

## **Appendix A**

**EPA REVIEW COMMENTS ON THE DRAFT SECOND FIVE-YEAR REVIEW  
FORT ORD SUPERFUND SITE, REVISION C,  
MONTEREY, CALIFORNIA  
MARCH 2007**

**GENERAL COMMENTS**

- 1. Protectiveness Statements:** Some protectiveness statements in this Five-Year Review appear to be incomplete, and each statement should clearly describe whether the site conditions are protective, not protective, or if a protectiveness statement is being deferred until additional data are obtained. For some sites it appears that short-term protectiveness may be afforded by institutional controls (ICs) until a remedy is in place to provide long-term protectiveness, but often this condition is not discussed. Section 4.5.1 of the Comprehensive Five-Year Review Guidance (EPA 540-R-01-007) describes how to formulate protectiveness statements at sites that are under construction, or where a remedy is operating or completed. Examples of protectiveness statements for sites under construction, such as OUCTP, are as follows:

**Exhibit 4-6: Protectiveness Statements**

If the remedial action at the OU is:	then use this statement ...
<b>under construction and...</b>	
protective or will be protective	"The remedy at OU X is expected to be protective of human health and the environment upon completion, and in the interim, exposure pathways that could result in unacceptable risks are being controlled."
not protective	"The remedy at OU X is not protective because of the following issue(s) (describe each issue). The following actions need to be taken (describe the actions needed) to ensure protectiveness."
protectiveness deferred	" A protectiveness determination of the remedy at OU X cannot be made at this time until further information is obtained. Further information will be obtained by taking the following actions (describe the actions). It is expected that these actions will take approximately (insert time frame) to complete, at which time a protectiveness determination will be made."

An example of a vague Protectiveness Statement made in several sections is that "Once implementation is complete, the remedy is expected to be protective of human health and the environment." This statement can be interpreted that the site conditions are not currently protective, whereas they actually may be protective in the short term because of ICs (such as groundwater use restrictions.) Please revise such a statement to demonstrate how a site is protective in the short-term because of ICs, and then that implementation of a remedy will provide the long-term protectiveness.

**RESPONSE**

Each protectiveness statement will be reviewed and revised accordingly.

- 2. Description of Institutional Controls:** The text does not consistently discuss the role of ICs, including how they provide short term protectiveness while some remedies are being selected

and/or implemented. Where applicable, please revise descriptions of the functioning site remedy (Technical Assessment section, Question A) to describe the ICs in place, and also revise protectiveness statements to indicate when ICs are in place (see above.) Because of the number of sites in this Five-Year Review, please also consider developing a table that lists the specific ICs for the sites that have completed or implemented remedies as well as the sites where remedies are still being selected. As discussed elsewhere, for several sites still under remedial construction, ICs are in place that will at least provide for short-term protectiveness.

## **RESPONSE**

The text will be revised to include institutional controls (ICs) but a new table will be created to identify which sites contain ICs.

- 3. Five-Year Review Summary Form, Issues/Recommendations:** Please consider summarizing the Issues and Recommendations in a table format, and include information on the due date for actions, the party responsible for resolving the issue or recommendation, and the parties responsible for oversight responsibility. This information is required as described in the Five-Year Review guidance (Sections 4.4.1 and 4.4.2).

## **RESPONSE**

New tables will be created to summarize the issues and recommendations.

- 4. MEC is a Hazard:** Current draft guidance from an EPA and DOD working group indicates that the presence of Munitions and Explosives of Concern (MEC) at a site should be discussed in terms of a hazard and not a risk. Most significantly, Section 1.6 of the Public Review Draft of the *Munitions and Explosives of Concern, Hazard Assessment Guidance, November 2006* ([http://www.epa.gov/fedfac/documents/public\\_review\\_draft\\_mec\\_ha\\_guidance\\_nov2006.pdf](http://www.epa.gov/fedfac/documents/public_review_draft_mec_ha_guidance_nov2006.pdf)) provides a definitive exposition on the differences between a MEC Hazard Assessment and a Chemical Risk Assessment, including the admonition that "... project teams should recognize the fundamental difference between assessing chronic chemical exposure risk and assessing the acute MEC explosive hazards." To summarize, an essential difference is that a chemical risk assessment is based on a population's exposure to a chemical concentration resulting in a probability of a health impact on that population. By comparison, an assessment of the presence of MEC can only determine whether a explosive hazard does or does not currently exist, and possibly a professional judgment that an explosive hazard likely does not exist in the future because of MEC presence at depth; importantly, there is no way to evaluate the probability (a risk) of when an individual will be injured by an encounter with a yet unrecognized MEC item. Please consider including a section in the Five-Year Review discussing the difference between explosive hazard evaluations and chemical exposure risk assessments, and revise statements describing the presence of MEC as risk issue (see listing below, Express MEC as a Hazard.)

For example, a statement that should be revised is that "there is no current known risk or potential future risk due to the presence of MEC," which when revised would then state that "there is no current known hazard because of the presence of MEC, and [possibly] it is

unlikely that MEC is present at depth so as to pose a future hazard.” Please revise such statements for discussions with the regulatory agencies (see Specific Comment below.)

#### **RESPONSE**

Per the discussions at the Fort Ord HTW BCT meeting on 6/22/07, MEC will to continue to be considered a “risk,” as currently presented in the text. No change will be made.

- 5. Descriptions of Remedial Alternatives:** When a remedy has been selected, or a preferred remedy has been mutually agreed on by the regulatory agencies and Army, please cite information in the Feasibility Study (FS) or the Proposed Plan (PP), and it is then not usually necessary to list all the remedial alternatives that were considered. If a list of the remedial alternatives is considered necessary, please state the reason for the listing and then only briefly list the alternatives and again cite the FS or Proposed Plan (PP) for any detailed descriptions. Where possible, please revise individual sections to delete detailed description of the remedial alternatives that have been evaluated.

#### **RESPONSE**

The text will be revised accordingly as suggested.

