

Appendix A
Site Inspection Checklists

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**Site Inspection Checklist
Second Five-Year Review
IRP Site 2 Vadose Zone, Former MCAS El Toro
Landfill Cover/Containment**

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency California Department of Toxic Substances Control

Contact	<u>Ms. Eileen Mananian</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix D of this report

Agency California Regional Water Quality Control Board, Santa Ana Region

Contact	<u>Ms. Patricia Hannon</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix D of this report

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

4. Other interviews (optional) <input checked="" type="checkbox"/> Report attached. (See Appendix D of this report)
Ms. Mary Aycock, Remedial Project Manager, U.S. EPA Region IX
Mr. Robert Woodings, RAB Co-Chair, RAB, Former MCAS El Toro
Ms. Marcia Rudolph, Subcommittee Chair, RAB, Former MCAS El Toro
Mr. Tom Brown, Federal Bureau of Investigation
Mr. Jim Werkmeister Manager, Environmental Affairs, Five Point Communities
Mr. Cliff Wallace, Manager of Planning and Environmental Services, Orange County Great Park
Mr. Zoila Verdaguer-Finch, County Executive Officer, Orange County Public Works

**Site Inspection Checklist
Second Five-Year Review
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III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)			
1.	O&M Documents		
	<input checked="" type="checkbox"/> O&M manual/work plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
2.	Site-Specific Health and Safety Plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
3.	O&M Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
4.	Permits and Service Agreements		
	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks <u>O&M Plan addresses substantive requirements of ARARs identified in the ROD.</u>		
5.	Gas Generation Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks <u>No gas generation</u>		
6.	Settlement Monument Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
7.	Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
8.	Soil Moisture Monitoring Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks _____		
9.	Discharge Compliance Records		
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks _____		
10.	Daily Access/Security Logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks <u>Maintained in project logbook</u>		

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IV. ACCESS AND INSTITUTIONAL CONTROLS		<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
A. Fencing and Gates			
1.	Fencing damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Fencing secured <input type="checkbox"/> N/A
Remarks _____ _____			
2.	Gates damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> N/A
Remarks _____ _____			
B. Other Access Restrictions			
1.	Signs and other security measures	<input checked="" type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A
Remarks <u>Signs installed still in place</u>			
C. Institutional Controls (ICs)			
1.	Implementation and enforcement		
	Site conditions imply ICs not properly implemented	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
	Site conditions imply ICs not being fully enforced	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
	Type of monitoring (e.g., self-reporting, drive by)	<u>Drive by</u>	
	Frequency	<u>Annual</u>	
	Responsible party/agency	<u>Department of the Navy</u>	
	Contact	<u>Mr. Morgan Rogers, RPM</u>	
	Reporting is up-to-date	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
	Reports are verified by the lead agency	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Specific requirements in deed or decision documents have been met	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
	Violations have been reported	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Other problems or suggestions:	<input type="checkbox"/> Report attached	

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2. **Adequacy** ICs are adequate ICs are inadequate N/A
 Remarks _____

D. General

1. **Vandalism/trespassing** Location shown on site map No vandalism evident
 Remarks _____

2. **Land use changes on site** N/A
 Remarks _____

3. **Land use changes off site** N/A
 Remarks FBI office constructed off-site.

V. GENERAL SITE CONDITIONS

A. Roads Applicable N/A

1. **Roads damaged** Location shown on site map Roads adequate N/A
 Remarks Road in good condition

B. Other Site Conditions

Remarks _____

VI. LANDFILL COVER Applicable N/A

A. Landfill Surface

1. **Settlement** (Low spots) Location shown on site map Settlement not evident
 Areal extent _____ Depth _____
 Remarks _____

2. **Cracks** Location shown on site map Cracking not evident
 Lengths _____ Widths _____ Depths _____
 Remarks _____

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3.	Erosion Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
4.	Holes Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Holes not evident
5.	Vegetative Cover <input type="checkbox"/> Trees/Shrubs (indicate size and locations on a diagram) Remarks _____	<input type="checkbox"/> Grass	<input checked="" type="checkbox"/> Cover properly established <input checked="" type="checkbox"/> No signs of stress
6.	Alternative Cover (armored rock, concrete, etc.) Remarks _____	<input checked="" type="checkbox"/> N/A	
7.	Bulges Areal extent _____ Height _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Bulges not evident
8.	Wet Areas/Water Damage <input checked="" type="checkbox"/> Wet areas/water damage not evident <input type="checkbox"/> Wet areas <input type="checkbox"/> Location shown on site map Areal extent _____ <input type="checkbox"/> Ponding <input type="checkbox"/> Location shown on site map Areal extent _____ <input type="checkbox"/> Seeps <input type="checkbox"/> Location shown on site map Areal extent _____ <input type="checkbox"/> Soft subgrade <input type="checkbox"/> Location shown on site map Areal extent _____ Remarks <u>None noted</u>		
9.	Slope Instability Areal extent _____ Remarks _____	<input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of slope instability
B. Drainage System (Shotcrete-lined Channels/Berms/Ditches) <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Settlement Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of settlement
2.	Material Degradation Material type _____ Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of degradation

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3.	Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of erosion
	Areal extent _____	Depth _____	
	Remarks _____		

4.	Undercutting	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of undercutting
	Areal extent _____	Depth _____	
	Remarks _____		

5.	Obstructions	Type _____	<input checked="" type="checkbox"/> No obstructions
	<input type="checkbox"/> Location shown on site map	Areal extent _____	
	Size _____		
	Remarks _____		

6.	Excessive Vegetative Growth	Type _____	
	<input checked="" type="checkbox"/> No evidence of excessive growth		
	<input checked="" type="checkbox"/> Vegetation in channels does not obstruct flow		
	<input type="checkbox"/> Location shown on site map	Areal extent _____	
	Remarks _____		

C. Cover Penetrations <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Gas Vents	<input type="checkbox"/> Active	<input type="checkbox"/> Passive
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs Maintenance	
	<input checked="" type="checkbox"/> N/A		
	Remarks _____		

2.	Gas Monitoring Probes	<input checked="" type="checkbox"/> Properly secured/locked	<input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> N/A
	Remarks _____		

3.	Groundwater Monitoring Wells (within surface area of landfill)	<input checked="" type="checkbox"/> Properly secured/locked	<input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> N/A
	Remarks _____		

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4.	Lysimeters <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A Remarks _____ _____
5.	Settlement Monuments <input checked="" type="checkbox"/> Located <input checked="" type="checkbox"/> Routinely surveyed <input type="checkbox"/> N/A Remarks _____ _____
D. Gas Collection and Treatment <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	Gas Treatment Facilities <input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
2.	Gas Collection Wells, Manifolds and Piping <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
3.	Gas Monitoring Facilities (<i>e.g.</i> , gas monitoring of adjacent homes or buildings) <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A Remarks _____ _____
VII. OVERALL OBSERVATIONS	
A. Implementation of the Remedy	
Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.). <u>O&M activities are being conducted in accordance with the approved O&M Plan, and there is adequate cover to minimize erosion.</u>	
B. Adequacy of O&M	
Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>There have been no unexpected O&M difficulties outside of dropping groundwater levels.</u>	
C. Early Indicators of Potential Remedy Problems	
Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future. <u>None noted.</u>	
D. Opportunities for Optimization	
Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>Two IRP Site 2 wells (02_PZ08 and 02NEW14) that were listed in the Final O&M Plan for depth to groundwater measurements were destroyed (properly abandoned) in September 2013.</u>	

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3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency California Department of Toxic Substances Control

Contact	<u>Ms. Eileen Mananian</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix F of this report

Agency California Regional Water Quality Control Board, Santa Ana Region

Contact	<u>Ms. Patricia Hannon</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix F of this report

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

4.	Other interviews (optional) <input checked="" type="checkbox"/> Report attached. (See Appendix F of this report)
	Ms. Mary Aycock, Remedial Project Manager, U.S. EPA Region IX
	Mr. Robert Woodings, RAB Co-Chair, RAB, Former MCAS El Toro
	Ms. Marcia Rudolph, Subcommittee Chair, RAB, Former MCAS El Toro
	Mr. Jim Werkmeister Manager, Environmental Affairs, Five Point Communities
	Mr. Cliff Wallace, Manager of Planning and Environmental Services, Orange County Great Park

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III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)			
1.	O&M Documents		
	<input checked="" type="checkbox"/> O&M manual/work plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____ _____		
2.	Site-Specific Health and Safety Plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____ _____		
3.	O&M Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____ _____		
4.	Permits and Service Agreements		
	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks <u>O&M Plan addresses substantive requirements of ARARs identified in the ROD</u>		
5.	Gas Generation Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
6.	Settlement Monument Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____ _____		
7.	Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____ _____		
8.	Soil Moisture Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____ _____		
9.	Discharge Compliance Records		
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks _____ _____		
10.	Daily Access/Security Logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks <u>Maintained in project logbook</u>		

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IRP Site 3, Former MCAS El Toro
Landfill Cover/Containment**

IV. ACCESS AND INSTITUTIONAL CONTROLS		<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
A. Fencing and Gates			
1.	Fencing damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Fencing secured <input type="checkbox"/> N/A
Remarks _____ _____			
2.	Gates damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> N/A
Remarks _____ _____			
B. Other Access Restrictions			
1.	Signs and other security measures	<input checked="" type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A
Remarks <u>Signs installed still in place</u>			
C. Institutional Controls (ICs)			
1.	Implementation and enforcement		
Site conditions imply ICs not properly implemented		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Site conditions imply ICs not being fully enforced		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Type of monitoring (<i>e.g.</i> , self-reporting, drive by) <u>Drive by</u>			
Frequency <u>Annual</u>			
Responsible party/agency <u>Department of the Navy</u>			
Contact <u>Mr. Morgan Rogers, RPM</u>			
Reporting is up-to-date		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Reports are verified by the lead agency		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Specific requirements in deed or decision documents have been met		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Violations have been reported		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Other problems or suggestions:		<input type="checkbox"/> Report attached	

2.	Adequacy	<input checked="" type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A
Remarks _____ _____			

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Second Five-Year Review
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Landfill Cover/Containment**

D. General			
1.	Vandalism/trespassing	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident
Remarks _____			

2.	Land use changes on site	<input checked="" type="checkbox"/> N/A	
Remarks _____			

3.	Land use changes off site	<input checked="" type="checkbox"/> N/A	
Remarks _____			

V. GENERAL SITE CONDITIONS			
A. Roads <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Roads damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
Remarks <u>Road in good condition</u>			

B. Other Site Conditions			
Remarks _____			

VI. LANDFILL COVER <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Landfill Surface			
1.	Settlement (Low spots)	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Settlement not evident
Areal extent _____ Depth _____			
Remarks _____			

2.	Cracks	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Cracking not evident
Lengths _____ Widths _____ Depths _____			
Remarks _____			

3.	Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
Areal extent _____ Depth _____			
Remarks _____			

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4.	Undercutting Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Depth _____	<input checked="" type="checkbox"/> No evidence of undercutting
5.	Obstructions Type _____ Size _____ Remarks _____	<input type="checkbox"/> Location shown on site map Areal extent _____	<input checked="" type="checkbox"/> No obstructions
6.	Excessive Vegetative Growth Type _____ Remarks _____	<input checked="" type="checkbox"/> No evidence of excessive growth <input checked="" type="checkbox"/> Vegetation in channels does not obstruct flow <input type="checkbox"/> Location shown on site map Areal extent _____	
C. Cover Penetrations <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Gas Vents Remarks _____	<input type="checkbox"/> Active <input type="checkbox"/> Passive <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Evidence of leakage at penetration <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance
2.	Gas Monitoring Probes Remarks _____	<input checked="" type="checkbox"/> Properly secured/locked <input type="checkbox"/> Evidence of leakage at penetration	<input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A
3.	Groundwater Monitoring Wells Remarks _____	<input checked="" type="checkbox"/> Properly secured/locked <input type="checkbox"/> Evidence of leakage at penetration	<input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A
4.	Lysimeters Remarks _____	<input checked="" type="checkbox"/> Properly secured/locked <input type="checkbox"/> Evidence of leakage at penetration	<input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A
5.	Settlement Monuments Remarks _____	<input checked="" type="checkbox"/> Located	<input checked="" type="checkbox"/> Routinely surveyed <input type="checkbox"/> N/A

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D. Gas Collection and Treatment - Passive System in Trench <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1.	Gas Treatment Facilities <input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
2.	Gas Collection Wells, Manifolds and Piping <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
3.	Gas Monitoring Facilities (<i>e.g.</i> , gas monitoring of adjacent homes or buildings) <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A Remarks _____ _____
VII. OVERALL OBSERVATIONS	
A.	Implementation of the Remedy Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.). <u>O&M activities are being conducted in accordance with the approved O&M Plan, and the remedy is functioning as designed.</u>
B.	Adequacy of O&M Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>There have been no unexpected O&M difficulties outside of dropping groundwater levels.</u> -
C.	Early Indicators of Potential Remedy Problems Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future. <u>None noted</u>
D.	Opportunities for Optimization Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>There have been no opportunities identified to optimize O&M at this Site.</u> _____

**Site Inspection Checklist
Second Five-Year Review
IRP Site 5, Former MCAS El Toro
Landfill Cover/Containment**

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency California Department of Toxic Substances Control

Contact	<u>Ms. Eileen Mananian</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix F of this report

Agency California Regional Water Quality Control Board, Santa Ana Region

Contact	<u>Ms. Patricia Hannon</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix F of this report

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

4. Other interviews (optional) <input checked="" type="checkbox"/> Report attached. (See Appendix F of this report)
Ms. Mary Aycock, Remedial Project Manager, U.S. EPA Region IX
Mr. Robert Woodings, RAB Co-Chair, RAB, Former MCAS El Toro
Ms. Marcia Rudolph, Subcommittee Chair, RAB, Former MCAS El Toro
Mr. Jim Werkmeister Manager, Environmental Affairs, Five Point Communities
Mr. Cliff Wallace, Manager of Planning and Environmental Services, Orange County Great Park

**Site Inspection Checklist
Second Five-Year Review
IRP Site 5, Former MCAS El Toro
Landfill Cover/Containment**

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)			
1.	O&M Documents		
	<input checked="" type="checkbox"/> O&M manual/work plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
2.	Site-Specific Health and Safety Plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
3.	O&M Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
4.	Permits and Service Agreements		
	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks <u>O&M Plan addresses substantive requirements of ARARs identified in the ROD</u>		
5.	Gas Generation Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
6.	Settlement Monument Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
7.	Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
8.	Soil Moisture Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
9.	Discharge Compliance Records		
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks _____		
10.	Daily Access/Security Logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks <u>Maintained in project logbook</u>		

**Site Inspection Checklist
Second Five-Year Review
IRP Site 5, Former MCAS El Toro
Landfill Cover/Containment**

IV. ACCESS AND INSTITUTIONAL CONTROLS		<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
A. Fencing and Gates			
1.	Fencing damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Fencing secured <input type="checkbox"/> N/A
Remarks _____ _____			
2.	Gates damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> N/A
Remarks _____ _____			
B. Other Access Restrictions			
1.	Signs and other security measures	<input checked="" type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A
Remarks <u>Signs installed still in place</u>			
C. Institutional Controls (ICs)			
1.	Implementation and enforcement		
Site conditions imply ICs not properly implemented		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Site conditions imply ICs not being fully enforced		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Type of monitoring (<i>e.g.</i> , self-reporting, drive by) <u>Drive by</u>			
Frequency		<u>Annual</u>	
Responsible party/agency		<u>Department of the Navy</u>	
Contact		<u>Mr. Morgan Rogers, RPM</u>	
Reporting is up-to-date		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Reports are verified by the lead agency		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Specific requirements in deed or decision documents have been met		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Violations have been reported		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Other problems or suggestions:		<input type="checkbox"/> Report attached	
_____ _____ _____			
2.	Adequacy	<input checked="" type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A
Remarks _____ _____ _____			

**Site Inspection Checklist
Second Five-Year Review
IRP Site 5, Former MCAS El Toro
Landfill Cover/Containment**

D. General			
1.	Vandalism/trespassing	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident
Remarks _____ _____			
2.	Land use changes on site	<input checked="" type="checkbox"/> N/A	
Remarks _____ _____			
3.	Land use changes off site	<input checked="" type="checkbox"/> N/A	
Remarks _____ _____			
V. GENERAL SITE CONDITIONS			
A. Roads <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Roads damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
Remarks <u>Road in good condition</u> _____			
B. Other Site Conditions			
Remarks _____ _____ _____ _____ _____			
VI. LANDFILL COVER <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Landfill Surface			
1.	Settlement (Low spots)	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Settlement not evident
Areal extent _____ Depth _____			
Remarks _____ _____			
2.	Cracks	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Cracking not evident
Lengths _____ Widths _____ Depths _____			
Remarks _____ _____			
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
Areal extent _____ Depth _____			
Remarks _____ _____			

**Site Inspection Checklist
Second Five-Year Review
IRP Site 5, Former MCAS El Toro
Landfill Cover/Containment**

4.	Holes Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Depth _____	<input checked="" type="checkbox"/> Holes not evident
5.	Vegetative Cover Remarks _____	<input type="checkbox"/> Grass <input type="checkbox"/> Trees/Shrubs (indicate size and locations on a diagram)	<input checked="" type="checkbox"/> Cover properly established <input checked="" type="checkbox"/> No signs of stress
6.	Alternative Cover (armored rock, concrete, etc.) Remarks _____	<input checked="" type="checkbox"/> N/A	
7.	Bulges Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Height _____	<input checked="" type="checkbox"/> Bulges not evident
8.	Wet Areas/Water Damage <input checked="" type="checkbox"/> Wet areas/water damage not evident		
	<input type="checkbox"/> Wet areas	<input type="checkbox"/> Location shown on site map	Areal extent _____
	<input type="checkbox"/> Ponding	<input type="checkbox"/> Location shown on site map	Areal extent _____
	<input type="checkbox"/> Seeps	<input type="checkbox"/> Location shown on site map	Areal extent _____
	<input type="checkbox"/> Soft subgrade	<input type="checkbox"/> Location shown on site map	Areal extent _____
	Remarks <u>None noted</u>		
9.	Slope Instability Areal extent _____ Remarks _____	<input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of slope instability
B. Drainage System (Shotcrete-lined Channels/Berms/Ditches) <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Settlement Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Depth _____	<input checked="" type="checkbox"/> No evidence of settlement
2.	Material Degradation Material type _____ Remarks _____	<input type="checkbox"/> Location shown on site map Areal extent _____	<input checked="" type="checkbox"/> No evidence of degradation
3.	Erosion Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Depth _____	<input checked="" type="checkbox"/> No evidence of erosion

**Site Inspection Checklist
Second Five-Year Review
IRP Site 5, Former MCAS El Toro
Landfill Cover/Containment**

4. **Undercutting** Location shown on site map No evidence of undercutting
 Areal extent _____ Depth _____
 Remarks _____

5. **Obstructions** Type _____ No obstructions
 Location shown on site map Areal extent _____
 Size _____
 Remarks _____

6. **Excessive Vegetative Growth** Type _____
 No evidence of excessive growth
 Vegetation in channels does not obstruct flow
 Location shown on site map Areal extent _____
 Remarks _____

C. Cover Penetrations Applicable N/A

1. **Gas Vents** Active Passive
 Properly secured/locked Functioning Routinely sampled Good condition
 Evidence of leakage at penetration Needs Maintenance
 N/A
 Remarks _____

2. **Gas Monitoring Probes**
 Properly secured/locked Functioning Routinely sampled Good condition
 Evidence of leakage at penetration Needs Maintenance N/A
 Remarks _____

3. **Groundwater Monitoring Wells**
 Properly secured/locked Functioning Routinely sampled Good condition
 Evidence of leakage at penetration Needs Maintenance N/A
 Remarks _____

4. **Lysimeters**
 Properly secured/locked Functioning Routinely sampled Good condition
 Evidence of leakage at penetration Needs Maintenance N/A
 Remarks _____

5. **Settlement Monuments** Located Routinely surveyed N/A
 Remarks _____

D. Gas Collection and Treatment - Passive System in Trench Applicable N/A

**Site Inspection Checklist
Second Five-Year Review
IRP Site 5, Former MCAS El Toro
Landfill Cover/Containment**

1.	<p>Gas Treatment Facilities</p> <p><input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse</p> <p><input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance</p> <p>Remarks _____</p> <p>_____</p>
2.	<p>Gas Collection Wells, Manifolds and Piping</p> <p><input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance</p> <p>Remarks _____</p> <p>_____</p>
3.	<p>Gas Monitoring Facilities (<i>e.g.</i>, gas monitoring of adjacent homes or buildings)</p> <p><input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A</p> <p>Remarks _____</p> <p>_____</p>
VII. OVERALL OBSERVATIONS	
A. Implementation of the Remedy	
<p>Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).</p> <p><u>O&M activities are being conducted in accordance with the approved O&M Plan, and the remedy is functioning as designed.</u></p>	
B. Adequacy of O&M	
<p>Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>There have been no unexpected O&M difficulties outside of dropping groundwater levels.</u></p>	
C. Early Indicators of Potential Remedy Problems	
<p>Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.</p> <p><u>None noted</u></p>	
D. Opportunities for Optimization	
<p>Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>Sampling at well 05_DGMW67A was reduced from quarterly to semiannually.</u></p>	

**Site Inspection Checklist
Second Five-Year Review
Anomaly Area 3, Former MCAS El Toro
Landfill Cover/Containment**

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency California Department of Toxic Substances Control

Contact	<u>Ms. Eileen Mananian</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix H of this report

Agency California Regional Water Quality Control Board, Santa Ana Region

Contact	<u>Ms. Patricia Hannon</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix H of this report

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

4. Other interviews (optional) <input checked="" type="checkbox"/> Report attached. (See Appendix H of this report)
Ms. Mary Aycock, Remedial Project Manager, U.S. EPA Region IX
Mr. Robert Woodings, RAB Co-Chair, RAB, Former MCAS El Toro
Ms. Marcia Rudolph, Subcommittee Chair, RAB, Former MCAS El Toro
Mr. Jim Werkmeister Manager, Environmental Affairs, Five Point Communities

**Site Inspection Checklist
Second Five-Year Review
Anomaly Area 3, Former MCAS El Toro
Landfill Cover/Containment**

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)			
1.	O&M Documents		
	<input checked="" type="checkbox"/> O&M manual/work plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
2.	Site-Specific Health and Safety Plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
3.	O&M Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
4.	Permits and Service Agreements		
	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks <u>O&M Plan addresses substantive requirements of ARARs identified in the ROD</u>		
5.	Gas Generation Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
6.	Settlement Monument Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
7.	Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
8.	Soil Moisture Monitoring Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks _____		
9.	Discharge Compliance Records		
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks _____		
10.	Daily Access/Security Logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks <u>Maintained in project logbook</u>		

**Site Inspection Checklist
Second Five-Year Review
Anomaly Area 3, Former MCAS El Toro
Landfill Cover/Containment**

IV. ACCESS AND INSTITUTIONAL CONTROLS		<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
A. Fencing and Gates			
1.	Fencing damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Fencing secured <input type="checkbox"/> N/A
Remarks _____ _____			
2.	Gates damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> N/A
Remarks _____ _____			
B. Other Access Restrictions			
1.	Signs and other security measures	<input checked="" type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A
Remarks <u>Signs installed still in place on the gate. However, signs need to be installed at the landfill perimeter.</u>			
C. Institutional Controls (ICs)			
1.	Implementation and enforcement		
Site conditions imply ICs not properly implemented		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Site conditions imply ICs not being fully enforced		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Type of monitoring (<i>e.g.</i> , self-reporting, drive by) <u>Drive by</u>			
Frequency <u>Annual</u>			
Responsible party/agency <u>Department of the Navy</u>			
Contact <u>Mr. Morgan Rogers, RPM</u>			
Reporting is up-to-date		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Reports are verified by the lead agency		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Specific requirements in deed or decision documents have been met		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Violations have been reported		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Other problems or suggestions:		<input type="checkbox"/> Report attached	
_____ _____ _____ _____			
2.	Adequacy	<input checked="" type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A
Remarks _____ _____ _____			

**Site Inspection Checklist
Second Five-Year Review
Anomaly Area 3, Former MCAS El Toro
Landfill Cover/Containment**

D. General			
1.	Vandalism/trespassing	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident
Remarks _____ _____			
2.	Land use changes on site	<input checked="" type="checkbox"/> N/A	
Remarks _____ _____			
3.	Land use changes off site	<input checked="" type="checkbox"/> N/A	
Remarks _____ _____			
V. GENERAL SITE CONDITIONS			
A. Roads <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Roads damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
Remarks <u>Road in good condition</u>			
B. Other Site Conditions			
Remarks _____ _____ _____ _____ _____			
VI. LANDFILL COVER <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Landfill Surface			
1.	Settlement (Low spots)	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Settlement not evident
Areal extent _____ Depth _____			
Remarks _____ _____			
2.	Cracks	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Cracking not evident
Lengths _____ Widths _____ Depths _____			
Remarks _____ _____			
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
Areal extent _____ Depth _____			
Remarks <u>Minor erosion rills</u>			

**Site Inspection Checklist
Second Five-Year Review
Anomaly Area 3, Former MCAS El Toro
Landfill Cover/Containment**

4.	Holes Areal extent _____ Depth _____ Remarks <u>Small rodent holes were observed.</u>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Holes not evident	
5.	Vegetative Cover <input type="checkbox"/> Trees/Shrubs (indicate size and locations on a diagram) Remarks _____	<input type="checkbox"/> Grass <input checked="" type="checkbox"/> Cover properly established <input checked="" type="checkbox"/> No signs of stress	
6.	Alternative Cover (armored rock, concrete, etc.) Remarks _____	<input checked="" type="checkbox"/> N/A	
7.	Bulges Areal extent _____ Height _____ Remarks _____	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Bulges not evident	
8.	Wet Areas/Water Damage <input checked="" type="checkbox"/> Wet areas/water damage not evident <input type="checkbox"/> Wet areas <input type="checkbox"/> Ponding <input type="checkbox"/> Seeps <input type="checkbox"/> Soft subgrade Remarks <u>None noted</u>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map	Areal extent _____ Areal extent _____ Areal extent _____ Areal extent _____
9.	Slope Instability Areal extent _____ Remarks _____	<input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of slope instability
B. Drainage System (Shotcrete-lined Channels/Berms/Ditches) <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Settlement Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of settlement
2.	Material Degradation Material type _____ Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of degradation
3.	Erosion Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of erosion

**Site Inspection Checklist
Second Five-Year Review
Anomaly Area 3, Former MCAS El Toro
Landfill Cover/Containment**

4. **Undercutting** Location shown on site map No evidence of undercutting
 Areal extent _____ Depth _____
 Remarks _____

5. **Obstructions** Type _____ No obstructions
 Location shown on site map Areal extent _____
 Size _____
 Remarks _____

6. **Excessive Vegetative Growth** Type _____
 No evidence of excessive growth
 Vegetation in channels does not obstruct flow
 Location shown on site map Areal extent _____
 Remarks _____

C. Cover Penetrations Applicable N/A

1. **Gas Vents** Active Passive
 Properly secured/locked Functioning Routinely sampled Good condition
 Evidence of leakage at penetration Needs Maintenance
 N/A
 Remarks _____

2. **Gas Monitoring Probes**
 Properly secured/locked Functioning Routinely sampled Good condition
 Evidence of leakage at penetration Needs Maintenance N/A
 Remarks _____

3. **Groundwater Monitoring Wells**
 Properly secured/locked Functioning Routinely sampled Good condition
 Evidence of leakage at penetration Needs Maintenance N/A
 Remarks _____

4. **Lysimeters**
 Properly secured/locked Functioning Routinely sampled Good condition
 Evidence of leakage at penetration Needs Maintenance N/A
 Remarks _____

5. **Settlement Monuments** Located Routinely surveyed N/A
 Remarks __ Settlement monuments were observed to be without protective cap.

