DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132-5190

5090
Ser JE30.MQ/0418
February 24, 2011

Mr. Scott Smale
DoD Branch Supervisor
Bureau of Corrective Actions
Nevada Division of Environmental Protection
901 S. Stewart Street, Suite 4001
Carson City, Nevada 89701-5249

SUBJECT: REMEDIAL PROJECT MANAGER FINAL MEETING MINUTES, NAVAL AIR STATION FALLON, FALLON, NEVADA

Dear Mr. Smale,

Enclosed is one copy of the final meeting minutes from the June 23, 2010 Remedial Project Manager Meeting at Naval Air Station (NAS) Fallon, Fallon, Nevada.

Please call me at (619)-532-4176 if you have any questions regarding this submittal.

Sincerely,

R. Michael Quesada
Lead Remedial Project Manager
By direction of the
Commanding Officer

Enclosure: Final Remedial Project Manager Meeting Minutes, Naval Air Station Fallon, Fallon, Nevada, prepared by Tetra Tech EM Inc., under NUS CLEAN contract N62467-04-D-0055, Delivery Order 0300, dated February 2011.

Copy to:

Robert Earney, NAVFAC Southwest
Becky Kurtz, NAS Fallon
Barbara DeAngelis, Tetra Tech EM Inc.
Ken Powell, Tetra Tech EM Inc.
David Berestka, Tetra Tech EM Inc.
Kathy Monks, Tetra Tech EM. Inc.
NAVFAC Southwest, Admin Record

REMEDIAL PROJECT MANAGER MEETING

FINAL MEETING MINUTES

NAVAL AIR STATION FALLON

JUNE 23, 2010

Attendees	Affiliation
Mike Quesada	Naval Facilities Engineering Command, Southwest (NAVFAC SW)
Robert Earney	NAVFAC SW
Chris Derscherl	NAVFAC SW
Ramon Naranjo	Nevada Division of Environmental Protection (NDEP)
Scott Smale	NDEP
Raj Krishnamoorthy	Naval Air Station (NAS) Fallon
Chuck Deverin	NAS Fallon
Scott Emmons	NAS Fallon
Dave Berestka	Tetra Tech EM Inc. (Tetra Tech) –present only during the E4X Drain discussion
Kathy Monks	Tetra Tech –present only during the Basewide Groundwater Monitoring discussion

MEETING SUMMARY

A remedial project manager (RPM) meeting for NAS Fallon was held at the Navy Environmental Department office at NAS Fallon on Wednesday, June 23, 2010.

The following summarizes the primary issues discussed during the first two portions of the meeting — the E4X Drain discussion and a brief update on the basewide hydrologic monitoring — and lists the action items specified or the agreements reached.

Presentation materials are included in an attachment for the E4X Drain discussion, including four figures of the E4X Drain remedial design options, a topographic map of the E4X Drain, selected hydrographs, map showing organic detections in 2008 and 2009, and summary of analytical results for 2009 and 2010 basewide surface water and groundwater. The remainder of the RPM meeting was limited to discussions that involved NAVFAC SW, NDEP, and NAS Fallon personnel; as a result, notes on follow-on discussions are not provided.

E4X Drain Options for Remedial Action and Design

Dave Berestka led a discussion of options for modifications to the E4X Drain that could reduce the potential for groundwater contamination by chlorinated solvents near well TT16-MW17 from affecting surface water in the E4X Drain and other downstream surface water bodies. Mr. Berestka drew several whiteboard sketches of the existing E4X Drain conditions (Figure 1) and three potential changes to the drain (Figures 2 through 4). Following the meeting, Mr. Berestka redrew the figures of the existing conditions and three options, adding some additional detail to supplement the meeting minutes. The revised sketches from the whiteboard are presented as Figures 1 through 4 in the first section of the attachment, entitled, "E4X Drain Remedial Design Option Figures". Kathy Monks provided topographic maps of the E4X Drain that were constructed using March 2008 survey data. Hydrographs for drain piezometers along the northern, central, and southern portions of the drain were also provided. The existing topography and configuration for the E4X Drain (shown in Figure 1, attached) and the three potential changes to the drain that were discussed (Figures 2 through 4 of the attachment) are each discussed in the following subsections.

E4X Drain Existing Conditions

The topography of the E4X Drain slopes slightly from north to south. Figure 1 provides a plan view, profile, and cross section of the drain in its current condition. Its purpose is to provide stormwater drainage for a portion of NAS Fallon and a surface water conduit for the wastewater treatment plant (WWTP) discharge to the Lower Diagonal Drain. The NAS Fallon WWTP is located about 1,100 feet north of the confluence of the E4X Drain with the Lower Diagonal Drain. Typically, the WWTP discharges in batches every 3 hours for 15 to 20 minutes. The average discharge is about 250,000 gallons per day. WWTP flow is higher during working hours than during nonworking hours.

In general, the northern portion (north of well TT16-MW01) of the E4X Drain is dry in the winter, except during precipitation events. During the irrigation season (early April through mid-November), high water levels in the Lower Diagonal Drain resulting from irrigation return flows raise water levels in the E4X Drain, as shown in Photograph No. 1 (below).

Photograph No. 1: View of E4X Drain looking south from A Street Bridge, June 24, 2010 (during irrigation season).

Treated wastewater discharges can be observed flowing upstream in the E4X Drain during high water levels. High water levels cause surface water to flow upstream, creating standing water in the E4X Drain as far as 200 feet north of A Street, as shown in Photograph No. 2 (below).

Photograph No. 2: View of E4X Drain looking north from A Street Bridge on June 24, 2010. Standing water is present about 200 feet north of A Street and represents the approximate maximum northern extent of standing water in the E4X Drain, with the exception of rain events.

Regarding all of the potential drain modifications, Mr. Raj Krishnamoorthy stated that the E4X Drain is a historic drain that was constructed as part of the Newlands Reclamation Act and is part of the Truckee-

Carson Irrigation District (TCID). Thus, before the drain could be modified, the Navy would need to consult with and seek concurrence from the Nevada State Historic Preservation Office (SHPO) to identify any historic preservation criteria that should be taken into account. Additionally, design review and approval by TCID would likely be required because the district has an easement. Finally, a three-way Memorandum of Understanding (MOU) exists among NAS Fallon, the U.S. Fish and Wildlife Service, and the U.S. Bureau of Reclamation regarding the discharge from the WWTP into the drain. The MOU would need to be considered prior to any modification to the drain.

Initially, three options for E4X Drain were discussed during the meeting. A fourth option, concrete lining of the drain, was also discussed. Each option is summarized below.

Option 1: Backfill Portion of E4X Drain

Option 1 proposed at the meeting would be to install a sheet pile weir upstream of the WWTP to prevent water from either the WWTP or the Lower Diagonal Drain from flowing north toward the chlorinated solvent plumes (Figure 2). North of the weir, the E4X Drain would be backfilled with approximately 2 feet of compacted clay to an elevation of 3,920 feet above mean sea level (AMSL).

Mr. Berestka said that Option 1 would make the backfilled section of the E4X Drain a dry ditch, except for during storm events, when the ditch would be a losing stream. Thus, the pathway for contaminated groundwater to affect surface water would be nearly eliminated.

Mr. Berestka also said that Option 1 would reduce the artificial influence of the E4X Drain on local direction of groundwater flow in the area around well TT16-MW17. In the absence of significant surface water influence, groundwater in the area would likely return to its natural gradient, which is toward the southeast at approximately 10 to 15 feet per year.

Dr. Krishnamoorthy said that storm water calculations would be required to ensure that the shallower ditch would still have enough capacity to drain its designated area of NAS Fallon without excessive scouring or overtopping of the banks. Mr. Deverin said that he would provide NAS Fallon stormwater maps to assist in this analysis. Dr. Krishnamoorthy also stated that further evaluation was needed to determine the potential for the high water level downstream of the weir to drive contamination in directions other than the regional gradient.

Mr. Naranjo also said that he would request that soil samples be collected from the drain bottom near well TT16-MW17 to ensure that contaminated soil is not present and would not act as a continuing source before the E4X Drain could be backfilled. He added that contaminated soil would require removal and off-site disposal before backfilling with clean soil would be allowed.

Mr. Naranjo mentioned that the E4X drain north of A Street is shallower than in the vicinity of monitoring well TT16-MW17. At times of seasonal high groundwater levels the E4X Drain locally may become a gaining stream in that area. This may be a good argument with SHPO in favor of Option #1.

Option 2: Relocate WWTP Discharge Pipe

Under this option, a new discharge pipe from the WWTP would convey treated wastewater directly into the Lower Diagonal Drain, effectively bypassing the E4X Drain (Figure 3). A new weir would be installed near the confluence of the E4X Drain and Lower Diagonal Drain, to prevent water from the Lower Diagonal Drain from entering the E4X Drain. Mr. Krishnamoorthy said that NAS Fallon Public Works Department has plans to build a new plant to replace the existing WWTP; moving the outfall from the E4X Drain to the Lower Diagonal Drain could be considered as part of the new plant design, but stated that this proposal was not certain nor is a timeframe for its construction in place.

With this option, the E4X Drain would fill to the level of the weir during storm events before overflow would discharge into the Lower Diagonal Drain. After the rain event, the surface water level in the E4X Drain would slowly decrease through infiltration and evaporation.

Mr. Berestka pointed out that groundwater near TT16-MW17 would seep into the drain and become surface water without any surface water in the E4X Drain between rain events, as the groundwater potentiometric surface is higher than the bottom of the E4X Drain in this area. Thus, contaminated groundwater would accumulate in the E4X Drain. It was agreed that this matter was a serious flaw and that this option did not warrant further discussion.

