



UNITED STATES MARINE CORPS

HEADQUARTERS MARINE CORPS AIR STATION EL TORO
PO BOX 95000
SANTA ANA CA 92709-5000

M60050.002301
MCAS EL TORO
SSIC # 5090.3

IN REPLY REFER TO:

Cert. No. Z288008812
6284
1AU
30 Nov 98

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

U.S. Environmental Protection Agency
Region IX
Attn: Mr. Glenn R. Kistner
Remedial Project Manager
Hazardous Waste Management Division, (SFD 8-2)
75 Hawthorne Street
San Francisco, CA 94105-3901

RE: Federal Facility Agreement Schedule, Marine Corps Air Station (MCAS) El Toro

Dear Mr. Kistner:

This letter is to request a change to the MCAS El Toro Federal Facility Agreement (FFA) Appendix A Schedule for primary documents. Operable Unit (OU) -3 (Sites 8, 11, and 12) require a revised milestone deliverable date for the draft final Proposed Plan. Enclosure (1) presents a schedule incorporating the revised FFA primary milestone. This extension request is made pursuant to Section 9.2 (g) of the FFA.

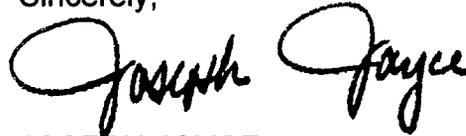
In September 1998, the BRAC Cleanup Team (BCT) discussed what documentation would be appropriate in support of a "no further action" proposal for OU-3 Site 12 units 1 and 4. Enclosure (2) supports the recommendation that no further action is warranted at Site 12 units 1 and 4. Enclosure (2) includes a Table 1 Site-by-Site Summary of the risks for all units within OU-3 Sites 8, 11, and 12. We propose to replace the Site-by-Site Summary table on page 5 of the draft Proposed Plan submitted earlier for your review and comment with Table 1 of enclosure (2). If you have improvements or comments on the enclosure (2) technical memorandum, please let us know so that the draft final Proposed Plan may be submitted on or before December 22, 1998, for final concurrence. All other comments discussed and provided by the BCT have been addressed in our development of the draft final Proposed Plan.

In support of the your review of enclosure (2), we request the FFA submittal date for the draft final Proposed Plan for OU-3 Sites 8, 11, and 12 be extended only three weeks. The draft final Proposed Plan submittal needs to be rescheduled from December 1, 1998 to December 22, 1998. No other FFA submittals are impacted by this request.

Cert. No. Z288008812
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This new revised date is a reasonable time frame for the BCT to work towards full concurrence on Site 12 units 1 and 4 draft final FFA document. Please call me at (949) 726-3470 or Andy Piszkin at (619) 532-4159 if you have any questions or need additional information.

Sincerely,



JOSEPH JOYCE
Base Realignment and Closure
Environmental Coordinator
By direction of
the Commanding General

Enclosure: 1. Appendix A FFA Schedule of Submittals
2. Technical Memorandum on Risk Management Considerations for OU-3
Sites 8, 11, and 12

Copy to:
John Scandura, DTSC
Patricia Hannon, Santa Ana RWQCB



UNITED STATES MARINE CORPS

HEADQUARTERS MARINE CORPS AIR STATION EL TORO
PO BOX 95000
SANTA ANA CA 92709-5000

IN REPLY REFER TO:

Cert. No. Z288008813

6284

1AU

30 Nov 98

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

California Environmental Protection Agency
Department of Toxic Substances Control, Region 4
Attn: Mr. John Scandura
Chief Office of Military Facilities
Southern California Operations
5796 Corporate Avenue
Cypress, CA 90630

RE: Federal Facility Agreement Schedule, Marine Corps Air Station (MCAS) El Toro

Dear Mr. Scandura:

This letter is to request a change to the MCAS El Toro Federal Facility Agreement (FFA) Appendix A Schedule for primary documents. Operable Unit (OU) -3 (Sites 8, 11, and 12) require a revised milestone deliverable date for the draft final Proposed Plan. Enclosure (1) presents a schedule incorporating the revised FFA primary milestone. This extension request is made pursuant to Section 9.2 (g) of the FFA.