**Site Inspection Checklist
Second Five-Year Review
Anomaly Area 3, Former MCAS El Toro
Landfill Cover/Containment**

D. Gas Collection and Treatment <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1.	Gas Treatment Facilities <input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
2.	Gas Collection Wells, Manifolds and Piping <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
3.	Gas Monitoring Facilities (<i>e.g.</i> , gas monitoring of adjacent homes or buildings) <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A Remarks _____ _____
VII. OVERALL OBSERVATIONS	
A.	Implementation of the Remedy Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.). <u>O&M activities are being conducted in accordance with the approved O&M Plan, and continues to be successful in achieving the remedial action objectives identified in the ROD.</u>
B.	Adequacy of O&M Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>None noted.</u>
C.	Early Indicators of Potential Remedy Problems Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future. <u>None noted.</u>
D.	Opportunities for Optimization Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>The only change to the O&M requirements was to reduce the landfill gas monitoring frequency to semi-annual. This change was approved by the regulatory agencies and did not affect the protectiveness or effectiveness of the remedy.</u>

**Site Inspection Checklist
 Second Five-Year Review
 IRP Site 16, Former MCAS El Toro
 Monitored Natural Attenuation and Institutional Controls**

I. SITE INFORMATION	
Site name: IRP Site 16, Former MCAS El Toro	Date of inspection: March 6, 2014
Location and Region: Irvine, CA; U.S.EPA Region IX	EPA ID: CA6170023208
Agency, office, or company leading the five-year review: BRAC Program Management Office West, Department of the Navy	Weather/temperature: Sunny, ~74°F
Remedy Includes: (Check all that apply) <input checked="" type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Other _____ <input checked="" type="checkbox"/> Institutional controls <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Vadose zone monitoring <input checked="" type="checkbox"/> Site grading	
Attachments: <input checked="" type="checkbox"/> Inspection team roster attached (see Table 5-2 of this report) <input checked="" type="checkbox"/> Site map attached (See Figure 2-6 of this report)	
II. INTERVIEWS (Check all that apply)	
1. O&M Site Manager <u>Mr. Pete Stang</u> <u>Project Manager</u> <u>03/06/14</u> <div style="display: flex; justify-content: space-between; width: 100%;"> Name Title Date </div> Interviewed <input checked="" type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone <input checked="" type="checkbox"/> Other Phone no. <u>858-268-3383</u> Problems, suggestions; <input checked="" type="checkbox"/> Report attached <u>See Appendix J of this report</u> _____	
2. O&M Staff <u>N/A</u> _____ _____ <div style="display: flex; justify-content: space-between; width: 100%;"> Name Title Date </div> Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____ Problems, suggestions; <input type="checkbox"/> Report attached _____ _____	

**Site Inspection Checklist
Second Five-Year Review
IRP Site 16, Former MCAS El Toro
Monitored Natural Attenuation and Institutional Controls**

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency California Department of Toxic Substances Control

Contact	<u>Ms. Eileen Mananian</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix J of this report

Agency California Regional Water Quality Control Board, Santa Ana Region

Contact	<u>Ms. Patricia Hannon</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix J of this report

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

4. Other interviews (optional) <input checked="" type="checkbox"/> Report attached. (See Appendix J of this report)
Ms. Mary Aycock, Remedial Project Manager, U.S. EPA Region IX
Mr. Robert Woodings, RAB Co-Chair, RAB, Former MCAS El Toro
Ms. Marcia Rudolph, Subcommittee Chair, RAB, Former MCAS El Toro
Mr. Jim Werkmeister Manager, Environmental Affairs, Five Point Communities
Mr. Cliff Wallace, Manager of Planning and Environmental Services, Orange County Great Park

**Site Inspection Checklist
Second Five-Year Review
IRP Site 16, Former MCAS El Toro
Monitored Natural Attenuation and Institutional Controls**

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)			
1.	O&M Documents <input checked="" type="checkbox"/> O&M manual/work plan <input checked="" type="checkbox"/> As-built drawings <input type="checkbox"/> Maintenance logs Remarks _____ _____	<input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
2.	Site-Specific Health and Safety Plan <input checked="" type="checkbox"/> Contingency plan/emergency response plan Remarks _____ _____	<input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A <input type="checkbox"/> N/A
3.	O&M Records Remarks _____ _____	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
4.	Permits and Service Agreements <input type="checkbox"/> Air discharge permit <input type="checkbox"/> Effluent discharge <input type="checkbox"/> Other permits _____ Remarks _____ _____	<input type="checkbox"/> Readily available <input type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
5.	Groundwater Monitoring Records Remarks _____ _____	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
6.	Discharge Compliance Records <input type="checkbox"/> Air <input type="checkbox"/> Water (effluent) Remarks _____ _____	<input type="checkbox"/> Readily available <input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
7.	Daily Access/Security Logs Remarks _____ _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
IV. ACCESS AND INSTITUTIONAL CONTROLS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Fencing			
1.	Fencing damaged <input type="checkbox"/> Location shown on site map Remarks <u>No fences at IRP Site 16.</u> _____ _____	<input type="checkbox"/> Gates secured	<input checked="" type="checkbox"/> N/A
2.	Gates damaged <input type="checkbox"/> Location shown on site map Remarks <u>No gates at IRP Site 16.</u> _____ _____	<input type="checkbox"/> Gates secured	<input checked="" type="checkbox"/> N/A

**Site Inspection Checklist
 Second Five-Year Review
 IRP Site 16, Former MCAS EI Toro
 Monitored Natural Attenuation and Institutional Controls**

B. Other Access Restrictions	
1.	Signs and other security measures <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A Remarks <u>No signs or other security measures in place at IRP Site 16.</u> _____ _____
C. Institutional Controls (ICs)	
1.	Implementation and enforcement Site conditions imply ICs not properly implemented <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Site conditions imply ICs not being fully enforced <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Type of monitoring (<i>e.g.</i> , self-reporting, drive by) <u>Self-reporting through completing and submission of checklists</u> Frequency <u>Annual</u> Responsible party/agency <u>Department of the Navy</u> Contact <u>Mr. Morgan Rogers</u> Reporting is up-to-date <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Reports are verified by the lead agency <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Specific requirements in deed or decision documents have been met <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Violations have been reported <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Other problems or suggestions: <input type="checkbox"/> Report attached _____ _____ _____
2.	Adequacy <input checked="" type="checkbox"/> ICs are adequate <input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A Remarks _____ _____ _____
D. General	
1.	Vandalism/trespassing <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No vandalism evident Remarks _____ _____
2.	Land use changes on site <input type="checkbox"/> N/A Remarks <u>Crop production was observed in the area to the southwest of the site</u> _____ _____
3.	Land use changes off site <input type="checkbox"/> N/A Remarks <u>Offsite land use changes which includes crop production has not impacted IRP Site 16.</u> _____ _____

**Site Inspection Checklist
 Second Five-Year Review
 IRP Site 16, Former MCAS El Toro
 Monitored Natural Attenuation and Institutional Controls**

V. GENERAL SITE CONDITIONS

A. Roads Applicable N/A

1. **Roads damaged** Location shown on site map Roads adequate N/A
 Remarks No road damage at IRP Site 16.

B. Other Site Conditions

Remarks _____

VI. GROUNDWATER REMEDY Applicable N/A

A. Monitored Natural Attenuation Applicable N/A

1. **Groundwater Monitoring Wells** (natural attenuation remedy)
 Properly secured/locked Functioning Routinely sampled Good condition
 All required wells located Needs Maintenance N/A
 Remarks All groundwater monitoring wells are functioning and in good condition.

2. **Dedicated Groundwater Sampling Pumps**
 N/A Good condition Needs repair
 Remarks _____

3. **Gas Monitoring Probes/Wells**
 Properly secured/locked Functioning Routinely sampled Good condition
 Evidence of leakage at penetration Needs Maintenance N/A
 Remarks _____

B. Monitoring Data

1. Monitoring Data
 Is routinely submitted on time Is of acceptable quality

2. Monitoring data suggests:
 Groundwater plume is effectively contained Contaminant concentrations are declining

VII. OVERALL OBSERVATIONS

A. Implementation of the Remedy

**Site Inspection Checklist
Second Five-Year Review
IRP Site 16, Former MCAS El Toro
Monitored Natural Attenuation and Institutional Controls**

<p>Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).</p> <p><u>The IRP Site 16 remedy is effectively monitoring the natural attenuation of the TCE plume.</u></p>	
B.	Adequacy of O&M
<p>Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.</p> <p><u>None noted.</u></p> <hr/>	
C.	Early Indicators of Potential Remedy Problems
<p>Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.</p> <p><u>None noted.</u></p> <hr/>	
D.	Opportunities for Optimization
<p>Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.</p> <p><u>None.</u></p> <hr/>	

**Site Inspection Checklist
Second Five-Year Review
IRP Site 17, Former MCAS El Toro
Landfill Cover/Containment**

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency California Department of Toxic Substances Control

Contact	<u>Ms. Eileen Mananian</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix D of this report

Agency California Regional Water Quality Control Board, Santa Ana Region

Contact	<u>Ms. Patricia Hannon</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix D of this report

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

4. Other interviews (optional) <input checked="" type="checkbox"/> Report attached. (See Appendix D of this report)
Ms. Mary Aycock, Remedial Project Manager, U.S. EPA Region IX
Mr. Robert Woodings, RAB Co-Chair, RAB, Former MCAS El Toro
Ms. Marcia Rudolph, Subcommittee Chair, RAB, Former MCAS El Toro
Mr. Jim Werkmeister Manager, Environmental Affairs, Five Point Communities
Mr. Cliff Wallace, Manager of Planning and Environmental Services, Orange County Great Park

**Site Inspection Checklist
Second Five-Year Review
IRP Site 17, Former MCAS El Toro
Landfill Cover/Containment**

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)			
1.	O&M Documents		
	<input checked="" type="checkbox"/> O&M manual/work plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
2.	Site-Specific Health and Safety Plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
3.	O&M Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
4.	Permits and Service Agreements		
	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks <u>O&M Plan addresses substantive requirements of ARARs identified in the ROD</u>		
5.	Gas Generation Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks <u>No gas generation</u>		
6.	Settlement Monument Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
7.	Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
8.	Soil Moisture Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
9.	Discharge Compliance Records		
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A
	Remarks _____		
10.	Daily Access/Security Logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks <u>Maintained in project logbook</u>		

**Site Inspection Checklist
Second Five-Year Review
IRP Site 17, Former MCAS El Toro
Landfill Cover/Containment**

IV. ACCESS AND INSTITUTIONAL CONTROLS				<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
A. Fencing and Gates					
1.	Fencing damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Fencing secured	<input type="checkbox"/> N/A	
Remarks _____ _____					
2.	Gates damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Gates secured	<input type="checkbox"/> N/A	
Remarks _____ _____					
B. Other Access Restrictions					
1.	Signs and other security measures	<input checked="" type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A		
Remarks <u>Signs installed still in place</u>					
C. Institutional Controls (ICs)					
1.	Implementation and enforcement				
Site conditions imply ICs not properly implemented		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A			
Site conditions imply ICs not being fully enforced		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A			
Type of monitoring (<i>e.g.</i> , self-reporting, drive by) <u>Drive by</u>					
Frequency <u>Annual</u>					
Responsible party/agency <u>Department of the Navy</u>					
Contact <u>Mr. Morgan Rogers, RPM</u>					
Reporting is up-to-date		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
Reports are verified by the lead agency		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
Specific requirements in deed or decision documents have been met		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
Violations have been reported		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
Other problems or suggestions:		<input type="checkbox"/> Report attached			

2.	Adequacy	<input checked="" type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate	<input type="checkbox"/> N/A	
Remarks _____ _____ _____					

**Site Inspection Checklist
Second Five-Year Review
IRP Site 17, Former MCAS El Toro
Landfill Cover/Containment**

D. General			
1.	Vandalism/trespassing	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident
Remarks _____ _____			
2.	Land use changes on site	<input checked="" type="checkbox"/> N/A	
Remarks _____ _____			
3.	Land use changes off site	<input checked="" type="checkbox"/> N/A	
Remarks _____ _____			
V. GENERAL SITE CONDITIONS			
A. Roads <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Roads damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
Remarks <u>Road in good condition</u> _____			
B. Other Site Conditions			
Remarks _____ _____ _____ _____ _____			
VI. LANDFILL COVER <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Landfill Surface			
1.	Settlement (Low spots)	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Settlement not evident
Areal extent _____ Depth _____			
Remarks _____ _____			
2.	Cracks	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Cracking not evident
Lengths _____ Widths _____ Depths _____			
Remarks _____ _____			
3.	Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
Areal extent _____ Depth _____			
Remarks _____ _____			

**Site Inspection Checklist
Second Five-Year Review
IRP Site 17, Former MCAS El Toro
Landfill Cover/Containment**

4.	Holes Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Depth _____	<input checked="" type="checkbox"/> Holes not evident
5.	Vegetative Cover <input type="checkbox"/> Trees/Shrubs (indicate size and locations on a diagram) Remarks _____	<input type="checkbox"/> Grass	<input checked="" type="checkbox"/> Cover properly established <input checked="" type="checkbox"/> No signs of stress
6.	Alternative Cover (armored rock, concrete, etc.) Remarks _____	<input checked="" type="checkbox"/> N/A	
7.	Bulges Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Height _____	<input checked="" type="checkbox"/> Bulges not evident
8.	Wet Areas/Water Damage <input checked="" type="checkbox"/> Wet areas/water damage not evident <input type="checkbox"/> Wet areas <input type="checkbox"/> Ponding <input type="checkbox"/> Seeps <input type="checkbox"/> Soft subgrade Remarks <u>None noted</u>		
9.	Slope Instability Areal extent _____ Remarks _____	<input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of slope instability
B. Drainage System (Shotcrete-lined Channels/Berms/Ditches) <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Settlement Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Depth _____	<input checked="" type="checkbox"/> No evidence of settlement
2.	Material Degradation Material type _____ Remarks _____	<input type="checkbox"/> Location shown on site map Areal extent _____	<input checked="" type="checkbox"/> No evidence of degradation
3.	Erosion Areal extent _____ Remarks _____	<input type="checkbox"/> Location shown on site map Depth _____	<input checked="" type="checkbox"/> No evidence of erosion

**Site Inspection Checklist
Second Five-Year Review
IRP Site 17, Former MCAS El Toro
Landfill Cover/Containment**

4.	Undercutting Areal extent _____ Depth _____ Remarks _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Depth _____	<input checked="" type="checkbox"/> No evidence of undercutting
5.	Obstructions Type _____ Size _____ Remarks _____	<input type="checkbox"/> Location shown on site map Areal extent _____	<input checked="" type="checkbox"/> No obstructions
6.	Excessive Vegetative Growth Type <u>None noted</u> Remarks _____	<input checked="" type="checkbox"/> No evidence of excessive growth <input checked="" type="checkbox"/> Vegetation in channels does not obstruct flow <input type="checkbox"/> Location shown on site map Areal extent _____	
C. Cover Penetrations <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Gas Vents Remarks _____	<input type="checkbox"/> Active <input type="checkbox"/> Passive <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A	
2.	Gas Monitoring Probes Remarks _____	<input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A	
3.	Groundwater Monitoring Wells (within surface area of landfill) Remarks _____	<input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A	
4.	Lysimeters Remarks _____	<input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A	
5.	Settlement Monuments Remarks _____	<input checked="" type="checkbox"/> Located <input checked="" type="checkbox"/> Routinely surveyed <input type="checkbox"/> N/A	

**Site Inspection Checklist
Second Five-Year Review
IRP Site 17, Former MCAS El Toro
Landfill Cover/Containment**

D. Gas Collection and Treatment	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1. Gas Treatment Facilities		
<input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____		
2. Gas Collection Wells, Manifolds and Piping		
<input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____		
3. Gas Monitoring Facilities (<i>e.g.</i> , gas monitoring of adjacent homes or buildings)		
<input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> N/A Remarks _____ _____		
VII. OVERALL OBSERVATIONS		
A. Implementation of the Remedy		
Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.). <u>O&M activities are being conducted in accordance with the approved O&M Plan, and there is adequate cover to minimize erosion.</u>		
B. Adequacy of O&M		
Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>There have been no unexpected O&M difficulties outside of dropping groundwater levels.</u>		
C. Early Indicators of Potential Remedy Problems		
Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future. <u>None noted</u>		
D. Opportunities for Optimization		
Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>Further soil moisture sampling has been discontinued at 17LYS2 since 2012.</u>		

**Site Inspection Checklist
Second Five-Year Review
IRP Site 18, Former MCAS El Toro
Groundwater Pump and Treat**

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency California Department of Toxic Substances Control

Contact	<u>Ms. Eileen Mananian</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix L of this report

Agency California Regional Water Quality Control Board, Santa Ana Region

Contact	<u>Ms. Patricia Hannon</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	Phone no.
	Name	Title	Date	

Problems, suggestions; Report attached See Appendix L of this report

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

4. Other interviews (optional) <input checked="" type="checkbox"/> Report attached. (See Appendix L of this report)
Ms. Mary Aycock, Remedial Project Manager, U.S. EPA Region IX
Mr. Robert Woodings, RAB Co-Chair, RAB, Former MCAS El Toro
Ms. Marcia Rudolph, Subcommittee Chair, RAB, Former MCAS El Toro
Mr. Cliff Wallace, Manager of Planning and Environmental Services, Orange County Great Park
Mr. Roy Herndon, Chief Hydrogeologist, Orange County Water District
Mr. Zoila Verdaguer-Finch, County Executive Officer, Orange County Public Works
Mr. Jerry Creekpau, Chief Operations Officer, Second Harvest Food Bank of Orange County

**Site Inspection Checklist
Second Five-Year Review
IRP Site 18, Former MCAS El Toro
Groundwater Pump and Treat**

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)				
1.	O&M Documents	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> O&M manual	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	Remarks _____ _____			
2.	Site-Specific Health and Safety Plan	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	Remarks : Maintained at the IRWD Operations Center, 3512 Michelson Dr., Irvine, CA 92612-1799			
3.	O&M Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	Remarks _____			
	Maintained at IRWD SCADA/Tab Ware system (electronically)			
4.	Permits and Service Agreements	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Air discharge permit	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Effluent discharge	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks: Maintained at the IRWD Operations Center, 3512 Michelson Dr., Irvine, CA 92612-1799			
5.	Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	Remarks: Maintained at the IRWD Operations Center, 3512 Michelson Dr., Irvine, CA 92612-1799			
6.	Discharge Compliance Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Air	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Water (effluent)	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	Remarks _____ _____			
7.	Daily Access/Security Logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks _____ _____			

**Site Inspection Checklist
Second Five-Year Review
IRP Site 18, Former MCAS El Toro
Groundwater Pump and Treat**

IV. ACCESS AND INSTITUTIONAL CONTROLS		<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A	
A. Fencing				
1.	Fencing damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Fencing secured <input type="checkbox"/> N/A	
Remarks _____ _____				
2.	Gates damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> N/A	
Remarks _____ _____				
B. Other Access Restrictions				
1.	Signs and other security measures	<input checked="" type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A	
Remarks _____ _____				
C. Institutional Controls (ICs)				
1.	Implementation and enforcement <i>(ICs implemented through Permit Programs by OCHCA and IRWD)</i>			
Site conditions imply ICs not properly implemented		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Site conditions imply ICs not being fully enforced		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Type of monitoring (e.g., self-reporting, drive by) <u>Review of checklists completed by Orange County Health Care Agency and Irvine Ranch Water District. This review is done by the Department of the Navy.</u>				
Frequency <u>Annual</u>				
Responsible party/agency <u>Department of the Navy</u>				
Contact <u>Mr. Marc Smits, RPM</u>				
Reporting is up-to-date		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Reports are verified by the lead agency		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Specific requirements in deed or decision documents have been met		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Violations have been reported		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Other problems or suggestions:		<input type="checkbox"/> Report attached		
<u>Remarks: See Section 6.4 of this report for details on ICs implementation at IRP Site 18.</u>				

2.	Adequacy	<input type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A	
Remarks : <u>See Section 6.4 of this report for details on ICs implementation at IRP Site 18.</u>				
D. General				
1.	Vandalism/trespassing	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident	
Remarks _____ _____				

**Site Inspection Checklist
Second Five-Year Review
IRP Site 18, Former MCAS El Toro
Groundwater Pump and Treat**

2. **Land use changes on site** N/A
 Remarks _____

3. **Land use changes off site** N/A
 Remarks _____

V. GENERAL SITE CONDITIONS

A. Roads Applicable N/A

1. **Roads damaged** Location shown on site map Roads adequate N/A
 Remarks _____

B. Other Site Conditions

Remarks _____

VI. GROUNDWATER REMEDY

A. Groundwater Extraction Wells, Pumps, and Pipelines Applicable N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
 Good condition All required wells properly operating Needs Maintenance N/A
 Remarks:

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
 Good condition Needs Maintenance
 Remarks _____

3. **Spare Parts and Equipment**
 Readily available Good condition Requires upgrade Needs to be provided
 Remarks _____

**Site Inspection Checklist
Second Five-Year Review
IRP Site 18, Former MCAS El Toro
Groundwater Pump and Treat**

C. Treatment System <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A	
1.	Treatment Train (Check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input checked="" type="checkbox"/> Air stripping <input checked="" type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters _____ <input type="checkbox"/> Additive (e.g., chelation agent, flocculent) <input type="checkbox"/> Others _____ <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input checked="" type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input checked="" type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually: <input type="checkbox"/> Quantity of surface water treated annually _____ Remarks _____ _____
2.	Electrical Enclosures and Panels (properly rated and functional) <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
3.	Tanks, Vaults, Storage Vessels <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs Maintenance Remarks _____ _____
4.	Discharge Structure and Appurtenances <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
5.	Treatment Building(s) <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair <input checked="" type="checkbox"/> Chemicals and equipment properly stored Remarks _____ _____
6.	Monitoring Wells (pump and treatment remedy) <input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition <input checked="" type="checkbox"/> All required wells located <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks _____ _____
D. Monitoring Data	
1	Monitoring Data <input type="checkbox"/> Is routinely submitted on time <input checked="" type="checkbox"/> Is of acceptable quality
2.	Monitoring data suggests: <input checked="" type="checkbox"/> Groundwater plume is effectively contained <input type="checkbox"/> Contaminant concentrations are declining

**Site Inspection Checklist
Second Five-Year Review
IRP Site 18, Former MCAS El Toro
Groundwater Pump and Treat**

VII. OVERALL OBSERVATIONS	
A. Implementation of the Remedy	<p>Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).</p> <p><u>The goal of this treatment is to ensure containment of the plume by extracting groundwater containing VOCs and removing the VOC water by the air stripping process. The remedy is effective. Total concentration of the VOC in the influent is in the range of 4 to 10 ppb with an average concentration of about 7.3 ppb. Average VOC removal efficiency is 93.9%. Average VOC mass removal is approximately 2 lbs/month since system startup until December 2013.</u></p>
B. Adequacy of O&M	<p>Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.</p> <ol style="list-style-type: none"> 1. <u>The air stripper could not operate at the design flow of 1000 gpm because of flooding occurring at the air stripper trays and activation of the relief feature at flow rates greater than 850 gpm. In July 2009, visual inspection of the air strippers was conducted. Severe calcium, and possibly iron fouling was observed in both air stripping towers. The scaled trays of the air strippers were disassembled, cleaned and reassembled in October 2009. Scale inhibitor systems were installed and tested at both locations, and were found to be effective in preventing scale build-up. In addition, inlet water nozzles were removed from the air stripper manifolds in August 2009, which significantly reduced the backpressure, and flow rate through the air strippers increase to over 1,000 gpm without compromising the VOC removal process.</u> 2. <u>Extraction well IRWD-78 was destroyed in second quarter of 2009 due to severe iron bacteria growth and incapability to achieve the design flow rate. A replacement well was installed in the nearby location and put in operation in April 2012. The new well IRWD-78 has been operated at flow rates ranging from 756 gpm to 819 gpm since then.</u> 3. <u>The carbon vessel replacement frequency has been established at once every two to five months in the SGU unit, and once every seven to 12 months in the PA unit, resulting in VOC adsorption efficiency of approximately 80 percent or higher.</u> <p><u>Overall the O&M procedures as described in final O&M Manual are current and are generally being followed through; also see response to "D" below.</u></p>
C. Early Indicators of Potential Remedy Problems	<p>Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.</p> <p><u>N/A</u></p>
D. Opportunities for Optimization	

**Site Inspection Checklist
Second Five-Year Review
IRP Site 18, Former MCAS El Toro
Groundwater Pump and Treat**

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

IRWD and Tetra Tech performed a new groundwater modeling study to determine the range of the ET-1, ET-2 and Well 78 production rates which would ensure complete TCE particles capture of the VOC plume bordering Culver Street in the City of Irvine. The goal of the modeling is to revise the 2006 ESD established production flow rates. The final modeling study report is currently under review by the DON.

