

**STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF JULY 9, 2004

Prepared on June 7, 2004

ITEM NUMBER: 27

SUBJECT: Status Report - Military Facilities Update

SUMMARY

Staff periodically provides summaries of various programs under the purview of the Regional Board. This report provides general information pertaining to the Region's Department of Defense oversight unit and respective military facilities. Overviews and reports of progress covering the past six months are included for facilities with active clean up programs.

Note: As this is a regular status report, new information is provided in italics to differentiate from background/reference information that has been provided previously.

DISCUSSION

The Federal Department of Defense (DoD) is actively performing investigation, cleanup, and closure of numerous active and former military facilities across the State. The Regional Boards and Department of Toxic Substances Control provide the majority of clean up oversight at these federal facilities.

In May 1990, the State signed the DoD/State Memorandum of Agreement (DSMOA). The DSMOA provides structure for this unique federal to state responsible party/regulatory relationship. DSMOA outlines cleanup and investigation protocol, oversight structure, funding, dispute resolution, and calls for a "cooperative" approach. Under the agreement, the State's ability to take enforcement action against the Military is limited.

Budget:

As of April 2004 (most recent data available), with 84% of the fiscal year complete, Program expenditure is 84% of allotment (\$261,272/\$311,364). Staff expects our

Department of Defense oversight program to remain fully funded through the foreseeable future.

Program Overview:

Currently, the Region's DoD budget is expended almost entirely on six facilities: Vandenberg Air Force Base, Fort Ord Army Base, Lompoc Federal Penitentiary (a former Army Base), Fort Hunter Liggett Army Base, Camp Roberts National Guard Base, Monterey Peninsula Airport (a former Naval Air Base).

There are numerous other military facilities in the Region, most of which fall under the Formally Used Defense Site (FUDS) program. The FUDS program, established in 1984, covers all facilities that the federal military vacated prior to the DSMOA agreement.

VANDENBERG AIR FORCE BASE

Lead Staff: Bill Meece, Carol Kolb

Location/Installation Restoration Program:

Vandenberg Air Force Base is located on the south-central coast of California. The Base is the third largest U.S. Air Force installation, occupying more than 98,000 acres along approximately 35 miles of the northern coast of Santa Barbara County. Basewide cleanup is being implemented through the DoD's Installation Restoration Program. Program implementation follows the provisions of a Federal Facility Site Remediation Agreement, entered into by the Air Force, Regional Board, and Department of Toxic Substances Control on August 22, 1991.

Sites/Chemicals of Concern:

Installation Restoration Program sites include: landfills, space launch complexes, missile silos, fuel and chemical spill areas, and underground storage

tank areas. Identified chemicals of concern include: jet fuels, rocket fuels, petroleum hydrocarbons, solvents, polychlorinated biphenyls, pesticides, perchlorate, metals, and unexploded ordnance.

Emergent Chemicals/Perchlorate:

The Basewide Preliminary Assessment/Site Investigation for the six emergent chemicals of concern (perchlorate, n-nitrosodimethylamine, polybrominated diphenyl ether, 1,4-dioxane, 1,2,3-trichloropropane, and total/hexavalent chromium) began in January 2004. The total number of sites to be evaluated is 129, which includes a total of 58 Installation Restoration Program sites and 71 Areas of Concern. The project is anticipated to be completed by June 2005.

Progress/Success Stories:

At Site 9 (Space Launch Complex-4 West), operation of the dual-phase (groundwater and soil vapor) Interim Remedial Action system for removal of TCE/perchlorate began in early November 2003. System performance data through January 2004 indicate that approximately 300,000 gallons of groundwater was processed from source area wells. In addition, redevelopment of the horizontal well was completed in mid-April 2004. Monitoring reports from the long-term operation of the remediation system will provide amounts of contaminant mass removals, which will be included in future status report updates.

The latest Performance Monitoring Report for the Site 20 Underground Storage Tank Source Reduction System shows, since becoming operational in August 1998, the system has removed an estimated 9,547 pounds of hydrocarbons from the vapor phase and 78 pounds of hydrocarbons from the groundwater phase.