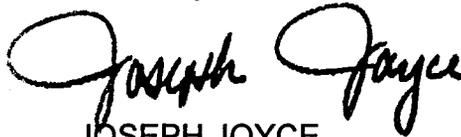
In September 1998, the BRAC Cleanup Team (BCT) discussed what documentation would be appropriate in support of a "no further action" proposal for OU-3 Site 12 units 1 and 4. Enclosure (2) supports the recommendation that no further action is warranted at Site 12 units 1 and 4. Enclosure (2) includes a Table 1 Site-by-Site Summary of the risks for all units within OU-3 Sites 8, 11, and 12. We propose to replace the Site-by-Site Summary table on page 5 of the draft Proposed Plan submitted earlier for your review and comment with Table 1 of enclosure (2). If you have improvements or comments on the enclosure (2) technical memorandum, please let us know so that the draft final Proposed Plan may be submitted on or before December 22, 1998, for final concurrence. All other comments discussed and provided by the BCT have been addressed in our development of the draft final Proposed Plan.

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Sincerely,

A handwritten signature in black ink that reads "Joseph Joyce". The signature is written in a cursive style with a large, looping initial "J".

JOSEPH JOYCE
Base Realignment and Closure
Environmental Coordinator
By direction of
the Commanding General

Enclosure: 1. Appendix A FFA Schedule of Submittals
2. Technical Memorandum on Risk Management Considerations for OU-3
Sites 8, 11, and 12

Copy to:
Glenn R. Kistner, U.S. EPA
Patricia Hannon, Santa Ana RWQCB



UNITED STATES MARINE CORPS

HEADQUARTERS MARINE CORPS AIR STATION EL TORO
PO BOX 95000
SANTA ANA CA 92709-5000

IN REPLY REFER TO:

Cert. No. Z288008814
6284
1AU
30 Nov 98

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

California Regional Water Quality Control Board
Santa Ana Region
Attn: Ms. Patricia Hannon
Remedial Project Manager
3737 Main Street, Suite 500
Riverside, CA 92501-3339

RE: Federal Facility Agreement Schedule, Marine Corps Air Station (MCAS) El Toro

Dear Ms. Hannon:

This letter is to request a change to the MCAS El Toro Federal Facility Agreement (FFA) Appendix A Schedule for primary documents. Operable Unit (OU) -3 (Sites 8, 11, and 12) require a revised milestone deliverable date for the draft final Proposed Plan. Enclosure (1) presents a schedule incorporating the revised FFA primary milestone. This extension request is made pursuant to Section 9.2 (g) of the FFA.

In September 1998, the BRAC Cleanup Team (BCT) discussed what documentation would be appropriate in support of a "no further action" proposal for OU-3 Site 12 units 1 and 4. Enclosure (2) supports the recommendation that no further action is warranted at Site 12 units 1 and 4. Enclosure (2) includes a Table 1 Site-by-Site Summary of the risks for all units within OU-3 Sites 8, 11, and 12. We propose to replace the Site-by-Site Summary table on page 5 of the draft Proposed Plan submitted earlier for your review and comment with Table 1 of enclosure (2). If you have improvements or comments on the enclosure (2) technical memorandum, please let us know so that the draft final Proposed Plan may be submitted on or before December 22, 1998, for final concurrence. All other comments discussed and provided by the BCT have been addressed in our development of the draft final Proposed Plan.