**Site Inspection Checklist
Second Five-Year Review
IRP Site 24 Treatment System, Former MCAS El Toro
Groundwater Pump and Treat**

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency California Department of Toxic Substances Control

Contact	<u>Ms. Eileen Mananian</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached See Appendix L of this report

Agency California Regional Water Quality Control Board, Santa Ana Region

Contact	<u>Ms. Patricia Hannon</u>	<u>Remedial Project Manager</u>	<u>04/08/14</u>	
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached See Appendix L of this report

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone no.

Problems, suggestions; Report attached _____

4. **Other interviews** (optional) Report attached. (See Appendix L of this report)

Ms. Mary Aycock, Remedial Project Manager, U.S. EPA Region IX
Mr. Robert Woodings, RAB Co-Chair, RAB, Former MCAS El Toro
Ms. Marcia Rudolph, Subcommittee Chair, RAB, Former MCAS El Toro
Mr. Jim Werkmeister Manager, Environmental Affairs, Five Point Communities
Mr. Cliff Wallace, Manager of Planning and Environmental Services, Orange County Great Park
Mr. Roy Herndon, Chief Hydrogeologist, Orange County Water District
Mr. Zoila Verdaguer-Finch, County Executive Officer, Orange County Public Works

**Site Inspection Checklist
Second Five-Year Review
IRP Site 24 Treatment System, Former MCAS EI Toro
Groundwater Pump and Treat**

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)			
1.	O&M Documents	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> O&M manual/work plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks <u>Extraction, monitoring, and conveyance system.</u>		
2.	Site-Specific Health and Safety Plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks <u>Extraction, monitoring, and conveyance system.</u>		
3.	O&M Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks <u>Extraction, monitoring, and conveyance system.</u>		
4.	Permits and Service Agreements	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Air discharge permit	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Effluent discharge	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input type="checkbox"/> Other permits _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
5.	Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks <u>Extraction, monitoring, and conveyance system.</u>		
6.	Discharge Compliance Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Air	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	<input checked="" type="checkbox"/> Water (effluent)	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks _____		
7.	Daily Access/Security Logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A
	Remarks <u>Noted in O&M logs</u>		
IV. ACCESS AND INSTITUTIONAL CONTROLS		<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
A. Fencing			
1.	Fencing damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Fencing secured <input type="checkbox"/> N/A
	Remarks _____		

**Site Inspection Checklist
Second Five-Year Review
IRP Site 24 Treatment System, Former MCAS El Toro
Groundwater Pump and Treat**

2.	Gates damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Gates secured	<input type="checkbox"/> N/A
Remarks _____ _____				
B. Other Access Restrictions				
1.	Signs and other security measures	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A	
Remarks <u>Remedy infrastructure marked "Property of DON, Do not Disturb."</u> _____				
C. Institutional Controls (ICs)				
1.	Implementation and enforcement	Site conditions imply ICs not properly implemented <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
		Site conditions imply ICs not being fully enforced <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Type of monitoring (e.g., self-reporting, drive by) <u>Self Reporting</u>				
Frequency <u>Annual</u>				
Responsible party/agency <u>Orange County Great Park and City of Irvine</u>				
Contact <u>Mr. Marc Smits, RPM</u>				
	Reporting is up-to-date	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Reports are verified by the lead agency	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Specific requirements in deed or decision documents have been met	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Violations have been reported	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
	Other problems or suggestions:	<input type="checkbox"/> Report attached		
_____ _____ _____				
2.	Adequacy	<input checked="" type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate	<input type="checkbox"/> N/A
Remarks _____ _____ _____				
D. General				
1.	Vandalism/trespassing	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident	
Remarks _____ _____				
2.	Land use changes on site	<input type="checkbox"/> N/A		
Remarks <u>Soccer fields have been constructed within Site 24.</u> _____				

**Site Inspection Checklist
Second Five-Year Review
IRP Site 24 Treatment System, Former MCAS El Toro
Groundwater Pump and Treat**

3.	Land use changes off site	<input checked="" type="checkbox"/> N/A	Remarks _____ _____
V. GENERAL SITE CONDITIONS			
A. Roads <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Roads damaged	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A	Remarks <u>No road damage evident.</u> _____
B. Other Site Conditions			
Remarks _____ _____			
VI. GROUNDWATER REMEDY			
A. Groundwater Extraction Wells, Pumps, and Pipelines <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Pumps, Wellhead Plumbing, and Electrical		Remarks _____ _____
	<input checked="" type="checkbox"/> Good condition	<input checked="" type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A	
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances		Remarks _____ _____
	<input checked="" type="checkbox"/> Good condition	<input type="checkbox"/> Needs Maintenance	
3.	Spare Parts and Equipment		Remarks _____ _____
	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided	
C. Treatment System <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			

**Site Inspection Checklist
Second Five-Year Review
IRP Site 24 Treatment System, Former MCAS EI Toro
Groundwater Pump and Treat**

1.	<p>Treatment Train (Check components that apply)</p> <p><input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation</p> <p><input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers</p> <p><input type="checkbox"/> Filters _____</p> <p><input type="checkbox"/> Additive (e.g., chelation agent, flocculent) _____</p> <p><input type="checkbox"/> Others _____</p> <p><input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance</p> <p><input checked="" type="checkbox"/> Sampling ports properly marked and functional</p> <p><input checked="" type="checkbox"/> Sampling/maintenance log displayed and up to date</p> <p><input checked="" type="checkbox"/> Equipment properly identified</p> <p><input type="checkbox"/> Quantity of groundwater treated annually _____</p> <p><input type="checkbox"/> Quantity of surface water treated annually _____</p> <p>Remarks _____</p> <p>_____</p>
2.	<p>Electrical Enclosures and Panels (properly rated and functional)</p> <p><input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance</p> <p>Remarks _____</p> <p>_____</p>
3.	<p>Tanks, Vaults, Storage Vessels</p> <p><input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs Maintenance</p> <p>Remarks _____</p> <p>_____</p>
4.	<p>Discharge Structure and Appurtenances</p> <p><input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance</p> <p>Remarks _____</p> <p>_____</p>
5.	<p>Treatment Building(s)</p> <p><input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair</p> <p><input type="checkbox"/> Chemicals and equipment properly stored</p> <p>Remarks _____</p> <p>_____</p>
6.	<p>Monitoring Wells (pump and treatment remedy)</p> <p><input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition</p> <p><input checked="" type="checkbox"/> All required wells located <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A</p> <p>Remarks _____</p> <p>_____</p>
D. Monitoring Data	
1	<p>Monitoring Data</p> <p><input checked="" type="checkbox"/> Is routinely submitted on time <input checked="" type="checkbox"/> Is of acceptable quality</p>
2.	<p>Monitoring data suggests:</p> <p><input checked="" type="checkbox"/> Groundwater plume is effectively contained <input checked="" type="checkbox"/> Contaminant concentrations are declining</p>

**Site Inspection Checklist
Second Five-Year Review
IRP Site 24 Treatment System, Former MCAS EI Toro
Groundwater Pump and Treat**

VII. OVERALL OBSERVATIONS	
A. Implementation of the Remedy	<p>Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).</p> <p><u>The remedy is designed to generally contain, remove, and treat VOC concentrations in excess of State & Federal MCLs. The specific monitoring objectives includes the following: evaluating the extent of hydraulic containment of the VOC plume, assessing the progress of the aquifer restoration, providing data for system performance optimization, and appraising compliance with the Remedial Action Objectives (RAOs). Consistent with final remedy design, four contingency wells were installed at the Station boundary from December 2009 to January 2010. With the operation of these four contingency wells, the capture of the on-Station SGU VOC plume and the principal aquifer plume has been complete. The System has effectively removed an estimated VOC mass of 1,719 pounds. All wells have been operational while some wells have been placed on standby mode as to maximize overall system performance and mass removal. Wells at hotspots, at the boundary and near the boundary, are continually on, while standby wells were rotated among the other wells to maintain operability.</u></p>
B. Adequacy of O&M	<p>Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.</p> <p><u>Routine O&M is performed weekly to maintain effective operation of the system. The system has maintained the design flow rate of 400 gpm. In these years of O&M, the system has been successful in creating dynamic conditions within the SGU plume, in removing mass of VOCs from the SGU, and in complete hydraulic capture of the SGU plume at the Station boundary.</u></p>
C. Early Indicators of Potential Remedy Problems	<p>Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.</p> <p><u>There have been no significant issues with system operation to date that would suggest that the protectiveness of the remedy may be compromised in the future. A supply of spare parts is kept onsite in order to make timely repairs and to keep system components operating as designed.</u></p>
D. Opportunities for Optimization	<p>Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.</p> <p><u>VOC concentrations are evaluated from individual extraction wells in the context of hydraulic containment. The evaluation is used to adjust pumping strategies to maximize VOC removal without compromising hydraulic containment. Data trends from extraction and monitoring wells are used to decrease sampling frequencies and data reporting as appropriate.</u></p>

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Appendix B
Photographs Taken During Site Inspection

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Photograph Index

Photograph #1	IRP Site 2 Access Road
Photograph #2	IRP Site 2 Cap Vegetation
Photograph #3	IRP Site 2 Landfill Gas Well
Photograph #4	IRP Site 2 Drainage Features
Photograph #5	IRP Site 3 Cap Vegetation
Photograph #6	IRP Site 3 Landfill Gas Well 03PG06
Photograph#7	IRP Site 5 Cap Vegetation
Photograph#8	IRP Site 5 Monitoring Well 05DGMW68A
Photograph #9	Anomaly Area 3
Photograph #10	IRP Site 16
Photograph #11	IRP Site 16 Monitoring Well 16MW26
Photograph #12	IRP Site 17 Concrete Drainage Ditch
Photograph #13	IRP Site 17 Perimeter Gas Monitoring Well
Photograph #14	IRP Site 18 Treatment System
Photograph #15	IRP Site 24 SGU Well 24MW11C/D
Photograph #16	IRP Site 24 Transfer Station
Photograph #17	IRP Site 24 Treatment System

Photograph #1: IRP Site 2 Access Road



Photograph #2: IRP Site 2 Cap Vegetation



Photograph #3: IRP Site 2 Landfill Gas Well



Photograph #4: IRP Site 2 Drainage Features



Photograph #5: IRP Site 3 Cap Vegetation



Photograph #6: IRP Site 3 Landfill Gas Well 03 PG06



Photograph #7: IRP Site 5 Cap Vegetation



Photograph #8: IRP Site 5 Monitoring Well 05DGMW68A



Photograph #9: Anomaly Area 3



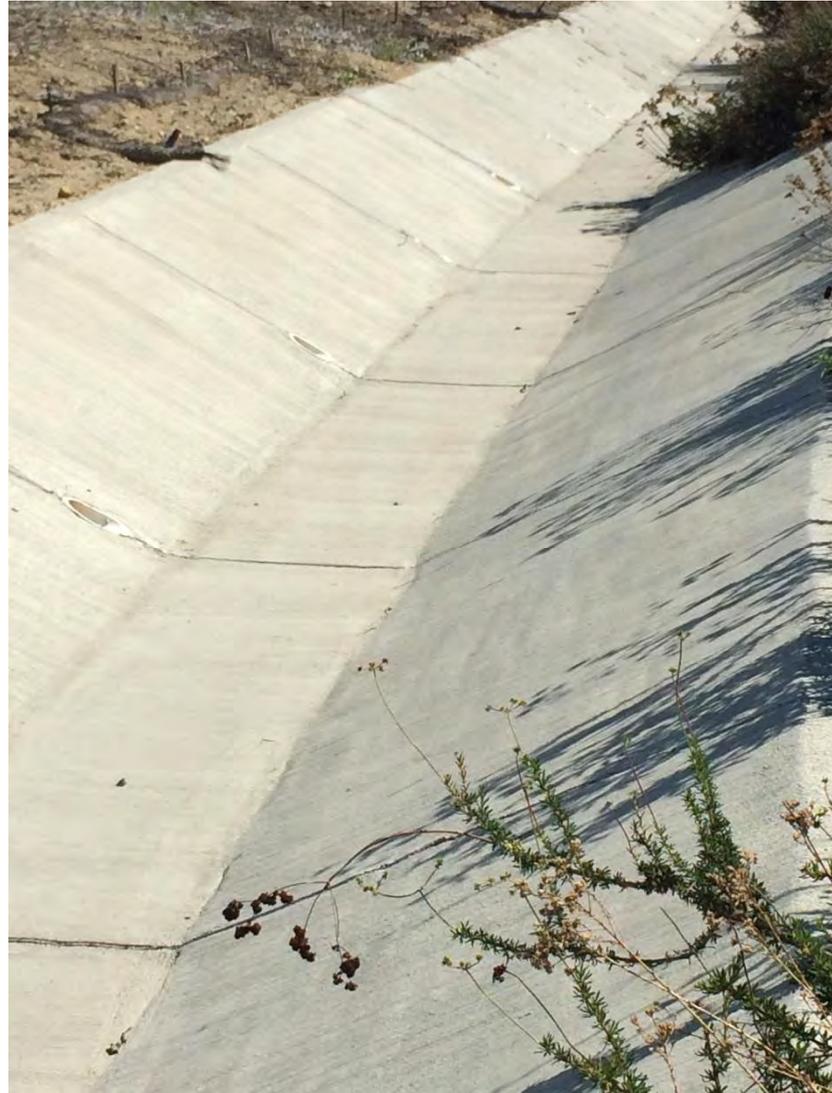
Photograph #10: IRP Site 16



Photograph #11: IRP Site 16
Monitoring Well 16MW26



Photograph #12: IRP Site 17 Concrete Drainage Ditch



Photograph #13: IRP Site 17 Settlement Monument



Photograph #14: IRP Site 18 Treatment System



Photograph #15: IRP Site 24 Monitoring Well 24MW11C/D



Photograph #16: IRP Site 24 Transfer Station



Photograph #17: IRP Site 24 Treatment System



Appendix C
Interview Documentation Forms – IRP Sites 2
and 17

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**INTERVIEW DOCUMENTATION FORM
SECOND FIVE-YEAR REVIEW
IRP SITES 2 AND 17, FORMER MCAS EL TORO**

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date*
Mary Aycock	Remedial Project Manager	U.S. EPA Region IX	04/08/14
Eileen Mananian	Remedial Project Manager	California DTSC	04/08/14
Patricia Hannon	Remedial Project Manager	California RWQCB, Santa Ana Region	04/08/14
Robert Woodings	RAB Co-Chair	RAB, Former MCAS El Toro	04/14/14
Marcia Rudolph	Subcommittee Chair	RAB, Former MCAS El Toro	04/14/14
Jim Dill	Project Manager, O&M, IRP Sites 2 and 17	CE2 Kleinfelder	04/10/14
Tom Brown	IRP Sites 2 and 17	FBI	04/10/14
Jim Werkmeister	Manager, Environmental Affairs	Five Point Communities	04/14/14
Cliff Wallace	Manager of Planning and Environmental Services	Orange County Great Park	04/14/14
Zoila Verdaguer-Finch	County Executive Officer, IRP Site 2	Orange County Public Works	04/18/14

* Indicates the date interview questionnaire was sent via email.

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Appendix D
Interview Record Forms – IRP Sites 2 and 17

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INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time: 1:00 PM	Date: 4/17/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Mary Aycock	Title: Remedial Project Manager	Organization: U.S. EPA Region IX
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Telephone No:	Street Address: 75 Hawthorne Street City, State, Zip: San Francisco, CA 94105
Fax No:	
E-Mail Address: aycock.mary@epamail.epa.gov	

Summary

IRP Site 2 Vadose Zone

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
 Yes.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
 We are getting enquires from the RAB members regarding perchlorate for IRP Sites 1 and 2.

Do you feel well informed about the site's activities and progress?
 Yes.

Do you feel the land use controls effective? (if applicable)
 Too early to say, up to the Navy to demonstrate that they are effective.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
 Provide updates in the semi-annual BCT meeting and combine it with other sites for a site tour for the regulators.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time: 1:00 PM	Date: 4/17/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Mary Aycock		Title: Remedial Project Manager	Organization: U.S. EPA Region IX
Telephone No:		Street Address: 75 Hawthorne Street	
Fax No:		City, State, Zip: San Francisco, CA 94105	
E-Mail Address: aycock.mary@epamail.epa.gov			

Summary

IRP Site 17

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.

Yes.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.

No.

Do you feel well informed about the site's activities and progress?

Include more information/updates during BCT calls.

Do you feel the land use controls effective? (if applicable)

We cannot say at this time, too early to say.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

Provide updates in the semi-annual BCT meeting and combine it with other sites for a site tour for the regulators.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Eileen Mananian	Title: Remedial Project Manager	Organization: California DTSC
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Telephone No:	Street Address: 5796 Corporate Avenue City, State, Zip: Cypress, California 90630
Fax No:	
E-Mail Address: eileen.mananian@dtsc.ca.gov	

Summary of Conversation

IRP Site 2 Vadose Zone

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
The main routine communications have been through the document review of the semi-annual and annual monitoring reports. We have not done any physical site inspections. Though there might have been site visits in the past prior to me being the Project Manager but I have not been made aware of those. During my time, there have not been any site visits and inspections. We have done the standard review and provided comments on the documents, and there are no major comments.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
There have been no complaints, violations or other incidents that we should be concerned.

Do you feel well informed about the site's activities and progress?
We feel well informed about the site's activities and progress with the semi-annual and annual monitoring reports.

Do you feel the land use controls effective? (if applicable)
We are satisfied with the effectiveness of the land use controls.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Eileen Mananian		Title: Remedial Project Manager	Organization: California DTSC
Telephone No:		Street Address: 5796 Corporate Avenue	
Fax No:		City, State, Zip: Cypress, California 90630	
E-Mail Address: eileen.mananian@dtsc.ca.gov			
Summary of Conversation			
<p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i></p> <p><i>No major comment or recommendation, other than that the remedy should continue to operate as designed and continue to evaluate if there are any changes required to the remedy in the future.</i></p> <p style="text-align: center;"><u>IRP Site 17</u></p> <p><i>Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.</i></p> <p><i>The main routine communications have been through the document review of the semi-annual and annual monitoring reports. We have not done any physical site inspections. Though there might have been site visits in the past prior to me being the Project Manager but I have not been made aware of those. During my time, there have not been any site visits and inspections. We have done the standard review and provided comments on the documents, and there are no major comments.</i></p> <p><i>Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.</i></p> <p><i>There have been no complaints, violations or other incidents that we should be concerned.</i></p>			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Eileen Mananian		Title: Remedial Project Manager	Organization: California DTSC
Telephone No:		Street Address: 5796 Corporate Avenue	
Fax No:		City, State, Zip: Cypress, California 90630	
E-Mail Address: eileen.mananian@dtsc.ca.gov			
Summary of Conversation			
<p><i>Do you feel well informed about the site's activities and progress?</i> <i>We feel well informed about the site's activities and progress with the semi-annual and annual monitoring reports.</i></p> <p><i>Do you feel the land use controls effective? (if applicable)</i> <i>We are satisfied with the effectiveness of the land use controls.</i></p> <p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i> <i>No major comment or recommendation, other than that the remedy should continue to operate as designed and continue to evaluate if there are any changes required to the remedy in the future.</i></p>			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time: 3:30 PM	Date: 06/03/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Patricia Hannon	Title: Remedial Project Manager	Organization: California RWQCB, Santa Ana Region
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Telephone No:	Street Address:
Fax No:	City, State, Zip:
E-Mail Address: patricia.hannon@waterboards.ca.gov	

Summary

IRP Site 2 Vadose Zone

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
The RWQCB has reviewed the LTM reports through 2013.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
No.

Do you feel well informed about the site's activities and progress?
Yes.

Do you feel the land use controls effective? (if applicable)
Yes.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
No.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time: 3:30 PM	Date: 06/03/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Patricia Hannon	Title: Remedial Project Manager	Organization: California RWQCB, Santa Ana Region
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Telephone No:	Street Address:
Fax No:	City, State, Zip:
E-Mail Address: patricia.hannon@waterboards.ca.gov	

Summary

IRP Site 17

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
The RWQCB has reviewed the LTM reports through 2013.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
No.

Do you feel well informed about the site's activities and progress?
Yes.

Do you feel the land use controls effective? (if applicable)
Yes.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
No.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 2, 3, 5, 16, 17, 18, 24 AND ANOMALY AREA 3
FORMER MCAS EL TORO

Site Name: IRP Sites 2, 3, 5, 16, 17, 18, 24 and Anomaly Area 3, Former MCAS El Toro, Irvine, California	EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 2, 3, 5, 16, 17, 18, 24 and Anomaly Area 3, Former MCAS El Toro	Time: 3:00 PM	Date: 06/04/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other	<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:		

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Robert Woodings	Title: Restoration Advisory Board (RAB) Co-Chair	Organization: RAB, Former MCAS El Toro
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Telephone No:	Street Address:
Fax No:	City, State, Zip:
E-Mail Address:	

Summary

IRP Sites 2, 3, 5, 16, 17, 18, 24 and Anomaly Area 3

What effects have site operations had on the surrounding community?
No effects on the surrounding community within the last 5 years.

Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details.
No. The sites are being handled effectively by the Navy and its contractors/consultants.

Do you feel well informed about the site's activities and progress?
Yes. The information provided through exchange of letters, attending meetings and RAB meeting minutes are helpful in understanding the activities and progress at these sites.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
The RAB Co-Chair requested digital copies of deliverables in addition to the transmittal letter, and recommended more effort to effectively respond to RAB member requests.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 2, 3, 5, 16, 17, 18, 24 AND ANOMALY AREA 3
FORMER MCAS EL TORO

Site Name: IRP Sites 2, 3, 5, 16, 17, 18, 24 and Anomaly Area 3, Former MCAS El Toro, Irvine, California	EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 2, 3, 5, 16, 17, 18, 24 and Anomaly Area 3, Former MCAS El Toro	Time: 9:55 AM	Date: 06/19/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other	<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:		

Contact Made By:

Name: Crispin Wanyoike on behalf of James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Marcia Rudolph	Title: Restoration Advisory Board (RAB) Subcommittee Chair	Organization: RAB, Former MCAS El Toro
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Telephone No:	Street Address: City, State, Zip:
Fax No:	
E-Mail Address:	

Summary

IRP Sites 2, 3, 5, 16, 17, 18, 24 and Anomaly Area 3

What effects have site operations had on the surrounding community?
No significant effects or concerns from the community.

Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details.
No significant concerns.

