NA      |
| TPH - Diesel  | 26700 (10 ft.) | 23000 (30 ft.) | NA           | NA      |
| TPH- Gasoline   | 2540 (5 ft.)   | ND             | NA           | NA      |
| TPH as motor oil  | na             | 28             | NA           | NA      |
| TPH (418.1)   | 18136 (5 ft.)  | 2770           | NA           | NA      |

**COMMENTS REGARDING INVESTIGATION AND REMEDIATION**

Two USTs were removed and discolored soil was observed on the southwest and northwest sidewalls of the excavation. Three hand-auger borings were drilled to 20 feet deep. Based on the analytical results of the soil sampling, additional petroleum contaminated soil (200 yds<sup>3</sup>) was removed down to approximately 18 feet below grade. Nine confirmation soil samples were collected. Soil samples were analyzed by EPA method 8015m for TPH and method 8020 for BTEX. One sample was analyzed using the Synthetic Precipitation Leaching Procedure (SPLP). The excavation was backfilled with clean stockpiled soil, imported fill sand and road base material and compacted.

Five soil borings were drilled in the vicinity of the excavation to determine the vertical extent of the petroleum hydrocarbons in the soil. Two soil borings were drilled to 40 feet deep and three were drilled to 80 feet deep. Soil samples were collected and submitted for analysis. Groundwater was not detected at 80 feet.

The remaining petroleum concentrations do not appear to be a threat to groundwater, which is greater than 80 feet from the surface. Based on the information provided in the March 12, 1998, Tank Removal and Site Closure Report for USTs 762 and 672B, this site is recommended for closure.

**IV. Closure**

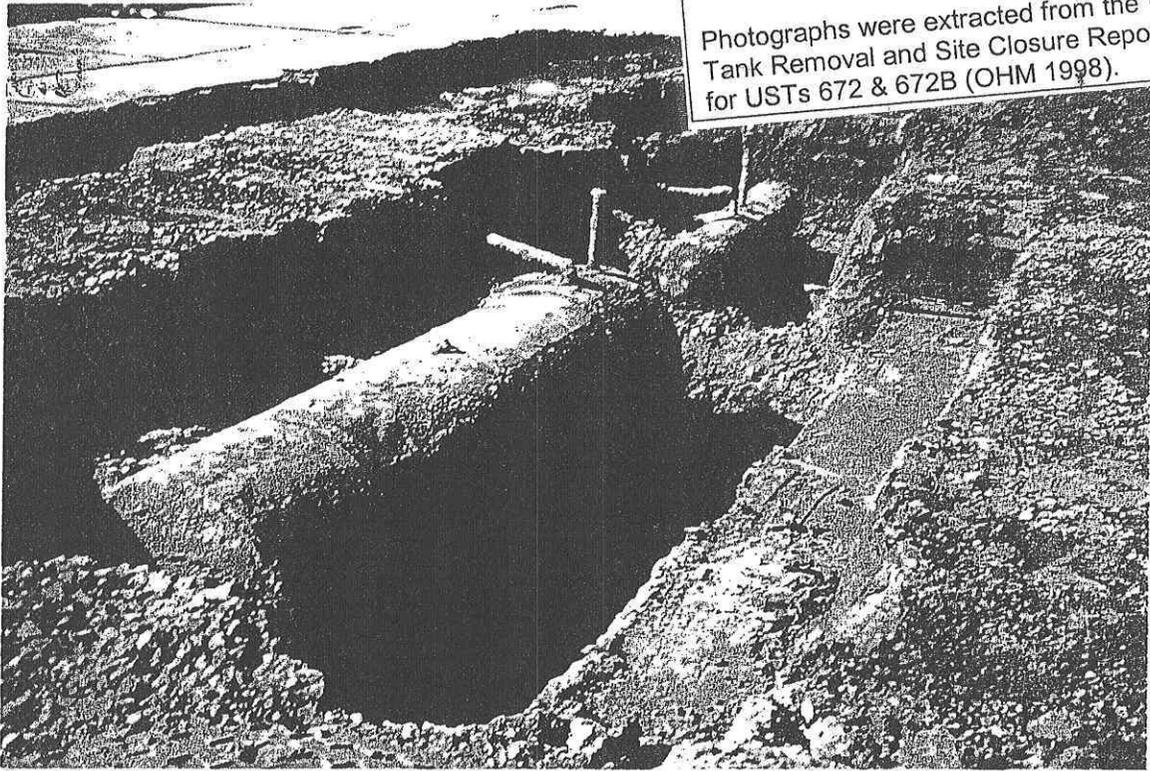
|   |                       |      |                 |     |
|---|-----------------------|------|-----------------|-----|
| DOES COMPLETED CORRECTIVE ACTION PROTECT EXISTING BENEFICIAL USES PER REGIONAL BOARD BASIN PLAN?      |                       |      |                 | yes |
| DOES COMPLETED CORRECTIVE ACTION PROTECT POTENTIAL BENEFICIAL USES PER THE REGIONAL BOARD BASIN PLAN? |                       |      |                 | yes |
| MONITORING WELLS DECOMMISSIONED   | NUMBER DECOMMISSIONED | na   | NUMBER RETAINED | na  |
| LIST ENFORCEMENT ACTIONS TAKEN  |                       | none |                 |     |
| LIST ENFORCEMENT ACTIONS RESCINDED  |                       | none |                 |     |