- 6. Aquifer Cleanup Levels:** Groundwater cleanup goals at Fort Ord are referred to as aquifer cleanup levels, but this Five-Year Review Report does not list the specific numerical criteria for these goals. Please provide a table listing the aquifer cleanup levels for Ft Ord, and the basis for choosing these goals.

#### **RESPONSE**

A table will be created to list the aquifer cleanup levels and basis for choosing these goals.

- 7. Typographical and Grammatical Errors:** There are a number of typographical errors, misspellings and grammatical errors that need to be resolved in this document. The table of acronyms needs to be cross-checked against the text. The terms “health” and “human health” are used inconsistently in the text, and in some cases it is unclear if “health” refers to only human health issues or includes a broader environmental scope.

#### **RESPONSE**

The document will be reviewed and the text will be revised.

**SPECIFIC COMMENTS** (for Five-Year Review Summary Form and General Text that follows)

#### **FIVE-YEAR REVIEW SUMMARY FORM**

(Pages SF-1 through SF-5)

- 1. Section 1.0, Issues: Section 1.1, OU-1, Page SF-2:** This section is confusing, and can be interpreted to be in conflict with Section 5.6, Protectiveness Statement for OU-1. The issue is stated, in part, as being that “Concentrations of TCE in downgradient locations exceed the aquifer cleanup levels,” but Section 5.6 states that since early 2007 the area in which TCE

exceeds the aquifer cleanup level beyond the property boundary do not extend to residential areas.” Please revise the issue statement to more concisely state that the TCE plume now extends offsite of the Ft Ord boundary at concentrations that exceed aquifer cleanup levels, but that these levels are apparently not exceeded in residential areas further downgradient.

As requested in the Specific Comment below for Sections 5.5 and 5.6, please include the Issues and Recommendations from these sections into this Summary Form, preferably in a table format as requested in a General Comment above.

## **RESPONSE**

Section 1.1 will be revised to read:

“Solvent contamination in groundwater has been identified outside the capture area of the operable unit 1 (OU 1) remedy. Trichloroethene (TCE) is present off site in a narrow plume extending approximately 400 feet downgradient of the existing line of extraction wells located at the former Fort Ord property boundary. Concentrations of TCE in downgradient locations exceed the aquifer cleanup levels specified in the OU 1 record of decision (ROD) and will require remediation to be compliant with the ROD objectives and applicable or relevant and appropriate requirements (ARARs).”

In addition, tables will be created to summarize issues and recommendations as discussed in Response to General Comment No. 3.

- 2. Section 1.4, Site 31, Page SF-2:** Please restate the issue as being that the Department of Toxic Substances Control requested in 2006 that a covenant to restrict the use of property (CRUP) be in place, and then that the CRUP is currently being prepared; the situation that the CRUP is being prepared is not an issue unless it is disputed by the Army (see clearer statement in Section 7.3.2.4, Progress Since the Last Five-Year Review.)

## **RESPONSE**

The same statement in Section 7.3.2.4 will be included in Section 1.4.

- 3. Section 1.6, Site 33, Page SF-3:** The issue statement that there is a “potential for a change in the reuse of Site 33” and “a deed restriction must be maintained ... unless the site is remediated to residential standards” is unclear. It is uncertain whether the issue is that a site reuse change will require a modification of the deed restriction, and/or if the site is to be further remediated. Please provide more specific information regarding the issue of concern for Site 33.

## **RESPONSE**

Section 1.6 will be removed.

- 4. Section 3.0 Protectiveness Statement, Page SF-4:** The statement that “All immediate threats from chemical contamination ... have been addressed” is unclear as it then appears that some threats remain; it is not stated what the remaining threats may be and how they relate to whether the remedies can be considered protective. In the context of Protectiveness Statement, it possibly may indicate that the conditions at Ft Ord are protective in the short

term (immediate threats), except for Site 39 where both chemical and MEC are present. Similarly, the description in the second paragraph (page SF-5) that the “immediate threat from MEC” will be mitigated by munitions response actions is unclear as to what “threats” remain. Please reformulate the protectiveness statements to clearly state whether site conditions are protective, not protective, or if protectiveness has been deferred until more data has been obtained. As requested in a General Comment above (Description of Institutional Controls,) a list of ICs applicable to each site may be a useful demonstration that site conditions are protective, at least in the short term until a complete remedy has been completed. Please consider that a protectiveness statement for the entire Ft. Ord site may not be feasible at this time and that protectiveness of remedies are better described according to each individual site.

## **RESPONSE**

The text will be revised as suggested.

## **GENERAL TEXT**

- 1. Section 1.0, Introduction, Page 1-2:** The first complete paragraph on page 1-2 indicates the five-year review is required due to the presence of hazardous substances, pollutants, or contaminants at the site. Please include MEC in this sentence.

## **RESPONSE**

The paragraph in question just states the general requirement for the five-year review. The same paragraph already states that MEC will be included in this five-year review. No changes will be made.

- 2. Section 3.2.2, Undeveloped Land, page 3-3:** In the Costal Zone subsection, the first paragraph on page 3-3 has a sentence that reads, “A well-known coastal landmark and Stilwell Hall was demolished between August 2003 and February 2004 due to costal bluff erosion, building deterioration, weathering.” The significance of this statement is unclear. Are the “well-known coastal landmark” and Stilwell Hall one in the same, or does the sentence refer to a second structure/land feature as the “well-known coastal landmark?” Please revise the cited sentence to better state the information relevant to this Five-Year Review.

## **RESPONSE**

The cited sentence will be revised to read: "Stilwell Hall was demolished between August 2003 and February 2004 due to coastal bluff erosion, building deterioration, and weathering."