Do you feel well informed about the site's activities and progress?
Yes.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
No, public comments are addressed.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: Interview record			
Contact Made By:			
Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West	
Individual Contacted:			
Name: Jim Dill	Title: Project Manager, O&M, Sites 2 and 17	Organization: CE2 Kleinfelder	
Telephone No: 949.585.3121		Street Address: 2 Ada, Ste 250	
Fax No: 949.727.9242		City, State, Zip: Irvine, CA 92618	
E-Mail Address: jdill@kleinfelder.com			

Summary

IRP Site 2 Vadose Zone

How would you characterize the performance of the remedial action(s) implemented at this site to date (i.e., successful, failed, or other)?

Remedial actions have been successfully implemented at this Site to date.

Are you aware of any regulatory notices of violation related to the site that required a response?

We are not aware of any regulatory notices of violation for this Site.

Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines described in the O&M Plan/Manuals? If so, how did the changes affect the protectiveness or effectiveness of the remedy?

There have been no significant changes to the O&M requirements or maintenance schedules for this site. In January 2011, there was a spike with certain metal concentrations noted in some wells. DTSC recommended looking at filtering groundwater samples, so the last round of sampling (October 2013) analyzed filtered and unfiltered groundwater. Filtering did reduce many of the metal concentrations below Maximum Concentration Limits and was determined to be more applicable for comparison. This change is being recommended as part of the 2013 Annual LTM Report, and it has no effect on the protectiveness or effectiveness of the remedy.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: Interview record			
Contact Made By:			
Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West	
Individual Contacted:			
Name: Jim Dill	Title: Project Manager, O&M, Sites 2 and 17	Organization: CE2 Kleinfelder	
Telephone No: 949.585.3121		Street Address: 2 Ada, Ste 250	
Fax No: 949.727.9242		City, State, Zip: Irvine, CA 92618	
E-Mail Address: jdill@kleinfelder.com			

Summary

Have there been unexpected O&M difficulties at the site since start-up? If so, please give details.

There have been no unexpected O&M difficulties outside of dropping groundwater levels as noted in the annual reports.

Have there been opportunities to optimize O&M, or sampling efforts? Please give details.

Two IRP Site 2 wells (02_PZ08 and 02NEW14) that were listed in the Final O&M Plan for depth to groundwater measurements were destroyed (properly abandoned) on September 30, 2013 (see 2013 Annual LTM Report, Section 2.3). The use of compressed air instead of compressed nitrogen gas has been suggested for use during groundwater sampling due to the remoteness of some of the wells in Borrego Canyon wash.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

We have no further comments or recommendations for this Site.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: Interview record			
Contact Made By:			
Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West	
Individual Contacted:			
Name: Jim Dill	Title: Project Manager, O&M, Sites 2 and 17	Organization: CE2 Kleinfelder	
Telephone No: 949.585.3121		Street Address: 2 Ada, Ste 250	
Fax No: 949.727.9242		City, State, Zip: Irvine, CA 92618	
E-Mail Address: jdill@kleinfelder.com			

Summary

IRP Site 17

How would you characterize the performance of the remedial action(s) implemented at this site to date (i.e., successful, failed, or other)?

Remedial actions have been successfully implemented at this Site to date.

Are you aware of any regulatory notices of violation related to the site that required a response?

We are not aware of any regulatory notices of violation for this Site.

Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines described in the O&M Plan/Manuals? If so, how did the changes affect the protectiveness or effectiveness of the remedy?

There have been no significant changes to the O&M requirements or maintenance schedules for this site. In January 2011, there was a spike with certain metal concentrations noted in some wells. DTSC recommended looking at filtering groundwater samples, so the last round of sampling (October 2013) analyzed filtered and unfiltered groundwater. Filtering did reduce many of the metal concentrations below Maximum Concentration Limits and was determined to be more applicable for comparison. This change is being recommended as part of the 2013 Annual LTM Report, and it has no effect on the protectiveness or effectiveness of the remedy.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: Interview record			
Contact Made By:			
Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West	
Individual Contacted:			
Name: Jim Dill	Title: Project Manager, O&M, Sites 2 and 17	Organization: CE2 Kleinfelder	
Telephone No: 949.585.3121		Street Address: 2 Ada, Ste 250	
Fax No: 949.727.9242		City, State, Zip: Irvine, CA 92618	
E-Mail Address: jdill@kleinfelder.com			
Summary			
<p><i>Have there been unexpected O&M difficulties at the site since start-up? If so, please give details.</i></p> <p>There have been no unexpected O&M difficulties outside of dropping groundwater levels as noted in the annual reports</p>			
<p><i>Have there been opportunities to optimize O&M, or sampling efforts? Please give details.</i></p> <p>An internal equipment failure in lysimeter 17LYS2 precluded further soil moisture sampling beginning in 2012. The detected results for metals between upgradient and downgradient lysimeters in previous events had remained below the established prediction limits, thus sampling was discontinued at this location (see 2012 Annual LTM Report, Section 2.1.5). There have been no other opportunities identified to optimize O&M at this Site.</p>			
<p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i></p> <p>We have no further comments or recommendations for this Site.</p>			

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 2 AND 17
FORMER MCAS EL TORO**

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 2 and 17, Former MCAS El Toro		Time: 10:30	Date: 6/18/2014
Type: <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: Crispin Wanyoike AEJV on behalf of James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Tom Brown	Title: Facility Manager	Organization: FBI
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Telephone No:	Street Address: City, State, Zip:
Fax No:	
E-Mail Address:	

Summary

IRP Sites 2 and 17

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
Yes I have conducted the annual inspections and submitted completed checklists to the Navy

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.

None

Do you feel well informed about the site's activities and progress?

Yes

Do you feel the land use controls effective? (if applicable)

Yes

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

None

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE 17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, CA		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time:	Date: 4/28/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: James Werkmeister	Title: Manager, Environmental Affairs	Organization: Five Point Communities
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Telephone No: 949-349-1084	Street Address: 25 Enterprise
Fax No:	City, State, Zip: Aliso Viejo, CA92656
E-Mail Address: jim.werkmeister@fivepointcommunities.com	

Summary

IRP Site 2 (Vadose Zone)

What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)? successful

Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.
No

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
no

Do you feel well informed about the site's activities and progress? yes

Do you have any comments, suggestions, or recommendations regarding the site's management or operation? no

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE 17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, CA		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone) and IRP Site 17, Former MCAS El Toro		Time:	Date: 4/28/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit x Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: James Werkmeister	Title: Manager, Environmental Affairs	Organization: Five Point Communities
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Telephone No: 949-349-1084	Street Address: 25 Enterprise
Fax No:	City, State, Zip: Aliso Viejo, CA92656
E-Mail Address: jim.werkmeister@fivepointcommunities.com	

Summary

IRP Site 17

What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)? **successful**

Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.
no

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
no

Do you feel well informed about the site's activities and progress? **yes**

Do you have any comments, suggestions, or recommendations regarding the site's management or operation? **no**

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE 17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, CA		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (Vadose Zone) and IRP Site 17, Former MCAS El Toro		Time:	Date: 4-24-14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit X <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: OCGP Office			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Cliff Wallace	Title: Manager of Real Property & Great Park Site Administration	Organization: Orange County Great Park
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Telephone No: 949-724-7423	Street Address: P.O. Box 19575
Fax No: 949-724-6045	City, State, Zip: Irvine, CA 92623
E-Mail Address: cwallace@ocgp.org	

Summary

IRP Site 2 (Vadose Zone)

**What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)?* Successful - the remedy appears to be progressing towards its stated goals.

**Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.*
 - We are not aware of any such actions at this IRP site.

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
 - This site is small in area, and somewhat remote to the main park, therefore, no routine activities are conducted near this IRP.

Do you feel well informed about the site's activities and progress? Yes.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation? We are completely satisfied with the operation and management of this site.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE) AND IRP SITE 17
FORMER MCAS EL TORO

Site Name: IRP Sites 2 and 17, Former MCAS El Toro, Irvine, CA		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (Vadose Zone) and IRP Site 17, Former MCAS El Toro		Time:	Date: 4-24-14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit X <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: OCGP Office			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Cliff Wallace	Title: Manager of Real Property & Great Park Site Administration	Organization: Orange County Great Park
----------------------------	---	---

Telephone No: 949-724-7423	Street Address: P.O. Box 19575
Fax No: 949-724-6045	City, State, Zip: Irvine, CA 92623
E-Mail Address: cwallace@ocgp.org	

Summary

IRP Site 17

What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)? Non-Applicable - IRP Site 17 is not within the jurisdiction of this organization. This applies to all portions of the Site 17 questionnaire.

Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.

Do you feel well informed about the site's activities and progress?

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE)
FORMER MCAS EL TORO**

Site Name: IRP Site 2, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone), Former MCAS El Toro		Time: 03:19	Date: 04/21/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Zoila Verdaguer-Finch		Title: County Executive Officer	Organization: County of Orange
Telephone No: 714-667-9698		Street Address: 300 N. Flower Street	
Fax No:		City, State, Zip: Santa Ana, CA 92703	
E-Mail Address: Zoila.Finch@ocpw.ocgov.com			

Summary

IRP Site 2 Vadose Zone

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
The County conducts general management and maintenance of the County's wildlife corridor mitigation site and R&S Soil's operations on LIFOC II-F-2.

*Wildlife corridor maintenance consists of weed abatement, irrigation, irrigation repair, trash removal (minimal) and quarterly inspections with the biologist and County staff.
R&S Soils is a green waste company that collects green waste from local landscapers, stages it on-site to convert it into compost, and re-sales it to local landscapers as mulch and planting material. They are complying with all local, state and federal requirements.*

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
No.

Do you feel well informed about the site's activities and progress?
The Navy has adequately informed the County about its activities and progress on –site.

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 2 (VADOSE ZONE)
FORMER MCAS EL TORO**

Site Name: IRP Site 2, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 2 (vadose zone), Former MCAS El Toro		Time: 03:19	Date: 04/21/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Zoila Verdaguer-Finch		Title: County Executive Officer	Organization: County of Orange
Telephone No: 714-667-9698		Street Address: 300 N. Flower Street	
Fax No:		City, State, Zip: Santa Ana, CA 92703	
E-Mail Address: Zoila.Finch@ocpw.ocgov.com			
Summary			
<i>Do you feel the land use controls effective? (if applicable)</i> Yes.			
<i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i> No, but the County encourages the Navy to continuing communicating via email, conference calls and the El Toro Quarterly Re-use Forum.			

Appendix E
Interview Documentation Forms – IRP Sites 3
and 5

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**INTERVIEW DOCUMENTATION FORM
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5, FORMER MCAS EL TORO**

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date*
Mary Aycock	Remedial Project Manager	U.S. EPA Region IX	04/08/14
Eileen Mananian	Remedial Project Manager	California DTSC	04/08/14
Patricia Hannon	Remedial Project Manager	California RWQCB, Santa Ana Region	04/08/14
Robert Woodings	RAB Co-Chair	RAB, Former MCAS El Toro	04/14/14
Marcia Rudolph	Subcommittee Chair	RAB, Former MCAS El Toro	04/14/14
Jim Dill	Project Manager, O&M, Sites 3 and 5	CE2 Kleinfelder	04/10/14
Jim Werkmeister	Manager, Environmental Affairs	Five Point Communities	04/14/14
Cliff Wallace	Manager of Planning and Environmental Services	Orange County Great Park	04/14/14

* Indicates the date interview questionnaire was sent via email.

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Appendix F
Interview Record Forms – IRP Sites 3 and 5

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**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO**

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time: 1:00 PM	Date: 4/17/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Mary Aycock	Title: Remedial Project Manager	Organization: U.S. EPA Region IX
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Telephone No:	Street Address: 75 Hawthorne Street City, State, Zip: San Francisco, CA 94105
Fax No:	
E-Mail Address: aycock.mary@epamail.epa.gov	

Summary

IRP Site 3

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
Yes. We are continuously getting phone calls from the Press regarding the location of the High School once every few weeks regarding the risks from landfill to the High School. In future, we may refer these calls to the Navy BEC James Sullivan since the Navy is the lead on this.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
No. Just the enquires.

Do you feel well informed about the site's activities and progress?
Yes. In the future, we should keep each other updated when we get calls from the Press.

Do you feel the land use controls effective? (if applicable)
Yes, as far as we know at this time.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time: 1:00 PM	Date: 4/17/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other Location of Visit:		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Mary Aycock		Title: Remedial Project Manager	Organization: U.S. EPA Region IX
Telephone No:		Street Address: 75 Hawthorne Street	
Fax No:		City, State, Zip: San Francisco, CA 94105	
E-Mail Address: aycock.mary@epamail.epa.gov			
Summary			
<p><i>We should visit the site when the High School is developed to see whether we need additional security or preventive measures to keep people out of the area as development goes around it.</i></p> <p style="text-align: center;"><u>IRP Site 5</u></p> <p><i>Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.</i> Yes.</p> <p><i>Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.</i> No.</p> <p><i>Do you feel well informed about the site's activities and progress?</i> Yes.</p> <p><i>Do you feel the land use controls effective? (if applicable)</i> Yes, as far as we know at this time.</p> <p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i> No.</p>			

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO**

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Eileen Mananian	Title: Remedial Project Manager	Organization: California DTSC
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Telephone No:	Street Address: 5796 Corporate Avenue City, State, Zip: Cypress, California 90630
Fax No:	
E-Mail Address: eileen.mananian@dtsc.ca.gov	

Summary of Conversation

IRP Site 3

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
The main routine communications have been through the document review of the semi-annual and annual monitoring reports. We have not done any physical site inspections. Though there might have been site visits in the past prior to me being the Project Manager but I have not been made aware of those. During my time, there have not been any site visits and inspections. We have done the standard review and provided comments on the documents, and there are no major comments.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
There have been no complaints, violations or other incidents that we should be concerned.

Do you feel well informed about the site's activities and progress?
We feel well informed about the site's activities and progress with the semi-annual and annual monitoring reports.

Do you feel the land use controls effective? (if applicable)
We are satisfied with the effectiveness of the land use controls.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Eileen Mananian	Title: Remedial Project Manager	Organization: California DTSC
------------------------------	--	--------------------------------------

Telephone No:	Street Address: 5796 Corporate Avenue City, State, Zip: Cypress, California 90630
Fax No:	
E-Mail Address: eileen.mananian@dtsc.ca.gov	

Summary of Conversation

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

No major comment or recommendation, other than that the remedy should continue to operate as designed and continue to evaluate if there are any changes required to the remedy in the future.

IRP Site 5

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.

The main routine communications have been through the document review of the semi-annual and annual monitoring reports. We have not done any physical site inspections. Though there might have been site visits in the past prior to me being the Project Manager but I have not been made aware of those. During my time, there have not been any site visits and inspections. We have done the standard review and provided comments on the documents, and there are no major comments.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.

There have been no complaints, violations or other incidents that we should be concerned.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Eileen Mananian		Title: Remedial Project Manager	Organization: California DTSC
Telephone No:		Street Address: 5796 Corporate Avenue	
Fax No:		City, State, Zip: Cypress, California 90630	
E-Mail Address: eileen.mananian@dtsc.ca.gov			
Summary of Conversation			
<p><i>Do you feel well informed about the site's activities and progress?</i> <i>We feel well informed about the site's activities and progress with the semi-annual and annual monitoring reports.</i></p> <p><i>Do you feel the land use controls effective? (if applicable)</i> <i>We are satisfied with the effectiveness of the land use controls.</i></p> <p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i> <i>No major comment or recommendation, other than that the remedy should continue to operate as designed and continue to evaluate if there are any changes required to the remedy in the future.</i></p>			

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO**

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California	EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro	Time: 3:30 PM	Date: 06/03/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other	<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:		

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Patricia Hannon	Title: Remedial Project Manager	Organization: California RWQCB, Santa Ana Region
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Telephone No:	Street Address:
Fax No:	
E-Mail Address: patricia.hannon@waterboards.ca.gov	
City, State, Zip:	

Summary

IRP Site 3

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
The RWQCB was involved in overseeing the construction, and have reviewed reports related to the LTM.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
No.

Do you feel well informed about the site's activities and progress?
Yes.

Do you feel the land use controls effective? (if applicable)
Yes.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
No.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California	EPA ID No.: CA6170023208
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Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro	Time: 3:30 PM	Date: 06/03/14
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Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other Location of Visit:	<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing
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Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Patricia Hannon	Title: Remedial Project Manager	Organization: California RWQCB, Santa Ana Region
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Telephone No:	Street Address:
Fax No:	
E-Mail Address: patricia.hannon@waterboards.ca.gov	
City, State, Zip:	

Summary

IRP Site 5

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
The RWQCB was involved in overseeing the construction, and have reviewed reports related to the LTM.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
No.

Do you feel well informed about the site's activities and progress?
Yes.

Do you feel the land use controls effective? (if applicable)
Yes.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
No.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time: 11:00	Date: 4/14/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: Interview record			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Jim Dill		Title: Project Manager, O&M, Sites 3 and 5	Organization: CE2 Kleinfelder
Telephone No: 949.585.3121		Street Address: 2 Ada, Ste 250	
Fax No: 949.727.9242		City, State, Zip: Irvine, CA 92618	
E-Mail Address: jdill@kleinfelder.com			

Summary

IRP Site 3

How would you characterize the performance of the remedial action(s) implemented at this site to date (i.e., successful, failed, or other)?

Remedial actions have been successfully implemented at this Site to date.

Are you aware of any regulatory notices of violation related to the site that required a response?

We are not aware of any regulatory notices of violation for this Site.

Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines described in the O&M Plan/Manuals? If so, how did the changes affect the protectiveness or effectiveness of the remedy?

No significant changes have occurred to the O&M at the Site as described in the O&M Plan.

Have there been unexpected O&M difficulties at the site since start-up? If so, please give details.

There have been no unexpected O&M difficulties outside of dropping groundwater levels as noted in the annual reports.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time: 11:00	Date: 4/14/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: Interview record			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Jim Dill		Title: Project Manager, O&M, Sites 3 and 5	Organization: CE2 Kleinfelder
Telephone No: 949.585.3121		Street Address: 2 Ada, Ste 250	
Fax No: 949.727.9242		City, State, Zip: Irvine, CA 92618	
E-Mail Address: jdill@kleinfelder.com			

Summary

Have there been opportunities to optimize O&M, or sampling efforts? Please give details.
 There have been no opportunities identified to optimize O&M at this Site.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

We have no further comments or recommendations for this Site.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time: 11:00	Date: 4/14/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: Interview record			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Jim Dill	Title: Project Manager, O&M, Sites 3 and 5	Organization: CE2 Kleinfelder
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Telephone No: 949.585.3121	Street Address: 2 Ada, Ste 250
Fax No: 949.727.9242	City, State, Zip: Irvine, CA 92618
E-Mail Address: jdill@kleinfelder.com	

Summary

IRP Site 5

How would you characterize the performance of the remedial action(s) implemented at this site to date (i.e., successful, failed, or other)?

Remedial actions have been successfully implemented at this Site to date.

Are you aware of any regulatory notices of violation related to the site that required a response?

We are not aware of any regulatory notices of violation for this Site.

Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines described in the O&M Plan/Manuals? If so, how did the changes affect the protectiveness or effectiveness of the remedy?

No significant changes have occurred to the O&M at the Site as described in the O&M Plan.

Have there been unexpected O&M difficulties at the site since start-up? If so, please give details.

There have been no unexpected O&M difficulties outside of dropping groundwater levels as noted in the annual reports.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time: 11:00	Date: 4/14/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: Interview record			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Jim Dill		Title: Project Manager, O&M, Sites 3 and 5	Organization: CE2 Kleinfelder
Telephone No: 949.585.3121		Street Address: 2 Ada, Ste 250	
Fax No: 949.727.9242		City, State, Zip: Irvine, CA 92618	
E-Mail Address: jdill@kleinfelder.com			
Summary			
<p><i>Have there been opportunities to optimize O&M, or sampling efforts? Please give details.</i> Sampling at well 05_DGMW67A was reduced from quarterly to semiannually in accordance with sample findings, recommendations made in the 1st Annual Long-Term Monitoring Report, and per the O&M Plan. There have been no other opportunities identified to optimize O&M at this Site.</p> <p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i> We have no further comments or recommendations for this Site.</p>			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other Location of Visit:		<input type="checkbox"/> Incoming	<input type="checkbox"/> Outgoing
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: James Werkmeister		Title: Manager, Environmental Affairs	Organization: Five Point Communities
Telephone No: 949-349-1084		Street Address: 25 Enterprise	
Fax No:		City, State, Zip: Aliso Viejo, CA92656	
E-Mail Address: jim.werkmeister@fivepointcommunities.com			
Summary			
<u>IRP Site 3</u>			
<i>What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)? Successful</i>			
<i>Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.</i> No			
<i>Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.</i> Site visits, informal inspection			
<i>Do you feel well informed about the site's activities and progress? yes</i>			
<i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation? No</i>			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:		
Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West

Individual Contacted:		
Name: James Werkmeister	Title: Manager, Environmental Affairs	Organization: Five Point Communities

Telephone No: 949-349-1084 Fax No: E-Mail Address: jim.werkmeister@fivepointcommunities.com	Street Address: 25 Enterprise City, State, Zip: Aliso Viejo, CA92656
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Summary

IRP Site 5

What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)? successful

Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.
No

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
Site visits, informal inspection

Do you feel well informed about the site's activities and progress? yes

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: James Werkmeister		Title: Manager, Environmental Affairs	Organization: Five Point Communities
Telephone No: 949-349-1084		Street Address: 25 Enterprise	
Fax No:		City, State, Zip: Aliso Viejo, CA92656	
E-Mail Address: jim.werkmeister@fivepointcommunities.com			
Summary			
<i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i>			

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO**

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time:	Date: 4/24/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: OCGP Office			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Cliff Wallace	Title: Manager of Real Property & Great Park Site Administration	Organization: Orange County Great Park
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Telephone No: 949-724-7423	Street Address: P.O. Box 19575
Fax No: 949-724-6245	City, State, Zip: Irvine, CA 92623
E-Mail Address: cwallace@ocgp.org	

Summary

IRP Site 3

**What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)?* Successful - the remedy appears to be progressing towards its stated goals.

**Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.*
 - We are not aware of any such actions at this IRP site..

**Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.*
 - With the cooperation of the BRAC office, this site is surrounded by and incorporated into the Orange County Great Park, therefore, this site is observed on a regular basis. All activities conducted within the Park are in compliance with all regulatory requirements.

**Do you feel well informed about the site's activities and progress?* - Yes

**Do you have any comments, suggestions, or recommendations regarding the site's management or operation?* - We are completely satisfied with the operation and management of this site.

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 3 AND 5
FORMER MCAS EL TORO**

Site Name: IRP Sites 3 and 5, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 3 and 5, Former MCAS El Toro		Time:	Date: 4/24/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit X <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: OCGP Office			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Cliff Wallace	Title: Manager of Real Property & Great Park Site Administration	Organization: Orange County Great Park
----------------------------	---	---

Telephone No: 949-724-7423	Street Address: P.O. Box 19575
Fax No: 949-724-6245	City, State, Zip: Irvine, CA 92623
E-Mail Address: cwallace@ocgp.org	

Summary

IRP Site 5

**What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)?* Successful - the remedy appears to be progressing towards its stated goals.

**Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.*

- We are not aware of any such actions at this IRP site.

**Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.*

- With the cooperation of the BRAC office, this site is surrounded by and incorporated into the Orange County Great Park, therefore, this site is observed on a regular basis. All activities conducted within the Park are in compliance with all regulatory requirements.

**Do you feel well informed about the site's activities and progress?* - Yes

**Do you have any comments, suggestions, or recommendations regarding the site's management or operation?* - We are completely satisfied with the operation and management of this site.

Appendix G
Interview Documentation Forms – Anomaly Area 3

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INTERVIEW DOCUMENTATION FORM
SECOND FIVE-YEAR REVIEW
SITE ANOMALY AREA 3, FORMER MCAS EL TORO

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date*
Mary Aycock	Remedial Project Manager	U.S. EPA Region IX	04/08/14
Eileen Mananian	Remedial Project Manager	California DTSC	04/08/14
Patricia Hannon	Remedial Project Manager	California RWQCB, Santa Ana Region	04/08/14
Robert Woodings	RAB Co-Chair	RAB, Former MCAS El Toro	04/14/14
Marcia Rudolph	Subcommittee Chair	RAB, Former MCAS El Toro	04/14/14
Doug Bielskis	Project Manager, O&M, Anomaly Area 3	ERRG	04/08/14
Jim Werkmeister	Manager, Environmental Affairs	Five Point Communities	04/14/14

* Indicates the date interview questionnaire was sent via email.