**V. Regional Board Representative Data**

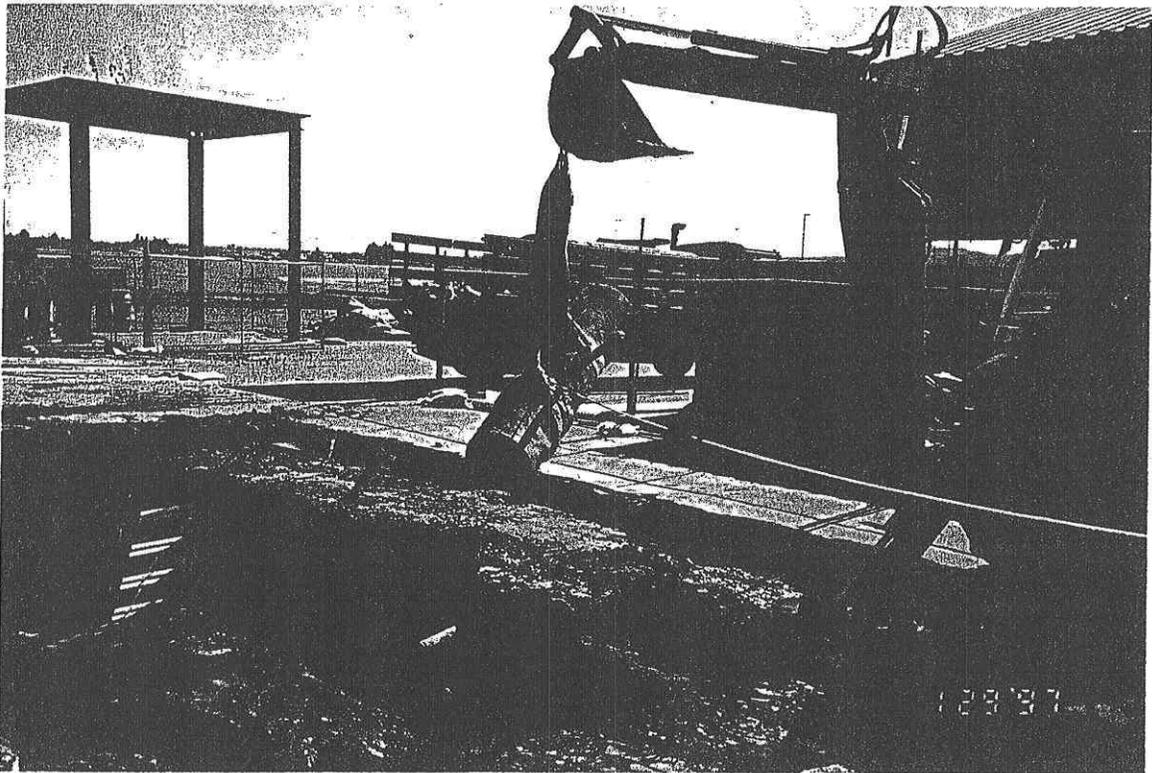
|            |                           |       |                                 |
|------------|---------------------------|-------|---------------------------------|
| STAFF      | Patricia Hannon           | TITLE | Associate Engineering Geologist |
| SIGNATURE  | <i>Patricia Hannon</i>    | DATE  | 3/31/99                         |
| SUPERVISOR | Michael Adackapara        | TITLE | Senior WRC Engineer             |
| SIGNATURE  | <i>Michael Adackapara</i> | DATE  | 4/2/99                          |

Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

Photographs were extracted from the Tank Removal and Site Closure Report for USTs 672 & 672B (OHM 1998).



Photograph No. 1: Underground storage tanks (USTs) 672 and 672B in-place.



Photograph No. 2: USTs 672 and 672B removed from excavation.

## EXTRACTS

Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

☆ Agua Chinon Wash is located within several hundred feet of TAA 672 (east of TAA 672). Drainage ditches that discharge to Agua Chinon Wash are located adjacent to the Building 672 compound. Agua Chinon Wash was addressed in the investigation of IRP Site 25.

# DRAFT FINAL RECORD OF DECISION OPERABLE UNITS 2A AND 3A NO ACTION SITES MARINE CORPS AIR STATION EL TORO, CALIFORNIA

SEPTEMBER 1997

## DECLARATION

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### SITE NAME AND LOCATION

Marine Corps Air Station (MCAS) El Toro  
Operable Unit-3A, Sites 4, 6, 9, 10, 13, 15, 19, 20, 21, and 22  
Operable Unit-2A, Site 25  
Orange County, California

### STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for Sites 4, 6, 9, 10, 13, 15, 19, 20, 21, 22, and 25 at MCAS El Toro in Orange County, California. The document was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan. This decision is based on the administrative record file for these sites.

The State of California (through the California Environmental Protection Agency, Department of Toxic Substances Control, and Santa Ana Regional Water Quality Control Board) and the U.S. Environmental Protection Agency concur with the selected remedy.

### DESCRIPTION OF THE SELECTED REMEDY: NO ACTION

The selected remedy for Sites 4, 6, 9, 10, 13, 15, 19, 20, 21, 22, and 25 is no action. In selecting the no action remedy for these sites, the Navy has determined that the existing condition of the sites is protective of human health and the environment.

Although no deed restrictions are required because of chemicals present in soils at the no action sites, shallow groundwater underlying Sites 9, 10, 13, 15, 21, 22, and portions of Site 25 is contaminated by trichloroethene and tetrachloroethene. Remedial investigations have shown that the contamination does not originate from these sites but from Site 24, the volatile organic compound source area. Use restrictions for several sites (including Site 24 and the no action sites listed above) prohibiting drilling of wells and/or extraction of groundwater and allowing access for groundwater monitoring and maintenance of equipment associated with groundwater remediation will be addressed in the Proposed Plan(s) and Record(s) of Decision for Operable Unit-1 and -2A regarding groundwater.