Option 3: Install Constant Head Weir

Option 3 involves installing a new weir in the E4X Drain either near the confluence with the Lower Diagonal Drain or just downstream of the WWTP. Mr. Naranjo said that he preferred that the weir be located just downstream of the WWTP (as shown in Figure 4). The result would be a new high water level that would maintain losing stream conditions throughout the E4X Drain, regardless of irrigation flows, precipitation, or normal fluctuations in groundwater level. The original drain bottom would remain unchanged, with no additional backfill. The WWTP discharge would quickly fill the E4X Drain and maintain a constant head, equal to the elevation of the new weir. Excess water would overflow the southern weir into the existing E4X Drain. An erosion control structure (likely rip rap) would be installed to prevent scouring of the E4X Drain at the southern weir overflow point. The surface water elevation in the portion of the E4X Drain between the weirs would be higher than any historical groundwater levels, making the E4X Drain a permanently losing stream, and thereby minimizing the potential for contaminated groundwater to affect surface water.

Dr. Krishnamoorthy said that this option would cause higher levels of standing water to be present in the E4X Drain, possibly to the far north end of the drain, adjacent to the Alpha and Delta taxiways and Runway 31L. He said that standing water closer to the runways could increase the potential for a bird aircraft strike hazard (BASH). Thus, this option may be unacceptable to NAS Fallon and would need to be discussed with the NAS Fallon Command and Operations/BASH representatives. Mr. Naranjo suggested that a second weir could be added to the northern end of the E4X Drain, near A Street (as shown on Figure 4). Thus, the E4X Drain would be dry north of A Street during normal operations (similar to current conditions). However, Dr. Krishnamoorthy countered that this northern reach would fill with water to the level of the upstream weir during a rain event, possibly attracting waterfowl, and that

this condition may be unacceptable even if it lasted only for a short time. He also stated that the potential for the high water levels between the weirs to drive contamination to migrate in directions other than the regional gradient should be evaluated before this option can be considered and implemented.

Mr. Quesada also added that a constant higher hydraulic head in the drain might lead to more disruption of the natural groundwater flow patterns in the area of the chlorinated solvent plumes. He added that currently there is a 0.5- to 1-foot head differential between the surface water and the groundwater. The Option 3 weir would likely create a 1- to 3-foot head differential between surface water and groundwater. This differential could increase the groundwater hydraulic gradient on the eastern side of the drain, potentially mobilizing the chlorinated solvent plume at a higher velocity toward the boundary of NAS Fallon (approximately 1,800 to the south). It could also act as a high head groundwater barrier to groundwater on the western side of the drain, causing contamination to migrate to the south instead of the natural southeasterly gradient. All agreed that this option would have the greatest impact on groundwater flow patterns and that groundwater modeling may be useful in evaluating the extent of the impact.

Mr. Quesada mentioned that Navy may consider measures to mitigate the potential for migration of contaminants towards the E4X drain while a treatment system is in place. Dr. Krishnamoorthy and Mr. Berestka suggested that a sheet-pile or slurry-wall may sufficiently restrict contaminant migration during treatment system operation.

Option 4: Concrete Lining of the E4X Drain

Mr. Quesada mentioned a fourth option, proposed by the NAS Fallon Commanding Officer, to line the bottom of the E4X Drain with concrete to reduce the potential for groundwater contamination from chlorinated solvents to enter or affect surface water in either the E4X Drain or the Lower Diagonal Drain.

Mr. Berestka stated that a concrete liner would likely have leaky joints and would probably develop cracks, and both could allow groundwater to migrate to surface water or vice versa, depending on whether the E4X Drain is a gaining or losing stream. He also noted that geosynthetic clay liners (GCL) are commonly used for irrigation ditches, pond liners, and landfill caps, would likely be easier to install, and would be less susceptible to cracking. Either type of liner would likely be installed on the bottom of the drain.

General Discussion of E4X Drain Options

An open discussion on the advantages and disadvantages of the various options followed. Mr. Naranjo commented that Option 1 could result in less bird activity in the drain than Option 3. He also mentioned that sheet pile would have to be installed at the weir location first with the backfill option (Option 1), then the northern area of the drain, upstream of the WWTP, would have to be dried out, drain bottom sediments excavated, and soil samples collected and analyzed from the bottom of the drain before the backfill materials could be installed. Dr. Krishnamoorthy commented that Option 1 may achieve the same goal as Option 3 without increasing the potential for bird strike. Mr. Naranjo added that backfilling is less obtrusive than the strategy posed for Option 3.

Dr. Krishnamoorthy mentioned a fifth option that could include installing a subsurface slurry wall on both sides of the E4X Drain, preventing groundwater from migrating to the E4X Drain. However, Mr. Naranjo pointed out that this option would not address contaminated groundwater that may already be underneath the drain. Mr. Quesada added that a slurry wall would likely cause significant disruption of groundwater flow patterns in the area, with possible unintended consequences. Dr. Krishnamoorthy agreed with the disadvantages.

Mr. Smale (NDEP) asked about the purpose or goal of the air sparging. Mr. Berestka responded that the goal is to remove chlorinated solvents from the groundwater. Air sparging would be used to inject clean air in the ground, transferring dissolved contaminants from groundwater to the vapor phase. The vapor-phase contaminants would then flow through the soil vapor through the vadose zone and eventually into the atmosphere. A calculation of the mass (in pounds) of emissions was provided in Appendix E of the Draft Site 16 Air Sparging/Soil Vapor Extraction Pilot Study Report. Mr. Berestka added that soil vapor extraction (SVE) is not likely a cost-effective vapor collection technology because of the shallow groundwater table and, even if it were, the concentrations in the collected vapor would be so low that they would likely be vented to the atmosphere without treatment. Mr. Smale stated that he did not want to discourage consideration of air sparging, but calculations would be needed to determine the quantities of contaminants that would be released into the atmosphere. Mr. Berestka, Dr. Krishnamoorthy, and Mr. Quesada stated that these calculations were done in the pilot study. NDEP approval and concurrence would be needed if soil vapor contaminants are vented to the atmosphere without treatment.

Mr. Deverin questioned the NDEP representatives whether an active remedial strategy beyond monitored natural attenuation (MNA) would be required if the contaminated groundwater to surface water pathway was removed. State representatives replied that they would not accept MNA without active remediation or removal action for chlorinated solvents in groundwater near the E4X Drain. Mr. Quesada suggested that one of the options may be to treat the hotspot and remove the probable source area of the contamination. Mr. Smale agreed with this suggestion.

Mr. Quesada said the Navy could undertake a time-critical removal action or non-time critical removal action; however, the Navy will have to obtain additional funding. Additional cost analysis of the various options will be required as well. In the interim, Mr. Quesada will notify SHPO and TCID. Option 1 would most likely be preferable. A concrete liner would most likely be more expensive than the costs associated with Option 1. Also, maintenance of the liner might not be funded by the Installation Restoration Program. Dr. Krishnamoorthy reiterated that any options leading to additional ponding of surface water beyond current conditions will need to be discussed with NAS Fallon Command and operations/BASH representatives because of the increased potential for bird strikes, and secondly, that the rate and direction of contaminant migration other than the regional conditions or gradient to the southeast, should be properly evaluated.

Action: The Navy requested Tetra Tech to pursue the details, including hydraulic calculations and costing of the various options. Once additional information is provided and reviewed by the Navy, NAS Fallon personnel will work with the base archeologist to identify any potential issues for SHPO, etc.

BASEWIDE GROUNDWATER MONITORING UPDATE

Ms. Monks briefly discussed the results of the spring 2010 water quality results in comparison to the 2009 results and presented the following handouts:

- Organic Detections 2008 and 2009 (Plate-size figure)
- Table 1A: Summary of Analytical Results for 2009 Basewide Groundwater Monitoring and Comparison with Screening Criteria, Naval Air Station Fallon
- Table 1B: Summary of Analytical Results for 2009 Basewide Groundwater Monitoring and Comparison with Screening Criteria by Quadrant, Naval Air Station Fallon
- Table 2A: Summary of Analytical Results for 2010 Basewide Groundwater Monitoring and Comparison with Screening Criteria, Naval Air Station Fallon
- Table 2B: Summary of Analytical Results for 2010 Basewide Groundwater Monitoring and Comparison with Screening Criteria by Quadrant, Naval Air Station Fallon
- Table 3A: Summary of Analytical Results for 2009 Surface Water Monitoring and Comparison with Screening Criteria, Naval Air Station Fallon
- Table 3B: Summary of Analytical Results for 2009 Surface Water Monitoring and Comparison with Screening Criteria by Quadrant, Naval Air Station Fallon
- Table 4A: Summary of Analytical Results for 2010 Surface Water Monitoring and Comparison with Screening Criteria, Naval Air Station Fallon
- Table 4B: Summary of Analytical Results for 2010 Surface Water Monitoring and Comparison with Screening Criteria by Quadrant, Naval Air Station Fallon
- Table 5: Maximum Detections from 2007 through Spring 2010 Basewide Groundwater Monitoring and Comparison with Screening Criteria, Naval Air Station Fallon

Mr. Naranjo requested a copy of all of the handouts at the meeting and asked that they be included as attachments to the meeting minutes.

Action: Handouts provided at the RPM meeting are attached to the meeting minutes, as requested.

