AGENDA



FORMER NAVAL AIR STATION (NAS) MOFFETT FIELD RESTORATION ADVISORY BOARD MEETING

Date/Time:	Thursday, October 14, 2021, 7:00 to 9:00 p.m.
Location:	Microsoft Teams Virtual Meeting

7:00 to 7:10 Welcome! Review Agenda

- Virtual meeting house rules and how-to's
- Review Agenda
- RAB Member Introductions
- Regulatory Agency Introductions
- Navy Team and Others
- 7:10 to 7:25RAB Co-Chairs UpdateGreg Unangst and Chris Yantos





FORMER NAVAL AIR STATION (NAS) MOFFETT FIELD RESTORATION ADVISORY BOARD MEETING

7:25 to 8:30 Navy Environmental Project Updates

*Questions will be handled after each respective presentation (5 minutes for each)

Presenters – Navy Staff (Brandon Mills and Wilson Doctor)

- Site 28 Traffic Island
- Site 28 Vapor Intrusion
- 8:30 to 8:40 Regulatory Agency Update
- 8:40 to 8:55 Public Comment/Questions Period

*This is a time for community members to ask questions or make comments not related to the presentations





FORMER NAVAL AIR STATION (NAS) MOFFETT FIELD RESTORATION ADVISORY BOARD MEETING

- 8:55 to 9:00Future MeetingsDiscuss Future RAB Schedule and TopicsSet date for next RAB Meeting
- 9:00 End of RAB Meeting

RAB meeting material is posted on the Navy's environmental Web page at: <u>https://www.bracpmo.navy.mil/brac_bases/california/former_nas_moffett_field.html</u>



THANK YOU FOR JOINING THE FORMER NAS MOFFETT FIELD RAB VIRTUAL MEETING!





BACKGROUND



- The selected remedy and Remedial Action Objectives for Site 28 were established in the 1989 Record of Decision (ROD), 1990 Explanation of Significant Differences (ESD), 1996 ESD, and the 2010 ROD Amendment
 - Source reduction through soil excavation and groundwater extraction and treatment
 - Monitoring and evaluating the effectiveness of the remedy
- The West-Side Aquifers Treatment System (WATS) provides source removal via groundwater extraction
 - Although WATS is generally effective at Site 28, localized "hot spots" (source area) existed within the groundwater layers

Remedial Design/Remedial Action (RD/RA)



- Source Reduction in shallow groundwater (known as Upper A aquifer)
 - In-situ Bioremediation (ISB) to degrade contaminants of concern (COCs)
 - ISB Treatments will be beneficial for:
 - optimizing the cleanup effort while working around existing infrastructure
 - Potentially decrease the use of pretreatment unit prior to delivery to WATS
 - Install extraction well in the treatment area for further source reduction
 - Replace extraction well EA1-1 (existing) in a new location to optimize the capture zone of groundwater
- Source Reduction in deeper groundwater
 - ISB to degrade COCs
 - Install an extraction well screened in the Lower A aquifer for source reduction and control downward vertical migration of contaminants.



- Install an extraction well screened in the Lower A-Aquifer immediately SE of Bldg 6, near well 28SI-04
- Determine the vertical extent of contaminants in B2-Aquifer by installing a monitoring well or through Geoprobe sampling
- Quarterly performance monitoring of the in-situ bioremediation
- Pretreat extracted groundwater through a temporary Advanced Oxidation process for Water treatment – Hydrogen Peroxide and Ozone to destroy organic compounds (HiPox) system
- Operate and monitor the remedy to ensure performance in accordance with Remedial Design/ Remedial Action Work Plan objectives
- Ultimately Transfer Operation & Maintenance to NASA-Ames

RD/RA Site Plan







September 14, 2020: Mobilized to install new monitoring and extraction wells

≻October 7-8, 2020: Performed Baseline Sampling

- ➢ January/February 2021: Performed ISB injections
- ≻March 2021: Performed second round ISB injections
- February 2021-Current: Continue construction of well vaults, conveyance lines temporary treatment system
- ➤July 2021: Performed first quarterly ISB monitoring event

Remedial Action Implementation Upper A Aquifer PCE Baseline Concentrations





BRAC Program Management Office.