Site 60 (GSA Service Station) monitoring results from the Permeable Reactive Barrier System installed, in the Summer of 2002, perpendicular to a methyl tert-butyl ether (MTBE) groundwater plume continue to show declines in the levels of MTBE contamination. An oxygen release compound system and its associated monitoring wells were installed in late August 2003 at the leading edge of the MTBE plume. Long-term monitoring of the system began in September 2003.

In the Basewide Underground Storage Tank and Areas of Concern programs: a total of 763 underground storage tank sites have been closed, and

approximately 140 of the original 166 areas of concern have been closed (during 2003, approximately 47 new areas of concern have been converted from areas of interest). In these Basewide programs, removal actions have resulted in the excavation/removal and proper disposal of 1,538 cubic yards of petroleum, polychlorinated biphenyls, and metals-contaminated soil.

Site 60 Gasohol Field Study:

In coordination with the California Department of Health Services, Vandenberg Air Force Base, and the Regional Board, UC Davis has recently completed tracer testing for an upcoming Site 60 gasohol (ethanol) field study. Since ethanol may soon replace MTBE as a gasoline oxygenate, Board staff support the experimental work and believe studying how this substance interacts with other fuel components and native bacteria in the subsurface is of nation-wide significance. UC Davis has also been involved in various other research studies at Site 60. During the past few years, they have experimented with multi-level monitoring wells, oxygen diffusers, horizontal treatment walls, etc., in order to understand how MTBE plumes can be most effectively characterized and treated in-situ.

FORMER FORT ORD ARMY BASE

Lead Staff: Grant Himebaugh

Location/Base Realignment and Closure Program:

The former Fort Ord encompasses 28,000 acres of land between the cities of Seaside and Marina near Monterey Bay. The U.S. EPA declared the Army base a federal superfund site in February 1990. This action was based on groundwater contaminant plumes, which impacted the City of Marina's municipal water supply. The base officially closed in September 1994, and the majority of the site became available for conversion from military to civilian use.

Sites/Chemicals of Concern:

Since closure, the Army's base closure team has identified over forty environmental sites. The primary water quality concerns involve a landfill with gas removal system, one carbon tetrachloride with gas removal, and three trichloroethene (TCE) groundwater plumes.

Progress/Success Stories:

On this Federal Super Fund site, Regional Board staff work with US EPA and DTSC to oversee cleanup activities. Several large-scale groundwater plumes are undergoing active remediation efforts. During 2003,

69.2 pounds of targeted groundwater contaminants were removed from three actively remediated plumes. Due to cleanup operation adjustments, contaminant mass removal has been higher over the last two years; however, removal rates are declining once again, and additional cleanup enhancements are being examined.

The source area for the Carbon Tetrachloride groundwater plume has been identified. Recent soil gas sampling results confirmed earlier suspicions that the source area is a formerly unmapped training facility located at what is now "Lexington Court" (a City of Marina residential area.) A Health Risk Assessment was conducted for local residents, and according to USEPA standards; the Army believes the public is not at risk from carbon tetrachloride soil vapor. Despite this risk assessment, the Army notified local residents of the soil vapor and began operation of a soil vapor extraction system in March 2004. This system is mitigating the threat of continuing groundwater degradation as well as any threat to nearby residents.

An Explanation of Significant Differences (ESD) for placement of contaminated soil in the Operable Unit 2 landfill was signed by the Regional Board's Executive Officer on November 18, 2003. This ESD was initiated, in part, because of public concerns regarding the creation of lead containing dust. In past operations, such dust was associated with the removal of lead from contaminated soils for eventual metals recycling and cost recovery efforts. Subsequent to these past operations, lead recycling is no longer economic. This change in economics, coupled with air quality concerns, warranted the change from treatment to direct disposal of the lead rich soil.

A fixed price remediation contract was recently signed with a private firm for cleanup of Operable Unit 1's trichloroethene plume. This is part of a shift in cleanup management philosophy by the Department of Defense. Regional Board staff recently approved a final plume cleanup strategy, and the contractor plans to have material improvements completed before our next winter rains.

