

SOUTHWESTNAVFACENGCOM
BRAC Operations Office
Code 06CC.LMH
Telephone: (619) 532-0783/Fax (619) 532-0780

File: c111sepstatusreport.doc

Transmittal

Date: 18 September 2000

From: Lynn Marie Hornecker

To: **Marianna Potacka**
BRAC Environmental Coordinator
Southwest Division, Naval Facilities Engineering Command
BRAC Operations Office
1220 Pacific Highway
San Diego, California 92132-5190

James Barton
California Regional Water Quality Control Board
Central Valley Region, Sacramento Office
3443 Routier Road, Suite A
Sacramento, California 95827-3003

Francesca D'Onofrio
California Department of Toxic Substances Control
Office of Military Facilities
Sacramento, California

Subj: Interim Status Report for Various Environmental Restoration Program Projects
National Aeronautics and Space Administration (NASA)
Crows Landing Flight Facility

The primary purposes of this interim status report are to convey preliminary laboratory test results for groundwater samples collected from or near Underground Storage Tank (UST) Cluster 1 and to provide an update on the soil vapor extraction (SVE) testing activities at UST Cluster 1. Groundwater data is summarized in Table 1 and SVE test data is summarized in Table 2. Brief updates on the status of other projects are also included.

Underground Storage Tank (UST) Cluster 1 – Tanks CL-1, CL-2, and CL-3

UST Cluster 1 is located adjacent to Installation Restoration Program Site 17 (Site 17) – the Demolished Hangar Area – where petroleum hydrocarbons, carbon tetrachloride, chloroform, and 1,2-dichloroethane have been released to groundwater. Jet fuels and possibly Avgas were reportedly stored in the three 50,000-gallon tanks at UST Cluster 1 that were removed in 1994. UST Cluster 1 comprises the southern section of the Administration Area Plume.

A portable SVE treatment unit was mobilized to UST Cluster 1 in July 2000, baseline groundwater sampling of selected wells in the vicinity of UST Cluster 1 was completed in July 2000, individual vent tests were initiated in early August 2000, and testing activities continue in

September 2000. The portable SVE unit is operating under a permit issued by the San Joaquin Valley Air Pollution Control District, has a blower capacity of 250 standard cubic feet per minute (scfm), and a thermal oxidizer that operates at or above 1,400 degrees Fahrenheit. The wells identified in Table 2 have been or are in the process of being tested (for approximately 48 hours each).

Laboratory Data for Groundwater Samples – UST Cluster 1 Vicinity

The laboratory test results for the water samples collected during the baseline groundwater sampling for UST Cluster 1 identified several chemicals that had not previously been associated with the release at UST Cluster 1. Preliminary test results are presented in Table 1. Water samples were collected from seven (7) wells in July 2000 prior to beginning the soil vapor extraction testing activities at UST Cluster 1. Samples were collected from the following wells: CL1-MW-05, CL1-MW-10(S), CL1-MW-12(S), 17-MW-03, 17-MW-12, 117-MW-01, and 117-MW-03. Water samples were analyzed by United States Environmental Protection Agency (USEPA) Method 8260 for volatile organic compounds.

Gasoline and/or diesel range petroleum hydrocarbons were detected at or above laboratory reporting limits in all samples.

Acetone, 1,2-dibromoethane (or ethylene dibromide (EDB)), 2-butanone (or MEK), and 4-methyl-2-pentanone (or MIBK) have been identified in water samples collected from well CL1-MW-12(S) which is located west of the former tank site CL-2 and near vapor extraction wells CL1-SV-01A, B, and C. Well CL1-MW-12(S) is also located near a former dry well associated with tank CL-2. A dry well was located within approximately 50 feet west of each of the three former tanks at UST Cluster 1 (CL-1, CL-2, and CL-3), and the dry wells were described as cobble-lined pits. Gasoline and diesel range petroleum hydrocarbons, benzene, toluene, ethylbenzene, and xylenes were also detected in the water samples from well CL1-MW-12(S).