### DECLARATION STATEMENT ☆

Based on extensive field investigations, laboratory analyses, and a thorough assessment of potential human-health risks at each location and of potential ecological risks at Site 25, the Navy has determined that no remedial action is necessary to assure the protection of human health and the environment at Sites 4, 6, 9, 10, 13, 15, 19, 20, 21, 22, and 25. The Remedial Investigations of these sites show that contamination is limited to the shallow soil interval (Sites 4, 6, 9, 10, 13, 15, 19, 20, 21, and 22) and to sediment and

Date: 09/30/97

Declaration

surface water (Site 25). The human health and ecological risk assessments show that the chemicals present in these media do not present an unacceptable risk to human health or the environment. Therefore, no remedial action is required at these sites. Since hazardous substances are not present at concentrations above unacceptable levels, CERCLA Section 121 cleanup standards do not apply.

Signature: *Joseph Jayce*  
Mr. Joseph Jayce  
Base Closure and Realignment Environmental Coordinator  
Marine Corps Air Station El Toro

Date: Sept 23, 1997

Signature: *John E. Scandiffa*  
Mr. John E. Scandiffa, Chief  
Southern California Operations  
Office of Military Facilities  
Department of Toxic Substances Control

Date: Sept. 26, 1997

Signature: *Daniel D. Opalski*  
Mr. Daniel D. Opalski, Chief  
Federal Facilities Cleanup Branch  
United States Environmental Protection Agency, Region IX

Date: 9/29/97

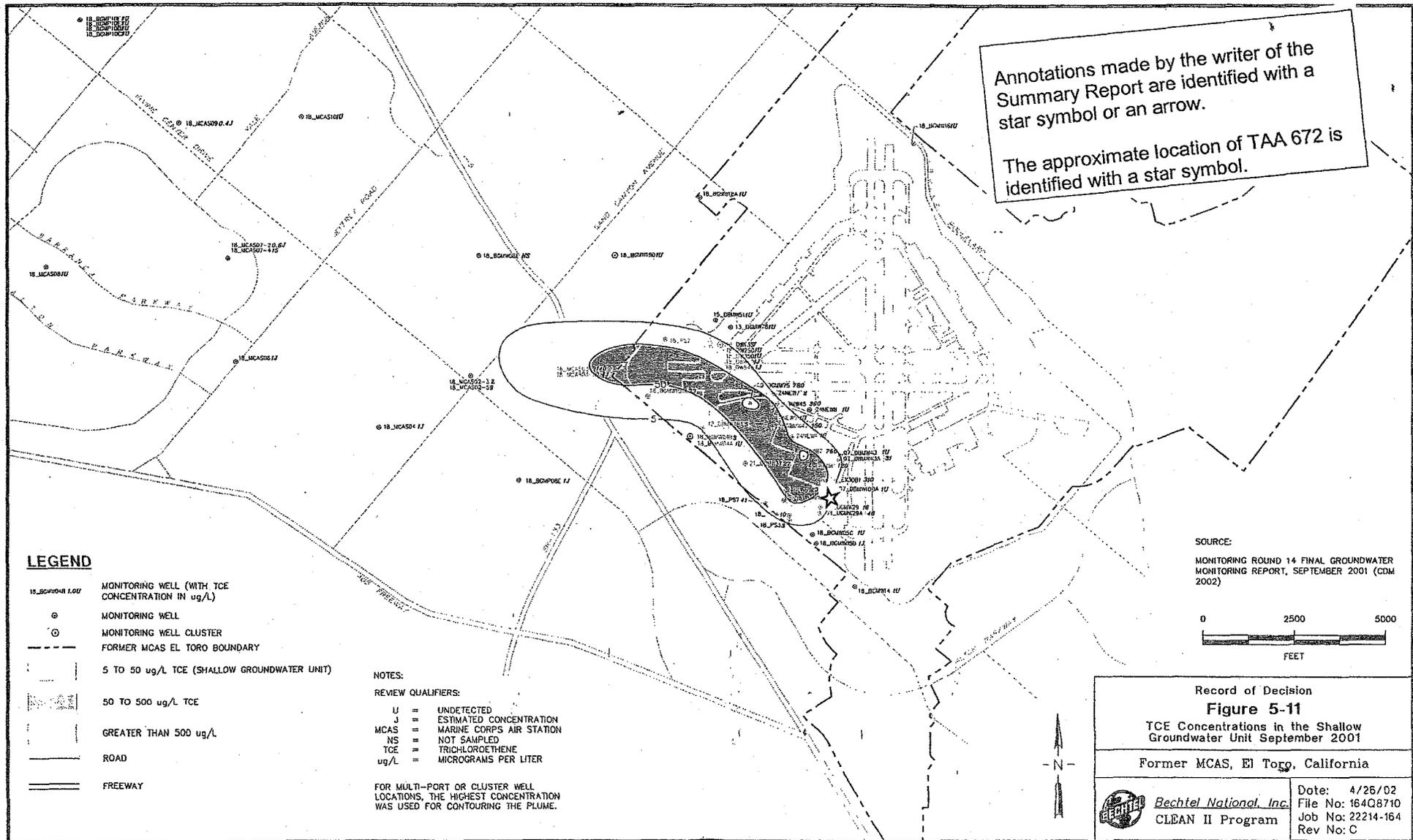
Signature: *Gerald J. Thiebault*  
Mr. Gerald J. Thiebault  
Executive Officer  
Regional Water Quality Control Board, Santa Ana Region