Challenges:

2003 was the first year in which TCE contaminants, emanating from a historic plume that is under going active pump and treat, were consistently detected in Fort Ord Well No. 29; a public supply well owned and operated by the Marina Coast Water District.

Although all detections have been below one part per billion (ppb) (Maximum Contaminant Level is five ppb) these detections are high enough to warrant reporting in the Marina Coast Water District's Consumer Confidence Report. In response to these detections, the use of Well No. 29 has been significantly reduced, and water from Well No. 29 is blended with water from other supply sources prior to distribution. This reduction and blending results in non-detectable TCE levels for all water in the supply system.

Army and Regional Board staffs have been working to develop an acceptable response for the State's Emergent Chemicals requests. Most notable of these potential contaminants are perchlorate and polybrominated diphenyl ethers (PBDEs). Local municipal supply well monitoring, and empirical evidence gathered at other defense sites indicates that the risk of undetected perchlorate contamination at Fort Ord is very limited. Regional Board staff has found that PBDE analysis methods have yet to reach an accepted standard. Based on this and the contaminants relative lack of mobility in groundwater, staff has delayed site-specific groundwater sampling until generally accepted analytical standards are achieved. All other emergent chemicals have been determined to not be a threat based on either monitoring or facility use histories.

MONTEREY PENINSULA AIRPORT

Lead Staff: Grant Himebaugh

Location/Formerly Used Defense Sites Program:

Monterey Peninsula Airport is a formerly used defense site comprising 455 acres, approximately three miles southeast from downtown Monterey. Leased by the Department of Navy from the Monterey Peninsula Airport District (Airport District) in 1942, today the Airport serves the local area with commercial and private air service.

Sites/Chemicals of Concern:

Known cleanup sites include two 50,000-gallon concrete underground storage tanks (UST) with an associated petroleum groundwater plume, and a trichloroethene (TCE) groundwater plume. A fire fighting training facility and several other potentially contaminated sites have been ruled out as contaminant sources.

Progress/Success Stories:

In May 2003, operational testing of a TCE groundwater cleanup system began at the Casanova

Oak Knoll's Neighborhood Park. Community feedback at a May 16, 2003, community meeting was very positive. Another cleanup system at the Airport's TCE contaminant source area began operation in Fall 2003.

The next public meeting is scheduled for Summer 2004, when the first system performance results will be available. In addition, Army and Regional Board staffs have developed an acceptable response for the State's Emergent Chemicals requests.

As the Airport's cleanup systems progress into an operations and maintenance phase, the Army Corps of Engineers has made plans to transition into site assessments at four other Formerly Used Defense Sites (FUDS). These FUDS include the Salinas Army Airfield, Hollister Airport, Watsonville Airport and the former Camp McQuade. The Corp's willingness to begin work at four new sites at a time when it's shifting limited project funds out of the State is a result of past successes within our Region.

FORT HUNTER LIGGETT

Lead Staff: Linda Stone

Location/Installation Restoration Program:

Fort Hunter Liggett is a U.S. Army training facility consisting of approximately 165,000 acres in southern Monterey County. Current and historic uses of this facility include field exercises and weapons and equipment testing. Most of the land is undeveloped and is used for field training. Portions of Fort Hunter Liggett are leased for cattle grazing. The Main Garrison includes offices, barracks, motor pools, and instrument fabrication/testing facilities. Department of Toxic Substance Control is the lead agency for cleanup activities; however, the Regional Board is primarily responsible for most of the sites that require further action.

Sites/Chemicals of Concern:

Installation Restoration Program sites include a closed landfill, former underground storage tanks, spill areas, unexploded ordnance areas, hazardous waste accumulation sites, and former fire fighting training areas. The primary chemicals of concern include: chlorinated solvents, petroleum, oils, lubricants, heavy metals, chlorinated pesticides, and PCBs.