E4X DRAIN REMEDIAL DESIGN OPTIONS FIGURES

SUMMARY OF ANALYTICAL RESULTS FOR 2009 AND 2010 BASEWIDE SURFACE WATER AND GROUNDWATER

TABLE 1A: SUMMARY OF ANALYTICAL RESULTS FOR 2009 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA
NAVAL AIR STATION FALLON

Analytical Group	Chemical		Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
ALKALN	TOTAL ALKALINITY		522,000	10,400,000	TT06-MW05	23 / 23	-	na	--	na	--
ANION	BROMIDE		2,050	49,100	TT16-MW09	23 / 23	-	na	--	na	--
ANION	CHLORIDE		1,260,000	23,600,000	TT16-MW09	23 / 23	-	na	--	na	--
ANION	FLUORIDE		134	18,200	TT06-MW05	21 / 23	500 - 1,000	1,500	7	na	--
ANION	NITRATE		52.9 J	41,300	395H	21 / 23	500 - 1,000	58,000	0	10,000	3
ANION	NITRITE		1,230 J	3,180	MW-75	2 / 23	100 - 1,500	3,700	0	1,000	2
ANION	ORTHOPHOSPHATE		498 J	30,600	TT06-MW05	13 / 23	500 - 5,000	na	--	na	--
ANION	SULFATE		1,200,000	13,000,000	TT806-MW02	23 / 23	-	na	--	na	--
DGASES	ETHANE		1.4 J	9.3	MW-19	2 / 23	2 - 2	na	--	na	--
DGASES	ETHENE		0.6 J	1.1 J	MW-19	2 / 23	2 - 2	na	--	na	--
DGASES	METHANE		0.67 J	430	TT03-MW03	20 / 23	2 - 2	na	--	na	--
PAH	1-METHYLNAPHTHALENE		0.011 J	15	MW-77	17 / 88	0.019 - 0.021	2.3	3	na	--
PAH	2-METHYLNAPHTHALENE		0.0099 J	17	MW-77	10 / 130	0.019 - 0.021	150	0	na	--
PAH	ACENAPHTHENE		0.017 J	0.26	MW-77	5 / 130	0.019 - 0.022	2,200	0	na	--
PAH	ACENAPHTHYLENE	(b)	0.077	0.15	MW-75	2 / 130	0.019 - 0.022	2,200	0	na	--
PAH	BENZO(K)FLUORANTHENE		0.011 J	0.011 J	MW-16-3	1 / 130	0.019 - 0.022	0.29	0	na	--
PAH	CHRYSENE		0.01 J	0.01 J	MW-16-3	1 / 130	0.019 - 0.022	2.9	0	na	--
PAH	DIBENZO(A,H)ANTHRACENE		0.011 J	0.011 J	MW-16-3	1 / 130	0.019 - 0.022	0.0029	1	na	--
PAH	FLUORANTHENE		0.01 J	0.016 J	MW-54	2 / 130	0.019 - 0.022	1,500	0	na	--
PAH	FLUORENE		0.042	0.74	TT16-MW14	4 / 130	0.019 - 0.022	1,500	0	na	--
PAH	INDENO(1,2,3-CD)PYRENE		0.010 J	0.010 J	MW-16-3	1 / 130	0.019 - 0.022	0.029	0	na	--
PAH	NAPHTHALENE		0.01 J	46	MW-19	29 / 130	0.012 - 0.038	0.14	6	na	--
PAH	PHENANTHRENE	(b)	0.016 J	0.77	TT16-MW14	6 / 130	0.019 - 0.022	11,000	0	na	--
PAH	PYRENE		0.0097 J	0.021	MW-54	4 / 130	0.019 - 0.022	1,100	0	na	--

TABLE 1A: SUMMARY OF ANALYTICAL RESULTS FOR 2009 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA
NAVAL AIR STATION FALLON

Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
SOLIDS	TOTAL DISSOLVED SOLIDS	315,000	77,900,000	MW-77	130 / 130	-	na	--	na	--
SULFIDE	SULFIDE	106 J	7,870	MW-77	4 / 23	500 - 500	na	--	na	--
TOC	TOTAL ORGANIC CARBON	9,110	94,900	MW-19	21 / 21	-	na	--	na	--
TPHEXT	DIESEL RANGE ORGANICS	220 J	11,000	MW-77	10 / 23	470 - 520	na	--	na	--
TPHEXT	JP5 RANGE ORGANICS	170 J	33,000	MW-19	10 / 23	940 - 1,000	na	--	na	--
TPHEXT	MOTOR OIL RANGE ORGANICS	130 J	14,000	MW-77	11 / 23	940 - 4,700	na	--	na	--
TPHPRG	GASOLINE RANGE ORGANICS	31 J	14,000	MW-19	13 / 23	100 - 100	na	--	na	--
VOA	1,1-DICHLOROETHANE	0.27 J	2.3	TT806-MW02	3 / 130	1 - 1	2.4	0	na	--
VOA	1,1-DICHLOROETHENE	0.22 J	21	MW-77	18 / 130	1 - 1	340	0	7	1
VOA	1,2,4-TRIMETHYLBENZENE	0.58 J	160 J	MW-19	6 / 130	1 - 1	15	1	na	--
VOA	1,2-DICHLOROETHANE	0.97 J	600	MW-19	15 / 130	1 - 1	0.15	15	5	10
VOA	1,2-DICHLOROPROPANE	0.22 J	1.5	MW-75	5 / 130	1 - 1	0.39	3	5	0
VOA	1,3,5-TRIMETHYLBENZENE	0.85 J	30 J	MW-19	5 / 130	1 - 1	370	0	na	--
VOA	2-BUTANONE	120	120	MW-19	1 / 130	10 - 10	7,100	0	na	--
VOA	2-HEXANONE	150	150	MW-19	1 / 130	10 - 10	47	1	na	--
VOA	4-METHYL-2-PENTANONE	42	42	MW-19	1 / 130	10 - 10	2,000	0	na	--
VOA	ACETONE	190	190	MW-19	1 / 130	10 - 10	22,000	0	na	--
VOA	BENZENE	0.21 J	3,700 J	MW-19	12 / 130	1 - 1	0.41	11	5	5
VOA	CARBON DISULFIDE	0.22 J	0.74 J	TT02-MW02	6 / 130	1 - 1	1,000	0	na	--
VOA	CARBON TETRACHLORIDE	4.2	4.3	MW-22	2 / 130	1 - 1	0.44	2	5	0
VOA	CHLOROETHANE	0.38 J	4	MW-19	2 / 130	1 - 1	21,000	0	na	--
VOA	CHLOROFORM	0.31 J	86	MW-22	9 / 130	1 - 1	0.19	18	80	4
VOA	CHLOROMETHANE	0.23 J	0.35 J	MW-75	4 / 130	1 - 1	190	0	na	--
VOA	CIS-1,2-DICHLOROETHENE	0.32 J	1,800	TT16-MW17	28 / 130	1 - 1	370	4	70	10

TABLE 1A: SUMMARY OF ANALYTICAL RESULTS FOR 2009 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA
NAVAL AIR STATION FALLON

Analytical Group	Chemical		Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
VOA	ETHYLBENZENE		0.35 J	320 J	MW-19	6 / 130	1 - 1	1.5	1	700	0
VOA	ISOPROPYLBENZENE		0.41 J	17 J	MW-19	13 / 130	1 - 1	680	0	na	--
VOA	M,P-XYLENE	(b)	2.1	740 J	MW-19	3 / 130	2 - 2	1,200	0	na	--
VOA	N-BUTYLBENZENE	(b)	0.29 J	4.5 J	MW-19	7 / 130	1 - 1	2,300	0	1,000	0
VOA	N-PROPYLBENZENE		0.42 J	27 J	MW-19	5 / 130	1 - 1	1,300	0	na	--
VOA	O-XYLENE		0.39 J	670 J	MW-19	9 / 130	1 - 1	1,200	0	na	--
VOA	P-ISOPROPYLTOLUENE	(b)	0.23 J	1.8	TT02-MW02	5 / 130	1 - 1	2,300	0	1,000	0
VOA	SEC-BUTYLBENZENE	(b)	0.22 J	2.3	TT02-MW02	12 / 130	1 - 1	2,300	0	1,000	0
VOA	TETRACHLOROETHENE		0.22 J	51,000	TT16-MW17	18 / 130	1 - 1	0.11	18	5	11
VOA	TOLUENE		0.21 J	1,800 J	MW-19	5 / 130	1 - 1	2,300	0	1,000	1
VOA	TRANS-1,2-DICHLOROETHENE		0.25 J	140	TT16-MW17	18 / 130	1 - 1	110	2	100	2
VOA	TRICHLOROETHENE		0.22 J	1,300	TT16-MW17	54 / 130	1 - 1	2	48	5	36
VOA	VINYL CHLORIDE		0.22 J	3.4	MW-77	17 / 130	1 - 1	0.016	68	2	4

Notes:

All concentrations in microgram per liter.

a Residential tap water RSL provided in EPA (2010).

b Screening criteria are not available for all chemicals. The following chemicals were used to identify surrogate screening criteria.