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Sincerely,

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JOSEPH JOYCE
Base Realignment and Closure
Environmental Coordinator
By direction of
the Commanding General

Enclosure: 1. Appendix A FFA Schedule of Submittals
2. Technical Memorandum on Risk Management Considerations for OU-3
Sites 8, 11, and 12

Copy to:
Glenn R. Kistner, U.S. EPA
John Scandura, DTSC

with Aroclors 1248, 1254, and 1260 were calculated based a maximum concentration for each of these chemicals from the only location in which these chemicals were reported (one sample location in Unit 3). At this location in Unit 3, Aroclors 1248, 1254, and 1260 were reported 4 feet bgs at concentrations of 0.244, 0.397, 0.214 mg/kg, respectively. These concentrations of Aroclor 1248, 1254, and 1260 do not present a threat to groundwater (145 feet bgs)(BNI 1997).

Unit 3 is the former location of a refuse pile. The pile was removed and disposed prior to the initiation of the Phase I RI in 1991. In December 1993, the top 2 feet of the soil formerly beneath the refuse pile (approximately 229 cubic yards) was excavated and removed from Site 8 by a paving contractor. Prior to the soil excavation and removal, soil sample analytical results from the Phase I RI indicated PCB contamination in soil at Unit 3. Prior to its disposal the soil that was removed from Unit 3 was characterized and the soil sample analytical results indicated that the concentrations of total PCBs ranged from 0.1U to 20.0 mg/kg with a mean concentration of 6.37 mg/kg (BNI 1996). The results of the Phase II remedial investigation (RI) sampling indicated that not all of the PCB contaminated soil was removed from Unit 3. The Phase II RI results suggest that the remaining PCB-contamination is limited to shallow soil in a 35- by 70-foot rectangular area (2,450 square feet) encompassing the northern half of Unit 3 (BNI 1998). Based on the fact that not all the PCB-contaminated soil was removed from Unit 3 and based on the concentrations of total PCBs contained in the soil previously removed from Unit 3, it appears that it may be prudent to remove the remaining PCB-contaminated soil.

Site 12 Unit 1

Site 12 Unit 1 is the former location of West Sludge Drying Beds associated with the Waste Water Treatment Plant that operated from 1943 to 1972 at MCAS El Toro (Figure 2). The cancer risk for a resident in this area of concern of potential concern is 7.6×10^{-5} and the non-cancer risk for a resident is 4.6. The cancer risk value is within the generally acceptable exposure level of 1×10^{-6} to 1×10^{-4} for cancer risk. The cancer risk drivers in this area of concern are benzo(a)pyrene (45%), arsenic (17%), dibenz(a,h)anthracene (12%), Aroclor 1254 (12%), benzo(k)fluoranthene (4%), benzo(b)fluoranthene (3%), benz(a)anthracene (3%), and indeno(1,2,3c,d)pyrene (2%). The risk associated with benzo(a)pyrene, dibenz(a,h)anthracene, benzo(k)fluoranthene, benzo(b)fluoranthene, benz(a)anthracene, and indeno(1,2,3c,d)pyrene were calculated based on the maximum concentration of the three reported concentrations (present in two borings) in Unit 1. Concentrations of these PAHs in the two borings in which they were reported ranged from 0.0042J kg (for benz[a]anthracene) to 0.69 mg/kg (for benz[a]anthracene) at depths of 0 to 3.5 feet bgs. Aroclor 1254 was reported in only one location at 0 feet bgs. The arsenic reported in Unit 1 appears to be related to natural conditions. No site related activities involved the use of arsenic.

The non-cancer risk drivers at Unit 1 are 2-(2-methyl-4-chlorophenoxy)-propionic acid (MCP) (52%), manganese (14%), Aroclor 1254 (10%), and 2-methyl-4-chlorophenoxyacetic acid (MCPA) (6%). The non-cancer risk associated with MCP, Aroclor 1254, and MCPA were calculated based a maximum concentration for each of these chemicals from the only location in which these chemicals were reported in Unit 1. The manganese reported in Unit 1 appears to be related to natural conditions. No site related activities involved the use of manganese.