EDB was used as an additive in leaded gasoline and EDB continues to be used as a pesticide. The Maximum Contaminant Level for EDB in drinking water is 0.00005 milligrams per liter (or 0.05 micrograms per liter) according to the Drinking Water Standards and Health Advisories published by The Office of Water, United States Environmental Protection Agency in Summer 2000.

Due to the limited documentation pertaining to the operational history of the UST Cluster 1 tanks, it is possible that the tank CL-2 was used for storage of leaded gasoline or waste liquids or that leaded gasoline or waste liquids were disposed of in the dry well located near the former tank CL-2.

DATA IS INTENDED FOR DISCUSSION ONLY

Table 1. PRELIMINARY Baseline Data for July 2000 Sampling Activities.
Selected Groundwater Monitoring Wells in the Vicinity of UST Cluster 1
 (all concentrations presented in micrograms per liter (ug/l) and bold print indicates chemicals that were not previously associated with the Administration Area Plume)

Well ID (screened interval in feet below ground surface (bgs))	TPH- Gasoline Range (ug/l)	Benzene (ug/l)	Ethylene dibromide (EDB) [1,2-Dibromo- ethane] (ug/l)	Acetone (ug/l) Or Carbon Tetrachloride (CCl ₄) (ug/l)	Comments/ Other VOCs (concentrations in ug/l)
CL1-MW-05 (50 to 75 feet bgs)	129 (gasoline)	ND	ND	ND (acetone) ND (CCl ₄)	Located on West Side of Plume on Parking Apron, northwest of former Cluster 1 tanks 290 ug/l (diesel)
CL1-MW-10(S) (45 to 70 feet bgs)	161 (gasoline)	16.5	ND	ND (acetone) ND (CCl ₄)	Located adjacent to Cluster 1 Tank CL-1 287 ug/l (diesel)
CL1-MW-12(S) (43 to 68 feet bgs)	220000 (gasoline)	22400	5080	68400 (acetone) ND (CCl ₄)	Located west of Cluster1 Tank CL-2 near SVE wells CL1-SV-01A, B, & C and near former dry well. 75400 (MEK) 3560 (MIBK) 389 ug/l (diesel)
CL1-MW-12(S) Duplicate	256000 (gasoline)	20200	4000	59600 (acetone) ND (CCl ₄)	Located west of UST CL-2 near SVE wells CL1-SV- 01A, B, & C and near former dry well. 70400 (MEK) 2270 (MIBK) 325 ug/l (diesel)
17-MW-12 (49 to 74 feet bgs)	362 (gasoline)	104	15.6	614 (acetone) ND (CCl ₄)	Located north of former Cluster 1 tanks 13.7 (chloroform) 8.22 (1,2-DCA) 746 (MEK) 501 ug/l (diesel)
17-MW-03 (97 to 107 feet bgs)	303 (gasoline)	42.2	7.58	14.3 (acetone) 131 (CCl ₄)	Located north of former Cluster 1 tanks 13.7 (chloroform) 389 ug/l (diesel)
117-MW-01 (50 to 75 feet bgs)	ND (gasoline)	ND	ND	ND (acetone) 1.06 (CCl ₄)	Located northeast of former Cluster 1 tanks and southwest of former UST 117 72 ug/l (diesel)
117-MW-03 (98 to 108 feet bgs)	262 (gasoline)	19.4	2.65	ND (acetone) 1.26 (CCl ₄)	Located northeast of former Cluster 1 tanks 4.43 (chloroform) 275 ug/l (diesel)