Chemical without Screening Criteria	Chemical Used to Identify Surrogate Screening Criteria
Acenaphthylene	Acenaphthene
Phenanthrene	Anthracene
m,p-Xylene	p-Xylene
n-Butylbenzene	Toluene
p-Isopropyltoluene	Toluene
sec-Butylbenzene	Toluene

TABLE 1A: SUMMARY OF ANALYTICAL RESULTS FOR 2009 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA
NAVAL AIR STATION FALLON

Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL

--	Not applicable	PAH	Polycyclic aromatic hydrocarbon
ALKALN	Alkalinity	RSL	Regional screening level
DGASES	Dissolved gases	TOC	Total organic carbon
J	Estimated concentration	TPHEXT	Total petroleum hydrocarbon, extractable
MCL	Maximum contaminant level	VOA	Volatile organic analysis
na	Not available		

References:

U.S. Environmental Protection Agency (EPA). 2010. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May 17. Available on-line at: <http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm>

TABLE 1B: SUMMARY OF ANALYTICAL RESULTS FOR 2009 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA BY QUADRANT
NAVAL AIR STATION FALLON

Quadrant	Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
Northeast	ALKALN	TOTAL ALKALINITY	10,400,000	10,400,000	TT06-MW05	1 / 1	-	na	--	na	--
Northeast	ANION	BROMIDE	21,700	21,700	TT06-MW05	1 / 1	-	na	--	na	--
Northeast	ANION	CHLORIDE	11,500,000	11,500,000	TT06-MW05	1 / 1	-	na	--	na	--
Northeast	ANION	FLUORIDE	18,200	18,200	TT06-MW05	1 / 1	-	1,500	1	na	--
Northeast	ANION	ORTHOPHOSPHATE	30,600	30,600	TT06-MW05	1 / 1	-	na	--	na	--
Northeast	ANION	SULFATE	8,100,000	8,100,000	TT06-MW05	1 / 1	-	na	--	na	--
Northeast	DGASES	METHANE	1.9 J	1.9 J	TT06-MW05	1 / 1	-	na	--	na	--
Northeast	PAH	1-METHYLNAPHTHALENE	0.43	0.43	TT06-MW05	1 / 9	0.019 - 0.02	2.3	0	na	--
Northeast	PAH	2-METHYLNAPHTHALENE	0.0099 J	0.0099 J	TTBW-MW17	1 / 15	0.019 - 0.02	150	0	na	--
Northeast	PAH	NAPHTHALENE	0.013 J	0.14	TT06-MW05	4 / 15	0.019 - 0.037	0.14	0	na	--
Northeast	SOLIDS	TOTAL DISSOLVED SOLIDS	595,000	38,000,000	TT06-MW05	15 / 15	-	na	--	na	--
Northeast	SULFIDE	SULFIDE	123 J	123 J	TT06-MW05	1 / 1	-	na	--	na	--
Northeast	TOC	TOTAL ORGANIC CARBON	52,100	52,100	TT06-MW05	1 / 1	-	na	--	na	--
Northeast	TPHEXT	DIESEL RANGE ORGANICS	3,200 J	3,200 J	TT06-MW05	1 / 1	-	na	--	na	--
Northeast	TPHEXT	JP5 RANGE ORGANICS	1,300 J	1,300 J	TT06-MW05	1 / 1	-	na	--	na	--
Northeast	TPHPRG	GASOLINE RANGE ORGANICS	31 J	31 J	TT06-MW05	1 / 1	-	na	--	na	--
Northeast	VOA	CARBON DISULFIDE	0.22 J	0.22 J	TT06-MW02	1 / 15	1 - 1	1,000	0	na	--
Northeast	VOA	ISOPROPYLBENZENE	0.45 J	0.45 J	TT06-MW05	1 / 15	1 - 1	680	0	na	--
Northeast	VOA	N-PROPYLBENZENE	0.45 J	0.45 J	TT06-MW05	1 / 15	1 - 1	1,300	0	na	--
Northeast	VOA	P-ISOPROPYLTOLUENE (b)	0.23 J	0.23 J	TT06-MW05	1 / 15	1 - 1	2,300	0	1,000	0
Northeast	VOA	SEC-BUTYLBENZENE (b)	0.54 J	0.54 J	TT06-MW05	1 / 15	1 - 1	2,300	0	1,000	0
Northeast	VOA	TRICHLOROETHENE	5.5	5.5	TTBW-MW02	2 / 15	1 - 1	2	8	5	8
Northwest	ALKALN	TOTAL ALKALINITY	1,220,000	3,500,000	MW-60	9 / 9	-	na	--	na	--
Northwest	ANION	BROMIDE	2,050	7,590	MW-60	9 / 9	-	na	--	na	--
Northwest	ANION	CHLORIDE	1,260,000	4,080,000	MW-60	9 / 9	-	na	--	na	--
Northwest	ANION	FLUORIDE	134	5,840	MW-60	9 / 9	-	1,500	6	na	--
Northwest	ANION	NITRATE	52.9 J	41,300	395H	9 / 9	-	58,000	0	10,000	2
Northwest	ANION	NITRITE	1230 J	1,230 J	TT03-MW06	1 / 9	100 - 500	3,700	0	1,000	1

TABLE 1B: SUMMARY OF ANALYTICAL RESULTS FOR 2009 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA BY QUADRANT NAVAL AIR STATION FALLON

Quadrant	Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
Northwest	ANION	ORTHOPHOSPHATE	498 J	8,540	MW-60	5 / 9	500 - 2,500	na	--	na	--
Northwest	ANION	SULFATE	1,200,000	5,180,000	MW-60	9 / 9	-	na	--	na	--
Northwest	DGASES	METHANE	1.2 J	430	TT03-MW03	7 / 9	2 - 2	na	--	na	--
Northwest	PAH	1-METHYLNAPHTHALENE	0.013 J	0.32	TT02-MW02	6 / 22	0.019 - 0.02	2.3	0	na	--
Northwest	PAH	2-METHYLNAPHTHALENE	0.064	0.18	TT02-MW02	2 / 26	0.019 - 0.02	150	0	na	--
Northwest	PAH	FLUORENE	0.042	0.26	TT03-MW06	2 / 26	0.019 - 0.02	1,500	0	na	--
Northwest	PAH	NAPHTHALENE	0.011 J	0.32	TT02-MW02	5 / 26	0.019 - 0.038	0.14	1	na	--
Northwest	PAH	PHENANTHRENE (b)	0.058	0.058	TT03-MW06	1 / 26	0.019 - 0.02	11,000	0	na	--
Northwest	PAH	PYRENE	0.0097 J	0.0097 J	TT04-MW01	1 / 26	0.019 - 0.02	1,100	0	na	--
Northwest	SOLIDS	TOTAL DISSOLVED SOLIDS	474,000	45,600,000	MW-43L	26 / 26	-	na	--	na	--
Northwest	SULFIDE	SULFIDE	233 J	233 J	TT02-MW02	1 / 9	500 - 500	na	--	na	--
Northwest	TOC	TOTAL ORGANIC CARBON	9,170	22,300	TT03-MW05	9 / 9	-	na	--	na	--
Northwest	TPHEXT	DIESEL RANGE ORGANICS	220 J	440 J	TT02-MW03	4 / 9	470 - 510	na	--	na	--
Northwest	TPHEXT	JP5 RANGE ORGANICS	210 J	670 J	TT02-MW02	2 / 9	940 - 1,000	na	--	na	--
Northwest	TPHEXT	MOTOR OIL RANGE ORGANICS	240 J	430 J	TT03-MW05	4 / 9	940 - 1,000	na	--	na	--
Northwest	TPHPRG	GASOLINE RANGE ORGANICS	31 J	59 J	TT02-MW02	2 / 9	100 - 100	na	--	na	--
Northwest	VOA	1,1-DICHLOROETHANE	0.27 J	0.38 J	TT03-MW03	2 / 26	1 - 1	2.4	0	na	--
Northwest	VOA	1,1-DICHLOROETHENE	0.23 J	0.88 J	MW-43L	2 / 26	1 - 1	340	0	7	0
Northwest	VOA	1,2,4-TRIMETHYLBENZENE	5.6	6.3	TT03-MW03	2 / 26	1 - 1	15	0	na	--
Northwest	VOA	1,3,5-TRIMETHYLBENZENE	0.85 J	1.8	TT02-MW02	2 / 26	1 - 1	370	0	na	--
Northwest	VOA	CARBON DISULFIDE	0.74 J	0.74 J	TT02-MW02	1 / 26	1 - 1	1,000	0	na	--
Northwest	VOA	CHLOROFORM	0.78 J	1.1	TT03-MW05	2 / 26	1 - 1	0.19	2	80	0
Northwest	VOA	CIS-1,2-DICHLOROETHENE	0.52 J	22	MW-43L	5 / 26	1 - 1	370	0	70	0
Northwest	VOA	ETHYLBENZENE	0.35 J	1.4	TT02-MW02	3 / 26	1 - 1	1.5	0	700	0
Northwest	VOA	ISOPROPYLBENZENE	0.41 J	1.4	TT02-MW02	2 / 26	1 - 1	680	0	na	--
Northwest	VOA	N-BUTYLBENZENE (b)	0.29 J	0.29 J	TT03-MW06	1 / 26	1 - 1	2,300	0	1,000	0
Northwest	VOA	N-PROPYLBENZENE	2	2	TT02-MW02	1 / 26	1 - 1	1,300	0	na	--
Northwest	VOA	O-XYLENE	0.57 J	0.57 J	TT02-MW02	1 / 26	1 - 1	1,200	0	na	--

TABLE 1B: SUMMARY OF ANALYTICAL RESULTS FOR 2009 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA BY QUADRANT NAVAL AIR STATION FALLON