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Appendix H
Interview Record Forms – Anomaly Area 3

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**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
ANOMALY AREA 3
FORMER MCAS EL TORO**

Site Name: Anomaly Area 3, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for Anomaly Area 3, Former MCAS El Toro		Time: 1:00 PM	Date: 4/17/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Mary Aycock		Title: Remedial Project Manager	Organization: U.S. EPA Region IX
Telephone No:		Street Address: 75 Hawthorne Street	
Fax No:		City, State, Zip: San Francisco, CA 94105	
E-Mail Address: aycock.mary@epamail.epa.gov			
Summary			
<p><i>Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.</i> Yes.</p> <p><i>Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.</i> No.</p> <p><i>Do you feel well informed about the site's activities and progress?</i> Yes.</p> <p><i>Do you feel the land use controls effective? (if applicable)</i> Yes as far as we know at this time.</p> <p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i> It's fine the way it's going. However, provide updates in the semi-annual BCT meeting and combine it with other sites for a site tour for the regulators..</p>			

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
ANOMALY AREA 3
FORMER MCAS EL TORO**

Site Name: Anomaly Area 3, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for Anomaly Area 3, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Eileen Mananian		Title: Remedial Project Manager	Organization: California DTSC
Telephone No:		Street Address: 5796 Corporate Avenue	
Fax No:		City, State, Zip: Cypress, California 90630	
E-Mail Address: eileen.mananian@dtsc.ca.gov			
Summary of Conversation			
<p><i>Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.</i> <i>We have been receiving semi-annual and annual monitoring reports, and have been providing reviews and comments. We have not done any site visits and inspections. There have been no major comments made so far.</i></p>			
<p><i>Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.</i> <i>There haven't been any where we had to respond to, and there have been no complaints or incidents.</i></p>			
<p><i>Do you feel well informed about the site's activities and progress?</i> <i>We have been well informed with the semi-annual and annual monitoring reports, and have no major concerns.</i></p>			
<p><i>Do you feel the land use controls effective? (if applicable)</i> <i>We feel the land use controls are effective, and have no concerns.</i></p>			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
ANOMALY AREA 3
FORMER MCAS EL TORO

Site Name: Anomaly Area 3, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for Anomaly Area 3, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Eileen Mananian		Title: Remedial Project Manager	Organization: California DTSC
Telephone No:		Street Address: 5796 Corporate Avenue	
Fax No:		City, State, Zip: Cypress, California 90630	
E-Mail Address: eileen.mananian@dtsc.ca.gov			
Summary of Conversation			
<p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i></p> <p><i>We feel that the remedy should continue to operate as designed, and we have no recommendations at this time.</i></p>			

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
ANOMALY AREA 3
FORMER MCAS EL TORO**

Site Name: Anomaly Area 3, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for Anomaly Area 3, Former MCAS El Toro		Time: 3:30 PM	Date: 06/03/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Patricia Hannon		Title: Remedial Project Manager	Organization: California RWQCB, Santa Ana Region
Telephone No:		Street Address:	
Fax No:		City, State, Zip:	
E-Mail Address: patricia.hannon@waterboards.ca.gov			
Summary			
<p><i>Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.</i> <i>The RWQCB was involved in overseeing the construction, and have reviewed reports related to the LTM.</i></p> <p><i>Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.</i> <i>No.</i></p> <p><i>Do you feel well informed about the site's activities and progress?</i> <i>Yes.</i></p> <p><i>Do you feel the land use controls effective? (if applicable)</i> <i>Yes.</i></p> <p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i> <i>No.</i></p>			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
ANOMALY AREA 3
FORMER MCAS EL TORO

Site Name: Anomaly Area 3, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for Anomaly Area 3, Former MCAS El Toro		Time: 1700	Date: 4/15/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input checked="" type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: (via e-mail)			
Contact Made By:			
Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West	
Individual Contacted:			
Name: Doug Bielskis	Title: Project Manager, O&M, Anomaly Area 3	Organization: ERRG	
Telephone No: 925-839-2270		Street Address: 4585 Pacheco Blvd, Suite 200	
Fax No: 925-969-0751		City, State, Zip: Martinez, CA 94553	
E-Mail Address: doug.bielskis@errg.com			

Summary

How would you characterize the performance of the remedial action(s) implemented at this site till date (i.e., successful, failed, or other)?

The remedial action at Anomaly Area 3 continues to be successful in achieving the remedial action objectives identified in the ROD.

Are you aware of any regulatory notices of violation related to the site that required a response?

No.

Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines described in the O&M Plan/Manuals? If so, how did the changes affect the protectiveness or effectiveness of the remedy?

The only change to the O&M requirements was to reduce the landfill gas monitoring frequency to semi-annual. This change was approved by the regulatory agencies and did not affect the protectiveness or effectiveness of the remedy.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
ANOMALY AREA 3
FORMER MCAS EL TORO

Site Name: Anomaly Area 3, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for Anomaly Area 3, Former MCAS El Toro		Time: 1700	Date: 4/15/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input checked="" type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: (via e-mail)			
Contact Made By:			
Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West	
Individual Contacted:			
Name: Doug Bielskis	Title: Project Manager, O&M, Anomaly Area 3	Organization: ERRG	
Telephone No: 925-839-2270		Street Address: 4585 Pacheco Blvd, Suite 200	
Fax No: 925-969-0751		City, State, Zip: Martinez, CA 94553	
E-Mail Address: doug.bielskis@errg.com			
Summary			
<i>Have there been unexpected O&M difficulties at the site since start-up? If so, please give details.</i>			
<i>No, there have been no unexpected O&M difficulties at the site since start-up.</i>			
<i>Have there been opportunities to optimize O&M, or sampling efforts? Please give details.</i>			
<i>Yes, the landfill gas monitoring program was optimized after the first year of monitoring (to be reduced to an annual basis). There are additional opportunities to optimize the groundwater monitoring program. These recommendations will be issued in the draft annual report for 2013 (to be submitted to the regulatory agencies in May 2014).</i>			
<i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i>			
<i>The ongoing site inspections should verify the effectiveness of the vegetative cover to resist erosion, and the landfill gas and groundwater monitoring should continue to be optimized on an annual basis, as appropriate.</i>			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
ANOMALY AREA 3
FORMER MCAS EL TORO

Site Name: Anomaly Area 3, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for Anomaly Area 3, Former MCAS El Toro		Time:	Date: 4/28/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: James Werkmeister	Title: Manager, Environmental Affairs	Organization: Five Point Communities
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Telephone No: 949-349-1084 Fax No: E-Mail Address: jim.werkmeister@fivepointcommunities.com	Street Address: 25 Enterprise City, State, Zip: Aliso Viejo, CA92656
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Summary

What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)? Successful

Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

No

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.

Site visits, informal inspection

Do you feel well informed about the site's activities and progress?

yes

Do you have any comments, suggestions, or recommendations regarding the site's management or operation? no

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Appendix I
Interview Documentation Forms – IRP Site 16

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**INTERVIEW DOCUMENTATION FORM
SECOND FIVE-YEAR REVIEW
IRP SITE 16, FORMER MCAS EL TORO**

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date
Mary Aycock	Remedial Project Manager	U.S. EPA Region IX	04/08/14
Eileen Mananian	Remedial Project Manager	California DTSC	04/08/14
Patricia Hannon	Remedial Project Manager	California RWQCB, Santa Ana Region	04/08/14
Robert Woodings	RAB Co-Chair	RAB, Former MCAS El Toro	04/14/14
Marcia Rudolph	Subcommittee Chair	RAB, Former MCAS El Toro	04/14/14
Pete Stang	Project Manager, O&M, Site 16	Trevet	04/10/14
Jim Werkmeister	Manager, Environmental Affairs	Five Point Communities	04/14/14
Cliff Wallace	Manager of Planning and Environmental Services	Orange County Great Park	04/14/14

* Indicates the date interview questionnaire was sent via email.

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Appendix J
Interview Record Forms – IRP Site 16

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INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 16
FORMER MCAS EL TORO

Site Name: IRP Site 16, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 16, Former MCAS El Toro		Time: 1:00 PM	Date: 4/17/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Mary Aycock		Title: Remedial Project Manager	Organization: U.S. EPA Region IX
Telephone No:		Street Address: 75 Hawthorne Street	
Fax No:		City, State, Zip: San Francisco, CA 94105	
E-Mail Address: aycock.mary@epamail.epa.gov			

Summary

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
 Yes.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
 No.

*Do you feel well informed about the site's activities and progress?
 Include more information on the site during the BCT calls.*

Do you feel the land use controls effective? (if applicable)
 Yes.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

Not at this time. However, provide updates in the semi-annual BCT meeting and combine it with other sites for a site tour for the regulators.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 16
FORMER MCAS EL TORO

Site Name: IRP Site 16, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 16, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Eileen Mananian	Title: Remedial Project Manager	Organization: California DTSC
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Telephone No:	Street Address: 5796 Corporate Avenue City, State, Zip: Cypress, California 90630
Fax No:	
E-Mail Address: eileen.mananian@dtsc.ca.gov	

Summary of Conversation

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
Site visits have been conducted in the past by our geologist. In addition, annual groundwater long-term monitoring report has been reviewed along with the Work Plan Addendum for monitoring well installations 24, 25, 26, and 27 in 2013. Also Work Plan for long-term monitoring at Site 16 has been updated recently. In addition, Covenant to Restrict Property in 2010 was reviewed and appropriate comments were provided at that time.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
There have not been any complaints, violations or incidents that required a response from our Office during the last 5 years.

Do you feel well informed about the site's activities and progress?
We feel well informed about the site's activities and progress.

Do you feel the land use controls effective? (if applicable)
We feel the land use controls are effective.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
We have a comment, which generally has been our position during the last Five Years that

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 16
FORMER MCAS EL TORO

Site Name: IRP Site 16, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 16, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Eileen Mananian		Title: Remedial Project Manager	Organization: California DTSC
Telephone No:		Street Address: 5796 Corporate Avenue	
Fax No:		City, State, Zip: Cypress, California 90630	
E-Mail Address: eileen.mananian@dtsc.ca.gov			
Summary of Conversation			
<p><i>some of the characterization needs to be addressed in a better way. However, based on the comments from our geologists, VOCs in the north west need to be better addressed. We have not seen the data for the new wells 25-27 in that area, and we should see that data in the upcoming 2013 AMR. We may need few rounds of monitoring data to assess the wells. We are waiting on information from those wells to see whether our concerns have been meet. We have a comment on whether MW13 is in the best location for the trigger well. It appears the plume may be moving in a different direction than actual groundwater flow. We may need a new trigger well to evaluate the plume. We feel that the remedy is still effective and protective. We need to see data to say clearly that concerns are being addressed. The remedy should continue to be operated as designed until further information is provided.</i></p>			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 16
FORMER MCAS EL TORO

Site Name: IRP Site 16, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 16, Former MCAS El Toro		Time: 3:30 PM	Date: 06/03/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Patricia Hannon		Title: Remedial Project Manager	Organization: California RWQCB, Santa Ana Region
Telephone No:		Street Address:	
Fax No:		City, State, Zip:	
E-Mail Address: patricia.hannon@waterboards.ca.gov			
Summary			
<p><i>Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.</i> <i>The RWQCB has reviewed the annual monitoring reports, and is satisfied with the monitoring.</i></p> <p><i>Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.</i> <i>No.</i></p> <p><i>Do you feel well informed about the site's activities and progress?</i> <i>Yes.</i></p> <p><i>Do you feel the land use controls effective? (if applicable)</i> <i>Yes.</i></p> <p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i> <i>No.</i></p>			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 16
FORMER MCAS EL TORO

Site Name: IRP Site 16, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 16, Former MCAS El Toro		Time: 0800	Date: 4/17/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: email exchange			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Peter M. Stang	Title: Project Manager, O&M, Site 16	Organization: Trevet
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Telephone No: 858-578-8859 x108 Fax No: 858-578-8693 E-Mail Address: Pete@trevetinc.com	Street Address: 9888 Carroll Centre Rd. Suite 228 City, State, Zip: San Diego, CA 92126
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Summary

How would you characterize the performance of the remedial action(s) implemented at this site till date (i.e., successful, failed, or other)?

Overall, the four part remedy is successfully progressing. 1. Site grading has been successfully maintained to direct rainfall runoff away from the former source area. 2. Institutional Controls continue to be successfully implemented. 3. Vadose monitoring has been completed. 4. Monitored Natural Attenuation (MNA): Monitoring has been conducted in accordance with the RD/RA and approved plans. Degradation products associated with the degradation of trichloroethene (TCE) have been observed in multiple wells in recent monitoring events.

Are you aware of any regulatory notices of violation related to the site that required a response?

I am unaware of any regulatory NOVs.

Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines described in the O&M Plan/Manuals? If so, how did the changes affect the protectiveness or effectiveness of the remedy?

No significant changes. An updated O&M Work Plan was finalized in 2013, following BCT concurrence. The sampling and analysis routine was modified to optimize the monitoring well network and optimize specific volatile organic compounds (VOCs) reported in groundwater.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 16
FORMER MCAS EL TORO

Site Name: IRP Site 16, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 16, Former MCAS El Toro		Time: 0800	Date: 4/17/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit x Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: email exchange			
Contact Made By:			
Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West	
Individual Contacted:			
Name: Peter M. Stang	Title: Project Manager, O&M, Site 16	Organization: Trevet	
Telephone No: 858-578-8859 x108		Street Address: 9888 Carroll Centre Rd. Suite 228	
Fax No: 858-578-8693		City, State, Zip: San Diego, CA 92126	
E-Mail Address: Pete@trevetinc.com			

Summary

Have there been unexpected O&M difficulties at the site since start-up? If so, please give details.

No O&M difficulties have been encountered.

Have there been opportunities to optimize O&M, or sampling efforts? Please give details.

Yes. In 2013, an updated O&M Work Plan was finalized, following BCT concurrence. The sampling and analysis routine was modified to optimize the monitoring well network. Additional monitoring wells were installed to optimize the well network. The suite of specific VOCs reported in groundwater has been optimized to focus on the specific contaminant of concern (TCE) and its degradation products.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

Due to continuing decreases in groundwater levels at the site (approximately 20 to 24 feet in the last 8 years), the monitoring well network will likely require additional optimization within the next 1 to 2 years, as some wells in their current configuration, will likely become dry.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 16
FORMER MCAS EL TORO

Site Name: IRP Site 16, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 16, Former MCAS El Toro		Time:	Date: 4/28/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: James Werkmeister	Title: Manager, Environmental Affairs	Organization: Five Point Communities
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Telephone No: 949-349-1084 Fax No: E-Mail Address: jim.werkmeister@fivepointcommunities.com	Street Address: 25 Enterprise City, State, Zip: Aliso Viejo, CA92656
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Summary

What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)? Successful

Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.
No

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
Site visits, informal inspection

Do you feel well informed about the site's activities and progress? yes

Do you have any comments, suggestions, or recommendations regarding the site's management or operation? no

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 16
FORMER MCAS EL TORO

Site Name: IRP Site 16, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 16, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit X <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: OCGP Office			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Cliff Wallace	Title: Deputy CEO	Organization: Orange County Great Park
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Telephone No: 949-724-7423	Street Address: P.O. Box 19575 City, State, Zip: Irvine, CA 92623
Fax No: 949-724-7407	
E-Mail Address: cwallace@ocgp.org	

Summary

What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)? Successful - the remedy appears to be progressing towards its stated goals.

Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

- We are not aware of any such actions at this IRP site.

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.

- With the cooperation of the BRAC office, this site is surrounded by and incorporated into the Orange County Great Park, therefore, this site is observed on a regular basis. All activities conducted within the Park are in compliance with all regulatory requirements.

Do you feel well informed about the site's activities and progress? Yes

Do you have any comments, suggestions, or recommendations regarding the site's management or operation? We are completely satisfied with the operation and management of this site.

Appendix K
Interview Documentation Forms – IRP Sites 18
and 24

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INTERVIEW DOCUMENTATION FORM
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24, FORMER MCAS EL TORO

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date*
Mary Aycock	Remedial Project Manager	U.S. EPA Region IX	04/08/14
Eileen Mananian	Remedial Project Manager	California DTSC	04/08/14
Patricia Hannon	Remedial Project Manager	California RWQCB, Santa Ana Region	04/08/14
Robert Woodings	RAB Co-Chair	RAB, Former MCAS El Toro	04/14/14
Marcia Rudolph	Subcommittee Chair	RAB, Former MCAS El Toro	04/14/14
Arseny Kalinsky	Project Manager, O&M Sites 18& 24	IRWD	04/10/14
Dhananjay Rawal	Project Manager, O&M Site 24	ECS	04/10/14
Roy Herndon	Chief Hydrogeologist, IRP Sites 18 and 24	Orange County Water District	04/10/14
Jim Werkmeister	Manager, Environmental Affairs	Five Point Communities	04/14/14
Cliff Wallace	Manager of Planning and Environmental Services	Orange County Great Park	04/14/14
Zoila Verdaguer-Finch	County Executive Officer, IRP Site 24	Orange County Public Works	04/18/14
Jerry Creekpaum	Chief Operations Officer, IRP Site 24	Second Harvest Food Bank of Orange County	04/18/14

* Indicates the date interview questionnaire was sent via email.

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Appendix L
Interview Record Forms – IRP Sites 18 and 24

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INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro		Time: 1:00 PM	Date: 4/17/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Mary Aycock		Title: Remedial Project Manager	Organization: U.S. EPA Region IX
Telephone No:		Street Address: 75 Hawthorne Street	
Fax No:		City, State, Zip: San Francisco, CA 94105	
E-Mail Address: aycock.mary@epamail.epa.gov			

Summary

IRP Site 18

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
 Yes.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
 No. We have received questions in the past whether or not this is affecting drinking/agricultural water off-site. EPA feels that it is not affecting drinking water wells, and water is being used for agricultural purposes.

Do you feel well informed about the site's activities and progress?
 Better communication needed since it is off-site. We used to get regular updates from IRWD about what was going on. We should regular updates in the semi-annual BCT meeting

Do you feel the land use controls effective? (if applicable)
 We should continue to watch as at this time they are. However, if the plume migrates into the vicinity of the drinking water wells, then it is an issue and we need to keep an eye in the future.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California	EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro	Time: 1:00 PM	Date: 4/17/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other	<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:		

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Mary Aycock	Title: Remedial Project Manager	Organization: U.S. EPA Region IX
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Telephone No:	Street Address: 75 Hawthorne Street City, State, Zip: San Francisco, CA 94105
Fax No:	
E-Mail Address: aycock.mary@epamail.epa.gov	

Summary

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

We need to make sure that the Navy and the other regulatory agencies interact with the IRWD, have a tour of the facility at least twice a year, and have an annual update from the IRWD .

IRP Site 24 Groundwater

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.

Yes. It will be good to get back in regular schedule for the calls.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.

No. We received few calls from past employees regarding TCE plume on-site whether or not TCE had affected drinking water when people were on-site, and we referred to Navy Office of occupational illness to address the issue.

Do you feel well informed about the site's activities and progress?

Yes.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro		Time: 1:00 PM	Date: 4/17/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Mary Aycock		Title: Remedial Project Manager	Organization: U.S. EPA Region IX
Telephone No:		Street Address: 75 Hawthorne Street	
Fax No:		City, State, Zip: San Francisco, CA 94105	
E-Mail Address: aycock.mary@epamail.epa.gov			
Summary			
<p><i>Do you feel the land use controls effective? (if applicable)</i> <i>Yes effective at this point of time, but make sure we take a close look at the TCE plume and keep an eye on the monitoring data so as to make sure we have containment at the plume.</i></p> <p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i> <i>No. Keep doing what you are doing now, and manage the pump and treat as effectively as possible.</i></p>			

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO**

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Eileen Mananian	Title: Remedial Project Manager	Organization: California DTSC
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Telephone No:	Street Address: 5796 Corporate Avenue City, State, Zip: Cypress, California 90630
Fax No:	
E-Mail Address: eileen.mananian@dtsc.ca.gov	

Summary of Conversation

IRP Site 18

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.

We have been receiving the semi-annual and annual monitoring reports. We also received quarterly treatment system reports from the IRWD and get updates on their de-salter project periodically. We have reviewed and provided comments on the documents, and there have been no major comments.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.

There have not been any complaints, violations, or incidents that we need to be concerned of.

Do you feel well informed about the site's activities and progress?

We feel well informed about the site's activities and progress throughout the last five years, especially since IRWD also provides information from their side.

Do you feel the land use controls effective? (if applicable)

We feel the land use controls are effective.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Eileen Mananian	Title: Remedial Project Manager	Organization: California DTSC
Telephone No:		Street Address: 5796 Corporate Avenue City, State, Zip: Cypress, California 90630
Fax No:		
E-Mail Address: eileen.mananian@dtsc.ca.gov		

Summary of Conversation

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
No major comments or recommendations other than that the remedy should continue as to operate designed and monitoring should continue.

IRP Site 24 Groundwater

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
We have been receiving the semi-annual and annual monitoring reports. We also received quarterly treatment system reports from the IRWD and get updates on their de-filter project periodically. We have reviewed and provided comments on the documents, and there have been no major comments.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
There have not been any complaints, violations, or incidents that we need to be concerned of.

Do you feel well informed about the site's activities and progress?
We feel well informed about the site's activities and progress throughout the last five years, especially since IRWD also provides information from their side.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro		Time: 10:30 AM	Date: 4/25/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Eileen Mananian	Title: Remedial Project Manager	Organization: California DTSC
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Telephone No:	Street Address: 5796 Corporate Avenue City, State, Zip: Cypress, California 90630
Fax No:	
E-Mail Address: eileen.mananian@dtsc.ca.gov	

Summary of Conversation

Do you feel the land use controls effective? (if applicable)
We feel the land use controls are effective.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

From the last ARSR, we want to make the note that some areas in plume show elevated levels of VOCs, exceeding MCLs (50 -60 µg/l) that are small and appear to be reducing. Based on cross section Figure 16, part of that plume has gone past the boundary of the site where all the extraction wells are. We recommend keeping an eye on how the plume is moving since it appears close to the connection where the shallow groundwater unit and principal aquifer are, and recommend to continue monitoring to make sure that the plume is controlled and contained. We should in future review the remedy or augment the system if needed. For now, we should continue the monitoring and pay close attention. We feel the remedy is protective.

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO**

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California	EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro	Time: 3:30 PM	Date: 06/03/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other	<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:		

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Patricia Hannon	Title: Remedial Project Manager	Organization: California RWQCB, Santa Ana Region
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Telephone No:	Street Address:
Fax No:	
E-Mail Address: patricia.hannon@waterboards.ca.gov	
City, State, Zip:	

Summary

IRP Site 18

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
The RWQCB has reviewed the groundwater monitoring reports prepared by the Navy and monitoring reports from IRWD.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.

No.

Do you feel well informed about the site's activities and progress?

Yes.

Do you feel the land use controls effective? (if applicable)

Yes.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

No.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California	EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro	Time: 3:30 PM	Date: 06/03/14
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other	<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:		

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Patricia Hannon	Title: Remedial Project Manager	Organization: California RWQCB, Santa Ana Region
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Telephone No:	Street Address:
Fax No:	
E-Mail Address: patricia.hannon@waterboards.ca.gov	
City, State, Zip:	

Summary

IRP Site 24 Groundwater

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
The RWQCB has reviewed the monitoring reports provided by the Navy.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
No.

Do you feel well informed about the site's activities and progress?
Yes.

Do you feel the land use controls effective? (if applicable)
Yes, mostly effective. Incident related to the damage of monitoring well has occurred. The Navy has implemented measures to protect well heads.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
No.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California	EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro	Time:	Date: 3/6/2014
	Type: <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Visit <input type="checkbox"/> Other	
Location of Visit:	<input type="checkbox"/> Incoming	<input type="checkbox"/> Outgoing

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Arseny Kalinsky	Title: Project Manager, O&M, Sites 18 and 24	Organization: Irvine Ranch Water District
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Telephone No: 949-453-5867 Fax No: 949-476-1187 E-Mail Address: kalinsky@irwd.com	Street Address: 3512 Michelson Drive, City, State, Zip: Irvine, California 92612-1799
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Summary

IRP Site 18

How would you characterize the performance of the treatment system operated by the IRWD to treat constituents of concern for the site (i.e. successful, failed, or other)?

Successful. The operation is ongoing. This remedy continues to be effective.

Are you aware of any regulatory notices of violation related to the treatment system operated by IRWD?

No.

Have there been unexpected O&M difficulties since start-up? If so, please give details.

During the second month of the PAP treatment system operation, it was found that calcium deposits developed on the air stripper, clearwell and pumps. IRWD has piloted and set up Nalco C-5 (later replaced by Nalco C-50) antiscalant injection in the air stripper feed. This antiscalant addition minimized the calcite deposits.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date: 3/6/2014
Type: <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Arseny Kalinsky		Title: Project Manager, O&M, Sites 18 and 24	Organization: Irvine Ranch Water District
Telephone No: 949-453-5867		Street Address: 3512 Michelson Drive, City, State, Zip: Irvine, California 92612-1799	
Fax No: 949-476-1187			
E-Mail Address: kalinsky@irwd.com			

Summary

Have there been opportunities to optimize treatment system operation? Please give details.

From 2009 to 2014 IRWD and Tetra Tech performed a new groundwater modeling study to determine the range of the ET-1, ET-2 and Well 78 production rates which would ensure complete TCE particles capture of the VOC plume bordering Culver Street in the City of Irvine. The goal of the modeling is to revise the 2006 ESD established production flow rates. The final modeling study report is currently under review by the DON.

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the treatment system/site? If so, please give details.