Remedial Action Implementation Lower A Aquifer PCE Baseline Concentrations





Remedial Action Implementation Upper A-Aquifer



				Parameter:	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride	1,1-DCA	DHC	Total Organic Carbon
			Pro	ject Action Limit:	5	5	6	6	6	0.5	5		
Well ID	Purpose	Aquifer	Screen Interval	Sample Date	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	cells/mL	mg/L
280W-09			12-17	09/19/16	0.71J	5.3	1,200	NA	NA	85	NA	nc	nc
	100			09/27/18	<0.13	1.8	1,000	<3.8	13	94	13	nc	nc
	ISB Monitoring	Upper A (WT)		10/01/20	<1.3	1.0	730	<1.5	7.6	380	13	nc	nc
	wontoning			10/07/20	0.26J	0.25J	370	0.65J	4.1	350	14	nc	1.0
				07/06/21	<0.15	<0.15	67	<0.15	<0.25	7.5	<0.15	nc	705
	10.0		24-29	06/20/11	0.29J	390	150	0.46J	25	0.55	7.5	nc	0.509J
280W-10	ISB Monitoring	Upper A		10/07/20	3.8	24	390	2.2	4.0	97	5.2	nc	0.61
	wontoning			07/06/21	<0.15	1.7	28	<0.15	<0.25	1.4	<0.15	nc	715
2000420	ISB	Linner A	45.05	10/07/20	18,000	720J	390J	3.2	9.3	24	5.0	<5.00E-01	1.1
28077-30	Monitoring	Upper A	15-35	07/07/21	37	480	5,700	200	0.97J	94	<0.15	3.68E+05	314
	10.0		15-35	10/07/20	540	290	1,600	2.8	7.5	1,200	0.64J	<5.00E-01	5.3
280W-31	ISB Monitoring	Upper A			520	280	1,600	2.7	7.4	1,200	0.57J	nc	nc
	wontoning			07/07/21	<0.3	0.40J	99	0.97J	<0.25	160	1.1	9.90E+04	98.3
200044 22	ISB	11 4	15-35	10/07/20	2.4	260	150	1.2	7.5	4.7	4.1	9.00E-01	1.2
28077-32	Monitoring	Upper A		07/06/21	<0.15	<0.15	3.0	<0.15	<0.25	<0.15	<0.15	1.33E+02	153
		Upper A (WT)	8-18	09/10/15	120,000	4,800	1,400	6.9J	31	5.8J	7.5J	nc	nc
	ISB & RA Monitoring			10/04/16	120,000	33,000	75,000	9.0	3.9	4200	0.29J	nc	nc
28SI-16				10/01/18	38,000	16,000	8,200	<500	25	750	5.7	nc	nc
				10/07/20	140,000	13,000	4,900	52	27	650J	5.2	1.20E+00	2.0
				07/07/21	10,000	10,000	1,200,000	710	50	4,300	<0.15	3.86E+05	78.7
		Upper A (WT)	7-17	09/23/15	<50	<50	1,600	<25	30J	200	31J	nc	nc
	ISB Monitoring			09/19/16	<15	<13	1,600	NA	NA	250	NA	nc	nc
				09/27/18	<0.13	1.2	820	<3.8	28	79	27	nc	nc
WNX-2				10/01/20	<0.65	0.90	380	0.75J	6.5	86	11	nc	nc
				10/08/20	<0.15	<0.15	<0.15	<0.15	<0.25	0.40J	0.17J	nc	1.7
				07/06/21	<0.15	<0.15	31	1.2	<0.25	12	<0.15	nc	127
EA4 7	Extraction	11 6	45.00	10/08/20	0.74J	0.65J	31	<0.15	<0.25	73	4.9	nc	1.8
EA1-7 Monito	Monitoring	onitoring Upper A	oper A 15-30	07/08/21	<0.15	0.53J	2.2	<0.15	<0.25	<0.15	2.9	nc	5.6