The concentrations of PAHs, pesticides, PCBs and metals at Unit 1 do not present a risk to groundwater (95 feet bgs). In addition, they appear to be confined to the upper 5-foot-bgs soil interval (BNI 1997). Based on these facts, as well as the conservative nature of the risk

assessment calculations (using the maximum concentrations of chemicals of potential concern when most of them were only reported once), the decision was made to not perform a remedial action at Site 12 Unit 1. This decision was made at the 6 February 1997, BCT meeting with the concurrence of the EPA and DTSC BCT members and their respective toxicologists (Jeffery Paul [EPA] and John Christopher [DTSC]). Based on the above information it appears that No Further Action is an acceptable and logically defensible risk management decision for Site 12 Unit 1.

Site 12 Unit 3

Site 12 Unit 3 is the location of a drainage ditch which conveys runoff through Site 12 (Figure 2). The cancer risk for a resident in this area of potential concern is 5.1×10^{-5} and the non-cancer risk for a resident is 5.9. The cancer risk value is within the generally acceptable exposure range of 1×10^{-6} to 1×10^{-4} for cancer risk. The cancer risk drivers in this area of concern are benzo(a)pyrene (22%), dibenz(a,h)anthracene (13%), dieldrin (11%), dichlorodiphenyltrichloroethane (DDT), benzo(b)fluoranthene (6%), Aroclor 1260 (5%), benzo(k)fluoranthene (4%), and Aroclor 1254 (3%). The risks associated with benzo(a)pyrene (22%), dibenz(a,h)anthracene (13%), dieldrin (11%), DDT, benzo(b)fluoranthene were calculated based on maximum reported concentrations, although most of these chemicals were found throughout Unit 3. The non-cancer risk at Unit 1 is above the generally acceptable level of 1.0. The non-cancer risk drivers at Unit 3 are MCPP (66%), manganese (12%), and aluminum (5%). Both the manganese and aluminum reported in Unit 3 appear to be related to natural conditions. The risk associated with DDT was calculated based on a maximum concentrations, however DDT was reported throughout Unit 3.

The most significant issue at this area of potential concern is that although the contaminants at Unit 3 do not pose a threat to groundwater they could potentially migrate off-site into Bee Canyon Wash. In addition, Bee Canyon Wash conveys surface runoff off-Station approximately 50 feet from the point into which Unit 3 enters Bee Canyon Wash. The potential migration of contaminants from Unit 3 into Bee Canyon Wash during storm water flow events is one reason that remedial action is recommended for this unit.

References

- Bechtel National, Inc. 1996. Final Position Paper On Cleanup Levels For Polychlorinated Biphenyls (PCBs) Unit 2 of Site 19. Marine Corps Air Station El Toro, California.
- . 1997. Draft Final Phase II Remedial Investigation Report, Operable Unit 3A Sites. Marine Corps Air Station El Toro, California.
- . 1998. Draft Final Phase II Feasibility Study, Operable Unit 3A Sites. Marine Corps Air Station El Toro, California.
- United States Environmental Protection Agency. 1989a. Risk Assessment Guidance for Superfund (RAGS). Volume II. Environmental Evaluation manual. Interim final. EPA/540-1-89-001. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, DC.

**TECHNICAL MEMORANDUM ON RISK MANAGEMENT
CONSIDERATIONS FOR OU-3 SITES 8, 11, AND 12 AT
MARINE CORPS AIR STATION (MCAS)
EL TORO, CALIFORNIA
NOVEMBER 1998**

A feasibility study (FS) was prepared for OU-3A Sites 8 (DRMO Storage Yard), 11 (Transformer Storage Area), and 12 (Sludge Drying Beds) that presented alternatives for addressing the shallow soil contamination at Sites 8 (Units 1, 3, 4, and 5), 11 (Units 1 and 2), and Site 12 (Unit 3) and recommended no further action for Site 8 (Unit 2), Site 11 (Unit 3), and Site 12 (Units 1, 2, and 4). Subsequently, a preferred alternative was chosen (to address the soil contamination Sites 8 [Units 1, 3, 4, and 5], 11 [Units 1 and 2], and Site 12 [Unit 3]) to present to the public for comment in a proposed plan. In BCT meetings that took place on 8 and 15 September 1998, concerning development of the proposed plan, BCT members agreed to review the basis of the risk management decisions that resulted in the remedial action designations for Sites 8 (Units 1, 3, and 4), and Site 12 (Unit 3) as well as the No Further Action decision for Site 12 (Unit 1).