IRWD staff performs O&M equipment routine inspections, preventive maintenance and other maintenance. The treatment sites are inspected daily by the IRWD System Operations. IRWD collects and analyzes water quality data per the sites monitoring plan and issues and files lab reports. IRWD staff compiles quarterly treatment summary reports and submits to the BRAC members.

Do you have any comments, suggestions, or recommendations regarding the treatment system/site's management or operation?

In July 2009, H2K Technologies (PAP equipment manufacturer) performed inspection and troubleshooting of the PAP air stripper. Several recommendations were issued including inlet header modification and chemical/mechanical cleaning of the stripper trays, installation of the new demisters and valve air gaskets. IRWD implemented the recommendations during 2009-2010.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date: 3/6/2014
Type: <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Arseny Kalinsky	Title: Project Manager, O&M, Sites 18 and 24	Organization: Irvine Ranch Water District
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Telephone No: 949-453-5867 Fax No: 949-476-1187 E-Mail Address: kalinsky@irwd.com	Street Address: 3512 Michelson Drive, City, State, Zip: Irvine, California 92612-1799
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Summary

IRP Site 24 Groundwater

How would you characterize the performance of the treatment system operated by the IRWD to treat constituents of concern for the site (i.e. successful, failed, or other)?

Successful. The operation is ongoing. This remedy continues to be effective.

Are you aware of any regulatory notices of violation related to the treatment system operated by IRWD?

No.

Have there been unexpected O&M difficulties since start-up? If so, please give details.

During the second month of the SGU treatment system operation, it was found that calcium deposits developed on the air stripper, clearwell and pumps. IRWD has piloted and set up Nalco C-5 (later replaced by Nalco C-50) antiscalant injection in the air stripper feed. This antiscalant addition minimized the calcite deposits.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date: 3/6/2014
Type: <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West	
Individual Contacted:			
Name: Arseny Kalinsky	Title: Project Manager, O&M, Sites 18 and 24	Organization: Irvine Ranch Water District	
Telephone No: 949-453-5867 Fax No: 949-476-1187 E-Mail Address: kalinsky@irwd.com		Street Address: 3512 Michelson Drive, City, State, Zip: Irvine, California 92612-1799	

Summary

Have there been opportunities to optimize treatment system operation? Please give details.
 In 2012 IRWD hired Tetra Tech to perform a study comparing capital and O&M costs for replacing the air stripper VOC removal system with liquid phase GAC filtration. The results of the costs comparison showed that the latter system will be more costly to install and operate than the existing one. The Tetra Tech report from 4/17/2012 is on file.

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the treatment system/site? If so, please give details.
 IRWD staff performs O&M equipment routine inspections, preventive maintenance and other maintenance. The treatment sites are inspected daily by the IRWD System Operations. IRWD collects and analyzes water quality data per sites monitoring plan and issues and files lab reports. IRWD staff compiles quarterly treatment summary reports and submits to the BRAC members.

Do you have any comments, suggestions, or recommendations regarding the treatment system/site's management or operation?
 In 2010 IRWD performed a minor revision of the SGU and PAP O&M manuals with regard to GAC changeout procedure eliminating the notion of switchover of the GAC canisters from lead to lag positions (when TCE exceeds 50 ppbv) if the media in both canisters was changed out. The DON accepted this revision and updated the original ROD pages as needed.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 24
FORMER MCAS EL TORO

Site Name: IRP Site 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Dhananjay Rawal		Title: Project Manager, O&M, Site 24	Organization: ECS
Telephone No:		Street Address: 1571 Parkway Loop, Suite A	
Fax No:		City, State, Zip: Tustin, CA 92780	
E-Mail Address: drawal@ecs-i.com			
Summary			
<u>IRP Site 24 Groundwater</u>			
<i>How would you characterize the performance of the remedial action(s) implemented at this site till date (i.e., successful, failed, or other)?</i>			
Successful.			
<i>Are you aware of any regulatory notices of violation related to the site that required a response?</i>			
No NOV or regulatory notices.			
<i>Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines described in the O&M Plan/Manuals? If so, how did the changes affect the protectiveness or effectiveness of the remedy?</i>			
No Significant Changes in the O&M requirements, except optimization as described below. No changes to the protectiveness or effectiveness of the remedy.			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 24
FORMER MCAS EL TORO

Site Name: IRP Site 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Dhananjay Rawal		Title: Project Manager, O&M, Site 24	Organization: ECS
Telephone No:		Street Address: 1571 Parkway Loop, Suite A	
Fax No:		City, State, Zip: Tustin, CA 92780	
E-Mail Address: drawal@ecs-i.com			

Summary

Have there been unexpected O&M difficulties at the site since start-up? If so, please give details.

None.

Have there been opportunities to optimize O&M, or sampling efforts? Please give details.

Yes, Battery backup was installed at the plant to allow more than 1 hour of power in case of electrical power failure. This will allow enough time for SCADA to send proper alarms and operator to shut down the system properly. Also, SCADA Alarm and Phone system was upgraded with better 4G cellular based technology from old phone dial-in modem technology.

In 2013 Annual Report, Groundwater sampling from 10 monitoring wells were recommended for annual sampling from semi-annual sampling.

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

None.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 24
FORMER MCAS EL TORO

Site Name: IRP Site 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Dhananjay Rawal		Title: Project Manager, O&M, Site 24	Organization: ECS
Telephone No:		Street Address: 1571 Parkway Loop, Suite A City, State, Zip: Tustin, CA 92780	
Fax No:			
E-Mail Address: drawal@ecs-i.com			
Summary			

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO**

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date: 4/16/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other (email)		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: Orange County Water District			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Roy Herndon		Title: Chief Hydrogeologist	Organization: Orange County Water District
Telephone No: (714) 378-3260		Street Address: Orange County Water District	
Fax No: (714) 378-3269		18700 Ward Street	
E-Mail Address: rherndon@ocwd.com		City, State, Zip: Fountain Valley, CA 92708	
Summary			
<u>IRP Site 18</u>			
<i>How would you characterize the performance of the treatment system operated by the IRWD/OCWD to treat constituents of concern for the site (i.e. successful, failed, or other)?</i>			
The Site 18 extraction wells and treatment system appear to be effectively containing the TCE plume and reducing TCE concentrations in the Principal Aquifer.			
<i>Are you aware of any regulatory notices of violation related to the treatment system operated by IRWD/OCWD?</i>			
No			
<i>Have there been unexpected O&M difficulties since start-up? If so, please give details.</i>			
One of the extraction wells, Well 78, was unable to operate at desired flow rates and needed to be replaced. A replacement well was successfully installed and is now operating at the desired flow rate.			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date: 4/16/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other (email) Location of Visit: Orange County Water District		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Roy Herndon		Title: Chief Hydrogeologist	Organization: Orange County Water District
Telephone No: (714) 378-3260 Fax No: (714) 378-3269 E-Mail Address: rherndon@ocwd.com		Street Address: Orange County Water District 18700 Ward Street City, State, Zip: Fountain Valley, CA 92708	

Summary

Have there been opportunities to optimize treatment system operation? Please give details.

The original treatment system at extraction well ET-1 was replaced with a more efficient treatment system.

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the treatment system/site? If so, please give details.

OCWD has been kept regularly apprised of the operations of the extraction wells and treatment system via quarterly reports from IRWD and the Navy.

Do you have any comments, suggestions, or recommendations regarding the treatment system/site's management or operation?

OCWD is satisfied with the current management and operation of the Site 18 extraction wells and treatment system.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date: 4/16/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other (email)		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: Orange County Water District			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Roy Herndon		Title: Chief Hydrogeologist	Organization: Orange County Water District
Telephone No: (714) 378-3260		Street Address: Orange County Water District	
Fax No: (714) 378-3269		18700 Ward Street	
E-Mail Address: rherndon@ocwd.com		City, State, Zip: Fountain Valley, CA 92708	

Summary

IRP Site 24 Groundwater

How would you characterize the performance of the treatment system operated by the IRWD/OCWD to treat constituents of concern for the site (i.e. successful, failed, or other)?

The Site 24 extraction wells and treatment system appear to be effectively containing the TCE plume and reducing TCE concentrations in the Shallow Groundwater Unit (SGU).

Are you aware of any regulatory notices of violation related to the treatment system operated by IRWD/OCWD?

No

Have there been unexpected O&M difficulties since start-up? If so, please give details.

I don't recall any unexpected O&M difficulties.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California	EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 18 and IRP Site 24 Groundwater, Former MCAS El Toro	Time:	Date: 4/16/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other (email) Location of Visit: Orange County Water District	<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Roy Herndon	Title: Chief Hydrogeologist	Organization: Orange County Water District
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Telephone No: (714) 378-3260 Fax No: (714) 378-3269 E-Mail Address: rherndon@ocwd.com	Street Address: Orange County Water District 18700 Ward Street City, State, Zip: Fountain Valley, CA 92708
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Summary

Have there been opportunities to optimize treatment system operation? Please give details.

The Navy installed additional extraction wells to better capture the SGU VOC plume. The Navy has also periodically adjusted extraction rates at various wells to optimize plume capture and VOC mass removal.

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the treatment system/site? If so, please give details.

OCWD has been kept regularly apprised of the operations of the extraction wells and treatment system via quarterly reports from IRWD and the Navy.

Do you have any comments, suggestions, or recommendations regarding the treatment system/site's management or operation?

OCWD is satisfied with the current management and operation of the Site 18 extraction wells and treatment system.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 24
FORMER MCAS EL TORO

Site Name: IRP Site 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 24, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: James Werkmeister		Title: Manager, Environmental Affairs	Organization: Five Point Communities
Telephone No: 949-349-1084		Street Address: 25 Enterprise	
Fax No:		City, State, Zip: Aliso Viejo, CA92656	
E-Mail Address: jim.werkmeister@fivepointcommunities.com			
Summary			
<i>What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)? Successful</i>			
<i>Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.</i> No			
<i>Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.</i> Routine site visits and inspections			
<i>Do you feel well informed about the site's activities and progress? yes</i>			
<i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation? no</i>			

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO**

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California	EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 18 and 24, Former MCAS El Toro	Time:	Date: 4/24/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other	<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: OCGP Office		

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Cliff Wallace	Title: Manager of Real Property & Great Park Site Administration	Organization: Orange County Great Park
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Telephone No: 949-724-7423	Street Address: P.O. Box 19575
Fax No: 949-724-6045	City, State, Zip: Irvine, CA 92623
E-Mail Address: cwallace@ocgp.org	

Summary

IRP Site 18

What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)? Non-Applicable - IRP Site 18 is not within the jurisdiction of this organization. This applies to all portions of the Site 18 questionnaire.

Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.

Do you feel well informed about the site's activities and progress?

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITES 18 AND 24
FORMER MCAS EL TORO**

Site Name: IRP Sites 18 and 24, Former MCAS El Toro, Irvine, California	EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Sites 18 and 24, Former MCAS El Toro	Time:	Date: 4/24/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit X <input checked="" type="checkbox"/> Other	<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit: OCGP Office		

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Cliff Wallace	Title: Manager of Real Property & Great Park Site Administration	Organization: Orange County Great Park
----------------------------	---	---

Telephone No: 949-724-7423	Street Address: P.O. Box 19575 City, State, Zip: Irvine, CA 92623
Fax No: 949-724-6045	
E-Mail Address: cwallace@ocgp.org	

Summary

IRP Site 24

**What is your overall impression of the remedy implemented at this site (i.e., successful, failed, or other)?* Successful - the remedy appears to progressing towards its stated goals.

**Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.* -
- We are not aware of any such actions at this IRP site.

**Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.*
With the cooperation of the BRAC office, this site is surrounded by and incorporated into the Orange County Great Park, therefore, this site is observed by Great Park staff on a daily basis. All activities conducted within the IRP site are in compliance with all regulatory requirements.

**Do you feel well informed about the site's activities and progress?* - Yes

**Do you have any comments, suggestions, or recommendations regarding the site's management or operation?* - We are completely satisfied with the operation and management of this site.

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 24
FORMER MCAS EL TORO**

Site Name: IRP Site 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 24 Groundwater, Former MCAS El Toro		Time: 12:33	Date: 04/21/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			

Contact Made By:

Name: James Sullivan	Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
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Individual Contacted:

Name: Zoila Verdaguier-Finch	Title: County Executive Officer	Organization: County of Orange
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Telephone No: 714-667-9698	Street Address: 300 N Flower Street City, State, Zip:
Fax No:	
E-Mail Address: Zoila.Finch@ocpw.ocgov.com	

Summary

IRP Site 24 Groundwater

Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.
The County conducts monthly visual inspections of the 100 Acre property, adjacent to IRP 24. In addition, the County schedules twice annual landscaping maintenance activities to ensure the landscape is well maintained. On March 13, 2014, the County met on-site with Navy staff to tour the groundwater monitoring system.

Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.
The County has responded to a few calls from the Irvine Police Department regarding vandalism on our property. The calls have resulted in the County mobilizing maintenance crews to address the vandalism e.g. boarding up broken windows.

Do you feel well informed about the site's activities and progress?
The Navy has adequately informed the County about its activities and progress on –site.

Do you feel the land use controls effective? (if applicable)
Yes.

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 24
FORMER MCAS EL TORO

Site Name: IRP Site 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 24 Groundwater, Former MCAS El Toro		Time: 12:33	Date: 04/21/14
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Zoila Verdaguier-Finch		Title: County Executive Officer	Organization: County of Orange
Telephone No: 714-667-9698		Street Address: 300 N Flower Street	
Fax No:		City, State, Zip:	
E-Mail Address: Zoila.Finch@ocpw.ocgov.com			
Summary			
<p><i>Do you have any comments, suggestions, or recommendations regarding the site's management or operation?</i></p> <p><i>No, but the County encourages the Navy to continuing communicating via email, conference calls and the El Toro Quarterly Re-use Forum.</i></p>			

**INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 24
FORMER MCAS EL TORO**

Site Name: IRP Site 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit X Other		X Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Jerry Creekpaum		Title: Chief Operations Officer	Organization: Second Harvest Food Bank of Orange County
Telephone No: 949-653-2900-x159		Street Address: 8014 Marine Way	
Fax No:		City, State, Zip: Irvine, CA 92618	
E-Mail Address: Jerry@FeedOC.org			
Summary			
<u>IRP Site 24 Groundwater</u>			
<i>Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give details.</i>			
NO			
<i>Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events.</i>			
NO			
<i>Do you feel well informed about the site's activities and progress?</i>			
NO			

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 24
FORMER MCAS EL TORO

Site Name: IRP Site 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit X Other		X Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Jerry Creekspaum		Title: Chief Operations Officer	Organization: Second Harvest Food Bank of Orange County
Telephone No: 949-653-2900-x159		Street Address: 8014 Marine Way	
Fax No:		City, State, Zip: Irvine, CA 92618	
E-Mail Address: Jerry@FeedOC.org			

Summary

Do you feel the land use controls effective? (if applicable)
No reason to feel otherwise

Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
Simple updates via e mail or other communication means would be great.
(it is possible that this is being done, however it has not come to me before this survey)

INTERVIEW RECORD
SECOND FIVE-YEAR REVIEW
IRP SITE 24
FORMER MCAS EL TORO

Site Name: IRP Site 24, Former MCAS El Toro, Irvine, California		EPA ID No.: CA6170023208	
Subject: Second Five-Year Review for IRP Site 24 Groundwater, Former MCAS El Toro		Time:	Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit X Other		X Incoming <input type="checkbox"/> Outgoing	
Location of Visit:			
Contact Made By:			
Name: James Sullivan		Title: BRAC Environmental Coordinator	Organization: Dept. of the Navy, BRAC PMO West
Individual Contacted:			
Name: Jerry Creekpau		Title: Chief Operations Officer	Organization: Second Harvest Food Bank of Orange County
Telephone No: 949-653-2900-x159		Street Address: 8014 Marine Way	
Fax No:		City, State, Zip: Irvine, CA 92618	
E-Mail Address: Jerry@FeedOC.org			
Summary			
.			

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Appendix M
Review of ARARs

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ACRONYMS AND ABBREVIATIONS

§	section
ALARA	as low as reasonably achievable
ARARs	applicable or relevant and appropriate requirements
BACT	best available control technology
Cal/EPA	California Environmental Protection Agency
Cal. Civ. Code	California Civil Code
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CWA	Clean Water Act
DON	Department of the Navy
DOT	Department of Transportation
DTSC	Department of Toxic Substances Control, California
HSC	Health and Safety Code, California
IRP	Installation Restoration Program
LFG	landfill gas
MCL	maximum contaminant level
RCRA	Resource Conservation and Recovery Act
RWQCB	Regional Water Resources Control Board
SCAQMD	South Coast Air Quality Management District
STLC	soluble threshold limit concentration
SWRCB	State Water Resources Control Board
TCLP	toxicity characteristic leaching procedure
TTLC	total threshold limit concentration
USC	United States Code

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Table M-1: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 2 and 17

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
Chemical-Specific ARARs			
Resource Conservation and Recovery Act (RCRA)*			
Toxicity characteristic leaching procedure (TCLP) regulatory levels; persistent and bioaccumulative toxic substances TTLCs and STLCs. Defines characteristics to be used to determine if waste is RCRA hazardous waste.	Title 22 California Code of Regulations (CCR), Sections 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
California Environmental Protection Agency Department of Toxic Substances Control			
Defines characteristics to be used to determine if waste is non-RCRA hazardous waste.	22 CCR 66261.22 (a)(3) and (4), 66261.24(a)(2) to (a)(8), 66261.101, 66261.3(a)(2)(C), or 66261.3(a)(2)(F)	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
California Integrated Waste Management Board*			
Landfill gas (LFG) Control. Requires that LFGs be controlled during periods of closure and post-closure maintenance. Period of control must continue for 30 years or until it can be demonstrated that there is no potential for gas migration beyond the property boundary.	27 CCR 20921(a)(1), (2), and (3) and 21160(b)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Location-Specific ARARs			
Hazardous Waste Control Act*			
A facility within the 100-year floodplain must be designed, constructed, operated, and maintained to avoid washout.	22 CCR 66264.18(b)	Relevant and appropriate (for IRP Site 2 only)	This ARAR was met during the remedial action design/construction. IRP Site 2 landfill cover was designed to avoid overtopping of floodwaters and erosion of slopes. No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy at IRP Sites 2.
Executive Order 11988, Protection of Floodplains*			
Actions taken within a floodplain should avoid adverse effects, minimize potential harm, and restore and preserve natural and beneficial values.	Title 40 Code of Federal Regulations (CFR) Part 6, Appendix A; excluding Sections 6(a)(2), 6(a)(4), 6(a)(6); 40 CFR Part 6.302	Relevant and appropriate (for IRP Site 2 only)	This ARAR was met during the remedial action design/construction. IRP Site 2 landfill cover was designed to avoid adverse effects to the ability of Borrego Canyon Wash, its tributaries, and associated Alton Parkway channel improvements to convey floodwaters. No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy at IRP Site 2.
National Archaeological and Historical Preservation Act*			
Regulates alteration of terrain caused by a Federal construction project or Federally licensed activity or program	Substantive requirements of 36 CFR 65, 40 CFR Part	Applicable	This ARAR was met during the remedial action design/construction and the

Table M-1: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 2 and 17

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
within an area where action may cause irreparable harm, loss, or destruction of significant artifacts. The responsible official or the Secretary of the Interior is authorized to undertake data collection and preservation.	6.301(3), 16 USC Section 469		requirement is no longer pertinent.
Endangered Species Act of 1973*			
Protects critical habitats upon which endangered species or threatened species depend. Requires the lead agency to identify whether a threatened or endangered species or its critical habitat will be affected by a proposed response action. If so, the agency must avoid the action or take appropriate mitigation measures so that the action does not affect the species or its critical habitat.	16 United States Code (USC) 1536(a), 50 CFR 402	Applicable	This ARAR was met during the remedial action design/construction. Monitoring and mitigation of potential adverse effects to California gnatcatcher, a Federally threatened species, were conducted during remedial action construction per the Biological Opinion (U.S. FWS 2002). Long-term monitoring of the landfills will also comply with Biological Opinion. No significant changes were made to the cited requirements (as of March 2014) that could affect the protectiveness of the remedies at IRP Sites 2 and 17.
Migratory Bird Treaty Act of 1972*			
Protects almost all species of native migratory birds in the U.S. from unregulated "taking," which can include poisoning at hazardous waste sites.	16 USC Section 703	Relevant and appropriate	This ARAR was met during the remedial action design/construction. The installation of cover would minimize exposure. Therefore, this requirement is met and is no longer pertinent.
California Fish and Game Code*			
Prohibits the taking of birds and mammals, including taking by poison.	California Fish and Game Code Section 3005	Substantive provisions applicable	This ARAR was met during the remedial action design/construction. The installation of cover would minimize exposure. Therefore, this requirement is met and is no longer pertinent.
Provides requirements for construction that will change the natural flow of surface water, use material from streambeds, or result in disposal into designated waters.	California Fish and Game Code Sections 1601 and 1603	Substantive provisions applicable for IRP Site 2	Consultation with California Department of Fish and Game during remedial design phase indicated that the cited requirements do not apply to Federal projects. Therefore, the requirement is no longer pertinent.
Projects within the State shall not jeopardize the existence of any endangered or threatened species or result in the destruction or adverse modification of a habitat essential to the species.	California Fish and Game Code Section 1900, 1908, 2053, and 2080	Applicable	This ARAR was met during the remedial action design/construction through Section 7 consultation with U.S. FWS. The requirements are no longer pertinent.
Action-Specific ARARs			
RCRA, 42 USC 6901 et seq.*			
On-site waste generation. Persons who	22 CCR 66262.10(a),	Applicable	This ARAR was met during

Table M-1: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 2 and 17

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
are involved with the generation of wastes shall determine whether that waste is a hazardous waste.	66262.11		remedial action construction and the requirement is no longer pertinent.
Hazardous waste accumulation. Generator may accumulate waste on site for 90 days or less or must comply with requirements for operating a storage facility.	22 CCR 66262.34	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
Landfill Closure and Post-closure Requirements			
General performance standard requires elimination of the need for further maintenance and control; elimination of post-closure escape of hazardous wastes, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products.	22 CCR 66264.111, except as it cross-references procedural requirements	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
If waste is to remain in a unit, the unit shall be compacted before any portion of the final cover is installed.	22 CCR 66264.228(e)(1)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
The final cover shall be designed and constructed to accommodate lateral and vertical shear forces generated by the maximum credible earthquake.	22 CCR 66264.310(a)(5)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
The final cover shall be designed to prevent the downward entry of water into the closed landfill for a period of at least 100 years.	22 CCR 66264.310(a)(1)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Maintain the integrity and effectiveness of the final cover, including making repairs to the cover system as necessary to correct the effects of settling, subsidence, erosion, or other events throughout the post-closure period.	22 CCR 66264.310(b)(1)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Protect and maintain surveyed benchmarks throughout the post-closure period.	22 CCR 66264.310(b)(5)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
State Water Resources Control Board (SWRCB) and Regional Water Resources Control Board (RWQCB)			
Storm Water Runoff Controls. Prior to closure, inactive waste management units must comply with the substantive requirements for eliminating most non-storm water discharges, developing and implementing a SWPPP, and performing monitoring of storm water discharges.	SWRCB Order No. 91-13-DWQ, as amended by Order No. 92-12-DWQ (General Industrial Storm Water Permit)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Waste management units going through final closure, with 5 acres of disturbance or more, must comply with the substantive requirements for eliminating most non-storm water discharges, developing and implementing a SWPPP, and performing monitoring of storm water discharges.	SWRCB Order No. 92-08-DWQ (General Construction Activity Storm Water Permit)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Persons responsible for discharges at units that were closed, abandoned, or inactive on or before November 27, 1984,	27 CCR 20080(g)	Applicable	No significant changes were made to the cited requirement (as of March 2014) that could affect the

Table M-1: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 2 and 17

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
may be required to develop and implement a monitoring program in accordance with Article 1, Subchapter 3, Subdivision 1 (27 CCR 20380 et seq.).			protectiveness of the remedy.
Maintain monitoring systems and monitor groundwater, surface water, and the unsaturated zone in accordance with applicable requirements of Article 1, Subchapter 3, Chapter 3, Subdivision 1 (27 CCR 20380 et seq.).	27 CCR 21090(c)(3)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Establishes monitoring requirements for waste management units.	27 CCR 20380(a), (d), and (e)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Requires that a discharger establish a detection monitoring program and institute evaluation monitoring whenever there is measurably significant evidence of a release.	27 CCR 20385(a)(1), and (a)(2)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Groundwater monitoring system design and operation.	27 CCR 20415(e)(1) and 13	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Provides minimum requirements for a groundwater detection monitoring program.	27 CCR 20420	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Evaluation monitoring is required whenever there is measurably significant evidence of a release during a detection monitoring program.	27 CCR 20425	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
A discharger shall remediate releases from the waste management unit that affect water quality.	27 CCR 20430	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Alternatives to construction or prescriptive standards.	27 CCR 20080(b) and (c), and 27 CCR 21090(a)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
The post-closure maintenance period shall extend as long as the wastes pose a threat to water quality.	27 CCR 20950(a)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Classified waste management units shall be closed in accordance with an approved closure and post-closure maintenance plan.	27 CCR 21769	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Closed landfills shall be graded and maintained to prevent ponding and to provide slopes of at least 3 percent.	27 CCR 21090(b)(1)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Diversion and drainage facilities shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows. Collection and holding facilities associated with drainage control shall be emptied	27 CCR 20365(c) and (d)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.

