

Summary Report

*Former Temporary Accumulation Area (TAA) 761
Solid Waste Management Unit (SWMU) 236
Former Marine Corps Air Station, El Toro, California*

20 September 2002

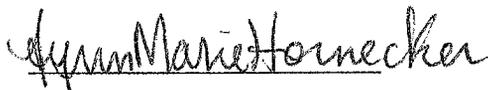
Prepared by:
Southwest Division, Naval Facilities Engineering Command
BRAC Programs Office
San Diego, CA 92101-2404

Summary Report

*Former Temporary Accumulation Area (TAA) 761
Solid Waste Management Unit (SWMU) 236
Former Marine Corps Air Station, El Toro, California*

20 September 2002

Prepared by:



Lynn Marie Hornecker
Project Manager

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

Transmittal

Date: 20 September 2002

From: Lynn Marie Hornecker 

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) 761
Solid Waste Management Unit (SWMU) 236
Former Marine Corps Air Station, El Toro

Provided for your review as the attachment is the Summary Report for the former Temporary Accumulation Area (TAA) 761 at the Former Marine Corps Air Station, El Toro. Former TAA 761 is located adjacent to a concrete parking apron in the southeastern section of the Station, north-northwest of Building 458 and south-southeast of Building 761. TAA 761 was identified as Solid Waste Management Unit (SWMU) Number 236 - a drum storage area - during the Resource Conservation and Recovery Act Facility Assessment (RFA).

The RFA documentation does not include a photograph of SWMU 236, however, the RFA documentation indicates that SWMU 236 is located within the investigation boundary of Installation Restoration Program (IRP) Site 6 (Drop Tank Drainage Area Number 1), Unit 3 (Storage Area). IRP Site 6, Unit 3 includes drum storage areas that were identified as anomalies on historical aerial photographs dated 1970 and 1975. The RFA documentation indicates that SWMU 236 coincides with the location of former Building 1663 that was demolished in 1981. IRP Site 6, Unit 3 encompasses approximately 94,000 square feet, and SWMU 236 (former TAA 761) is located near the northern boundary of Unit 3 near the edge of a concrete apron. A Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Record of Decision (ROD) for no action at IRP Site 6 was signed in September 1997.

We reviewed historical records and conducted visual inspections of former TAA 761 (SWMU 236) in September 2002. No significant stains or discolored areas were observed on the concrete surfaces or unpaved areas at or near the former TAA 761 (SWMU 236).

Based upon our observations from visual inspections, the results of the remedial investigation of IRP Site 6 that included former TAA 761 (SWMU 236), and the CERCLA ROD for no action at IRP Site 6, we are recommending that no further action status be designated for former TAA 761 (SWMU 236) in the next BRAC Business Plan update and that former TAA 761 be assigned the Environmental Condition of Property (ECP) category 3. If we do not receive comments from

SOUTHWESTNAVFACENGCOM
BRAC Operations
Code 06CC.LMH
1220 Pacific Highway
San Diego, California 92132-5190

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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 former TAA 761 (SWMU 236).

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, Former TAA 761 (SWDIV September 2002)

CF:

Dean Gould (MCAS El Toro BEC)

Project File (MCAS El Toro)

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Section 1

Introduction

The purpose of this Summary Report is to present information pertaining to the Former Temporary Accumulation Area (TAA) 761 at the Former Marine Corps Air Station (MCAS), El Toro. TAA 761 was identified as Solid Waste Management Unit (SWMU) 236 – a drum storage area - during the Resource Conservation and Recovery Act Facility Assessment (RFA). The Former TAA 761 is located near the former location of Building 1663, a quonset hut, north-northwest of Building 458, and south-southeast of Building 727. Building 1663 was demolished in 1981.

Former TAA 761 (SWMU 236) is located within the investigation boundary of Installation Restoration Program (IRP) Site 6 – the Drop Tank Drainage Area Number 1 – Unit 3 (Storage Area). Unit 3 encompasses approximately 94,000 square feet. Drum storage activities were identified within Unit 3 on historical aerial photographs taken in 1970 and 1975. The concrete pavement edge (concrete apron) adjacent to Building 727 was investigated as Unit 1 of IRP Site 6, and Unit 1 (approximately 1,300 square feet) is adjacent to Unit 3 of IRP Site 6. The vicinity of Former TAA 761 (SWMU 236) is shown on Figure 1.

The Former Marine Corps Air Station, El Toro, also known as the Station, comprises approximately 4,700 acres in eastern Orange County approximately 45 miles southeast of Los Angeles, California. The Station closed on 2 July 1999 in accordance with the Base Realignment and Closure Act of 1993 (BRAC III). Former TAA 761 (SWMU 236) is located within a parcel that is tentatively designated for future use as an open space/golf facility with residential overlay as shown on Figure 2.

Historical facility records and documentation from the installation restoration program and the environmental compliance program were acquired and reviewed, and the vicinity of Former TAA 761 (SWMU 236) was visually inspected during September 2002. No significant stains or discolored areas were observed on the concrete apron and no stained areas were observed on the unpaved adjacent area between Building 458 and Building 727 (the area identified as Former TAA 761). The remedial investigation documentation for IRP Site 6 indicates that the remedial investigation of IRP Site 6 included an investigation of SWMU 236 (Former TAA 761), and sample locations were chosen specifically to address potential releases near SWMU 236.

Based upon the review of historical information, the results of the visual inspections, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Record of Decision dated September 1997 for no action at IRP Site 6, it is recommended that no further action status be designated for Former TAA 761 (SWMU 236) in the next BRAC Business Plan update.

Section 2

Field Inspections and Historical Records

2.1 Field Inspections

TAA 761 was identified during the Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) as Solid Waste Management Unit (SWMU) 236. The evaluation of SWMU 140 is presented 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 (JEG) 1993).

The RFA Report (JEG 1993) states the following for Drum Storage Area (SWMU 236), described as being located at Building 1663 (north of Building 458):

"This DSA is located within the investigation boundaries of RI/FS Site 6 (Drop Tank Drainage Area No. 1). It will be excluded from further consideration in the RFA."

Building 1663, a Quonset hut, was demolished in 1981, and Building 727 was constructed in the vicinity of former Building 1663.

The Final Environmental Baseline Survey (EBS) Report (JEG 1995) identifies Satellite Accumulation Area (SAA) 761 as SWMU 236 and the EBS indicates that the accumulation area is not active. The satellite accumulation areas have been designated Temporary Accumulation Areas (TAAs) in the RFA program.

The Draft Final Phase II Remedial Investigation Report, Attachment B, OU-3A Site 6 (Bechtel 1997) states that based upon information from a former MCAS El Toro employee, another boring was added at the vicinity of SWMU 236 during the Phase II RI; the BCT concurred with this additional boring on 18 December 1995. Two borings are adjacent to the area identified as SWMU 236 within Unit 3 of IRP Site 6: 06B102 (near northeast corner of SWMU 236) and 06B304 (near southeast corner of SWMU 236). Additionally, Phase I RI samples were collected at location 06GN1, southwest of SWMU 236. The concrete parking apron is located adjacent to and northeast of SWMU 236. Storage of drums at or near SWMU 236 was not observed or documented during the remedial investigation of IRP Site 6 during the 1990's.

IRP Site 6 addresses an area where aircraft drop tanks were drained of residual jet fuel and cleaned prior to reuse. The site boundaries were determined by consensus of the BRAC Cleanup Team (BCT) members, and the boundaries established during the Phase I remedial investigation were expanded during the Phase II remedial investigation planning activities. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Record of Decision (ROD) dated September 1997 established no further action status for IRP Site 6.

The concrete parking apron, the unpaved area approximately west of the apron, and the area surrounding Building 727 were visually inspected on 9 and 16 September

2002. Additional photographs were taken on 17 September 2002. No significant stains or discolored areas or cracks were observed on the concrete apron surfaces adjacent to Former TAA 761. No stains were observed on the unpaved areas adjacent to the apron or between Building 458 and Building 727 (the location of Former TAA 761). Photographs from the visual inspections of September 2002 are included in the Appendix.

A facility map dated 1954 is included in the Appendix, and this map indicates that the aircraft parking apron was planned for expansion to include the vicinity of Former TAA 761 (SWMU 236) in 1954. Prior to 1954, the vicinity of Former TAA 761 (SWMU 236) was not paved and no structures were located nearby. The 1954 map shows that the nearest concrete apron and nearest aircraft maintenance hangar were located at Building 371, several hundred feet northeast of Former TAA 761 (SWMU 236).

A concrete apron has been located adjacent to Former TAA 761 since approximately 1954, and it is possible that drums and equipment were stored on the apron. Historical photographs that are presented in the Final Report, Aerial Photograph Assessment (SAIC 1993) clearly show the concrete apron adjacent to Former TAA 761 in photographs taken in 1958 and 1961 and in subsequent photographs. Currently, a former hazardous materials storage locker (Building 917) is located on the concrete apron, northeast of Former TAA 761; the storage locker was used for storage of lube oil, hydraulic oil, and other materials.

Surface runoff in the vicinity of Former TAA 761 flows southwestward, toward Agua Chinon Wash that was investigated as a component of IRP Site 25 – the major drainages. IRP Site 25 achieved no further action status when the CERCLA ROD for no action was signed in September 1997.

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. Extracts from selected documents are included in the Appendix.

The following table presents historical information pertaining to Former TAA 761 (SWMU 236) and nearby buildings or locations of concern.

Table 1. Former TAA 761 (SWMU 236) Vicinity, Former MCAS El Toro.

Building or Feature Identifier	Approximate Date of Construction or Installation	Comments
TAA 761	See comments	TAA 761 was identified as SWMU 236, a drum storage area, during the RFA. Drum storage was documented near Building 1663 (south-southeast of Building 761) on an SPCC map (no date) according to RFA documentation. It is estimated that the storage area, located between Buildings 727 and 458, was used from approximately 1970 through 1981 based upon the review of historical maps and documentation. Drum storage activities were identified at the TAA 761 vicinity during the review of historical aerial photographs dated 1970 and 1975. TAA 761 was designated SAA 761 in the Final Environmental Baseline Survey Report (JEG 1995).
IRP Site 6	See comments	IRP Site 6, Unit 3 includes TAA 761 (SWMU 236). A CERCLA ROD for no action was signed for IRP Site 6 in September 1997.
Building 458	1960	Building 458 was constructed as a flammable material storehouse. Storage of JP5 (jet fuel) and waste oil is documented in the Storm Water Pollution Prevention Plan (IEM 1997). The 1978 survey report indicates that Building 458 was used for paint storage but was not in use at the time of the survey. The area surrounding Building 458 was visually inspected during the inspections of Former TAA 761 on 9 and 16 September 2002, and no stains or discolored areas were observed.
Building 761	1984	Building 761 was constructed as an aircraft wash rack utility building. The wash rack (SWMU 204) and the associated tank and oil/water separator (UST 761B & OWS 761A) are being investigated with oversight by the Regional Water Quality Control Board, Santa Ana Region as of September 2002.
Building 727	1981	Building 727 was a flight line shelter (approximately 20 feet wide by 50 feet long), constructed near the former location of Building 1663 (a Quonset hut).
Building 1663	1945	Building 1663 (Quonset hut, approximately 20 feet wide by 48 feet long) was demolished in 1981. The Quonset hut was located near Former TAA 761 (SWMU 236) for approximately 10 years prior to demolition. A facility map dated 1971 shows that the structure was originally located near Building 461, northeast of Former TAA 761 (SWMU 236). A plan dated 1973 shows Building T663 (also known as Building 1663) located north-northwest of Building 458. Storage of lube oil in 55-gallon drums is documented at the former nearby Building 1684 (T684) in the SPCC Plan (SCS Engineers 1979), and the SPCC Plan included the recommendation to provide secondary containment for the storage area. The 1973 map from Contract N62474-73-C-5295 that is included in the Appendix shows the location of Building T684, north-northeast of Building 458 in the vicinity of Former TAA 761.
TAA 461	See comments	TAA 461 (SWMU 138), located southeast of Former TAA 761 (SWMU 236), is under investigation as of September 2002.
SAIC Anomalies		SAIC Anomaly 124 was identified on a photograph taken on 18 August 1961. SAIC 124 is described as "wet soil, liquid" and the anomaly is located within the investigation boundary of IRP Site 6. SAIC Anomaly 308 was identified on a photograph taken on 13 January 1975. SAIC 308 is described as "probable drums" in the central section of IRP Site 6, and the anomaly is located within the area that was investigated during the remedial investigation of IRP Site 6.
USEPA Anomalies		USEPA Anomaly 232 was identified on a photograph taken in 1970. USEPA 232 is described as "probable drums, open storage" and the anomaly is located within the area that was investigated during the remedial investigation of IRP Site 6. USEPA Anomaly 240 is described as "graded area, disturbed ground" on a photograph taken in 1980. The anomaly is located within the area that was investigated during the remedial investigation of IRP Site 6.

Regional Water Quality Control Board, Santa Ana Region Correspondence

The RWQCB letter dated 23 June 1989 (Administrative Record ID M60050.001130) addresses several solvent storage areas and drum storage areas, however, the letter does not identify Buildings 761, 727, 458, or 1663. A copy of the 1989 letter is included in the Appendix.

A list dated 17 April 1989 (AR Identifier M60050.000776) of areas where hazardous substances were used or wastes were generated does not identify Buildings 761, 727, 1663, or 458. The list identifies aircraft washing operations near Building 461. A copy of the 1989 list is included in the Appendix.

Storm Water Pollution Prevention Plan (SWPPP)

Visual inspections of areas where hazardous materials and hazardous wastes were stored were conducted in 1993 during the development of the SWPPP. The SWPPP indicates that jet fuel and waste oil were stored at Building 458 (southwest of Former TAA 761), and the SWPPP map of the vicinity of Former TAA 761 identifies equipment storage, hazardous material storage, and aircraft washing operations in the vicinity of Former TAA 761. The SWPPP also includes a spill history table in Section 5, and this table does not identify historic spills near at or near Building or TAA 761, Building 458, Building 1663, or Building 727. Extracts from the SWPPP are included in the Appendix.

Historical Aerial Photograph Anomalies

Science Applications International Corporation (SAIC) evaluated historical aerial photographs of the MCAS El Toro and the results of the evaluation are published in the *Final Report, Aerial Photograph Assessment, MCAS El Toro* (SAIC, 1993). The United States Environmental Protection Agency (USEPA) evaluated historical aerial photographs of MCAS El Toro and the results of the evaluation are published in the *Site Analysis, El Toro MCAS, Orange County, California* (USEPA, 1991).

The USEPA report identified anomalies USEPA 240 and USEPA 232 in the general vicinity of Former TAA 761 (SWMU 236). The SAIC report identified anomalies SAIC 124 and SAIC 308 in the vicinity of Former TAA 761. The anomalies are located in areas that have been previously investigated as part of the remedial investigation of IRP Site 6. The anomalies are briefly described in Table 1 and maps from the aerial photograph anomaly documentation are included in the Appendix (section with property records, building guides, and historical facility maps).

Other historical documents

Drum storage activities were not documented at or near Building 1663, Building 458, or Building 727 in the set of photographs of drum storage locations dated 1980 (Administrative Record document identifier M60050.000924). Hazardous waste storage activities were not documented at or near Building 727 or Building 458 in the *Hazardous Materials/Hazardous Waste Engineering Study* (Weston 1984). Extracts from the historical documents are included in the Appendix.

2.3 Ground Water Conditions

Groundwater conditions in the vicinity of Former TAA 761 were investigated during the remedial investigation of Installation Restoration Program (IRP) Site 6, Drop Tank Drainage Area Number 1. Monitoring well 06_DGMW69, screened from 150 to 190 feet below ground surface, is located northwest of Former TAA 761. The depth to

groundwater is approximately 130 feet below ground surface based upon water level measurements taken in November 1997 at well 06_DGMW69 (CDM Federal March 1998). A CERCLA ROD for no action was signed for IRP Site 6 in September 1997.

Section 3

Findings and Recommendations

The following findings are based upon information collected during the record search activities and from observations during the visual inspections of the vicinity of Former TAA 761 (SWMU 236):

- Former TAA 761, a former drum storage area located south-southeast of Building 727 and north-northwest of Building 458 was identified during Resource Conservation and Recovery Act Facility Assessment (RFA) as Solid Waste Management Unit (SWMU) 236 - a drum storage area. The site is located within the investigation boundary of Unit 3 (storage area) of IRP Site 6 (Drop Tank Drainage Area Number 1). IRP Site 6, Unit 3 encompasses an area of approximately 94,000 square feet, and the remedial investigation included sampling that was intended to address potential releases from Former TAA 761 (SWMU 236).
- The remedial investigation of IRP Site 6 included a human health risk assessment based upon the chemicals that were detected. The remedial investigation report concluded that the risks attributable to chemicals at Site 6 are within the ranges that are considered to be generally allowable. A CERCLA ROD for no action at IRP Site 6 was signed in September 1997.
- The Navy inspected Former TAA 761 (SWMU 236) on 9 and 16 September 2002. Additional photographs were taken on 17 September 2002. No stains or discolored areas were observed on the unpaved area designated as Former TAA 761. No significant stains were observed on the surfaces of the concrete parking apron adjacent to Former TAA 761.

Based upon the absence of visual evidence of significant releases at or near Former TAA 761 (SWMU 236), the results of the remedial investigation of IRP Site 6 that included Former TAA 761 (SWMU 236), and the CERCLA ROD for no action at IRP Site 6 dated September 1997, it is recommended that no further action status be designated for Former TAA 761 (SWMU 236) in the next BRAC Business Plan Update. Additionally, it is recommended that Environmental Condition of Property (ECP) category 3 be assigned to Former TAA 761 (SWMU 236).

Section 4

References and/or Sources of Information

Bechtel National, Incorporated. 1996. Final Addendum to the RCRA Facility Assessment, MCAS El Toro, California [Navy Contract N68711-92-D-4670, CTO 65]

Bechtel National, Incorporated. 1997. Draft Final Phase II Remedial Investigation Report, Attachment B, OU-3A Site 6, Drop Tank Drainage Area No. 1, Marine Corps Air Station, El Toro, California. June. [Navy Contract N68711-92-D-4670, CTO 79]

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City of Irvine, California. 2002. Great Park Land Use Plan. June.

County of Orange. 1999. Preferred Land Use Plan, Concept B. August. [prepared by the MCAS El Toro Local Redevelopment Authority]

Jacobs Engineering Group (JEG). 1993. Installation Restoration Program, Final Resource Conservation and Recovery Act Facility Assessment Report for Marine Corps Air Station, El Toro, California. [Navy Contract N68711-89-D-9296, Contract Task Order 193]

Jacobs Engineering Group (JEG). 1995. Marine Corps Air Station El Toro, El Toro, California, Final Environmental Baseline Survey Report. April. [Navy Contract N68711-89-D-9296, Contract Task Order 284]

Naval Facilities Engineering Command, Southwest Division. 1997. Plant Account Record for MCAS El Toro.

NBS/Lowry Engineers - Planners. 1988. Oil and Hazardous Substance Spill Prevention, Control and Countermeasure Field Survey Report, SPCC Plan, and Spill Contingency Plan for the U. S. Marine Corps Air Station, El Toro, California. [Administrative Record ID # M60050.000800]

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].]

Science Applications International Corporation (SAIC). 1993. Final Report, Aerial Photograph Assessment, MCAS El Toro. Contract N68711-91-D-4658, Delivery Order 0002, SAIC Project No. 01-0892-0817.

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

United States Environmental Protection Agency. 1991. Site Analysis, El Toro MCAS, Orange County, California.

United States Marine Corps Air Station, El Toro. Circa 1946-1999. Station Property Records, Utility Maps, Construction Drawings, Facility Maps, Aerial Photographs, and Building Guides.

United States Marine Corps Air Station, El Toro. 1997. Draft Final Record of Decision, Operable Units 2A and 3A, No Action Sites, Marine Corps Air Station, El Toro, California. September.

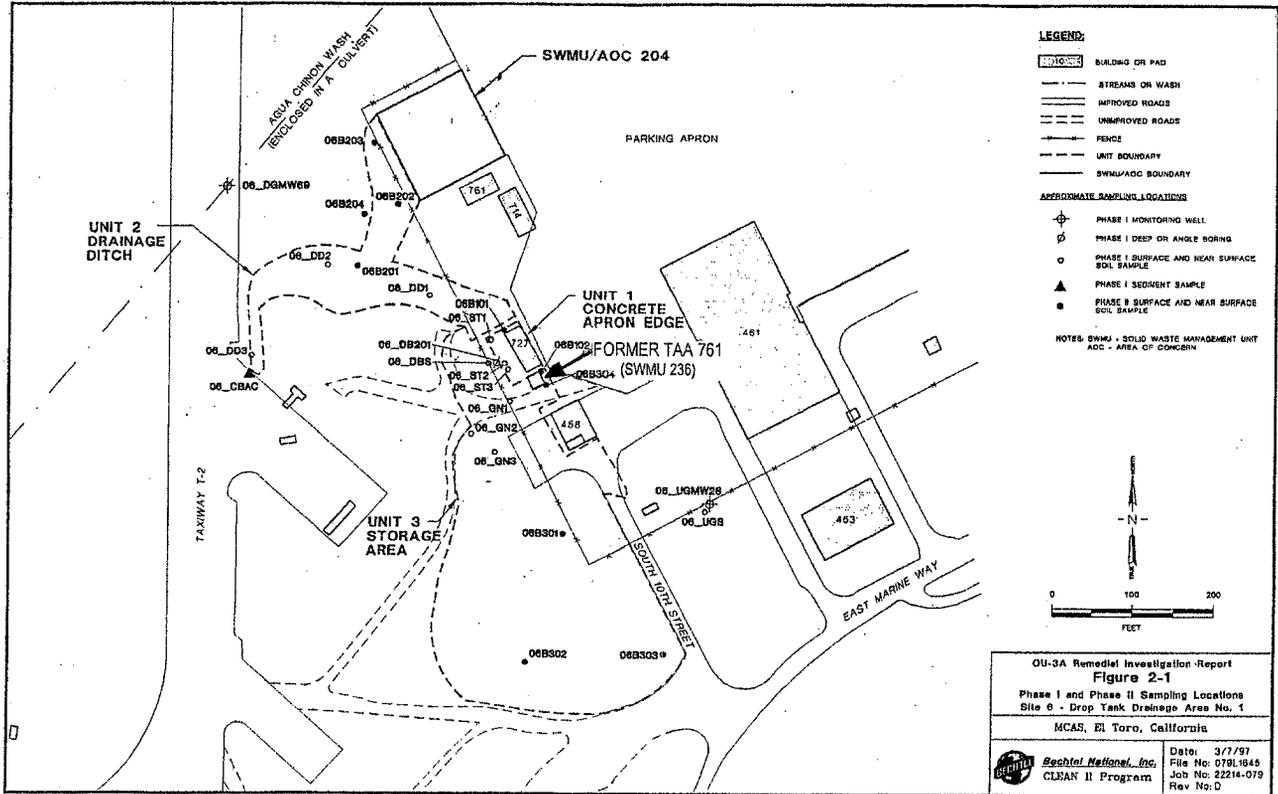
United States Marine Corps Air Station, El Toro. 2002. Base Realignment and Closure (BRAC) Business Plan.

M60050.002823
MCAS EL TORO
SSIC # 5090.3

FIGURES

SUMMARY REPORT - FORMER TEMPORARY
ACCUMULATION AREA (TAA) 761, SOLID
WASTE MANAGEMENT UNIT (SWMU) 236

DATED SEPTMEBER 2002



Note: The map was taken from "Draft Final Phase II Remedial Investigation Report, Attachment B, OU-3A Site 6, Drop Tank Drainage Area No. 1, Marine Corps Air Station, El Toro, California" (Bechtel National inc. June 1997). The label for SWMU 236 was enhanced by the writer of the Summary Report to include the words FORMER TAA 761.

