

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Region 4

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January 24, 1994

Mr. Andy Piszkin
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Col. J.P. Chessum
USMC
Assistant Chief of Staff
Environment & Safety
Environmental Department, 1AU
Marine Corps Air Station
El Toro, California 92709-5010

Dear Mr. Piszkin and Col. Chessum:

**MARINE CORPS AIR STATION (MCAS) EL TORO
SUBJECTS:****MARINE CORPS AIR STATION EL TORO, EL TORO, CALIFORNIA,
INSTALLATION RESTORATION PROGRAM, FINAL RCRA FACILITY ASSESSMENT
[RFA] REPORT****AND****RECOMMENDATIONS FOR THE BRAC CLEANUP PLAN (BCP)**

The California Department of Toxic Substances Control (DTSC) has completed its review of the subject **Final RFA Report** (Volumes I through V) dated July 16, 1993. In the future, we recommend that all changes be fully integrated into the final document; the main objective of a "Response to Comments" should be to identify the nature and location of changes in the final document.

We do not approve the **Final RFA Report** at this time because several Solid Waste Management Units/Areas of Concern (SWMUs/AOCs) have been recommended for further action but have not yet been incorporated into the RI/FS program as Operable Unit (OU)-4 or another program for corrective and/or remedial action. Moreover, we are recommending additional SWMUs/AOCs for further action.



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The RFA results indicate that several underground storage tanks (USTs) and oil/water separators (OWSs) have had releases, including the following units which exhibited significant releases:

- SWMU/AOC 145 (Inactive UST 529 - Waste Oil)

The extent of petroleum hydrocarbon contamination (up to 27,526 ppm at 30 feet in angle boring A1) and BTEX contamination should be investigated.

- SWMU/AOC 173 (OWS 671)

The extent of petroleum hydrocarbon and BTEX contamination, which likely extends deeper than 25 feet below ground surface (bgs), should be investigated.

- SWMUs/AOCs 175 (Inactive OWS 672-A) and 176 (Inactive UST 672-B)

The extent of petroleum hydrocarbon and BTEX contamination, which likely extends deeper than 25 feet bgs, should be investigated.

- SWMU/AOC 280 (Removed UST 195 at Tank Farm 3)

The extent of petroleum hydrocarbon and BTEX contamination, which likely extends deeper than 50 feet bgs, should be investigated.

Based on the Phase I RI results, the following USTs have also exhibited significant releases:

- USTs at Tank Farms 5 and 6

Petroleum hydrocarbons, including listed hazardous substances, were detected in nearby groundwater monitoring wells. At downgradient cluster well 18_BGMW01, TFH-gasoline and TFH-diesel were detected at concentrations up to 1,080 and 2,030 ppb, respectively, in the well screened at 205-245 feet bgs. In the same well, benzene was detected at concentrations up to 270 ppb (please note that the California Maximum Contaminant Level (MCL) for benzene is 1 ppb). In a well screened in a deeper zone (466-486 feet bgs) at this same cluster, TFH-diesel was detected at concentrations up to 4,500 ppb, however BTEX constituents were either not detected or present only at insignificant concentrations. At cross-gradient

well 04_DBMW40, TFH-gasoline and TFH-diesel were detected at concentrations of 78 and 769 ppb, respectively; benzene was detected at concentrations up to 4 ppb.

- USTs at Tank Farm 2

Petroleum hydrocarbons, including listed hazardous substances, were detected in nearby groundwater monitoring wells. At cross- or downgradient well 13_DGMW78, TFH-gasoline and TFH-diesel were detected at concentrations up to 445 and 436 ppb, respectively; benzene was detected at concentrations up to 110 ppb. At cross- or downgradient well 15_DBMW51, TFH-gasoline and TFH-diesel were detected at concentrations up to 348 and 3,370 ppb, respectively; benzene was detected at concentrations up to 120 ppb.

- Abandoned or Removed UST 240-A and Possibly UST 797

Located near Tank Farm 2 at the Aero Club, UST 240-A apparently contained aviation gasoline and was abandoned or removed in 1985. Apparently, UST 797 was installed in 1985 to replace UST 240-A. Petroleum hydrocarbons, including listed hazardous substances, were detected in nearby groundwater monitoring wells. TFH-gasoline and benzene were detected in nearby well 13_UGMW32 at concentrations up to 1,690 and 730 ppb, respectively.

The releases from these units are of particular importance since groundwater quality has been or may ultimately be impacted. We are hereby requesting that the USTs and OWSs identified above, as well as Tank 398, be given characterization/remediation priority in the **BCP** process. Please note that this should not preclude MCAS El Toro from complying with the applicable UST requirements of Chapter 16, Division 3, Title 23 of the California Code of Regulations. For USTs with releases, these requirements include: 1) submitting a written report with a description and schedule of the corrective and remedial actions to be conducted to determine the nature and extent of soil and groundwater contamination as well as the proposed methods of repair or replacement (Section 2652), 2) conducting initial abatement actions (Section 2653), 3) conducting initial site characterization (Section 2654), 4) removing free product, if applicable (Section 2655), and 5) corrective and remedial action, as necessary (Sections 2720 through 2728).

The RFA results indicate that four other SWMUs/AOCs had moderate petroleum hydrocarbon contamination adjacent to the bottom of the unit. We recommend that these SWMUs/AOCs be evaluated in the **BCP**; the four units are:

- SWMU/AOC 84 (OWS 298-C)
- SWMU/AOC 151 (OWS 605-C)
- SWMU/AOC 199 (OWS 759-A)
- SWMU/AOC 298 (UST 392- Waste Oil)

We have included additional recommendations for the **BCP** in our attached comments. In addition, we have also included recommendations for the soil gas survey to be conducted as part of the RI/FS investigation.

We would like to take this opportunity to emphasize the following recommendations:

- 1) Until MCAS El Toro is closed, hazardous material storage and less than 90 day hazardous waste storage should be conducted in paved areas (preferably a relatively impervious surface such as concrete without gaps or cracks) and permanently bermed, if feasible, to preclude releases of hazardous constituents to soil.
- 2) In accordance with closure requirements for USTs containing hazardous substances, all residual liquid, solids, or sludges should be removed from inactive units. We are aware of at least two USTs that contained liquids at the time of the RFA sampling visit, namely, SWMUs/AOCs 91 (UST 314-A) and 92 (UST 314-B).

The following comments issued by DTSC on the **Draft RFA Report** were apparently not addressed in the **Final RFA Report**:

- 1) Compliance with sample holding times should be discussed; all samples with exceeded holding times should be identified.
- 2) Boring logs should bear the stamp or signature of a California registered geologist (RG) or certified engineering geologist (CEG).
- 3) Contrary to what is stated in the "Response to Comments", the location of the storm drain and general

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drainage path is not indicated in Figure 78 of Appendix B for SWMU/AOC 258 (Wash Water Runoff Site [Fuel Station 577]).

If you have any questions concerning this matter, please contact me at (310) 590-4878.

Sincerely,



Joe J. Zarnoch
Base Closure Unit

Enclosure

cc: Commanding General
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ATTACHMENT

DTSC COMMENTS ON MARINE CORPS AIR STATION [MCAS] EL TORO EL TORO, CALIFORNIA INSTALLATION RESTORATION PROGRAM FINAL RCRA FACILITY ASSESSMENT [RFA] REPORT

BRAC CLEANUP PLAN (BCP)

The **BCP** should address the following comments for SWMUs/AOCs identified in the RFA investigation. In addition to the following comments, the **BCP** should evaluate: 1) all SWMUs/AOCs recommended for further action in the **Final RFA Report**, 2) anomalies identified in **Final Report, Aerial Photograph Assessment, MCAS El Toro** prepared by SAIC, dated August 2, 1993, 3) suspected areas (e.g., the current burn pits) identified in our comments on the **Phase II RI Work Plan** but not included in the current RI/FS scope of work (see DTSC Comments dated December 17, 1993), 4) newly identified potentially contaminated areas (see DTSC letter dated August 27, 1993), and 5) Tiered Permitting Units identified as "M-439ET" (Med-Clinic Silver Recovery) and "P-312ET" (Photographic Lab).

1. Oil/Water Separator (OWS) Systems

The **BCP** should evaluate the twenty-four OWS and waste oil UST systems, as well as all other such systems not previously identified (see below). Please note that at the following three systems, the OWS and UST are separated by approximately 15 to 20 feet and only one 25 foot boring, situated between the two units, was used for the RFA evaluation:

- a) SWMUs/AOCs 65 (UST 240-B) and 66 (OWS 240-C),
- b) SWMUs/AOCs 205 (OWS 761-A) and 206 (UST 761-B), and
- c) SWMUs/AOCs 211 (OWS 763-A) and 212 (UST 763-B).

In addition, please note the following: 1) SWMU/AOC 231 (UST 899-E) failed an integrity test conducted in 1990, 2) OWSs with unit identifications "B-658" and "B-744" were reported by MCAS El Toro to DTSC's Tiered Permitting Program and were identified by an OWS survey report prepared by Law/Crandall

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in April 1993; it appears that these units were not investigated in the RFA, and 3) OWSs 280, 324, 371, 802, 845, 850/851, 892, 896, 897 and 1702 were also identified by the Law/Crandall survey and apparently were not investigated in the RFA (please note that apparently some of these units are not included in MCAS El Toro's inventory).

2. **Tanks**

The **BCP** should evaluate all USTs and aboveground storage tanks (ASTs) at the Station, including current, abandoned and removed USTs/ASTs.

The **BCP** should include a map displaying the following: 1) a map of MCAS El Toro and 2) the location of all USTs/ASTs (including tank farms), including current, abandoned and removed units. A similar figure should also indicate contours of groundwater plumes potentially associated with the USTs/ASTs, including plumes, e.g., of BTEX, TFH-gasoline and TFH-diesel constituents. Please include areas off-Station as well, e.g., TFH-gasoline and TFH-diesel were detected in off-Station well 18_BGMP09.

For all tanks, the **BCP** should include a table indicating, at a minimum, the following : 1) UST/AST number, 2) location, including cross streets and building number, 3) year installed, 4) tank construction, 5) capacity, 6) types, quantities and concentrations of hazardous substances stored, 7) status (e.g., active, abandoned, removed, etc.), and 8) comments (including if the unit was integrity tested and if so, the year(s) and the results). Include SWMU/AOC 263.

For all USTs with releases, the **BCP** should include the following information: 1) the UST number, 2) location, including cross streets and building number, 3) year installed, 4) tank construction, 5) capacity, 6) types, quantities and concentrations of hazardous substances stored/released, 7) status (e.g., active, abandoned, removed, etc.), 8) source or cause of release, 9) the approximate date(s) the release occurred, 10) the approximate date the release was discovered, 11) how the release was discovered, 12) the date the release was stopped, including, if applicable, the date the unit was taken out of service, 13) impacted medium (e.g., soil and/or groundwater), 14) a description of the action(s) taken to control and/or stop the release or the proposed method(s) of

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repair or replacement, 15) a description of any additional actions taken to prevent future releases, 16) a description of the corrective and remedial actions, including investigations which were undertaken and will be conducted to determine the nature and extent of soil, groundwater or surface water contamination due to the release, 17) the method(s) of cleanup implemented to date, proposed cleanup actions, and a time schedule for implementing the proposed actions, and 18) the method and location of disposal of the released hazardous substance and any contaminated soils or groundwater or surface water, including copies of any completed hazardous waste manifests for off-site transport of these media.

3. **Less Than Ninety (90) Day Hazardous Waste Accumulation Areas**

The **BCP** should evaluate all less than 90 day hazardous waste accumulation areas, as necessary, including decontamination.

4. **SWMU/AOC 7 - Transformer Storage Site**

We do not believe the one sample location investigated during the RFA adequately characterized this site.

5. **SWMU/AOC 9 - Fuel Bladder**

The RFA investigation provided no evidence that petroleum hydrocarbon contamination is limited to 5 feet below ground surface (bgs). Whether or not the concentration of 414 ppm for TFH-diesel falls below **LUFT Manual** criteria is inconsequential; a sample was not collected below a depth of 5 feet. Please note that the detection of 414 ppm TFH-diesel was within the former fuel bladder bermed area. The potential for contamination at deeper depths should be investigated.

6. **SWMU/AOC 20 - UST T-C (Waste JP-5)**

The RFA investigation provided no evidence that petroleum hydrocarbon contamination is limited to 5 feet bgs. TFH-diesel was detected at 5 feet bgs at a concentration of 463 ppm; deeper samples were not collected. The potential for contamination at deeper depths should be investigated.

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7. **SWMU/AOC 39 - Hazardous Waste Storage Area (HWSA)**

This SWMU/AOC was added for further action in the **Final RFA Report**. The surficial soil extent of PCB contamination (52 ppb at a depth of 10 feet in an angle boring) and polycyclic aromatic hydrocarbon (PAH) contamination should be investigated.