- 3. Section 4.4, Site Inspections, page 4-1:** This section has a series of sentences that read, “Michael Williams, P.E., *Shaw* inspected the Operable Unit 2 (OU 2) Landfills. Mark Reese, Presidio of Monterey Directorate of Public Works Environmental Management Division; David Eisen, USACE; Gail Youngblood, BRAC, and Edward Ticken, *MACTEC* inspected the Basewide RI Sites, including Site 3, the Beach Trainfire Ranges; Track 1 sites; and Track 0 FOST Parcels.” While the words “Shaw” and *MACTEC*” are familiar to persons recently associated with ongoing activities at Ft Ord, some potential readers will probably not

understand what is meant unless the complete identity of these organizations is provided (e.g., Shaw Environmental, Incorporated, and MACTEC Engineering and Consulting, Incorporated). Please revise the cited sentences to include the requested information.

## **RESPONSE**

The paragraph will be revised to read:

“Inspections at the sites were conducted between November 10, 2006 and February 28, 2007 for the purpose of assessing the protectiveness of the remedies. The Army and its contractors conducted the site inspections. Operable Unit 1 (OU-1; Fritzsche Army Airfield) is routinely inspected as part of the groundwater treatment system operation and was not included in the site inspection.”

- 4. Section 4.4.2, RI Sites, Page 4-2:** The statement about Site 33 is confusing: “There were no residential development noted at Site 33 where restrictions prohibit the reuse to other than residential-type uses. The site is continuing to be used as a golf course maintenance area.” These statements appear to indicate that reuse at Site 33 is limited to residential-type uses yet the site is being used as a golf course. Please revise the cited sentences to more clearly reflect the Site 33 reuse restrictions.

## **RESPONSE**

The word “prohibit” will be revised to “limit.”

- 5. Section 4.7, Interviews, Page 4-3:** This section is overly general, and as written this single paragraph is so inclusive so as to strain credibility. For example, the third sentence indicates that participants in the ongoing community relations program include "TRC members, local political and civic leaders, special interest groups, minority, ethnic, and religious organizations," which would suggest specific efforts have targeted these individual groups; instead, Army outreach efforts appear to have been extensive to the general community. For example, the quarterly Community Involvement Workshops, guided public tours of Ft Ord, and the participation of Ft Ord personnel in local fairs have maintained contact with the general community. Another very tangible effort has been to inform and involve the community during field burning as part of MEC assessments and to remove debris, and it would be useful to have some discussion of what monitoring and interviews were conducted during these activities. Please provide some documentation that the community outreach was so effective that the interviews for the purpose of the Five-Year Review Report would be redundant, and some citation of where interview results are documented. Please also cite the Administrative Record where some public comments have been recorded.

## **RESPONSE**

Section 4.7 will be revised to include specifics on the community outreach activities and cite the Administrative Record locations.

- 6. Section 5.4, Issues, and Section 5.5, Recommendations and Follow-Up Actions, Page 5-4:** These sections contain concise discussions of issues and recommendations regarding whether the ground water cleanup goals have been attained in the source area, the evaluations

of the Hydraulic Control Pilot Project to control offsite migration of groundwater contamination, and the possible need to address contamination in the offsite groundwater plume. Please include these issues and recommendations in the Five-Year Review Summary Form (pages SF-1 through SF-5.)

## **RESPONSE**

The Summary Form will be revised.

- 7. Section 5.6 Protectiveness Statement, Page 5-5:** The OU1 remedy is described as being protective of human health and the environment within the designated capture area. Please provide additional information on how this capture area is defined for this Five-Year Review. Furthermore, the selected remedy was to capture and contain the TCE groundwater plume; therefore it is unclear how the OU1 remedy can be considered protective of human health and the environment when the plume has not been captured. The text further states that the remedy is compliant with ARARs in the area for which it was designed but does not address contaminants that have migrated beyond the Former Fort Ord boundary. Please see the general comment on protectiveness statements and revise the text for clarity. If the remedy is considered protective in only parts of the contaminant plume, please provide a figure to depict the areas where the remedy has been protective, is not protective, or where a protectiveness decision has been deferred (see below.)

The second paragraph on page 5-5 states that TCE in groundwater above aquifer cleanup levels does not extend to residential areas beyond the property boundary. The text also states that the Army will implement measures to prevent exposures to residents above acceptable risk levels. These statements are confusing, and the latter can be interpreted to infer that there may be a potential exposure scenario to offsite residents due to this plume migration. Given the information provided in this section, deferring protectiveness may be a better selection because the remedy has not been successful. Please provide technical data, including the dates of sampling, regarding the extent of the plume into off-site properties. Please also address potential vapor intrusion and exposure scenarios resulting from this plume in the protectiveness statements.

## **RESPONSE**

The first paragraph in Section 5.6 will be revised as suggested in General Comment No. 1. The second paragraph will be deleted.

- 8. Section 6.0:** The Five-Year Review states that property near OU2 was recently developed for residential use. Potential exposure scenarios for residents of this property due to vapor intrusion have not been addressed. Please provide additional data, such as groundwater monitoring data, depth to water, extent of groundwater plume, and plume location relative to these residences, in order to facilitate review of the vapor intrusion exposure scenario.

## **RESPONSE**

The following sentence will be added to Section 6.0: “Current development plans include mixed use retail, residential, and commercial. A soil gas program to evaluate the potential risks will be developed.” In addition, the term “for civilian use” will be deleted from Section 6.0.



- 9. Section 6.1, OU 2 Background, Page 6-1:** The acronym identified for semi-volatile organic compounds in the text is SOC. Semi-volatile organic compounds are more commonly identified as SVOCs. Please revise this acronym from SOC to SVOCs for consistency with general industry practice.

**RESPONSE**

The text will be revised.

- 10. Section 6.6, Protectiveness Statement, Page 6-7:** The protectiveness statement indicates that a CRUP will be included for the property over the plume. Please clarify whether this was a deed restriction called for in the ROD, as it is not appropriate to say a remedy is protective if a deed restriction is not in place. It may be appropriate to state that this remedy is protective in the short term, if it is demonstrated that no one lives/works over the plume or is drinking water from the saturated zone.

**RESPONSE**

Section 6.6 will be revised as follow:

"The remedy will be protective of human health and the environment upon completion, and in the interim, exposure pathways that could result in unacceptable risks are being controlled because of the presence of Monterey County Ordinance 5201 and the CRUP."

- 11. Section 7.1.6, Protectiveness Statement, Page 7-7:** The protectiveness statement indicates that a CRUP will be included all transferring parcels that are located over the groundwater plume. Please clarify whether this was a deed restriction called for in the ROD, and whether it has been implemented. It is not appropriate to say a remedy is protective if a required deed restriction is not in place.

**RESPONSE**

The protectiveness statement for groundwater will be revised as commented in General Comment No.1 and to include Monterey County Ordinance 5201 and the CRUP.

- 12. Section 7.2.1, Site 16, page 7-7:** The Pete's Pond Extension subsection contains a sentence that reads, "Before the RI, trenching performed in this area to repair a stormwater drain encountered stained soils and debris including concrete, ordnance (a bazooka round), and other scrap metal." The terminology used here results in some potential confusion as to exactly what was found during the trenching operation. A "bazooka round" (a 2.36-inch rocket of one of a number of different models and functional types) contains, by definition, energetic materials (all models [dummy versions excluded] contain live propellant). Munitions material that contains energetic material cannot be scrap (also by definition). Therefore, the presence of a "bazooka round" means the presence of MEC, and the use of the succeeding phrase "...and other scrap metal." is an incorrect statement, as it classifies the "bazooka round" as scrap metal. If the item identified as a "bazooka round" is not a complete round, but an expended bazooka rocket (2.36-inch rocket of some type), then the use of the words "...and other scrap metal." is justified. Please review the cited sentence and correct the terminology as necessary.

## RESPONSE

The sentence will be deleted and the section rewritten.

**13. Section 7.2.3, Site Summary, Page 7-8:** The text indicates that soil remediation resulted in Sites 16 and 17 being available for unrestricted use, and that groundwater is being treated as part of OU2. This section could be shortened to say that the selected remedy was implemented and resulted in unrestricted/unlimited use.

## RESPONSE

Section 7.2.3 will be revised as section 7.2.1 to the following shorter summary:

“The groundwater is captured and treated as part of the OU 2 groundwater remediation and is not considered as a separate remedial unit for Sites 16 and 17. All transferring parcels, which are located over the groundwater plume, will include a CRUP recorded with the deed. The CRUP will prohibit construction of wells for injection or extraction of any groundwater until the aquifer cleanup levels are attained. In addition, there is a Monterey County ordinance that regulates water well installation within either the “Groundwater Prohibition Zone” or “Groundwater Consultation Zone” which include the known groundwater plumes at the former Fort Ord.

The selected remedy for Sites 16 and 17 for the soils remedial units was completed and resulted in unrestricted reuse.”

**14. Section 7.3.2.2, Remedy Implementation, Page 7-10:** The statement that “The post remediation ecological risk assessment concluded that significant risks to ecological receptors that are exposed to chemicals remaining at Site 31 are not expected” is awkward. Please revise this statement.

## RESPONSE

The text will be revised.

**15. Section 7.3.4, Issues, and Section 7.3.6, Protectiveness Statement, Page 7-11:** The remedy called for a deed restriction that is not in place. This should be identified as an issue. The protectiveness statement should indicate that the selected remedy is protective in the short term, but in order to be protective in the long term, a deed restriction should be placed.

## RESPONSE

The CRUP identified in Section 7.3.4, so no changes will be made. Section 7.3.6 will be revised per General Comment No. 1.

**16. Section 7.4.6, Protectiveness Statement, Page 7-16:** Please see the first General Comment

## RESPONSE

Section 7.4.6 will be revised per General Comment No. 1.

**17. Section 7.7.2, Remedial Actions, Page 7-17 and 7-18:** The specific details regarding the deed restriction and its implementation should be discussed in this section. Additionally, there should have been some sort of verification during the five year review that the deed restriction is still applicable (i.e. a title search, etc.)

**RESPONSE**

Section 7.0 will be revised to state that the land was transferred and a deed restriction was implemented at the time of the transfer.

**18. Section 8.1, Background, Page 8-1:** The last sentence in this paragraph states that CERCLA steps to address ecological risk issues are described in Section 8.2.4, but this section is for System Operations and Maintenance (O&M.) Furthermore, no discussions of the steps to address ecological risks (Proposed Plan, etc.) appear to be included in this chapter.

**RESPONSE**

The text will be revised.

**19. Section 8.0, Site 3 Interim ROD, page 8-1:** In subsection 8.1, Background, a statement is found that reads, “In addition, the Army will complete a proposed plan, public comment period, and Record of Decision addressing ecological risks at this site as described in Section 8.2.4.” However, a review of Section 8.2.4, Operations and Maintenance, reveals that the entire section consists of one sentence that reads, “There are presently no O&M requirements identified for Site 3.”

It appears that the reference to Section 8.2.4 should actually be a reference to Section 8.2.5, Progress Since the last Five-Year Review. The first paragraph of this section reads:

*“The Site 3 Interim ROD was finalized as part of the Record of Decision, No Further Action Related to Munitions and Explosives of Concern-Track 1 Sites; No Further Remedial Action with Monitoring for Ecological Risks from Chemical Contamination at Site 3 (MRS-22) (Army, 2005b). This ROD specifies that Site 3 is protective of ecological receptors and no further action is necessary. Ecological monitoring will be conducted at Site 3 to confirm the results of the ecological risk assessments and evaluations conducted to date (HLA, 1995f, 1998c: IT, 2000b). This data will be evaluated in conjunction with the previous ecological risk assessment data during five year reviews to assess the need for continued monitoring. In November, 2006, the Army issued the Post-Remediation Ecological Habitat Sampling and Analysis Plan (Shaw, 2006c). Data collected under this plan will be used to evaluate the need for future monitoring and will be reported during the next five year review.”*

The second paragraph of this section further states:

*“Based on this Site 3 Interim ROD, the Army has agreed that, provided the California State Parks and Recreation staff collect spent bullets and notify the Army, the Army will collect the spent bullets and either recycle the material or properly dispose of it through*

*the Army's hazardous waste disposal process.”*

While this would seem to address the issue of small arms residue that may remain on the site, it does not address the issue of potential residual MEC and its subsequent detection and removal immediately after erosion events. As this is an issue of concern that has previously been the subject of BCT discussion, please revise the cited sections to include the process for detecting and removing any suspected MEC items that are uncovered by erosion events. In addition, please review the statement found in the second paragraph of Section 13.2 (page 13-2) that reads, “The selected remedy for Site 3 (MRS-22) is no further action with monitoring for ecological risks and is described in Section 8.0.” and ensure that the revisions made in Section 8.0 and the wording of the Section 13.2 statement are consistent.

#### **RESPONSE**

The MEC-related issues for Site 3, which is also known as MRS 22 is discussed in Section 13. Section 8.0 will be revised to reference Section 13 for MEC-related issues.

**20. Section 8.2.1, Soil Remedial Unit, Page 8-1:** Please specify that the health-based level of concern of 1,860 mg/kg for lead in soil is a human health-based level, to avoid confusion that this level is designed to be protective of ecological concerns.

#### **RESPONSE**

The text will be revised to include the word “human.”

**21. Section 8.2.2, Remedy Selection, Page 8-2, and Section 8.6, Protectiveness Statement, Page 8-3:** The second sentence of the Selected Remedy paragraph indicates protectiveness of the environment will be addressed after the environmental cleanup level is finalized on the basis of the ecological risk assessment being performed. This appears to contradict the information in Section 8.6, which states that the post-remediation risk assessment indicated the implemented remedy was protective of human health and the environment and is available for unrestricted use. Please revise the protectiveness statements in these two sections for consistency.

#### **RESPONSE**

Section 8.6 will be revised per General Comment No. 1.

**22. Section 8.4, Issues, Page 8-3:** Please clarify the issues associated with the Site 3 Interim ROD, the requirement for continued ecological monitoring at Site 3, and the decision process for ceasing ecological monitoring. Based on the text, it appears protectiveness of the environment could not be determined at the time of the ROD and was deferred until a later date. Until the data from the Post-Remediation Ecological Habitat Sampling and Analysis Plan has been collected and reviewed, it is maybe premature to state that the remedy is protective of the environment. Please discuss if it would be more appropriate to defer the environmental protectiveness statement until review of this data has been completed.

#### **RESPONSE**

Section 8.6 will be revised to state that additional monitoring is being conducted to confirm that the remedy is protective of ecological receptors

**23. Section 11.1.1, Soil Gas, Page 11-1:** The second paragraph of Section 11.1.1 states that low levels of carbon tetrachloride in soil gas, indicating that the carbon tetrachloride source has been removed. Please cite specific data to support this statement rather than using general language such as “low levels. More specifically, please discuss whether the carbon tetrachloride are of currently of concern for indoor air intrusion exposures.

**RESPONSE**

The last paragraph in Section 11.1.1 will be revised as follow:

“A soil vapor extraction system (SVE) and treatment system pilot study was performed to evaluate remediation of vadose zone soils in the OUCTP source area. During SVE system operation, 0.78 pounds of CT were removed from the vadose zone. CT soil gas data collected 6 months after the SVE and treatment system was shut down showed only low levels (an average of 0.06 parts per billion by volume) of CT concentrations. This indicated that the CT source has been removed and; therefore, no additional cleanup activity was recommended for soil gas in the vicinity of Lexington Court (Shaw, 2006c).”

**24. Section 11.1.2 Groundwater, Lower 180-Foot Aquifer, Page 11-2:** The last sentence of this paragraph appears to address the Upper 180-foot aquifer, and does not agree with the information presented in the preceding paragraph describing the Upper 180-foot aquifer. Please review the text and revise as appropriate.

**RESPONSE**

The reference to Upper 180-Foot Aquifer will be changed to Lower 180-Foot Aquifer.

**25. Section 11.2.1, Remedy Selection, Page 11-2:** Alternative 1 in the current OUCTP ROD is now No Action with Monitoring, and the reference to Monitored Natural Attenuation has been deleted. Please revise the description of this alternative.

**RESPONSE**

The text will be revised.

**26. Page 11-3** describes the Selected Remedy as Alternative 2, but it should be described as the Preferred Alternative until the OUCTP ROD is finalized, at which time it becomes the remedy.

**RESPONSE**

The text will be revised by changing the word “Selected” to “Preferred.”

**27. Section 11.2.2, Preferred Alternative, Page 11-3:** This heading should be Remedy Implementation to be consistent with the format of the rest of the report.

**RESPONSE**

The text will be revised.

**28. Section 11.4, Issues, Page 11-3:** This section states that there are “no unresolved issues that have been identified in regard to the protectiveness of human health and the environment;” however, this protectiveness is unsupported because the remedy has not been implemented, and in fact the field pilot study has not been conducted to demonstrate that the remedy will be protective. Please revise the description of this issue.

**RESPONSE**

Section 11.4 will be revised as suggested.

**29. Section 11.6, Protectiveness Statement, Page 11-4:** As pointed out in the first General Comment, this protectiveness statement can be interpreted to infer that protectiveness has not been achieved. Please revise the protectiveness statement to consider ICs that are in place related to groundwater uses as well as for indoor air intrusion exposures

**RESPONSE**

Section 11.6 will be revised as suggested and per General Comment No. 1.

**30. Section 13.1, Background, Page 13-1:** The last sentence of the first paragraph under Category 3 Sites is awkward. Please revise this sentence.

**RESPONSE**

The definition for Category 3 Sites has been agreed upon by the agencies and included in the ROD. No changes will be made.

**31. Section 15.3.1, Question A, Page 15-3:** The statement “Where completed, the remedy is expected to function as intended,” is too vague and general. Please revise this statement to include more specific details about the remedy and its functioning.

**RESPONSE**

Section 15.3.1 will be revised to state the remedy is currently in progress and will meet the intended goals of the ROD.

**32. Section 16.3.3, Question C, Page 16-4:** The statement “No new information has been identified that could call the protectiveness of the proposed remedy into question,” is inappropriate. No remedy has been selected; therefore protectiveness cannot be determined. Please revise this statement to reflect this information.

**RESPONSE**

Section 16.3.3 will be revised to state: “The remedy has not yet been selected or implemented.”

**33. Section 16.4, Issues, Page 16-4:** Protectiveness of the environment has not been established because a remedy has not been selected. Please revise the text of this section to reflect this information.

## **RESPONSE**

Section 16.4 will be revised.

**34. Section 17.1, Background, Page 17-1:** The Five-Year Review section discussing Del Rey Oaks is incomplete. The Background section has the only text, and it is stated that the land was already transferred, and in fact is being considered for rezoning to residential use by the City of Del Rey Oaks. However, there is no Protectiveness Statement, or discussion of ICs, which would appear to be necessary because the text also states that the previous removal action was incomplete in achieving (unstated) project requirements in one grid area. Please clarify if the removal actions achieved protectiveness without ICs, and provide the site characterization and cleanup history where removal actions were implemented before the 2007 Draft Track 2 Munitions Response RI/FS, Del Rey Oaks Munitions Response Area. Please also clarify the last sentence in the first paragraph to read that the geophysical detection of MEC was not successful in clearing MEC *above* the 4-foot depth because of the machine gun links (the 4-foot depth is often the deepest that can be cleared

## **RESPONSE**

Section 17 will be revised and updated.

**35. Section 18.1.2, Range 36A, Status Report, Page 18-2:** The second sentence in the first paragraph of the Status Report section states “This plan was amended in \_\_\_\_...” Please insert the correct date into this sentence.

## **RESPONSE**

The text will be revised.

## ATTACHMENT A

### COMMENTS ON INSTITUTIONAL CONTROLS

For

*Draft Second Five-Year Review Report*

*Fort Ord Superfund Site*

*Monterey, California*

*Revision C*

March 31, 2007

Provided by Dante Rodriguez

Region 9 Institutional Control Coordinator

1. Section 5.0, *Fritzsche Army Airfield Fire Drill Area*: The ROD required soil and groundwater cleanups. The soil cleanup consisted of removing the contaminated soil. The groundwater cleanup consisted of groundwater extraction and treatment.
  - a. Confirm that all contaminated soil was removed, down to an unrestricted use cleanup level. State this.
  - b. According to this report, the ROD did not include institutional controls to prohibit inappropriate use of groundwater during the interim period until cleanup goals are attained. This report needs to state this and recommend followup to identify and implement appropriate institutional controls to achieve this objective. (Note that such institutional controls could include existing governmental controls). It is not protective in the long-term until such controls are confirmed or established.
2. Section 6.0, *Fort Ord Landfills*: The cleanup required by the ROD consisted of groundwater extraction and treatment of the 180-foot aquifer and the A-aquifer, and construction of a landfill cap. ESD 2 and 3 added excavation of soil and debris and consolidation within the main landfill. This allowed for clean closure of Area A for unrestricted use.
  - a. According to this report, the ROD did not include institutional controls to prohibit inappropriate use of groundwater during the interim period until cleanup goals are attained. This report needs to state this and recommend followup to identify and implement appropriate institutional controls to achieve this objective. (Note that such institutional controls could include existing governmental controls). It is not protective in the long-term until such controls are confirmed or established.
  - b. According to this report, the ROD did not include institutional controls to prohibit inappropriate future use of the landfill. This report needs to state this and recommend followup to identify and implement appropriate institutional controls to achieve this objective. It is not protective in the long-term until such controls are established.
3. Section 7.1, *Sites 2/12*: According to this report, the ROD included: (1) deed restrictions for groundwater use, (2) soil excavation from the Lower Meadow Disposal Area with placement



at the OU 2 landfill, (3) soil excavation from the Outfall Area and Cannibalization Yard with placement at the OU 2 landfill.

- a. In the Remedy Implementation section, describe how the groundwater institutional controls have been implemented (CRUP and county ordinance). Currently this is only described in the protectiveness statement, how the plan is to include a CRUP with each transferred parcel, and to rely on the county ordinance. State in The Technical Assessment section whether these institutional controls are functioning as intended. Have any CRUPs been placed to date? Has the County ordinance been catching people trying to use the groundwater?
  - b. Confirm whether the soil cleanup level was for an unrestricted use level. State this.
4. Section 7.2, Sites 16 and 17: According to this report, the ROD for the Soil Remedial Units included removing debris and soil. The remedy did not include land use restrictions, as it was found that the remediation resulted in the site being available for unrestricted reuse. It was further stated that groundwater institutional controls in the form of CRUPs are being recorded on the deed of all transferring parcels located over the groundwater plume. The CRUP will prohibit construction of wells for injection or extraction of groundwater until the aquifer cleanup levels are attained. In addition, there is a Monterey County ordinance that regulates water well installation within either the “Groundwater Prohibition Zone” or “Groundwater Consultation Zone” which include the known groundwater plumes at the former Fort Ord.
- a. State what remedial measures were selected for the groundwater at Sites 16 and 17. Confirm whether the ROD required the groundwater institutional controls (CRUPs and reliance on the county ordinance)? State this.
  - b. There is no Technical Assessment section, protectiveness statement, etc. Add these sections.
5. Section 7.3, Site 31: According to this report, the ROD included excavation and segregation of soil and debris with placement at the OU 2 landfill, and deed restrictions.
- a. It sounds like there were contaminants left in place at depths greater than 3 feet below ground surface, and this would then be the reason for requiring deed restrictions. Clarify this in the Description Of Remedial Unit and the Remedy Selection.
  - b. You cannot state in the Remedy Implementation section that the remedy has been fully implemented, since the deed restrictions have not yet been placed. According to this report, the deed restrictions were a required remedial component of the ROD. Similarly, you cannot state in the Technical Assessment section that the remedy is functioning as intended, since the deed restrictions have not yet been implemented. Finally, the Recommendation and Followup Action section should include following up on the deed restriction implementation.
6. Section 7.5, Surface Water Outfalls: According to the report, the remedy was removal of soil and sediment from outfalls OF-15, OF-34, and OF-35.

- a. Confirm that the cleanup level for the outfall removal areas was unrestricted use, and that such a level was accomplished.
7. Section 13.0, Track 1 ROD: The ROD was for no further action related to munitions and explosives of concern at all sites categorized as “track 1 sites.” The remedy implementation included an education program for construction personnel involved in intrusive operations at these sites. To accomplish this objective, the Army will request notice from future landowners of planned intrusive activities, and in turn will provide MEC recognition and safety training to construction personnel prior to start of intrusive work.
  - a. Confirm whether the ROD included the MEC education program. This program would be considered an “informational” institutional control. State whether this was the case.
8. Section 17.0 “Del Rey Oaks ROD”: Clarify what the ROD required for the remedial action. This is unclear. The report states that in one of the removal areas, the possibility of subsurface MEC cannot be ruled out. Does this mean it was not cleaned up to unrestricted use? If so, an institutional control would be required.

#### **RESPONSE TO COMMENTS IN ATTACHMENT A**

The document will be revised to clarify that Monterey County ordinance 5201 applies to the OU1, OU2, Site 2/12, and OUCTP. The text will be further state where land deed restrictions are or will be implemented. A new table will be created that lists the sites and indicates if deed restriction(s) applies to each site. Current Table 1 already lists which parcels have been transferred and if deed restrictions are applicable. Unfortunately, there is no direct correlation between sites and parcels; in some cases, a site may contain multiple parcels or parts of parcels and, vice versa, a parcel may be situated on two or more sites.

In addition, changes to the text will clarify the MEC educational program and, short- and long-term protectiveness statements.

**ATTACHMENT B  
PROTECTIVENESS STATEMENTS  
FOR DISCUSSION AND REVISIONS**

**Specific Examples (text repeated with language changes for discussion and possible revision in *italics*)**

**Section 3.0, Pages SF-4 and SF-5:** The groundwater remedies are expected to be protective of human health and the environment after the groundwater cleanup goals are achieved. *Restrictions*, including deed restrictions on transferred property and a county ordinance, are in place to prevent access to contaminated groundwater. *Need specifics, possibly in table format?*

**Section 5.6 Protectiveness Statement, Page 5-5:** See Specific Comment

**Section 6.3.1, Question A, Page 6-5:** The groundwater contaminant mass within the hydraulic capture area is expected to be *adequately* addressed by the existing remedy.

**Section 6.6 Protectiveness Statement, Page 6-7:** The OU2 groundwater remedy is compliant with ARARs and is *expected* to be protective of human health and the environment upon attainment of the aquifer cleanup goals. *ICs?*

The OU2 landfill remedy is compliant with ARARs, with the landfill gas treatment system, and is *expected* to be protective of human health and the environment.

**Section 7.1.6 Protectiveness Statement, Page 7-7:** The Sites 2 and 12 groundwater remedy is expected to be protective of human health and the environment upon attainment of the aquifer cleanup goals, and in the interim, exposure pathways that could result in unacceptable risks are being controlled. (*Need more specifics?*)

**Section 7.2.1, Site 16, and Section 7.2.2, Site 17.** *There are no protectiveness statements for remedies that have been completed these sites*

**Section 7.5, Page 7-16:** *Is a specific protectiveness statement needed for these surface water outfalls which no longer exist?(They do exist in Section 10)*

**Section 7.4.6, Protectiveness Statement, Page 7-16:** Once implementation is complete, the remedy is expected to be protective of human health and the environment.

**Section 8.6, Protectiveness Statement, Page 8-3:** The post-remediation risk assessment indicated the implemented remedy was protective of human health and the environment and is available for unrestricted use. None of the associated health risk criteria have changed, therefore the remedy continues to be protective of human health and the environment. *Please see above comments Section 8.4 above regarding protectiveness of ecological species.*

**Section 11.6, Protectiveness Statement, Page 11-4:** Once implementation is complete, the remedy is expected to be protective of human health and the environment. *See Specific Comment above*

**Section 12.6, Protectiveness Statement, Page 12-3:** The site remedy is protective because there is no known current or potential risk to human health or the environment from previous military munitions-related activities. *This is a MEC hazard vs risk issue*

**Section 13.6, Protectiveness Statement, Page 13-3:** The site remedy is protective because there is no known current or potential risk to human health or the environment from previous MEC-related activities. *This is a MEC hazard vs risk issue*

**Section 14.6, Protectiveness Statement, Page 14-3:** Once implementation is complete, the remedy is expected to be protective of human health and the environment.

**Section 16.6, Protectiveness Statement, Page 16-4:** Once implementation is complete, the remedy is expected to be protective of human health and the environment.

#### **RESPONSE TO COMMENTS IN ATTACHMENT B**

The changes will be made based on the June 21, 2007 discussions.

**DTSC REVIEW COMMENTS ON THE DRAFT SECOND FIVE-YEAR REVIEW  
FORT ORD SUPERFUND SITE, REVISION C  
MONTEREY, CALIFORNIA  
MARCH 2007**

**SPECIFIC COMMENTS**

1. **Page 5-2. Section 5.2, second paragraph:** This summary of OU1 plume history is misleading and the series of events are misconstrued. This section should be re-written by the current contractor (HGL) or after adequate research into historical documents has been completed.

**RESPONSE**

Section 5 will be revised.

2. **Page 5-2. Section 5.2, third paragraph:** The wording “in-situ oxidation” in the third sentence is wrong. The pilot study in was constructed using in-situ “reductive dechlorination”. A proper review and summary of this document with a correct reference date of the pilot study should be provided.

**RESPONSE**

The suggested changes will be made.

3. **Page 5-2. Section 5.2:** The GWETS should be described as three separate phases, such as 1) the source area GWETS, 2) Hydraulic Control Pilot Project (HCPP) GWETS and 3) the Fort Ord Natural Reserve (FORNR) GEWTS. The GWETS expansion” section is confusing since the project is in different phases of long term O&M, design and construction. This section should be re-written to more systematically and properly explain the HCPP and the FORN GWETS system modifications so that the recent status of the project data is incorporated more effectively. A more accurate summary of the project status of the work performed in the last few years by Hydrogeologic (HGL) is provided in the Draft Hydraulic Control Evaluation Report (HGL, March 2007).

**RESPONSE**

Section 5 will be revised.

4. **Section 5.3.1, Section Paragraph, First Sentence:** “limit of area” is misleading as stated and should be replaced with “Property Boundary”.

**RESPONSE**

The suggested changes will be made.

5. **Section 5.3.1, Third Paragraph, First Sentence:** “500 feet” should be quantified based on the more recent data for the offsite OU1 wells. And be consistent with Section 5.3.3, which says 1,200 feet. The distance treat the plum extents offsite should be measured to the

farthest well beyond the well that exceeds the TCE cleanup level of 5 ug/L. A plate with proper extent of each plume should be provided. Plate 3 still shows dashed lines (uncertain) for the plum boundaries, although recent data is available to showed fully defined plumes for Sites 2/12, OU1 and OUCTP.

## RESPONSE

The suggested changes in Section 5 will be made.

- Section 4.5.** This sections does not accurately describe the state of California Land Use Covenants (LUCs, but only discusses the federal deed restrictions. This section should be updated to reflect LUCs, which may be similar to the Federal Deed Restrictions, although perhaps more restrictive. Although the 5-year review indicates that inspections were conducted for certain areas, no photos, inspection notes or conclusions are provided to document certain conditions of the property and/or compliance with the LUCs. The purpose of the inspection of each parcel with LUCs is to see if there is any evidence of land use, soil disturbance, or other violation of the restrictions outlined in each LUC. Evidence or judgment is needed to document the protectiveness of the institutional control that has been implemented as part of the remedy. The LUCs include restrictions such as no water wells shall be drilled. Monterey County is the record keeper of permit requests through County Ordinance 52-01. This ordinance has been protective by controlling issuances of well permits. The County should also be contacted regarding well issuances to confirm that no wells have been installed on parcels that are restricted.

## RESPONSE

A new table, Table 5, will list the deed restrictions by site. In addition, text will be added to reference the Monterey County ordinance 5201 and the Covenant To Restrict Use Of Property (CRUP) in the sections associated with groundwater plumes (e.g., OU1, OU2, Site 2/12, and OUCTP). The 5-Year Review inspections as well as the continuous inspections of the remedy have indicated that there have not been any violations of the ordinance or deed restrictions. Furthermore, Monterey County has not notified the Army of anyone showing interest in obtaining a well drilling permit, which is part of the County's operating procedure.

- Section 6.2.1:** Please replace the last half of the sentence after "reuse of treated groundwater" with "ESD 4 clarified that the intent and purpose of the ESD 3 was designate the substantive requirements for CAMUs, as defined in CCR Title 22 and RCRA, as ARARs for the Fort Ord Landfills. Further, ESD 4 clarifies it was not the intent of the Army, the USEPA, the DTSC and the RWQCB to designate the Fort Ord Landfills as a CAMU, as suggested by ESD 3.

## RESPONSE

The text will be revised as suggested.

- Section 6.2.3, Operable Unit 2 Groundwater OU2 Plme:** The fifth paragraph states that 2 extraction wells have been connected by a pipeline to the POU2 treatment system. This is inaccurate, because based on BCT meetings and the Draft OUCTP ROD, only one extraction

well (EW-OU2-08-180) will be connected to capture the leading edge of the OU2 and OUCTP plumes.

#### **RESPONSE**

The text will be revised to state that one of the new extraction wells was connected in July 2007 and the second extraction well may be brought into operation depending on monitoring data.

9. **Section 6.6, Section Sentence:** This is an inaccurate statement. The Upper 180 foot plume is not actively maintaining hydraulic control of the VOC plumes and not all well have decreasing concentrations of COCs. An additional extraction well EW-OU2-07-180 is being connected to the extraction system as stated in Section 6.2.3 to capture the leading edge of the 180-aquifer TCE plume. This additional extraction well has been designed to capture the down gradient leading edge of the plume as have been stated in several annual effectiveness evaluation report. This section of the 5-year report should we re-written to reflect current conditions as discussed in the monthly Base Closure Team (BCT) meetings.

#### **RESPONSE**

Section 6.6 will be revised to reflect protectiveness based on the current conditions.

10. **Table 1:** This table listed the federal deed restrictions, although a column should be added to describe the State of California Land Use Covenants (LUCs), inspection results, and a check if compliance with the deed restrictions and/or LUCs have been observed.

#### **RESPONSE**

See response to Specific Comment 6.

11. **Plate 3:** The latest data (Spring 2007) should be used to control the plumes and any unnecessary dashed lines should be removed. The OUCTP plumes should be shown in different colors for the A Aquifer and Upper 180-Foot Aquifer.

#### **RESPONSE**

Unfortunately, the Spring 2007 data is not validated and cannot be used for the Five-Year Report. The latest published groundwater data available is from July 2006 (Report of Quarterly Monitoring, April through July 2006, Groundwater Monitoring Program, Former Fort Ord, California, dated May 11, 2007) which was used to prepare the groundwater plumes in Plate 3. Plate 3 already distinguishes between the OUCTP A-Aquifer and OUCTP Upper 180 Aquifer plumes with different colors.