Quadrant	Analytical Group	Chemical		Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
Northwest	VOA	P-ISOPROPYLTOLUENE	(b)	1.8	1.8	TT02-MW02	1 / 26	1 - 1	2,300	0	1,000	0
Northwest	VOA	SEC-BUTYLBENZENE	(b)	2.3	2.3	TT02-MW02	1 / 26	1 - 1	2,300	0	1,000	0
Northwest	VOA	TETRACHLOROETHENE		0.25 J	0.25 J	TT395-MW02	1 / 26	1 - 1	0.11	1	5	0
Northwest	VOA	TRANS-1,2-DICHLOROETHENE		1.7	1.7	MW-43L	1 / 26	1 - 1	110	0	100	0
Northwest	VOA	TRICHLOROETHENE		0.23 J	19	MW-43L	10 / 26	1 - 1	2	3	5	2
Northwest	VOA	VINYL CHLORIDE		0.22 J	0.28 J	MW-43U	2 / 26	1 - 1	0.016	2	2	0
Southeast	ALKALN	TOTAL ALKALINITY		522,000	2,460,000	MW-19	12 / 12	-	na	--	na	--
Southeast	ANION	BROMIDE		23,100	49,100	TT16-MW09	12 / 12	-	na	--	na	--
Southeast	ANION	CHLORIDE		12,100,000	23,600,000	TT16-MW09	12 / 12	-	na	--	na	--
Southeast	ANION	FLUORIDE		315	1,110	TT16-MW09	10 / 12	500 - 1,000	1,500	0	na	--
Southeast	ANION	NITRATE		491	27,800	MW-54	11 / 12	1,000 - 1,000	58,000	0	10,000	1
Southeast	ANION	NITRITE		3,180	3,180	MW-75	1 / 12	1,000 - 1,500	3,700	0	1,000	1
Southeast	ANION	ORTHOPHOSPHATE		1,400 J	3,070	TT16-MW09	7 / 12	1,000 - 5,000	na	--	na	--
Southeast	ANION	SULFATE		5,550,000	10,200,000	MW-18L	12 / 12	-	na	--	na	--
Southeast	DGASES	ETHANE		1.4 J	9.3	MW-19	2 / 12	2 - 2	na	--	na	--
Southeast	DGASES	ETHENE		0.6 J	1.1 J	MW-19	2 / 12	2 - 2	na	--	na	--
Southeast	DGASES	METHANE		0.67 J	360	MW-16U	11 / 12	2 - 2	na	--	na	--
Southeast	PAH	1-METHYLNAPHTHALENE		0.011 J	15	MW-77	10 / 49	0.019 - 0.021	2.3	3	na	--
Southeast	PAH	2-METHYLNAPHTHALENE		0.013 J	17	MW-77	7 / 78	0.019 - 0.021	150	0	na	--
Southeast	PAH	ACENAPHTHENE		0.017 J	0.26	MW-77	5 / 78	0.019 - 0.022	2,200	0	na	--
Southeast	PAH	ACENAPHTHYLENE	(b)	0.077	0.15	MW-75	2 / 78	0.019 - 0.022	2,200	0	na	--
Southeast	PAH	BENZO(K)FLUORANTHENE		0.011 J	0.011 J	MW-16-3	1 / 78	0.019 - 0.022	0.29	0	na	--
Southeast	PAH	CHRYSENE		0.01 J	0.01 J	MW-16-3	1 / 78	0.019 - 0.022	2.9	0	na	--
Southeast	PAH	DIBENZO(A,H)ANTHRACENE		0.011 J	0.011 J	MW-16-3	1 / 78	0.019 - 0.022	0.0029	1	na	--
Southeast	PAH	FLUORANTHENE		0.01 J	0.016 J	MW-54	2 / 78	0.019 - 0.022	1,500	0	na	--
Southeast	PAH	FLUORENE		0.6	0.74	TT16-MW14	2 / 78	0.019 - 0.022	1,500	0	na	--
Southeast	PAH	INDENO(1,2,3-CD)PYRENE		0.01 J	0.01 J	MW-16-3	1 / 78	0.019 - 0.022	0.029	0	na	--
Southeast	PAH	NAPHTHALENE		0.01 J	46	MW-19	20 / 78	0.012 - 0.035	0.14	5	na	--

TABLE 1B: SUMMARY OF ANALYTICAL RESULTS FOR 2009 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA BY QUADRANT NAVAL AIR STATION FALLON

Quadrant	Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
Southeast	PAH	PHENANTHRENE	0.016 J	0.77	TT16-MW14	5 / 78	0.019 - 0.022	11,000	0	na	--
Southeast	PAH	PYRENE	0.013 J	0.021	MW-54	3 / 78	0.019 - 0.022	1,100	0	na	--
Southeast	SOLIDS	TOTAL DISSOLVED SOLIDS	486,000	77,900,000	MW-77	78 / 78	-	na	--	na	--
Southeast	SULFIDE	SULFIDE	106 J	7,870	MW-77	2 / 12	500 - 500	na	--	na	--
Southeast	TOC	TOTAL ORGANIC CARBON	9,110	94,900	MW-19	11 / 11	-	na	--	na	--
Southeast	TPHEXT	DIESEL RANGE ORGANICS	720 J	11,000	MW-77	5 / 12	470 - 520	na	--	na	--
Southeast	TPHEXT	JP5 RANGE ORGANICS	170 J	33,000	MW-19	7 / 12	950 - 1,000	na	--	na	--
Southeast	TPHEXT	MOTOR OIL RANGE ORGANICS	130 J	14,000	MW-77	6 / 12	950 - 4,700	na	--	na	--
Southeast	TPHPRG	GASOLINE RANGE ORGANICS	33 J	14,000	MW-19	10 / 12	100 - 100	na	--	na	--
Southeast	VOA	1,1-DICHLOROETHENE	0.22 J	21	MW-77	15 / 78	1 - 1	340	0	7	1
Southeast	VOA	1,2,4-TRIMETHYLBENZENE	0.58 J	160 J	MW-19	4 / 78	1 - 1	15	1	na	--
Southeast	VOA	1,2-DICHLOROETHANE	0.97 J	600	MW-19	15 / 78	1 - 1	0.15	15	5	10
Southeast	VOA	1,2-DICHLOROPROPANE	0.22 J	1.5	MW-75	5 / 78	1 - 1	0.39	3	5	0
Southeast	VOA	1,3,5-TRIMETHYLBENZENE	1	30 J	MW-19	3 / 78	1 - 1	370	0	na	--
Southeast	VOA	2-BUTANONE	120	120	MW-19	1 / 78	10 - 10	7,100	0	na	--
Southeast	VOA	2-HEXANONE	150	150	MW-19	1 / 78	10 - 10	47	1	na	--
Southeast	VOA	4-METHYL-2-PENTANONE	42	42	MW-19	1 / 78	10 - 10	2,000	0	na	--
Southeast	VOA	ACETONE	190	190	MW-19	1 / 78	10 - 10	22,000	0	na	--
Southeast	VOA	BENZENE	0.21 J	3,700 J	MW-19	12 / 78	1 - 1	0.41	11	5	5
Southeast	VOA	CARBON DISULFIDE	0.24 J	0.65 J	TT16-MW15	4 / 78	1 - 1	1,000	0	na	--
Southeast	VOA	CARBON TETRACHLORIDE	4.2	4.3	MW-22	2 / 78	1 - 1	0.44	2	5	0
Southeast	VOA	CHLOROETHANE	0.38 J	4	MW-19	2 / 78	1 - 1	21,000	0	na	--
Southeast	VOA	CHLOROFORM	0.31 J	86	MW-22	7 / 78	1 - 1	0.19	14	80	4
Southeast	VOA	CHLOROMETHANE	0.23 J	0.35 J	MW-75	4 / 78	1 - 1	190	0	na	--
Southeast	VOA	CIS-1,2-DICHLOROETHENE	0.35 J	1,800	TT16-MW17	22 / 78	1 - 1	370	4	70	10
Southeast	VOA	ETHYLBENZENE	1.2	320 J	MW-19	3 / 78	1 - 1	1.5	1	700	0
Southeast	VOA	ISOPROPYLBENZENE	0.5 J	17 J	MW-19	10 / 78	1 - 1	680	0	na	--
Southeast	VOA	M,P-XYLENE (b)	2.1	740 J	MW-19	3 / 78	2 - 2	1,200	0	na	--

TABLE 1B: SUMMARY OF ANALYTICAL RESULTS FOR 2009 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA BY QUADRANT NAVAL AIR STATION FALLON

Quadrant	Analytical Group	Chemical		Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
Southeast	VOA	N-BUTYLBENZENE	(b)	0.3 J	4.5 J	MW-19	6 / 78	1 - 1	2,300	0	1,000	0
Southeast	VOA	N-PROPYLBENZENE		0.42 J	27 J	MW-19	3 / 78	1 - 1	1,300	0	na	--
Southeast	VOA	O-XYLENE		0.39 J	670 J	MW-19	8 / 78	1 - 1	1,200	0	na	--
Southeast	VOA	P-ISOPROPYLTOLUENE	(b)	0.63 J	0.85 J	TT16-MW14	3 / 78	1 - 1	2,300	0	1,000	0
Southeast	VOA	SEC-BUTYLBENZENE	(b)	0.22 J	2.1 J	MW-19	10 / 78	1 - 1	2,300	0	1,000	0
Southeast	VOA	TETRACHLOROETHENE		0.22 J	51,000	TT16-MW17	17 / 78	1 - 1	0.11	17	5	11
Southeast	VOA	TOLUENE		0.21 J	1,800 J	MW-19	5 / 78	1 - 1	2,300	0	1,000	1
Southeast	VOA	TRANS-1,2-DICHLOROETHENE		0.25 J	140	TT16-MW17	17 / 78	1 - 1	110	2	100	2
Southeast	VOA	TRICHLOROETHENE		0.22 J	1,300	TT16-MW17	39 / 78	1 - 1	2	34	5	28
Southeast	VOA	VINYL CHLORIDE		0.22 J	3.4	MW-77	15 / 78	1 - 1	0.016	45	2	3
Southwest	ALKALN	TOTAL ALKALINITY		915,000	915,000	TT806-MW02	1 / 1	-	na	--	na	--
Southwest	ANION	BROMIDE		37,900	37,900	TT806-MW02	1 / 1	-	na	--	na	--
Southwest	ANION	CHLORIDE		17,600,000	17,600,000	TT806-MW02	1 / 1	-	na	--	na	--
Southwest	ANION	FLUORIDE		520	520	TT806-MW02	1 / 1	-	1,500	0	na	--
Southwest	ANION	NITRATE		4,640	4,640	TT806-MW02	1 / 1	-	58,000	0	10,000	0
Southwest	ANION	SULFATE		13,000,000	13,000,000	TT806-MW02	1 / 1	-	na	--	na	--
Southwest	DGASES	METHANE		31	31	TT806-MW02	1 / 1	-	na	--	na	--
Southwest	SOLIDS	TOTAL DISSOLVED SOLIDS		315,000	60,300,000	TTBW-MW07	11 / 11	-	na	--	na	--
Southwest	TPHEXT	MOTOR OIL RANGE ORGANICS		130 J	130 J	TT806-MW02	1 / 1	-	na	--	na	--
Southwest	VOA	1,1-DICHLOROETHANE		2.3	2.3	TT806-MW02	1 / 11	1 - 1	2.4	0	na	--
Southwest	VOA	1,1-DICHLOROETHENE		4.5	4.5	TT806-MW02	1 / 11	1 - 1	340	0	7	0
Southwest	VOA	CIS-1,2-DICHLOROETHENE		0.32 J	0.32 J	TT806-MW02	1 / 11	1 - 1	370	0	70	0
Southwest	VOA	TRICHLOROETHENE		0.27 J	2.8	MW-33U	3 / 11	1 - 1	2	2	5	0

TABLE 1B: SUMMARY OF ANALYTICAL RESULTS FOR 2009 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA BY QUADRANT
NAVAL AIR STATION FALLON

Quadrant	Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL

Notes:

All concentrations in microgram per liter.

a Residential tap water RSL provided in EPA (2010).

b Screening criteria are not available for all chemicals. The following chemicals were used to identify surrogate screening criteria.