Date: 9/30/97

EXTRACT OF FIGURE 5-11

**DRAFT FINAL RECORD OF DECISION  
OPERABLE UNIT 1  
SITE 18 – REGIONAL VOLATILE ORGANIC  
COMPOUND GROUNDWATER PLUME  
OPERABLE UNIT 2A  
SITE 24 – VOC SOURCE AREA  
FORMER MARINE CORPS AIR STATION  
EL TORO, CALIFORNIA**

**MAY 2002**





# California Regional Water Quality Control Board

## Santa Ana Region



Winston H. Hickox  
Secretary for  
Environmental  
Protection

Internet Address: <http://www.swrcb.ca.gov/rwqcb8>  
3737 Main Street, Suite 500, Riverside, California 92501-3348  
Phone (909) 782-4130 - FAX (909) 781-6288

Gray Davis  
Governor

September 28, 2000

Mr. Dean Gould  
BRAC Environmental Coordinator  
MCAS El Toro  
P O Box 51718  
Irvine, CA 92619 -1718

### COMMENTS ON SITE ASSESSMENT REPORT, OIL/WATER SEPARATOR SITE 672A, MARINE CORPS AIR STATION, EL TORO

Dear Mr. Gould:

We have completed our review of the above-referenced document, dated September 16, 1999, which we received on September 27, 1999. We do not concur with the recommendation for no further action based on the following comment:

The boring taken in 1991 as part of the RCRA Facility Assessment reported 11,006 mg/kg TPH at 25 feet bgs, 1,606 mg/kg TPH at 20 feet bgs, and 2,153 and 8,341 mg/kg TPH at 15 feet bgs. After closing the OWS in place during March 1999, two confirmation soil borings were advanced. Samples from boring 672A SB02 were collected at 20, 30, and 50.5 feet bgs. The sample from 50.5 feet bgs reported 1,200 mg/kg TPH-diesel. The values from the RFA and site verification activities are above the target clean-up level for the Station. Based on this limited sampling, and the analytical results above the target clean-up level, the soil characterization at the OWS site is insufficient to warrant closure.

For any questions on this review or related matters, please call me at (909) 782-4494.

Sincerely,

  
John Broderick  
SLIC/DoD/AGT Section

cc: Ms. Triss Chesney, Department of Toxic Substances Control, OMF  
Mr. Gregory F. Hurley, El Toro RAB Co-Chair  
Ms. Lynn Hornecker, Naval Facility Engineering Command, SWDIV  
Mr. Glenn Kistner, U.S. EPA, Region IX

California Environmental Protection Agency