Table 2. PRELIMINARY SVE Test Data for UST Cluster 1

Well ID	Screened Interval (feet below ground surface)	Well Diameter (inches)	Flow (scfm) / Vacuum (inches of water) at approximately 48 hours (end of test)	Estimated Radius of Influence in Feet (at 0.1 inch of water / at 0.5 inch of water)	Vapor Concentration at end of 48-hour test TVPH (ppmv)	Comments/Date of Completion of Testing Activities
CL1-VW-20 (M)	27-32	4	15.2 / 90	85 / 40	5,750 [Acetone and MEK present in vapor samples from this well]	4 August 2000
CL1-VW-22 (D)	48-53	4	20 / 70	95 / 50	252	9 August 2000
CL1-SV-01 (C)	46-60	4	23 / 110	65 / 35	87,100 [Acetone and MEK present in vapor samples from this well]	11 August 2000
CL1-VW-04 (M)	36-41	2	10 / 107	55 / 10	1,330	16 August 2000
CL1-VW-23 (D)	48-53	4	18 / 110	105 / 45	7,100	18 August 2000
CL1-VW-03 (S)	16-26	2	37.5 / 84	90 / 35	984	23 August 2000
CL1-VW-19 (D)	46-56	4	22 / 106	90 / 50		25 August 2000
CL1-VW-08 (D)	46-56	4	20 / 37	85 / 30		30 August 2000
CL1-VW-25 (D)	48-53	4	12.5 / 108	80 / 35		1 September 2000
CL1-VW-20 (S)	18-23	2	12.4 / 101	70 / 40		7 September 2000
CL1-VW-07 (M)	34-44	2				Data collection or compilation in progress
CL1-VW-19(S)	21-26	2				"
CL1-VW-03(D)	47-52	4				"

Explanation:

PPMV parts per million by volume

TVPH total volatile petroleum hydrocarbons

Underground Storage Tank (UST) Cluster 2 – Tanks CL-7, CL-8, and CL-9

UST Cluster 2 is located near the northern end of the facility, and the three 210,000-gallon tanks used for storage of jet fuels were removed from the site in 1994. The Navy is planning to conduct testing activities using a portable SVE unit later during calendar year 2000.

UST Site 109

UST 109, a 1,000-gallon fuel oil tank, was removed from the site in 1988. Twelve bioventing wells and twelve monitoring points were installed at the site for a passive bioventing pilot test that was initiated in 1997. The maximum petroleum hydrocarbon concentration as diesel at UST Site 109 is approximately 11,195 milligrams per kilogram at a depth of approximately 20 feet. The Navy is planning to conduct testing activities using a portable SVE unit later during calendar year 2000.

Installation Restoration Program

Site 11 – Former Disposal Pits Area

Site 11 encompasses approximately 6 acres in the former magazine area between the northwest-southeast and northeast-southwest runways. The Initial Assessment Study (IAS) of 1984 reported that Site 11 was used for refuse disposal from approximately the late 1960's through 1982, and refuse included office trash (paper), kitchen waste, scrap metal, and empty paint and pesticide containers. The IAS identified four former disposal pits where wastes were burned and covered with soil. The Navy is preparing to conduct a geophysical survey to better delineate the boundaries of the former disposal pit areas in order to facilitate the selection of the final remedy.

Site 17 – Demolished Hangar Area

Site 17 encompasses approximately 46 acres adjacent to UST Cluster 1. Two aircraft hangars and an assembly and repair building were located within Site 17, however, the structures have been removed. Releases of carbon tetrachloride and petroleum hydrocarbons have been detected in the groundwater beneath Site 17. The release from the former UST 117, a gasoline tank that was removed in 1988, is commingled with the releases at Site 17.

The Navy is in the process of evaluating the lateral and vertical extent of the combined groundwater plume from Site 17, UST 117, and UST Cluster 1, identifying the chemicals of potential concern, and developing possible remediation strategies. Active water supply wells are located near Site 17, and the potential impacts from pumping from these wells are being evaluated.

The Navy is evaluating strategies for the remediation of the combined groundwater plumes at IRP Site 17, UST 117, and UST Cluster 1. The Navy and the BCT have discussed potential management of the combined plume under the Resource Conservation and Recovery Act

(RCRA) program and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program.

The Navy is also considering alternative management strategies including the implementation of interim response actions.