Table 1 presents a site by site summary of the cancer risk, non-cancer risk, risk management considerations, and proposed recommended actions for all the units at Site 8, 11, and 12. The table is based on a review of information furnished in the OU-3A RI Report. The sites were subdivided into units based on location, physiographic characteristics, and waste-disposal activities associated with various areas at each site. The human health risk assessment grouped several of the site units within a site, as appropriate, into areas of potential concern. This association was based on the location of the site units relative to each other, the nature and magnitude of the chemical contaminants at contiguous units, and the physiographic characteristics of the various units.

The sections below provide more detailed discussions of the risk management considerations as well as discuss the information on Site 8 Units 1, 2, 3, and 4, and Site 12 Units 1 and 3 presented in Table 1. In addition, the risk management decisions for these areas of potential concern are reevaluated.

Risk Management

The objectives of a human health risk assessment are: to provide assistance in determining whether additional response action is necessary at a site; to furnish a basis for determining residual chemical levels that are adequately protective of public health; to provide a basis for comparing potential health impacts of various remedial alternatives; and to help to support selection of the "no action" remedial alternative (U.S. EPA 1989a).

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) requirements (40 Code of Federal Regulations [CFR] 300.65) provide that "for known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper-bound lifetime cancer risk to an individual of between 1×10^{-6} and 1×10^{-4} using information on the relationship between dose and response". Non-cancer risk is presented as a hazard index (HI). An HI value of 1.0 or higher indicates that lifetime exposure has limited potential to cause an adverse effect in sensitive populations. HI values of less than 1.0 are not considered to cause an adverse effect in sensitive populations. A value exceeding 1.0 does not by itself require

remedial action. Values exceeding 1.0 are generally evaluated on a site-specific basis, taking into account types of contaminants, historical activities, and systemic toxicity effects of the chemical of potential concern (COPCs).

Site 8 Units 1 and 4

Site 8 Units 1 and 4 are both contained with the East Storage Yard area of the DRMO Storage Yard (Figure 1). The DRMO Storage Yard has been in use from the late 1940s to the present. The portion of Site 8 in which Units 1 and 4 are contained is an unpaved storage area. Unit 4 (totally contained within Unit 1) is an area where a transformer containing oil with PCBs leaked. As a result of this release the top foot of soil was removed from Unit 4. The cancer risk for a resident in this area of concern of potential concern (Units 1 and 4) is 1.7×10^{-5} and the non-cancer risk for a resident is 0.79. Both these values are within the generally acceptable exposure levels of 1×10^{-6} to 1×10^{-4} for cancer risk and less than 1.0 for non-cancer risk. The cancer risk drivers (chemicals that are attributable for at least 1×10^{-6} of the cancer risk) in this area of concern are Aroclor 1248 (57%) and benzo(a)pyrene (27%). The risk associated with benzo(a)pyrene was calculated based on the maximum concentration of the two reported concentrations in Units 1 and 4. Aroclors 1248, 1254, and 1260 were present to approximately 4 feet bgs through out the area of Units 1 and 4 at concentrations ranging from 0.022 to 3.02 mg/kg. These concentrations of Aroclor 1248, 1254, and 1260 do not present a threat to groundwater because PCBs are not likely to migrate in soil and groundwater beneath the site is approximately 145 feet bgs (BNI 1997).