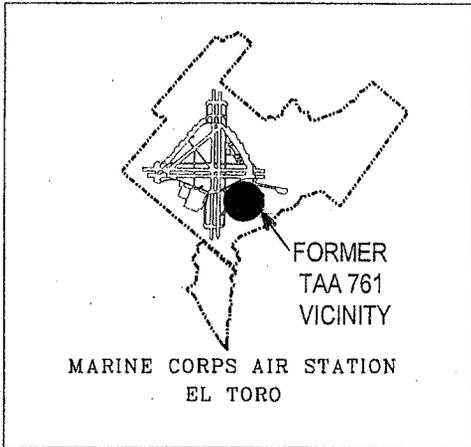
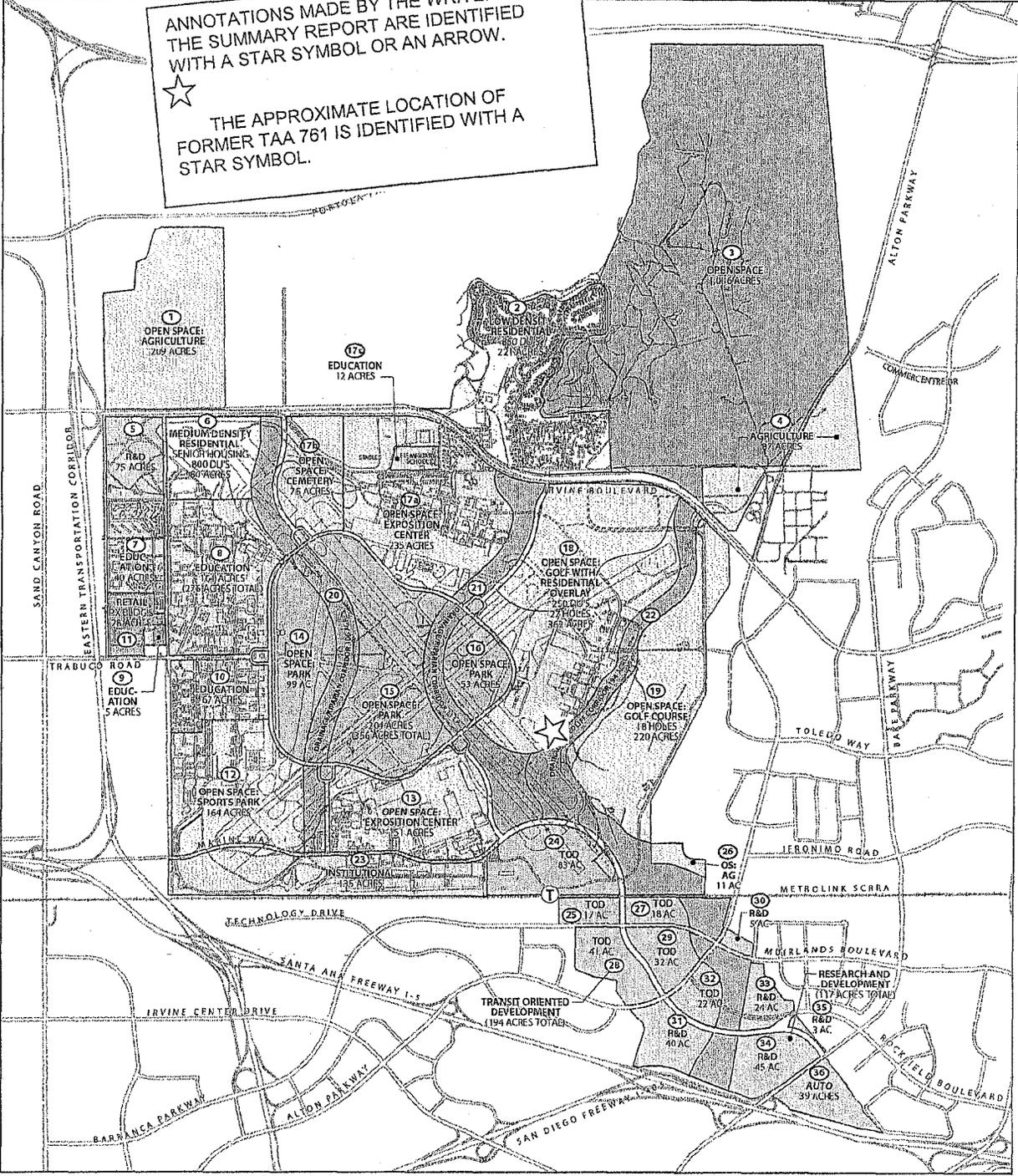


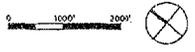
Figure 1.
FORMER TEMPORARY ACCUMULATION AREA (TAA) 761
VICINITY MAP
FORMER MARINE CORPS AIR STATION, EL TORO

ANNOTATIONS MADE BY THE WRITER OF THE SUMMARY REPORT ARE IDENTIFIED WITH A STAR SYMBOL OR AN ARROW.

★ THE APPROXIMATE LOCATION OF FORMER TAA 761 IS IDENTIFIED WITH A STAR SYMBOL.



GREAT PARK LAND USE PLAN



The Orange County Great Park

Prepared for the City of Irvine

Figure 2.
FORMER TEMPORARY ACCUMULATION AREA (TAA) 761
CITY OF IRVINE
REUSE PARCEL LOCATIONS
FORMER MARINE CORPS AIR STATION, EL TORO

Appendix

Site Photographs and Other Documentation

Site Photographs

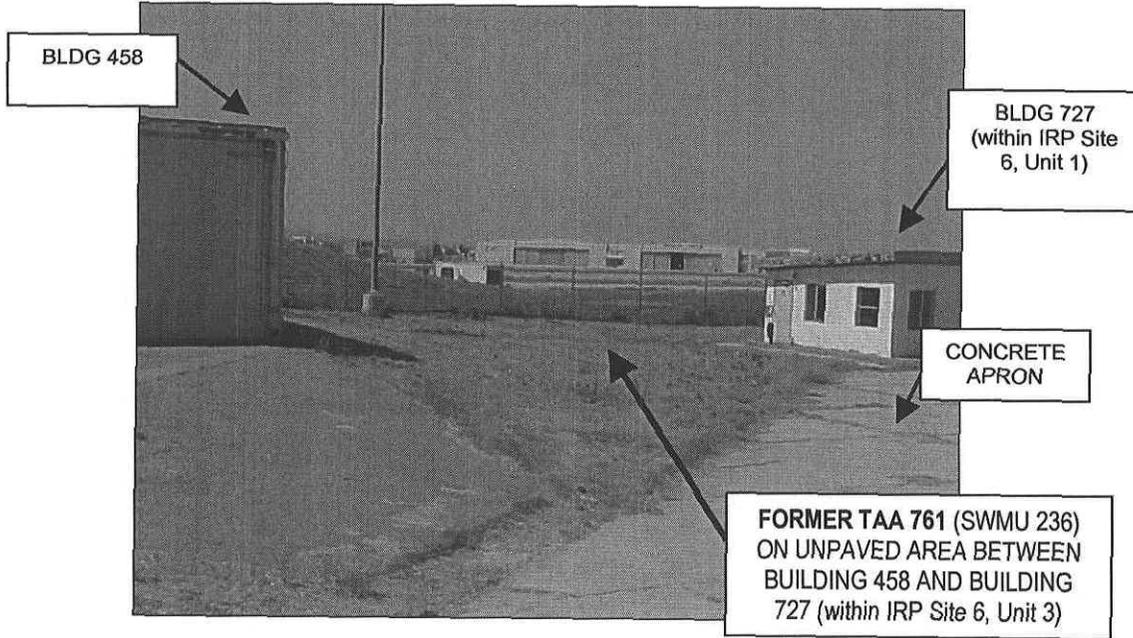
Extracts From RFA Documentation

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

Extracts from Historical Hazardous Waste Management Documents

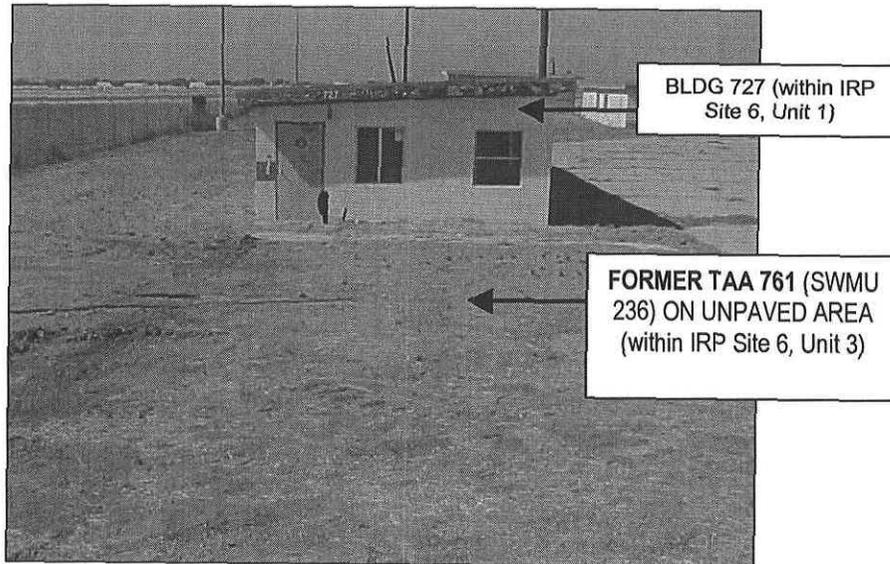
No Further Action Decision Documents and Extracts from Supporting
Documentation for Nearby Locations of Concern

Photograph 1. Former Temporary Accumulation Area (TAA) 761.
Solid Waste Management Unit (SWMU) 236) with Building 458 at the left side of the photograph and Building 727 at the right side of the photograph. The concrete apron is in the foreground. Former Marine Corps Air Station, El Toro Date of Photograph: 17 September 2002



Photograph 2. Former TAA 761 (SWMU 236).

Looking approximately north-northwest toward Building 727.
Former Marine Corps Air Station, El Toro Date of Photograph: 17 September 2002

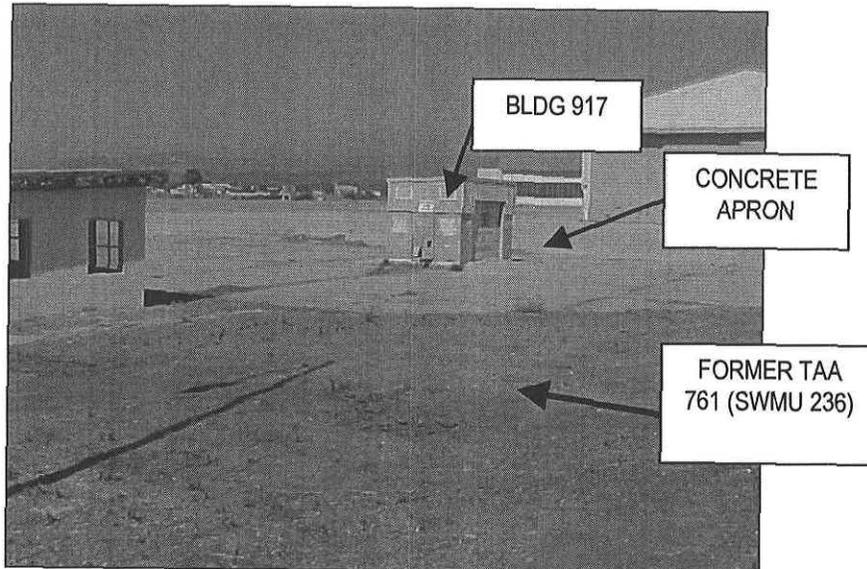


Photograph 3. Former TAA Site 761 (SWMU 236).

Looking approximately northeast toward Building 917 (Former Hazardous Materials Storage Locker) on Concrete Apron.

Former Marine Corps Air Station, El Toro

Date of Photograph: 17 September 2002

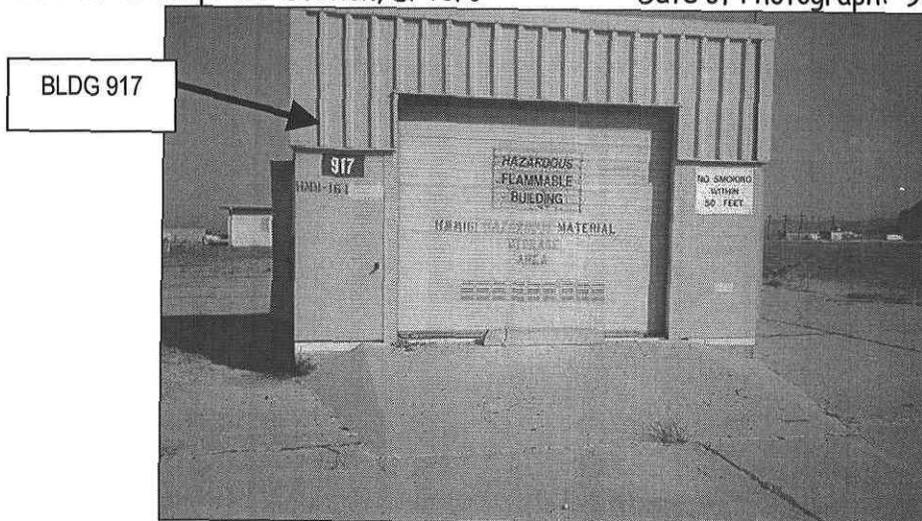


Photograph 4. Former TAA Site 761 (SWMU 236).

Former Hazardous Materials Storage Locker, Building 917, Located northeast of Former TAA Site 761.

Former Marine Corps Air Station, El Toro

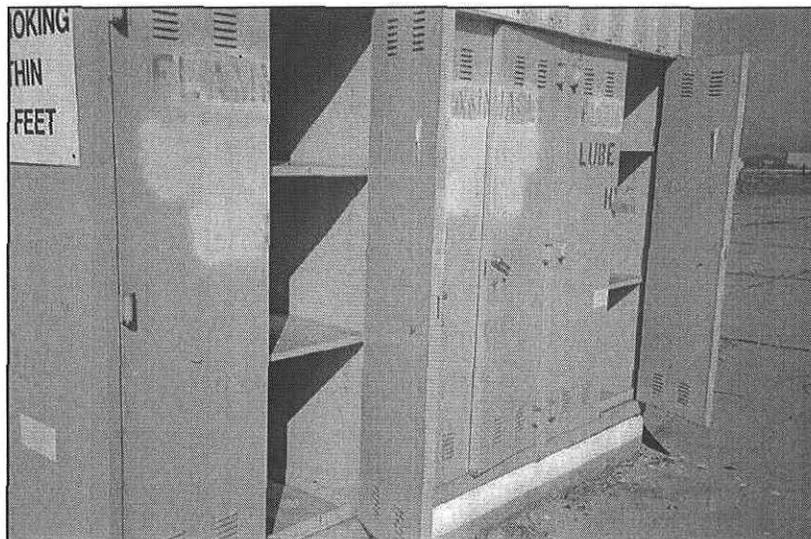
Date of Photograph: 9 September 2002



Photograph 5. Former TAA Site 761 (SWMU 236).

Former Hazardous Materials Storage Locker, Building 917, located northeast of Former TAA Site 761.
Former Marine Corps Air Station, El Toro

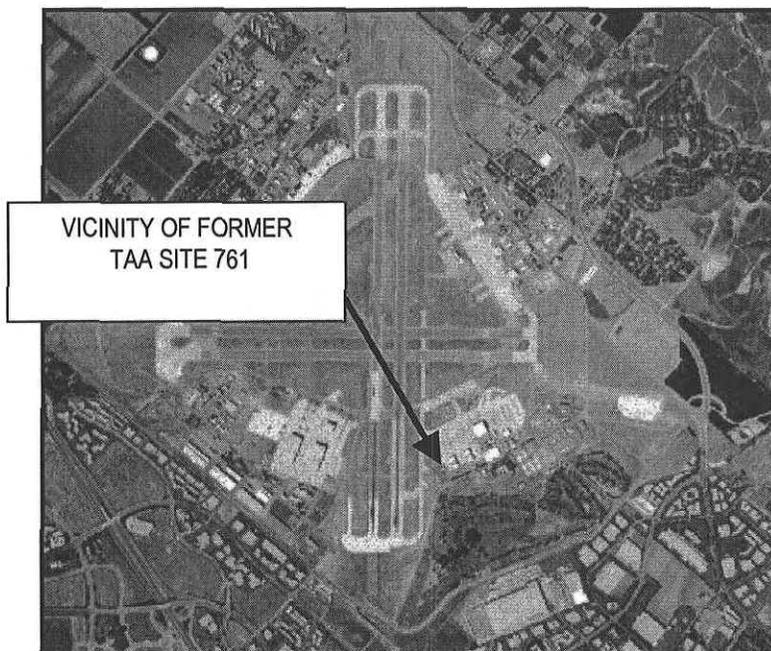
Date of Photograph: 9 September 2002



Aerial Photograph. Vicinity of Former TAA Site 671 (SWMU 236)

Former Marine Corps Air Station, El Toro

Date of Aerial Photograph: 1994



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CODE 06CC.LMH
SAN DIEGO, CA 92101

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**

VOLUME I

16 July 1993

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

**Evaluation Form
SWMU/Area of Concern
Number 236**

Name: Drum Storage Area

Location: Building 1663 (north of Building 458)

This DSA is located within the investigation boundaries of RI/FS Site 6 (Drop Tank Drainage Area No. 1). It will be excluded from further consideration in the RFA.

TABLE 4-1
 COMPREHENSIVE LIST OF SWMUs AND AREAS OF CONCERN
 IDENTIFIED DURING THE PRELIMINARY REVIEW/VISUAL SITE INSPECTION
 MCAS EL TORO RFA

SWMU	SWMU TYPE	SOURCE (1)	LOCATION/BUILDING	COMMENTS	DATE	SIZE	MATERIAL	CONTENTS
211	Oil/Water Separator	f	763	Active	1982	100 gal	Steel	
212	Underground Storage Tank	f	763	Active	1982	185 gal	Steel	Waste Oil
213	Vehicle Wash Rack	a	764					
214	Underground Storage Tank	f	764	Active	1982	185 gal	Steel	
215	Oil/Water Separator	f	764	Active	1982	100 gal	Steel	Waste Oil
216	Vehicle Wash Rack	a	765					
217	Underground Storage Tank	f	765	Active	1982	185 gal	Steel	
218	Oil/Water Separator	f	765	Active	1982	100 gal	Steel	Waste Oil
219	Vehicle Wash Rack	a	766					
220	Oil/Water Separator	f	766	Active	1982	100 gal	Steel	
221	Underground Storage Tank	f	766	Active	1982	185 gal	Steel	Waste Oil
222	Hazardous Waste Storage Area	d	769	Former permitted Haz Waste collection facility				
223	Hazardous Waste Storage Area	d	770	Former permitted Haz Waste collection facility				
224	Hazardous Waste Storage Area	d	771	Former permitted Haz Waste collection facility				
225	Hazardous Waste Storage Area	d	772	Former permitted Haz Waste collection facility				
226	Hazardous Waste Storage Area	d	778	Former permitted Haz Waste collection facility				
227	Hazardous Waste Storage Area	d	779	Former permitted Haz Waste collection facility				
228	Underground Storage Tank	f	779	Active	1988	1,000 gal	Fiberglass-Coated Steel	Fuel Slop
229	Hazardous Waste Storage Area	Active	800					
230	Underground Storage Tank	f	800	Active	1984	1,000 gal	Fiberglass	Waste Oil
231	Underground Storage Tank	f	800	Active	1984	1,000 gal	Fiberglass	Waste Oil
232	Underground Storage Tank	Active	800	Active	1984	1,500 gal	Concrete	
233	Oil/Water Separator	f	817					
234	Hazardous Waste Storage Area	Active	856					
235	Drum Storage Area	c	1519	Possible Duplicate of SWMU/AOC 27		300 sq ft		
236	Drum Storage Area	b	1663	R/FS Site				
237	Drum Storage Area (2)	b	1700					
238	Drum Storage Area (2)	b	1727					
239	Drum Storage Area (2)	a	1798					
240	Drum Storage Area (2)	k	155					

4-21

TABLE 4-1
COMPREHENSIVE LIST OF SWMUs AND AREAS OF CONCERN
IDENTIFIED DURING THE PRELIMINARY REVIEW/VISUAL SITE INSPECTION
MCAS EL TORO RFA

SWMU	SWMU TYPE	SOURCE (1)	LOCATION/BUILDING	COMMENTS	DATE	SIZE	MATERIAL	CONTENTS
301	Mark Arrest System	m	East side of Runway 34R					
302	Mark Arrest System	m	West side of Runway 34R					
303	Underground Storage Tank	m	359					
304	Trenches inside Building 359	m	359					
305	Septic Tank	l	601			2,000 gal	Concrete	Sanitary Waste
306	Septic Tank	l	687			2,000 gal	Concrete	Sanitary Waste
307	Septic Tank	l	819		1986	2,200 gal	Concrete	Sanitary Waste

NOTES:**(1) SOURCE:**

Current - Based on site visits Jan-Feb 1991

Past - Based on agency records review and miscellaneous records for MCAS El Toro as identified below:

a - Regional Water Quality Control Board, letter to LL Rehor (June 23, 1989)

→ b - SPCC map (no date)

c - Department of Health Services, 1980 Photographs

d - EPA, Region IX, Compliance Inspection Report, May 1987

e - interview

f - UST list EG & G Idaho, Inc., November 1990

i - Department of Conservation, California Division of Oil and Gas, Long Beach

j - Per MCAS El Toro List of Oil/Water Separators

k - Observed during VS1

l - Other

m - Per Navy direction (added during SV)

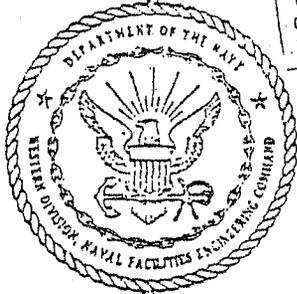
(2) SWMU/AOC was not able to be accurately located and/or identified from the records review information and the site visits.

From Volume IV
RFA (JEG 1993)

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

★
The 1978 document was taken from the Appendix of Volume IV of the RFA Report (JEG 1993).

EXTRACTS



SURVEY OF INDUSTRIAL/OILY WASTE DISCHARGES
TO STORM AND SANITARY SYSTEMS

MARINE CORPS AIR STATION, EL TORO

FINAL REPORT -- ESR NO. 404101P

10 MAY 1978

CODE 114H
SAN DIEGO SECTION, ENVIRONMENTAL BRANCH
DEPARTMENT OF THE NAVY
WESTERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
SAN BRUNO, CALIFORNIA 94066

SURVEY OF AIR EMISSION SOURCES
 . AT MCAS EL TORO

Bldg. No.	Qty.	<u>Source and Description</u>	<u>Permit to Operate Required</u>
300	3	Solvent dip tanks - 9 sq. ft. each, non-agitated	
	1	Paint spray booth	
	1	Bake oven - 18 cu. ft.	
370	1	Paint spray booth - nonuse	
306	1	Solvent spray tank - 7 sq. ft., agitated	X
1601	3	Paint striping machines - greater than 1 gallon/day	X
299	1	Automotive-type paint spray booth - nonuse	
298	3	Portable oil-fired steam cleaners	
	1	Gasoline storage tanks and dispensers	X
297	3	Parts cleaning tanks - 6 sq. ft. each, non-agitated	
388	1	Parts cleaning tank - 6 sq. ft., non-agitated	
	1	Automotive-type paint spray booth - nonuse	
	1	Gasoline storage tank and dispensers	X
655	1	Parts cleaning tank - 6 sq. ft., non-agitated	
	1	Parts cleaning tank - 12 sq. ft.	X
	1	Parts cleaning tank - 50 sq. ft.	X
326	1	Paint spray room - less than 1 gallon/day	
296	1	Parts cleaning tank - 4 sq. ft.	
	2	Vacublast portable recycling units	
	1	Hevi-Duty furnace - nonuse	
	1	Despatch oven - machine parts assembly	
	1	Salt bath furnace - nonuse	
295		Hangar - aircraft touch-up painting and cleaning	
315	1	Abrasive blast cabinet - 5' x 4' x 3' with baghouse	X
	1	Dry-out oven - electric	
390	1	Paint spray room - nonuse	
	1	Gasoline storage tank and dispenser	
673	1	Paint spray room - dry filters exhaust - 18	
	1	Vacublast cabinet - nonuse	
	2	Parts dip tanks - 2' x 1 1/2' x 3' DP outside	

Bldg. No.	Qty.	Source and Description	Permit to Operate Required
→ 458		Paint building - nonuse, storage	
461		Hangar - aircraft touch-up painting and cleaning	
462		Hangar - nonuse	
456		Supply warehouse	
		touch-up painting and cleaning	
		Portable	
		1' x 6' x 4' DP	X
		4' x 6' x 8' DP	X
		Agitated, 2' x 1 1/2' x 2 1/2' DP	X
		Paint storage tank and dispensers	
130	1	Paint spray room - nonuse, scheduled for repair	
		Outdoor paint area - 7 gallons/day, spray equipment	X
634	1	Furnace - aluminum hardening	
	1	Paint spray room - 1/2 gallons/day	
	1	Abrasive blast cabinet - 4' x 3' x 2 1/2' with collector	
	1	Abrasive blast cabinet - nonuse	
114		Hangar - aircraft touch-up painting and cleaning	
115		Hangar - aircraft touch-up painting and cleaning	
643		Air compressors for aircraft start system	
606		Hangar - aircraft touch-up painting and cleaning	
605		Hangar - aircraft touch-up painting and cleaning	
10		Outdoor paint area - 1-2 gallons/day, spray equipment	X
5	1	Parts dip tank - agitated, 2' x 4' x 3' DP	X
	1	Portable steam cleaner	
651	1	Parts dip tank - 3' x 1 1/2' x 3' DP, unagitated	
	2	Parts dip tanks - 2' x 1 1/2' x 1 1/2' DP, unagitated	
	1	Exchange service station storage tanks	X
		Dispensers with Stage I and Stage II vapor recovery system	
626	2	Parts dip tanks - 2' x 1 1/2' x 1' DP	
	2	Parts dip tanks - 4' x 2' x 1 1/2' DP	
	1	Parts dip tank - 2 1/2' x 2' x 1' DP	

ANNOTATIONS MADE BY THE WRITER OF THE SUMMARY REPORT ARE IDENTIFIED WITH A STAR SYMBOL OR AN ARROW.

