

Technical Memorandum

Former Above-Ground Storage Tank (AST) Site 315
Marine Corps Air Station, El Toro, California

30 July 2001

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

TRANSMITTAL

Date: 31 July 2001

From: Lynn Marie Hornecker
MCAS El Toro

To: Diane Silva
Code 01LS.DS

Subj: [★]CERCLA Administrative Record Materials
Marine Corps Air Station, El Toro

Installation: Marine Corps Air Station, El Toro

UIC Number: M60050

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Author: Lynn Marie Hornecker, SWDIV

Recipient: Patricia Hannon RWQCB

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Sites: AST Site 315*

Key Words:

Contract: N/A

CTO Number: N/A

* Include all sites
in Database Site field
002

★ AST Site 315 is located
within IRP Site 7* + within
IRP Site 24*

SOUTHWESTNAVFACENGCOM
Code 06CC.LMH
1220 Pacific Highway
San Diego, CA 92132
Telephone: (619) 532-0783

File: AST245ltr.doc

TRANSMITTAL

Date: 30 July 2001

From: Lynn Marie Hornecker 

To: **Patricia Hannon**
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3339

Subj: Summary Report, Former Above-Ground Storage Tank (AST) Site 315
Marine Corps Air Station, El Toro

Transmitted for your information is the summary report documenting the removal of above-ground storage tank (AST) 315, formerly used for storage of propane, at the Marine Corps Air Station, El Toro. The tank was identified as a new Location of Concern (LOC) in early 2001 and the tank will be added to the LOC inventory in the next Base Realignment and Closure Business Plan update. The 500-gallon tank was removed from the site on 20 March 2001.

Former AST Site 315 is located near Building 315 within the investigation boundary of Installation Restoration Program (IRP) Site 7 (Drop Tank Drainage Area Number 2), Unit 5 (Open Dirt Area) and IRP Site 24 (the Volatile Organic Compound Source Area). We inspected the former tank site and we did not observe evidence of releases from the tank on the ground surface. We propose to document the removal of the tank and to designate *no further action* status for the tank site in the next Base Realignment and Closure Business Plan Update.

If we do not receive comments from your office within sixty days of receipt of this transmittal, then we will assume that you concur with the recommendation presented in the Summary Report.

Please do not hesitate to call if you have questions pertaining to this tank site.

Attachment

Summary Report (SWDIV, July 2001)

CF: w/atch

Triss Chesney (DTSC)

Dean Gould (SWDIV)

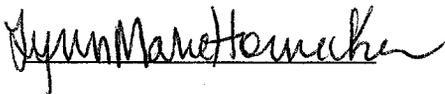
Project File (MCAS El Toro)

Technical Memorandum

Former Above-Ground Storage Tank (AST) Site 315
Marine Corps Air Station, El Toro, California

30 July 2001

Prepared by:



Lynn Marie Hornecker
Civil Engineer

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

Section 1

Introduction

The purpose of this Summary Report is to present information pertaining to the former Above-Ground Storage Tank (AST) Site 315 located southeast of Building 315 the southwestern section of the Marine Corps Air Station (MCAS), El Toro. AST 315, a metal tank with an approximate capacity of 500 gallons, was used for storage of propane and was removed from the site on 20 March 2001.

Former AST Site 315 is located within the investigation boundaries of Installation Restoration Program (IRP) Site 7 (Drop Tank Drainage Area Number 2), Unit 5 (Open Dirt Area) and IRP Site 24 (Volatile Organic Compound Source Area).

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. Former AST Site 315 and the nearby Building 315 are shown on Figure 1.

The Station was closed on 2 July 1999 in accordance with the Base Realignment and Closure Act of 1993 (BRAC III). Former AST Site 315 is located within a parcel tentatively identified as a future cargo area according to *The Preferred Land Use Plan* (County of Orange, August 1999).

Based upon the removal of the tank and the visual inspection of the former tank site, it is recommended that *no further action status* be designated for Former AST Site 315 in the next Base Realignment and Closure Business Plan Update.

Section 2

Field Inspection and Historical Records

2.1 Field Inspection

Former AST Site 315 is located on an unpaved area southeast of Building 315, between Buildings 315 and 310. The site was inspected by Navy representatives during January and March 2001. The ground surface in the vicinity of the former tank site was relatively level and some areas were used for storage of scrap metal. No visual evidence of a release from the tank was observed on the ground surface.

2.2 Tank Removal.

AST 315 was removed on 20 March 2001 and was released to the Leatherneck Museum at the Marine Corps Air Station, Miramar, California. A release and waiver of liability for the tank is included in the Appendix. Approximately 30 feet of underground piping that extended from the tank to Building 315 was abandoned in place.

2.3 Historical Environmental Program Records

Records of previously completed environmental restoration program investigations were acquired and reviewed, and several environmental Locations of Concern are located in the vicinity of Former AST Site 315. A description of the types of data collected near Former AST Site 315 at adjacent Environmental Locations of Concern is presented in Table 1.

Table 1. Investigation Activities at or near Former AST Site 315.

Location of Concern	Status	NFA or other Decision Document(s)	Comments
UST 326A and UST 326B	NFA	Orange County Health Care Agency (OCHCA) letter dated 2 April 1998	Tank removal was conducted with OCHCA oversight.
SWMU 283 (also known as UST 326B)	NFA	Orange County Health Care Agency (OCHCA) letter dated 2 April 1998	One twenty-five foot deep boring was advanced and six soil samples were collected during the RFA Sampling Visit.
IRP Site 7	NFA	Final Record of Decision for No Action dated June 2001	Soil and groundwater sampling was conducted during the remedial investigation.
IRP Site 24	Remedial Actions in Progress	Interim Record of Decision for Vadose Zone Remediation of September 1997	Soil gas, soil, and groundwater sampling was conducted during the remedial investigation. Vadose zone closure report was submitted to the BCT for review in June 2001.

Installation Restoration Program

Former AST Site 315 is located within the investigation boundary of IRP Site 7 (Drop Tank Drainage Area Number 2), Unit 5 (Open Dirt Area). Soil and groundwater samples were collected at IRP Site 7 during the remedial investigation activities. A record of decision for no action at IRP Site 7 was signed in June 2001, and a copy of the Declaration is included in the Appendix.

Former AST Site 315 is located within the investigation boundary of IRP Site 24 (Volatile Organic Compound Source Area). An interim record of decision for remediation of the vadose zone was signed in September 1997, and a vadose zone closure report was submitted to the BCT in June 2001. The nearest vapor extraction well, 24SVE5, is located more than 100 feet from Former AST Site 315.

Underground Storage Tank (UST) Program

Two UST sites are located within approximately 300 feet of Former AST Site 315. Tank closure activities for UST 326A and UST 326B, located south-southwest of Former AST Site 315 and adjacent to the southeast side of Building 326, were conducted with oversight by the Orange County Health Care Agency (OCHCA), and OCHCA issued a letter designating no further action status for both sites. A copy of the OCHCA correspondence is included in the Appendix.

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 Building 315 are presented in the Appendix of this report. No additional best management practices were recommended for Building 315.

Surface water from the Former AST Site 315 vicinity discharges to storm drains that discharge to Agua Chinon Wash, located more than 1,000 feet southeast of the site. Agua Chinon 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.

2.4 Historical Property Records

Property records including the Station's plant account data base were acquired and reviewed, and information pertaining to Building 315 is included in the Appendix. Building 315 was constructed in approximately 1945 and was most recently used as a squadron headquarters building according to the 1997 building guide.

2.5 Ground Water Conditions

Ground water conditions have been investigated in the vicinity of Former AST Site 315 during the Remedial Investigations at IRP Site 24 and IRP Site 7. Ground water is located approximately 100 feet below ground surface based upon measurements from nearby wells, and the gradient is approximately west-northwest.

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 Former AST Site 315 vicinity:

- AST 315 was identified as a new location of concern in 2001. AST 315, with a capacity of approximately 500 gallons, was used for storage of propane.
- AST 315 was removed from the site on 20 March 2001.
- Former AST Site 315 was visually inspected by Navy representatives in January and March 2001, and no evidence of a release from the tank was observed.

Based upon the results of the evaluation of historical records, the results of the visual inspections, and the removal of the tank, it is recommended that *no further action status* be designated for Former AST Site 315 and that *no further action status* be documented in the next BRAC Business Plan Update.

Section 4

References and/or Sources of Information

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]

CDM Federal Programs Corporation. 2000. Final Groundwater Monitoring Report, October-November 1998 Sampling Round, Marine Corps Air Station, El Toro.

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

Earth Tech. 2001. Draft Site Closure Report, Vadose Zone Remediation, IRP Site 24, Marine Corps Air Station, El Toro. June. [Navy Contract N62742-94-D-0048, CTO 68]

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). 1994. Marine Corps Air Station, El Toro, El Toro, California, Installation Restoration Program, Remedial Investigation/Feasibility Study, Final Soil Gas Survey, Technical Memorandum, Sites 24 and 25. October. [Navy Contract N68711-89-D-9296, Contract Task Order 145]

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]

Science Applications International Corporation (SAIC). 1994. Final Hazardous Material/Hazardous Waste Management Plan. August.

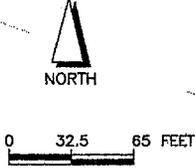
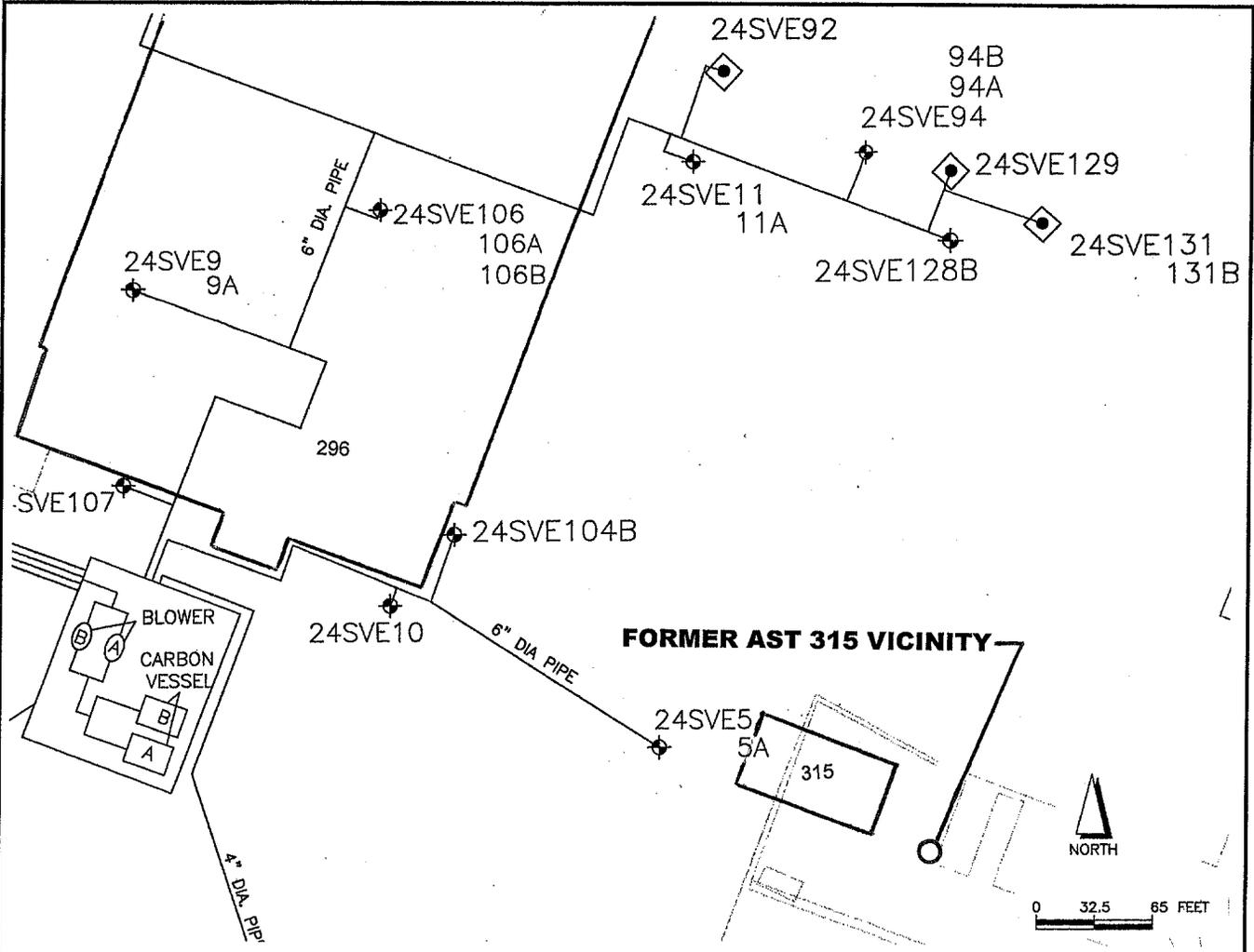
United States Marine Corps Air Station, El Toro. 2000. Base Realignment and Closure (BRAC) Business Plan.

U.S. Marine Corps Air Station, El Toro. 2001. Final Record of Decision, Operable Unit 3B, No Action Sites 7 and 14, Marine Corps Air Station, El Toro, California. June.

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.

Marine Corps Air Station, El Toro. 1997. Draft Final Interim Record of Decision, Operable Unit 2A, Site 24 – VOC Source Area, Vadose Zone, Marine Corps Air Station, El Toro, California. September.

United States Marine Corps Air Station, El Toro. 1994 and 1997. Building Guide.



NOTE:
 Former AST Site 315 is shown on the map of vapor extraction wells for IRP Site 24 (Earth Tech, 2001). Well 24SVE5 is located near Former AST Site 315.

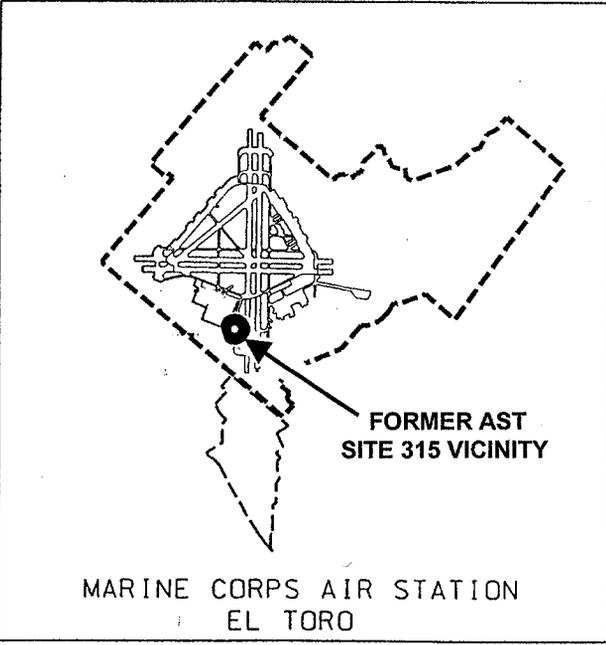
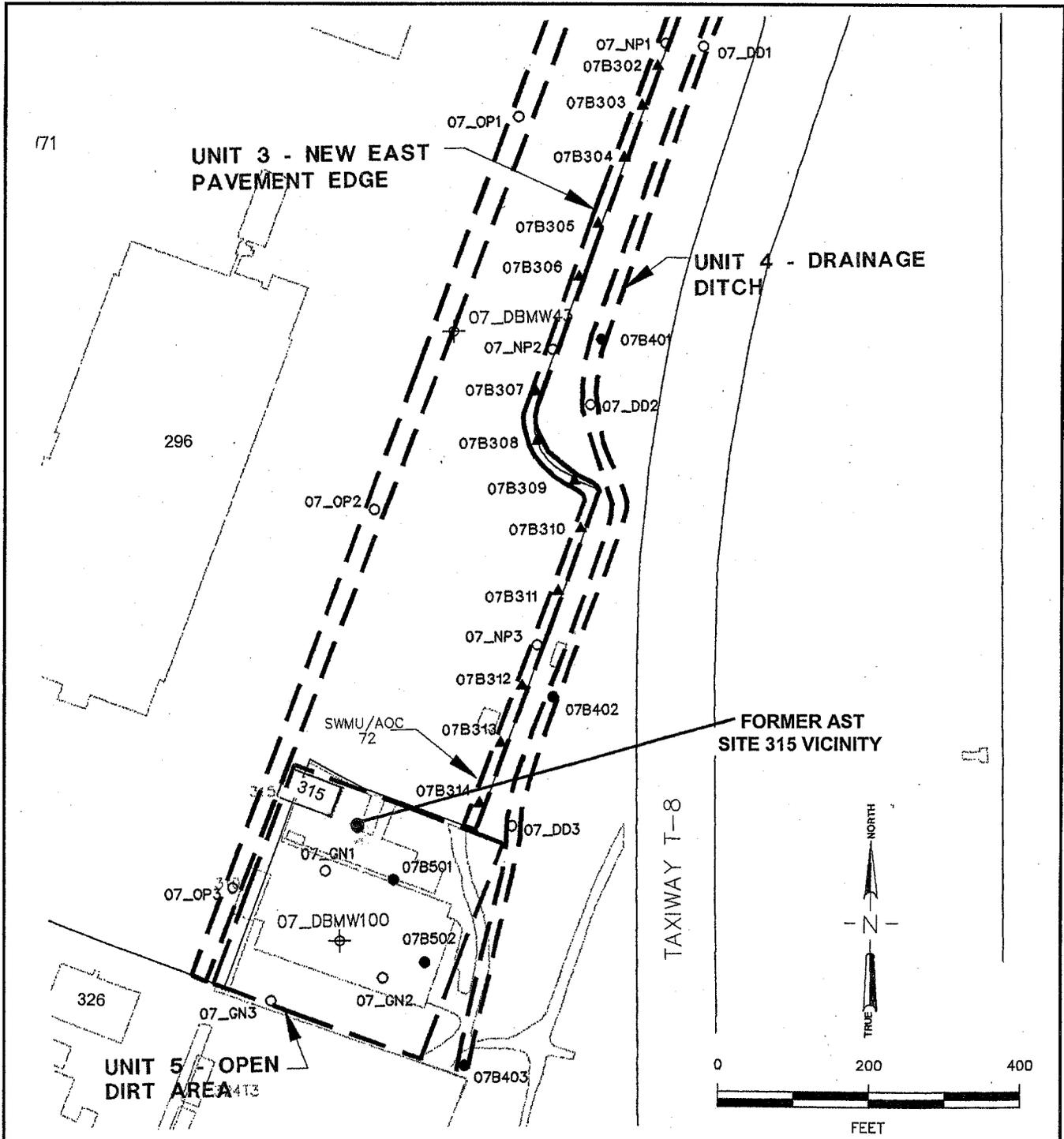


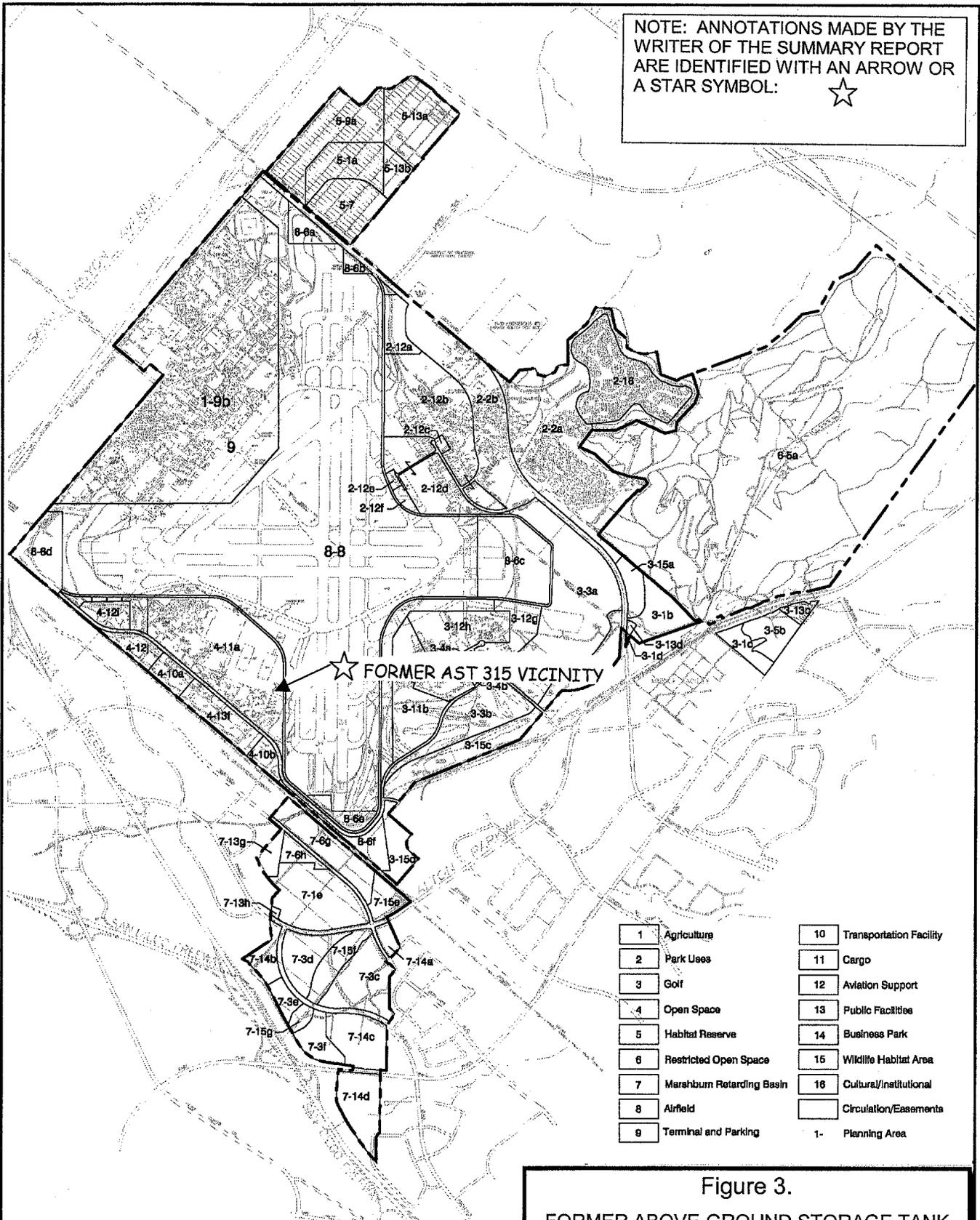
Figure 1.
 FORMER ABOVE-GROUND STORAGE TANK (AST) SITE 315
Former AST 315 Vicinity Map
 MARINE CORPS AIR STATION, EL TORO



NOTE:
 Former AST Site 315 is shown on the map of IRP Site 7 (Bechtel, 2001). AST 315 was located within IRP Site 7, Unit 5.

Figure 2.
 FORMER ABOVE-GROUND STORAGE TANK (AST) SITE 315
NEARBY FEATURES
 MARINE CORPS AIR STATION, EL TORO

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



1	Agriculture	10	Transportation Facility
2	Park Uses	11	Cargo
3	Golf	12	Aviation Support
4	Open Space	13	Public Facilities
5	Habitat Reserve	14	Business Park
6	Restricted Open Space	15	Wildlife Habitat Area
7	Marahbum Retarding Basin	16	Cultural/Institutional
8	Airfield		Circulation/Easements
9	Terminal and Parking	1-	Planning Area

Figure 3.
 FORMER ABOVE-GROUND STORAGE TANK
 (AST) SITE 315
Tentative Reuse Parcels
 MARINE CORPS AIR STATION, EL TORO

Appendix

Site Photographs and Other Documentation

Site Photographs

Extracts from Plant Account Records and 1997 Building Guide

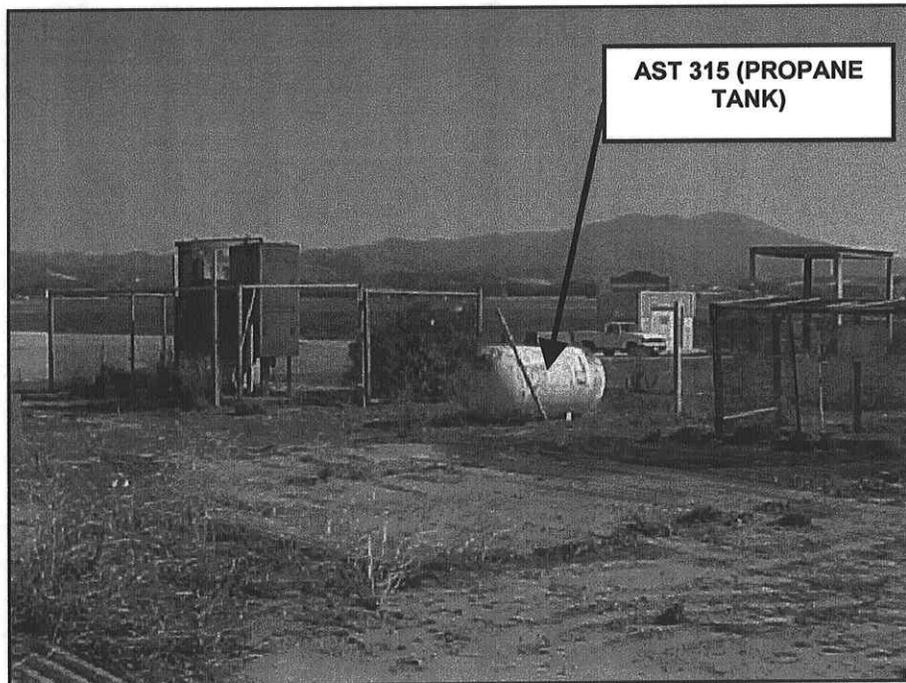
Release and Waiver of Liability for Tank

Extracts from SWPPP

No Further Action Decision Documents for Nearby Environmental
Locations of Concern

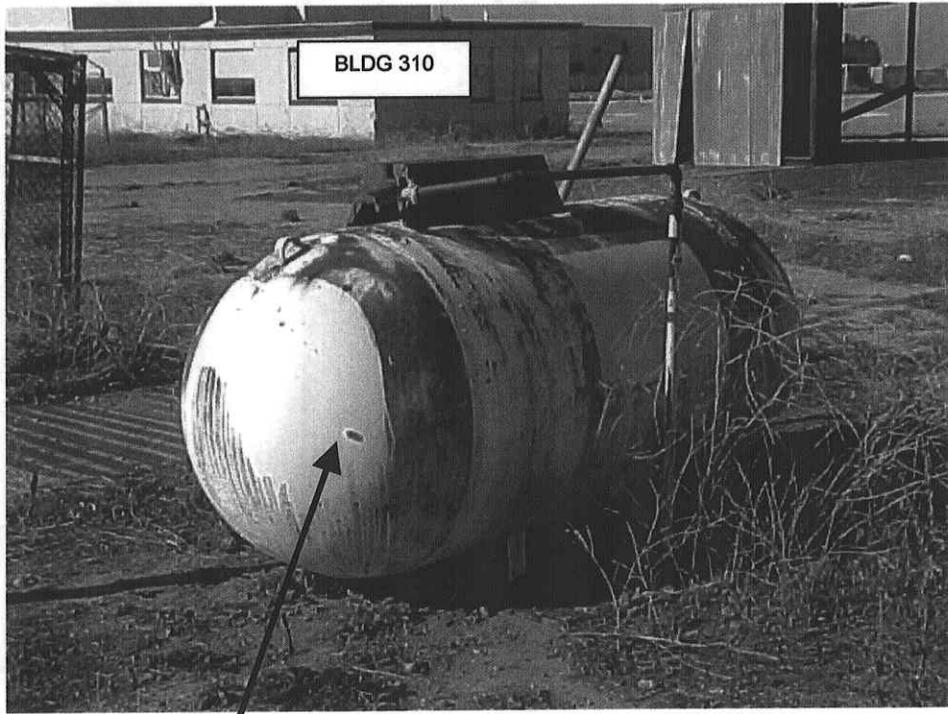
**Photograph 1. Above-Ground Storage Tank (AST) 315
Near Building 315
(former propane storage tank)
Within Installation Restoration Program (IRP) Site 7, Unit 5
Marine Corps Air Station, El Toro**

Date of Photograph: February 2001



**Photograph 2. Above-Ground Storage Tank (AST) 315
Near Building 315
(former propane storage tank)
Within Installation Restoration Program (IRP) Site 7, Unit 5
Marine Corps Air Station, El Toro**

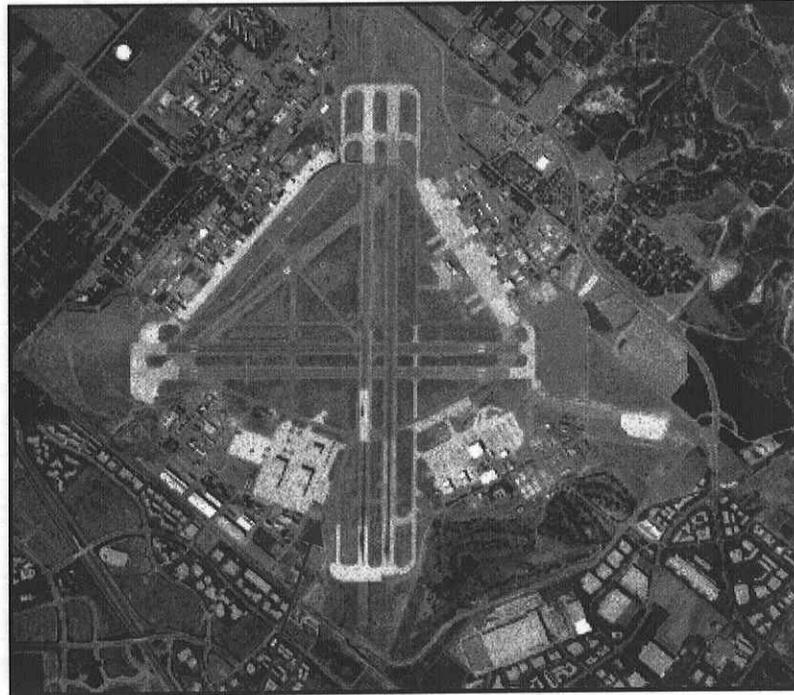
Date of Photograph: February 2001



AST 315

Photograph 3. AST 315 Vicinity.
Marine Corps Air Station, El Toro

Date of Photograph: 1994



AST 315 Vicinity

5219	71161	RENTAL HOUSING /NAMAR/		19450301	SF	4,644	113	20	19	\$20,591	\$236,611	1945	1980
5224	71161	RENTAL HOUSING /NAMAR/		19450301	SF	4,644	113	20	19	\$20,591	\$236,611	1945	1980
5234	71161	RENTAL HOUSING /NAMAR/		19450301	SF	4,644	113	20	19	\$20,591	\$236,611	1945	1980
5242	71161	RENTAL HOUSING /NAMAR/		19450301	SF	4,644	113	20	19	\$20,591	\$236,611	1945	1980
320	44130	PAINT-CHEMICAL STOREHOUSE	NOY10151	19450101	SF	17,100	171	100	16	\$76,895	\$871,042	1945	1990
322	72210	MESS HALL/ENLISTED	NOY10151	19450301	SF	10,653	142	112	22	\$148,183	\$1,265,334	1945	1990
325	44130	HAZARDOUS MATERIAL BLDG.	NOY8647	19450801	SF	251	22	11	8	\$1,500	\$18,059	1945	
328	61071	GROUP HEADQUARTERS	NOY11416	19450801	SF	43,923	228	163	21	\$315,876	\$3,228,136	1945	1990
329	61010	DECA HEADQUARTERS	NOY11416	19450301	SF	22,328	228	163	21	\$122,623	\$1,338,162	1945	1990
534	44130	CHEMICAL STORAGE BLDG	NOY9453	19460801	SF	800	40	20	13	\$8,189	\$41,105	1946	1990
335	84209	PUMPHOUSE	NOY10290	19451001	SF	1,125	48	23	14	\$14,999	\$194,912	1945	1980
333	21453	FIELD MAINT SHOP	NOY8802	19450201	SF	2,610	95	30	11	\$21,073	\$241,640	1945	1989
341	21860	GSE SHOP	NOY11416	19450201	SF	468	22	21	9	\$4,197	\$32,080	1945	1981
326	83141	HAZ/WASTE STORAGE/TRANSFER	NOY11210	19450101	SF	11,446	113	72	42	\$290,577	\$3,498,257	1945	
307	61072	LAUNDRY/COMM ELEC/STRG	NOY8759	19441201	SF	35,337	324	136	25	\$390,067	\$2,647,199	1944	1988
308	44130	HAZ/MAT STOR		19441101	SF	720	40	18	11	\$2,500	\$32,060	1944	
309	61071	GROUP HEADQUARTERS		19440101	SF	10,368	96	54	25	\$53,974	\$512,104	1944	1990
312	14160	PHOTO LAB	NOY9452	19441201	SF	5,243	104	57	15	\$81,522	\$749,324	1944	1986
313	44111	GENERAL WAREHOUSE MARCORPS	NOY9452	19440401	SF	50,000	250	200	39	\$183,056	\$2,263,963	1944	1990
319	44111	STOREHOUSE		19450101	SF	126,729	603	203	27	\$328,519	\$3,495,790	1945	1993
318	44110	STOREHOUSE	NOY10151	19450301	SF	122,409	603	203	27	\$322,621	\$3,594,113	1945	1990
317	44111	DECA ADMIN	NOY10151	19450401	SF	126,322	603	232	39	\$813,730	\$4,610,287	1945	1990
315	21106	AIRFRAME SHOP	NOY9452	19450201	SF	3,444	82	42	25	\$25,151	\$279,046	1945	1983
314	44110	HEATING PLANT BLDG	NOY9452	19450201	SF	6,123	105	47	36	\$122,385	\$1,384,885	1945	1990
581	74034	COMMUNITY BLDG.		19450601	SF	4,460	101	65	10	\$28,772	\$335,987	1945	1984
291	44112	STORAGE OUT OF STRS MARCOR	NOY8759	19441101	SF	14,400	160	60	17	\$24,348	\$285,175	1944	1988
306	21910	PW PIPE/HEAT/REFRIG SHOP	NOY9453	19440101	SF	16,712	123	108	28	\$25,895	\$332,077	1944	
305	61072	SODRN HDQRTRS	NOY8759	19440601	SF	4,000	100	40	13	\$29,263	\$162,344	1944	1988
298	21420	AUTOMOTIVE VEHICLE MNT SHOP	NOY8759	19441101	SF	14,559	224	155	17	\$67,834	\$591,758	1944	1981
272	74040	BOWLING ALLEY	NOY8759	19440301	SF	14,664	141	104	17	\$75,532	\$941,750	1944	1990
290	44111	GENERAL WAREHOUSE MARCOR	NOY8759	19440201	SF	4,000	100	40	13	\$16,000	\$209,632	1944	
295	21106	MAINT HANGAR	NOY8802	19441201	SF	40,418	182	160	44	\$429,684	\$3,823,700	1944	1993
288	21107	STA ACFT ADMIN BLDG	NOY8759	19441101	SF	4,160	112	80	10	\$42,416	\$301,394	1944	1986
285	74085	WAREHOUSE	NOY8759	19440501	SF	16,000	200	80	21	\$121,786	\$1,518,446	1944	1985
300	21910	PW STOR/SHOP	NOY8759	19450601	SF	6,020	160	50	13	\$24,633	\$223,333	1945	1988
292	61072	SQUADRON HQ	NOY8759	19440701	SF	13,126	172	129	14	\$33,009	\$410,509	1944	1985
301	21910	PW SHOP	NOY8759	19450101	SF	5,120	160	32	13	\$15,688	\$153,401	1945	1990
302	21910	PW ELECTRICAL SHOP	NOY8759	19450501	SF	5,120	160	32	13	\$86,359	\$234,786	1945	1990
304	61010	ADMINISTRATION BLDG	NOY8759	19441201	SF	10,818	160	90	12	\$107,603	\$739,194	1944	1994
529	21925	STORAGE BLDG		19440201	SF	3,040	76	40	17	\$33,704	\$432,220	1944	1977
310	21106	AIRFRAME SHOP		19440101	SF	1,796	63	28	11	\$8,748	\$114,616	1944	
311	73010	FIRE STATION #2		19440101	SF	3,913	91	43	13	\$29,807	\$219,292	1944	1988
321	61010	ADMIN-SHIPING-REC	NOY10151	19450101	SF	70,300	397	100	28	\$473,978	\$4,086,835	1945	1993
297	21106	HANGAR/SQUADRON/	NOY8802	19440101	SF	201,482	602	253	54	\$1,274,616	\$13,530,628	1944	1988
296	21106	HANGAR	NOY8802	19440101	SF	212,748	626	253	54	\$1,302,003	\$13,856,922	1944	1990
1538	61010	FILLING STATION BLDG		19450201	SF	64	8	8	8	\$100	\$1,174	1945	
1601	21925	PW MAINT STRG		19450115	SF	1,522	51	30	9	\$3,800	\$44,616	1945	
324	17120	TRAINING BLDG	NOY9452	19451201	SF	45,858	399	143	38	\$706,331	\$8,179,783	1945	1988
419	69015	SALUTING BATTERIES / MOUNTS		19480115	SY	0	63	48	0	\$1,288	\$10,227	1948	
475	61010	STORAGE BLDG.	NBY5421	19450115	SF	192	16	12	9	\$1,500	\$15,167	1946	
523	17120	HOBBY SHOP/ARTS/CRAFT		19450115	SF	192	16	12	9	\$1,152	\$13,526	1945	
496	21925	SEWAGE METER HOUSE		19480101	SF	480	24	20	14	\$40,633	\$117,139	1948	1985
349	13420	ROTATING LIGHT BEACON	NOY8758	19430501	SY	0	14	14	65	\$15,000	\$205,815	1943	
	76020	BELL - FIELD PIECES		19490501	SY	0	0	0	0	\$50,327	\$83,138	1949	

El Toro Building Guide

EXTRACTS

BLDG	GRI	DESCRIPTION	TENANT	CATCO	CAC	SIZE
296	T9	(Grd Sup Equipment Shop)	Vacant	21860	EBBO	4400 SF
296	T9	Maint Hangar O2 Space	MAG-46	21107	EBVO	20240 SF
296	T9	(Maint Hangar O2 Space)	Vacant	21107	EBVO	42846 SF
296	T9	(Maint Hangar O1 Space)	Vacant	21106	EBVO	32926 SF
296	T9	(Maint Hangar O1 Space)	Vacant	21106	EBVO	20128 SF
296	T9	(Maint Hangar OH Space)	Vacant	21105	EBVO	40480 SF
296	T9	(Storage)	Vacant	44112	EBDO	8720 SF
296	T9	Armory	MALS-46	14325	EBPO	1152 SF
296	T9	Transformer Room	Station	81209	EBBO	800 SF
296	09	Boiler Room	Station	82109	EABO	576 SF
297	T8	(Maint Hangar OH Space)	Vacant	21105	EBVO	40480 SF
297	T8	Maint Hangar O2 Space	VMGR-352	21107	EBVO	39595 SF
297	T8	(Maint Hangar O1 Space)	Vacant	21106	EBVO	20240 SF
297	T8	Maint Hangar OH Space	VMGR-352	21105	EBVO	40480 SF
297	T8	Boiler Room	Station	82109	EABO	750 SF
297	T8	(Maint Hangar O2 Space)	Vacant	21107	EBVO	13891
298	U7	GME	Sta/G-4	21420	EBBO	14559 SF
299	U7	GME	Sta/G-4	21420	EBBO	4268 SF
300	T6	AFGE Office	Station	61010	EBFO	225 SF
300	T6	Environment Office	Environment	61010	EBFO	1220 SF
300	T6	Public Works Warehouse	Installation	21910	EBBO	4574 SF
301	T6	PW Admin/Labor Shop	Installation	21910	EBBO	5120 SF
302	T6	Public Works Elec Shop	Installation	21910	EBBO	5120 SF
304	T6	Academic Instruction (EEO)	HRO	17110	EBAO	1800 SF
304	T6	Admin Office (CPO)	HRO	61010	EBFO	7518 SF
304	T6	Civilian Credit Union	Credit Union	74019	EBLO	1500 SF
305	U7	Group Headquarters	MWSG-37	61072	EBFO	4000 SF
306	T6	PW Pipe/Heat/Refrig Shop	Installation	21910	EBBO	15712 SF
306	T6	Vacant (Water Treatment)	Installation	84209	EHCO	1000 SF
307	U6	EAF Storage	MWSS-373	44110	EBDO	3965 SF
307	U6	EAF Wt Handling Shop	MWSS-373	21820	EBBO	23107 SF
307	U6	(MC Storage)	Vacant	44111	EBDO	3965 SF
307	U6	SOMS Recovery Hqs	SOMS	61072	EBFO	4300 SF
308	M9	GSE Storage	MALS-11	21860	EBBO	720 SF
309	U8	Group Headquarters	MWSG-37	61071	EBFO	10368 SF
310	T9	Vehicle Maint Facility	MAG-46	21451	EBBO	1796 SF
311	U8	Fire Station #2	Security	73010	EBLO	3913 SF
312	U8	(Photographic Bldg)	Vacant	14160	EBNO	5243 SF
313	U8	Field Maint Shop	CSSD-14	21453	EBBO	20000 SF
313	U8	Storage out of Stores	MWSS-373	44112	EBDO	30000 SF
314	U9	Highbay Storage	Supply	44110	EBDO	6123 SF
→ 315	T9	Squadron Headquarters	MAG-46	61072	EBFO	3444 SF
317	U7	DeCA Office	DeCA	61010	EBDO	20862 SF
317	U7	Marine Corps Supply	Supply	44110	EBDO	105460
317	U7	Laundry Pickup Point	Supply	73040	EBLO	
318	U8	General Warehouse Navy	Supply	44111	EBDO	81606 SF



UNITED STATES MARINE CORPS
BASE REALIGNMENT AND CLOSURE OFFICE
MARINE CORPS AIR STATION EL TORO
P.O. BOX 51718
IRVINE, CA 92619-1718

RELEASE AND WAIVER OF LIABILITY
ASSUMPTION OF RISK AND INDEMNITY AGREEMENT

On behalf of the Leatherneck Museum, MCAS Miramar, I hereby take custody and all responsibility for the 500-gallon propane tank from Building 315. Furthermore, I attest that I will make current all appropriate registration, testing and licensing requirements with the Environmental Department at MCAS Miramar.

In consideration of being permitted to move the propane tank:

1. Hereby agree to indemnify and hold harmless the United States Marine Corps and the Department of the Navy, and any of their officers, employees, agents, successors and assigns from and against any and all claims damages, liabilities, losses, costs and expenses, including attorney's fees and costs of suit, arising out of this Event, and hereby releases, waives, discharges and covenants not to sue the Marine Corps in connection with this Event.
2. Hereby assume full responsibility for any risk of bodily injury, death or property damage arising out of or related to this Event, whether caused by the negligence of the Marine Corps or otherwise.
3. Hereby acknowledges that the operation and transporting of equipment is very dangerous and involves the risk of serious injury or death as well as property damage.
4. Hereby agree that this Release and Waiver of Liability, Assumption of Risk and Indemnity Agreement extends to all acts of negligence by the Marine Corps and is intended to be as broad and inclusive as is permitted by law, and that if any portion of the Agreement is held invalid, it is agreed that the balance shall nevertheless remain in full force and effect.
5. Hereby acknowledge that there is in effect adequate liability insurance to cover all personal injury and/or property damage that may arise out of this Event.

I HAVE READ THIS RELEASE AND WAIVER OF LIABILITY, ASSUMPTION OF RISK AND INDEMNITY AGREEMENT, FULLY UNDERSTAND ITS TERMS, UNDERSTAND THAT I HAVE GIVEN UP SUBSTANTIAL RIGHTS BY SIGNING IT, AND HAVE SIGNED IT FREELY AND VOLUNTARILY WITHOUT ANY INDUCEMENT, ASSURANCE OR GUARANTEE BEING MADE TO ME AND INTEND MY SIGNATURE TO BE A COMPLETE AND UNCONDITIONAL RELEASE OF ALL LIABILITY TO THE GREATEST EXTENT ALLOWED BY LAW.

Executed at El Toro, California this 20th day of March 2001.

Handwritten signature of E. M. Jol, written in black ink over a horizontal line.

Handwritten signature of H. Chae, written in black ink over a horizontal line.

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

EXTRACTS

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.

5. STORM WATER POLLUTION PREVENTION EVALUATION

Because of its mission as a part of the National Defense system, MCAS El Toro has numerous facilities and activities where there is potential for pollutants to contact storm water. These facilities include fueling operations, wash racks for aircraft, vehicles, and equipment, engine repair and maintenance, and support facilities that use or store significant quantities of materials containing potential pollutants.

Discharges from MCAS El Toro occur at various locations. Storm water run-off enters Agua Chinon Wash, Bee Canyon Wash, Rifle Range Road Ditch, San Diego Creek, and Upper Newport Bay. A Site Topographic Map shows the locations of discharges leaving the air station. To provide a clearer understanding of the hydrologic conditions at MCAS El Toro, each drainage basin has been modeled using the U.S. Environmental Protection Agency's Storm Water Management Model, as described in the Watershed Characterization Report (Volume 3). The physical characteristics of each drainage basin (e.g., percent impermeability, etc.) are also discussed in that report.

The facilities at MCAS El Toro were investigated from field visits in 1993 to determine whether they were of limited concern or were more likely to be a possible threat to water quality. Addressed in the following sections are those buildings of concern within each Drainage Basin. Each building or activity observed during field observations is listed and discussed by drainage basin.

5.1 DRAINAGE BASIN 1

This drainage basin comprises most of the buildings in Areas 27 and 28. It has a map area of about 188 acres.

5.1.1 Buildings of Limited Concern

The buildings listed below in Table 5-1 do not use, handle, transport or store significant quantities of industrial materials nor do they generate significant amounts of liquid or solid industrial pollutants, and they do not appear to be of concern to the quality of storm water discharges:

TABLE 5-1 BASIN 1 BUILDINGS OF LIMITED CONCERN		
BLDG #	DESCRIPTION	TENANT
96	Transportation Office	Station/G-4
155	Grounds Equipment Shed	Installation
156	Storage Tank/Potable Water	Installation
174	Storage Tank/Potable Water	Installation
175	Storage Tank/Potable Water	Installation
299	GME/G-4	Installation
301	PW Administration/Labor Shop	Installation
304	Academic Instruction (EEO)	HRO
305	Group Headquarters	MWSG-37
309	Group Headquarters	MWSG-37
312	Photographic Building	Vacant
313*	Field Maintenance Shop	CSSD-14
	Storage out of Stores	MWSS-373
315	MWSS-473	
319	General Warehouse -MC (DRMO)	DRMO
	General Warehouse - Navy	Supply
321	General Warehouse - MC	Supply
324	Comm/MT/Const/TAFDS	MWSS-374
	Storage	Station/Fire
	CO2 Storage	Station/Fire
325*	Hazardous/Flammable Storehouse	FREST
326*	Hazardous/Flammable Storehouse	Environment
333	Field Maintenance Shop	CSSD-14
335	Water Distribution Building	Installation

TABLE 5-2
BASIN 1
SUMMARY OF BMPs

BLDG #	BASIN	BUILDING DESCRIPTION	TENANT	Concern Level	BMP STATUS	BMP #	BMP Description
					Rec	012	Construct Berm or Dike Around Critical Areas
					Rec	065	Place Spill Kit in Area
315	01	MWSS-473		Limited			No Additional BMPs are Recommended
317	01	Commissary Warehouse	DECA	Concern	Existing	009	Personnel Training
					Existing	112	Prepare Appropriate Spill Prevention and Response Plans
					Existing	005	Provide Regular Sweeping of Floor/Lot
					Rec	012	Construct Berm or Dike Around Critical Areas
					Rec	001	Label All Drums, Cans, Containers, Tanks, and Valves
					Rec	044	Use Drip Pans under Leaking Equipment
					Rec	032	Dispose of Surplus Materials/Wastes/Equipment or Store Under Cover
					Rec	065	Place Spill Kit in Area
317C1	01	Fenced Storage Yard	Federal Disposal Service	Concern	Rec	009	Personnel Training
					Rec	112	Prepare Appropriate Spill Prevention and Response Plans
					Existing	041	Wash Equipment and Vehicles in Designated Areas
					Rec	044	Use Drip Pans under Leaking Equipment
					Rec	032	Dispose of Surplus Materials/Wastes/Equipment or Store Under Cover
					Rec	065	Place Spill Kit in Area
317C2	01	Fenced Storage Yard	Miranda's Landscaping	Concern	Rec	009	Personnel Training

EXTRACTS

**FINAL
RECORD OF DECISION
OPERABLE UNIT 3B
NO ACTION SITES 7 AND 14
MARINE CORPS AIR STATION
EL TORO, CALIFORNIA**

JUNE 2001

DECLARATION

SITE NAME AND LOCATION

Marine Corps Air Station El Toro
Operable Unit 3B Sites 7 and 14
Orange County, California

National Superfund Database Identification Number: CA 6170023208

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for Sites 7 and 14 at Marine Corps Air Station 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 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 United States Environmental Protection Agency concur with the selected remedy.

DESCRIPTION OF THE SELECTED REMEDY: NO ACTION

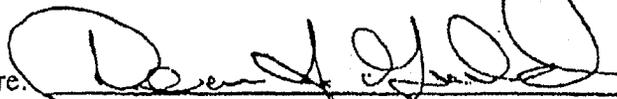
The selected remedy for Sites 7 and 14 is no action. In selecting the no action remedy for these sites, the MCAS El Toro Base Realignment and Closure Cleanup Team, made up of representatives of the Marine Corps/Navy, United States Environmental Protection Agency, Department of Toxic Substances Control, and the Santa Ana Regional Water Quality Control Board, has determined that the existing condition of the sites is protective of human health and the environment.

Although shallow groundwater underlying these sites is contaminated by volatile organic compounds, including trichloroethene, carbon tetrachloride, and tetrachloroethene at Site 7 and trichloroethene and carbon tetrachloride at Site 14, remedial investigations have shown that the contamination present in groundwater does not originate from Sites 7 or 14 but lies within the Site 24, Volatile Organic Compound Source Area groundwater plume. Groundwater cleanup, including use restrictions that prohibit drilling of wells and/or extraction of groundwater and allow access for groundwater monitoring and maintenance of equipment associated with groundwater remediation, will be addressed in the Proposed Plan and Record of Decision for Sites 18 and 24.

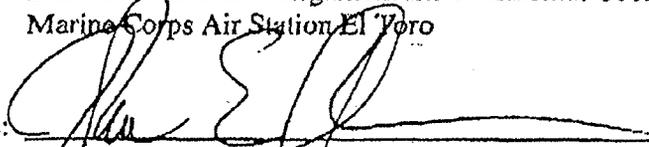
DECLARATION STATEMENT

On the basis of extensive field investigations, laboratory analyses, and a thorough assessment of potential human-health risks at each location, the Base Realignment and Closure Cleanup Team has determined that no remedial action is necessary to assure the protection of human health and the environment at Sites 7 and 14. The remedial

investigation of these sites showed that site-related contamination is limited to the shallow soil interval (0 to 10 feet below ground surface). The human-health risk assessments show that the contaminants present in soil 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. Dean Gould
Base Closure and Realignment Environmental Coordinator
Marine Corps Air Station El Toro

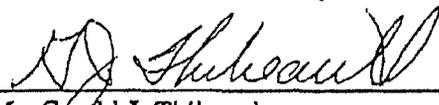
Date: 04 JUN 01

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

Date: 6/18/01

Signature: 
Mr. Daniel A. Meer, Chief
Federal Facilities Cleanup Branch
United States Environmental Protection Agency, Region 9

Date: June 6, 2001

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

Date: 6-26-01

RECEIVED

JUN 11 2001

Department of Toxic
Substances Control

received
7/9/01

which develops on nearly flat (0 to 2 percent slope) floodplain deposits like those at Site 7. Sorrento loam is typically a well-drained soil characterized by slow surface runoff and a slight erosion hazard because of the nearly flat surface (Wachtell 1978). The shallow groundwater unit is present at approximately 120 feet bgs. Regional groundwater flow beneath Site 7 is generally to the west-northwest.

5.2.2 Site History

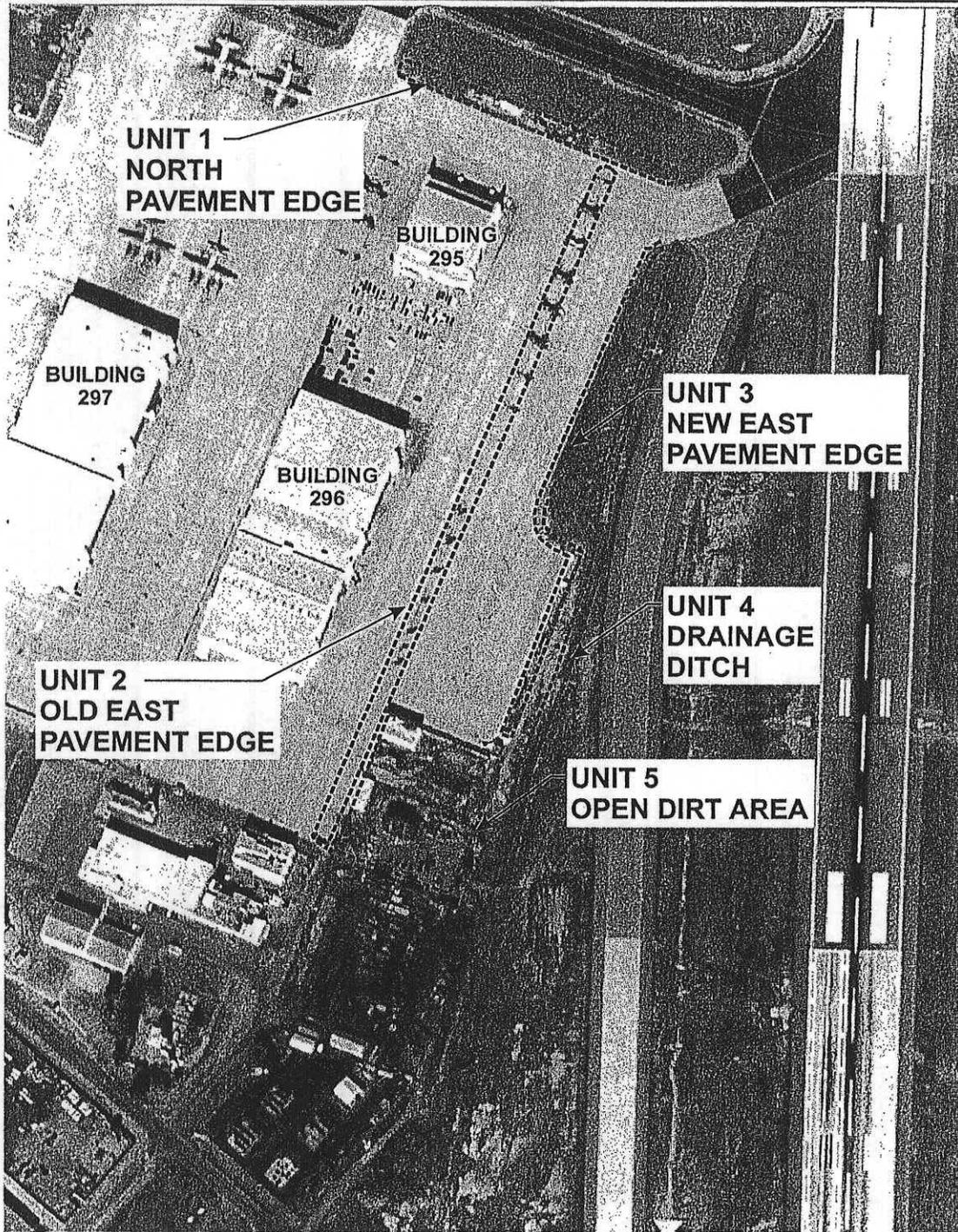
Site 7 was previously used for aircraft drop tank storage and drainage. In the northern area, aircraft drop tanks were drained and washed on a concrete apron from approximately 1969 to 1983 (Figure 5-3). The mixture of residual fuel and washwater drained off the edge of the concrete apron onto the adjacent grassy areas. An estimated 7,000 gallons of jet propellant – Grade 5 (JP-5) fuel and lubrication oil were disposed in this area. In the eastern portion of the site, soil areas near the aircraft hangars (Buildings 296 and 297) are suspected to have been sprayed with lubrication oil and JP-5 jet fuel for dust control. More than 11,000 gallons of lubrication oil and nearly 4,000 gallons of JP-5 may have been used for dust control between 1972 and 1983. From 1972 to 1978, the area comprising Unit 5 served as an unpaved parking lot and was also sprayed with lubricant oils for dust control (JEG 1993a).

5.2.3 Site Investigations

Investigations conducted at Site 7 included an RFA, Phase I and II RIs, two aerial photographic surveys, and employee interviews. A soil gas survey was also conducted at and in the vicinity of Site 7. This survey was associated with Site 24, the VOC Source Area. (Site 7 is within the boundary of Site 24.) The VOCs reported within the Site 7 boundaries were investigated and evaluated as part of the VOC source investigation at Site 24 and are discussed in the Interim ROD for that site (BNI 1997a).

5.2.3.1 RCRA FACILITIES ASSESSMENT

During the RFA, solid waste management units (SWMUs)/Areas of Concern (AOCs) 71 and 72 were identified within the Site 7 boundaries but not investigated. The exact location of SWMU/AOC 71 was unknown but believed to be within Unit 1. SWMU/AOC 72 is located in the southern part of Unit 3 (Jacobs 1993b). Because both of these SWMUs/AOCs were located within Site 7 boundaries, the Phase II RI/FA Work Plan indicated that a visual inspection would be conducted of the SWMUs/AOCs locations. If a visual evidence of a surface release was not identified no sampling would be performed at these SWMUs/AOCs (BNI 1995a). The visual evaluation of both SWMUs during the Phase II RI fieldwork did not identify evidence of a surface release at either location (BNI 1997a). As a result, SWMU/AOC 71 was recommended for no further action. It is the DON's intention to sample SWMU/AOC 72 as an inactive temporary accumulation area and to submit a closure report to DTSC by calendar year 2002.



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

Record of Decision
 Figure 5-3
 Site Aerial Photograph (1/12/96)
 Site 7 - Drop Tank Drainage Area No. 2

MCAS, El Toro, California



Bechtel National, Inc.
 CLEAN II Program

Date: 11/14/00
 File No: 164E5745
 Job No: 22214-164
 Rev No: B

5.2.3.2 PHASE I REMEDIAL INVESTIGATION

To facilitate the Phase I RI, Site 7 was divided into five units on the basis of common historical activities, aerial photograph reviews, and relative locations (Figure 5-3). The five units are:

- North Pavement Edge (Unit 1),
- Old East Pavement Edge (accepted for no further investigation by the BCT during preparation of the work plan for the OU-3A and OU-3B Phase II RI fieldwork [BNI 1995a,b,c]) (Unit 2),
- New East Pavement Edge (Unit 3),
- Drainage Ditch (Unit 4), and
- Open Dirt Area south of Building 296 (Unit 5).

Unit 1, a concrete pavement edge approximately 700 feet long and located 200 feet north of Building 295, is almost completely devoid of vegetation. Aircraft matting covers part of the center of this unit. Unit 2 was a concrete pavement edge approximately 1,500 feet long and perpendicular to Unit 1. In 1979, the pavement was expanded and Unit 2 is presently covered by approximately six inches of concrete. Unit 3 is a well vegetated concrete pavement edge 300 to 400 feet west of Building 296. Unit 4 is a drainage ditch approximately 50 feet east of Unit 3 that is well vegetated and exhibits no signs of erosion from surface water flow. Unit 5 is a square area of approximately 90,000 square feet. Pavement covers the southern half of the unit, while the northern half is partially vegetated. Surface drainage from Site 7 flows generally southward and eventually discharges into Agua Chinon Wash.

Sixty-two soil samples were collected from 19 borings in Units 1 through 5 during the Phase I RI. These included:

- ten shallow-soil (less than 10 feet bgs) samples from four borings and eight deeper-soil (greater than 10 feet bgs) from one boring in Unit 1,
- nine shallow-soil samples from four borings and seven deeper-soil samples from one boring in Unit 2,
- seven shallow-soil samples from three borings in Unit 3,
- six shallow-soil samples from three borings in Unit 4, and
- eight shallow-soil samples from three borings and seven deeper-soil samples from one boring in Unit 5.

Soil samples collected during the Phase I RI were analyzed for VOCs, SVOCs, pesticides/PCBs, total petroleum hydrocarbons (TPH), total recoverable petroleum hydrocarbons (TRPH), and target analyte list (TAL) metals. Selected samples were also analyzed for total organic carbon.

Groundwater samples were collected during the Phase I RI from three on-site monitoring wells and three off-site monitoring wells. The Site 7 wells were also sampled on several

Section 5 Summary of Site Characteristics

occasions after the Phase I RI. The findings of the Phase II RI for the VOC source area and the Phase I RI for Site 7 demonstrated that Site 7 is not a source of regional groundwater contamination. Groundwater contamination beneath Site 7 is being addressed under OU-2A and is, therefore, not addressed in this ROD.

Chemicals reported in soil above the detection limits in the Phase I RI included VOCs, SVOCs, polynuclear aromatic hydrocarbons (PAHs), pesticides, diesel, gasoline, TRPH, and TAL metals above background. No PCB was reported above the detection limit.

As a result of the Phase I RI, Units 1, 3, 4, and 5 were recommended for further investigation in a Phase II RI. The plans for further investigation of these units were presented in the Phase II Final Work Plan Phase II RI/FS MCAS El Toro (Final Work Plan Phase II RI/FS) issued in July 1995.

The analytical results from soil samples collected within Unit 2 did not identify concentrations of VOCs, SVOCs, pesticides, or PCBs above laboratory detection limits. In addition, TPH as diesel was reported in only three samples at concentrations less than 44 milligrams per kilogram (mg/kg) and TPH as gasoline was reported in only two samples at concentrations less than 0.4 mg/kg. Based on these analytical results, Unit 2 was recommended for no further action. BCT concurred with the DON's no further action recommendation and this decision was documented in the final Work Plan Phase II RI/FS. Consequently, no sampling was conducted at Unit 2 during the Phase II RI (BNI 1995a).

5.2.3.3 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AERIAL PHOTOGRAPH SURVEY

During the U.S. EPA aerial photograph review, 1970 photographs indicated vertical tanks, open storage areas, and staining features within Site 7. In a 1980 photograph, the concrete apron east of Buildings 296 and 297 had been extended further east, which moved the drainage area to the new concrete apron edge. Staining and easterly flow of liquid were present in most aerial photographs of Site 7 (JEG 1993a).

5.2.3.4 SCIENCE APPLICATIONS INTERNATIONAL CORPORATION AERIAL PHOTOGRAPH SURVEY

The Science Applications International Corporation (SAIC) Aerial Photograph Assessment noted that the extension of the concrete apron east of Buildings 296 and 297 was completed between 1971 and 1973. Stains caused by liquids flowing easterly from the concrete apron were observed in 1946, 1961, and 1981 photographs (SAIC 1993).

5.2.3.5 EMPLOYEE INTERVIEWS

On 26 May 1994, a meeting was held at MCAS El Toro to interview active and retired personnel from the Station's Fuel Operations Division and Facility Management Department who had extensive knowledge of Station operations and procedures for storage and disposal of hazardous materials and waste. The interviewers during the meeting were Cal-EPA personnel, Navy and Station personnel, and the Navy and

U.S. EPA contractors. During these interviews, the following information pertaining to the Drop Tank Drainage Area No. 2 (Site 7) was obtained (JEG 1994c).

- A 500-gallon bowser was observed near the hazardous waste storage area. Mobile bowser tanks were commonly used throughout the Station to store waste oil collected from maintenance activities. A common practice was to spread the waste oil collected in these tanks onto unpaved areas of the Station for dust control.
- Some of these bowzers may have been misinterpreted as vertical tanks in the SAIC Aerial Photograph Report.
- Various types of equipment and chemical waste were stored in the areas east of Site 7. Some of the equipment included paint lockers, compressors, and pilot seat ejection charges. The types of chemicals included waste solvents, oils, and flammable materials.

5.2.3.6 PHASE II REMEDIAL INVESTIGATION

The Phase II RI consisted of a review of the previous investigations and additional sampling necessary to perform a baseline HHRA and determine whether remedial action is necessary at Site 7. As noted in Section 5.2.3.2, 49 shallow-soil samples were collected from 19 boring locations in Units 1 through 5 during the Phase I investigation. Another 91 shallow-soil samples were collected from 24 boring locations in Units 1, 3, 4, and 5 during the Phase II investigation. Phase II samples were collected at random locations to characterize additional areas not sampled during the Phase I RI. Fifteen samples from Units 4 and 5 were field screened for VOCs, TPH, and PAHs. Samples were also analyzed at a fixed-base laboratory for VOCs, SVOCs, PAHs, TPH, pesticides, and TAL metals.

A review of the Phase I analytical data for the deeper subsurface-soil samples suggested that the types and magnitude of analytes reported in the deeper subsurface soil beneath Site 7 did not pose a threat to groundwater. Therefore, in accordance with the Phase II Work Plan and with concurrence from the BCT, conditions within the deeper subsurface-soil interval were not investigated further during the Phase II RI.

Results for Phase II shallow-soil samples are summarized as follows.

- Eleven VOCs were reported above detection limits at concentrations up to 72 micrograms per kilogram ($\mu\text{g}/\text{kg}$) in shallow-soil samples from Units 1, 3, 4, and 5.
- Twenty-two SVOCs and 13 PAHs were reported above detection limits at concentrations up to 7,000 $\mu\text{g}/\text{kg}$ in shallow-soil samples from Units 1, 3, 4, and 5.
- Diesel and motor oil were reported above detection limits at concentrations up to 3,800 milligrams per kilogram (mg/kg) in shallow-soil samples from Units 1, 3, 4, and 5.
- Sixteen of the 23 TAL metals (aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver,

Section 5 Summary of Site Characteristics

thallium, and zinc) were reported at concentrations above their respective background values in shallow-soil samples from Units 1, 3, 4, and 5.

5.2.3.7 SUMMARY OF PHASE I AND PHASE II RESULTS

Table 5-1 summarizes the results of the Phase I and Phase II soil investigations at Site 7. The HHRA performed during the RI (Section 7) showed PAHs and TAL metals above background were the predominant risk drivers at Site 7. Figures 5-4 and 5-5 show the location and concentration of PAHs and TAL metals reported in shallow soil at each unit.

The Phase I and II results are summarized by unit as follows.

Unit 1, North Pavement Edge

VOCs, SVOCs, PAHs, petroleum hydrocarbons, and TAL metals at concentrations above background were reported in shallow-soil samples at Unit 1. While VOC concentrations less than 54 µg/kg and TAL metal concentrations above background were reported throughout the 0- to 10-foot bgs soil interval, SVOC, PAH, and petroleum hydrocarbon concentrations generally decreased with depth throughout the same soil interval.

Unit 3, New East Pavement Edge

VOCs, SVOCs, PAHs, pesticides, petroleum hydrocarbons, and TAL metals at concentrations above background were reported in shallow soil throughout Unit 3. While VOCs and SVOCs above detection limits and TAL metals above background were reported throughout the 0- to 10-foot bgs soil interval, no PAH or petroleum hydrocarbon was reported above detection limits below a depth of 6.75 feet bgs. The highest diesel and motor oil concentrations, ranging from 150 to 2,300 mg/kg, were reported in samples collected from a depth of 6 to 6.75 feet bgs in the south end of Unit 3.

Unit 4, Drainage Ditch

VOCs, PAHs, petroleum hydrocarbons, and pesticides were reported above detection limits in shallow-soil samples at Unit 4. TAL metals at concentrations above background levels were distributed in soil samples collected throughout the 0- to 10-foot-bgs shallow-soil interval. With the exception of toluene, VOC, PAH, pesticide, and petroleum hydrocarbon constituents were not reported above detection limits in samples collected from depths greater than 2 feet bgs.

Table 5-1 (continued)

Analyte Name	Number of Samples	Number of Detections	Maximum Concentration (mg/kg)	Station ID/Depth (feet bgs)
Silver	138	27	2.3	07B310/2 – 2.75
Thallium	138	95	2.4	07B310/2 – 2.75
Vanadium	138	138	69.1	07B401/5 – 7
Zinc	138	138	1,810	07B101/4.75 – 5.5

Notes:

- ^a soil sample collected below this sample at 2 feet bgs reported a TRPH concentration of 1,007 mg/kg.
- ^b the number of detections for polynuclear aromatic hydrocarbons is based on the higher of the detections from the polynuclear aromatic hydrocarbon and semivolatile organic compound analyses when both analyses were conducted on a single sample

Acronyms/Abbreviations:

- bgs – below ground surface
 DDD – dichlorodiphenyldichloroethane
 DDE – dichlorodiphenyldichloroethene
 DDT – dichlorodiphenyltrichloroethane
 mg/kg – milligrams per kilogram
 TAL – target analyte list
 TRPH – total recoverable petroleum hydrocarbons

Unit 5, Open Dirt Area

VOCs, SVOCs, PAHs, pesticides, petroleum hydrocarbons, and TAL metals with concentrations above background were reported in shallow-soil samples at Unit 5. SVOCs and PAHs were predominately identified in samples collected from one boring in the northwest corner of Unit 5. VOCs were reported sporadically at relatively low concentrations. Pesticides, SVOCs, and PAHs were not reported above detection limits in soil samples from depths greater than 2 feet bgs. TAL metals above background were present through the shallow-soil interval but were predominately identified in samples collected from the upper 5 feet bgs, with the highest concentrations and reporting frequency in surface samples.

During the Phase I RI, a concentration of 32,091 mg/kg of TRPH was reported in the soil sample collected at 0 feet bgs at boring location 07_GN1 in Unit 5. Chemical analyses of this soil sample also reported concentrations of five SVOCs above 0.73 mg/kg and concentrations of 426 mg/kg of TPH as diesel and 0.089 mg/kg of TPH as gasoline. The only VOCs reported in this soil sample were toluene and acetone both reported below a concentration of 0.065 mg/kg. The chemical analyses of the soil sample collected below this sample at 2 feet bgs reported a concentration of 1,007 mg/kg of TRPH and concentrations of SVOCs, VOCs, TPH as gasoline, and TPH as diesel below the reported detection limits for these compounds. During the Phase II RI, visual observations around the area of this sample suggested that a large surface release had not occurred in this area.



**COUNTY OF ORANGE
HEALTH CARE AGENCY**

TOM URAM
DIRECTOR

HUGH E. STALLWORTH, M.D.
HEALTH OFFICER

JACK MILLER, REHS
DEPUTY DIRECTOR

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

TELEPHONE: (714) 667-3600
FAX: (714) 572-0749

**PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH**

April 17, 1998

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
Tanks #326A and 326B
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 testing conducted during the tank removal from October 15 through October 20, 1997, 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,

Deborah A. Greco, M.S.
Supervising Hazardous Waste Specialist
Hazardous Materials Management Section
Environmental Health Division

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