A review of record of decision (ROD) cleanup levels for polychlorinated biphenyls (PCBs) for sites through out the United States (including California) was presented in the Final Position Paper on Cleanup Levels for Polychlorinated Biphenyls (PCBs) Unit 2 of Site 19 MCAS El Toro, California (BNI 1996). This position paper indicates "that the established cleanup levels for PCBs in residuals soils (soils remaining at the site) have been generally up to 50 ppm for industrial, and 25 ppm for residential land use with little or no soil cover." Examples are presented of sites where cleanup levels of 10 ppm or greater were selected requiring no restrictions or caps, even though the land use adjacent to the sites was residential. It appears that No Further Action could be an acceptable and logically defensible risk management decision based on: the human health risk calculated for Site 8 Units 1 and 4; the concentrations of contaminants present in these units; the fact that groundwater is present at 145 feet bgs; and information obtained on ROD cleanup levels for PCBs.

Site 8 Units 2 and 3

Site 8 Units 2 and 3 are both contained within the West Storage Yard area of the DRMO Storage Yard (Figure 1). This area is a paved storage area. Unit 3 (totally contained within Unit 2) is an area of a former refuse pile. The cancer risk for a resident in this area of potential concern (Units 2 and 3) is 4.1×10^{-5} and the non-cancer risk for a resident is 2.3. The cancer risk value is within the generally acceptable exposure level of 1×10^{-6} to 1×10^{-4} for cancer risk. The cancer risk drivers in this area of concern are Aroclor 1254 (32%), arsenic (27%), Aroclor 1248 (57%), and Aroclor 1260 (17%). The non-cancer risk at Units 2 and 3 is above the generally acceptable level of 1.0. The non-cancer risk drivers at Units 2 and 3 are Aroclor 1254 (28%), manganese (27%), Aroclor 1248 (17%), Aroclor 1260 (15%), and arsenic (8%). Both the arsenic and manganese reported in Units 2 and 3 appears to be related to natural conditions. No site related activities involved the use of arsenic or manganese. The cancer and non-cancer risk associated

APPENDIX A
MCAS El Toro Schedule
 (Page 1 of 2)

<u>Operable Unit (OU)-1: Site 18</u>	<u>Current Completion Dates</u>	<u>New Completion Dates</u>	<u>Change in Dates</u>
Phase I Tech Memo	7 May 93		No Change
Draft Phase II Work Plan	9 Nov 93		No Change
Draft Remedial Investigation	30 Dec 94		No Change
Draft Interim Action Feasibility Study	15 Oct 95		No Change
Draft Final Interim Action Feasibility Study	9 Aug 96		No Change
*Agency Approval of Draft Final	11 Oct 96		No Change
*Response to Regulatory Draft Final Comments	15 Jan 98		No Change
Draft Proposed Plan	18 Dec 95		No Change
*re-Draft Proposed Plan	24 Nov 98		No Change
Draft Interim Record of Decision	2 Sep 99		No Change
 <u>OU-2A: Site 24 (Vadose Zone)</u>			
Phase I Tech Memo	7 May 93		No Change
Draft Phase II Work Plan	20 Mar 95		No Change
Start Phase II Field Work	20 Jul 95		No Change
Draft Remedial Investigation	20 Feb 96		No Change
Draft Feasibility Study	9 Aug 96		No Change
Draft Proposed Plan	11 Mar 97		No Change
Draft Record of Decision	1 Jul 97		No Change
Draft Final Record of Decision	24 Sep 97		No Change
Draft Remedial Design/Remedial Action Work Plan	6 Jan 98		No Change
Draft Final Remedial Design	11 Aug 98		No Change
Draft Construction Quality Assurance Plan	11 Aug 98		No Change
Draft Construction Quality Control Plan	11 Aug 98		No Change
Draft Contingency Plan	11 Aug 98		No Change
Draft Project Closeout Report	22 Apr 02		No Change
 <u>OU-2A: Site 24 (Groundwater)</u>			
Phase I Tech Memo	7 May 93		No Change
Draft Phase II Work Plan	20 Mar 95		No Change
Start Phase II Field Work	20 Jul 95		No Change
Draft Remedial Investigation	20 Feb 96		No Change
Draft Feasibility Study	9 Aug 96		No Change
Draft Final Feasibility Study	5 Dec 97		No Change
*Agency Approval of Draft Final	23 Mar 98		No Change
Draft Proposed Plan	24 Nov 98		No Change
Draft Interim Record of Decision	2 Sep 99		No Change
 <u>OU-2B: Sites 2 & 17</u>			
Phase I Tech Memo	7 May 93		No Change
Draft Phase II Work Plan	20 Mar 95		No Change
Start Phase II Field Work	20 Jul 95		No Change
Draft Remedial Investigation	20 Mar 96		No Change
Draft Final Remedial Investigation	6 Sep 96		No Change
Draft Feasibility Study	6 Sep 96		No Change
Draft Final Feasibility Study	18 Mar 97		No Change
Draft Proposed Plan	18 Sep 97		No Change
Draft Final Proposed Plan	28 Jan 98		No Change
Draft Record of Decision	4 Nov 98		No Change