Table M-1: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 2 and 17

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
immediately or otherwise managed to maintain design capacity.			
Prevention of erosion and related damage of the final cover through the post-closure maintenance period.	27 CCR 21090(c)(4)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Closed landfills shall be provided with the uppermost cover layer consisting of a vegetative layer of not less than 1 foot of soil, containing no waste or leachate, placed on top of a layer as defined in 27 CCR 21090(a)(2); vegetation rooting depth must not exceed the 27 CCR 21090(a)(2) layer (vegetation layer) depth.	27 CCR 21090(a)(3)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Hydraulic conductivities shall be determined primarily by appropriate field test methods in accordance with accepted civil engineering practice.	27 CCR 20320(c) and (d), and 20324(g)(1)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
South Coast Air Quality Management District (SCAQMD)			
States that a person shall not discharge any air contaminant into the atmosphere from any single source of emission for a period or periods more than 3 minutes in a 60-minute period.	SCAQMD Rule 401	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Provides for regulation of fugitive dust emissions beyond the property line of the emission source and states a maximum allowable particulate matter (PM) measured as PM 10.	SCAQMD Rule 403	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Requires person excavating a landfill to identify mitigation measures to ensure that a public nuisance condition does not occur.	SCAQMD Rule 1150	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
California Integrated Waste Management Board			
Landfill closure. Sets forth the performance standards and minimum requirements for proper closure, post-closure maintenance, and proper reuse of solid waste disposal sites to protect public health and safety and the environment.	27 CCR, Division 2, Chapter 3 (Criteria for all Waste Management Units, Facilities, and Disposal Sites), Subchapter 5, Article 2, 21100	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Security. All points of access to the site must be restricted. All monitoring, control, and recovery systems shall be protected from unauthorized access.	27 CCR 21135(f) and (g)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Final Cover Requirements. Cross-references Title 27 CCR, Section 21090, with regard to specific cover requirements and states that engineered alternatives to the prescriptive standard are allowed provided they meet performance requirements.	27 CCR 21140(a)(b)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Final Drainage and Erosion Control. The design of the final cover must control run-on and runoff produced by a 100-year, 24-hour storm event. Slopes must be	27 CCR 21150	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.

Table M-1: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 2 and 17

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
stabilized.			
Requires gas monitoring and control be conducted during the closure and post-closure maintenance period.	27 CCR 21160(b)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Post-Closure Land Uses. Requires that post-closure land uses be designated and maintained to protect health and safety; prevent contact with waste, LFG, and leachate; and prevent gas explosions. Requires approval if post-closure land uses involve structures within 1,000 feet of the disposal area, structures on top of waste, modification of the low-permeability layer, or irrigation over waste.	27 CCR 21190(a), (b), and (c)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Settlement. Closed waste management units shall be provided with at least two permanent monuments (to be installed by a licensed land surveyor or a registered civil engineer) from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period.	27 CCR 20950(d)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Conduct an aerial photographic survey to include closed portions of the unit and its immediate surrounding area, including the surveying monuments. This survey will be used to produce a topographic map showing as-closed topography and to allow early detection of any differential settlement.	27 CCR 21090(e)(1)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Emergency Response Plan. Requires the operator to maintain a written post-closure emergency response plan at the facility or at an alternate location.	27 CCR 21130	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Final Grading. The final cover of closed landfills shall be designed, graded, and maintained to prevent ponding and site erosion due to high runoff velocities. Slopes should be at least 3 percent.	27 CCR 21090(b)(1)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Content Requirements for Closure Plans. Cross-references Title 27, CCR, 21790(b)(1) through (b)(8).	27 CCR, Chapter 4, Article 4, Subchapter 4, Section 21800	Relevant and appropriate (except for administrative requirements)	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Content Requirements for Post-Closure Plans	27 CCR 21830	Relevant and appropriate (except for administrative requirements and 27 CCR 21830[b][8])	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Closure Certification	27 CCR 21880	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
The landfill shall be maintained and monitored for a period of not less than 30	27 CCR 21180(a)	Relevant and	No significant changes were made to the cited requirement (as of

Table M-1: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 2 and 17

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
years after completion of closure of the entire solid waste landfill.		appropriate	March 2014) that could affect the protectiveness of the remedy.
California Civil Code*			
Provides conditions under which land use restrictions will apply to successive owners of land.	Civil Code Section 1471	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
California Health and Safety Code (HSC)*			
Allows DTSC to enter into an agreement with the owner of a hazardous waste facility to restrict present and future land uses.	California HSC 25202.5	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Provides a streamlined process to be used when entering into an agreement to restrict specific use of property in order to implement the substantive use restrictions of HSC 25232(b)(1)(A)-(E).	HSC 25222.1	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Prohibits certain uses of land containing hazardous waste without a specific variance.	HSC 25232(b)(1) (A)-(E)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Provides a process for obtaining a written variance from a land use restriction.	HSC 25233(c)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.

Notes:

* Statutes and policies and their citations are provided as headings to identify general categories of ARARs for the convenience of the reader. Listing the statutes and policies does not indicate that the DON accepts entire statutes or policies as ARARs. Specific ARARs are listed in the table below each general heading; only substantive requirements of the specific citations are considered ARARs.

Table M-2: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 3 and 5

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
Chemical-Specific ARARs			
Resource Conservation and Recovery Act (RCRA)*			
TCLP regulatory levels; persistent and bioaccumulative toxic substances TTLCs and STLCs. Hazardous waste treatment, storage, or disposal.	Title 22 California Code of Regulations (CCR), Sections 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
Groundwater protection standards: Owners/operators of RCRA treatment, storage, or disposal facilities must comply with conditions in this section that are designed to ensure that hazardous constituents entering the groundwater from a regulated unit do not exceed the concentration limits for contaminants of concern set forth under Cal. Code Regs. tit. 22, § 66264.94 in the uppermost aquifer underlying the waste management area of concern at the POC.	Cal. Code Regs. tit. 22, § 66264.94(a)(1), (d), and (e)	Relevant and appropriate	Groundwater protection standards have not changed as of March 2014.
Uranium Mill Tailings Radiation Control Act*			
Design requirements for remedial actions that involve disposal for controlling combined releases of radon-220 and radon-222 to the atmosphere.	40 C.F.R. § 192.02(b)	Relevant and appropriate	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
NRC Radiological Criteria*			
As a condition for license termination with restricted site use, the licensee must demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of 10 C.F.R. § 20.1402 would result in net public or environmental harm or were not being made because the residual levels associated with restricted conditions are ALARA.	10 C.F.R. § 20.1403(a)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
As a condition for license termination with restricted site use, the licensee must make provisions for legally enforceable institutional controls that provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem/yr.	10 C.F.R. § 20.1403(b)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
California Environmental Protection Agency Department of Toxic Substances Control			
Definition of a non-RCRA hazardous waste.	22 CCR 66261.22 (a)(3) and (4), 66261.24(a)(2) to (a)(8), 66261.101, 66261.3(a)(2)(C), or 66261.3(a)(2)(F)	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
California Integrated Waste Management Board*			
Landfill gas control. Requires that landfill gases are controlled during periods of closure and postclosure maintenance	27 CCR 20921(a)(1), (2), and (3)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the

Table M-2: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 3 and 5

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
such that: 1) the concentration of methane does not exceed 1.25 percent of the volume in air within on-site structures; 2) the concentration of methane gas migrating from the landfill must not exceed 5 percent by volume in air at the facility property boundary or an alternative boundary in accordance with Cal. Code Regs. tit. 27, § 20925; and 3) trace gases shall be controlled to prevent acute and chronic exposure to toxic and/or carcinogenic compounds. Period of control must continue for 30 years or until it can be demonstrated that there is no potential for gas migration beyond the property boundary or into on-site structures.			protectiveness of the remedy.
Location-Specific ARARs			
National Archaeological and Historical Preservation Act*			
Within area where action may cause irreparable harm, loss, or destruction of significant artifacts.	Substantive requirements of 36 C.F.R. § 65, 40 C.F.R. § 6.301(3), 16 U.S.C. § 469	Applicable	This ARAR was met during the remedial action design/construction and the requirement is no longer pertinent.
Historic Sites, Buildings, and Antiquities Act*			
Actions taken should avoid undesirable impacts on landmarks at historic sites.	16 U.S.C. §§ 461–467, 40 C.F.R. § 6.301(a)	Applicable	This ARAR was met during the remedial action design/construction and the requirement is no longer pertinent.
Archaeological Resources Protection Act of 1979*			
If archaeological resources or natural landmarks are identified during the course of remedial action.	Pub. L. No. 96-95 (16 U.S.C. § 470aa–470mm)	Applicable	This ARAR was met during the remedial action design/construction and the requirement is no longer pertinent.
Action-Specific ARARs			
RCRA, 42 USC § 6901 et seq.*			
On-site waste generation. Person who generates waste shall determine whether that waste is a hazardous waste.	22 CCR 66262.10(a), 66262.11	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
Requirements for analyzing waste for determining whether waste is hazardous.	22 CCR 66264.13(a) and 66264.13(b)	Applicable	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Hazardous waste accumulation. Generator may accumulate waste on-site for 90 days or less or must comply with requirements for operating a storage facility.	22 CCR 66264.34	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
Containers of RCRA hazardous waste must be <ul style="list-style-type: none"> • maintained in good condition, • compatible with hazardous waste to be stored, and • closed during storage except to add or remove waste. 	22 CCR 66264.171, 66264.172, 66264.173	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.

Table M-2: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 3 and 5

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
Inspect container storage areas weekly for deterioration.	22 CCR 66264.174	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Place containers on a sloped, crack-free base, and protect from contact with accumulated liquid. Provide containment system with a capacity of 10 percent of the volume of containers of free liquids. Remove spilled or leaked waste in a timely manner to prevent overflow of the containment system.	22 CCR 66264.175(a) and (b)	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
At closure, remove all hazardous waste and residues from the containment system, and decontaminate or remove all containers and liners.	22 CCR 66264.178	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Alternate requirements for container storage that are protective of human health and the environment.	40 C.F.R. § 264.553	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Landfill Closure and Post-closure Requirements			
General performance standard requires minimization or elimination of need for further maintenance and control; elimination of postclosure escape of hazardous wastes, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products, to the extent necessary to protect human health and the environment.	22 CCR 66264.111 (a) and (b) except as it cross-references procedural requirements such as preparation and submittal of closure plans and other notifications	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
If waste is to remain in a unit, the unit shall be compacted before any portion of the final cover is installed.	22 CCR 66264.228(e)(1)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Before installing the compacted layer of the final cover, the owner or operator shall accurately establish the correlation between the desired permeability and the density at which that permeability is achieved.	22 CCR 66264.228(f)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
A map must be prepared showing the exact location and dimensions, including depth of each cell with respect to permanently surveyed benchmarks with horizontal and vertical controls.	22 CCR 66264.309(a)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
The final cover shall accommodate lateral and vertical shear forces generated by the maximum credible earthquake so that the integrity of the cover is maintained.	22 CCR 66264.310(a)(5)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
The final cover shall be designed to prevent the downward entry of water into the closed landfill throughout a period of at least 100 years.	22 CCR 66264.310(a)(1)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the	22 CCR 66264.310(b)(1)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the

Table M-2: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 3 and 5

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
effects of settling, subsidence, erosion, or other events throughout the postclosure period.			protectiveness of the remedy.
After final closure, maintain and monitor the groundwater system and comply with monitoring requirements.	22 CCR 66264.310(b)(3)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Protect and maintain surveyed benchmarks throughout the postclosure period.	22 CCR 66264.310(b)(5)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Postclosure care shall be begin after completion of closure and continue for a minimum of 30 years, based on protectiveness to human health and the environment.	22 CCR 66264.117(b)(1) and (2)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Monitoring			
Owners/operators of RCRA surface impoundment, waste pile, land treatment unit, or landfill shall conduct a monitoring and response program for each regulated unit.	22 CCR 66264.91(a)(1)–(4) and (c), except as it cross-references permit requirements	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
The POC is a vertical surface, located at the hydraulically downgradient limit of the waste management area that extends through the uppermost aquifer underlying the regulated unit.	22 CCR 66264.95(a) and (b)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Requirements for monitoring groundwater, surface water, and the vadose zone.	22 CCR 66264.97 (b)(1)(A), (b)(1)(B), (b)(4–7), (e)(6), (12)(A) and (B), (13), and (15)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Requirements for a detection monitoring program.	22 CCR 66264.98(e)(1–5), (i), (j), (k)(1–3), (4)(A) and (D), (5), (7)(C) and (D), (n)(1), (2)(B), and (C)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Requirements for an evaluation monitoring program.	22 CCR 66264.99(b), (e)(1)–(6), (f)(3), and (g)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Clean Water Act, as Amended (33 U.S.C., ch. 26, §§ 1251–1387)*			
Owners and operators of construction activities must be in compliance with discharge standards for construction activities that disturb an acre or more of soil.	CWA Section 402 (33 U.S.C. ch. 26, § 1342); 40 C.F.R. § 122.44(k)(2) and (4)	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Atomic Energy Act of 1954 (42 U.S.C. ch. 23, § 2011 et seq.)*			
The licensee shall secure from unauthorized removal or access, licensed materials that are stored in controlled or unrestricted areas.	10 C.F.R. § 20.1801	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
The licensee shall control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage.	10 C.F.R. §20.1802	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.

Table M-2: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 3 and 5

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
Clean Air Act (42 U.S.C. §§ 7401–7671)*			
Prohibits emissions of fugitive dust such that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source and shall not cause or allow PM10 levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples.	SCAQMD Rule 403	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Limits equipment from discharging particulate emissions in excess of 0.01 to 0.196 grain per cubic foot based on a given volumetric (dry standard cubic feet per minute) exhaust gas flow rate averaged over 1 hour or one cycle of operation. It excludes steam generators or gas turbines.	SCAQMD Rule 404	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Limits equipment from discharging particulate emissions in excess of 0.99 to 30 pounds per hour based on a given process weight.	SCAQMD Rule 405	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Install a landfill gas control system and proper disposal of the collected gas.	SCAQMD Rule 1150.1	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
State Water Resources Control Board (SWRCB) and Regional Water Resources Control Board (RWQCB)			
Waste management units undergoing final closure, with 1 acre of disturbance or more, must comply with the substantive requirements for eliminating most nonstormwater discharges, developing and implementing a stormwater pollution prevention plan, and performing monitoring to stormwater discharges.	SWRCB Order No. 92-08-DWQ (General Construction Activity Storm Water Permit)	TBC	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Closed landfills shall be graded and maintained to prevent ponding and to provide slopes of at least 3 percent.	27 CCR 21090(b)(1)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Hazardous waste and designated waste management units shall be designed to withstand the maximum credible earthquake, and nonhazardous waste management units must be designed to withstand the maximum probable earthquake without damage to the foundation or the structures that control leachate, surface drainage, erosion, or gas.	27 CCR 20370	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Diversion and drainage facilities shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows. Collection and holding facilities associated with drainage control shall be emptied immediately or otherwise managed to maintain design capacity.	27 CCR 20365(c) and (d)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.

Table M-2: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 3 and 5

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
Prevent erosion and related damage of the final cover through the postclosure maintenance period.	27 CCR 21090(c)(4)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Closed landfills shall be provided with an uppermost cover layer consisting of a vegetative layer including no less than 1 foot of soil, containing no waste or leachate, placed on top of a low-hydraulic-conductivity layer (see Cal. Code Regs. tit. 27, § 21090[a][2]); vegetation rooting depth must not exceed the depth to (a)(2) layer (vegetation layer).	27 CCR 21090(a)(3)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Foundation Layer—Closed landfills shall be provided with not less than 2 feet of appropriate materials as a foundation layer for the final cover. These materials may be soil, contaminated soil, incinerator ash, or other waste materials, provided that such materials have appropriate engineering properties to be used for a foundation layer. The foundation layer shall be compacted to the maximum density obtainable at optimum moisture content using methods that are in accordance with accepted civil engineering practice. A lesser thickness may be allowed for units if the differential settlement of waste and ultimate land use will not affect the structural integrity of the final cover.	27 CCR 21090(a)(1)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent
Low-Hydraulic-Conductivity Layer—Closed landfills shall be provided with a low-hydraulic-conductivity (or low through-flow rate) layer, consisting of not less than 1 foot of soil containing no waste or leachate, that is placed on top of the foundation layer and compacted to attain a hydraulic conductivity of either 1×10^{-6} cm/sec (i.e., 1 foot per year) or less, or equal to the hydraulic conductivity of any bottom liner system or underlying natural geologic materials, whichever is less permeable, or another design that provides a correspondingly low through-flow rate throughout the postclosure maintenance period.	27 CCR 21090(a)(2)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent
Hydraulic conductivities shall be determined primarily by appropriate field test methods in accordance with accepted civil engineering practice.	27 CCR 20320(c) and (d) and 20324(g)(1)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
The operator shall ensure that landfill gases generated at a disposal site are controlled. Methane must not exceed 1.25 percent by volume in air within on-site structures, concentrations of methane gas migrating from the landfill must not exceed 5 percent by volume in air at the property boundary, and trace gases shall be controlled to prevent	27 CCR 20921(a)(1), (2), and (3)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.

Table M-2: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 3 and 5

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
adverse acute and chronic exposure to toxic and/or carcinogenic compounds.			
South Coast Air Quality Management District*			
Visible emissions standard that states a person shall not discharge any air contaminant into the atmosphere from any single source of emission for a period or periods aggregating more than 3 minutes in a 60-minute period, which is (a) as dark or darker in shade at that designated No. 1 on the Ringlemann Chart, or (b) of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in (a).	SCAQMD Rule 401	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
California Integrated Waste Management Board			
Security. All points of access to the site must be restricted. All monitoring, control, and recovery systems shall be protected from unauthorized access. Once closure activities are complete, site access by the public may be allowed in accordance with the approved closure and postclosure maintenance plan.	27 CCR 21135(f) and (g)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Final Cover Requirements. Cross-references Title 27 CCR, Section 21090, with regard to specific cover requirements and states that engineered alternatives to the prescriptive standard are allowed provided they meet performance requirements.	27 CCR 21140(a)(b)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Final Drainage and Erosion Control. The design of the final cover must control run-on and runoff produced by a 100-year, 24-hour storm event. Slopes must be stabilized.	27 CCR 21150	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Requires gas monitoring and control be conducted during the closure and post-closure maintenance period.	27 CCR (a) and (b) except leachate	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Establishes requirements for design and maintenance of proposed postclosure land uses. Also stipulates that site closure design should show one or more proposed uses of the closed site or show development that is compatible with open space.	27 CCR 21190(a) and (b)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Closed waste management units shall be provided with at least two permanent monuments (to be installed by a licensed land surveyor or a registered civil engineer) from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the postclosure maintenance period.	27 CCR 20950(d)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Conduct an aerial photographic survey to include closed portions of the unit and its immediate surrounding area, including	27 CCR 21090(e)(1)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the

Table M-2: Summary of ARARs Review — Installation Restoration Program (IRP) Sites 3 and 5

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
the surveying monuments. This survey will be used to produce a topographic map showing as-closed topography and to allow early detection of any differential settlement.			protectiveness of the remedy.
Final grading: Final grades must be designed and maintained to reduce impacts to health and safety and take into consideration any postclosure land use.	27 CCR 21090(b)(1)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
The landfill shall be maintained and monitored for a period of not less than 30 years after completion of closure of the entire solid waste landfill.	27 CCR 21180(a)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Land-Use Controls			
Provides conditions under which land-use restrictions will apply to successive owners of land.	Civil Code Section 1471	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Allows DTSC to enter into an agreement with the owner of a hazardous waste facility to restrict present and future land uses.	California HSC 25202.5	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Provides a streamlined process to be used to enter into an agreement to restrict specific use of property in order to implement the substantive use restrictions of Cal. Health & Safety Code § 25232(b)(1)(A)–(E).	California HSC 25222.1 and 25355.5(a)(1)(C)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Provides processes and criteria for obtaining written variances from a land-use restriction and for removal of the land-use restrictions.	California HSC 25233(c) and 25234	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
A land-use covenant imposing appropriate limitations on land use shall be executed and recorded when facility closure, corrective action, remedial or removal action, or other response actions are undertaken and hazardous materials, hazardous wastes or constituents, or hazardous substances will remain at the property at levels which are not suitable for unrestricted use of the land.	22 CCR 67391.1	Relevant and appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.

Notes:

* Statutes and policies and their citations are provided as headings to identify general categories of ARARs for the convenience of the reader. Listing the statutes and policies does not indicate that the DON accepts entire statutes or policies as ARARs. Specific ARARs are listed in the table below each general heading; only substantive requirements of the specific citations are considered ARARs

Table M-3: Summary of ARARs Review — Anomaly Area 3

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
Chemical-Specific ARARs			
Resource Conservation and Recovery Act (42 U.S.C., ch. 82, §§ 6901–6991[i])*			
Defines RCRA hazardous waste. A solid waste is characterized as toxic, based on the TCLP, if the waste exceeds the TCLP maximum concentrations.	22 CCR 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
The POC is a vertical surface, located at the hydraulically downgradient limit of the waste management area that extends through the uppermost aquifer underlying the regulated unit.	22 CCR 66264.95	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Provides definition of "Waste."	22 CCR 66261.2 (a), (b)(1), and (c)(1) and (3)	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
California/EPA Department of Toxic Substances Control*			
Defines "non-RCRA hazardous waste"	22 CCR 66261.22 (a)(3) and (4), 66261.24(a)(2) to (a)(8), 66261.101, 66261.3(a)(2)(C), or 66261.3(a)(2)(F)	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
Location-Specific ARARs			
Archaeological and Historic Preservation Act (16 U.S.C. § 469–469c-1)*			
Construction on previously undisturbed land would require an archaeological survey of the area. Data recovery and preservation would be required if significant archaeological or historical data were found on site. The responsible official or Secretary of the Interior is authorized to undertake data recovery and preservation.	16 U.S.C. § 469–469c-1 40 C.F.R. § 6.301(c)	Applicable	This ARAR was met during the remedial action design/construction and the requirement is no longer pertinent.
Archaeological Resources Protection Act of 1979, as Amended (16 U.S.C. § 470aa–470mm)*			
Prohibits unauthorized excavation, removal, damage, alteration, or defacement of archaeological resources located on public lands unless such action is conducted pursuant to a permit.	Pub. L. No. 96-95 16 U.S.C. § 470aa–470mm	Applicable	This ARAR was met during the remedial action design/construction and the requirement is no longer pertinent.
Exec. Order No. 11988, Floodplain Management*			
Evaluate potential effects of actions in a floodplain to avoid, to the extent possible, adverse effects associated with direct and indirect development of a floodplain.	40 C.F.R. § 6.302(b) and 40 C.F.R. pt. 6, app. A, § 6(a)(1), (3), and (5) (at the end of § 6.1007)	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Resource Conservation and Recovery Act (42 U.S.C. §§ 6901–6991[i])*			
Facility must be designed, constructed, operated, and maintained to avoid washout.	22 CCR 66264.18(b)	Relevant and appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Fish and Wildlife Coordination Act (16 U.S.C. §§ 661–666c)*			

Table M-3: Summary of ARARs Review — Anomaly Area 3

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
Action taken should protect fish or wildlife.	16 U.S.C. § 662	Applicable	This ARAR was met during the remedial action design/construction and the requirement is no longer pertinent.
California Endangered Species Act (Cal. Fish & Game Code §§ 2050–2116)			
Actions must be taken to assure that the following fully protected mammals are not taken or possessed at any time: (1) Morro Bay kangaroo rat (2) Bighorn sheep except Nelson bighorn sheep (3) Northern elephant seal (4) Guadalupe fur seal (5) Ring-tailed cat (6) Pacific right whale (7) Salt-marsh harvest mouse (8) Southern sea otter (9) Wolverine.	Cal Fish & Game Code § 4700	Relevant and appropriate	This ARAR was met during the remedial action design/construction and the requirement is no longer pertinent.
Prohibits the passage of enumerated substances or materials into waters of the state deleterious to fish, plant life, or birds.	Cal. Fish & Game Code § 5650(a)	Relevant and appropriate	This ARAR was met during the remedial action design/construction and the requirement is no longer pertinent.
Action-Specific ARARs			
RCRA, 42 USC § 6901 et seq.*			
On-site waste generation. Person who generates waste shall determine whether that waste is a hazardous waste.	22 CCR 66262.10(a), 66262.11	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
Requirements for analyzing waste for determining whether waste is hazardous.	22 CCR 66264.13(a) and 66264.13(b)	Applicable	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Hazardous waste accumulation. Onsite hazardous waste accumulation is allowed for up to 90 days as long as the waste is stored in containers in accordance with § 66262.171–178 or in tanks, on drip pads, inside buildings, and is labeled and dated, etc.	22 CCR 66264.34	Applicable	This ARAR was met during remedial action construction and the requirement is no longer pertinent.
Site Closure. Minimize the need for further maintenance controls and minimize or eliminate, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated rainfall or runoff, or waste decomposition products to groundwater or surface water or to the atmosphere.	22 CCR 66264.111 (a) and (b)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Containers storage. Containers of RCRA hazardous waste must be <ul style="list-style-type: none"> • maintained in good condition, • compatible with hazardous waste to be stored, and • closed during storage except to add or remove waste. 	22 CCR 66264.171, 66264.172, 66264.173	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Inspect container storage areas weekly	22 CCR 66264.174	Relevant and	No changes to the cited