Chemical without Screening Criteria	Chemical Used to Identify Surrogate Screening Criteria
Acenaphthylene	Acenaphthene
Phenanthrene	Anthracene
m,p-Xylene	p-Xylene
n-Butylbenzene	Toluene
p-Isopropyltoluene	Toluene
sec-Butylbenzene	Toluene

--	Not applicable	PAH	Polycyclic aromatic hydrocarbon
ALKALN	Alkalinity	RSL	Regional screening level
DGASES	Dissolved gases	TOC	Total organic carbon
J	Estimated concentration	TPHEXT	Total petroleum hydrocarbon, extractable
MCL	Maximum contaminant level	VOA	Volatile organic analysis
na	Not available		

References:

U.S. Environmental Protection Agency (EPA). 2010. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May 17. Available on-line at: <http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm>

TABLE 2A: SUMMARY OF ANALYTICAL RESULTS FOR 2010 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA NAVAL AIR STATION FALLON

Analytical Group	Chemical		Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
PAH	2-METHYLNAPHTHALENE		0.0097 J	0.011 J	TT16-MW17	2 / 42	0.019 - 0.02	150	0	na	--
PAH	NAPHTHALENE		0.0094 J	0.047	MW-16U	13 / 42	0.019 - 0.02	0.14	0	na	--
PAH	PHENANTHRENE	(b)	0	0	MW-16U	1 / 42	0.019 - 0.02	11,000	0	na	--
SOLIDS	TOTAL DISSOLVED SOLIDS		595,000	57,800,000	TTBW-MW07	42 / 42	-	na	--	na	--
VOA	1,1-DICHLOROETHENE		0.54 J	4.1	MW-16U	5 / 42	1 - 1	340	0	7	0
VOA	BENZENE		0.27 J	2.1	MW-16U	3 / 42	1 - 1	0.41	1	5	0
VOA	CARBON DISULFIDE		0.5 J	1 J	TTBW-MW04	1 / 42	1 - 1	1,000	0	na	--
VOA	CHLOROMETHANE		0.24 J	0 J	TT16-MW17	2 / 42	1 - 1	190	0	na	--
VOA	CIS-1,2-DICHLOROETHENE		0.2 J	1,300	TT16-MW17	10 / 42	1 - 1	370	4	70	6
VOA	ISOPROPYLBENZENE		0.51 J	0.51 J	MW-16U	1 / 42	1 - 1	680	0	na	--
VOA	O-XYLENE		0.45 J	0.45 J	MW-16U	1 / 42	1 - 1	1,200	0	na	--
VOA	SEC-BUTYLBENZENE	(b)	0.23 J	0.23 J	MW-16U	1 / 42	1 - 1	2,300	0	1,000	0
VOA	TETRACHLOROETHENE		0.21 J	21,000	TT16-MW17	9 / 42	1 - 1	0.11	9	5	7
VOA	TRANS-1,2-DICHLOROETHENE		9.3	140	TT16-MW09	6 / 42	1 - 1	110	1	100	1
VOA	TRICHLOROETHENE		0.2 J	900	TT16-MW17	19 / 42	1 - 1	2	7	5	6
VOA	VINYL CHLORIDE		0.29 J	1.1	MW-16U	6 / 42	1 - 1	0.016	6	2	0

Notes:

All concentrations in microgram per liter.

a Residential tap water RSL provided in EPA (2010).

b Screening criteria are not available for all chemicals. The following chemicals were used to identify surrogate screening criteria.

Chemical without Screening Criteria	Chemical Used to Identify Surrogate Screening Criteria
Phenanthrene	Anthracene
sec-Butylbenzene	Toluene

TABLE 2A: SUMMARY OF ANALYTICAL RESULTS FOR 2010 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA NAVAL AIR STATION FALLON

Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
--	Not applicable			PAH	Polycyclic aromatic hydrocarbon					
J	Estimated concentration			RSL	Regional screening level					
MCL	Maximum contaminant level			VOA	Volatile organic analysis					
na	Not available									

References:

U.S. Environmental Protection Agency (EPA). 2010. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May 17. Available on-line at: <http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm>

TABLE 2B: SUMMARY OF ANALYTICAL RESULTS FOR 2010 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA BY QUADRANT NAVAL AIR STATION FALLON

Quadrant	Analytical Group	Chemical		Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
Northeast	PAH	NAPHTHALENE		0.012 J	0.034	TTBW-MW05	3 / 6	0.019 - 0.02	0.14	0	na	--
Northeast	SOLIDS	TOTAL DISSOLVED SOLIDS		595,000	32,400,000	TT06-MW02	6 / 6	-	na	--	na	--
Northeast	VOA	CARBON DISULFIDE		0.5 J	0.5 J	TTBW-MW04	1 / 6	1 - 1	1,000	0	na	--
Northeast	VOA	TRICHLOROETHENE		4.7	4.7	TTBW-MW02	1 / 6	1 - 1	2	1	5	0
Northwest	PAH	NAPHTHALENE		0.011 J	0.011 J	MW-83	1 / 4	0.019 - 0.019	0.14	0	na	--
Northwest	SOLIDS	TOTAL DISSOLVED SOLIDS		800,000	7,140,000	MW-9	4 / 4	-	na	--	na	--
Northwest	VOA	TRICHLOROETHENE		0.3 J	0.71 J	TTBW-MW03	2 / 4	1 - 1	2	0	5	0
Southeast	PAH	2-METHYLNAPHTHALENE		0.0097 J	0.011 J	TT16-MW17	2 / 30	0.019 - 0.02	150	0	na	--
Southeast	PAH	NAPHTHALENE		0.0094 J	0.047	MW-16U	9 / 30	0.019 - 0.02	0.14	0	na	--
Southeast	PAH	PHENANTHRENE	(b)	0.024	0.024	MW-16U	1 / 30	0.019 - 0.02	11,000	0	na	--
Southeast	SOLIDS	TOTAL DISSOLVED SOLIDS		635,000	52,200,000	TTBW-MW16	30 / 30	-	na	--	na	--
Southeast	VOA	1,1-DICHLOROETHENE		0.54 J	4.1	MW-16U	5 / 30	1 - 1	340	0	7	0
Southeast	VOA	BENZENE		0.27 J	2.1	MW-16U	3 / 30	1 - 1	0.41	1	5	0
Southeast	VOA	CHLOROMETHANE		0.24 J	0.32 J	TT16-MW17	2 / 30	1 - 1	190	0	na	--
Southeast	VOA	CIS-1,2-DICHLOROETHENE		0.2 J	1300	TT16-MW17	10 / 30	1 - 1	370	4	70	6
Southeast	VOA	ISOPROPYLBENZENE		0.51 J	0.51 J	MW-16U	1 / 30	1 - 1	680	0	na	--
Southeast	VOA	O-XYLENE		0.45 J	0.45 J	MW-16U	1 / 30	1 - 1	1,200	0	na	--
Southeast	VOA	SEC-BUTYLBENZENE	(b)	0.23 J	0.23 J	MW-16U	1 / 30	1 - 1	2,300	0	1,000	0
Southeast	VOA	TETRACHLOROETHENE		0.21 J	21000	TT16-MW17	9 / 30	1 - 1	0.11	9	5	7
Southeast	VOA	TRANS-1,2-DICHLOROETHENE		9.3	140	TT16-MW09	6 / 30	1 - 1	110	1	100	1
Southeast	VOA	TRICHLOROETHENE		0.2 J	900	TT16-MW17	15 / 30	1 - 1	2	6	5	6
Southeast	VOA	VINYL CHLORIDE		0.29 J	1.1	MW-16U	6 / 30	1 - 1	0.016	6	2	0
Southwest	SOLIDS	TOTAL DISSOLVED SOLIDS		25,400,000	57,800,000	TTBW-MW07	2 / 2	-	na	--	na	--
Southwest	VOA	TRICHLOROETHENE		1.6	1.6	MW-33U	1 / 2	1 - 1	2	0	5	0

Notes:

All concentrations in microgram per liter.

a Residential tap water RSL provided in EPA (2010).