APPENDIX A
MCAS El Toro Schedule
(Page 2 of 2)

	<u>Current</u> <u>Completion Dates</u>	<u>New</u> <u>Completion Dates</u>	<u>Change in</u> <u>Dates</u>
<u>OU-2C: Sites 3 & 5</u>			
Phase I Tech Memo	7 May 93	No Change	
Draft Phase II Work Plan	20 Mar 95	No Change	
Start Phase II Field Work	20 Jul 95	No Change	
Draft Remedial Investigation	20 Apr 96	No Change	
Draft Final Remedial Investigation	8 Oct 96	No Change	
Draft Feasibility Study	8 Oct 96	No Change	
Draft Final Feasibility Study	13 Feb 97	No Change	
Draft Proposed Plan	18 Sep 97	No Change	
Draft Final Proposed Plan	28 Jan 98	No Change	
Draft Record of Decision	4 Nov 98	4 May 99	Pending
<u>OU-3: Sites 4, 6, 9, 10, 13, 15, 19, 20, 21 & 22 and OU-2A: Site 25</u>			
Draft Remedial Investigation	20 Nov 96	No Change	
Draft Feasibility Study	20 Mar 97	N/A	
Draft Proposed Plan	15 Apr 97	No Change	
Draft Record of Decision	21 Aug 97	No Change	
<u>OU-3: Sites 8, 11, & 12</u>			
Draft Remedial Investigation (included Site 16)	20 Nov 96	No Change	
Draft Feasibility Study (FS)	10 Jul 97	No Change	
Draft Final Feasibility Study	13 Jan 98	No Change	
*Agency Approval of Draft Final	22 Jun 98	No Change	
Draft Proposed Plan	28 Jul 98	No Change	
Draft Final Proposed Plan	1 Dec 98	22 Dec 98	+3 weeks
Draft Record of Decision	7 Apr 99	No Change	
<u>OU-3: Sites 7, 14, & 16</u>			
Draft Remedial Investigation (sites 7 & 14 only)	17 Mar 99	No Change	
Draft Feasibility Study	19 Oct 99	No Change	
Draft Proposed Plan	24 May 00	No Change	
Draft Record of Decision	29 Dec 00	No Change	
<u>OU-3: Site 1</u>			
Draft Remedial Investigation	4 Jan 00	No Change	
Draft Feasibility Study	11 Sep 00	No Change	
Draft Proposed Plan	18 Apr 01	No Change	
Draft Record of Decision	14 Dec 01	No Change	

This schedule reflects current/proposed FFA milestones and are subject to change.

* Not an enforceable FFA deliverable.