Other Projects

Sewer Investigation

The sewer investigation includes the former sewage treatment plant located near the NASA modular structures, more than 5,000 feet of sewer trunk lines, several lateral lines, and the processing tank and settling ponds near the northern end of the installation. The draft sewer investigation report, issued in 1999, identified releases of petroleum hydrocarbons and metals in soil, soil gas, and/or groundwater samples collected at various locations. The Navy is acquiring and reviewing additional historical documentation pertaining to the sewer system and is preparing to conduct a videographic survey of a section of the sewer line near UST Cluster 2 or at another location, if practicable.

Closure of Abandoned Irrigation Wells

The Navy is evaluating California Department of Water Resources data, historical Navy records, and other records pertaining to water supply wells located on the installation. Several existing wells extend through the Corcoran Clay layer and the wells create a potential conduit to convey contamination from the shallow zone to the deeper aquifer. Two inactive wells, a former irrigation/fire protection water supply well near the settling ponds in the UST Cluster 2 vicinity and a former water supply well at Building 151 in the public works area, have been identified for closure.

Water Level Monitoring

The Navy installed a water level indicator and a data logger at one well in the vicinity of UST Cluster 2, and data collection is in progress. The water level data will be utilized to evaluate the potential impacts caused by pumping from nearby irrigation wells. Another water level indicator may be installed in the vicinity of the Administration Area plume.

Meetings

30 August 2000: A project meeting was held at the Regional Water Quality Control Board, Central Valley Region office in Sacramento. The list of attendees is attached.

The Navy presented the update on work in progress and planned activities for the environmental restoration program. The possible processes for conveying the federal property to Stanislaus County were discussed. DTSC and NASA will provide additional information to Stanislaus County (information may include DTSC guidance documents pertaining to reuse and early transfer, example of a comfort letter, CERCLA requirements for property transfer, possible processes for conveying federal property). The Navy will consult with counsel on issues pertaining to the transfer of contaminated property.

25 October 2000: Next meeting at Stanislaus County offices at 10:30 a.m.

Tentatively Planned Activities – September 2000 – January 2001

Site	Activity	Tentative Schedule
Various	Work Plan Addendum for various activities-well closure activities, IRP Site 11 surveys, sampling of groundwater for metals/chromium, etc.	BCT Submittal by early October 2000
UST Cluster 1	Soil Vapor Extraction (SVE) Testing Activities Long-term SVE treatment Baseline groundwater sampling of selected wells	Early August 2000 through January 2001 Long-term SVE treatment to follow testing activities Late July 2000 (completed)
UST Cluster 1	Groundwater extraction response action. Preliminary evaluation of responses to bailing at nearby existing monitoring wells. Construction of Groundwater Extraction Well near UST CL-2 or other location with high petroleum hydrocarbon concentrations at the groundwater interface and extraction of contaminated groundwater.	September – October 2000 November – December 2000
UST Cluster 1 Vicinity	Groundwater Sampling for Metals/Hexavalent Chromium	November – December 2000
UST 109	Site Verification & SVE Testing Activities	October 2000 – January 2001
UST Cluster 2	SVE Testing Activities	November 2000 – January 2001
UST Cluster 2	Water Level Measurements	Automated unit installed at Cluster 2 in late August 2000
Closure of inactive water supply wells	-Inactive Well near UST Cluster 2 -Inactive Well at Building 151	October – November 2000
Sewer System	Visual inspection of conditions in selected manholes in the Public Works Area and other areas. Damaged or missing manholes have been covered with plywood as an interim measure.	August - September 2000
Sewer System	Videographic survey of sewer pipe near UST Cluster 2 or other location, if practicable	October – November 2000
Site 11	Geophysical Surveying/Land Surveying for disposal pit area(s)	October – November 2000
Site 17	Continue evaluation of remediation strategies and potential interim response actions for combined plume (Administration Area Plume)	To be determined
Site 17/Administration Area Plume	Water Level Measurements	To be determined

SOUTHWESTNAVFACENGCOM
BRAC Operations Office
Code 06CC.LMH
Telephone: (619) 532-0783/Fax (619) 532-0780

File: c111sepstatusreport.doc

Attachment
Attendance List from 30 August 2000 project meeting

CF:
Sandy Olliges
NASA Ames Research Center
Office of Environmental Services
M/S 218-1
Moffett Field, California 94035-1000