Remedial Action Implementation Upper A-Aquifer





Remedial Action Implementation Upper A-Aquifer





Remedial Action Implementation Lower A-Aquifer



				Parameter:	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride	1,1-DCA	DHC	Total Organic Carbon
Project Action Limit:					5	5	6	6	6	0.5	5		
Well ID	Purpose	Aquifer	Screen Interval	Sample Date	μg/L	µg/L	µg/L	µg/L	μg/L	µg/L	µg/L	cells/mL	mg/L
280W-11	ISB Monitoring		40-50	09/10/15	27	240	32	0.17J	15	0.57	3.1	nc	0.875J
				10/04/16	3.8	210	300	2.6	12	29	2.6	nc	0.432J
		Louver A		09/27/18	2.3	67	93	0.75J	3.8	79	1.4	nc	nc
		Lower A		10/01/20	1.9	57	76	0.80J	3.4	26	0.98J	nc	nc
				10/07/20	2.7	140	200	<0.15	8.5	65	2.0	nc	0.57
				07/06/21	<0.15	1.6	28	<0.15	<0.25	2.4	<0.15	nc	1,400
280W-25		Lower A	62-72	09/09/15	6.5	1,900	15	1.4	5.1	<0.2	0.21J	nc	0.687J
	ISB Monitoring			10/04/16	2.5	1,400	890	6.4	8.2	37	0.25J	nc	1.15
				10/07/20	4.9	310	600	3.0	11	34	<0.15	nc	1.0
				07/08/21	<0.15	3.3	160	<0.15	<0.25	<0.15	<0.15	nc	1,410
00014400	ISB Monitoring	Lawar A	40-55	10/07/20	900	100	280	1.1	2.9	230	<0.15	3.40E+01	1.5
28000-33		Lower A		07/07/21	0.99J	3.3	110	6.0	<0.25	24	<0.15	6.62E+04	434
2001/024	ISB Monitoring	Lower A	40-55	10/07/20	330	90	310	0.90J	0.59J	140	<0.15	3.83E+01	4.9
28000-34				07/07/21	<0.15	<0.15	3.9	0.18J	<0.25	5.1	<0.15	1.48E+05	42.6
	ISB & RA Monitoring	Lower A	63-68	10/14/14	1,000	1,900	190,000	270	130	21,000	<20	nc	4.64
				09/10/15	28,000	12,000	180,000	270	290	44,000	0.50J	1.46E+03	4.80
				10/04/16	1.4	1.3	310,000	6.5	7.3	160,000	<0.2	178	342
28SI-13				09/28/18	39	20	67,000	<2,500	83	77,000	<0.5	nc	nc
				10/01/20	18	33	190,000	<1,500	100	460,000	<17	nc	nc
				10/07/20	9.3J	8.9J	160,000	740	170	200,000	<7.5	3.26E+06	263
				07/07/21	6.0	28	9,600	14	6.4	6,700	<0.15	1.02E+04	554
EA2-4 N	Extraction	Lower A	er A 55-75	10/08/20	2.6	0.83J	360	0.63J	5.9	41	13	nc	3.0
	Monitoring			07/08/21	8.3	44	240J	1.2	<0.25	37	<0.15	nc	4.0





Remedial Action Implementation Lower A-Aquifer





Remedial Action Implementation System





Remedial Action Implementation – Upcoming Schedule

- > October 2021: Second quarter performance monitoring event
- November 2021: Install HiPox Unit
- December 2021-January 2022: Begin extracting EA1-1R and EA 2-5
- January 2022: Third quarter performance monitoring event
- > April 2022: Forth quarter performance monitoring event
- May 2022: Evaluate ISB treatment and determine when Traffic Island Area extraction wells will start pumping to HiPox Unit
- ➢ June 2022: Begin preparation of completion report



Vapor Intrusion Update Installation Restoration (IR) Site 28 Former Naval Air Station Moffett Field, CA

Restoration Advisory Board (RAB) Meeting October 14, 2021

AREA OF RESPONSIBILITY VAPOR INTRUSION (VI)





VAPOR INTRUSION MITIGATION PROCESS



- Following the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process
 - 2010 EPA VI Record of Decision Amendment
- Annual sampling of buildings
 - January 2021 latest sampling
- Annual samples collected from work areas and preferential pathways
 - Using Summa canisters
- Annual Sampling conducted with Heating Ventilation and Air Conditioning (HVAC) ON and OFF
- Diagnostic Testing performed to optimize Final Remedy

VAPOR INTRUSION MITIGATION PROCESS



- April 2021 Final Work Plan for VI Mitigation for Buildings 3, 10, 45, 126, N239 & N239A
 - Reducing VI (e.g., sealing slab openings/cracks, installing sub-slab depressurization)
 - -Conducted interim VI pathway reduction field work in SEP-OCT 2019 in Bldgs. 3, 45, 126, N239, N239A
 - Conducted diagnostic testing for Buildings 3, 45 & 126 in July 2021
- Planning mitigation measures for Buildings 15, 16 & 567 based on 2020 annual sampling results
 - Conducted diagnostic testing OCT 2021

DIAGNOSTIC TESTING









Sub-slab depressurization system creates a negative pressure below the building reducing soil gas entering the building



Schematic Sub-Slab Depressurization System



Sub-Slab Depressurization Blower and Vent



Questions