TABLE 2B: SUMMARY OF ANALYTICAL RESULTS FOR 2010 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA BY QUADRANT NAVAL AIR STATION FALLON

Quadrant	Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
b	Screening criteria are not available for all chemicals. The following chemicals were used to identify surrogate screening criteria.										
	Chemical without Screening Criteria		Chemical Used to Identify Surrogate Screening Criteria								
	Phenanthrene		Anthracene								
	sec-Butylbenzene		Toluene								

--	Not applicable	PAH	Polycyclic aromatic hydrocarbon
J	Estimated concentration	RSL	Regional screening level
MCL	Maximum contaminant level	VOA	Volatile organic analysis
na	Not available		

References:

U.S. Environmental Protection Agency (EPA). 2010. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May 17. Available on-line at: <http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm>

TABLE 3A: SUMMARY OF ANALYTICAL RESULTS FOR 2009 SURFACE WATER MONITORING AND COMPARISON WITH SCREENING CRITERIA NAVAL AIR STATION FALLON

Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
PAH	NAPHTHALENE	0.043	0.043	SW03	1 / 6	0.019 - 0.019	0.14	0	na	--
SOLIDS	TOTAL DISSOLVED SOLIDS	930,000	2,590,000	SW05	6 / 6	-	na	--	na	--
VOA	BROMOCHLOROMETHANE (b)	0.21 J	0.46 J	SW03	2 / 6	1 - 1	0.12	2	80	0
VOA	BROMODICHLOROMETHANE	0.29 J	1	SW03	2 / 6	1 - 1	0.12	2	80	0
VOA	BROMOFORM	0.69 J	2.3	SW03	2 / 6	1 - 1	8.5	0	80	0
VOA	CARBON DISULFIDE	0.23 J	1.3	SW04	5 / 6	1 - 1	1,000	0	na	--
VOA	CHLOROFORM	0.45 J	0.85 J	SW03	2 / 6	1 - 1	0.19	2	80	0
VOA	DIBROMOCHLOROMETHANE	0.64 J	2.4	SW03	2 / 6	1 - 1	0.15	2	80	0
VOA	METHYLENE BROMIDE	0.53 J	0.53 J	SW03	1 / 6	1 - 1	8.2	0	na	--
VOA	TOLUENE	0.36 J	0.36 J	SW01	1 / 6	1 - 1	2,300	0	1,000	0

Notes:

All concentrations in microgram per liter.

a Residential tap water RSL provided in EPA (2010).

b Screening criteria are not available for bromochloromethane. Bromodichloromethane was used as a surrogate chemical to identify surrogate screening criteria.

-- Not applicable
J Estimated concentration
MCL Maximum contaminant level
na Not available
RSL Regional screening level
VOA Volatile organic analysis

References:

U.S. Environmental Protection Agency (EPA). 2010. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May 17. Available on-line at: <http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm>

TABLE 3B: SUMMARY OF ANALYTICAL RESULTS FOR 2009 SURFACE WATER MONITORING AND COMPARISON WITH SCREENING CRITERIA BY QUADRANT NAVAL AIR STATION FALLON

Quadrants	Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
Northeast	SOLIDS	TOTAL DISSOLVED SOLIDS	1,470,000	1,470,000	SW02	1 / 1	-	na	--	na	--
Northwest	SOLIDS	TOTAL DISSOLVED SOLIDS	930,000	930,000	SW01	1 / 1	-	na	--	na	--
Northwest	VOA	CARBON DISULFIDE	0.23 J	0.23 J	SW01	1 / 1	-	1,000	0	na	--
Northwest	VOA	TOLUENE	0.36 J	0.36 J	SW01	1 / 1	-	2,300	0	1,000	0
Southeast	SOLIDS	TOTAL DISSOLVED SOLIDS	2,520,000	2,590,000	SW05	2 / 2	-	na	--	na	--
Southeast	VOA	BROMOCHLOROMETHANE (b)	0.21 J	0.21 J	SW05	1 / 2	1 - 1	0.12	1	80	0
Southeast	VOA	BROMODICHLOROMETHANE	0.29 J	0.29 J	SW05	1 / 2	1 - 1	0.12	1	80	0
Southeast	VOA	BROMOFORM	0.69 J	0.69 J	SW05	1 / 2	1 - 1	8.5	0	80	0
Southeast	VOA	CARBON DISULFIDE	0.4 J	1.3	SW04	2 / 2	-	1,000	0	na	--
Southeast	VOA	CHLOROFORM	0.45 J	0.45 J	SW05	1 / 2	1 - 1	0.19	1	80	0
Southeast	VOA	DIBROMOCHLOROMETHANE	0.64 J	0.64 J	SW05	1 / 2	1 - 1	0.15	1	80	0
Southwest	PAH	NAPHTHALENE	0.043	0.043	SW03	1 / 2	0.019 - 0.019	0.14	0	na	--
Southwest	SOLIDS	TOTAL DISSOLVED SOLIDS	2,200,000	2,250,000	SW03	2 / 2	-	na	--	na	--
Southwest	VOA	BROMOCHLOROMETHANE (b)	0.46 J	0.46 J	SW03	1 / 2	1 - 1	0.12	1	80	0
Southwest	VOA	BROMODICHLOROMETHANE	1	1	SW03	1 / 2	1 - 1	0.12	1	80	0
Southwest	VOA	BROMOFORM	2.3	2.3	SW03	1 / 2	1 - 1	8.5	0	80	0
Southwest	VOA	CARBON DISULFIDE	0.37 J	1.2	SW03	2 / 2	-	1,000	0	na	--
Southwest	VOA	CHLOROFORM	0.85 J	0.85 J	SW03	1 / 2	1 - 1	0.19	1	80	0
Southwest	VOA	DIBROMOCHLOROMETHANE	2.4	2.4	SW03	1 / 2	1 - 1	0.15	1	80	0
Southwest	VOA	METHYLENE BROMIDE	0.53 J	0.53 J	SW03	1 / 2	1 - 1	8.2	0	na	--

Notes:

All concentrations in microgram per liter.

a Residential tap water RSL provided in EPA (2010).

b Screening criteria are not available for bromochloromethane. Bromodichloromethane was used as a surrogate chemical to identify surrogate screening criteria.

-- Not applicable
J Estimated concentration
MCL Maximum contaminant level
na Not available
RSL Regional screening level
VOA Volatile organic analysis

TABLE 3B: SUMMARY OF ANALYTICAL RESULTS FOR 2009 SURFACE WATER MONITORING AND COMPARISON WITH SCREENING CRITERIA BY QUADRANT NAVAL AIR STATION FALLON

Quadrants	Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL

References:

U.S. Environmental Protection Agency (EPA). 2010. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May 17. Available on-line at: <http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm>

TABLE 4A: SUMMARY OF ANALYTICAL RESULTS FOR 2010 SURFACE WATER MONITORING AND COMPARISON WITH SCREENING CRITERIA NAVAL AIR STATION FALLON

Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
SOLIDS	TOTAL DISSOLVED SOLIDS	865,000	2,690,000	SW04	6 / 6	-	na	--	na	--
VOA	BROMOCHLOROMETHANE (b)	0.34 J	0.62 J	SW04	2 / 6	1 - 1	0.12	2	80	0
VOA	BROMODICHLOROMETHANE	0.2 J	0.46 J	SW04	2 / 6	1 - 1	0.12	2	80	0
VOA	BROMOFORM	0.93 J	1.3	SW04	2 / 6	1 - 1	8.5	0	80	0
VOA	CARBON DISULFIDE	0.25 J	0.42 J	SW04	4 / 6	1 - 1	1,000	0	na	--
VOA	CHLOROFORM	0.2 J	0.39 J	SW04	2 / 6	1 - 1	0.19	2	80	0
VOA	DIBROMOCHLOROMETHANE	0.6 J	1	SW04	2 / 6	1 - 1	0.15	2	80	0
VOA	METHYLENE BROMIDE	0.74 J	1	SW04	2 / 6	1 - 1	8.2	0	na	--

Notes:

All concentrations in microgram per liter.

a Residential tap water RSL provided in EPA (2010).

b Screening criteria are not available for bromochloromethane. Bromodichloromethane was used as a surrogate chemical to identify surrogate screening criteria.

-- Not applicable
J Estimated concentration
MCL Maximum contaminant level
na Not available
RSL Regional screening level
VOA Volatile organic analysis

References:

U.S. Environmental Protection Agency (EPA). 2010. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May 17. Available on-line at: <http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm>

TABLE 4B: SUMMARY OF ANALYTICAL RESULTS FOR 2010 SURFACE WATER MONITORING AND COMPARISON WITH SCREENING CRITERIA BY QUADRANT NAVAL AIR STATION FALLON

Quadrant	Analytical Group	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Concentration	Detection Frequency	Range of Reporting Limits	Residential Tap Water RSL (a)	Number of Detections Above Residential Tap Water RSL	MCL	Number of Detections Above MCL
Northeast	SOLIDS	TOTAL DISSOLVED SOLIDS	1150000	1150000	SW02	1 / 1	-	na	--	na	--
Northwest	SOLIDS	TOTAL DISSOLVED SOLIDS	865000	865000	SW01	1 / 1	-	na	--	na	--
Southeast	SOLIDS	TOTAL DISSOLVED SOLIDS	2630000	2690000	SW04	2 / 2	-	na	--	na	--
Southeast	VOA	BROMOCHLOROMETHANE (b)	0.34 J	0.62 J	SW04	2 / 2	-	0.12	2	80	0
Southeast	VOA	BROMODICHLOROMETHANE	0.2 J	0.46 J	SW04	2 / 2	-	0.12	2	80	0
Southeast	VOA	BROMOFORM	0.93 J	1.3	SW04	2 / 2	-	8.5	0	80	0
Southeast	VOA	CARBON DISULFIDE	0.34 J	0.42 J	SW04	2 / 2	-	1000	0	na	--
Southeast	VOA	CHLOROFORM	0.2 J	0.39 J	SW04	2 / 2	-	0.19	2	80	0
Southeast	VOA	DIBROMOCHLOROMETHANE	0.6 J	1	SW04	2 / 2	-	0.15	2	80	0
Southeast	VOA	METHYLENE BROMIDE	0.74 J	1	SW04	2 / 2	-	8.2	0	na	--
Southwest	SOLIDS	TOTAL DISSOLVED SOLIDS	1720000	1760000	SW03	2 / 2	-	na	--	na	--
Southwest	VOA	CARBON DISULFIDE	0.25 J	0.26 J	SW03	2 / 2	-	1000	0	na	--

Notes:

All concentrations in microgram per liter.

a Residential tap water RSL provided in EPA (2010).

b Screening criteria are not available for bromochloromethane. Bromodichloromethane was used as a surrogate chemical to identify surrogate screening criteria.