★ BUILDING 458 IS LOCATED APPROXIMATELY SOUTH-SOUTHEAST OF TAA 761 (SWMU 236).

SOUTHWESTNAVFACENGCOM
CODE 06CC.LMH
SAN DIEGO, CA 92101

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

SEP 1981

BLDG CLASS 2 DISPOSAL RECORD
 (004) UIC..M60050 (001) PR NO.....2-00415
 MCAS EL TORO SANTA ANA CA (005) FACILITY NO..1663
 (106) SPEC AREA....
 (604) EXCESS CODE..3 *****
 (605) EXCESS DATE..30 NOV 79

(008) FAM HOUSING....NO
 (101) COUNTRY.....US UNITED STATES
 (102) STATE.....06 CALIFORNIA
 (103) COUNTY.....059 ORANGE
 (104) CITY.....0000
 (105) ND.....11
 (107) MAP GRID.....R11
 (201) ESTATE.....11 MCON
 (203) ACQ DATE.....01 JAN 45
 +(204) GOVT COST..... \$5,076
 (304) AREA..... 960 SF
 (401) YR BUILT.....1947
 +(601) DISP DATE.....01 JUN 81
 +(602) DISP METHOD....DEMOLITION
 +(606) DISP CONTRACT..

Annotations made by the writer of the
 Summary Report are identified with a star
 symbol or an arrow.
 ☆ PROPERTY RECORDS FOR FORMER
 BUILDING 1663, A QUONSET HUT THAT
 WAS DEMOLISHED IN 1981.

Card No.

Description

1663

Bldg. No.

2-00415

Electronics Shop (217 10)

~~Seabee Center Hedron AirPac Ctrs (722 06) Line Mt Bldg (211 90)~~ \$863

~~1663~~

~~1663~~

~~7 May 56~~ May 1958 Sept 1959

Adjusted Value as of 1 Jan 1957 :

\$ 3,200.00

SJO# _____ Assigned _____ To be Completed by _____ Value \$ _____

SqFt floor area 996

Card dtd 15 May 56

Temp - 5 yrs

Year built 1947

PE 10

NOy 13669, LS, Spec 17795, Y&D Dwg 409548 thru 409554, Allison Honer Co, Santa Ana, Calif

07/66 - CORRECTED CARD - Changed Map Grid from Q11 to R11 (Triennial Inventory 1966)

12/76 - Correct Eng Eval Adeq to Subst A30

9/77 - Cap Impr 73C5295 Conv to Nat Gas \$1876, Dispo F30

1/80 - Disposal action approved 30 Nov 79. To be demo be Seabees in 1980.

7/80 - Correct Cat Code 217-10 to 211-010, Use to read VMA-214

Aviation Arm, User UIC to M09436

11/80 - Correct sheet to read on Area & Ref Codes

7/81 - Demolished by Seabees (601) 01 Jun 81 (602) 9

BLDG CLASS 2 PROPERTY RECORD
 (004) UIC...M60050 (001) PR NO.....2-00415
 MCAS EL TORO SANTA ANA CA (005) FACILITY NO..1663
 (006) SPEC AREA.....
 (604) EXCESS CODE..3 APPVD DISPC
 (605) EXCESS DATE..30 NOV 79

LOCATION
 (101) COUNTRY..US UNITED STATES
 (102) STATE....06 CALIFORNIA
 (103) COUNTY...059 ORANGE
 (104) CITY.....0000
 (105) NO.....11
 (107) MAP GRID.R11

GENERAL INFORMATION
 (007) ACTION.....CORRECTION
 (008) FAM HOUSING....NO
 (009) EE DATE.....01 NOV 77
 (011) PR REVIEW DATE..01 JUN 80
 (010) FACILITY NAME..
 MAINT SHOP

ACQUISITION
 (201) ESTATE.....11 MCON
 (202) ACQ CONTRACT...NOY13669
 (203) ACQ DATE.....01 JAN 45
 (204) GOVT COST..... \$5,076
 (207) LAND CCN.....91140

MEASUREMENTS
 (301) LENGTH..... 48 FT
 (302) WIDTH..... 20 FT
 (303) HEIGHT..... 8 FT
 (304) AREA..... 960 SF
 (305) STORIES... 01
 (307) IRREGULAR. NO

CONSTRUCTION
 (401) YEAR BUILT.....1947
 (402) CONSTRUCTION TYPE..TEMPORARY
 (403) YEAR IMPROVED.....

(404) ABMP CODE.....
 (409) PROJECT NO.....
 (410) HISTORIC IND...

STATUS / UTILIZATION
 (502) CATEGORY CODE...21106 (501) USE..VMA-214 AVIATION ARM
 (510) USER UIC.....M09436.....VMFA 214 BLACK SHEEP

AREA/SF*	OTHER/	ALT/	DEF CODES
ADEQ(515)	(516)	(517)	(524)
SBST(518)	(519)	(520)	(525)
INAD(521).....960.00	(522)	(523)	(526)A30 F30
TOTAL	960.00		

(601) 01 JUN 81
 (602) 9

*Diminished
 by Seabee*

BLDG CLASS 2 PROPERTY RECORD
 (004) UIC..M6050 (001) PR NO.....2-00415
 MCAS EL TORO SANTA ANA CA (005) FACILITY NO..1663
 (106) SPEC AREA....
 +(604) EXCESS CODE..3 APPVD DISPO
 +(605) EXCESS DATE..30 NOV 79

LOCATION GENERAL INFORMATION
 (101) COUNTRY..US UNITED STATES (007) ACTION.....CORRECTION
 (102) STATE...06 CALIFORNIA (008) FAM HOUSING....NO
 (103) COUNTY...059 ORANGE (009) EE DATE.....01 NOV 77
 (104) CITY....0000 (011) PR REVIEW DATE..01 OCT 76
 (105) NO.....11 (010) FACILITY NAME..
 (106) AREA....N/A ELECTRONIC-ELECT MAINT SHC
 (107) MAP GRID..R11

ACQUISITION MEASUREMENTS
 (201) ESTATE.....11 MCON (301) LENGTH.... 48 FT
 (202) ACQ CONTRACT...NDY13669 (302) WIDTH..... 20 FT
 +(203) ACQ DATE.....01 JAN 45 (303) HEIGHT..... 8 FT
 (204) GOVT COST..... \$5,076 (304) AREA..... 960 SF
 (207) LAND CCN.....91140 (305) STORIES... 01
 (307) IRREGULAR.. NO

CONSTRUCTION
 (401) YEAR BUILT.....1947 (404) ABMP CODE.....
 (402) CONSTRUCTION TYPE..TEMPORARY (409) PROJECT NO.....
 (403) YEAR IMPROVED..... (410) HISTORIC IND....

STATUS / UTILIZATION
 (502) CATEGORY CODE...217-10 (501) USE..ELECTN/COMM MAINT SHOP
 (510) USER UIC.....M6050 VNA-214 AVIATION ARM.

AREA/SF*	OTHER/	ALT/	DEF CODES
ADEQ(515)	(516)	(517)	(524)
SBST(518).....960.00	(519)	(520)	(525)A30 F30
INAD(521)	(522)	(523)	(526)
TOTAL	960.00		

(BUILDING) CLASS 2 PROPERTY RECORD
 (001) RECORD..2-00415
 (002) DATE....1966 AUG
 (003) ACTIVITY...MARCORPS AIR STATIONS, SANTA ANA CALIF

LOCATION GENERAL INFORMATION
 (101) COUNTRY..US UNITED STATES (004) UIC.....60050
 (102) STATE...06 CALIFORNIA (005) FACILITY NO.... 1663
 (103) COUNTY...059 ORANGE (006) FACILITY TYPE..BUILDING
 (104) CITY....0000 (007) ACTION.....CORRECTION
 (105) NO.....11 (008) HOUSING.....NO
 (106) AREA....N/A (009) ENG EVAL DATE..N/A
 (107) MAP GRID..R11 (010) FACILITY NAME..
 ELECTRONIC-ELECT MAINT SHOP

ACQUISITION MEASUREMENTS
 (201) ESTATE..OWNED(*****
 (202) ACQ CONTRACT...N/A 01/12/45
 (203) ACQ DATE.....01 JAN 45
 (204) GOVT COST..... \$5,200
 (205) APPR/EST.....N/A
 (206) APPR/EST DATE..N/A
 (207) LAND CAT CODE..911-40
 (301) LENGTH.... 48 FT
 (302) WIDTH..... 20 FT
 (303) HEIGHT..... 8 FT
 (304) AREA..... 989 SF
 (305) STORIES... 01
 (306) HTD VOL.... 7,992 CF
 (307) IRREGULAR.. NO

CONSTRUCTION
 (401) YR BUILT...1947 (403) YR IMPROVED..N/A
 (402) CONST TYPE..TEMPORARY (404) ABMP CODE....N/A
 (405) FOUNDATION...33P
 (406) EXT WALL...XX
 (407) ROOF.....XX
 (408) INSULATION..S

STATUS / UTILIZATION

(501) ELECTRONICS AND COMMUNICATIONS MAINTENANCE SHOP	USE	01
(502) CAT CODE.....217-10	(503) USE TYPE.....CURRENT	
(504) UNUSED ADEQUATE..... 0 PERCENT	(506) USED ADEQUATE..100 PERCENT	
(505) UNUSED SUBSTD..... 0 PERCENT	(507) USED SUBSTD.... 0 PERCENT	
(508) DEFICIENCY CODE(S)..N/A-N/A-N/A		
(509)	(510)	(513)
USER(S) WITH BRFL	UIC	NAVALT/UM
01 MARCORPS AIR STATIONS	60050	989 SF

1. ACTIVITY MARCOR AIR STATION/EL TORC		2. ACCTG. NO. 60050	3. TOTAL COST \$ 3,200	4. DIST. 11	5. ACTIVITY CODE 8139-875	6. BLDG. NO. 1663	7. CARD NO. 2-00415
8. CITY	9. CITY CODE CRANGE	10. COUNTY	11. CO. CODE 055	12. STATE/COUNTRY CALIFORNIA	13. STATE CODE 04	14. LAND OWNERSHIP OWNED 1 X OTHER 2	CAT. CODE 911-40
15. COMPONENT/TENANT		16. NONCONTIGUOUS AREA		17. MGMT. BUR. CODE NAVAIR 1	18. FIN. BUR. CODE	19. PRG. DATE MO.-YR. 8/66	
20. TYPE OF CONSTRUCTION		21. CONDITION		22. PRIME CONTRACT NO.		23. MAP GRID # R11	
25. BUILDING TITLE (LOCAL DESCRIPTION) ELECTRONIC-ELECT MAINT SHOP		26. VOLUME CU. FT. 7992	27. DIMENSIONS (a) LENGTH 48 (b) WIDTH 20 (c) HEIGHT 3 (d) NO. OF STORIES 1 (e) IRREG.?		28. MATERIAL CODES (a) FOUND (b) EXTER. (c) ROOF X X X		
USE	29. NAVY DESCRIPTION	30. NAVY CODE	31. AREA SQ. FT. (GROSS)	32. VACANT SQ. FT.	33. OTHER MEASURE QUANTITY	34. CAPACITY QUANTITY	35. TYPE OF ACTION
(a) PRI.	ELECTRICS/ELECT MAINT	217-10	989				1. ACC.
(b) SEC.							2. CAP. IMPRV.
(c) TER.							3. CORR.
(d) ORH.							4. DISP.
36. ACQUISITION DATA		37. DISPOSITION DATA		38. ADP # 7			
MO.-YR.	METHOD	CODE	MO.-YR.	METHOD	CODE		

BUILDINGS (CLASS II) NAVCOMPT FORM 277 (4C) (REV. 5-62) UPPER

ACTIVITY MARCOR AIR STATION/EL TORC	ACCTG. NO. 60050	TOTAL COST \$ 3,200	DIST. 11	ACTIVITY CODE 8139-875	BLDG. NO. 1663	CARD NO. 2-00415
--	---------------------	------------------------	-------------	---------------------------	-------------------	---------------------

39. FLOORS		BASEMENT	FIRST FLOOR	SECOND FLOOR	THIRD FLOOR	FOURTH FLOOR	FIFTH FLOOR	SIXTH FLOOR
(a) LIVE LOAD (BS. PER SQ. FT.)								
(b) FLOOR MATERIAL CODE								
(c) SQ. FT. FLOOR AREA								
40. MISCELLANEOUS		(a) HEATING SYSTEM FUEL TYPE		(b) ELECTRICAL CURRENT VOLTS PHASES CYCLES		(c) HOT WATER FUEL STORAGE CAPACITY (GALS.)		
(d) CRANES NO. OF IDENTIFICATION NO. TON CAPACITY		(e) ELEVATORS NO. OF IDENTIFICATION NO. TON CAPACITY		(f) SPRINKLER SYSTEM		(g) TELEPHONE SYSTEM		
41.		42.		43.		44.		
44.		45.		46.				
47. REMARKS:								

BUILDINGS (CLASS II) NAVCOMPT FORM 277 (4C) (REV. 5-62) LOWER

1. ACTIVITY		2. ACCTG. NO.	3. COUNTY	4. STATE/CO.	5. COMPONENT	6. CITY	7. DATE PREPARED	8. DIST.	9. ACTIVITY CODE	10. CARD NO.
MARCOR AIR STATION/EL TORC		60050	055	04	NAVAIR	CRANGE	8/66	11	8139-875	2-00415
18. BUILT ON LAND (Type of property)		19. EST. 18. TYPE OF CONSTRUCTION		20. CONDITION		21. TYPE OF CONSTRUCTION		22. PRIME CONTRACT NO.		
OWNED 2		P S T		U T R C N		P S T		R11		
23. NAVY NUMBER		24. VOLUME CU. FT.		25. COST PER CU. FT.		26. TOTAL COST		27. DATE DETERMINED		
1663		7992		400		3190000		8/66		
27. DESCRIPTION		28. AREA MEASURE		29. OTHER MEASURE		30. CAPACITY		31. DATE REPORTED TO USA		
ELECTRONIC-ELECT MAINT SHOP		SQ. FT. IN USE		QUANTITY		QUANTITY		DATE		
(a) PRI. USE		(a) FOUND		(b) EXTER.		(c) ROOF		32. SURVEY OR DISPOSAL DATE		
TER. USE		(a) FOUND		(b) EXTER.		(c) ROOF		8/66		
OTHER USE		(a) FOUND		(b) EXTER.		(c) ROOF		8/66		
34. DIMENSIONS		35. MATERIAL CODES		36. DATE REPORTED TO USA		37. SURVEY OR DISPOSAL DATE		38. SURVEY OR DISPOSAL DATE		
LINE LEVEL		(a) FOUND (b) EXTER. (c) ROOF		DATE		DATE		DATE		
1. 2. 3. 4. 5.		1. 2. 3. 4. 5.		1. 2. 3. 4. 5.		1. 2. 3. 4. 5.		1. 2. 3. 4. 5.		
41. TYPE OF ACTION		42. TYPE OF ACTION		43. TYPE OF ACTION		44. TYPE OF ACTION		45. TYPE OF ACTION		
1. ACQUISITION		2. CANCELLATION		3. CORRECTION		4. DISPOSITION		5. OTHER		
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		

BUILDING CARD - NAVCOMPT FORM 277 (5 FT) (REV. 8-57) - COMPLETE REVERSE SIDE AS NECESSARY

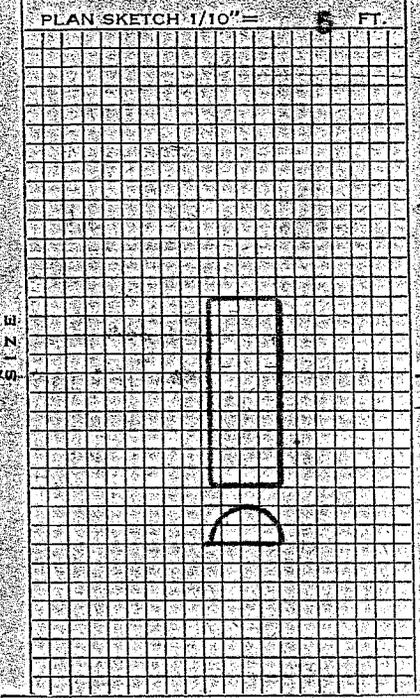
PROPERTY RECORD CARD (For Buildings Only)
 NAV. S. AND A. FORM 277 (Rev. Jan. 1946 Replaces S. and A. Form 277 Dated Feb. 1942 and Navdocks 115 Revised.)

Reserved for Bureau Use

ACTIVITY NAME AND LOCATION: **3129-875 U.S. Marine Corps Air Station, El Toro, Calif**
 ACCOUNTING NO: **57050** DATE OF CARD: **31 December 1950**

CARD NUMBER: **2-00415**
 EXPENSE GROUP: _____
 TOTAL COST: **\$ 7,200.00 net**
 YEAR BUILT: **1947**
 ESTIMATED LIFE: **20** YRS.
 MONTHLY DEPR'N: \$ _____
 YR. FULLY DEPR'D: _____
 ANNUAL MAINT: **\$ 100.00**

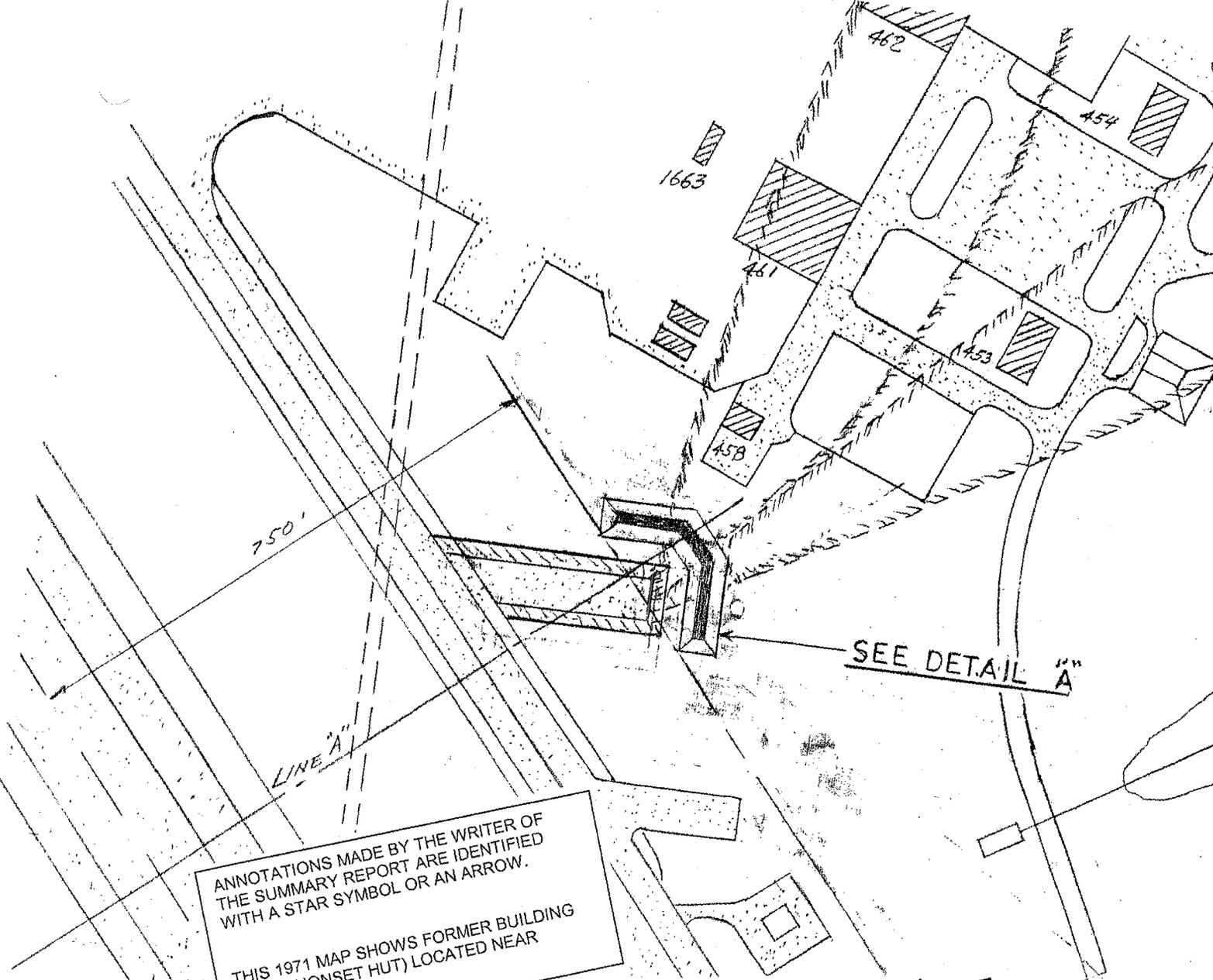
IDENTIFICATION: **344 H138 & H139** BLDG. NO. _____ USE OF BUILDING: **Storage (Temporary)**



CONSTRUCTION	ITEMS		MATERIAL CODE		
	FOUNDATION				
EXTERIOR WALLS	THICKNESS				
		4"	S		
ROOF			S		
FLOORS	NO.	LIVE LOAD (LB/SF)	FL. AREA (SQ. FT.)	MAT. CODE	
	B.				
	1.		800	S	
	2.				
LENGTH (FT.)		WIDTH (FT.)	HEIGHT TO EAVES	HEIGHT TO RIDGE	NO. OF STORIES
48'0"		20'9"		10'4 1/2"	1

CAPACITY: _____
 TOTAL GROSS FLOOR AREA (SQ. FT.): **800**
 TOTAL GROSS CUBIC VOLUME (CU. FT.): **7992**
 CUBIC FT. COST: **\$ 0.4004**
 TEMPORARY PERMANENT LEASED _____ TO _____ SURVEYED DATE _____

SIZE

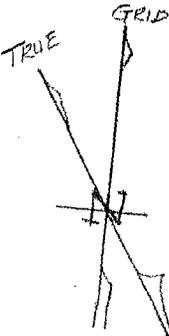


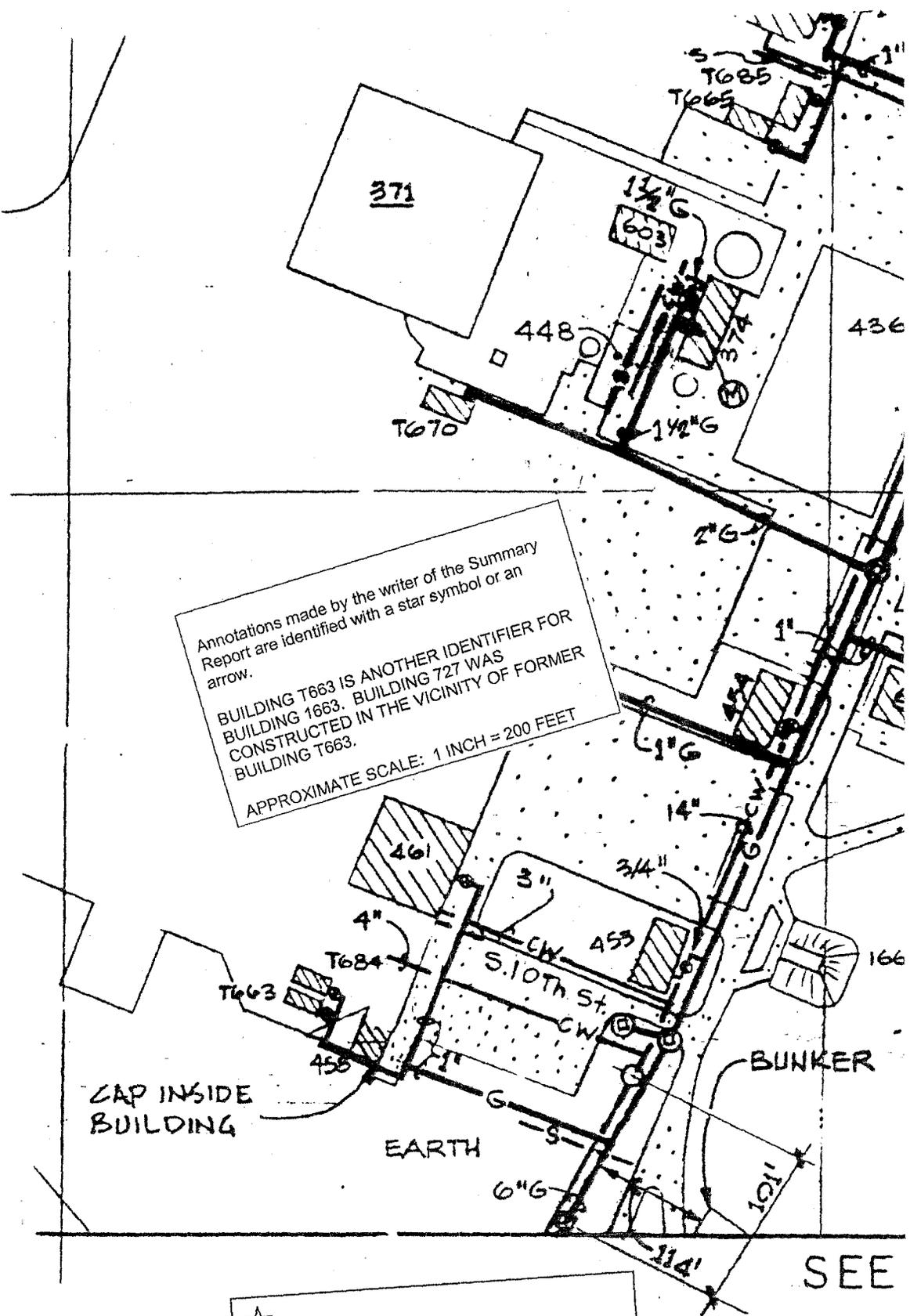
ANNOTATIONS MADE BY THE WRITER OF THE SUMMARY REPORT ARE IDENTIFIED WITH A STAR SYMBOL OR AN ARROW.

THIS 1971 MAP SHOWS FORMER BUILDING 1663 (QUONSET HUT) LOCATED NEAR BUILDING 461.

EXTRACT

SYMBOL	DESCRIPTION	DATE	APPROVAL
REVISIONS			
P.W. DRAWING NO. <i>PS-2013</i>	U S MARINE CORPS AIR STATION EL TORO, CALIFORNIA PUBLIC WORKS DEPARTMENT		
DRAWN <i>KANO</i>	AREA S-11 (44)		
TRACED	SOUND CONTROL BERM		
DESIGNED	TAC AREA III NEAR		
CHECKED	BLDG 458		
SUBMITTED <i>KANO</i>	APPROVED <i>[Signature]</i>	DATE <i>9/23/71</i>	
MGR CE BRANCH	PUBLIC WORKS OFFICER		
APPROVED <i>[Signature]</i>			
DESIGN DIRECTOR			
SATISFACTORY TO: <i>[Signature]</i> S-4, 16-13	SCALE: NOTED	SPEC.	
DATE: <i>22 Sept 71</i>	SHEET OF	NBY	
	NAVFAC DWG. NO.		





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

BUILDING T663 IS ANOTHER IDENTIFIER FOR BUILDING 1663. BUILDING 727 WAS CONSTRUCTED IN THE VICINITY OF FORMER BUILDING T663.

APPROXIMATE SCALE: 1 INCH = 200 FEET

CAP INSIDE BUILDING

EARTH

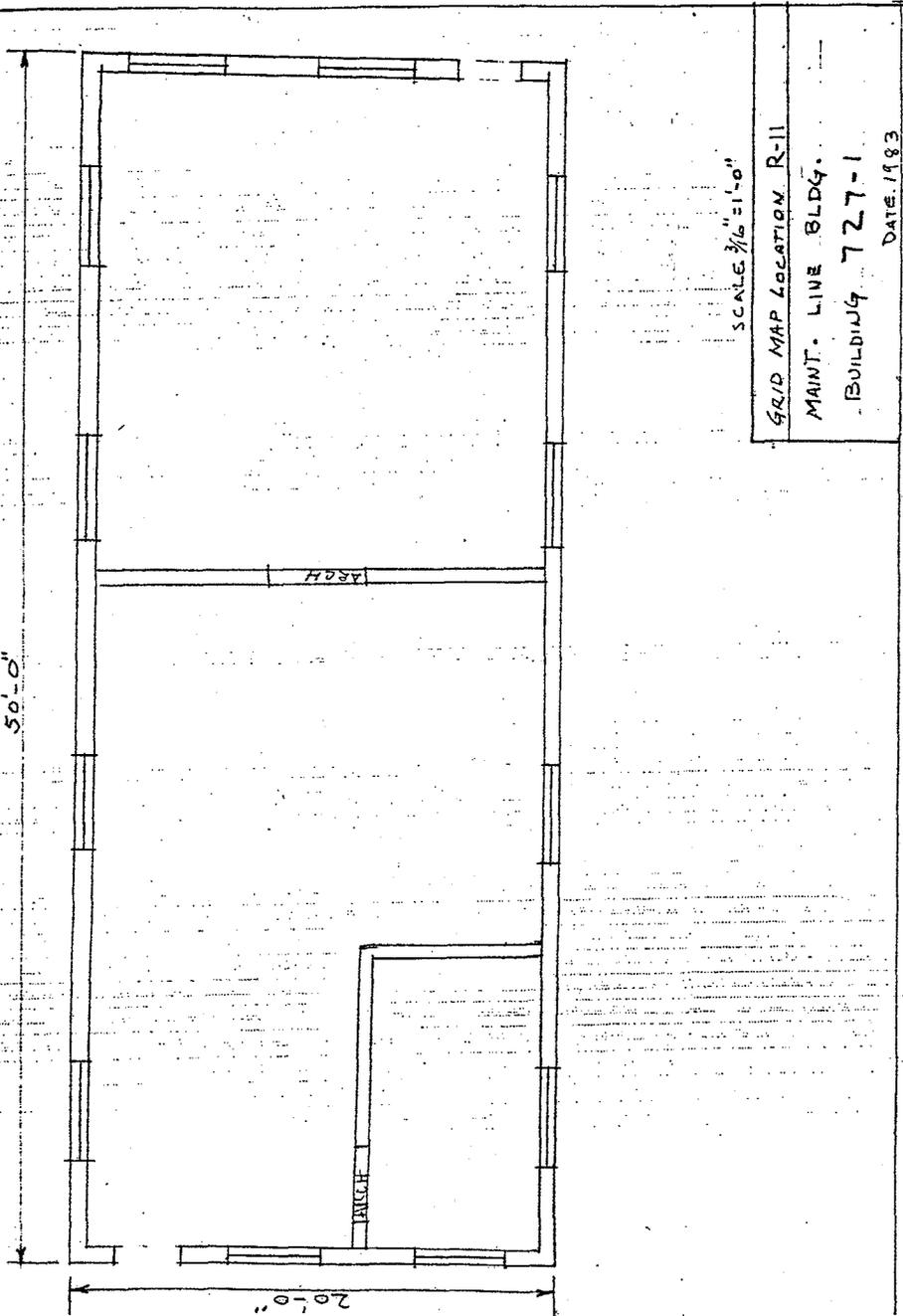
BUNKER

S. 10TH ST

SEE

☆

SOURCE: DRAWING N62474-73-C-5295, SHEET C-4 DATED 1973.



BLDG CLASS 2 PROPERTY RECORD
 (004) UIC..M60050 (001) PR NO.....2-02459
 MCAS EL TORO SANTA ANA CA (005) FACILITY NO..727
 (106) SPEC AREA....

LOCATION GENERAL INFORMATION
 (101) COUNTRY..US UNITED STATES (007) ACTION.....CORRECTION
 (102) STATE...06 CALIFORNIA (008) FAM HOUSING...NO
 (103) COUNTY...059 ORANGE (009) EE DATE.....
 (104) CITY.....0000 + (011) PR REVIEW DATE.23 APR 91
 (107) MAP GRID.R11 (010) FACILITY NAME..
 FLIGHT LINE SHELTER

ACQUISITION MEASUREMENTS
 (201) ESTATE.....13 OTHER MIL FUND (301) LENGTH.... 50 FT
 (202) ACQ CONTRACT...N/A (302) WIDTH..... 20 FT
 (203) ACQ DATE.....01 MAY 81 (303) HEIGHT.... 8 FT
 (204) GOVT COST..... \$16,232 (304) / (308) AREA/UM... 1,000 SF
 (207) LAND CCN.....91140 (305) STORIES... 01
 (307) IRREGULAR. NO

CONSTRUCTION
 (401) YEAR BUILT.....1981 (404) ABMP CODE.....
 (402) CONSTRUCTION TYPE..PERMANENT (409) PROJECT ID.....
 (403) YEAR IMPROVED.....1984 (410) HISTORIC IND...

MAINTENANCE
 (701) MAINT UIC..M60050 (702) PRIME USE....21115 (703) MFC...4 USMC

+STATUS / UTILIZATION
 (502) CATEGORY CODE...21115 (501) USE..VMA-242 LINE MAINT

(510) USER UIC.....M09668.....VMA(AW) 242 BATS

AREA/SF*	OTHER/	ALT/	DEF CODES
ADEQ (515)1,000.00	(516)	(517)	(524)
SBST (518)	(519)	(520)	(525)
INAD (521)	(522)	(523)	(526)
TOTAL	1,000.00		

Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.
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 PROPERTY RECORDS FOR BUILDING 727.
 BUILDING 727 WAS CONSTRUCTED IN THE VICINITY OF FORMER BUILDING 1663.

1989 BUILDING GUIDE

MCAS EL TORO BUILDING GUIDE

BLDG NO.	MAP GRID	DESCRIPTION	TENANT	CAT CODE NUMB	COST ACCOUNT CODE	U S E
849	Q11	Water Storage Tank	VMFAT-101	84330	76JO	
850	Q6	Crash Crew Burn Pit	Crash Crew	17950	7570	
851	Q6	Crash Crew Burn Pit	Crash Crew	17950	7570	
852	O2	BEQ Boiler Bldg	FMD	81209	7640	
853	U7	Loading Ramp	Supply	85115	7310	
854	Q12	Paint Spray Booth		21931	7120	
855	Q12	Electrical Distr Bldg	FMD	81209	7710	
856	Q12	Sentry Bldg	PMO	73025	71JO	
857	Q12	Crew Head Facility	MAG-11	73075	71JO	
858	M11	Guard House - Gate #2	PMO	73020	71JO	
859	U6	Recreational Vehicle Dumpsite	MWR			
860	O8	Precision Approach Radar	SOMS	13440	75TO	
861	O8	Switch Gear Shed	SOMS	44135	7140	
862	U6	Aboveground Storage Tank	FMD	84140	76FO	
1522	P2	Bus Stop Shelter	FMD	73066	71JO	
1524	P3	General Storage Shed	PMO	44135	7140	
1538	M7	Fuel Farm #4 Office	Supply	61010	7160	
1580	U8	General Warehouse Navy	Supply	44110	7140	
1595	T7	Public Works Maint Storage	FMD	21925	7120	
1601	T6	Public Works Maint Storage	FMD	21925	7120	
1645	M3	Kennel	PMO	73076	71JO	
1646	M3	Kennel	PMO	73076	71JO	
1650	P12	Aviation Armament	H&MS-11	21154	71UO	
1655	P12	Squadron Headquarters	NBCD	61072	7160	
1656	P12	Admin Storage	NBCD	44112	7110	
1685	Q11	Line Maint Shelter	VMA-211	21115	71UO	
1702	N3	Self Service Car Wash	MWR	74032	71JO	
1703	U6	Hazardous/Flam Storehouse	Supply	44130	7140	
1710	T6	Public Works Maint Storage	FMD	21925	7120	
1719	P12	Applied Instruction Bldg	NBCD	44112	7110	
1720	P12	Applied Instruction Bldg	NBCD	61072	7160	
1721	P12	Applied Instruction Bldg	AWTU-3	72111	7170	
1752	K1	Stationary Ordnance	Sta Ordn	44135	7120	
1768	K7	Stationary Ordnance	MWR	21920	71JO	
1774	L8	Stationary Ordnance	MWR	75057	75GO	
1787	P12	Stationary Ordnance	H&MS-11	21154	71UO	
1789	P12	Hazardous/Flam Storehouse	NBCD	44130	7140	
1791	P12	Aviation Armament	H&MS-11	21154	71UO	
1798	K7	Riding Stables/Pen Shelter	MWR	74079	71JO	
1800	K7	Riding Stables/Pen Shelter	MWR	74079	71JO	
1803	P12	Applied Instruction Bldg	NBCD	17120	7110	
1804	N9	Field Office NAESU	VMFP-3	21107	71UO	
1809	P12	Sentry House	AWTU-3	73025	71JO	
1810	K15	Magazine Area Security	Sta Ordn	14347	71MO	
1815	O4	Line Maint Shelter	SOMS	21115	71UO	

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

The 1989 Building Guide does not include Building 1663.

MCAS EL TORO BUILDING GUIDE

BLDG NO.	MAP GRID	DESCRIPTION	TENANT	CAT CODE NUMB	COST ACCOUNT CODE	U S E
694	P2	Commissary	WCCC	74023	71JO	
695	N8	Line Maint Shelter	VMFA-314	21115	71UO	
696	N8	Line Maint Shelter	VMFA-323	21115	71UO	
697	N9	Line Maint Shelter	VMFA-531	21115	71UO	
698	N9	Line Maint Shelter	VMFP-3	21115		
699	N10	ACFT Ready Fuel Tank	Supply	12430	75AO	
700	U7	Filling Station C-Pool	Supply	12315	7520	
701	M9	Flagpole	MAG-11	69010	75DO	
702	P1	Gate Sentry House #1A	PMO	73025	71JO	
703	M2	Playing Courts, Tennis	MWR	75010	75GO	
704	M2	Basketball Court	MWR	75010	75GO	
706	Q12	Line Maint Shelter	VMA-211	21115	71UO	
707	P2	Sign, Station Activities	PMO	69010	75DO	
708	M9	Sign, Station Activities	PMO	69010	75DO	
709	N7	Power Check Pad	MAG-11	21189	75VO	
710	N7	Power Check Pad	MAG-11	21189	75VO	
711	S11	Power Check Pad	MAG-13	21189	75VO	
712	S11	Power Check Pad	MAG-13	21189	75VO	
713	L8	Hazardous/Flam Storehouse	MAG-11	44135	7140	
714	R11	Line Maint Shelter	VMA-AW242	21115	71UO	
715	R11	Line Maint Shelter	VMA-AW121	21115	71UO	
716	N9	Hush House	H&MS-11	21101	71UO	
717	S7	Crash, Fire, Rescue Training	G-3	14120	71LO	
718	N3	Modular Club	MWR	74064	71JO	
721	P10	Optical Landing System	SOMS	13460	75TO	
722	K10	Convenience Food Store	MWR	74002	71JO	
725	U3	Gate Sentry House (Gate #9)	PMO	73025	71JO	
726	Q11	Line Maint Shelter	MAG-11	21115	71UO	
727	R11	Line Maint Shelter	VMA-AW242	21115	71UO	
728	Q11	Line Maint Shelter	H&MS-11	21115	71UO	
729	Q3	Main Gate Sentry House	PMO	73025	71JO	
730	Q4	Communications Center	G-6	61010	7160	
731	M2	Bachelor Enlisted Qu	Billeting	72111	7170	
732	M2	Bachelor Enliste	Billeting	72111	7170	
733	M2	BEQ Boiler	FMD	82109	7620	
734	M9	Public	MAG-11	73075	71JO	
735	M9	G	FMD	81209	7620	
736	M2	Ra	MWR	74084	71JO	
737	M8	EM	Food Serv	72210	7180	
739	M2	Bac	illeting	72111	7170	
740	M2	Bac	illeting	72111	7170	
741	M2	Bac	illeting	72111	7170	
742	T6	Seab	Billeting	72111	7170	
743	P2	Finar	G-4	44112	7140	
744	O2	Armor	MAFCU	74018	71JO	
745	M10	Wareho	H&HS-37	14345	71MO	
746	M10	Flight Simulator	H&MS-11	44112	7140	
747	M10	Photo Maint Bldg	Training	17135	7110	
			VMFP-3	14160	71LO	



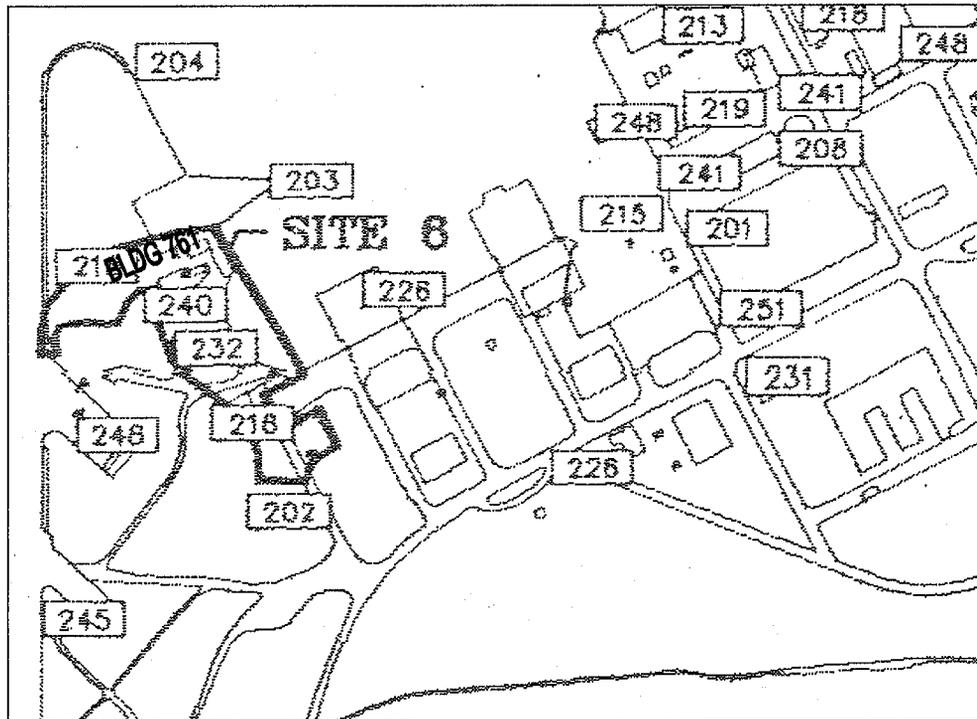
Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.

The 1989 Building Guide identifies Building 727 as a LINE MAINTENANCE SHELTER. Building 727 is located near the former Bldg 1663 location and is located in close proximity to TAA 761 (SWMU 236).

Aerial Photograph Anomalies Identified by USEPA near Building 761 Former Marine Corps Air Station, El Toro

(Source: Final Report, Aerial Photograph Assessment, MCAS El Toro, SAIC 1993 (Plate 1))

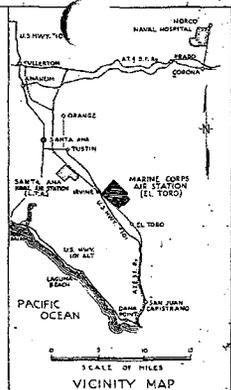
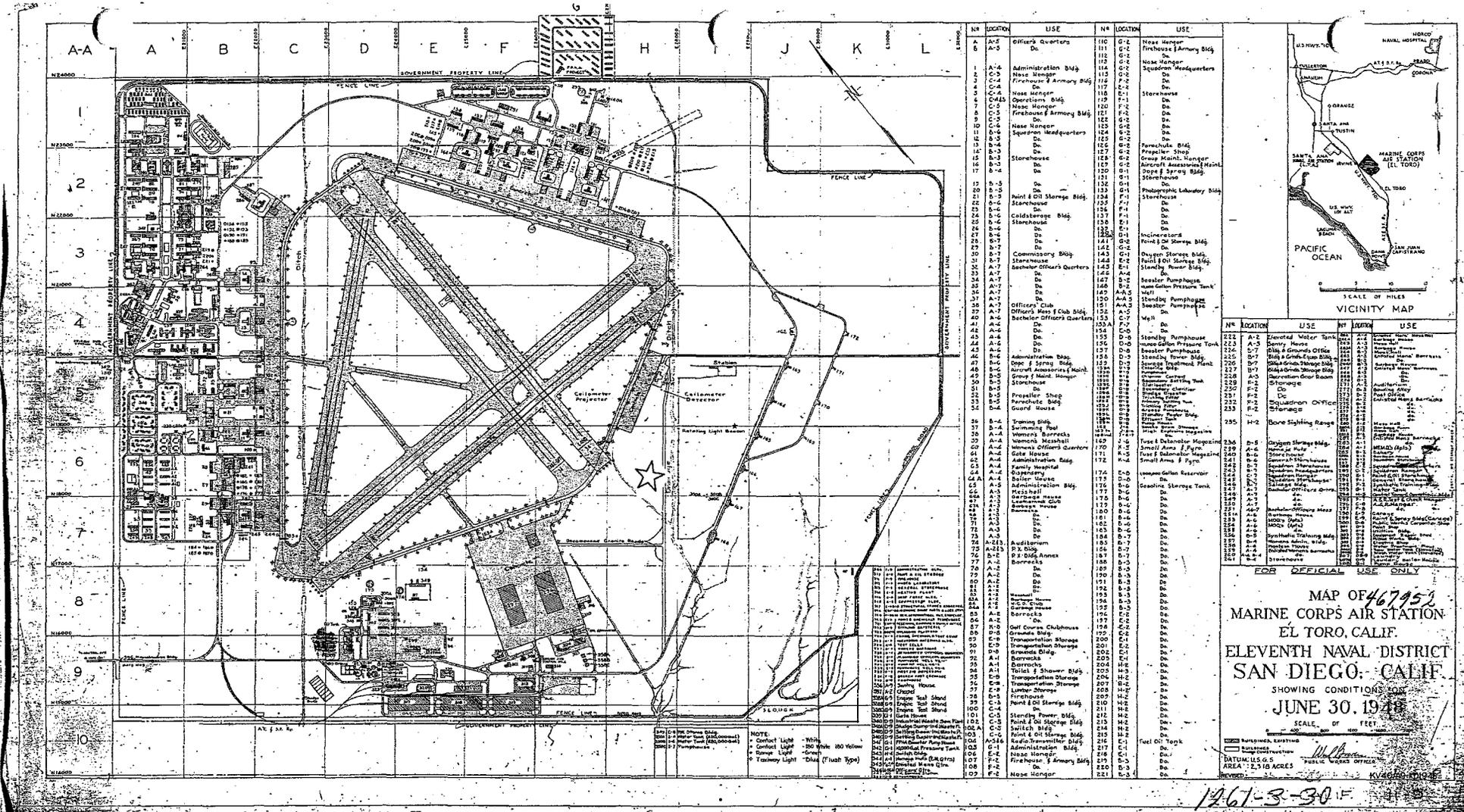
Note: Building 761 is identified as BLDG 761.



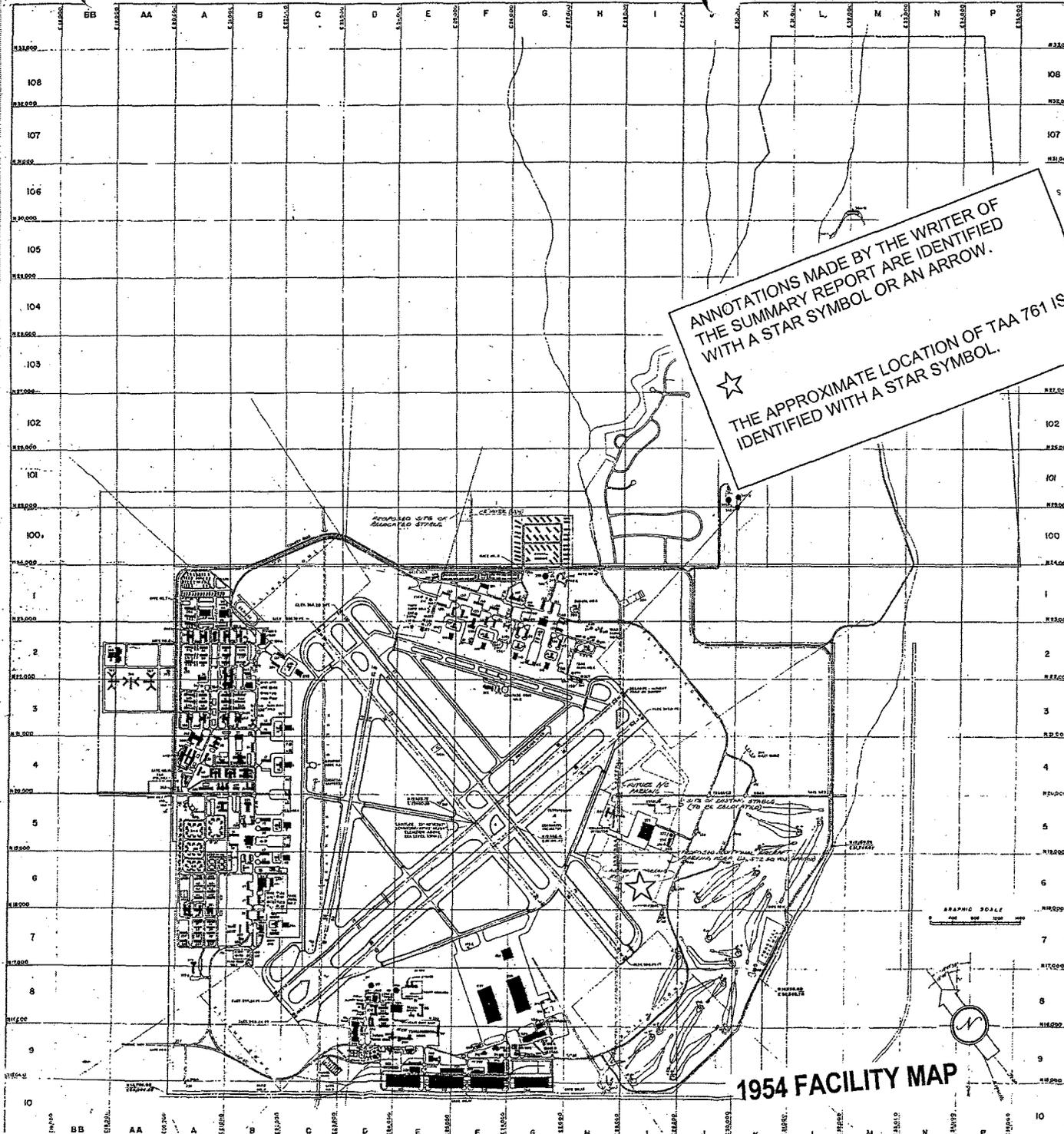
USEPA Anomaly 232 is located in the vicinity of Former TAA 761 (SWMU 236). USEPA Anomaly 232 is described as probable drums, open storage on a photograph taken in 1970.

USEPA Anomaly 240 is located in the vicinity of Former TAA 761 (SWMU 236). USEPA Anomaly 240 is described as a graded area, disturbed ground on a photograph taken in 1980.

Comment by the writer of the Summary Report: During the visual inspection of Former TAA 761 (SWMU 236) and vicinity in September 2002, no stains were observed on the concrete apron near Former TAA 761 or on the unpaved surfaces at Former TAA 761. The anomalies, USEPA 232 and USEPA 240, are located in the vicinity of Former TAA 761, within the area that was investigated during the remedial investigation of IRP Site 6.



NO	LOCATION	USE	NO	LOCATION	USE
1	A-5	Officers Quarters	110	G-2	Waste Hanger
2	A-5	Do	111	G-2	Firehouse (Army Bldg)
3	A-4	Administration Bldg	112	G-2	Waste Hanger
4	C-3	Waste Hanger	113	G-2	Squadron Headquarters
5	C-4	Firehouse (Army Bldg)	114	F-2	Do
6	C-5	Do	115	G-2	Do
7	C-5	Waste Hanger	116	F-2	Do
8	C-5	Firehouse (Army Bldg)	117	F-2	Do
9	C-5	Do	118	E-1	Storehouse
10	C-5	Waste Hanger	119	G-2	Do
11	D-6	Squadron Headquarters	120	F-2	Do
12	D-6	Do	121	G-2	Do
13	D-6	Do	122	G-2	Do
14	D-6	Do	123	G-2	Do
15	D-6	Do	124	G-2	Do
16	D-6	Do	125	G-2	Do
17	D-6	Do	126	G-2	Do
18	D-6	Do	127	G-2	Do
19	D-6	Do	128	G-2	Do
20	D-6	Do	129	G-2	Do
21	D-6	Do	130	F-1	Do
22	D-6	Do	131	F-1	Do
23	D-6	Do	132	F-1	Do
24	D-6	Do	133	F-1	Do
25	D-6	Do	134	F-1	Do
26	D-6	Do	135	F-1	Do
27	D-6	Do	136	F-1	Do
28	D-6	Do	137	F-1	Do
29	D-6	Do	138	F-1	Do
30	D-6	Do	139	F-1	Do
31	D-6	Do	140	F-1	Do
32	D-6	Do	141	F-1	Do
33	D-6	Do	142	F-1	Do
34	D-6	Do	143	F-1	Do
35	D-6	Do	144	F-1	Do
36	D-6	Do	145	F-1	Do
37	D-6	Do	146	F-1	Do
38	D-6	Do	147	F-1	Do
39	D-6	Do	148	F-1	Do
40	D-6	Do	149	F-1	Do
41	D-6	Do	150	F-1	Do
42	D-6	Do	151	F-1	Do
43	D-6	Do	152	F-1	Do
44	D-6	Do	153	F-1	Do
45	D-6	Do	154	F-1	Do
46	D-6	Do	155	F-1	Do
47	D-6	Do	156	F-1	Do
48	D-6	Do	157	F-1	Do
49	D-6	Do	158	F-1	Do
50	D-6	Do	159	F-1	Do
51	D-6	Do	160	F-1	Do
52	D-6	Do	161	F-1	Do
53	D-6	Do	162	F-1	Do
54	D-6	Do	163	F-1	Do
55	D-6	Do	164	F-1	Do
56	D-6	Do	165	F-1	Do
57	D-6	Do	166	F-1	Do
58	D-6	Do	167	F-1	Do
59	D-6	Do	168	F-1	Do
60	D-6	Do	169	F-1	Do
61	D-6	Do	170	F-1	Do
62	D-6	Do	171	F-1	Do
63	D-6	Do	172	F-1	Do
64	D-6	Do	173	F-1	Do
65	D-6	Do	174	F-1	Do
66	D-6	Do	175	F-1	Do
67	D-6	Do	176	F-1	Do
68	D-6	Do	177	F-1	Do
69	D-6	Do	178	F-1	Do
70	D-6	Do	179	F-1	Do
71	D-6	Do	180	F-1	Do
72	D-6	Do	181	F-1	Do
73	D-6	Do	182	F-1	Do
74	D-6	Do	183	F-1	Do
75	D-6	Do	184	F-1	Do
76	D-6	Do	185	F-1	Do
77	D-6	Do	186	F-1	Do
78	D-6	Do	187	F-1	Do
79	D-6	Do	188	F-1	Do
80	D-6	Do	189	F-1	Do
81	D-6	Do	190	F-1	Do
82	D-6	Do	191	F-1	Do
83	D-6	Do	192	F-1	Do
84	D-6	Do	193	F-1	Do
85	D-6	Do	194	F-1	Do
86	D-6	Do	195	F-1	Do
87	D-6	Do	196	F-1	Do
88	D-6	Do	197	F-1	Do
89	D-6	Do	198	F-1	Do
90	D-6	Do	199	F-1	Do
91	D-6	Do	200	F-1	Do
92	D-6	Do	201	F-1	Do
93	D-6	Do	202	F-1	Do
94	D-6	Do	203	F-1	Do
95	D-6	Do	204	F-1	Do
96	D-6	Do	205	F-1	Do
97	D-6	Do	206	F-1	Do
98	D-6	Do	207	F-1	Do
99	D-6	Do	208	F-1	Do
100	D-6	Do	209	F-1	Do
101	D-6	Do	210	F-1	Do
102	D-6	Do	211	F-1	Do
103	D-6	Do	212	F-1	Do
104	D-6	Do	213	F-1	Do
105	D-6	Do	214	F-1	Do
106	D-6	Do	215	F-1	Do
107	D-6	Do	216	F-1	Do
108	D-6	Do	217	F-1	Do
109	D-6	Do	218	F-1	Do
110	D-6	Do	219	F-1	Do
111	D-6	Do	220	F-1	Do
112	D-6	Do	221	F-1	Do
113	D-6	Do	222	F-1	Do
114	D-6	Do	223	F-1	Do
115	D-6	Do	224	F-1	Do
116	D-6	Do	225	F-1	Do
117	D-6	Do	226	F-1	Do
118	D-6	Do	227	F-1	Do
119	D-6	Do	228	F-1	Do
120	D-6	Do	229	F-1	Do
121	D-6	Do	230	F-1	Do
122	D-6	Do	231	F-1	Do
123	D-6	Do	232	F-1	Do
124	D-6	Do	233	F-1	Do
125	D-6	Do	234	F-1	Do
126	D-6	Do	235	F-1	Do
127	D-6	Do	236	F-1	Do
128	D-6	Do	237	F-1	Do
129	D-6	Do	238	F-1	Do
130	D-6	Do	239	F-1	Do
131	D-6	Do	240	F-1	Do
132	D-6	Do	241	F-1	Do
133	D-6	Do	242	F-1	Do
134	D-6	Do	243	F-1	Do
135	D-6	Do	244	F-1	Do
136	D-6	Do	245	F-1	Do
137	D-6	Do	246	F-1	Do
138	D-6	Do	247	F-1	Do
139	D-6	Do	248	F-1	Do
140	D-6	Do	249	F-1	Do
141	D-6	Do	250	F-1	Do
142	D-6	Do	251	F-1	Do
143	D-6	Do	252	F-1	Do
144	D-6	Do	253	F-1	Do
145	D-6	Do	254	F-1	Do
146	D-6	Do	255	F-1	Do
147	D-6	Do	256	F-1	Do
148	D-6	Do	257	F-1	Do
149	D-6	Do	258	F-1	Do
150	D-6	Do	259	F-1	Do
151	D-6	Do	260	F-1	Do
152	D-6	Do	261	F-1	Do
153	D-6	Do	262	F-1	Do
154	D-6	Do	263	F-1	Do
155	D-6	Do	264	F-1	Do
156	D-6	Do	265	F-1	Do
157	D-6	Do	266	F-1	Do
158	D-6	Do	267	F-1	Do
159	D-6	Do	268	F-1	Do
160	D-6	Do	269	F-1	Do
161	D-6	Do	270	F-1	Do
162	D-6	Do	271	F-1	Do
163	D-6	Do	272	F-1	Do
164	D-6	Do	273	F-1	Do
165	D-6	Do	274	F-1	Do
166	D-6	Do	275	F-1	Do
167	D-6	Do	276	F-1	Do
168	D-6	Do	277	F-1	Do
169	D-6	Do	278	F-1	Do
170	D-6	Do	279	F-1	Do
171	D-6	Do	280	F-1	Do
172	D-6	Do	281	F-1	Do
173	D-6	Do	282	F-1	Do
174	D-6	Do	283	F-1	Do
175	D-6	Do	284	F-1	Do
176	D-6	Do	285	F-1	Do
177	D-6	Do	286	F-1	Do
178	D-6	Do	287	F-1	Do
179	D-6	Do	288	F-1	Do
180	D-6	Do	289	F-1	Do
181	D-6	Do	290	F-1	Do
182	D-6	Do	291	F-1	Do
183	D-6	Do	292	F-1	Do
184	D-6	Do	293	F-1	Do
185	D-6	Do	294	F-1	Do
186	D-6	Do	295	F-1	Do
187	D-6	Do	296	F-1	Do
188	D-6	Do	297	F-1	Do
189	D-6	Do	298	F-1	Do
190	D-6	Do	299	F-1	Do
191	D-6	Do	300	F-1	Do
192	D-6	Do	301	F-1	Do
193	D-6	Do	302	F-1	Do
194	D-6	Do	303	F-1	Do
195	D-6	Do	304	F-1	Do
196	D-6	Do	305	F-1	Do
197	D-6	Do	306	F-1	Do
198	D-6	Do	307	F-1	Do
199	D-6	Do	308	F-1	Do
200	D-6	Do	309	F-1	Do
201	D-6	Do	310	F-1	Do
202	D-6	Do	311	F-1	Do
203	D-6	Do	312	F-1	Do
204	D-6	Do	313	F-1	Do
205	D-6	Do	314	F-1	Do
206	D-6	Do	315	F-1	Do
207	D-6	Do	316	F-1	Do
208	D-6	Do	317	F-1	Do
209	D-6	Do	318	F-1	Do
210	D-6	Do	319	F-1	Do
211	D-6	Do	320	F-1	Do
212	D-6	Do	321	F-1	Do
213	D-6	Do	322	F-1	Do
214	D-6	Do	323	F-1	Do
215	D-6	Do	324	F-1	Do
216	D-6	Do	325	F-1	Do
217	D-6	Do	326	F-1	Do
218	D-6	Do	327	F-1	Do
219	D-6	Do	328	F-1	Do
220	D-6	Do	329	F-1	Do
221	D-6	Do	330	F-1	Do
222	D-6	Do	331	F-1	Do
223	D-6	Do	332	F-1	Do
224	D-6	Do	333	F-1	Do
225	D-6	Do	334	F-1	Do
226	D-6	Do	335	F-1	Do
227	D-6	Do	336	F-1	Do
228	D-6	Do	337	F-1	Do
229	D-6	Do	338	F-1	Do
230	D-6	Do	339	F-1	Do
231	D-6	Do	340	F-1	Do
232	D-6	Do	341	F-1	Do
233	D-6	Do	342	F-1	Do
234	D-6	Do	343	F-1	Do
235	D-6	Do	344	F-1	Do
236	D-6	Do	345	F-1	Do
237	D-6	Do	346	F-1	Do
238	D-6	Do	347	F-1	Do
239	D-6	Do	348	F-1	Do
240	D-6	Do	349	F-1	Do
241	D-6	Do	350	F-1	Do
242	D-6	Do	351	F-1	Do
243	D-6	Do	352	F-1	Do
244	D-6	Do	353	F-1	Do
245	D-6	Do	354	F-1	Do
246	D-6	Do	355	F-1	Do
247	D-6	Do	356	F-1	Do
248	D-6	Do	357	F-1	Do
249	D-6	Do	358	F-1	Do
250	D-6	Do	359	F-1	Do
251	D-6	Do	360	F-1	Do
252	D-6	Do	361	F-1	Do
253	D-6	Do	362	F-1	Do
254	D-6	Do	363	F-1	Do
255	D-6	Do	364	F-1	Do
256	D-6	Do	365	F-1	Do
257	D-6	Do	366	F-1	Do
258	D-6	Do	367	F-1	Do
259	D-6	Do	368	F-1	Do



ANNOTATIONS MADE BY THE WRITER OF THE SUMMARY REPORT ARE IDENTIFIED WITH A STAR SYMBOL OR AN ARROW.

★ THE APPROXIMATE LOCATION OF TAA 761 IS IDENTIFIED WITH A STAR SYMBOL.

LEGEND OF FACILITY		LEGEND OF FACILITY	
NO	LOC	NO	LOC
108	108	108	108
107	107	107	107
106	106	106	106
105	105	105	105
104	104	104	104
103	103	103	103
102	102	102	102
101	101	101	101
100	100	100	100
99	99	99	99
98	98	98	98
97	97	97	97
96	96	96	96
95	95	95	95
94	94	94	94
93	93	93	93
92	92	92	92
91	91	91	91
90	90	90	90
89	89	89	89
88	88	88	88
87	87	87	87
86	86	86	86
85	85	85	85
84	84	84	84
83	83	83	83
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11	11	11	11
10	10	10	10

1954 FACILITY MAP

U.S. MARINE CORPS AIR STATION
 LEGEND, AIR STATION
 PUBLIC WORKS DEPARTMENT
 MASTER PLOT PLAN
 SCALE 1" = 500' (1/8")
 SHEET 2 OF 2 (12/26)

SOUTHWESTNAVFACENGCOM
CODE 06CC.LMH
SAN DIEGO, CA 92101

Extracts from Historical Hazardous Waste Management Documents



PHOTO RECORD FILE INDEX

LLC-007 M60050.000924 002
M6005 MCAS EL TORO
ROLL NO. SSIC # 5050

M60050.00
MCAS EL T
SSIC # 505

ANNOTATIONS MADE BY THE WRITER OF THE SUMMARY REPORT ARE IDENTIFIED WITH A STAR SYMBOL OR AN ARROW.

TO 19

PROJECT: CTO #193 RFA



MR

PREPARED BY:

THE LIST OF PHOTOGRAPHS DATED 1980 DOES NOT IDENTIFY A PHOTOGRAPH OF A DRUM STORAGE AREA NEAR BUILDINGS 761, 727, 1663, or 458.

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	12/18/80	
3	Storage Area 12' x 30' 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' x 30' 120sq. ft. - East of Bldg. 359	10/29/80	
6	Storage Area 2' x 10' 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' x 30' 450sq. ft. - West of Bldg. 297	10/29/80	
9	Storage Area 5' x 10' 50sq. ft. - West of Bldg 297	10/29/80	
10	Storage Area 15' x 80' 120sq. ft. - East of Bldg 155	10/29/80	
11	Storage Area 12' x 30' 360sq. ft. - East of Bldg 672	10/29/80	
12	Storage Area 14' x 20' / 12' x 6' 352sq. ft. - West of Bldg 297	10/29/80	
13	Storage Area 18' x 40' 720sq. ft. - West of Bldg 297	10/29/80	
14	Storage Area 4' x 4' 16sq. ft. - West of Bldg 297	10/29/80	
15	Storage Area 5' x 10' 50sq. ft. - North of Bldg. 386	10/29/80	
16	Storage Area 25' x 30' 600sq. ft. - West of Bldg 29	10/29/80	

CLF-001-...-A2-0000
M60050.000899 M60050.000899
MCAS El Toro

Environmental Quality Division
Naval Facilities Engineering Command
Alexandria, Virginia

DUPLICATE

EXTRACTS

Hazardous Materials/Hazardous Waste Engineering Study

February 1984

Hazardous Materials/Wastes Generation
Survey, Hazard Analysis and Storage
Facility Design Recommendations
Marine Corps Air Station
El Toro, California

TITLE: HAZARDOUS MATERIAL/HAZARDOUS
WASTE ENGINEERING STUDY
AUTHOR: ROY F. WESTON, INC.
DATE: 02/01/84
CATEGORY: 1.2



E-7

ANNOTATIONS MADE BY THE WRITER OF THE SUMMARY REPORT ARE IDENTIFIED WITH A STAR SYMBOL OR AN ARROW.

☆
THE APPROXIMATE LOCATION OF TAA 761 IS IDENTIFIED WITH A STAR SYMBOL.

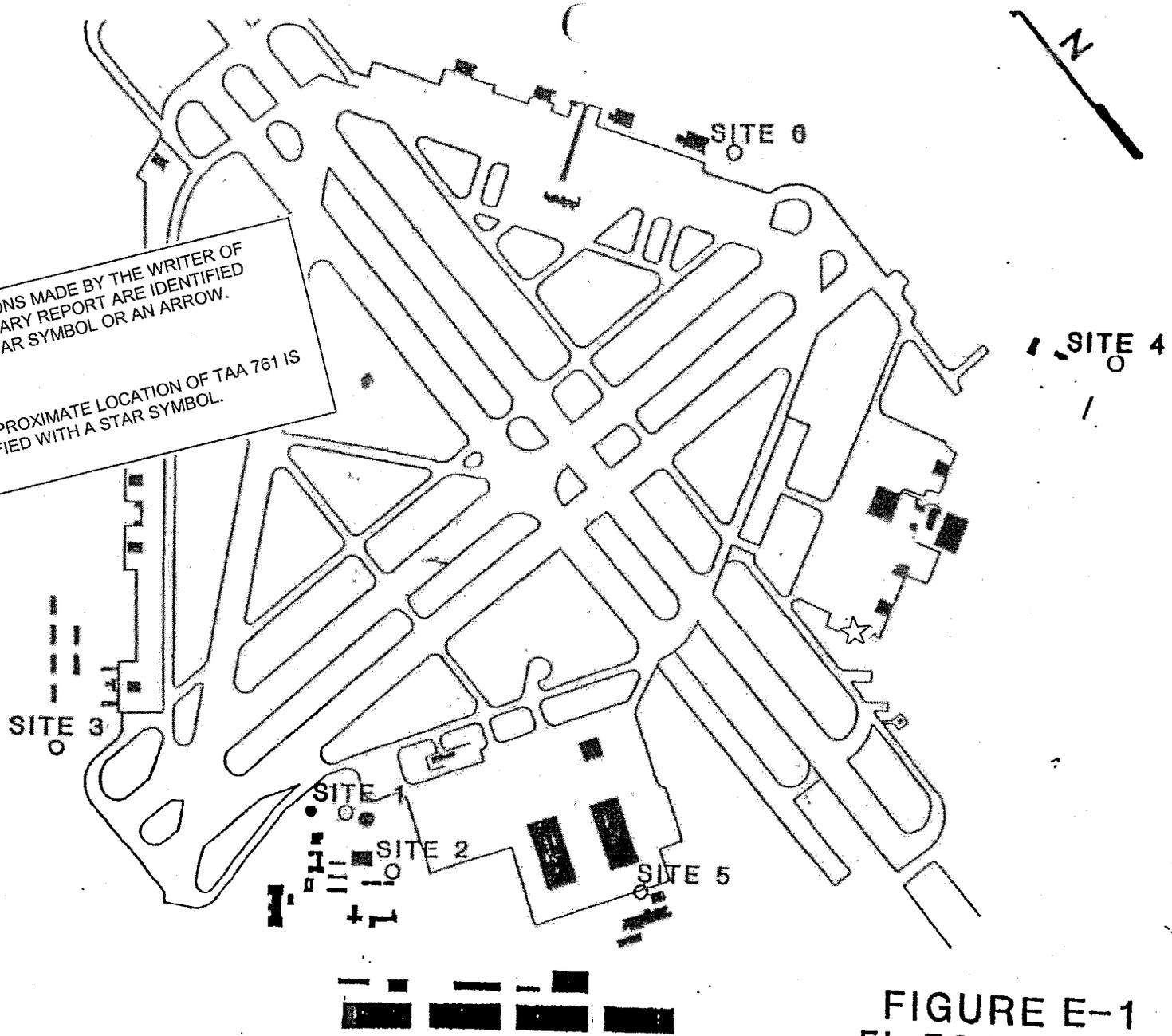


FIGURE E-1
EL TORO MCAS
HW STORAGE AREAS

CALIFORNIA REGIONAL
SANTA ANA REGION
INDIANA AVENUE, SUITE
SIDE, CALIFORNIA 92501
PHONE: (714) 782-4130

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



The RWQCB letter of 23 June 1989
does not identify Buildings 761, 727,
1663, or 458.

MCAS EL TORO
SSIC #5090.3

GEORGE DEUKMEJIAN, Governor



ML60050.001130

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.

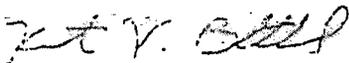
June 23, 1989

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

M60050.000776 (1.2)
4/17/89 TDP ~~776~~

MCAS EL TORO

ADDITIONAL SITES NEEDING INVESTIGATION

Tom D Peltier

Test Cells 658 and 447

DUPLICATE

M60050.000776
MCAS El Toro

- 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

Annotations made by the writer of the Summary Report are identified with a star symbol or an arrow.
The 1989 list does not identify Building 761, 727, 1663, or 458.

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	

EXTRACTS

STORM WATER POLLUTION PREVENTION PLAN

(SWPPP)

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

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.
456	37	Organic Storage	MALS-11 HM Storage	Limited	Lubricating oil, 80/90W	110 gal	25 gal	55 gal
456	37	Organic Storage	MALS-11 HM Storage	Limited	Lubricating Oil, aircraft	5070 qt	1500 qt	1 qt
456	37	Organic Storage	MALS-11 HM Storage	Limited	Sulfuric acid	500 gal	50 gal	1 gal
456	37	Organic Storage	MALS-11 HM Storage	Limited	Thinner	70 gal	15 gal	1 gal
457	37	Branch Dental Clinic	13 th Dental	Concern	N/A			
458	37	Haz/Flam Storehouse	HMM-164	Concern	Jet Fuel JP-5	N/A	N/A	N/A
458	37	Haz/Flam Storehouse	HMM-164	Concern	Waste Oil	N/A	N/A	N/A
461	37	Maint Hngr Space	HMM-164	Concern	Hydraulic Fluid	N/A	N/A	N/A
461	37	Maint Hngr Space	HMM-164	Concern	Jet Fuel JP-5	N/A	N/A	N/A
461	37	Maint Hngr Space	HMM-164	Concern	Waste Oil	N/A	N/A	N/A
462	37	Maint Hngr Space	HMM-165	Concern	Hydraulic Fluid	N/A	N/A	N/A
462	37	Maint Hngr Space	HMM-165	Concern	Jet Fuel JP-5			
462	37	Maint Hngr Space	HMM-165	Concern	Waste Oil			



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

Storage of JP-5 (jet fuel) and waste oil at Building 458 (near former TAA 761 (SWMU 236)) is identified on this table from the SWPPP.



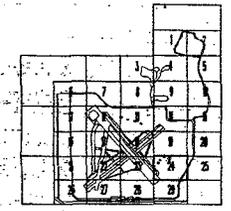
"MCAS" EL TORO - AREA 24
SCALE: 1"=150'-0"

ANNOTATIONS MADE BY THE WRITER OF THE SUMMARY REPORT ARE IDENTIFIED WITH A STAR SYMBOL OR AN ARROW.
THE APPROXIMATE LOCATION OF TAA 761 (SWMU 236) IS IDENTIFIED WITH A STAR SYMBOL

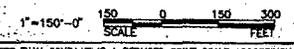
REVISIONS				
SYMBOL	DESCRIPTION	PREP'D BY	DATE	APPROVED

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
- HWTFA - 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
- VF - VEHICLE FUELING
- VM - VEHICLE MAINTENANCE
- VW - 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

IEM
INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.

1000 BOY AVENUE • SUITE 402 • DUBLIN, CALIFORNIA 94568 (916) 791-9977 • (916) 791-9999

PROJECT NO.	DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND
EL TORO	SOUTHWEST DIVISION	
EL TORO	NAVAL CORPS AIR STATION	EL TORO, CA
"MCAS" EL TORO		
AREA 24 - STORM DRAINS		
DESIGNER: D	SIZE: D	CODE BENT. NO.
DATE: 08/01/97	SCALE:	MAPIC DRAWING NO.
APP'D BY: [Signature]	DATE:	CONF. ORDER NO.
DATE FOR CONSTRUCTION:	SCALE:	SPEC.

S:\VTR\AREA24.PDF

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.

TABLE 5-39 MCAS EL TORO 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. Spill 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. Spill cleaned up with speedy dry absorbent. Spill contained to the flightline.

TABLE 5-39 MCAS EL TORO SPILL HISTORY		
Date	Incident No.	Description
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."

No Further Action Decision Documents and Extracts from Supporting Documentation for Nearby Locations of Concern

EXTRACTS

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

SEPTEMBER 1997

Date: 09/26/97

09/30/1997 15:04 989-6868113
ENVIRONMENTAL PROTECTION AGENCY

RWQCB-8, RIVERSIDE
SEP 30 97

PAGE 02
13:03 NOV 01 1997

Date: 09/26/97

DECLARATION

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

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

Date: Sept 23, 1997

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

Date: Sept 26, 1997

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

Date: 9/29/97

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

Date: 9/29/97

Date: 09/26/97

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: _____
Mr. Joseph Joyce
Base Closure and Realignment Environmental Coordinator
Marine Corps Air Station El Toro

Date: _____

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

Date: _____

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

Date: _____

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

Date: _____

Date: 09/26/97

Section 7

DESCRIPTION OF NO ACTION ALTERNATIVE

Based on the Phase I and Phase II RIs and the baseline HHRA, Sites 4, 6, 9, 10, 13, 15, 19, 20, 21, 22, and 25 do not pose an unacceptable risk to human health or the environment. Accordingly, no remedial action is appropriate for the RI sites. DON will not conduct monitoring or periodic reviews of the sites. The DTSC, RWQCB, and U.S. EPA agree with this determination. The DON's selection of no action for these sites reflects the determination that the overall condition of the sites is protective of human health and the environment.

Section 121(d) of CERCLA states that remedial actions at CERCLA sites must, upon completion, attain any federal (or state if more stringent) environmental standards, requirements, criteria, or limitations that are determined to be applicable or relevant and appropriate requirements (ARARs). ARARs do not apply unless remedial action is being taken at a site and are therefore not applicable to the no action sites addressed in this ROD.

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 TCE and PCE. Remedial investigations have shown that the contamination does not originate from these sites but from Site 24, the VOC 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 OU-1 and 2A regarding groundwater.

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

Contract No. N68711-92-D-4670

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

EXTRACTS

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

**DRAFT FINAL PHASE II
REMEDIAL INVESTIGATION REPORT
ATTACHMENT B
OU-3A SITE 6, DROP TANK DRAINAGE AREA NO. 1
MARINE CORPS AIR STATION
EL TORO, CALIFORNIA**

CTO-0079/0391

June 1997

Prepared by:

**BECHTEL NATIONAL, INC.
401 West A Street, Suite 1000
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Section 1 INTRODUCTION

This attachment presents the results of the Remedial Investigation (RI) performed for Site 6, Drop Tank Drainage Area No. 1, of Marine Corps Air Station (MCAS) El Toro. The discussion includes site-specific RI information and analyses. General RI information that pertains to all of the sites investigated under operable unit (OU)-3A is presented in the main body of this report.

The following information is included in this attachment:

- a summary of the purpose and objectives of the RI, a general description and history of the site, and a summary of previous investigations (Section 1);
- a summary of the Phase I work performed and a detailed description of the Phase II fieldwork (Section 2);
- a description of the physical characteristics of the site (Section 3);
- a discussion of nature and extent of contamination, including both Phase I and Phase II data (Section 4);
- a fate-and-transport analysis for the site (Section 5);
- a baseline human-health risk analysis based on both Phase I and Phase II data (Section 6);
- a summary, conclusions, and a list of recommended actions (Section 7); and
- a list of references (Section 8).

1.1 INVESTIGATION OBJECTIVES

Site 6 comprises three units, which were sampled during the Phase I RI. There were three primary conditions defined by the Phase I data and the analysis and interpretation of those data that necessitated the work performed under the Phase II investigation.

- The nature of the historical activities that occurred at Site 6 suggested that shallow soil at the site may contain elevated concentrations of fuel compounds, volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and metals.
- Three areas at Site 6, designated Units 1 through 3, were investigated during the Phase I RI. Aerial photographic data obtained and analyzed during planning for the Phase II investigation identified potentially impacted areas outside the unit boundaries used for the Phase I investigation. These included a liquid-runoff area located between an aircraft wash-down pad and a drainage ditch at the site, an expansion of the area formerly used for drop tank storage, and a shallow earthen surface impoundment.
- Phase II RI samples were intended to augment the data density, spatial distribution, and number of samples collected during Phase I. The combined data set was used to improve the confidence level of the excess lifetime cancer risk and hazard index assessments for Site 6.

Data quality objectives (DQOs) for the Phase II RI were developed to address these conditions. The objectives are presented in Section 4 of the final Work Plan Phase II RI/FS (Work Plan) (BNI 1995a). Site-specific DQO decisions were also developed for Site 6, as presented in Appendix G of the Work Plan. Phase II RI sampling was planned to provide the additional data necessary to respond to the following DQO decisions.

- Do chemicals of potential concern (COPCs) in shallow soil (less than 10 feet below ground surface [bgs]) within each unit exceed established background concentrations and preliminary remediation goals (PRGs), and/or do they present an unacceptable risk to human health or the environment?
- Has the extent of impacted soil been defined for the shallow-soil interval?
- Does the impacted soil extend greater than 10 feet bgs?
- Do the media being evaluated for a response action qualify for early action?

Table 1-1 presents a summary of these Phase II site objectives, the types of data collected to address them, and how the Phase II data will be used for the evaluation of Site 6.

1.2 SITE BACKGROUND

This section provides a general description of Site 6 and summarizes the site history.

1.2.1 Site Description

Site 6, Drop Tank Drainage Area No. 1, is located in the southeast quadrant of MCAS El Toro (Figure 1-1). The site is bounded by taxiways to the north and west, a concrete aircraft parking apron to the east, and East Marine Way to the south. Site 6 consists of three units situated along the edge of a concrete parking apron where aircraft drop tanks were formerly drained of residual jet fuel and then cleaned prior to reuse (Figure 1-2). The first unit comprises an area adjacent to Building 727 where a mixture of residual fuel and rinse water from the drop tanks flowed off the concrete apron onto the adjacent bare ground. The second unit is a shallow drainage swale that extends from the north side of Building 727 west to a catch basin that eventually discharges into Agua Chion Wash. The catch basin receives surface runoff and sediment from Site 6. The third unit is a flat, grass-covered area south of the drainage swale where drop tanks were stored.

Site boundaries for the MCAS El Toro Phase I RI were determined by consensus between the Navy and the regulatory agencies prior to initiation of the Phase I investigation. Units were generally grouped together into sites based on common historical activities, aerial photograph review, and unit locations respective to each other.

The boundaries of the units comprising the drainage ditch and the drop tank storage area were expanded for the Phase II RI to incorporate additional areas that may have been impacted by the activities conducted at Site 6. These additions included an area where flowing liquid was observed in a 1970 aerial photograph, expansion of the drop tank storage area southward to East Marine Way, and inclusion of a triangular-shaped shallow

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Table 1-1
OU^a-3A Site Objectives, Data Types, and Data Uses

REMEDIAL INVESTIGATION REPORT					
DQO ^b Decisions (Section 1)	Data to be Collected (Section 2)	Physical Characteristics (Section 3)	Nature and Extent (Section 4)	Fate and Transport (Section 5)	Human-Health Risk Assessment (Section 6)
1. Assess whether COPCs ^c in shallow soil exceed screening levels (background and PRGs ^d) and/or present unacceptable risk.	Soil samples – Hand auger – Direct push	NA ^e	Compare concentrations of analytes in shallow soil with background concentrations and PRGs.	Prepare site conceptual model.	Evaluate risk under industrial and residential land use scenarios.
2. Determine the extent of contamination in shallow soil (< 10 feet bgs ^f).	Soil samples – Hand auger – Direct push – Hollow-stem auger borings	Surface features – Topography – Surface gradients Meteorology – Climatological information Soil properties – Grain-size analyses of soil and sediment	Determine type and distribution of analytes in shallow soil.	Prepare site conceptual model.	Evaluate risk under industrial and residential land use scenarios.
3a. Determine if extent of contamination extends into deeper subsurface soil (> 10 feet bgs).	Soil samples – Dual-tube percussion borings – Direct push – Hollow-stem auger borings	Surface features – Topography – Surface gradients Meteorology – Wind speed and direction – Rainfall Soil properties – Grain-size distribution – Moisture – Site geology	Determine type and distribution of analytes in deeper subsurface soil.	Prepare site conceptual model.	NA
3b. Determine if soil contamination extends to groundwater.	Groundwater samples – HydroPunch [®] – Monitoring wells	Hydrogeology – Depth to groundwater – Direction of groundwater flow	Determine type and distribution of analytes in groundwater.	Prepare site conceptual model.	Evaluate risk from groundwater during residential uses.
4. Determine if site qualifies for Early Action.	Soil samples – Hand auger – Direct push – Hollow-stem auger borings	Surface Features – Topography – Surface gradients Meteorology – Wind speed and direction – Rainfall	Determine type, concentration, and distribution of analytes in all media.	Assess potential for off-site migration of contaminants.	Evaluate whether contaminants at site pose an imminent risk to human health or the environment.

Notes:

- ^a OU – operable unit
- ^b DQO – data quality objective
- ^c COPC – chemical of potential concern
- ^d PRG – preliminary remediation goal
- ^e NA – not applicable
- ^f bgs – below ground surface

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earthen surface impoundment located in the southwest corner of the site (Figure 1-2). In August 1996, the Draft MCAS El Toro Community Reuse Plan was issued. According to this plan, Site 6 is located within an area designed for Aviation Related Uses.

1.2.2 History

From approximately 1969 to 1983, aircraft drop tanks were transported to Site 6 where their remaining fuel was drained from the tanks. Residual JP-5 fuel in the tanks was washed out onto the concrete apron, and the combined fuel/rinse water ran onto the adjacent grassy area. In addition to fuels, waste lubricant oils from maintenance operations were also reportedly stored in drums and staged in the area. From 1969 to 1983, approximately 1,400 gallons of JP-5 fuel were drained from the drop tanks onto the concrete apron and washed onto the adjacent areas. Portions of the unpaved areas at the site were also reportedly used for storing oil drums. It has been estimated that 300 gallons of waste oil leaked from these storage drums at Site 6 (Brown and Caldwell 1986).

1.3 PREVIOUS INVESTIGATIONS

Several investigations have been conducted at Site 6, including a Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA), the Phase I RI, aerial photographic surveys, and employee interviews. The following subsections summarize these investigations.

1.3.1 RCRA Facilities Assessment

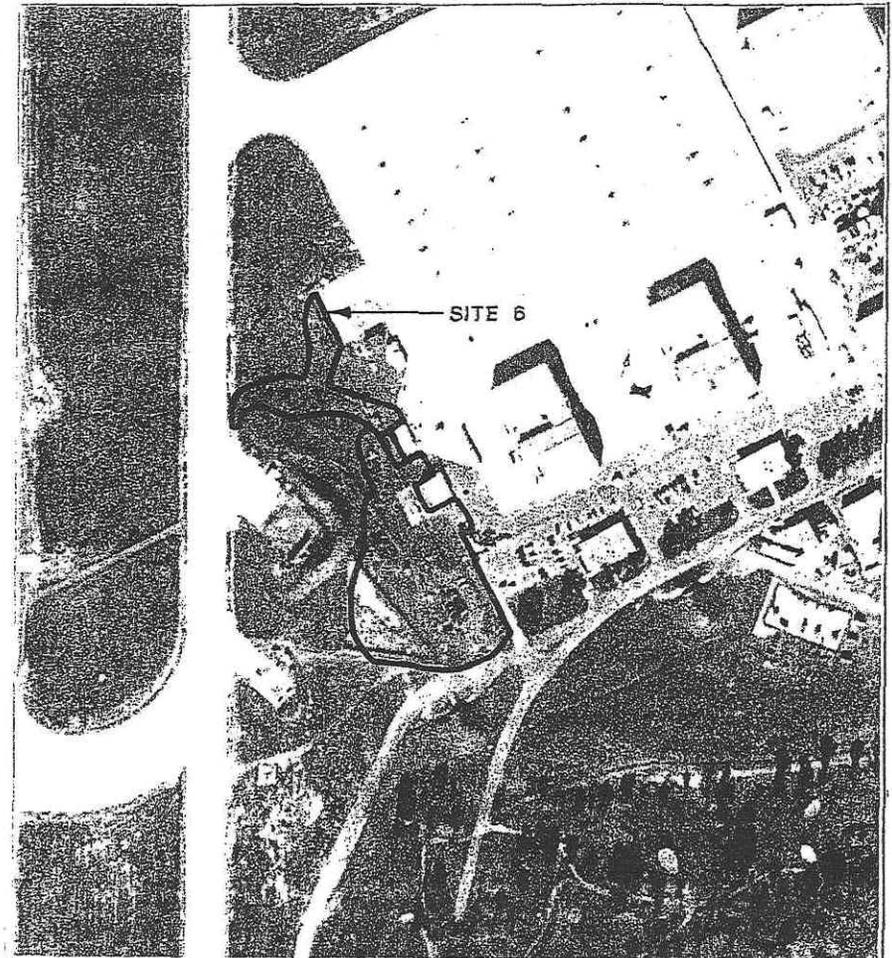
During the RFA for MCAS El Toro, solid waste management units (SWMUs)/areas of concern (AOCs) 204 (aircraft wash rack) and 236 (storage area) were identified at or adjacent to Site 6. SWMU/AOC 204, a concrete aircraft wash rack located north of Site 6, was investigated during the RFA (Jacobs Engineering 1993a). The concrete pad is curbed, and wash water is collected in a sump, which is pumped out occasionally by an outside contractor. Based upon the results of the investigation, the RFA concluded that further investigation of SWMU/AOC 204 was unnecessary.

→ SWMU/AOC 236 was a drum storage area located just south of Building 727. Because this SWMU is located within the boundaries of Site 6, investigation was deferred to the Phase II RI for Site 6.

1.3.2 Phase I Remedial Investigation

The Phase I RI at Site 6 included all three units (referred to as strata during Phase I RI). The following site-specific activities were conducted during the Phase I RI:

- shallow-soil samples were collected from 11 sample locations in Units 1 through 3;



	OU-3A Remedial Investigation Report Figure 1-2 Site Aerial Photograph (1/12/96) Site 6 - Drop Tank Drainage Area No. 1	
	MCAS, El Toro, California	
SOURCE: AERIAL PHOTOGRAPHY CO., SAN DIEGO, CALIFORNIA DATE: 1/12/96		Date: 11/5/96 File No: Job No: 22214-079 Rev No: A
Bechtel National, Inc. CLEAN II Program		

Section 2 STUDY AREA INVESTIGATIONS

This section describes the investigation activities completed for the Phase II RI at Site 6. The investigation activities were planned and implemented in accordance with the final Work Plan (BNI 1995a), the final Field Sampling Plan (FSP) Phase II RI/FS (BNI 1995b), and CLEAN II Program Procedures and included the following.

- Results of aerial photograph surveys were reviewed to locate possible areas of soil contamination.
- Soil sampling was performed at Units 1, 2, and 3 to provide additional data to support the baseline human-health risk assessment and to supplement existing data regarding the nature and extent of contaminants present.

The results of the Phase I and II RIs are presented in Section 4.

Throughout the Phase II RI, weekly meetings were held with the Base Realignment and Closure (BRAC) Cleanup Team (BCT). Deviations from planned sampling activities or methods were discussed and approved by the BCT. Procedural changes were documented using Field Change Notices (FCNs). The FCNs are summarized in Section 2 of the main body of this report. Table 2-1 summarizes site-specific BCT decisions.

**Table 2-1
 BCT* Meeting Decisions Specific to the Site 6 Phase II Investigation**

Description	Action	Date
Based upon information obtained during a visit to Site 6 by the BCT in the company of a former MCAS El Toro employee, the addition of one boring in the vicinity of a former drum storage area (SWMU/AOC 236) was recommended.	Approved	18 December 1995
Results of Phase II Tier 1 soil sampling at Unit 2 borings 06B202 and 06B203 presented. Sampling at both locations was limited to surface soil due to the presence of a buried concrete slab. No further sampling in this area was recommended based upon these site conditions and a review of historical aerial photographs that suggested the area may historically have been an access road to the adjacent taxiway.	Approved	21 February 1996
Results of Phase II Tier 1 sampling presented. Data suggest that Tier 2 sampling is necessary to estimate extent of PAHs in Unit 2. One Tier 2 soil sampling location was proposed.	Approved	07 May 1996
Results of Phase II Tier 2 sampling presented. Phase II data suggest that the lateral and vertical extent of contamination at Site 6 has been defined. No further sampling recommended.	The BCT satisfied that extent of contamination has been defined and that Phase II investigation at Site 6 is complete.	03 July 1996

Note:

* BCT - Base Realignment and Closure Cleanup Team

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- deeper subsurface- (greater than 10 feet bgs) soil samples were collected from one location in Unit 3 and from the borings for the two off-site monitoring wells;
- one sediment sample was collected from the catch basin located in Unit 2;
- shallow-soil samples were collected from one off-site location;
- one off-site upgradient monitoring well (06_UGMW28) was drilled, installed, and sampled;
- one off-site downgradient monitoring well (06_DGMW69) was drilled, installed, and sampled;
- soil samples were analyzed for target analyte list (TAL) metals, cyanide, VOCs, semivolatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), total recoverable petroleum hydrocarbons (TRPH), and dioxins/dibenzofurans; and
- groundwater samples were analyzed for general chemistry, TAL metals, VOCs, SVOCs, pesticides/PCBs, cyanide, TPH, and TRPH.

Analytes reported in soil included VOCs, SVOCs, petroleum hydrocarbons, and metals. Analytes reported in groundwater samples collected from the two wells included VOCs, SVOCs, metals, and general chemistry parameters (Jacobs Engineering 1993b). These results are further detailed in Section 4.1.

1.3.3 U.S. EPA Aerial Photograph Survey

A U.S. EPA aerial photographic survey performed for MCAS El Toro identified vertical tanks and open storage areas in a photograph from 1952. In a 1970 photograph, the storage area had been enlarged, and a liquid flow can be seen immediately north of the site. The liquid ends in a stained area that is evident on the 1970, 1980, and 1981 photographs (Jacobs Engineering 1993c).

1.3.4 SAIC Aerial Photograph Survey

A Science Applications International Corporation (SAIC) survey identified staining at Site 6 in 1961 and 1968 photographs. Two open storage areas were observed in a 1973 photograph. A 1974 photograph shows stains in the vicinity of Buildings 714 and 761. A 1976 photo shows wet soil, a stained area, and a possible liquid at Site 6 (SAIC 1993).

1.3.5 Employee Interviews

On 26 May 1994, a meeting was held at MCAS El Toro to interview active and retired personnel from the Station Fuel Operations Division and Facility Management Department (currently the Installations Department) with knowledge of Station operations and procedures for storage/disposal of hazardous materials and waste. Interviewers included federal and state regulatory agency personnel, Navy and Station personnel, and personnel from Navy and U.S. EPA contractors. During these interviews,

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employees who said they had been working at MCAS El Toro since the 1970s confirmed that drop tanks had been washed out on the pad at Site 6 (Jacobs Engineering 1994a). ←

Section 5 Fate and Transport

Surface drainage appears to flow to the west through a small swale and into a ditch located in Unit 2, then to a catch basin that discharges into the Agua Chinon Wash (Jacobs Engineering 1993c). These drainages are a potential pathway for movement of contaminated surface soils as suspended particulates and for dissolved-phase transport in surface-water runoff.

From March through October, the prevailing wind is from the west and averages 6 knots. From November through February, the prevailing wind is from the east and averages 4 knots. Strong, dry, gusty, offshore winds (locally known as Santa Ana winds) are common during the late fall and early winter.

Site 6 is generally unpaved and covered with grass, with some small areas of bare ground.

→ A concrete apron adjacent to Building 727 is included in Site 6 along with small areas of asphalt paving. Due to the typically dry conditions and persistent winds, uncovered areas of the site may be subject to light-to-moderate wind erosion. The terrain in the immediate vicinity of the site is sloped slightly to the west. Surface drainage from the site is directed westward by a small swale that drains into a ditch (Unit 2). The ditch empties into a catch basin that discharges into the Agua Chinon Wash.

5.1.2 Distribution of Contaminants

VOCs, SVOCs and PAHs, petroleum hydrocarbons, and TAL metals were reported in shallow soil at Site 6. The SVOCs and PAHs were confined to surface soil sitewide. Low concentrations of VOCs were reported in samples collected between 0 and 10 feet bgs, but were most prevalent in surface soil sitewide. Although petroleum hydrocarbons were present between 0 and 10 feet in Units 1 and 2, they were confined to the 0- to 2-foot-bgs interval in Unit 3. TAL metals at concentrations above background levels were present between 0 and 10 feet bgs sitewide, but the concentrations exceeding background by the greatest amount were reported in surface soil samples.

5.1.3 Potential Migration Pathways

↙ The primary source of contamination at Site 6 was residual JP-5 fuel that was released during washing of aircraft drop tanks. Aircraft drop tanks were transported to Site 6 where residual JP-5 fuel in the tanks was washed out, and the combined fuel-wash/rinse water ran off the concrete apron onto the adjacent vegetated areas.

The potential migration pathways at Site 6 are air and surface water (Figure 5-2). Airborne contaminants can be transported in association with fugitive dust or by volatilization directly to the air. Uncovered areas of the site are most susceptible to generation of fugitive dust. The transport of dust through air is affected by wind speed and direction and weather conditions. Transportation of airborne contaminants through volatilization is expected to be insignificant at Site 6, because negligible concentrations of VOCs were reported in soil samples as well as in vapor monitoring for health and safety during the field investigation.

Section 6 Human-Health Risk Assessment

Table 6-4
Summary of Cancer Risk and Chronic Hazard Index, Industrial Use

Exposure Pathway	Cancer Risk U.S. EPA ^{a,b}	Cancer Risk California State ^b	Hazard Index
Units 1, 2, and 3, Drop Tank Drainage Area No. 1			
Incidental dermal contact	8.8E-06	1.1E-05	0.034
Dust inhalation	7.9E-08	1.2E-07	0.054
Incidental ingestion	1.7E-06	1.9E-06	0.023
Vapor inhalation	1.8E-09	1.8E-09	0.00015
Units 1, 2, 3 Total	1.1E-05^c	1.3E-05^d	0.11
Catch Basin			
Incidental dermal contact	1.4E-08	1.4E-08	0.0017
Dust inhalation	7.5E-12	7.5E-12	0.0039
Incidental ingestion	1.4E-09	1.4E-09	0.0016
Vapor inhalation	7.0E-10	7.0E-10	0.0000017
Catch Basin Total	1.6E-08	1.6E-08	0.0072

Notes:

- ^a U.S. EPA – United States Environmental Protection Agency
- ^b risk was calculated using U.S. EPA or California Environmental Protection Agency toxicity values
- ^c the majority of the risk is due to dermal contact and incidental ingestion of benzo(a)pyrene (32 percent), dermal contact and incidental ingestion of arsenic (33 percent), and dermal contact and incidental ingestion of dibenz(a,h)anthracene (13 percent)
- ^d the majority of the risk is due to dermal contact and incidental ingestion of benzo(a)pyrene (44 percent), dermal contact and incidental ingestion of arsenic (28 percent), and dermal contact and incidental ingestion of dibenz(a,h)anthracene (11 percent)

estimates (the noncancer risk estimates for the child resident are higher than for the adult resident). Appendix K presents the noncancer risks quantified for both residential receptors. Figure 6-4 presents the HI for each receptor by area of potential concern at Site 6. Figure 6-5 illustrates the HI associated with each exposure pathway. Figure 6-6 shows the COPCs contributing to the majority of the HI. A limitation of the HI is that the assumption of dose additivity is most properly applied to compounds that induce the same effect by the same mechanism of action. Consequently, the HI could be overestimated by a cumulative HI due to a number of chemicals that are not expected to induce the same type of effect. Thus, for the HIs exceeding unity (area of potential concern composed of Units 1, 2, and 3 under the residential land use scenario), COPCs were segregated by effect, and separate HIs were derived specific to each effect group (Table 6-6).

Table 6-5
Summary of Cancer Risk and Chronic Hazard Index, Residential Use

Exposure Pathway	Cancer Risk U.S. EPA ^{a,b}	Cancer Risk California State ^{b,c}	Hazard Index ^d
Units 1, 2, and 3, Drop Tank Drainage Area No. 1			
Incidental dermal contact	4.5E-06	5.0E-06	0.11
Dust inhalation	4.8E-07	6.5E-07	0.52
Incidental ingestion	1.4E-05	1.4E-05	0.75
Vapor inhalation	1.1E-08	1.1E-08	0.0014
Units 1, 2, and 3 Total	1.9E-05^e	2.0E-05^f	1.4^g
Catch Basin			
Incidental dermal contact	1.4E-08	1.4E-08	0.0045
Dust inhalation	4.8E-11	4.8E-11	0.038
Incidental ingestion	1.2E-08	1.2E-08	0.042
Vapor inhalation	4.5E-09	4.5E-09	0.000017
Catch Basin Total	3.1E-08	3.1E-08	0.084

Notes:

- ^a U.S. EPA – United States Environmental Protection Agency
- ^b risk was calculated using U.S. EPA or California Environmental Protection Agency toxicity values
- ^c the risk is higher for the resident adult; therefore, only the resident adult risk results are shown
- ^d the index is higher for the resident child; therefore, only the resident child indices are shown
- ^e the majority of the risk is due to incidental ingestion and dermal contact of arsenic (68 percent), incidental ingestion and dermal contact of beryllium (23 percent), and dermal contact and incidental ingestion of benzo(a)pyrene (5 percent)
- ^f the majority of the risk is due to incidental ingestion and dermal contact of arsenic (65 percent), incidental ingestion and dermal contact of beryllium (22 percent), and dermal contact and incidental ingestion of benzo(a)pyrene (8 percent)
- ^g the majority of the index is due to dust inhalation and incidental ingestion of manganese (41 percent)

6.4.1 Units 1, 2, and 3

6.4.1.1 INDUSTRIAL USE

The excess lifetime cancer risk to an industrial worker exposed to surface soils (0 to 2 feet bgs) at the area of potential concern comprised by Units 1, 2, and 3 was estimated at 1.1×10^{-5} and 1.3×10^{-5} by using U.S. EPA and Cal-EPA toxicity criteria, respectively. Dermal contact is the dominant risk pathway (Table 6-4). The risk is primarily associated with benzo(a)pyrene, arsenic, and dibenz(a,h)anthracene. Benzo(a)pyrene and dibenz(a,h)anthracene are classified by U.S. EPA as probable human carcinogens (Group B2), which means that there is sufficient evidence that both are carcinogenic in laboratory animals, but there is insufficient evidence of carcinogenicity in humans. Arsenic is classified by U.S. EPA as a human carcinogen (Group A), which means that there is

Section 2 Study Area Investigations

**Table 2-2
 Summary of Phase I and II Soil Borings**

Unit	Soil Boring	Phase I Sample Depth ^a (feet bgs ^b)	PHASE II SAMPLE INTERVALS	
			Tier 1 ^c (feet bgs)	Tier 2 ^c (feet bgs)
1	06_ST1	0, 2		
	06_ST2	0, 2		
	06_ST3	0, 2		
	06B101		0 - 1, 3 - 5, 5.5 - 7, 8 - 10	
	06B102		0 - 1, 3 - 5, 8 - 10	
2	06_DD1	0, 2		
	06_DD2	0, 2		
	06_DD3	0, 2		
	06B201		0 - 1, 3 - 5, 8 - 10	
	06B202		0 - 1	
	06B203		0 - 1	
	06B204			0 - 0.5, 4.5 - 5, 9.5 - 10
3	06_GN1	0, 2		
	06_GN2	0, 2, 4		
	06_GN3	0, 2		
	06_DBS	0		
	06_DB201	5, 10, 15, 20, 25, 40, 50, 140		
	06B301		0 - 1, 3 - 5, 8 - 10	
	06B302		0 - 1, 3 - 5, 8 - 10	
	06B303		0 - 1, 3 - 5, 5.5 - 7, 8 - 10	
	06B304		0 - 1, 3 - 5, 8 - 10	
	Catch basin	06_CBAC	0	
Off-site	06_UGS	0, 2		
	06_UGMW28	128, 148		
	06_DGMW69	120, 155		

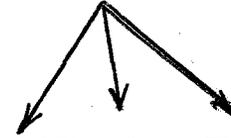
Notes:

- ^a sample-depth intervals not available for Phase I soil borings
- ^b bgs - below ground surface
- ^c Tier 1 and 2 designations in accordance with Work Plan (BNI 1995a)

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

★
 REMEDIAL INVESTIGATION BORINGS 06B102 AND 06B304 ARE LOCATED ADJACENT TO FORMER TAA 761 (SWMU 236).

Table 4-6
Unit 1 Phase II Soil Data Summary



Analyte Name/Method Code	Result Units	SAMPLE LOCATIONS/SAMPLE DEPTH (feet bgs ^a)						
		06B101 0 - 1	06B101 3 - 5	06B101 5.5 - 6.5	06B101 8 - 10	06B102 0 - 1	06B102 3 - 5	06B102 8 - 10
VOC^b/U.S. EPA^c 8010/8020								
1,1,1-trichloroethane	µg/kg ^d	1.4 J ^e	0.55 UJ ^f	0.59 U ^g	0.95 J	0.57 UJ	0.57 UJ	0.65 UJ
1,3-dichlorobenzene	µg/kg	0.57 UJ	0.55 UJ	1.3 J	0.63 UJ	0.57 UJ	0.57 UJ	0.65 UJ
1,4-dichlorobenzene	µg/kg	0.57 UJ	0.55 UJ	0.94 J	0.63 UJ	0.57 UJ	0.57 UJ	0.65 UJ
Chloroform	µg/kg	0.78 J	0.74 J	0.59 U	0.63 UJ	0.36 J	0.47 J	0.53 J
Tetrachloroethene	µg/kg	0.57 UJ	0.55 UJ	0.69	0.63 UJ	0.57 UJ	0.57 UJ	0.65 UJ
Toluene	µg/kg	0.57 UJ	0.75 J	1	1.9 J	1.7 J	1.7 J	1.7 J
TPH^h/U.S. EPA 8015-M								
Diesel	mg/kg ⁱ	72	11 U	12 U	13 U	11 UJ	11 UJ	13 UJ
Gasoline	mg/kg	0.11 UJ	0.066 J	0.12 U	0.13 U	0.11 UJ	0.11 UJ	0.13 UJ
Motor oil	mg/kg	94	55 U	59 U	63 U	57 J	57 J	64 J
PAH^j/U.S. EPA 8310								
Benz(a)anthracene	µg/kg	100	3.9 U	3.8 U	4.3 U	25	4.2 U	4.2 U
Benzo(a)pyrene	µg/kg	170	3.8 U	3.7 U	4.2 U	37	4 U	4.1 U
Benzo(b)fluoranthene	µg/kg	140	3.9 U	3.8 U	4.3 U	39	4.2 U	4.2 U
Benzo(g,h,i)perylene	µg/kg	210	9.3 U	9.1 U	10 U	52	10 U	10 U
Benzo(k)fluoranthene	µg/kg	81	3.9 U	3.8 U	4.3 U	20	4.2 U	4.2 U
Chrysene	µg/kg	150	3.8 U	3.7 U	4.2 U	36	4 U	4.1 U
Dibenz(a,h)anthracene	µg/kg	78	9.3 U	9.1 U	10 U	12	10 U	10 U
Fluoranthene	µg/kg	240	9.3 U	9.1 U	10 U	98	10 U	10 U
Indeno(1,2,3-c,d)pyrene	µg/kg	130	9.3 U	9.1 U	10 U	22	10 U	10 U
Phenanthrene	µg/kg	190	38 U	37 U	42 U	110	40 U	41 U
Pyrene	µg/kg	230	9.3 U	9.1 U	10 U	82	10 U	10 U

(table continues)

Table 4-6 (continued)

Analyte Name/Method Code	Result Units	SAMPLE LOCATIONS/SAMPLE DEPTH (feet bgs ^a)						
		06B101 0 - 1	06B101 3 - 5	06B101 5.5 - 6.5	06B101 8 - 10	06B102 0 - 1	06B102 3 - 5	06B102 8 - 10
Metals/U.S. EPA CLP^k								
Aluminum (14,800) ^l	mg/kg	12,600	14,600	15,800	19,200	11,300 J	13,400 J	21,100 J
Antimony (3.06)	mg/kg	0.48 J	~ ^m	~	~	~	~	~
Arsenic (6.86)	mg/kg	3.7	3.5	5.2	6.4	3.1	3.6	7.7
Barium (173)	mg/kg	98.9	116	160	153	96.3	260	160
Beryllium (0.669)	mg/kg	0.48	0.56	0.73	0.8	0.42	0.58	0.9
Cadmium (2.35)	mg/kg	4.1	1.3	1.1	1.9	1.8	1.8	1.8
Chromium (26.9)	mg/kg	27.6	15.1	16	17.8	11.4 J	13.3 J	19 J
Cobalt (6.98)	mg/kg	5.4	6	6.9	7.8	5.6	6.1	8
Copper (10.5)	mg/kg	13.5	10.2	11.4	11.7	9.1 J	10.1 J	20.2 J
Lead (15.1)	mg/kg	84.5	4.3	5	5.4	7.1 J	4.2 J	5.7 J
Manganese (291)	mg/kg	213	254	278	302	297	266	317
Mercury (0.22)	mg/kg	0.084	0.039 U	0.044 U	0.042 U	0.027 U	0.048 U	0.042 U
Nickel (15.3)	mg/kg	11.3 J	12.6 J	14.7 J	13.4 J	7.8	12.4	14.9
Vanadium (71.8)	mg/kg	36.3	41.6	47.9	56.2	31.7	39.8	57.9
Zinc (77.9)	mg/kg	90.4 J	50.8 J	56.6 J	64.6 J	42.8 J	47.2 J	67.2 J

Notes:

- ^a bgs - below ground surface
- ^b VOC - volatile organic compound
- ^c U.S. EPA - United States Environmental Protection Agency
- ^d µg/kg - micrograms per kilogram
- ^e J - estimated value
- ^f UJ - concentration less than estimated detection limit
- ^g U - compound not detected
- ^h TPH - total petroleum hydrocarbons
- ⁱ mg/kg - milligrams per kilogram
- ^j PAH - polynuclear aromatic hydrocarbon
- ^k CLP - (U.S. EPA) Contract Laboratory Program
- ^l values in parentheses are background concentrations for metals at Marine Corps Air Station El Toro (see Appendix D)
- ^m ~ - data determined to be unusable by validation contractor

Table 4-8 (continued)

Notes:

- ^a bgs – below ground surface
- ^b VOC – volatile organic compound
- ^c U.S. EPA – United States Environmental Protection Agency
- ^d µg/kg – micrograms per kilogram
- ^e J – estimated value
- ^f — – not analyzed
- ^g UJ – concentration less than estimated detection limit
- ^h U – compound not detected
- ⁱ TPH – total petroleum hydrocarbons
- ^j mg/kg – milligrams per kilogram
- ^k PAH – polynuclear aromatic hydrocarbon
- ^l NJ – estimated value, compound was identified on the basis of presumptive evidence through a search of the mass spectral library
- ^m CLP – (U.S. EPA) Contract Laboratory Program
- ⁿ values in parentheses are background concentrations for metals at Marine Corps Air Station El Toro (see Appendix D)

**Table 2-3
Summary of Phase II Remedial Investigation Soil-Sampling Strategies**

Description	Unit Area	Number of Sample Locations ^a	Number of Samples ^a	Number of Phase I Sample Locations	Number of Phase I Samples	Number of Phase II Sample Locations	Number of Phase II Samples	Tier	Type of Phase II RI ^b Sampling Strategy
Site 4 – Ferrocene Spill Area	Unit 1 – 2,500 ft ^{2c}	5	19	5	19	0	0	— ^d	Unit not sampled during Phase II RI
	Unit 2 – 2,500 ft ²	4 ^e	10	4	10	0	0	—	Unit not sampled during Phase II RI
	Off-site ^f	3	6	3	6	0	0	—	Includes two groundwater wells off-site
Site 6 – Drop Tank Drainage Area No. 1	Unit 1 – 1,300 ft ²	5	13	3	6	2	7	1	Stratified random: partial area
	Unit 2 – 27,000 ft ²	8	12	4 ^e	7	4	8	1	Systematic random on an axis
		1	3	0	0	1	3	2	
	Unit 3 – 94,000 ft ²	9	29	5	16	4	13	1	Stratified random: partial area
Off-site	3	6	3	6	0	0	—	Includes two groundwater wells off-site	
Site 8 – Defense Reutilization and Marketing Office Storage Area Yard	Unit 1 – 59,000 ft ²	7	26	5	18	2	8	1	Stratified random
	Unit 2 – 118,900 ft ²	8	28	3	7	5	21	1	Areal systematic random
	Unit 3 – 3,800 ft ²	8	30	4	13	4	17	1	Areal systematic random
	Unit 4 – 1,500 ft ²	6	18	3	9	3	9	1	Stratified random
		1	6	0	0	1	6	3	Judgmental
	Unit 5 – 104,200 ft ²	9	39	3	15	6	24	1	Areal systematic random
Off-site	4	8	4	8	0	0	—	Includes three groundwater wells off-site	
Site 9 – Crash Crew Pit No. 1	Unit 1 – 10,100 ft ²	10	33	5	17	5	16	1	Stratified random
		6	18	0	0	6	18	2	Judgmental
	Unit 2 – 40,100 ft ²	6	19	0	0	6	19	1	Systematic random on an axis
		3	9	0	0	3	9	2	Judgmental
Off-site	1	2	1	2	0	0	—	One groundwater well off-site	
Site 10 – Petroleum Disposal Area	Unit 1 – 537,800 ft ²	12	42	4	17	8	25	1	Stratified random
	Unit 2 – 405,600 ft ²	14	41	4	11	10	30	1	Stratified random
	Unit 3 – 266,200 ft ²	12	36	0	0	12	36	1	Stratified random
	Unit 4 – 9,000 ft ²	2	7	0	0	2	7	1	Judgmental (per regulators)
Site 11 – Transformer Storage Area	Unit 1 – 1,000 ft ²	6	19	3	7	3	12	1	Judgmental
	Unit 2 – 700 ft ²	7	25	3	9	4	16	1	Judgmental
	Unit 3 – 27,800 ft ²	6	18	0	0	6	18	1	Areal systematic random

(table continues)

BNI BOREHOLE LOG

PROJECT and JOB NUMBER:

CLEAN II

22214-079

SHEET NO.:

1 of 1

HOLE NO.:

06B102

DRILLER:

Precision Sampling Inc.

SITE and LOCATION:

MCAS El Toro

Site 6

DRILLING METHOD:

Direct Push

COORDINATES:

2188402 FT 6112960 FT

LOGGED BY:

M. Gage

HOLE DIA.:

2.38 in.

START:

2-7-96

RIG MAKE and MODEL:

Precision MD

GROUND ELEVATION (ft MSL):

328.86 FT

CHECKED BY:

Craig Carlisle

TOTAL DEPTH:

10.00 ft.

FINISH:

2-7-96

SAMPLER TYPE	SAMPLER ADVANCE	BLOW COUNTS	SAMPLE RECOVERY (%)	ORGANIC VAPOR READING (PPM)	ELEVATION (FT)	DEPTH (FT)	SAMPLE INTERVAL	LITHOLOGY	CLASSIFICATION (CLASSIFICATION SYMBOL): color, numerical color designation (optional), relative density or consistency, moisture, structure	REMARKS
CB	1	NA	100	0		328	1		SILTY SAND (SM), dark brown (10YR 4/3), loose, moist, fine to coarse grained, trace rootlets.	79F0013
CB	3	NA	95	0		326	3		SAME AS ABOVE Grading to fine to medium grained.	79F0014
CB	3	NA	95	0		321	8		SAME AS ABOVE Color chang to yellowish brown (10YR 5/4).	79F0015
						317	12		BOTTOM OF BORING IS 10 FEET BGS	Borehole backfilled with cement/bentonite grout.

REFERENCE:

TEMPLATE: BORREV1.LOG

SITE and LOCATION:

MCAS El Toro

Site 6

HOLE NO.:

06B102

BNI BOREHOLE LOG

PROJECT and JOB NUMBER:
 CLEAN II 22214-079

SHEET NO.: 1 of 1
 HOLE NO.: 06B304

DRILLER: Precision Sampling Inc.
 SITE and LOCATION: MCAS El Toro Site 6

DRILLING METHOD: Direct Push
 COORDINATES: 2188385 FT 6112966 FT
 LOGGED BY: M. Gage
 HOLE DIA.: 2.38 in. START: 2-7-96

RIG MAKE and MODEL: Precision MD
 GROUND ELEVATION (ft MSL): 329.59 FT
 CHECKED BY: Craig Carlisle
 TOTAL DEPTH: 10.00 ft. FINISH: 2-7-96

SAMPLER TYPE	SAMPLER ADVANCE	BLOW COUNTS	SAMPLE RECOVERY (%)	ORGANIC VAPOR READING (PPM)	ELEVATION (FT)	DEPTH (FT)	SAMPLE INTERVAL	LITHOLOGY	CLASSIFICATION (CLASSIFICATION SYMBOL): color, numerical color designation (optional), relative density or consistency, moisture, structure	REMARKS
CB	1	NA	100	0	329	1		SAND (SW), dark yellowish brown (10YR 4/4), loose, moist, fine to coarse grained.	79F0036	
CB	3	NA	100	< 1	326	3		SILTY SAND (SM), dark yellowish brown (10YR 4/4), stiff, dry, fine to medium grained.	79F0037	
CB	3	NA	100	0	321	8		SANDY SILT (ML), yellowish brown (10YR 5/4), soft, dry, fine grained, white mottling.	79F0038	
BOTTOM OF BORING IS 10 FEET BGS									Borehole backfilled with cement/bentonite grout.	

REFERENCE: TEMPLATE: BORREV1.LOG
 SITE and LOCATION: MCAS El Toro Site 6
 HOLE NO.: 06B304

**MARINE CORPS AIR STATION EL TORO
EL TORO, CALIFORNIA
INSTALLATION RESTORATION PROGRAM
PHASE I REMEDIAL INVESTIGATION
DRAFT TECHNICAL MEMORANDUM
7 May 1993**

VOLUME II

EXTRACTS

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
CTO #145
DOCUMENT CONTROL NO:
CLE-C01-01F145-B18-0001

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

In association with:
International Technology Corporation
CH2M HILL

Appendix B6

NATURE AND EXTENT OF SITE-SPECIFIC CONTAMINATION:

SITE 6 (OU-3) - DROP TANK DRAINAGE AREA NO. 1

This discussion of Site 6 is supplemented by the figures and data tables listed below. The figures begin on page B6-3, and the tables are grouped at the end of this Appendix B6. Field headspace values for soils at this site are presented in Table BA1-6, in Attachment 1 to Appendix B (directly following Appendix B22).

Figure B6-1: (Site Map)

Figure B6-2: Geologic Cross Section

Table B6-1: Types of Samples and Chemical Analyses

Table B6-2: Summary of Detected Chemicals in Sediments and Surface/Near-Surface Soil

Table B6-3: Summary of Detected Chemicals in Vadose Zone (Subsurface) Samples

Table B6-4: Well Construction Details

Table B6-5: Summary of Hydraulic Parameters

Table B6-6: Summary of Detected Chemicals in Groundwater Samples

Table B6-7: Analyte Concentrations in Groundwater Exceeding Regulatory Standards or DTSC Action Levels

B6.1 Site Description

Site 6, Drop Tank Drainage Area No. 1, consists of a concrete apron bordered by a grassy area located southwest of Building 727 in the southern quadrant of the Station as shown in Figure B6-1. From 1969 to 1983, aircraft drop tanks were routinely transported to this area where their remaining fuel would be drained. Residual JP-5 fuel in the tanks was washed out onto the concrete apron. The fuel and wash/rinse water drained off the west side of the concrete apron onto the adjacent grassy area. Surface runoff from the site generally flows through a small swale (located west of the tank drainage area) into a ditch that connects to a catch basin. The catch basin discharges into the Agua Chinon Wash.

→ Historic aerial photographs show that drums were once stored in several areas at the site. These drums probably contained waste lubricant oils.

The site is subdivided into three strata. Stratum 1 includes the soil surrounding the concrete apron where tanks were drained; Stratum 2 includes the drainage ditch from the swale to the catch basin. Stratum 3 includes the former drum storage areas ← identified from aerial photographs.

B6.2 Suspected Waste Types and Contaminants

A review of available documents indicates the following potential contaminant releases:

- Between 1969 and 1983, an estimated 1,400 gallons of JP-5 fuel reportedly drained onto the grassy area surrounding the concrete apron (Stratum 1).
- Waste lubricant oils stored in drums reportedly spilled and leaked at the site.

B6.3 Field Investigation

The field investigation at Site 6 consisted of drilling and sampling one upgradient monitoring well, one deep boring, one downgradient well, and nine shallow borings, as shown in Figure B6-1. Three shallow borings were drilled at each stratum. The locations of each shallow boring was selected on the basis of the statistical method described in the *SAP*. Additional shallow samples were taken at the upgradient and deep boring locations. The shallow borings comprise samples collected from the ground surface, and 2 and 4 feet below ground surface (bgs). The deep boring was drilled in the grassy area adjacent to the concrete apron where spills reportedly occurred. The upgradient well was installed east of the site and the downgradient well was installed west of the site.

Changes were made from the *SAP* and documented by the *SAP Amendment*. The site boundaries were extended to include the drum storage area observed in the aerial photographs. Further, the upgradient well was relocated northeast of the drum storage area. The downgradient well was relocated away from the drainage area.

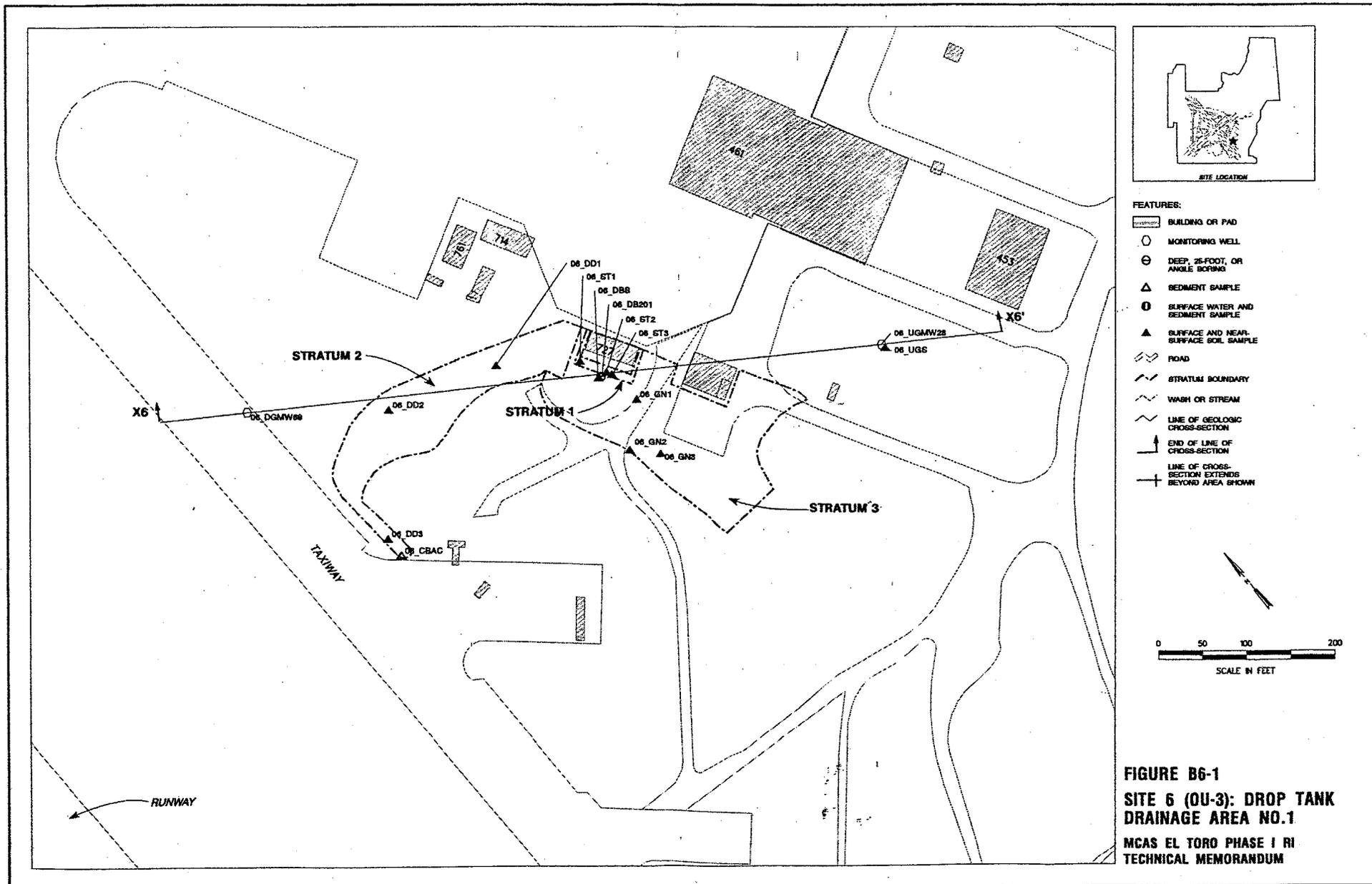
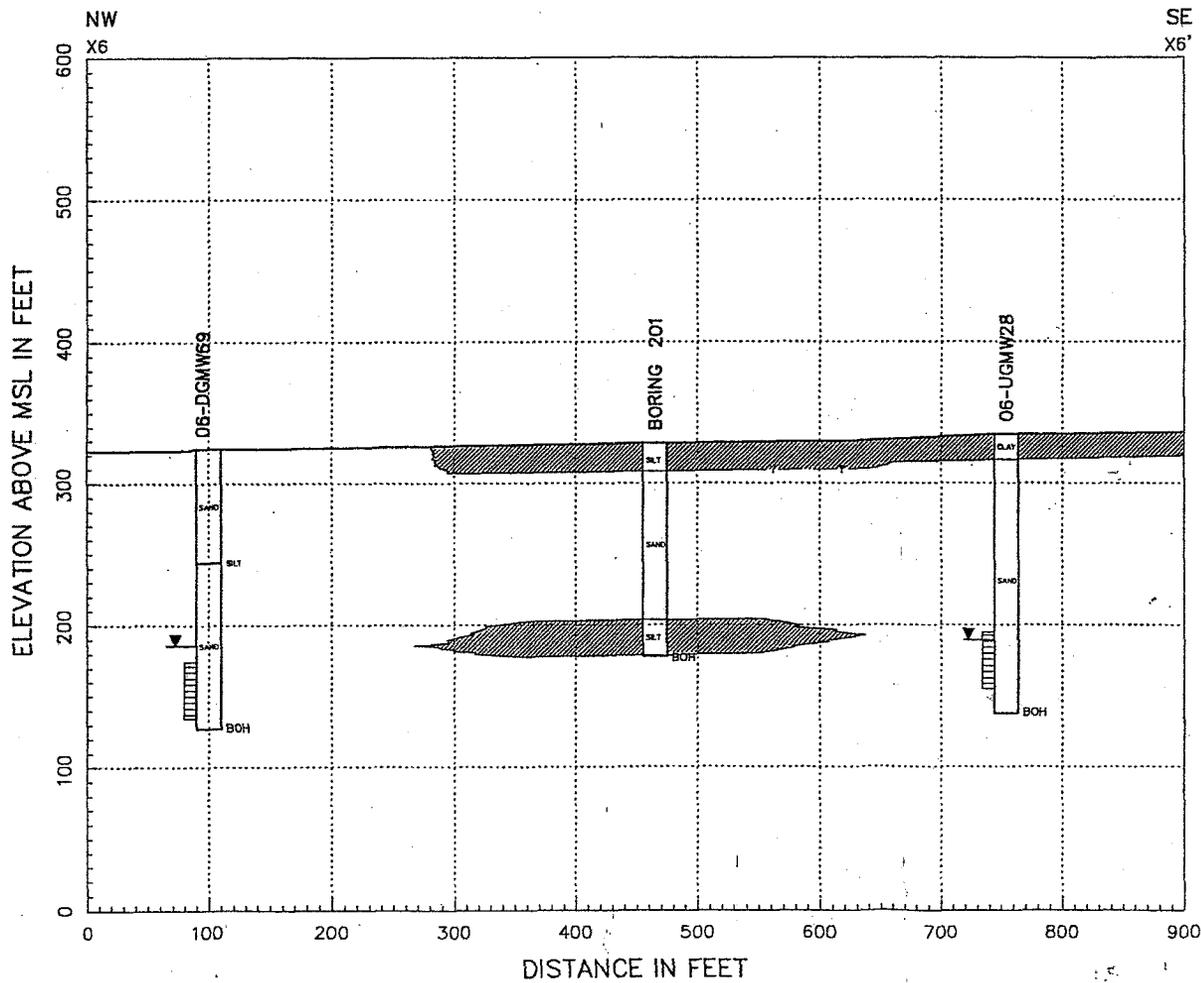
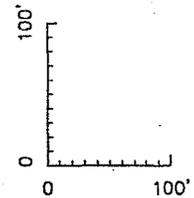


FIGURE B6-1
SITE 6 (OU-3): DROP TANK
DRAINAGE AREA NO.1
MCAS EL TORO PHASE I RI
TECHNICAL MEMORANDUM



HORIZ. SCALE: 1"=100'
 VERT. SCALE: 20% EXAGGERATION



LEGEND

-  UNCONSOLIDATED PERMEABLE SEDIMENTS
-  UNCONSOLIDATED LOW-PERMEABILITY SEDIMENTS
-  BOH BOTTOM OF HOLE
-  WELL SCREEN INTERVAL
-  WATER LEVEL ELEVATION, DECEMBER 1992

FIGURE B6-2
 SITE 6 (OU-3)
 GEOLOGIC CROSS SECTION X6-X6'
 MCAS EL TORO PHASE I RI
 TECHNICAL MEMORANDUM

Table B6-1 Site 6 (OU-3): Types of Samples and Chemical Analyses MCAS El Toro Phase I RI Technical Memorandum														
Page 1 of 2														
Location/ Stratum	Station Identifi- cation	Sample Identifi- cation	Sample Depth (ft)	Groups of Analytes Requested ^a										
				VOCs	Semi- VOCs	Pest- icides/ PCBs	Herbi- cides	TPH	TFH	Metals	CN	Genl. Chem- istry	TOC	Dioxins/ Furans
Surface Water and Sediments														
	06_CBAC	S1451028	0	X	X				X	X	X			X
Surface and Near-Surface Soils														
Upgradient	06_UGS	S1454447 S1454550	0 2						X	X	X			
Stratum 1	06_ST1	S1454057	0	X	X				X	X	X			
		S1454058	2	X	X				X	X	X			
	06_ST2	S1454001	0	X	X				X	X	X			
		S1454468 S1454902	2 ^b 2	X X	X X				X X	X X	X X			
06_ST3	S1454045	0	X	X				X	X	X				
	S1454005	2	X	X				X	X	X				
Stratum 2	06_DD1	S1454054	0	X	X				X	X	X			
		S1454055	2	X	X				X	X	X			
	06_DD2	S1454051	0	X	X				X	X	X			
		S1454052	2	X	X				X	X	X			
06_DD3	S1454048	0	X	X				X	X	X				
	S1454469	2 ^b	X	X				X	X	X				
	S1454049	2	X	X				X	X	X				
06_DBS	S1454060	0	X	X				X	X	X				
Stratum 3	06_GN1	S1454047	0	X	X				X	X	X			
		S1454530	2	X	X				X	X	X			
		S1454082	2 ^b	X	X				X	X	X			
	06_GN2	S1454163	0	X	X				X	X	X			
S1454164		2	X	X				X	X	X				
S1454165		4	X	X				X	X	X				
06_GN3	S1454168	0	X	X				X	X	X				
	S1454167	2	X	X				X	X	X				
Vadose Zone Soils														
	06_UGMW28	S1456088	128	X	X				X	X	X			
		S1456089	148	X	X						X		X	
	06_DB201	S1456091	5	X	X				X	X	X			
		S1456090	10	X	X				X	X	X			
		S1457021	10 ^b	X	X				X	X	X			
		S1456095	15	X	X				X	X	X			
		S1456085	20	X	X				X	X	X			
		S1456087	25	X	X				X	X	X			
		S1456086	40	X	X				X	X	X			
		S1457022	40 ^b	X	X				X	X	X			
		S1456092	50	X	X				X	X	X			
S1456084	140	X	X				X	X	X					

Table B6-1 Site 6 (OU-3): Types of Samples and Chemical Analyses MCAS El Toro Phase I RI Technical Memorandum														
Page 2 of 2														
Location/ Stratum	Station Identifi- cation	Sample Identifi- cation	Sample Depth (ft)	Groups of Analytes Requested ^a										
				VOCs	Semi- VOCs	Pest- icides/ PCBs	Herbi- cides	TPH	TFH	Metals	CN	Genl. Chem- istry	TOC	Dioxins/ Furans
	06_DGMW69	S1457095	120	X	X				X	X	X			
		S1456083	120 ^b	X	X				X	X	X			
		S1456093	155	X	X							X		
Groundwater														
	06_UGMW28	S1452045	140-180	X	X	X			X	X	X		X	
	06_DGMW69	S1452091	150-190	X	X	X			X	X	X		X	
^a VOCs = Volatile Organic Compounds; Semi-VOCs = Semivolatile Organic Compounds; PCBs = Polychlorinated Biphenyls; TPH = Total Recoverable Petroleum Hydrocarbons; TFH = Total Fuel Hydrocarbons; CN = Total Cyanide; TOC = Total Organic Carbon. ^b Duplicate														

FINAL

GROUNDWATER MONITORING REPORT
OCTOBER 1997 SAMPLING ROUND

GROUNDWATER MONITORING PROGRAM
FOR
MARINE CORPS AIR STATION EL TORO
EL TORO, CALIFORNIA

Contract No. N68711-96-D-2029
Delivery Order 005

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

Well 06_DGMW69 is located northwest
of Former TAA 761 (SWMU 236).

Prepared for:

SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1220 Pacific Highway
San Diego, California 92132

Prepared by:

CDM FEDERAL PROGRAMS CORPORATION
3760 Convoy Street, Suite 210
San Diego, California 92111

March 1998

Table B-1: WATER LEVEL MEASUREMENTS AND GROUNDWATER ELEVATIONS
MCAS El Toro Groundwater Monitoring Program

STATION ID	WELL TYPE	SCREEN INTERVAL (feet BGS)	TOP OF CASING ELEVATION (feet MSL)	MEASUREMENT DATE	DEPTH TO WATER (feet TOC)	WATER LEVEL ELEVATION (feet MSL)	CHANGE FROM PRIOR ELEVATION (+ or - feet)
05_DGMW68	WT	190 - 210	417.00	12-Jan-96	168.71	248.29	
			417.00	26-Feb-96	168.11	248.89	0.60
			417.00	27-Feb-96	168.11	248.89	0.00
			417.00	27-Mar-96	167.79	249.21	0.32
			417.00	31-Oct-96	166.28	250.72	1.51
			417.00	26-Nov-96	165.68	251.32	0.60
			417.00	26-Dec-96	165.52	251.48	0.16
			417.00	24-Jan-97	161.51	255.49	4.01
			417.00	27-Feb-97	165.40	251.60	-3.89
			417.00	27-Mar-97	164.82	252.18	0.58
			417.00	26-Jun-97	164.34	252.66	0.48
			417.00	11-Aug-97	164.22	252.78	0.12
			417.00	25-Sep-97	163.47	253.53	0.75
417.00	6-Nov-97	163.65	253.35	-0.18			
05NEW1	WT	163 - 203	407.77	31-Oct-96	164.04	243.73	
			407.77	26-Nov-96	163.36	244.41	0.68
			407.77	26-Dec-96	162.98	244.79	0.38
			407.77	27-Feb-97	162.05	245.72	0.93
			407.77	27-Mar-97	162.41	245.36	-0.36
			407.77	26-Jun-97	162.23	245.54	0.18
			407.77	11-Aug-97	161.96	245.81	0.27
			407.77	25-Sep-97	160.93	246.84	1.03
407.77	6-Nov-97	161.08	246.69	-0.15			
05_UGMW27	WT	198 - 238	438.00	11-Jan-96	169.84	268.16	
			438.00	29-Jan-96	169.72	268.28	0.12
			438.00	28-Feb-96	169.70	268.30	0.02
			438.00	27-Mar-96	169.32	268.68	0.38
			438.00	31-Oct-96	168.92	269.08	0.40
			438.00	26-Nov-96	168.40	269.60	0.52
			438.00	26-Dec-96	168.34	269.66	0.06
			438.00	23-Jan-97	168.26	269.74	0.08
			438.00	27-Feb-97	166.85	271.15	1.41
			438.00	27-Mar-97	166.62	271.38	0.23
			438.00	26-Jun-97	166.64	271.36	-0.02
			438.00	11-Aug-97	166.98	271.02	-0.34
			438.00	25-Sep-97	166.57	271.43	0.41
438.00	6-Nov-97	166.92	271.08	-0.35			
06_DGMW69	WT	150 - 190	324.33	12-Jan-96	134.00	190.33	
			324.33	2-Feb-96	133.77	190.56	0.23
			324.33	27-Feb-96	133.50	190.83	0.27
			324.33	27-Mar-96	133.20	191.13	0.30
			324.33	31-Oct-96	133.06	191.27	0.14
			324.33	26-Nov-96	132.56	191.77	0.50
			324.33	27-Dec-96	133.10	191.23	-0.54
			324.33	24-Jan-97	131.80	192.53	1.30
			324.33	27-Feb-97	131.14	193.19	0.66
			324.33	27-Mar-97	131.90	192.43	-0.76
			324.33	26-Jun-97	131.44	192.89	0.46
			324.33	12-Aug-97	131.26	193.07	0.18
			324.33	25-Sep-97	130.68	193.65	0.58
324.33	6-Nov-97	129.45	194.88	1.23			

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

01 April 1995

Revision 0

EXTRACTS

PREPARED BY:

Southeast Division, Naval Facilities
Engineering Command
1220 Pacific Highway
San Diego, California 92132-5190

THROUGH:

CONTRACT #N68711-89-D-3296

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 3-3
Summary of SWMUs/AOCs
MCAS EI Toro EBS Report - April 1995

Database Tracking	SWMU/AOC Number (1)	RFA Recommendation	Type	Location, Building, or Number	Sampling Visit	Comments	Area Type
SAA 779	227	NFA	< 90-Day Accumulation Area	779	X	RFA recommended NFA	3
UST T9	228	NFA	Underground Storage Tank	779		Recently installed fuel slop tank	7
SAA 800	229	NFA	< 90-Day Accumulation Area	800	X	RFA recommended NFA	2
UST 800D	230	NFA	Underground Storage Tank	800		No sampling based on 1990 tank test	7
UST 800E	231	NFA	Underground Storage Tank	800	X	RFA recommended NFA	7
OWS 800F	232	NFA	Oil/Water Separator	800	X	RFA recommended NFA	7
OWS 817	233	NFA	Oil/Water Separator	817	X	RFA recommended NFA	7
SAA 856	234	NFA	< 90-Day Accumulation Area	856	X	RFA recommended NFA	3
SAA 761	236	FA in IRP (5)	< 90-Day Accumulation Area	1663		Located in IRP Site 6 (5)	7
	237	NFA	< 90-Day Accumulation Area	1700		Source: SPCC map (no date) (3)	NA
	238	NFA	< 90-Day Accumulation Area	1727		Source: SPCC map (no date) (3)	NA
	239	NFA	Drum Storage Area	1798		Source: 1989 RWQCB letter (3)	NA
SAA 155A	240	NFA	< 90-Day Accumulation Area	155		No evidence of release	2
SAA 155B	241	NFA	< 90-Day Accumulation Area	155	X	RFA recommended NFA	3
SAA 371B	242	NFA	< 90-Day Accumulation Area	371	X	RFA recommended NFA	3
RFA 243	243	NFA	Wash Rack	96	X	RFA recommended NFA	3
PCB T74	244	NFA	PCB Spill Area	457	X	Additional investigation recommended by DTSC; sampling scheduled for 1995	7
RFA 245	245	NFA	Golf Course	464		Treated sanitary wastewater applied	1
RFA 246	246	NFA	Golf Course Irrigation Tank	459		Stored treated sanitary wastewater	1
RFA 247	247	NFA	Irrigation Pipeline	SW and SE quadrants		Transferred from Former Sewage Treatment Plant to Irrigation Tank at Golf Course	1
OWS 845	248	NFA	Oil/Water Separator	463	X	RFA recommended NFA	7

Table 3-3
Summary of SWMUs/AOCs
MCAS El Toro EBS Report - April 1995

Database Tracking	SWMU/AOC Number (1)	RFA Recommendation	Type	Location, Building, or Number	Sampling Visit	Comments	Area Type
NOTES:							
(1) SWMU/AOCs identified as duplicate locations are not included in this table. Refer to Table 4-1 of the Final RFA Report dated 16 July 1993 for a complete list of SWMUs/AOCs.							
(2) SWMU/AOC is located within RI/FS site boundaries and, therefore, was not evaluated in the RFA. These SWMUs/AOCs are being addressed under the IRP.							
(3) SWMU/AOC was not able to be accurately located or identified from the records review information and the visits conducted as part of the RFA.							
(4) These sites were not plotted on the GIS map because they were not evaluated under the PR/VSI.							
(5) SWMU/AOC is located within RI/FS site boundaries; however, it will be addressed in a closure-related compliance program.							
(6) DTSC recommended further investigation based on PR/VSI description, which stated that the drop tank storage area was located on damaged asphalt. This area is actually concrete-paved (tarmac) and, therefore, was not recommended for sampling during the RFA. No further investigation is anticipated at this SWMU/AOC.							
(7) These sites were not plotted on the GIS map because they were not evaluated under the PR/VSI. The parcels listed correspond to the nearest building location.							
* = Pending agency approval.							
FA = further action							
IRP = Installation Restoration Program							
NA = Not applicable. The SWMU/AOC is a large unit that is located in several different parcels.							
NL = Not located. Unable to locate building or device on historical plans for MCAS El Toro.							
NFA = No further action							
NEESA = Naval Energy and Environmental Support Activity							
SVOC = semi-volatile organic compounds							
SOURCE:							
Jacobs, 1993. MCAS El Toro Final RCRA Facility Assessment Report.							

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/VS/	2
SAA 445	445	Inactive	127	Sampling Visit Not Recommended During PR/VS/	2
SAA 447	447	Inactive	130	RFA recommended NFA	3
SAA 456	456	Inactive	135	Sampling Visit Not Recommended During PR/VS/	2
SAA 461	461	Active	138	RFA recommended NFA (1)	2
SAA 462	462	Active	140	Sampling Visit Not Recommended During PR/VS/	2
SAA 529	529	Inactive	144	RFA recommended NFA	2
SAA 534	534	Inactive	146	Sampling Visit Not Recommended During PR/VS/	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 2D (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/VS/	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/VS/	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 858	856	Active	234	RFA recommended NFA	3
SAA 900	900	Active		Environmental Office accumulation area	7

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
NOTES:					
(1) - SWMUs/AOCs that were determined to be located within R/FS site boundaries were eliminated from RFA sampling visits. These SWMUs/AOCs will be investigated in the IRP.					
(2) - Accumulation areas are currently being evaluated for removal and/or decontamination strategies.					
* - Indicates RFA recommendation of "no further action" is pending U.S. EPA approval.					
PR/VS/ - Preliminary Review/Visual Site Inspection performed as part of the RFA.					
IRP - Installation Restoration Program					
RFA - RCRA Facility Assessment					
NFA - No Further Action					
Sources:					
Jacobs, 1993. MCAS El Toro Final RCRA Facility Assessment Report.					
MCAS El Toro Hazardous Waste Open Drum Inspection Report Sheet					
SAIC, 1994. Draft Oil and Hazardous Substances Spill Prevention and Countermeasure Plan and Contingency Plan (SPCC).					

TRANSMITTAL

Date: 20 Sep 2002

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MCAS El Toro

To: Diane Silva
Code ~~01LS.DS~~

LMH

05G.DS

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Marine Corps Air Station, El Toro

Installation: Marine Corps Air Station, El Toro

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Sites: TAA 761

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Contract: N/A

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TAA 761 is located ~~with~~ within the
Boundary of IRP Site 6.