Table 1 Site-by-Site Summary

Site/Unit	Cancer Risk ^a	Non-Cancer Risk ^a	Risk Considerations	Recommended Action
Site 8				
Units 1 and 4 ^b	2 additional cases in 100,000	0.79	PCB-contaminated soil is present in various locations throughout these units. No Further Action could be an acceptable risk management decision based on: the human health risk calculated for Site 8 Units 1 and 4; the concentrations of PCBs are significantly less than 10 ppm (typical cleanup level for PCBs in a residential area); and the fact that groundwater is present at 145 feet bgs.	No Further Action for Units 1 and 4.
Units 2 and 3 ^b	4 additional cases in 100,000	2.3	No Further Action is recommended at Unit 2 because the only risk drivers present at this unit are arsenic and manganese. No site related activities involved the use of arsenic or manganese. The levels of both of these metals in Unit 2 are probably related to natural conditions. At Unit 3, soil beneath the refuse pile formerly located at this unit was contaminated with PCBs. During construction activities, prior to the remedial investigation, most of the PCB-contaminated soil was removed. Sampling performed during the remedial investigation indicates that not all of the PCB-contaminated soil has been removed from Unit 3.	No Further Action for Unit 2. The proposed Remedial Action for Unit 3 is to remove remaining PCB-contaminated soil at this unit.
Unit 5	1 additional case in 10,000	1.1	PAH-contaminated soil is present throughout the unpaved portion of this unit.	The proposed Remedial Action is to remove PAH-contaminated soil from unpaved area at this unit.

Site 11

Unit 1	9 additional cases in 100,000	4.5	Small volume of PCB-contaminated soil is present in this localized area.	Remedial Action – remove up to six feet of soil.
Unit 2	6 additional cases in 1,000,000	0.3	Small volume of PCB-contaminated soil is present in this localized area.	Remedial Action – remove up to six feet of soil.
Unit 3	3 additional cases in 10,000,000	0.017	Both the cancer and non-cancer risk values are acceptable	No Further Action

Site 12

Unit 1	8 additional cases in 100,000	4.6 ^c	Based on the following: conservative nature of the risk assessment calculations (using the maximum concentrations of chemicals of potential concern [COPC] when most of the COPCs were only reported once); no site	No Further Action
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			related activities involved the use of arsenic or manganese; and the fact that the concentrations of PAHs, pesticides, PCBs and metals at Unit 1 do not present a risk to groundwater are confined to the upper 5-foot-bgs soil interval and are not mobile; a remedial action at Site 12 Unit 1 is not appropriate.	
Units 2 and 4 ^b	3 additional cases in 100,000	2.1 ^d	The cancer risk value is within the acceptable range. Although the non-cancer risk value is slightly above the acceptable range, the majority of this risk is associated with the metals manganese and arsenic. No site related activities involved the use of arsenic or manganese. These metals are probably related to natural conditions.	No Further Action
Unit 3	5 additional cases in 100,000	5.9	The concentrations and type of contaminants are similar to those at Site 12 Unit 1; however this unit is a drainage ditch that conveys surface water runoff into Bee Canyon Wash approximately 50 feet upstream of the Station boundary. PCB and PAH-contaminated soil in this unit may be transported off-site and eventually off-Station. Because the contaminants can be readily transported from the unit a remedial action appears appropriate.	Remedial Action – remove contaminated soil from the unit to prevent migration of contaminants off-site.
Catch basin	1 additional case in 1,000,000	0.18	Both the cancer and non-cancer risk values are below the acceptable range. ^c	No Further Action

Notes:

^a See "Estimating Human Health Risks on pages 4 and 5 for explanation of U.S. EPA's generally accepted range of cancer risk and the hazard index for non-cancer risk.

^b Units evaluated as one area for the human health risk assessment.

^c Non-cancer risk considered acceptable because value is associated with a pesticide that was only present in one sample.

^d Non-cancer risk considered acceptable because value is associated with manganese, a naturally occurring metal in soil.