8. **SWMU/AOC 48 - UST 178 (Waste Oil)**

The 10 foot depth sample (top sample) of angle boring A1 with a TPH result of 822 ppm indicates possible surficial soil contamination. At a minimum, additional analyses should consist of semivolatile organic compounds (SVOCs), metals and petroleum hydrocarbons.

9. **SWMU/AOC 88 - Drum Storage Area (DSA)**

This SWMU/AOC was added for further action in the **Final RFA Report**. The surficial soil extent of PCB contamination (11 ppb at a depth of 10 feet in an angle boring) should be investigated.

10. **SWMU/AOC 129 - UST 445-C (Waste Oil)**

An observed stained area identified in the **Draft PR/VSI Report**, dated July 3, 1991, should be investigated. The "Response to Comments" indicates that the stained area was not sampled during the RFA investigation because it is not believed to be a result of operations associated with SWMU/AOC 129 and it appears to be a one-time release which may have originated from a vehicle. The stained area is approximately 4 feet in diameter and about 25 feet west of the wall of Building 445 and 12 feet south of the concrete pad surrounding the pump units.

Please note that based on recent information, it appears that SWMU/AOC 129 is actually an OWS.

11. **SWMU/AOC 131 - Engine Test Cell**

The surficial soil extent of PAH contamination should be investigated.

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12. **SWMU/AOC 151 - OWS 605-C**

The **BCP** should include an evaluation of several pipes (vents) protruding from the asphalt surface of this location.

13. **SWMU/AOC 171 - HWSA**

The surficial soil extent of PAH contamination should be investigated.

14. **SWMU/AOC 231 - UST 899-E (Waste Oil)**

Even though RFA sample results did not indicate contamination, additional investigation and/or removal is recommended for this UST which failed a tank test conducted in 1990.

15. **SWMU/AOC 244 - PCB Spill Area**

Formal records providing a detailed account of the PCB spill and cleanup are not available. The extent or absence of possible residual contamination should be confirmed.

16. **SWMU/AOC 260 - AST (JP-5)**

The **BCP** should include a proposal to evaluate the large stain observed on the pavement of this former storage tank. Since the pavement was cracked at the stain area, it is possible that soil may have been impacted by releases.

17. **SWMU/AOC 264 - DRMO Storage Yard #3 (Equipment Storage Yard)**

Based on the recent discovery of what appears to be oil contaminated soil along the southwestern edge of the storage yard, additional sampling is required (if not conducted under another program such as a removal action). At a minimum, analyses should consist of SVOCs, PCBs, metals and petroleum hydrocarbons.

Based on the "Response to Comments", it is unclear if the significant stain area in the central portion of the yard near the jeep storage area was sampled (see the **Draft PR/VSI Report**). If not sampled during the RFA investigation, this area should be added to the strategy for additional sampling at this site.

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18. **SWMU/AOC 267 - Drop Tank Fuel Storage Area**

We indicated in our comments on the **Draft RFA Report** that this SWMU/AOC was recommended for a sampling visit in the **Draft PR/VSI Report**, but was not sampled during the RFA investigation. The "Response to Comments" states that the Navy reconsidered the recommendation for sampling this SWMU/AOC because the tanks are stored on a tarmac and a release from this area would not be able to impact soil. However, further review of the **Draft PR/VSI Report** reveals that the aircraft fuel tanks at Building 605 are/were stored on metal racks located in an asphalt paved area adjacent to the northwest corner of Building 605. The storage area is/was not protected by a berm. There were several dark stains on the asphalt near and under the storage racks. Furthermore, there were several spots where the asphalt was in poor condition. We believe the **BCP** should evaluate this site and recommend sampling.

SOIL GAS SURVEY

For other recommendations on the soil gas survey, please also see General Comments #13 & 26 in DTSC comments, dated December 17, 1993, on the **Phase II RI Work Plan**.

SWMUs/AOCs 100 (TCE Degreaser), 101 (OWS 359-B), 102 (UST 359-C [spent stoddard solvent]) and 303 (500 gallon TCE UST) at Building 359

Records indicate that spent solvent at this location was discharged to the storm drain as recently as 1978 (**Draft PR/VSI Report**).

The soil gas survey work plan should include a strategy to investigate this area. Moreover, the work plan should include a map which indicates the locations of TCE units at or near Building 359 and storm drain systems for this area (possibly discharging to Bee Canyon and/or Agua Chinon Washes).