-- Not applicable
J Estimated concentration
MCL Maximum contaminant level
na Not available
RSL Regional screening level
VOA Volatile organic analysis

References:

U.S. Environmental Protection Agency (EPA). 2010. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May 17. Available on-line at: <http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm>

TABLE 5: MAXIMUM DETECTIONS FROM 2007 THROUGH SPRING 2010 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA

NAVAL AIR STATION FALLON

CHEMICAL	NUMBER DETECTS	NUMBER SAMPLES	MINIMUM DETECTION	MAXIMUM DETECTION	UNITS	SURROGATE USED FOR SCREENING	TAP WATER RSL - EPA MAY 2010 (UG/L)	MCL (UG/L)	MAX DETECT > TAP RSL?	MAX DETECT > MCL?	MAX DETECT > TAP RSL BUT NOT MCL?	MAX DETECT > MCL BUT NOT TAP RSL?	MAX DETECT > TAP RSL AND MCL?
1,1-DICHLOROETHANE	12	451	0.23	3.5	UG/L		2.4	na	Yes	--	Yes	--	--
1,1-DICHLOROETHENE	47	451	0.22	23	UG/L		340	7	No	Yes	No	Yes	No
1,2,4-TRIMETHYLBENZENE	27	451	0.21	340	UG/L		15	na	Yes	--	Yes	--	--
1,2-DICHLOROETHANE	50	451	0.97	1000	UG/L		0.15	5	Yes	Yes	No	No	Yes
1,2-DICHLOROPROPANE	14	451	0.22	5.4	UG/L		0.39	5	Yes	Yes	No	No	Yes
1,3,5-TRIMETHYLBENZENE	23	451	0.22	93	UG/L		370	na	No	--	No	--	--
1-METHYLNAPHTHALENE	78	366	0.01	22	UG/L		2.3	na	Yes	--	Yes	--	--
2-BUTANONE	3	324	78	120	UG/L		7100	na	No	--	No	--	--
2-HEXANONE	6	451	47	300	UG/L		47	na	Yes	--	Yes	--	--
2-METHYLNAPHTHALENE	73	450	0.0097	27	UG/L		150	na	No	--	No	--	--
4-METHYL-2-PENTANONE	6	451	13	78	UG/L		2000	na	No	--	No	--	--
ACENAPHTHENE	19	450	0.015	0.35	UG/L		2200	na	No	--	No	--	--
ACENAPHTHYLENE	8	450	0.029	0.15	UG/L	Yes	2200	na	No	--	No	--	--
ACETONE	3	322	130	190	UG/L		22000	na	No	--	No	--	--
ANTHRACENE	6	450	0.0098	0.031	UG/L		11000	na	No	--	No	--	--
BENZENE	41	451	0.21	4600	UG/L		0.41	5	Yes	Yes	No	No	Yes
BENZO(A)ANTHRACENE	2	450	0.01	0.018	UG/L		0.029	na	No	--	No	--	--
BENZO(A)PYRENE	4	450	0.023	0.065	UG/L		0.0029	0.2	Yes	No	Yes	No	No
BENZO(B)FLUORANTHENE	2	450	0.021	0.041	UG/L		0.029	na	Yes	--	Yes	--	--
BENZO(G,H,I)PERYLENE	2	450	0.044	0.15	UG/L	Yes	1100	na	No	--	No	--	--
BENZO(K)FLUORANTHENE	3	450	0.011	0.038	UG/L		0.29	na	No	--	No	--	--
BROMODICHLOROMETHANE	1	451	0.22	0.22	UG/L		0.12	80	Yes	No	Yes	No	No
BROMOFORM	8	451	0.37	0.87	UG/L		8.5	80	No	No	No	No	No
BROMOMETHANE	3	451	0.35	0.69	UG/L		8.7	na	No	--	No	--	--
CARBON DISULFIDE	22	451	0.2	2.2	UG/L		1000	na	No	--	No	--	--
CARBON TETRACHLORIDE	4	451	2.1	4.3	UG/L		0.44	5	Yes	No	Yes	No	No
CHLOROETHANE	5	451	0.26	4	UG/L		21000	na	No	--	No	--	--
CHLOROFORM	33	451	0.28	86	UG/L		0.19	80	Yes	Yes	No	No	Yes
CHLOROMETHANE	19	451	0.2	1.2	UG/L		190	na	No	--	No	--	--
CHRYSENE	1	450	0.01	0.01	UG/L		2.9	na	No	--	No	--	--
CIS-1,2-DICHLOROETHENE	91	451	0.2	1800	UG/L		370	70	Yes	Yes	No	No	Yes
DIBENZO(A,H)ANTHRACENE	3	450	0.011	0.2	UG/L		0.0029	na	Yes	--	Yes	--	--
DIBROMOCHLOROMETHANE	9	451	0.24	5	UG/L		0.15	80	Yes	No	Yes	No	No
DIESEL RANGE ORGANICS	41	171	110	21000	UG/L		na	na	--	--	--	--	--
ETHYLBENZENE	22	451	0.35	370	UG/L		1.5	700	Yes	No	Yes	No	No
FLUORANTHENE	5	450	0.01	0.024	UG/L		1500	na	No	--	No	--	--
FLUORENE	14	450	0.012	1.3	UG/L		1500	na	No	--	No	--	--
FLUORIDE	41	70	134	18200	UG/L		1500	na	Yes	--	Yes	--	--
GASOLINE RANGE ORGANICS	39	171	25	14000	UG/L		na	na	--	--	--	--	--
INDENO(1,2,3-CD)PYRENE	3	450	0.01	0.16	UG/L		0.029	na	Yes	--	Yes	--	--
ISOPROPYLBENZENE	45	451	0.25	36	UG/L		680	na	No	--	No	--	--
JP5 RANGE ORGANICS	45	171	97	35000	UG/L		na	na	--	--	--	--	--
LEAD	6	10	4.08	14.7	UG/L		na	15	--	No	--	No	--
M,P-XYLENE	17	451	0.65	1300	UG/L	Yes	1200	na	Yes	--	Yes	--	--

TABLE 5: MAXIMUM DETECTIONS FROM 2007 THROUGH SPRING 2010 BASEWIDE GROUNDWATER MONITORING AND COMPARISON WITH SCREENING CRITERIA

NAVAL AIR STATION FALLON

CHEMICAL	NUMBER DETECTS	NUMBER SAMPLES	MINIMUM DETECTION	MAXIMUM DETECTION	UNITS	SURROGATE USED FOR SCREENING	TAP WATER RSL - EPA MAY 2010 (UG/L)	MCL (UG/L)	MAX DETECT > TAP RSL?	MAX DETECT > MCL?	MAX DETECT > TAP RSL BUT NOT MCL?	MAX DETECT > MCL BUT NOT TAP RSL?	MAX DETECT > TAP RSL AND MCL?
MOTOR OIL RANGE ORGANICS	52	171	99	14000	UG/L		na	na	--	--	--	--	--
NAPHTHALENE	138	534	0.0094	79	UG/L		0.14	na	Yes	--	Yes	--	--
N-BUTYLBENZENE	24	451	0.27	12	UG/L	Yes	2300	1000	No	No	No	No	No
NITRATE	48	70	52.9	41300	UG/L		58000	10000	No	Yes	No	Yes	No
NITRITE	4	70	1230	6380	UG/L		3700	1000	Yes	Yes	No	No	Yes
N-PROPYLBENZENE	22	451	0.24	51	UG/L		1300	na	No	--	No	--	--
O-XYLENE	36	451	0.21	1200	UG/L		1200	na	No	--	No	--	--
PHENANTHRENE	16	450	0.015	1.2	UG/L	Yes	11000	na	No	--	No	--	--
P-ISOPROPYLTOLUENE	20	451	0.23	2.8	UG/L	Yes	2300	1000	No	No	No	No	No
PYRENE	9	450	0.0097	0.021	UG/L		1100	na	No	--	No	--	--
SEC-BUTYLBENZENE	42	451	0.21	4.5	UG/L	Yes	2300	1000	No	No	No	No	No
TETRACHLOROETHENE	49	451	0.21	51000	UG/L		0.11	5	Yes	Yes	No	No	Yes
TOLUENE	17	451	0.21	2200	UG/L		2300	1000	No	Yes	No	Yes	No
TOTAL DISSOLVED SOLIDS	450	450	315000	77900000	UG/L		na	na	--	--	--	--	--
TRANS-1,2-DICHLOROETHENE	50	451	0.21	140	UG/L		110	100	Yes	Yes	No	No	Yes
TRICHLOROETHENE	165	451	0.2	1300	UG/L		2	5	Yes	Yes	No	No	Yes
VINYL CHLORIDE	39	451	0.22	3.4	UG/L		0.016	2	Yes	Yes	No	No	Yes

Notes:

All concentrations in microgram per liter (UG/L).

Residential tap water RSL provided in EPA (2010).

Screening criteria are not available for all chemicals. The following chemicals were used to identify surrogate screening criteria:

Chemical without Screening Criteria	Chemical Used to Identify Surrogate Screening Criteria
Acenaphthylene	Acenaphthene
Phenanthrene	Anthracene
m,p-Xylene	p-Xylene
n-Butylbenzene	Toluene
p-Isopropyltoluene	Toluene
sec-Butylbenzene	Toluene

--	Not applicable
MCL	Maximum contaminant level
na	Not available

References:

U.S. Environmental Protection Agency (EPA). 2010. Regional Screening Levels for Chemical Contaminants at Superfund Sites. May 17. Available on-line at: <http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm>