

Summary Report

Aerial Photograph Anomaly APHO 40
Probable Drums
Aerial Photograph Anomaly Program
Marine Corps Air Station, El Toro, California

30 September 1999

Prepared by
Southwest Division, Naval Facilities Engineering Command
BRAC Program Office
1420 Kettner Boulevard, Suite 501
San Diego, CA 92101-2404

Summary Report

Aerial Photograph Anomaly APHO 40

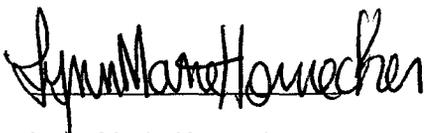
Probable Drums

Aerial Photograph Anomaly Program

Marine Corps Air Station, El Toro, California

30 September 1999

Prepared by:



Lynn Marie Hornecker
Civil Engineer

Southwest Division, Naval Facilities Engineering Command
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TRANSMITTAL

Date: 30 September 1999

From: Lynn Marie Hornecker 

To: **Ms. Alice Gimeno**

State of California Environmental Protection Agency
Department of Toxic Substances Control, Region 4
Site Mitigation Branch
Base Closure Unit
5796 Corporate Avenue
Cypress, CA 90630

Subj: Summary Report, Aerial Photograph Anomaly APHO 40
Probable Drums
Aerial Photograph Anomaly Program
Marine Corps Air Station, El Toro

Provided for your review as the attachment is the Summary Report for Aerial Photograph Anomaly APHO 40, also known as Science Applications International Corporation (SAIC) 271, in the northwestern section of the Marine Corps Air Station, El Toro. SAIC described this anomaly as probable drums on the southwest side of the former Building 287 which has been demolished. APHO 40 is located northeast of the former Tank Farm 3. APHO 40 was identified on a photograph dated 1974.

We evaluated historical aerial photographs, Station maps and plans, Station property records, environmental program management plans, and the results of previous environmental restoration program investigations, and we conducted a visual inspection of the APHO 40 vicinity in September 1999. Based upon the absence of visual evidence of drums or other evidence of current or recent storage activities at APHO 40, the absence of visual evidence of stains or discolored soils at APHO 40, and the absence of historical documentation identifying the storage of hazardous materials or wastes in the immediate vicinity of APHO 40, we are requesting that *no further action status* be designated for APHO 40 (SAIC 271) in the BRAC Cleanup Plan update.

If we do not receive comments from you within sixty (60) days of receipt of this document, then we will assume that you concur with our recommendations and we will continue with our evaluation of various Aerial Photograph Anomaly sites. A formal transmittal letter may follow.

Please do not hesitate to call me at (619) 532-4162 if you have questions pertaining to this project. Thank you very much.

Attachment

Summary Report, APHO 40 (SWDIV, September 1999)

CF: w/attachment

Glenn Kistner (USEPA)

Patricia Hannon (RWQCB)

Dean Gould (MCAS El Toro)

Project File

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Section 1

Introduction

The purpose of this Summary Report is to present information pertaining to the aerial photograph anomaly, designated as APHO 40 in the Base Realignment and Closure Cleanup Plan (BCP), located adjacent to the former Building 287 at the Marine Corps Air Station (MCAS), El Toro. APHO 40 was identified by Science Applications International Corporation (SAIC) as SAIC 271 during a review of historical aerial photographs, and the anomaly is described as probable drums on the southwest side of the former Building 287. APHO 40 (SAIC 271) was identified on an aerial photograph dated 1974.

The Marine Corps Air Station, El Toro, also known as the Station, comprises approximately 4,700 acres and is located in eastern Orange County approximately 45 miles southeast of Los Angeles, California. APHO 40 and nearby Buildings 624, 285, and 288 are shown on Figure 1. APHO 40 is located in the northwestern section of the Station near West Marine Way and North 7th Street. The anomaly encompasses a circular area approximately 100 feet in diameter.

The Station was closed on 2 July 1999 in accordance with the Base Realignment and Closure Act of 1993 (BRAC III). APHO 40 is located within a parcel tentatively identified as a future airport terminal and parking area according to *The Airport and Open Space Plan, Year 2020, Concept C* (County of Orange, August 1998).

This Summary Report includes an evaluation of historical records, a description of information collected during the investigation of nearby Environmental Locations of Concern, and the results of the visual inspections of the site. The open areas adjacent to the former Building 287 (a warehouse structure) may have been used for temporary storage of supplies.

Based upon the review of the historical information and the absence of visual evidence of drums or current or recent storage activities, it is recommended that *no further action status* be designated for APHO 40 (SAIC 271) in the next Base Realignment and Closure Cleanup Plan (BCP) Update.

Section 2

Field Inspections and Historical Records

APHO 40 (SAIC 271), identified on a photograph dated 9 December 1974, is described by SAIC as follows: *There are probable drums (D) on the southwest side of Building 287, near North 7th Street and J Street. Additional investigation is recommended.*

2.1 Field Inspections

APHO 40 Vicinity

The vicinity of APHO 40 was visually inspected by the Navy in September 1999. APHO 40 and the former Building 287 vicinity are relatively level areas near the former passenger terminal (Building 624). Some of the areas are paved with asphalt-cement access roads and parking areas for the terminal, while some of the area is unpaved. West Marine Way is located immediately northwest of APHO 40. Building 624 is located southwest of APHO 40, and Building 288 (a former maintenance hangar space and search and rescue office) is located approximately south of APHO 40. No structures remain at the former Building 287 site. Buildings 288 and 624 and the associated parking areas were vacant at the time of the visual inspection. No drums were observed in storage at or near APHO 40 during the inspection. No stains were observed on the parking areas and access roads or on the unpaved areas of APHO 40 during the inspection.

Photographs of the vicinity of APHO 40 and a check list form documenting observations from the visual inspection are presented in the Appendix.

2.2 Environmental Program Records

Records of previously completed environmental restoration program investigations were acquired and reviewed, and several underground storage tank (UST) sites are located in the vicinity (within approximately 200 to 400 feet) of APHO 40. Environmental Locations of Concern located near APHO 40 are shown on Figure 1. A description of the types of data collected near APHO 40 at adjacent Environmental Locations of Concern is presented in Table 1.

Table 1. Sampling Activities at or near APHO 40.

Location of Concern Identification Number	Status	NFA or other Decision Document(s)	Comments
<i>APHO 40 Vicinity</i>			
UST 288	NFA.	OCHCA letter dated 2 December 1996	Tank removal and sampling activities were conducted with OCHCA oversight.
<i>Southwest of APHO 40</i>			
Former Tank Farm 3 (UST Sites 188-195, 219, 220, 221, T-4)	NFA.	OCHCA letter dated 13 November 1996	Tank removal and sampling activities were conducted with OCHCA oversight.
<i>Northwest of APHO 40</i>			
UST 273	NFA.	RWQCB letter dated 3 October 1996	
<i>North of APHO 40</i>			
UST 285	NFA.	RWQCB letter dated 21 April 1997	
<i>Ground Water Data</i>			
Three monitoring wells were constructed along the perimeter of Tank Farm 3			Tank Farm 3 well, TF3MW-03, was constructed in 1996 and is located approximately west of APHO 40. Ground water monitoring reports have been submitted to the RWQCB Santa Ana Region.

Resource Conservation and Recovery Act Facility Assessment (RFA)

No Solid Waste Management Units were identified at or in the immediate vicinity of APHO 40 during the Resource Conservation and Recovery Act Facility Assessment (RFA). Results of the RFA are published in the *Installation Restoration Program, Final Resource Conservation and Recovery Act Facility Assessment Report for Marine Corps Air Station, El Toro, California* (Jacobs Engineering Group, 1993).

BRAC Cleanup Plan (BCP) Information

The BCP (Tables 3-1a, 3-1b, and 3-2) describe the aerial photograph anomaly sites. Extracts from the BCP are presented in the Appendix. Table 3-2 includes a description of APHO 40 that is not consistent with the SAIC description, *"The stain appears adjacent to B 281 (Admin/Class IV Package Store), which was demolished in 2/87. Currently, the area is an asphalt-paved parking lot."* It is recommended that the narrative for Table 3-2 be revised as follows: "APHO 40, identified on a 1974 photograph as SAIC 271, is described as probable drums on the southwest side of the former Building 287 near the former passenger terminal (Building 624)."

Environmental Baseline Survey

The Final Environmental Baseline Survey Report (JEG, 1995) did not identify temporary hazardous waste accumulation areas at or near APHO 40 or the former Building 287.

Hazardous Waste/Hazardous Materials Management Plan

The Station's Hazardous Waste/Hazardous Materials Management Plan (HW/HMMP) was reviewed and extracts pertaining to the vicinity of APHO 40 are presented in the Appendix. The HW/HMMP does not identify temporary storage of hazardous materials or wastes in the APHO 40 vicinity, and no hazardous waste accumulation areas are shown near the former Building 287.

Storm Water Pollution Prevention Plan

The Station's Storm Water Pollution Prevention Plan (SWPPP) was reviewed and extracts from the SWPPP for the vicinity of APHO 40 are presented in the Appendix of this report. The HW/HMMP does not identify temporary accumulation areas (TAAs) in the immediate vicinity of APHO 40. The nearest TAA is located at Building 289 (a maintenance hangar) – approximately 300 feet south of APHO 40.

Surface water from the APHO 40 vicinity discharges to Bee Canyon Wash, located approximately 900 feet southeast of the site. Bee Canyon Wash and other surface drainage channels were investigated during the Remedial Investigation of Installation Restoration Program Site 25 – the Major Drainages. A Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision identifying no action for IRP Site 25 was signed in 1997. Surface water quality in Bee Canyon Wash is monitored under the Station's National Pollutant Discharge Elimination System (NPDES) Permit for Storm Water. The permit was issued by the California Regional Water Quality Control Board, Santa Ana Region.

2.3 Historical Property Records

Property records including the Station's plant account data base were acquired and reviewed, and information pertaining to structures located near APHO 40 is summarized in Table 2.

**Table 2. MCAS El Toro Property Records.
 APHO 40 Vicinity Buildings.**

Building Identification Number	Approximate year of acquisition or construction	Type of Use	Comments
<i>APHO 40 Vicinity</i>			
Former Building 287	1944	Identified as a storehouse on a 1954 Master Plot Plan (included in the Appendix).	
<i>Southwest of APHO 40</i>			
624	1967	Passenger Air Terminal and Squadron Headquarters (SOMS) per 1997 Building Guide	Building dimensions are approximately 120 feet long by 96 feet wide.
<i>Approximately South of APHO 40</i>			
288	1944	Administration Building and Maintenance Hangar Space per 1997 Building Guide	Building dimensions are approximately 112 feet long by 80 feet wide.
289	1944	Maintenance Hangar per 1997 Building Guide	Building dimensions are approximately 122 feet long by 85 feet wide.

Photographs presented in the SAIC evaluation indicate that Building 287 was demolished during the mid-1980's. [Building 287 is visible on photographs dated 1968 (no stored items visible on the areas adjacent to the building) and 1984 (no stored items visible on the areas adjacent to the building).] Building 287 is not shown on the 1986 aerial photograph presented in the *Site Analysis, El Toro MCAS, Orange County, California* (United States Environmental Protection Agency, 1991), and the vicinity of the former Building 287 appears as a graded area on the 1986 aerial photograph.

2.4 Ground Water Conditions

Ground water conditions have been investigated in the vicinity of APHO 40 during the verification of conditions at former Tank Farm 3. The wells that were constructed around the perimeter of Tank Farm 3 are located west and southwest of APHO 40. Ground water is located approximately 170 feet below ground surface based upon measurements from these wells. Selected information is presented in the Appendix, and a conceptual site model is shown on Figure 2.

The nearest Installation Restoration Program (IRP) monitoring wells are located approximately 2,000 feet north of APHO 40 at IRP Site 20 – the Hobby Shop.

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 APHO 40 vicinity:

- SAIC identified APHO 40 (also known as SAIC 271) as a probable drums southwest of the former Building 287 on a photograph taken in 1974. The vicinity of the former Building 287 consists of paved parking areas and access roads and an unpaved area where the foundation of the former building was located. Building 287 was demolished in or before 1986.
- The APHO 40 description in Table 3-2 in the BCP is inconsistent with the SAIC description and revision of the description in the BCP update as follows is recommended: *"APHO 40, identified on a 1974 photograph as SAIC 271, is described as probable drums on the southwest side of the former Building 287 near the former passenger terminal (Building 624)."*
- The Hazardous Waste/Hazardous Materials Management Plan and the Storm Water Pollution Prevention Plan do not identify storage of hazardous wastes or hazardous materials at APHO 40.
- The APHO 40 vicinity was visually inspected by Navy representatives in September 1999, and no evidence of drums or other stored items and no stains or discolored areas were observed.

Based upon the results of the evaluation of historical records, the results of the visual inspection, and the absence of evidence of storage of hazardous materials or wastes at or near APHO 40, it is recommended that *no further action status* be designated for APHO 40 (also known as SAIC 271) and that *no further action status* be documented in the next BCP Update.

Section 4

References and/or Sources of Information

California Environmental Protection Agency, Department of Toxic Substances Control. 1999. Correspondence. Letter to Marine Corps Air Station, El Toro dated May 12, 1999 with Comments on Technical Memorandum, Aerial Photograph Anomalies, Marine Corps Air Station, El Toro.

CDM Federal Programs Corporation. 1998. Final Groundwater Monitoring Report, October 1997 Sampling Round, Groundwater Monitoring Program for Marine Corps Air Station, El Toro. [Navy Contract N68711-96-D-2029, Delivery Order 5]

County of Orange. 1997. Alternative A, El Toro Community Reuse Plan, 1997 Working Map, Land Uses/Conveyances, Gross Acres. [Prepared by P&D Consultants for the County of Orange, March 1997.]

County of Orange. 1998. The Airport and Open Space Plan, Year 2020, Concept C. August. [prepared by the MCAS El Toro Local Redevelopment Authority]

Integrated Environmental Management (IEM). 1997. Storm Water Pollution Prevention Plan (SWPPP) for Marine Corps Air Station, El Toro, El Toro, California. July. [Contract No. N68711-96-D-2059, Delivery Order Number 0002]
{Annotation: The IEM planning document included the acquisition and review of historical and current plans of facilities and utilities. Extracts from the IEM report are presented in the Appendix.}

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]

OHM Remediation Services Corporation. 1997. Draft Groundwater Monitoring Report, Petroleum Storage Facilities at Various Locations, Marine Corps Air Station, El Toro, California. April.

OHM Remediation Services Corporation. 1997. Technical Memorandum, Groundwater Monitoring Report, Petroleum Storage Facilities at Various Locations, Marine Corps Air Station, El Toro, California. November.

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.

Southwest Division, Naval Facilities Engineering Command. 1999. Technical Memorandum, Aerial Photograph Anomalies, Marine Corps Air Station, El Toro, California. April.

Southwest Division, Naval Facilities Engineering Command. 1998. Technical Memorandum, Groundwater Data Summary, Petroleum Storage Facilities at Various Locations, Marine Corps Air Station, El Toro, California. September.

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

United States Marine Corps Air Station, El Toro. 1999. Base Realignment and Closure (BRAC) Cleanup Plan.

U.S. 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. 1997. Building Guide.

United States Marine Corps Air Station, El Toro, Public Works Department. 1954. Master Plot Plan, Proposed Additional Aircraft Parking Facilities in Tactical Area III and Proposed Relocation of Existing Stables. [Alternate drawing identification number Public Works drawing PS-1236]

United States Marine Corps Air Station, El Toro. Circa 1946-1999. Station Property Records.

SOUTHWESTNAVFACENCOM
CODE 5BME.LMH
SAN DIEGO, CA 92101

Figures

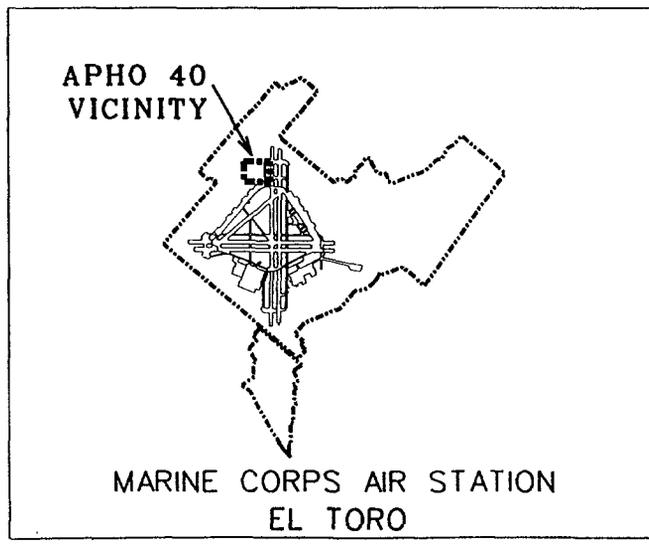
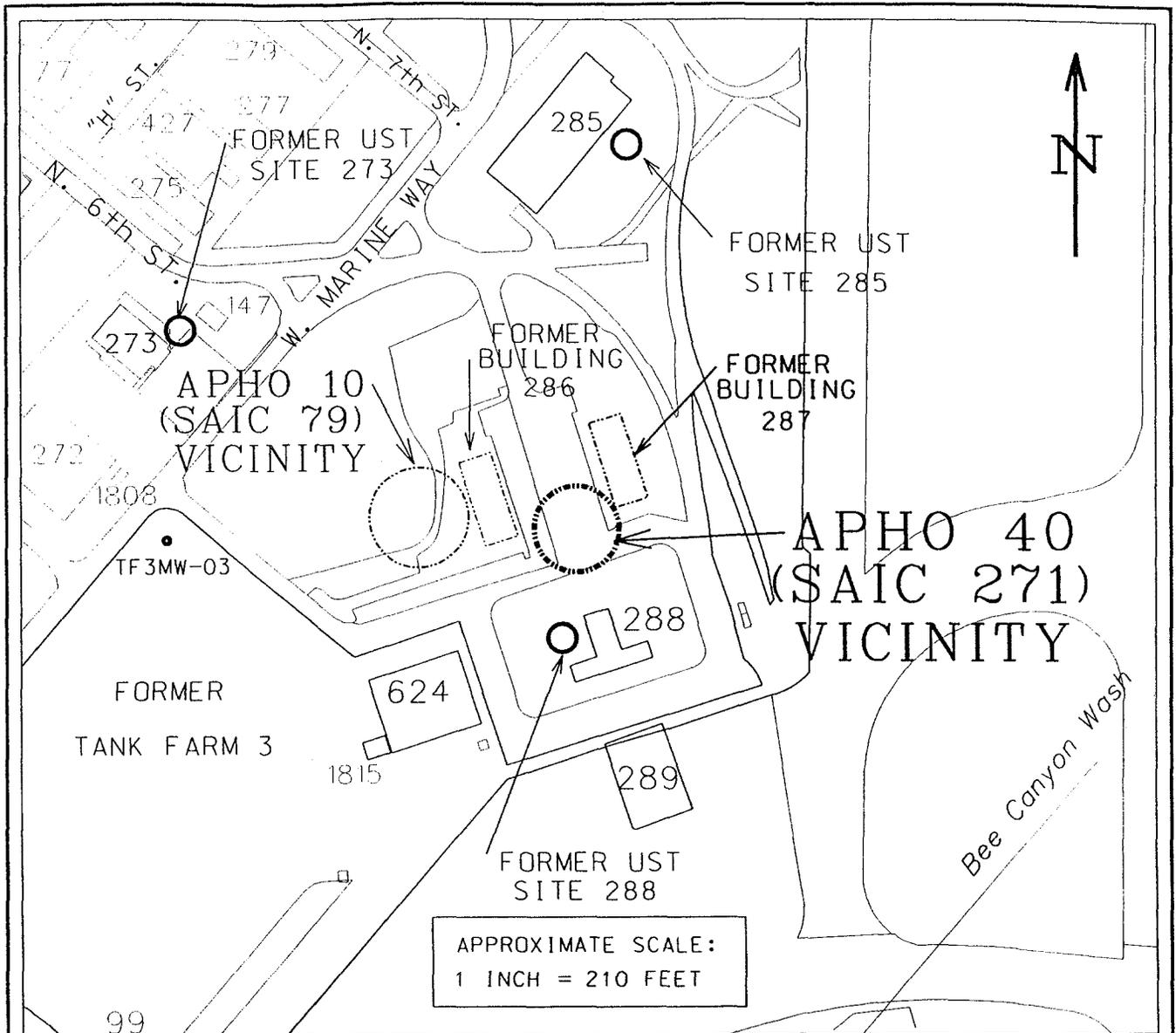


Figure 1.
 AERIAL PHOTOGRAPH ANOMALY PROGRAM
APHO 40 VICINITY MAP
 MARINE CORPS AIR STATION, EL TORO

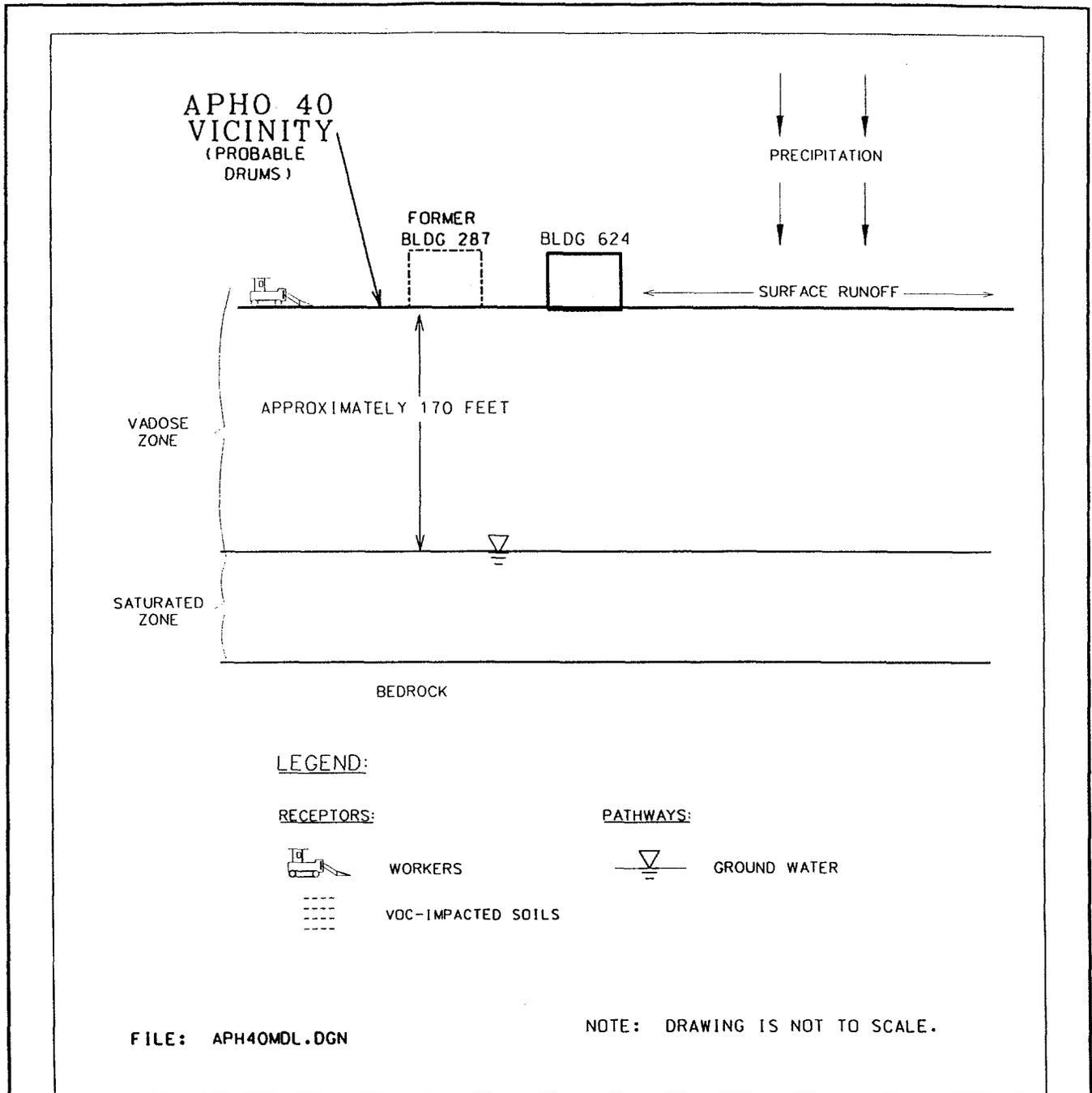


Figure 2.
AERIAL PHOTOGRAPH ANOMALY PROGRAM
**APHO 40 CONCEPTUAL SITE
MODEL**
MARINE CORPS AIR STATION, EL TORO

Appendix

Site Photographs and Other Documentation

Site Photographs

Check List Form

Exhibits

1997 Building Guide Extracts

Extracts from Base Realignment and Closure Cleanup Plan (BCP)

Extracts from SAIC Study

Extracts from SWPPP

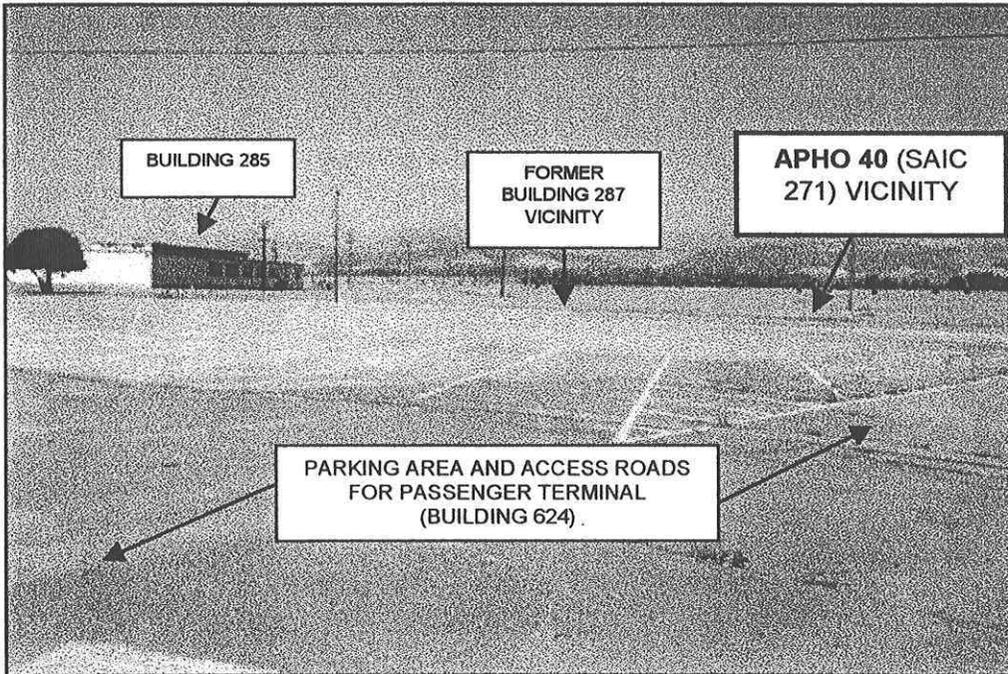
Extracts from HW/HMMP

No Further Action Documents (Closure Letters) for Nearby Environmental
Locations of Concern and Ground Water Information

**Photograph 1. APHO 40 (SAIC 271) Vicinity.
Probable Drums (identified on 1974 aerial photograph).**

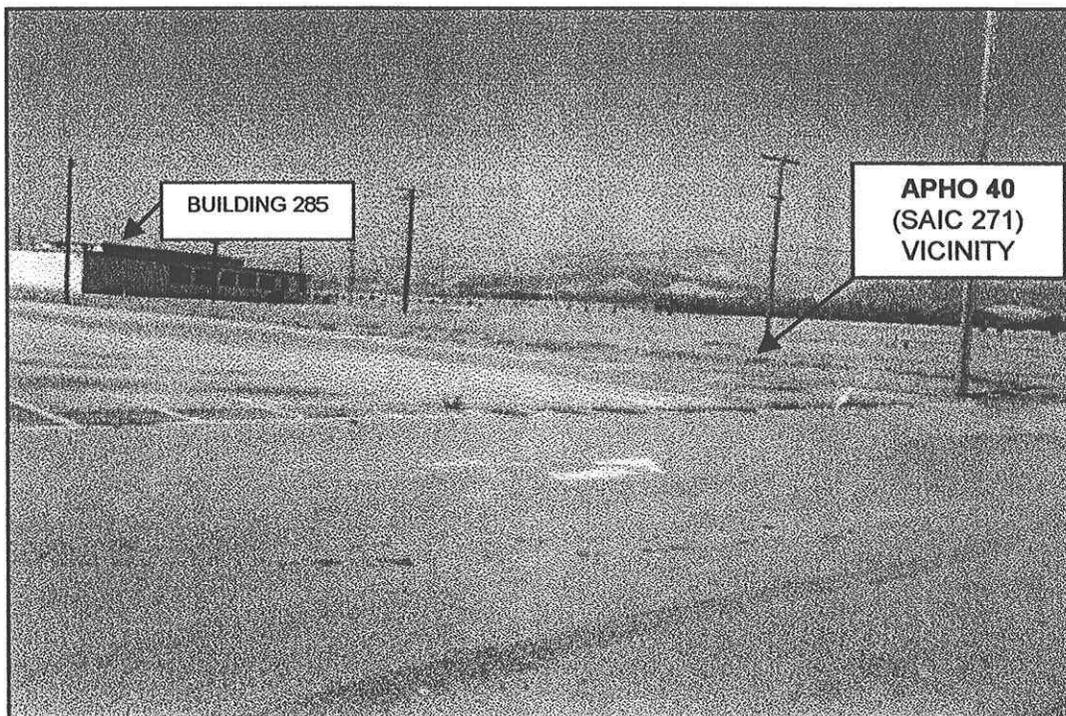
Looking Approximately North
Aerial Photograph Anomaly Program
Marine Corps Air Station, El Toro

Date of Photograph: 19 September 1999



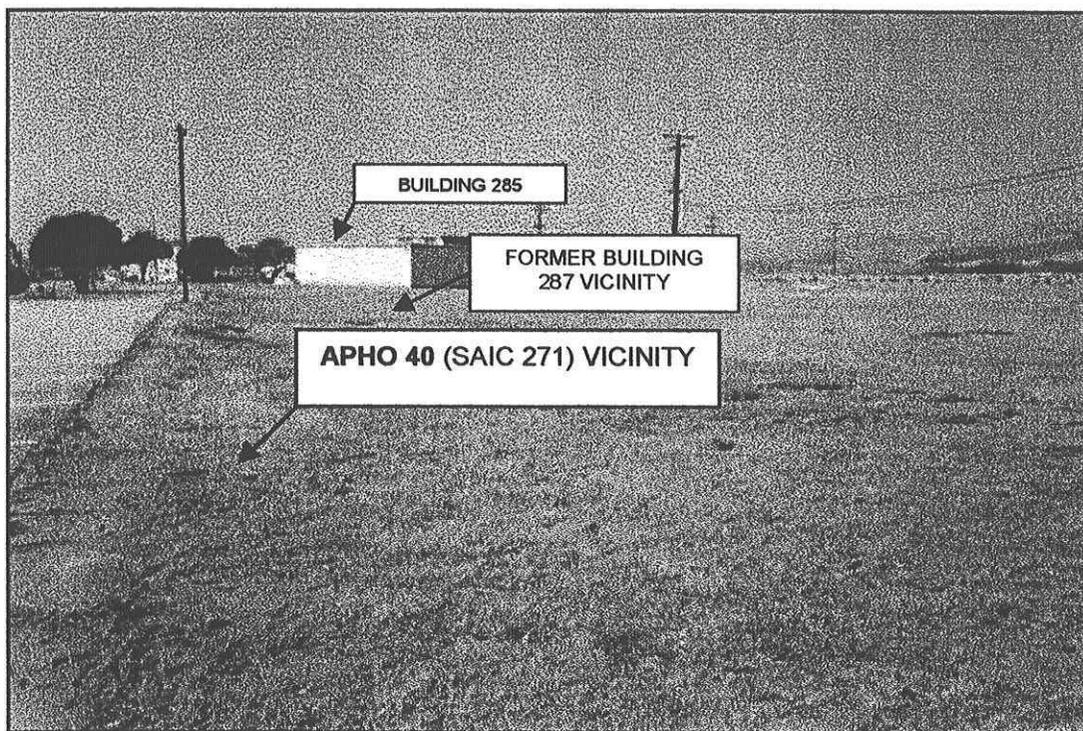
**Photograph 2. APHO 40 (SAIC 271) Vicinity.
Probable Drums (identified on 1974 aerial photograph).
Looking Approximately North
Aerial Photograph Anomaly Program
Marine Corps Air Station, El Toro**

Date of Photograph: 19 September 1999



**Photograph 3. APHO 40 (SAIC 271) Vicinity.
Probable Drums (identified on 1974 aerial photograph).
Looking Approximately North-Northwest
Aerial Photograph Anomaly Program
Marine Corps Air Station, El Toro**

Date of Photograph: 19 September 1999



CHECK LIST

Aerial Photograph Anomaly Program, Marine Corps Air Station, El Toro

Anomaly Identification Information:

Date of Photograph: December 9, 1974

APHO (from the BRAC Cleanup Plan)	SAIC	EPA
40	271	

Recommendation: No Further Action Status

Anomaly Description (from source document(s) *Site Analysis, El Toro MCAS* (EPA, 1991) or *Final Report, Aerial Photograph Assessment* (SAIC, 1993)):

SAIC 271: *There are probable drums (D) on the southwest side of Building 287, near North 7th Street and J Street. Additional investigation is recommended.*

Visual Inspection Date (s): 19 September 1999.

Participant(s) (with affiliation(s)) in inspection(s): Lynn Marie Homecker
US Navy, Project Manager

Current Site Conditions: *The vicinity of APHO 40 was visually inspected by the Navy in September 1999. APHO 40 and the former Building 287 vicinity are relatively level areas near the former passenger terminal (Building 624). Some of the areas are paved with asphalt-cement access roads and parking areas for the terminal, while some of the area is unpaved. West Marine Way is located immediately northwest of APHO 40. Building 624 is located southwest of APHO 40, and Building 288 (a former maintenance hangar space and search and rescue office) is located approximately south of APHO 40. No structures remain at the former Building 287 site. Buildings 288 and 624 and the associated parking areas were vacant at the time of the visual inspection. No drums were observed in storage at or near APHO 40 during the inspection. No stains were observed on the parking areas and access roads or on the unpaved areas of APHO 40 during the inspection.*

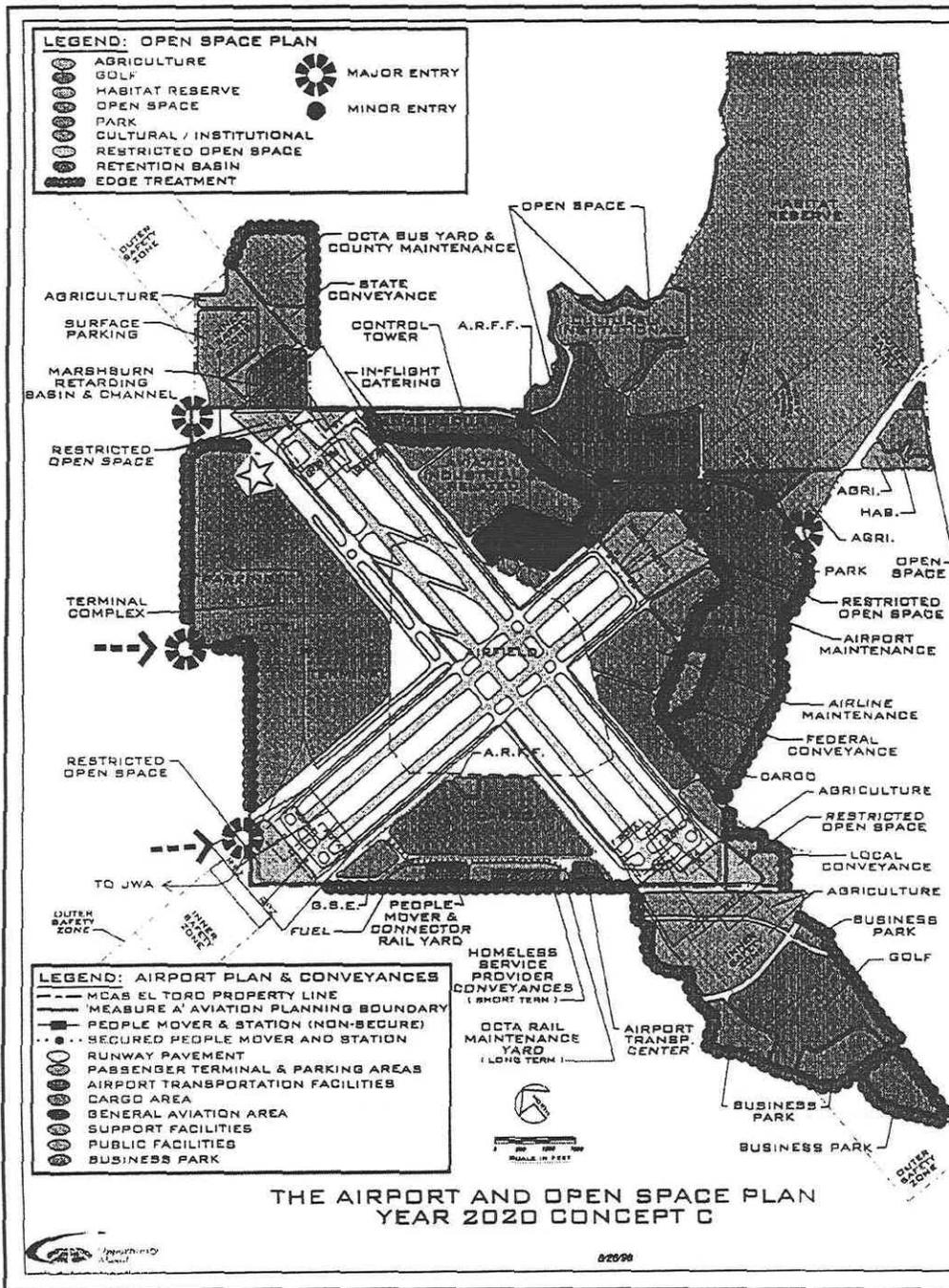
Is there visual evidence of the anomaly identified in the photograph present at the site?
No. No drums or items were being stored at the site at the time of the visual inspection.

Is there evidence of past releases? *No.*

Are there indications of potential or current releases? *No.*

Description of photograph(s): *Photographs of the APHO 40 vicinity including the access roads and parking areas for the former passenger air terminal.*

Date of preparation of check list: 23 September 1999



NOTE: The approximate location of APHO 40 is identified by a star symbol.

Exhibit 1.
 AERIAL PHOTOGRAPH ANOMALY PROGRAM
Tentative Reuse Plan
 The Airport and Open Space Plan, Year 2020, Concept C
 MARINE CORPS AIR STATION, EL TORO

El Toro Building Guide

EXTRACTS

BLDG	GRI	DESCRIPTION	TENANT	CATCO	CAC	SIZE
241	R4	Food Service Warehouse	Sta/G-4	73040	EBLO	3600 SF
241	R4	(MC Property Storage)	Vacant	44111	EBDO	10800 SF
242	S4	Museum	Sta Training	76010	ECNO	6240 SF
243	S4	Historical Ctr	Training	76010	ECNO	4160 SF
244	S5	Historical Collection	Training	76010	ECNO	10370 SF
245	S4	Storage Air/Ground	MWSG-37	44112	EBDO	6400 SF
248	S3	BOQ Quarters	Sta/G-4	61010	EBFO	8576 SF
249	S3	VIP Quarters (Transients)	Sta/G-4	72411	EBKO	15 PN
250	S3	VIP Quarters (Transients)	Sta/G-4	72412	EBKO	2 PN
251	S3	Bathhouse	Training	74089	EBLO	1017 SF
251	S3	Conference Center	Sta/G-4	61010	EBFO	1282 SF
251	S3	Recreation Pavillion	Sta/G-4	74078	EBLO	2000 SF
256	Q4	Aviation Phy Training (APTU)	Nav Hosp	17120	EBAO	10984 SF
256	Q4	Medical Clinic	Nav Hosp	55010	EBEO	2072 SF
257	P4	Admin Office	SJA/DIS	61010	EBFO	4596 SF
263	O3	Education Service Office	Training	74088	EBLO	8679 SF
264	O4	MWR Rental Office	MWR/Rec	74037	EBLO	8679 SF
264	O4	Arts and Crafts Hobby Shop	MWR/Rec	74036	EBLO	3725 SF
271	M3	Auditorium	Training	17125	EBAO	26733 SF
272	O4	Bowling Center/SB #4	MWR/Rec	74040	EBLO	14664 SF
273	N4	Post Office	CSSD-14	73085	EBLO	5104 SF
275	N4	3rd MAW Band Training	MWHS-3	17120	EBAO	12960 SF
276	N3	(Storage)	Vacant	72111	EBDO	12960 SF
277	N4	(Barracks)	Vacant	72111	EBGO	12960 SF
279	N4	Family Serv/Drug & Alcohol	Sta/G-1	74025	EBLO	6480 SF
279	N4	Rehab Center (JRC)	Sta/G-1	73081	EBLO	6480 SF
280	N3	Library	MWR/Rec	74076	EBLO	6480 SF
285	N4	Club System Warehouse	MWR/Sup	74085	EBLO	12952 SF
285	N4	Supply Warehouse MC	Supply	44110	EBDO	3048 SF
288	N5	Maint Hangar 01 Space	SOMS	21107	EBVO	3040 SF
288	N5	Maint Hangar 02 Space	SOMS	21106	EBVO	3040 SF
288	N5	Search and Rescue Office	SOMS	14120	EBNO	1120 SF
289	N5	ACFT Operations - VAL	SOMS	14140	EBNO	440 SF
289	N5	Maint Hangar 02 Space	SOMS	21107	EBVO	440 SF
289	N5	Maint Hangar 01 Space	SOMS	21106	EBVO	2690 SF
289	N5	Maint Hangar OH Space	SOMS	21105	EBVO	6800 SF
290	M7	General Storage	MAG-11	44112	EBDO	4000 SF
291	M8	NBC Storage	MAG-11	44112	EBDO	14400 SF
292	N8	Applied Instruction	NAWC	17120	EBAO	603 SF
292	N8	NAESU	3rd MAW	61010	EBFO	2012 SF
292	N8	(S-4/S-3)	Vacant	61072	EBFO	2011 SF
292	N8	TACTS/DDS	NWSSB	17120	EBAO	8500 SF
293	M9	Storage Tank/Potable Water	Installation	84140	EAQO	1000000
295	S8	Maint Hangar 01 Space	HMM-764	21106	EBVO	9000 SF
295	S8	Maint Hangar 02 Space	HMM-764	21107	EBVO	9000 SF
295	S8	Maint Hangar OH Space	HMM-764	21105	EBVO	22418 SF

El Toro Building Guide

BLDG	GRI	DESCRIPTION	TENANT	CATCO	CAC	SIZE
606	N8	Maint Hangar OH Space	HMM-163	21105	EBVO	5350 SF
607	R13	Public Toilet/Golf Course	MWR/Rec	73075	EBLO	92 SF
610	M9	Water Distribution Bldg	Installation	84209	EHCO	1126 SF
611	O12	Missile Magazine	Sta Ordn	42172	EBQO	930 SF
614	L10	Aqua Chinon Playground	Housing	75020	ECNO	2 EA
615	M2	Handball Courts	MWR/Rec	74084	EBLO	1743 SF
616	U7	Admin Office	Sta/G-4	61010	EBFO	792 SF
619	T12	Standby Generator Bldg	Installation	81159	EAAO	1329 SF
624	O4	Air Terminal	SOMS	14111	EBNO	2077 SF
624	O4	SQ Headquarters	SOMS	61010	EBFO	9393 SF
625	M3	Hobby Shop, Automotive	MWR/Rec	74038	EBLO	6153 SF
626	M3	Hobby Shop, Automotive	MWR/Rec	74038	EBLO	480 SF
629	P4	Academic Instruction Bldg	FASOTRAG	17110	EBAO	4260 SF
631	U9	Applied Instruction Bldg	MALS-11	17120	EBAO	12870
633	U9	Loading/Unloading Ramp	DRMO	85115	EDAO	68 SY
634	M9	Avionics Shop	MALS-11	21154	EBVO	675 SF
634	M9	Maintenance Hangar 01 Space	MALS-11	21106	EBVO	2611 SF
634	M9	Engine Maintenance Shop	MALS-11	21121	EBVO	23365
634	M9	(Maint Hangar OH Space)	Vacant	21105	EBVO	13163
634	M9	(Maint Hangar O2 Space)	Vacant	21107	EBVO	5119 SF
634	M9	(Maint Hangar 01 Space)	Vacant	21106	EBVO	9958 SF
635	T9	Weighing Facility	Supply	89056	EAP0	1 EA
636	R12	Cryogenics Office	MALS-11	14187	EBNO	500 SF
636	R12	Parachute/Surv Equip Shop	MALS-11	21175	EBVO	8530 SF
637	M8	Exchange Gas Station	MWR/Ret	74031	EBLO	900 SF
638	Q10	Wind Direction Indicator	Sta/G-3	13462	ECXO	1 EA
639	N8	Electric Power Plant Bldg	Installation	81109	EAAO	144 SF
640	N8	Electric Power Plant Bldg	Installation	81109	EAAO	144 SF
641	N8	Electric Power Plant Bldg	Installation	81109	EAAO	144 SF
642	N9	Electric Power Plant Bldg	Installation	81109	ECEO	144 SF
643	N8	Fixed ACFT Start System	Installation	14915	ECEO	32 EA
644	N6	Arresting Gear	SOMS	14930	ECEO	1 EA
645	N6	Arresting Gear	SOMS	14930	ECEO	1 EA
646	P10	Arresting Gear	SOMS	14930	ECEO	1 EA
647	P10	Arresting Gear	SOMS	14930	ECEO	1 EA
649	O2	Cafeteria	MWR/Ret	74004	EBLO	6855 SF
649	O2	Exchange Retail Store	MWR/Ret	74001	EBLO	64191
649	O2	Exchange Warehouse	MWR/Ret	74085	EBLO	38318
650	P2	Exchange Retail Store Whse	MWR/Ret	74001	EBLO	3800 SF
651	O2	Exchange Auto Repair Sta	MWR/Ret	74030	EBLO	10495
651	O2	Exchange Supplmtl Gas Sta	MWR/Ret	74030	EBLO	3344 SF
655	U8	Field Maint Shop	CSSD-14	21453	EBBO	18600
656	P3	Child Development Center	Sta/G-1	74074	EBLO	12733
657	Q3	Visitor/Vehicle Registration	PMO	73025	EBLO	315 SF
658	N10	Engine Test Cell	MALS-11	21181	EBVO	2894 SF
659	N10	Storage Tank/Nonpotable	Installation	84440	EAQO	25000

R

N18,000

S

N17,000

T

S. I. M. & A.	REPRODUCED & MODIFIED	MAR. '73	<i>lwe</i>
SYMBOL	DESCRIPTION	DATE	APPROVAL

REVISIONS

N16,000

DRAWN BY: S. I. MEYERSON, P.E.

— DEPARTMENT OF THE NAVY —

CHECKED BY: MW

U.S. MARINE CORPS AIR STATION
EL TORO - SANTA ANA CALIFORNIA

U

SUBMITTED 27 Feb '73
Neill Wards Jr
PLANNING BRANCH

STATION MAP

N15,000

REVIEWED:
L. W. Selinck
ENGINEERING DIRECTOR

EXTRACTS

V

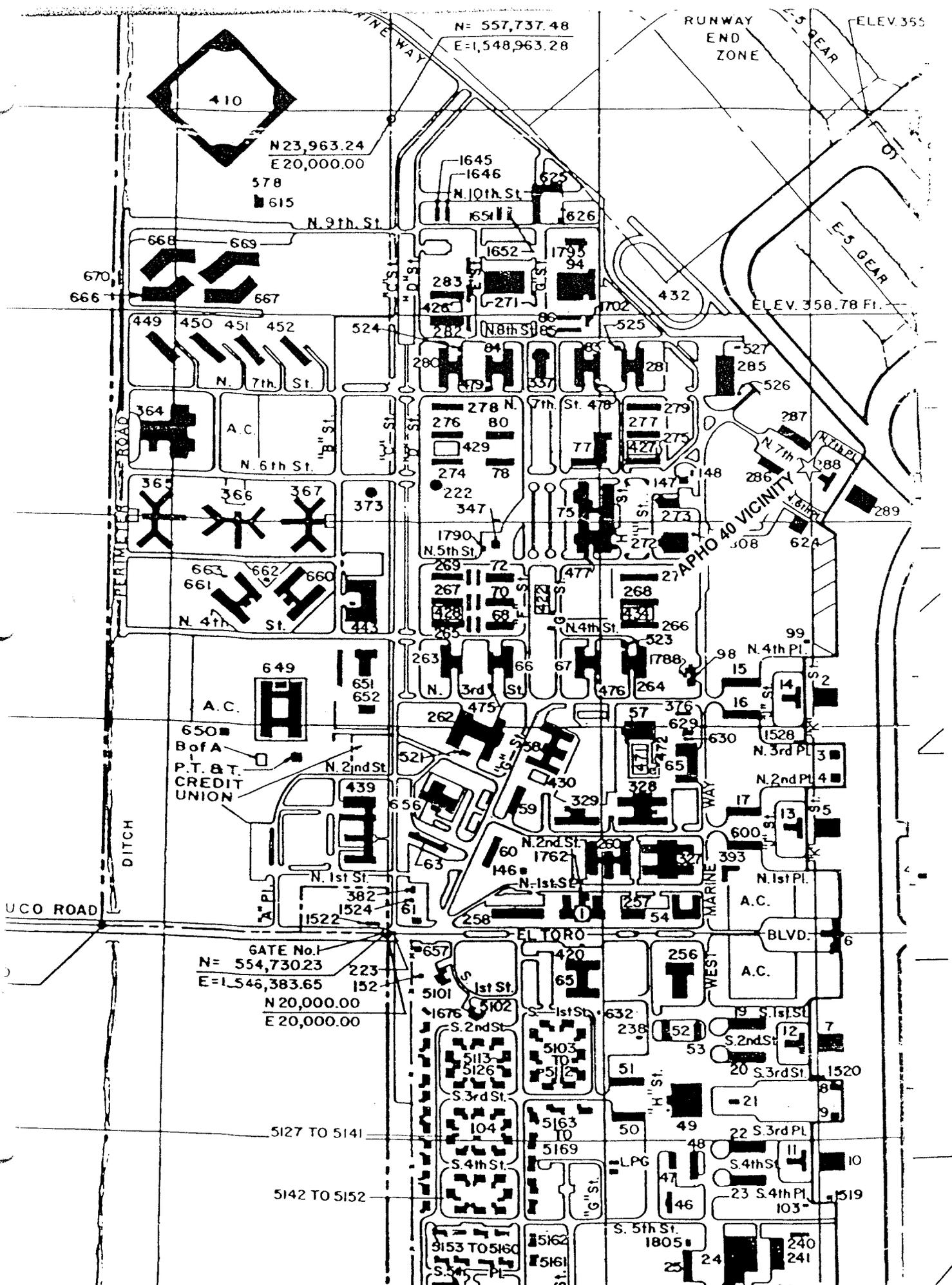
APPROVED: *[Signature]*
C.E.C. — U.S.N. — P.W.O.

SCALE: 1" = 600' 0"

SHEET 1 OF 1

DATE: 27 FEB 1973

P.W. DRAWING No. S-2010



N= 557,737.48
E=1,548,963.28

N23,963.24
E20,000.00

GATE No. 1
N= 554,730.23
E=1,546,383.65
N 20,000.00
E 20,000.00

RUNWAY
END
ZONE

ELEV. 358.78 Ft.

APHO 40 VICINITY

UCO ROAD

DITCH

EL TORO

BLVD.

MARINE WAY

5127 TO 5141

5142 TO 5152

5153 TO 5160

S. 5th St.
1805

A.C.

A.C.

BofA
P.T. & T.
CREDIT UNION

A.C.

A.C.

A.C.

LPG

United States Marine Corps

EXTRACTS

Base Realignment and Closure Cleanup Plan (BCP)



**For
Marine Corps Air Station
El Toro, CA**

March 1999

Table 3-2
Aerial Photograph Features/Anomalies
(Sheet 5 of 7)

Database Tracking	SAIC Anomaly ID No.	LRA Reuse Parcel	Point of Reference	Year	SAIC Observations ¹	SAIC Comments ²	Comments	ECP Area Type
APHO 35	238	42	B 137	1973	OS	C	Miscellaneous equipment is commonly stored adjacent to Bldgs. 137, 138, and 139. The activities that occur at these buildings is unknown. Also see anomaly 199.	7
APHO 36	239	42	B 291	1973	WS	C	In the 1970 U.S. EPA photograph, this area appears to be unpaved. No storage activities are identified in the U.S. EPA photograph.	7
APHO 37	241	43	B 115	1973	ST	C	SWMU 39 is located in this area. SWMU 39 was sampled and additional soil borings were recommended. Therefore, further investigation is recommended.	7
APHO 38	252	7	B 1789	1973	EX	C	Three pits are also identified in this general area in the 1970 U.S. EPA photograph. The use of the pits is unknown.	7
APHO 39	258	23	B 381	1973	WS, ST, HT	C	This structure appears to be B 381, former Crash Crew Station. According to the Station Building List, B 381 was demolished in 1986. Also see anomaly 449.	7
→ APHO 40	271	32	B 279	1974	D	C	The stain appears adjacent to B 281 (Admin./Class IV Package Store), which was demolished in 2/87. Currently, this area is an asphalt-paved parking lot.	7
APHO 41	272	32	B 287	1974	ST, WS	C	The stains appear in the vicinity of Tank Farm 3 where a former fuel bladder may have been located. Also see anomalies 7,113, 173, 190, 227, and 235.	7
APHO 42	281	8	B 457	1974	WS	C	The 1970 U.S. EPA photographs also identified a few stains in this general area. U.S. EPA identified this area as an open storage area with drums. Currently, this area is a park. Also see anomalies 351 and 366.	7

A. 0050 000495

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

EXTRACTS

Submitted to:

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

Submitted by:

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

October 25, 1993

2.12 1974 PHOTOGRAPHS

FIGURE: 13
DATE: 9 DECEMBER 1974
PHOTOGRAPH: TG-7400-10-16
NOTE: The photographs do not provide complete stereographic coverage.

c 270. Probable liquid (LQ) is noted on the southwest side of Building 279, near N 7th Street and H Street. Additional investigation is recommended.

→ c 271. There are probable drums (D) on the southwest side of Building 287, near N 7th Street and J Street. Additional investigation is recommended.

c 272. Stains (ST) or wet soil (WS) can be seen on the southwest side of Building 624, near N 6th Street and J Street. The pattern suggests probable liquid flow from the south corner of the building. Additional investigation is recommended.

c 273. There is disturbed ground (DG) on the northwest sides of Buildings 25, 27 and 29, near West Marine Way and S 6th Street. Investigation of the site's history as a possible disposal area is recommended. Expansion of the Suspended Fuel Tank (Site 15) IR program field investigation to include this general area may be advisable.

c 274. There are stains (ST) on the northwest side of Building 31, near West Marine Way and S 8th Street. Additional investigation is recommended. Expansion of the Suspended Fuel Tank (Site 15) IR program field investigation to include the entire area is recommended.

c 275. There are possible stains (ST) southwest of the Battery Disposal Area (Site 14), adjacent to the parking area. The possible stains may be the result of healthier vegetation due to locally increased runoff. Additional investigation not recommended at this time.

c 276. There is an impoundment (IM) with possible liquid (LQ) at Crash Crew Pit No. 2 (Site 16), stains (ST) about 220 feet south of Site 16, and vertical tank (VT) about 450 feet southeast of Site 16. Determination of the tank's contents is recommended. The origin of the stain (ST) is unknown. The current IR program field investigation of Site 16 appears to be adequate, relative to the features noted here, and additional investigation of the site is not recommended at this time. However, investigation of the other areas noted here is advisable.

c 277. Light- and dark-toned mounded material (MMLT and MMDT) are located about 200 feet southwest of S 15th Street and Plant Road. The features appear to be stockpiling of soil (DG) on the northwesterly side of Bee Canyon Wash. There is a possible drum (D) in the open storage (OS) area on the northerly side of S 15th Street

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

MCAS El Toro
Santa Ana, California

Prepared for:

Southwest Division
Naval Facilities Engineering
Command

Contract N68711-92-D-4658

EXTRACTS

LEGEND:

(453)

Approximate location of site or area of potential concern.

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



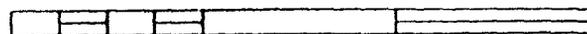
General Areas and Areas of Potential Concern Discussed in Section 2 of this Report



SAP Amendment RI/FS Sites



600' 300' 0 600' 1200'



1" = 600'

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

EXTRACTS

FOR

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

NOTE: ANNOTATIONS MADE BY THE
WRITER OF THE APHO 40 REPORT
ARE IDENTIFIED WITH AN ARROW OR
A STAR SYMBOL: 

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

VOLUME 1

JULY, 1997

INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.

TABLE 6-1							
MCAS EL TORO							
STATIONWIDE SUMMARY OF BMPs							
BLDG #	BASIN	BUILDING DESCRIPTION	TENANT	Concern Level	BMP STATUS	BMP #	BMP Description
271	28	Auditorium	Training	Limited			No Additional BMPs Recommended
272	17	Bowling Center/SB #4	MWR-Rec	Limited			No Additional BMPs are Recommended
273	17	Post Office	CSSD-14	Limited			No Additional BMPs are Recommended
275	17	3 rd MAW Band Training	MWHS-3	Limited			No Additional BMPs are Recommended
277	17	Barracks	Vacant	Limited			No Additional BMPs are Recommended
279	17	Family Services	Station/G-1	Limited			No Additional BMPs are Recommended
280	28	Library	MWR-Rec	Concern	Rec	110	Regularly Inspect and Maintain Storm Water Conveyance Systems
280	28	Library	MWR-Rec	Limited			No Additional BMPs Recommended
285	17	Supply Warehouse MC Club System Warehouse	Supply MWR-Support	Limited			No Additional BMPs are Recommended
288	17	SOMS Headquarters Maintenance Hanger 02 Space Maintenance Hanger 01 Space	SOMS SOMS SOMS	Previous			No Additional BMPs are Recommended
289	17	Maint Hngr Space	SOMS	Concern	Existing Rec Existing	112 110 065	Spill Prevention, Control, Countermeasures Plan Regularly Inspect and Maintain Storm Water Conveyance Systems Place Spill Kit in Area

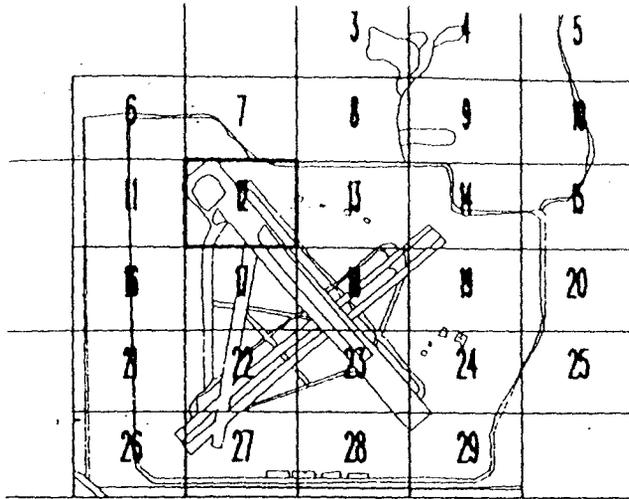
TABLE 6-1
 MCAS EL TORO

STATIONWIDE SUMMARY OF BMPs

BLDG #	BASIN	BUILDING DESCRIPTION	TENANT	Concern Level	BMP STATUS	BMP #	BMP Description
612	30	Not Listed		Limited			No Additional BMPs Recommended
613	30	Not Listed		Limited			No Additional BMPs Recommended
614	30	Aqua Chinon Playground	Housing	Limited			No Additional BMPs Recommended
615	14	Handball Courts	MWR-Rec	Limited			No Additional BMPs Recommended
616	01	Administration Office	Installation	Limited			No Additional BMPs are Recommended
619	37	Standby Generator Building	Installation	Concern	Rec	032	Dispose of Surplus Material or Store Under Cover
624	17	Air Terminal Administration	Station/G-3 Station/G-3	Limited			No Additional BMPs are Recommended
625	28	Hobby Shop/Automotive	MWR-Rec	Concern	Existing Existing Rec Rec Rec Rec Existing	009 112 012 016 110 044 065	Personnel Training Prepare Appropriate Spill Prevention and Response Plans Construct Berm or Dike Around Critical Areas Store Waste and Recycling Materials in Proper Containers Regularly Inspect and Maintain Storm Water Conveyance System Use Drip Pans under Leaking Equipment Place Spill Kit in Area
626	28	Hobby	MWR-Rec	Concern	Existing	009	Personnel Training

TABLE 7-1 MCAS EL TORO MATERIALS INVENTORY								
BLDG #	BASIN	BUILDING DESCRIPTION	TENANT	Contern Level	TRADE/COMMON NAME	MAX. DAY	AVE. Day	CONT.
288	17	SOMS Headquarters Maintenance Hanger 02 Space Maintenance Hanger 01 Space	SOMS SOMS SOMS	Previous	JP-5 Jet Fuel	550 gal	110 gal	55 gal
289	17	Maint Hngr Space	SOMS	Concern	Waste Jet Fuel JP-5	N/A	N/A	55 gal
291	07	NBC Storage	MAG-11	Concern	Ethylene glycol	N/A	N/A	N/A
291	07	NBC Storage	MAG-11	Concern	Glass Cleaner	N/A	N/A	N/A
291	07	NBC Storage	MAG-11	Concern	Hydroethane	N/A	N/A	N/A
291	07	NBC Storage	MAG-11	Concern	Monomethyl ether	N/A	N/A	N/A
291	07	NBC Storage	MAG-11	Concern	Sodium Hydroxide	N/A	N/A	N/A
295	02	Maint Hngr Space	HMM-764	Concern	Diesel Fuel	N/A	N/A	N/A
295	02	Maint Hngr Space	HMM-764	Concern	Grease	N/A	N/A	N/A
295	02	Maint Hngr Space	HMM-764	Concern	Hydraulic fluid	N/A	N/A	N/A
295	02	Maint Hngr Space	HMM-764	Concern	Jet Fuel JP-5	N/A	N/A	N/A
295	02	Maint Hngr Space	HMM-764	Concern	Lubricating oil	N/A	N/A	N/A
295	02	Maint Hngr Space	HMM-764	Concern	Solvents	N/A	N/A	N/A
295	02	Maint Hngr Space	HMM-764	Concern	Waste oil	N/A	N/A	N/A

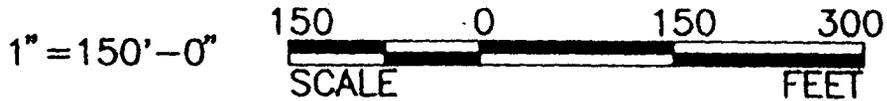
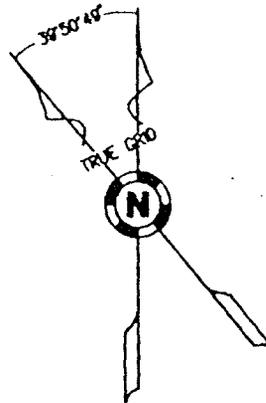
BLDG #	BASIN	BUILDING DESCRIPTION	TENANT	Concern Level	TRADE/COMMON NAME	MAX. DAY	AVE. Day	CONT.
606	07	Maint Hngr Space	HMM-163	Concern	Thinner	N/A	N/A	N/A
606	07	Maint Hngr Space	HMM-163	Concern	Waste Oil	N/A	N/A	N/A
610	08	Tank - Fuel Farm			Diesel Fuel No. 2	200 gal	100 gal	200 gal
619	37	Tank -MWR Golf course	Installation	Concern	Diesel Fuel No. 2	1000 gal	500 gal	1500 gal
625	28	Hobby Shop/Automotive	MWR-Rec	Concern	Antifreeze	N/A	N/A	N/A
625	28	Hobby Shop/Automotive	MWR-Rec	Concern	Gasoline	N/A	N/A	N/A
625	28	Hobby Shop/Automotive	MWR-Rec	Concern	Paint	N/A	N/A	N/A
625	28	Hobby Shop/Automotive	MWR-Rec	Concern	Waste Oil	N/A	N/A	N/A
626	28	Hobby Shop/Automotive	MWR-Rec	Concern	Cleaning compound	60 gal	25 gal	1 gal
634	08	Maint Hanger Space	MALS-11	Concern	Fuel	N/A	N/A	55 gal
637 - 3	08	Tank - Exchange Gas Station	MWR	Concern	Gasoline - Unleaded Regular	8000 gal	5000 gal	12000 gal
634	08	Maint Hanger Space	MALS-11	Concern	Hydraulic Fluid	N/A	N/A	55 gal
634	08	Maint Hanger Space	MALS-11	Concern	Lubricating Oil	N/A	N/A	55 gal
634	08	Maint Hanger Space	MALS-11	Concern	Solvents	N/A	N/A	55 gal
634	08	Maint Hanger Space	MALS-11	Concern	Waste Oil	N/A	N/A	55 gal
637 - 2	08	Tank - Exchange Gas Station	MWR	Concern	Gasoline - Unleaded Mid Grade	9000 gal	5000 gal	12000 gal



EXTRACTS

KEY PLAN

SCALE: NONE



IF PRINT SCALE IS LESS THAN 22X34 IT IS A REDUCED PRINT SCALE ACCORDINGLY

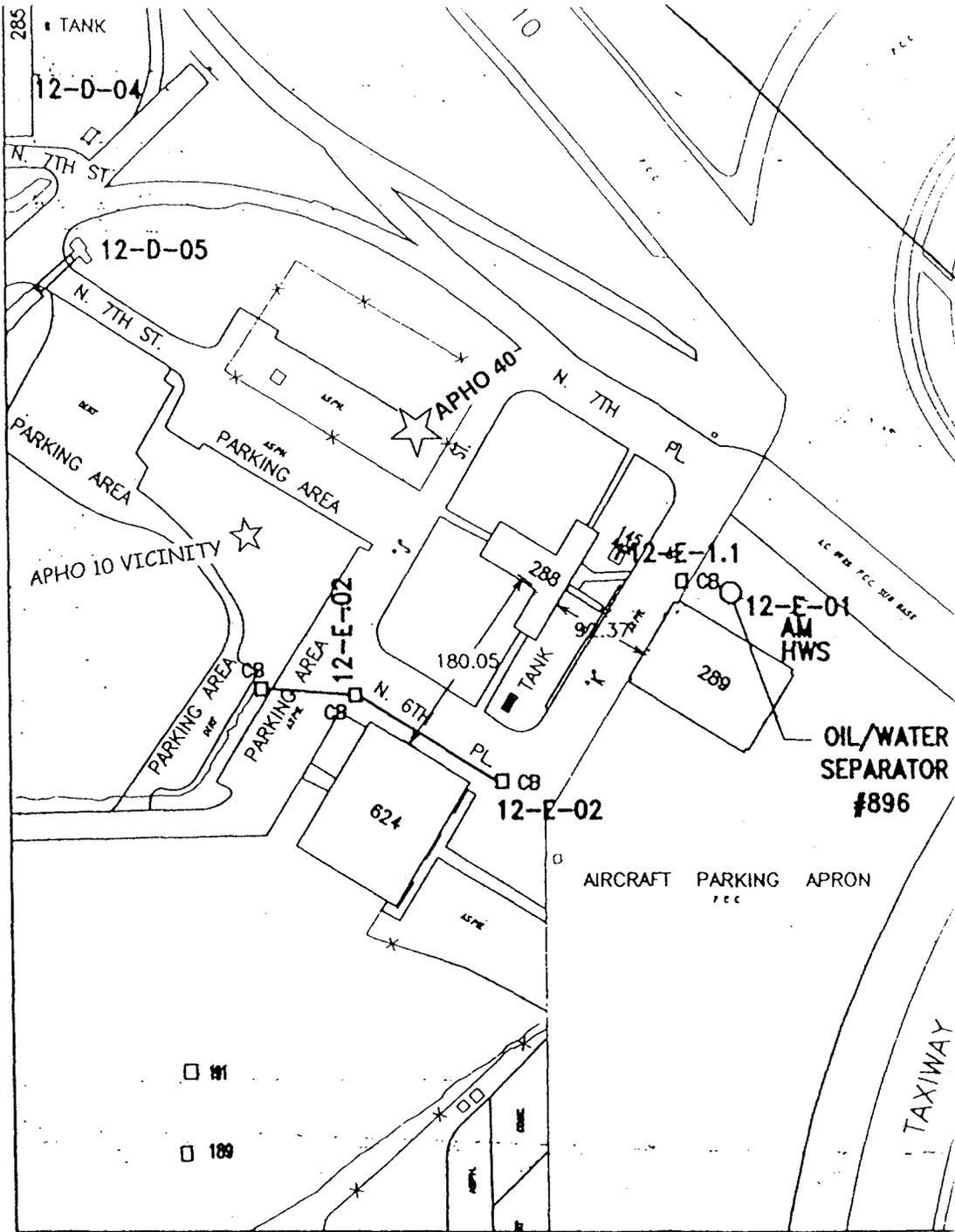
IEM
INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.

SUITE 412 • TUSTIN, CALIFORNIA 92680

(714) 731-5977 • (714) 731-5976

DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND	
EL TORO		CALIFORNIA	
MARINE CORPS AIR STATION		EL TORO, CA.	
"MCAS" EL TORO			
AREA 12 - STORM DRAINS			
DATE	SIZE	CODE IDENT. NO.	NAVFAC. DRAWING NO.
DATE	D		CONT. CONTR. NO. XXXXX
DER NAVFAC	SCALE	SPEC.	SHEET OF

\\EL_TORO\71E12 Wed Jun 4 14:23:31 1997 by Maria E.



EXTRACTS

Final

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

August 1994

EXTRACTS



NOTE: ANNOTATIONS MADE BY THE
WRITER OF THE APHO 40 REPORT
ARE IDENTIFIED WITH AN ARROW OR
A STAR SYMBOL: ☆

Prepared for:

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

Prepared by:

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

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

Hazardous Waste Accumulation Point Summary		
Unit	Bldg #	Coordinates
Aero Club	10	R5
Armory	744	O2
Auto Hobby Shop	626	M3
CSSD-14	388	U8
Environmental Above Ground Storage Tank	n/a	U6
FMD Shops, Bldg 1601	370	T6
Fuels Division	314	U9
H&HS 38	22	R4
MACG-38 MWCS 38	HGR 5	R4
MAG-46	51	Q4
MAG-46 Fixed Wing	296	T9
MAG-46 Helo Mals-46	295	S8
MALS-11 Air Frames	130	M9
MALS-11 Avionics	856	Q12
MALS-11 Cryogenics (ALSS)	636	R12
MALS-11 GSE North	392	M9
MALS-11 Ordnance	673	P12
MALS-11 Power Plant	658	N10
MALS-11 Power Plant	634	N9
MALS-11 Supply	441	P12
Maytag Aircraft Corp	779	N10
MOD Team	115	N9
Motor Pool (G-4), Bldg 770	386	T7
MWHS-3	7	Q5
MWR Auto #1	651	O2
MWR Golf Course	390	P13
MWSS-Utilities	31	S4
MWSS-373-HQ	800	U10
MWSS-373 Refuelers	671	U9
SOMS HQ	289	N5
SOMS Maintenance	HGR 2	O4
SOMS Recovery		
Supply	320	U7
VMFA (AW)-121	462	R11
VMFA (AW) 225	698	N9
VMFA (AW)-242	461	R11
VMFAT-101	371	Q10
VMFA-323	606	N8
VMGR-352	297	T8
VFMA-314	605	N7

NOTE:
 BUILDINGS 288 AND 624
 (NEAREST TO APHO 40) ARE
 NOT IDENTIFIED AS HW
 STORAGE AREAS.

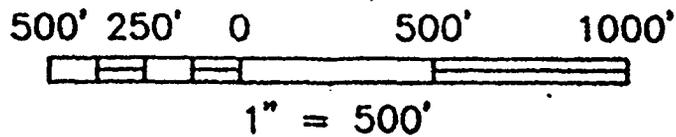
- ▲ HAZARDOUS MATERIALS STORAGE
- HAZARDOUS WASTE ACCUMULATION POINT
- ONE YEAR PERMITTED HAZARDOUS WASTE STORAGE AREA

EXTRACTS

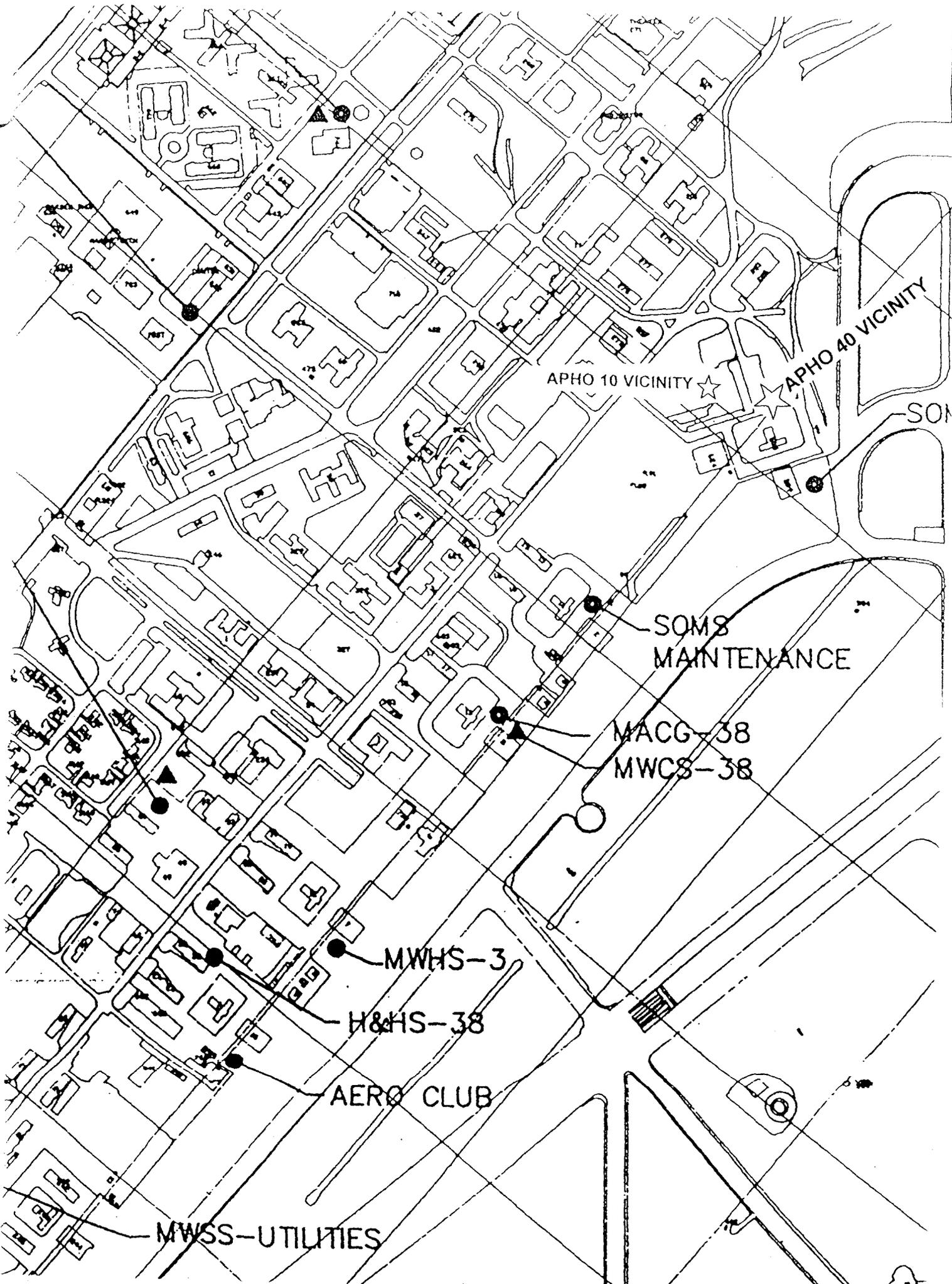
MCAS El Toro
Santa Ana, California

HAZARDOUS WASTE ACCUMULATION POINTS AND HAZARDOUS MATERIAL STORAGE LOCATIONS

NOVEMBER 5, 1993



Science Applications
International Corporation
● An Employee-Owned Company



APHO 10 VICINITY

APHO 40 VICINITY

SOMS
MAINTENANCE

MACG-38
MWCS-38

MWHS-3

H&HS-38

AERO CLUB

MWSS-UTILITIES

No Further Action Decision Documents for Nearby Environmental Locations of Concern (LOCs)



**COUNTY OF ORANGE
HEALTH CARE AGENCY**

**PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH**

TOM URAM
DIRECTOR

HUGH F. STALLWORTH, M.D.
HEALTH OFFICER

ROBERT E. MERRYMAN, REHS, MPH
DEPUTY DIRECTOR

MAILING ADDRESS:
2009 EAST EDINGER AVENUE
SANTA ANA, CA 92705-4720

TELEPHONE: (714) 667-3600
FAX: (714) 972-0749

November 13, 1996

LT Hope Katcharian
Director, Environmental Engineering Division
Commanding General
AC/S Environmental IAU
Marine Corps Air Station El Toro
P.O. Box 95001
Santa Ana, CA 92709-5001

Subject: Completion of Tank Removal Project

RE: Marine Corps Air Station El Toro
Fuel Farm #3
(Tanks #188, 189, 190, 191, 192, 193, 194, 195, 219, 220, 221 and a recovery [tank])
Santa Ana, CA 92709

Dear Lt. Katcharian:

This is in response to your request for a confirmation of the completion of the tank removal project. With the provision that the results for the soil samples obtained during the tank removal on September 13, 1996, were accurate and representative of existing conditions, it is the position of this office that no significant soil contamination has occurred at the above noted facility location.

It should be pointed out that this letter does not relieve you of any responsibilities mandated under the California Health and Safety Code if additional or previously unidentified contamination is discovered at the subject site.

If you have any questions regarding this matter, please contact Arghavan Rashidi-Fard at (714) 667-3713.

Sincerely,

William J. Diekmann, M.S., REHS
Supervising Hazardous Waste Specialist
Hazardous Materials Management Section
Environmental Health Division

cc: Larry Vitale, Santa Ana Regional Water Quality Control Board



**COUNTY OF ORANGE
HEALTH CARE AGENCY**

**PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH**

TOM URAM

DIRECTOR

HUGH F. STALLWORTH, M.D.
HEALTH OFFICER

ROBERT E. MERRYMAN, REHS, MPH
DEPUTY DIRECTOR

MAILING ADDRESS
2009 EAST EDINGER AVENUE
SANTA ANA, CA 92705-4720

TELEPHONE: (714) 667-3600
FAX: (714) 972-0749

December 2, 1996

LT. Hope Katcharian
Director, Environmental Engineering Division
Commanding General
AC/S Environmental IAU
Marine Corps Air Station El Toro
P.O. Box 95001
Santa Ana, CA 92709-5001

Subject: Completion of Tank Removal Project

RE: Marine Corps Air Station El Toro
Tank #288
Santa Ana, CA 92709

Dear Lt. Katcharian:

This is in response to your request for a confirmation of the completion of the tank removal project. With the provision that the results for the soil samples obtained during the soil sampling activities on October 15, 1993, were accurate and representative of existing conditions, it is the position of this office that no significant soil contamination has occurred at the above noted tank location.

It should be pointed out that this letter does not relieve you of any responsibilities mandated under the California Health and Safety Code if additional or previously unidentified contamination is discovered at the subject site.

If you have any questions regarding this matter, please contact Arghavan Rashidi-Fard at (714) 667-3713.

Sincerely,

William J. Diekmann, M.S., REHS
Supervising Hazardous Waste Specialist
Hazardous Materials Management Section
Environmental Health Division

.cc: Larry Vitale, Santa Ana Regional Water Quality Control Board

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION
3737 MAIN STREET, SUITE 500
RIVERSIDE, CA 92501-3339
PHONE: (909) 782-4130
FAX: (909) 781-6288

RECEIVED
CODE 18

16 OCT 96 18 57



October 3, 1996

Mr. Wayne D. Lee
Headquarters
Marine Corps Air Station, El Toro
Environmental and Safety
P.O. Box 95001
Santa Ana, CA 92709-5001

DUPLICATE

SUBJECT: CASE CLOSURE, FORMER UNDERGROUND STORAGE TANK AT SITE 53 AND SITE 273, MARINE CORPS AIR STATION, EL TORO

Dear Mr. Lee:

This letter confirms the completion of site investigation and remedial action for the underground storage tank formerly located at the above described locations.

Based on the available information and with the provision that the information provided to this agency in the "Site Assessment Report, Former Underground Storage Tank, Site 53, Marine Corps Air Station, El Toro" and "Site Assessment Report, Former Underground Storage Tank, Site 273, Marine Corps Air Station, El Toro" dated September 9, 1996 were accurate and representative of site conditions, no further action related to these underground storage tank releases are required.

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

Please contact Larry Vitale at (909) 782-4998 if you have any questions regarding this matter.

Sincerely,

Gerard J. Thibeault
Executive Officer

cc: Mr. Bill Dickman, Orange County Health Care Agency
Lt. H. Katcharian, Marine Corps Air Station, El Toro
✓ Ms. Lynn Hornecker, Southwest Division, NAVFACENCOM
Mr. John Adams Jr., State Water Resources Control Board, Division of Clean Water Programs

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION
3737 MAIN STREET, SUITE 500
RIVERSIDE, CA 92501-3339
PHONE: (909) 782-4130
FAX: (909) 781-6288



April 21, 1997

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

SUBJECT: CASE CLOSURE, FORMER UNDERGROUND STORAGE TANK SITE 285

Dear Mr. Lee:

This letter confirms the completion of site investigations and remedial actions for the subject underground storage tank site. Based on the information provided in the Underground Storage Tank Removal Report Tank Number 285 dated 1/30/97 and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground storage tank release is required.

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

If you have any questions regarding this matter, please contact Lawrence Vitale at (909) 782-4998.

Sincerely,

A handwritten signature in cursive script, appearing to read "Gerard J. Thibeault".

Gerard J. Thibeault
Executive Officer

cc: LT. Hope Katcharian, Marine Corps Air Station El Toro
Mr. Bill Diekman, Orange County Health Care Agency
Mr. John Adams Jr., State Water Resources Control Board, Division of Clean
Water Programs

Technical Memorandum

*Groundwater Monitoring Report
Petroleum Storage Facilities at Various Locations
Marine Corps Air Station
El Toro, California*

*SWDIV Contract No. N68711-93-D-1459, Delivery Order No. 0050
OHM Project No. 18292
Document Control No. SW4356
Revision 0
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EXTRACTS



OHM Remediation
Services Corp.

1202 Kettner Boulevard
San Diego, California 92101

NOTE: ANNOTATIONS MADE BY THE
WRITER OF THE APHO 40 REPORT
ARE IDENTIFIED WITH AN ARROW OR
A STAR SYMBOL: ☆

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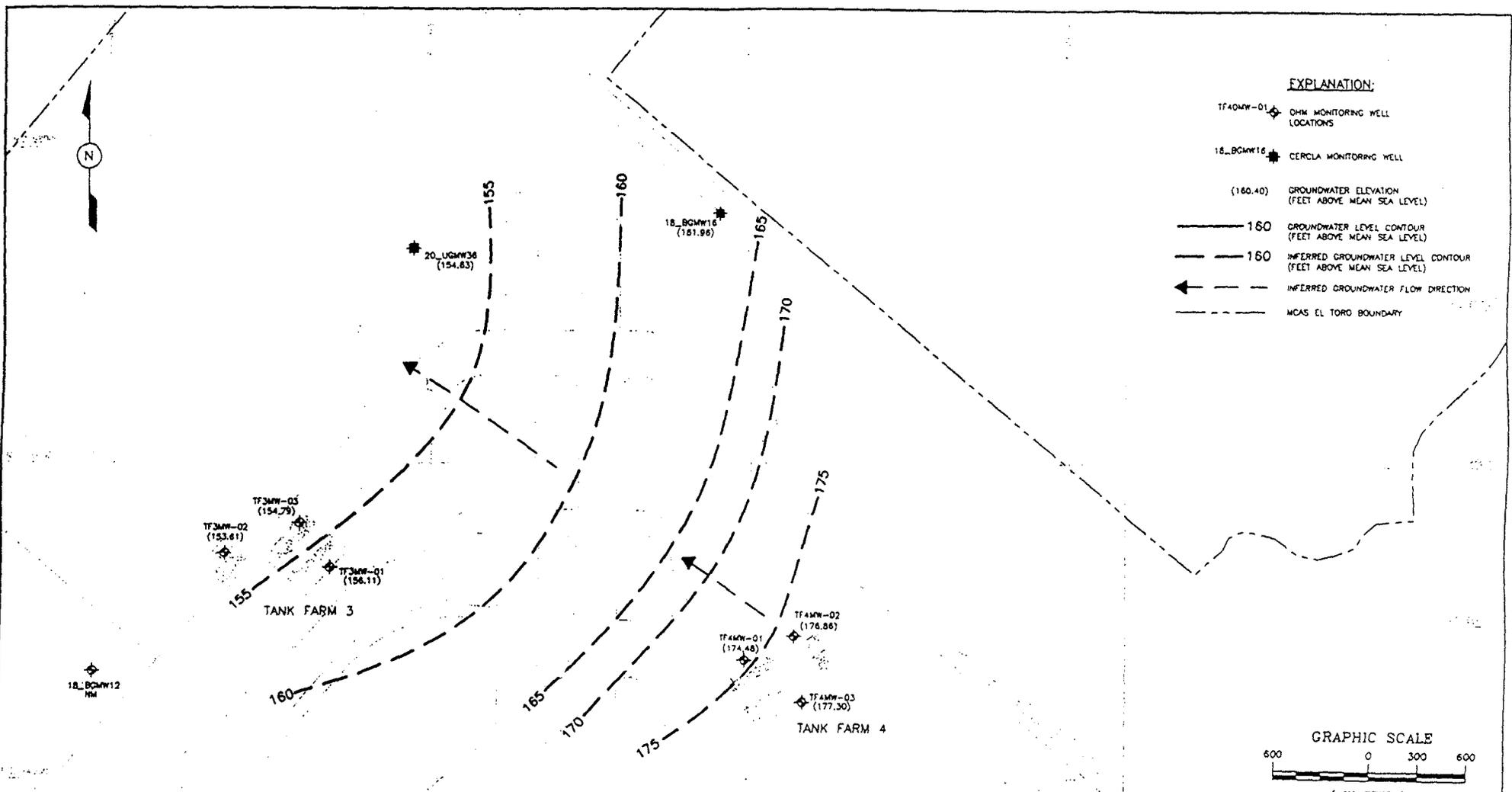
Table 2-2
Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Screen Interval (feet bgs)	Depth to Water (feet bgs)	TOC Elevation (feet msl)	Ground Surface Elevation (feet msl)	Water Elevation (feet msl)
TF2MW-02	16-May-96	115-155	127.75	278.80	279.53	151.05
	30-Aug-96		127.35	278.80	279.53	151.45
	13-Dec-96		127.75	278.80	279.53	151.05
	28-Jan-97		127.24	278.80	279.53	151.56
	31-Dec-96		127.60	278.80	279.53	151.20
	28-Mar-97		128.68	278.80	279.53	150.12
	19-May-97		126.46	278.80	279.53	152.34
TF2MW-03	20-May-96	120-160	128.20	279.67	280.32	151.47
	13-Dec-96		129.44	279.67	280.32	150.23
	24-Dec-96		129.15	279.67	280.32	150.52
	10-Jan-97		128.80	279.67	280.32	150.87
	28-Mar-97		128.12	279.67	280.32	151.55
	19-May-97		128.22	279.67	280.32	151.45
TF2MW-04	24-May-96	120-160	129.15	280.88	281.42	151.73
	30-Aug-96		132.32	280.88	281.42	148.56
	13-Dec-96		129.65	280.88	281.42	151.23
	13-Jan-97		129.20	280.88	281.42	151.68
	28-Mar-97		128.66	280.88	281.42	152.22
	19-May-97		128.64	280.88	281.42	152.24
13_UGMW32 GS	3-Sep-96	144-184	133.88	285.25	285.40	151.37
	13-Dec-96		133.73	285.25	285.40	151.52
	27-Dec-96		133.36	285.25	285.40	151.89
	28-Mar-97		132.73	285.25	285.40	152.52
	19-May-97		132.91	285.25	285.40	152.34
13_DBMW49	4-Sep-96	142-182	129.43	280.67	280.04	151.24
	13-Dec-96		128.58	280.67	280.04	152.09
	27-Dec-96		128.38	280.67	280.04	152.29
	28-Mar-97		128.03	280.67	280.04	152.64
	19-May-97		128.40	280.67	280.04	152.27
13_DGMW78 GS	4-Sep-96	127-167	125.00	276.16	276.42	151.16
	13-Dec-96		125.78	276.16	276.42	150.38
	10-Jan-97		125.06	276.16	276.42	151.10
	28-Mar-97		128.03	276.16	276.42	148.13
	19-May-97		128.40	276.16	276.42	147.76
15_DBMW51	5-Sep-96	125-165	119.80	269.45	269.79	149.65
	13-Dec-96		119.92	269.45	269.79	149.53
	20-Dec-96		119.68	269.45	269.79	149.77
	28-Mar-97		118.64	269.45	269.79	150.81
	19-May-97		118.85	269.45	269.79	150.60
→ TF3MW-01	31-Oct-96	169.5-209.5	178.47	332.86	333.45	154.39
	5-Nov-96		178.45	332.86	333.45	154.41
	13-Dec-96		177.88	332.86	333.45	154.98
	20-Jan-97		177.41	332.86	333.45	155.45
	28-Mar-97		176.75	332.86	333.45	156.11
	20-May-97		176.80	332.86	333.45	156.06

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Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

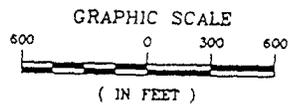
Well Number	Date Measured	Screen Interval (feet bgs)	Depth to Water (feet bgs)	TOC Elevation (feet msl)	Ground Surface Elevation (feet msl)	Water Elevation (feet msl)
→ TF3MW-02	13-Aug-96	159-199	165.95	318.38	319.36	152.43
	12-Sep-96		166.10	318.38	319.36	152.28
	13-Dec-96		166.02	318.38	319.36	152.36
	15-Jan-97		165.70	318.38	319.36	152.68
	28-Mar-97		164.77	318.38	319.36	153.61
	20-May-97		164.94	318.38	319.36	153.44
→ TF3MW-03	27-Aug-96	165.5-205.5	193.50	329.13	329.92	135.63
	18-Sep-96		175.60	329.13	329.92	153.53
	13-Dec-96		175.53	329.13	329.92	153.60
	15-Jan-97		175.33	329.13	329.92	153.80
	16-Jan-97		175.33	329.13	329.92	153.80
	28-Mar-97		174.34	329.13	329.92	154.79
	20-May-97		174.58	329.13	329.92	154.55
TF4MW-01	9-Sep-96	201-241	206.04	378.84	379.29	172.80
	27-Sep-96		205.91	378.84	379.29	172.93
	16-Dec-96		205.62	378.84	379.29	173.22
	31-Dec-96		205.29	378.84	379.29	173.55
	28-Mar-97		204.36	378.84	379.29	174.48
	20-May-97		204.02	378.84	379.29	174.82
TF4MW-02	16-Sep-96	201-241	210.80	384.97	385.27	174.17
	4-Oct-96		208.28	384.97	385.27	176.69
	16-Dec-96		209.20	384.97	385.27	175.77
	31-Dec-96		208.84	384.97	385.27	176.13
	28-Mar-97		208.11	384.97	385.27	176.86
	20-May-97		208.54	384.97	385.27	176.43
TF4MW-03	3-Sep-96	202.5-242.5	208.42	384.07	384.53	175.65
	3-Oct-96		209.64	384.07	384.53	174.43
	16-Dec-96		208.00	384.07	384.53	176.07
	6-Jan-97		207.71	384.07	384.53	176.36
	28-Mar-97		206.77	384.07	384.53	177.30
	20-May-97		206.22	384.07	384.53	177.85
18_BGMW12	16-Dec-96 28-Mar-97 20-May-97	165-205 NM NM	154.54	304.48	304.89	149.94
18_BGMW16	2-Oct-96	223-263	216.18	376.58	375.82	160.40
	16-Dec-96		216.04	376.58	375.82	160.54
	30-Dec-96		215.60	376.58	375.82	160.98
	28-Mar-97		214.62	376.58	375.82	161.96
	20-May-97		214.69	376.58	375.82	161.89
20_UGMW36	7-Oct-96	183-223	184.76	338.70	338.12	153.94
	16-Dec-96		185.52	338.70	338.12	153.18
	30-Dec-96		185.11	338.70	338.12	153.59
	28-Mar-97		184.07	338.70	338.12	154.63
	20-May-97		184.10	338.70	338.12	154.60

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EXPLANATION:

- TF4MW-01 ◊ OHM MONITORING WELL LOCATIONS
- 18_BGMW16 * CERCLA MONITORING WELL
- (160.40) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- 160 GROUNDWATER LEVEL CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- - - 160 INFERRED GROUNDWATER LEVEL CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- ← INFERRED GROUNDWATER FLOW DIRECTION
- - - - - MCAS EL TORO BOUNDARY



TANK FARMS 3 AND 4 SURVEY DATA

WELL LOCATIONS	NAD 83 NORTHING	NAD 83 EASTING	TOP OF CASING ELEVATION (feet msl)	GROUND SURFACE ELEVATION (feet msl)	SCREEN INTERVAL (feet bgs)
TF3MW-01	2195332.55	6110359.68	322.86	333.45	169.5-209.5
TF3MW-02	2195422.13	6109897.16	318.39	319.36	159-199
TF3MW-03	2195616.10	6110170.46	329.13	329.92	165.5-205.5
TF4MW-01	2194744.18	6112988.30	378.84	379.29	201-241
TF4MW-02	2194900.25	6113277.27	384.70	385.27	207-247
TF4MW-03	2194478.50	6113332.33	384.07	384.53	202.5-242.5
18_BGMW12	2194672.84	6106673.29	304.46	304.89	183-205
18_BGMW16	2197586.29	6112784.73	376.58	375.82	223-283
20_UGMW36	2197362.61	6110862.10	338.70	338.12	183-223

msl - mean sea level
bgs - below ground surface

REVISIONS			
REV. NO.	DESCRIPTION	DATE	APPROVED

<p>CONTRACT NAME</p> <p>SWDIV</p>		<p>OHM Remediation Services Corp. A Subsidiary of OGS Corporation San Diego, CA</p>	
<p>DRAWN BY</p> <p>R. PIRMORADIAN</p>		<p>DATE</p> <p>09/12/97</p>	
<p>CHECKED BY</p>		<p>DATE</p>	
<p>APPROVED BY</p>		<p>DATE</p>	
<p>PROJECT MANAGER</p>		<p>DATE</p>	
<p>TANK FARMS 3 AND 4 GROUNDWATER CONTOUR MAP MARCH 28, 1997</p>			
<p>MARINE CORPS AIR STATION EL TORO, CALIFORNIA</p>			
<p>SCALE</p> <p>1" = 600'</p>		<p>SHEET</p> <p>1</p>	<p>OF</p> <p>1</p>
<p>DOCUMENT CONTROL NO.</p> <p>SW4356</p>		<p>DWG PROJECT NO.</p> <p>18292</p>	<p>DRAWING NO.</p> <p>FIG 6-2</p>