Progress:

The base-wide restoration program is ahead of schedule. To date, action is complete at thirty-one of the thirty-four sites at Fort Hunter Liggett. The three

remaining sites consist of the facility landfill, a groundwater plume associated with two former petroleum tanks, and a pesticide storage/mixing area.

A solvent-related plume associated with one of the landfill cells is nearly eliminated through enhanced natural degradation. Based on the success of an enhanced natural attenuation pilot study at a former tank site, the Army installed additional injection wells at the end of 2002. The Army has also initiated the final stages of the remedial phase at the pesticide storage/mixing area.

The Army has responded to the Regional Board's letter on emergent chemicals, in a letter stating that, based on site history, the emergent chemicals are not constituents of concern. Additionally, the results of an analysis of the facility's water supply well found no detectable concentrations of perchlorate.

LOMPOC BRANCH U.S. DISCIPLINARY BARRACKS

Lead Staff: Linda Stone

Location/Base Realignment and Closure Program:

The Branch U.S. Disciplinary Barracks Federal Correction Facility is located approximately two miles northwest of the City of Lompoc, Santa Barbara County. The property was purchased by the War Department in 1941, and operated as part of Camp Cooke until 1946, when it was converted to a military detention center. In 1959, the Bureau of Prisons took over management of the facility, which is currently operated as high, medium, and low security prisons. The property consists of approximately 2,900 acres and includes a sign factory, electron cable manufacturing plant, furniture factory, print shop, cattle ranch, dairy, butchering plant, sewage treatment plant, and farm.

This facility was selected for closure under the 1995 Department of Defense's Base Realignment and Closure (BRAC) and ownership will be transferred to the current operator, Bureau of Prisons. An Environmental Baseline Survey Report, which delineated potential or known areas of concern, was completed in June 1997. The Regional Board is the lead agency for this BRAC site. The U.S. Environmental Protection Agency is providing technical support for this effort and the County of Santa Barbara is overseeing environmental issues at a landfill and closure of former underground storage sites.

Sites/Chemicals of Concern:

Sites being addressed under this BRAC cleanup include Wood Dump/Landfill, Wash/Grease Racks Site, Former Farm Fuel Site, and Underground Storage Tank Site, and a former quarry site. Constituents of concern at these sites include: chlorinated solvents, petroleum, oils, lubricants, metals, and pesticides/herbicides.

Progress:

The Army's consultant will implement a site mitigation plan to improve conditions at the Wood Dump/Landfill this summer. The consultant also will expand the bioremediation system at the Wash/Grease Rack site.

The Army has agreed to proceed with sampling for specific emergent chemicals that could be present based on facility history.

CAMP ROBERTS

Lead Staff: Linda Stone

Location/Installation Restoration Program:

Camp Roberts is a California Army National Guard Installation located approximately 10 miles north of Paso Robles. The 42,000-acre facility spans northern San Luis Obispo County and southern Monterey County. The installation was built in 1941, and used as a staging/training area for the U.S. Army until 1971, when it was transferred to the California Army National Guard. The National Guard and U.S. Army currently use Camp Roberts for training. The installation contains two developed areas, the Main and East Garrisons. The remaining lands are used for

training and firing ranges. Most areas of potential or known contamination are associated with industrial-related activities conducted during World War II and the Korean War and are located in the Main Garrison. Because of limited funding from the Army National Guard, the installation restoration process is still in the investigative phase. The Regional Board is the sole regulatory lead at this installation.

Sites/Chemicals of Concern:

The Preliminary Assessment completed in 1995 identified 14 sites as known or potential sources of contaminant releases.

Progress:

The Army National Guard is in the process of finalizing the Basewide Site Inspection for this facility. Regional Board staff has requested that the Army National Guard perform an evaluation to determine whether any of the emergent chemicals are constituents of concern at the facility. The Army National Guard is working on a response to address Regional Board concerns regarding emergent chemicals.

CONCLUSION

Our Regional Board's Department of Defense oversight program remains very active and effective. Cooperative relationships with military personnel, consultants, various agency staff, and the public, have been maintained and substantial remediation continues.

The next program Status Report is planned for the January 2005 meeting.