Brad Hicks
Stanislaus County
Hazardous Materials Division
Department of Environmental Resources
3800 Cornucopia Way, Suite C
Modesto, CA 95358-9492

SWDIV/EFA-W team members

Project File (Crows Landing)

NASA Crows Landing Flight Facility

Meeting Participants

Meeting Date: 30 August 2000 (RWQCB Sacramento Office)

Name	Affiliation	<i>Phone/Fax</i>	E-mail address
✓ Marianna Potacka	Southwest Division, Naval Facilities Engineering Command	(619) 532-0941/ (619) 532-0940	Potackamk@efdswnavfac.navy.mil
✓ Jim Barton	Regional Water Quality Control Board, Central Valley Region	(916) 255-3050/ (916) 255-3052	Bartonj@rb5s.swrcb.ca.gov
John Russell	Regional Water Quality Control Board, Central Valley Region	(916) 255-3066/ (916) 255-3052	Russelj@rb5s.swrcb.ca.gov
✓ Francesca D'Onofrio	California Department of Toxic Substances Control	(916) 255-3603/ (916) 255-3697	Fdonofri@dtsc.ca.gov
✓ Brad Hicks	Stanislaus County	(209) 525-6752/ (209) 525-6774	Bhicks@envres.org
✓ Kirk Ford	Stanislaus County	(209) 525-6330/ (209) 525-5911	Fordk@mail.co.stanislaus.ca.us
Jim Simpson	Stanislaus County	(209) 525-6700 (209) 525-6774	
✓ Richard Jantz	Stanislaus County	(209) 525-4307 (209) 544-6226	
Paul Caruso	Stanislaus County Supervisor	(209) 525-4470	
✓ Gordon Dewers	Stanislaus County	(209) 817-4844	
✓ Sandy Olliges	NASA	(650) 604-3355/ (650) 604-0680	Solliges@mail.arc.nasa.gov
✓ Abdul Hanif	NASA	(650) 604-1001/ (650) 604-3772	
Andy Piszkin	Southwest Division, Naval Facilities Engineering Command	(619) 532-0948/ (619) 532-0995	Piszkinfa@efdswnavfac.navy.mil
John Corpos	Engineering Field Activity, West Naval Facilities Engineering Command	(650) 244-2478/ (650) 244-3010	Corposja@efawestnavfac.navy.mil
Chris Leadon	Southwest Division, Naval Facilities Engineering Command	(619) 532-2584/ (619) 532-2607	Leadoncj@efdswnavfac.navy.mil
✓ Gary Munekawa	Engineering Field Activity, West Naval Facilities Engineering Command ROICC Moffett	(650) 603-9834/ (650) 603-9838	Munekawagj@efawestnavfac.navy.mil
Don Chuck	Engineering Field Activity, West Naval Facilities Engineering Command	(650) 244-2632 (650) 244-2553	Chuckdm@efawestnavfac.navy.mil
✓ Lynn Hornecker	Southwest Division, Naval Facilities Engineering Command	(619) 532-0783/ (619) 532-0780	Horneckerlm@efdswnavfac.navy.mil

Notes:

- ✓ indicates attendance

TRANSMITTAL

Date: 19 September 2000
From: Lynn Marie Hornecker 

To: Diane Silva
Code 01LS.DS

Subj: CERCLA Administrative Record Materials
NALF Crows Landing

Installation: Naval Auxiliary Landing Field, Crows Landing

UIC Number: N60211

Document Title (or subject): Interim Status Report for Various
Environmental Restoration Program Projects
Author: Lynn Marie Hornecker (SWDIV)

Recipient:

Record Date: 18 September 2000

Approximate Number of Pages: 10

EPA Category: 01.1

Sites: Site 11, Site 17, UST Cluster 1, UST Cluster 2

Key Words: Groundwater, VOCs, SVE

Contract: N/A

CTO Number: N/A

→ Marianna Potacka (BEC)
James Barton (RWQCB Central Valley Region)
Francesca D'Onofrio (DTSC)