Table M-3: Summary of ARARs Review — Anomaly Area 3

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
for deterioration.		Appropriate	provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Place containers on a sloped, crack-free base, and protect from contact with accumulated liquid. Provide containment system with a capacity of 10 percent of the volume of containers of free liquids. Remove spilled or leaked waste in a timely manner to prevent overflow of the containment system.	22 CCR 66264.175(a) and (b)	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
At closure, remove all hazardous waste and residues from the containment system, and decontaminate or remove all containers and liners.	22 CCR 66264.178	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Location of the landfill. A map must be prepared showing the exact location and dimensions, including depth of each cell with respect to permanently surveyed benchmarks with horizontal and vertical controls.	22 CCR 66264.309(a)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Postclosure care. Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events throughout the postclosure period.	22 CCR 66264.310(b)(1)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Benchmark maintenance. Protect and maintain surveyed benchmarks throughout the postclosure period.	22 CCR 66264.310(b)(5)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Monitoring. Owners/operators of RCRA surface impoundment, waste pile, land treatment unit, or landfill shall conduct a monitoring and response program for each regulated unit.	22 CCR 66264.91(a)(1)–(4) and (c), except as it cross-references permit requirements	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
The POC is a vertical surface, located at the hydraulically downgradient limit of the waste management area that extends through the uppermost aquifer underlying the regulated unit.	22 CCR 66264.95(a) and (b)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Requirements for monitoring groundwater, surface water, and the vadose zone.	22 CCR 66264.97 (b)(1)(A), (b)(1)(B), (b)(4–7), (e)(6), (12)(A) and (B), (13), and (15)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Requirements for a detection monitoring program.	22 CCR 66264.98(e)(1–5), (i), (j), (k)(1–3), (4)(A) and (D), (7)(C) and (D)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Requirements for an evaluation monitoring program.	22 CCR 66264.99(b), (e)(1)–(6), (f)(3), and	Relevant and appropriate	No significant changes were made to the cited requirement

Table M-3: Summary of ARARs Review — Anomaly Area 3

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
	(g)		(as of March 2014) that could affect the protectiveness of the remedy.
Corrective Action Management Unit. Establishes requirements for submission of a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed vertical and horizontal benchmarks.	22 CCR 66264.116	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Postclosure use of the property shall never be allowed to disturb the integrity of the final cover and any other components of the containment system unless such disturbance will not increase the potential hazard or is necessary to reduce threat to human health or the environment.	22 CCR 66264.117(d)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
South Coast Air Quality Management			
Prohibits emissions of fugitive dust such that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source and shall not cause or allow PM10 levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples.	SCAQMD Rule 403	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Limits equipment from discharging particulate emissions in excess of 0.01 to 0.196 grain per cubic foot based on a given volumetric (dry standard cubic feet per minute) exhaust gas flow rate averaged over 1 hour or one cycle of operation. It excludes steam generators or gas turbines.	SCAQMD Rule 404	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Limits equipment from discharging particulate emissions in excess of 0.99 to 30 pounds per hour based on a given process weight.	SCAQMD Rule 405	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Establishes design and operational requirements for landfill gas collection and control systems for active and inactive municipal solid waste landfills. Also establishes landfill gas sampling and monitoring requirements.	SCAQMD Rule 1150.1	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
State Water Resources Control Board (SWRCB) and Regional Water Resources Control Board (RWQCB)*			
General closure and postclosure maintenance standards.	27 CCR 20950(a)(2)(A)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Alternatives to construction or prescriptive standards.	27 CCR 20080 (b) and (c) and 21090	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer

Table M-3: Summary of ARARs Review — Anomaly Area 3

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
			pertinent.
Requires prevention of erosion and related damage of the final cover due to drainage throughout the postclosure maintenance period.	27 CCR 21090 (c)(4)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Establishes requirements for control of trace gases and concentration limits for methane generated at a disposal site.	27 CCR 20921(a)(1), 2), and (3)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Requires that gas monitoring and control program (pursuant to §§ 20921 – 20937) shall continue for the period of 30 years or until the operator receives written authorization to discontinue by the Enforcement Authority with concurrence from the CIWMB.	27 CCR 20921(b) except procedural requirements	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Requires gas monitoring and control systems be modified during closure and postclosure maintenance period to reflect changing onsite and adjacent land uses. Also states that postclosure land use shall not interfere with the function of gas monitoring and control systems.	27 CCR 20921(d)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Establishes requirements for implementation of gas monitoring program to ensure that the concentration limits for landfill gases prescribed in Cal. Code Regs. tit. 27, § 20921 are met.	27 CCR 20923 except procedural requirements	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Establishes requirements for location, spacing, and depth of gas monitoring wells.	27 CCR 20925 (a), (b), and (c)	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Establishes requirements for monitoring well construction for gas monitoring.	27 CCR 20925 (d)(1) and (3) except procedural requirements	Relevant and appropriate	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Requires all monitoring probes and on-site structures be sampled for methane during monitoring period. Sampling for other trace gases may be required by the Enforcement Agency if there is possibility of acute or chronic exposure due to carcinogenic or toxic compounds.	27 CCR 20932	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Establishes requirements for monitoring frequency for landfill gas. Stipulates that at a minimum, quarterly monitoring is required. A more frequent monitoring may be required by the Enforcement Authority based upon site specific factors.	27 CCR 20933	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Establishes control measures if monitoring results indicate	27 CCR 20937 except procedural	Relevant and	No significant changes were made to the cited requirement

Table M-3: Summary of ARARs Review — Anomaly Area 3

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
concentration of methane in excess of the compliance levels established in § 20921 (a).	requirements of 20937 (a)(2), (a)(4), (a)(5), and (f)(1) through (3)	appropriate	(as of March 2014) that could affect the protectiveness of the remedy.
The landfill shall be maintained and monitored for a period of not less than 30 years after completion of closure of the entire solid waste landfill.	27 CCR 21180 (a) and (b)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Establishes requirements for design and maintenance of proposed postclosure land uses. Also stipulates that site closure design should show one or more proposed uses of the closed site or show development that is compatible with open space.	27 CCR 21190 (a) and (b)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Requires that all proposed land uses be submitted to the Enforcement Authority, RWQCB, local air district, and local land use agency for review and/or approval. Requires that any construction on the site maintain the integrity of the cover system.	27 CCR 21190 (c) and (d)	Relevant and appropriate	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
California Civil Code*			
Provides conditions under which land-use restrictions will apply to successive owners of land.	Civil Code Section 1471	Applicable	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
California Health and Safety Code*			
Allows DTSC to enter into an agreement with the owner of a hazardous waste facility to restrict present and future land uses.	California HSC 25202.5	Applicable	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Provides a streamlined process to be used to enter into an agreement to restrict specific use of property in order to implement the substantive use restrictions of Cal. Health & Safety Code § 25232(b)(1)(A)–(E).	California HSC 25222.1 and 25355.5(a)(1)(C)	Applicable	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Prohibits certain uses of land containing hazardous waste without a specific variance.	California HSC 25232 (b)(1)(A)- (E)	Applicable	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Provides processes and criteria for obtaining written variances from a land-use restriction and for removal of the land-use restrictions.	California HSC 25233(c) and 25234	Applicable	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Cal/EPA Department of Toxic Substances Control*			
A land-use covenant imposing appropriate limitations on land use shall be executed and recorded when facility closure, corrective action, remedial or removal action, or other response actions are undertaken and hazardous	22 CCR 67391.1	Relevant and appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.

Table M-3: Summary of ARARs Review — Anomaly Area 3

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
materials, hazardous wastes or constituents, or hazardous substances will remain at the property at levels which are not suitable for unrestricted use of the land.			
California Integrated Waste Management Board			
Security. All points of access to the site must be restricted. All monitoring, control, and recovery systems shall be protected from unauthorized access. Once closure activities are complete, site access by the public may be allowed in accordance with the approved closure and postclosure maintenance plan.	27 CCR 21135(f) and (g)	Applicable	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Final Cover Requirements. Requires that final cover shall function with minimum maintenance and provide waste containment to protect public health and safety by controlling at a minimum, vectors, fire, odor, litter and landfill gas migration. The final cover shall also be compatible with postclosure land use.	27 CCR 21140	Applicable	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Final Grading. Requires that final grades be designed and maintained to reduce impacts to health and safety, and take into consideration any postclosure land use. Also requires discharger to produce and submit to the Enforcement Authority an iso-settlement map at least every five years only if RWQCB does not require such maps.	27 CCR 21142, except procedural requirements of 21142 (b)	Applicable	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
Cover seismic requirements. The owner shall assure the integrity of final slopes under both static and dynamic conditions to protect public health and safety and prevent damage to postclosure land uses, roads, structures, utilities, gas monitoring and control systems, leachate collection and control systems to prevent public contact with leachate, and prevent exposure of waste.	27 CCR 21145, except procedural requirements of 21145 (b)	Applicable	This ARAR was met during remedial action design/construction and the requirement is no longer pertinent.
Erosion Control. The drainage and erosion control system shall be designed and maintained to assure integrity of postclosure land uses, roads, and structures; to prevent public contact with waste and leachate; to assure integrity of gas monitoring and control systems; to prevent safety hazards; and to prevent exposure of waste.	27 CCR 21150	Applicable	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.
During the postclosure maintenance period, the owner/operator shall assure that landfill gas control and leachate collection and control is done in a manner that prevents public contact and controls vectors, nuisance, and	27 CCR 21160 (a) and (b) except where the provisions refer to leachate collection and control.	Applicable	No significant changes were made to the cited requirement (as of March 2014) that could affect the protectiveness of the remedy.

Table M-3: Summary of ARARs Review — Anomaly Area 3

Applicable or Relevant and Appropriate Requirement (ARAR) in the Record of Decision (ROD)	Citation	ARAR Determination in ROD	Conclusions of Review
odors.			

Notes:

* Statutes and policies and their citations are provided as headings to identify general categories of ARARs for the convenience of the reader. Listing the statutes and policies does not indicate that the DON accepts entire statutes or policies as ARARs. Specific ARARs are listed in the table below each general heading; only substantive requirements of the specific citations are considered ARARs

Table M-4: Summary of ARARs Review — IRP Site 16

ARAR in ROD	Citation	ARAR Determination in ROD	Conclusion of Review
Chemical Specific ARARs			
National Primary Drinking Water Standards (maximum contaminant levels [MCLs]) for Public Water Systems (for organic compounds)	40 CFR 141.61(a)	Relevant and Appropriate	The MCL for TCE used as the target groundwater cleanup criterion has not changed as of March 2014 (remains at 5 µg/L).
Definition of Hazardous Waste Under RCRA	22 CCR 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1) and 66261.100	Applicable	Definition and hazardous waste characteristics have not changed as of March 2014.
Groundwater Protection Standards for RCRA Treatment, Storage, and Disposal Facilities	22 CCR 66264.94 except 66264.94(a)(2) and 66264.94 (b)	Relevant and Appropriate	Groundwater protection standards have not changed as of March 2014.
Water Quality Standards for Contingency of National Pollutant Discharge Elimination System (NPDES) Discharge to Bee Canyon Wash	40 CFR 131.36(b) and 131.38	Applicable to Contingency Remedy Only	Changes to specific water quality standards since the ROD signing do not affect the remedy protectiveness since contingency pumping and waste discharge are not occurring.
Effluent Limitations to Meet Technology-Based Requirements	33 USC Chapter 26 Section (§)1311(b)(2) Clean Water Act (CWA) §301(b)	Applicable to Contingency Remedy Only	Changes to specific water quality standards since the ROD signing do not affect the remedy protectiveness since contingency pumping and waste discharge are not occurring.
Definition of Non-RCRA Hazardous Waste	22 CCR 66261.22(a)(3), 66261.22(a)(4), 66261.24(a)(8), 66261.24(a)(2), 66261.101, 66261.3(a)(2)(c) or 66261.3(a)(2)(f)	Applicable	Definition of non-RCRA hazardous waste, and waste characteristics as applied to potential waste generation have not changed as of March 2014.
RWQCB Authority to Regulate, Issue Permits and Take Enforcement Actions	California Water Code, Division 7, §13241, 13243, 13263(a), 13269, and 13360	Applicable	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Santa Ana River Basin (Water Quality Control) Plan Defining Beneficial Uses and Water Quality Objectives	California Water Code §13240 Chapters 3 and 4	Applicable	No changes to the cited provision were made as of the March 2014 update that affects the remedy implementation or protectiveness.
State Policy for Sources of Drinking Water designating all State waters as drinking water unless excluded or otherwise designated	California State Water Resources Control Board Resolution 88-63	Applicable	No changes were made to the beneficial use table as of the March 2014 update to the Basin Plan that affects the remedy implementation or protectiveness.
State Policy requiring State waters of high quality to be maintained to the maximum extent possible	California State Water Resources Control Board Resolution 68-16	Applicable to Contingency Remedy Only	Changes to specific water quality objectives since the ROD signing do not affect the remedy protectiveness since contingency pumping and waste discharge are not occurring.
General Groundwater Cleanup Discharge Requirements under NPDES	California RWQCB Santa Ana Region Order No. R8-2002-0007,	Not a ARAR, used for guidance only	Changes to specific permit requirements in subsequent amendments (Order Nos. 2003-

Table M-4: Summary of ARARs Review — IRP Site 16

ARAR in ROD	Citation	ARAR Determination in ROD	Conclusion of Review
	NPDES Permit No. CAG918001		0085 and 2005-0110) do not affect the remedy protectiveness since contingency pumping and waste discharge are not occurring.
State Policy requiring testing of priority pollutants to determine effluent limitations of discharges	California State Surface Waters Plan §1.3 and 1.4	Applicable to Contingency Remedy Only	Changes to specific water quality objectives since the ROD signing do not affect the remedy protectiveness since contingency pumping and waste discharge are not occurring.
Action Specific ARARs			
Waste generator shall determine whether waste is hazardous	22 CCR 66262.10(a) and 66262.11	Applicable	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Requires the development of a plan and the use of testing to determine whether waste is hazardous	22 CCR 66264.13(a) and 66264.13(b)	Applicable	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Establishes accumulation limits (90 day) and requirements (appropriate storage and labeling) for waste hazardous	22 CCR 66262.34	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Requires use of appropriate storage, containerization, labeling, inspections, handling and use of spill containment for hazardous waste	22 CCR 66264.171, 66264.172, 66264.173, 66264.174, 66264.175(a) and 66264.175(b)	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Requirements for removal and decontamination of hazardous waste upon closure	22 CCR 66264.178	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Requirements for tank, piping and equipment design and use	22 CCR 66264.192, 66264.193(b), 66264.193(c), 66264.193(d), 66264.193(e) and 66264.193(f)	Applicable to Contingency Remedy Only	Changes to specific requirements since the ROD signing do not affect the remedy protectiveness since contingency pumping and waste discharge are not occurring.
Requirements for removal and decontamination of tanks, pipe and equipment upon closure	22 CCR 66264.192	Applicable to Contingency Remedy Only	Changes to specific requirements since the ROD signing do not affect the remedy protectiveness since contingency pumping and waste discharge are not occurring.
Monitoring requirements for identifying chemicals of concern	22 CCR 66264.93,	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Requirements for groundwater monitoring	22 CCR 66264.97(b), 66264.97(d) and 66264.97(e)(2) through	Relevant and Appropriate	No changes to the cited provisions were made as of March 2014 that affects the

Table M-4: Summary of ARARs Review — IRP Site 16

ARAR in ROD	Citation	ARAR Determination in ROD	Conclusion of Review
	66264.97(e)(5)		remedy implementation or protectiveness.
Requirements for detection monitoring program	22 CCR 66264.98(b), 66264.98(c), 66264.98(f), 66264.98(g) and 66264.98(i)	Relevant and Appropriate	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Requirements for evaluation monitoring program	22 CCR 66264.99(b), 66264.99(c), 66264.99(e), 66264.99(f) and 66264.99(g)	Relevant and Appropriate	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Requirements for corrective action upon discovery of a release to ensure compliance with water quality protection standards	22 CCR 66264.100(b), and 66264.100(c)	Relevant and Appropriate	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Requirements for groundwater monitoring program to demonstrate effectiveness of correction action and compliance with water quality protection standards	22 CCR 66264.100(d)	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Requirements for groundwater monitoring program to demonstrate completion of corrective action and compliance with water quality protection standards for 1 year	22 CCR 66264.100(g)(1) and 66264.100(g)(3)	Relevant and Appropriate	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Regulations limiting discharges of fugitive dust and fumes (including lead and particulate matter) to the atmosphere	SCAQMD Rules 403, 404 and 405	Applicable	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Regulations for packaging, marking and labeling of waste hazardous and use of placards during its transportation in accordance with DOT regulations	22 CCR 66262.30, 66262.31, 66262.32 and 66262.33	Applicable	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Groundwater monitoring requirements	22 CCR 20415(e)(12)(B)	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Conditions under which land use restrictions will apply to successive land owners	California Civil Code §1471	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Regulation allowing DTSC to enter into agreements with owners of hazardous waste facilities to restrict land use	California Health and Safety Code §25202.5	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Regulation that streamlines the process of entering into agreements to restrict specific land uses of properties	California Health and Safety Code §25222.1	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Regulation for obtaining variances to land use restrictions	California Health and Safety Code §25233(c)	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy

Table M-4: Summary of ARARs Review — IRP Site 16

ARAR in ROD	Citation	ARAR Determination in ROD	Conclusion of Review
Regulations limiting single source discharges of visible air contaminants to the atmosphere	SCAQMD Rules 401(b)(1)(A)	Applicable	implementation or protectiveness. No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Requirements for land use covenants	CCR Title 22, §67391.1	Relevant and Appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.

Table M-5: Summary of ARARs Review —IRP Sites 18 and 24

ARAR in ROD	Regulation Citation	ARAR Determination in ROD	Conclusion of Review
Chemical Specific ARARs			
National Primary Drinking Water Standards for Public Water Systems (MCLs) (for organic chemicals only)	40 CFR § 141.61	Relevant and Appropriate	The MCLs for the COCs at the sites used as the target groundwater cleanup criterion have not changed as of March 2014.
TCLP regulatory levels; persistent and bioaccumulative toxic substances TTCLs and STLCs	22 CCR 66261.24 (a)(1)	Applicable	Definition and hazardous waste characteristics have not changed as of March 2014.
Groundwater and vadose zone protection standards	22 CCR 66264.94 except 66264.94(a)(2) and 66264.94 (b)	Relevant and Appropriate	Groundwater and vadose zone protection standards have not changed as of March 2014.
Definition of “non-RCRA hazardous waste”.	22 CCR 66261.22(a)(3) and (4), 66261.24(a)(2) to (a)(8), 66261.101, 66261.3(a)(2)(c) or 66261.3(a)(2)(f)	Applicable	Definition of non-RCRA hazardous waste, and waste characteristics as applied to potential waste generation have not changed as of March 2014.
State MCL list for drinking water	22 CCR 64444	Relevant and Appropriate	The MCLs for the COCs at the sites used as the target groundwater cleanup criterion have not changed as of March 2014.
Authorizes SWRCB and RWQCB to establish standards to protect both surface and groundwater quality in water quality control plan, to issue permits for discharge including NPDES permits, and to take enforcement action to protect water quality	Cal. Water Code, div.7, §§ 13241, 13243, 13263 (a), 13269, and 13360 (Porter-Cologne Water Quality Act)	Applicable	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness.
Describe water basins in Santa Ana region; establishes beneficial uses of ground and surface waters, water quality objectives, implementation plans to meet the objectives and protect beneficial uses; incorporates State-wide water quality control plans and policies.	Comprehensive Water Quality Control Plan for the Santa Ana Basin (Cal. Water Code § 13240)	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Incorporated into all regional board basin plans. Designates all ground and surface waters of the State as drinking water with exceptions.	SWRCB Res. No. 88-63 (Sources of Drinking Water Policy)	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Location Specific ARARs			
Facility within 100-year floodplain must be designed, constructed, operated, and maintained to avoid washout.	22 CCR 66264.18(b)	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Actions taken within a floodplain should avoid adverse effects, minimize potential harm, and restore and preserve natural and beneficial values.	40 CFR § 6, Appendix A; excluding §§ 6(a)(2), 6(a)(4), 6(a)(6); 40 C.F.R. § 6.302(b)	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Construction within area where action may cause irreparable harm, loss, or destruction of significant artifacts.	Substantive requirements of 36 CFR § 65, 40 C.F.R. § 6.301(c), 16 USC § 469	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Action Specific ARARs			
Person who generates waste shall determine whether waste is a hazardous waste	22 CCR 66262.10(a), 66262.11	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.

Table M-5: Summary of ARARs Review —IRP Sites 18 and 24

ARAR in ROD	Regulation Citation	ARAR Determination in ROD	Conclusion of Review
Requires that constituents of concern be identified.	22 CCR 66264.93	Relevant and appropriate	No changes to the cited provisions were made as of March 2014 that affects the remedy implementation or protectiveness. COCs has not been changed since the ROD was signed.
Requires that a groundwater monitoring system be established and provides requirements the system must meet.	22 CCR 66264.97(b) and (e)(1)-(5)	Relevant and appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Requires that the owner or operator of a regulated unit develop a detection monitoring program that will provide reliable indication of a release.	22 CCR 66264.98	Relevant and appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Requires that the owner or operator of a regulated unit develop an evaluation monitoring program that can be used to assess the nature and extent of a release from the unit.	22 CCR 66264.99	Relevant and appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Provide requirements for a corrective action program for a regulated unit.	22 CCR 66264.100(a),(b),(c)(d), (f), and (g)(1) and (3)	Relevant and appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Hazardous waste must be packaged in accordance with Department of Transportation (DOT) regulations before transport.	22 CCR 66262.30	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Hazardous waste must be labeled in accordance with DOT regulations before transport.	22 CCR 66262.31	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Provides requirements for marking hazardous waste before transport.	22 CCR 66262.32	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
A generator must assure that the transport vehicle is correctly placarded before transport of hazardous waste.	22 CCR 66262.33	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Establishes requirements for a generator to accumulate hazardous waste on-site for 90 days or less without a permit or grant of interim status.	22 CCR 66262.34	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
All new sources of air pollution that may result in a net emission increase of any nonattainment air contaminant or any halogenated hydrocarbons are to employ BACT.	SCAQMD Rule 1303	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
The sampling method and frequency of sampling shall be appropriate for the medium from which the samples are taken.	27 CCR 20415(e)(12)(b)	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Applies to stationary source, constructed or modified after effective date of requirement, that emits carcinogenic air contaminants.	SCAQMD Rule 1401	Applicable	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.

Table M-5: Summary of ARARs Review —IRP Sites 18 and 24

ARAR in ROD	Regulation Citation	ARAR Determination in ROD	Conclusion of Review
Requires that T-BACT be employed for new stationary equipment when the operation of that equipment results in a higher-than-allowable maximum individual cancer risk.			No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Provides conditions under which land-use restrictions will apply to successive owners of land.	Cal. Civ. Code § 1471	Relevant and appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Allows Department of Toxic Substances Control (DTSC) to enter into an agreement with the owner of a hazardous waste facility to restrict present and future land uses.	Cal. Health & Safety Code § 25202.5	Relevant and appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Provides a streamlined process to be used to enter into an agreement to restrict specific use of property.	Cal. Health & Safety Code § 25222.1	Relevant and appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.
Provides a process for obtaining a written variance from a land-use restriction.	Cal. Health & Safety Code § 25233(c)	Relevant and appropriate	No changes to the cited provision were made as of March 2014 that affects the remedy implementation or protectiveness.

Appendix N
Regulatory Concurrence and Responses to
Comments

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From: Rogers, Morgan CTR NAVFAC HQ, BRAC PMO <morgan.rogers.ctr@navy.mil>
Sent: Thursday, September 18, 2014 12:28 PM
To: Wanyoike, Crispin; Dhody, Gaurav
Subject: FW: ***Concurrence Requested*** DRAFT RTCs on Draft Second Five-Year Review Report IRP Sites 2,3,5,16,17,18,24 & AA3 at Former MCAS El Toro

FYI

Morgan Rogers, PE
Contracted Support to BRAC PMO West
1455 Frazee Road, Suite 900
San Diego, CA 92108
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p. 619.532.0930
f. 619.532.0983

-----Original Message-----

From: Rich, Jennifer@DTSC [<mailto:Jennifer.Rich@dtsc.ca.gov>]
Sent: Thursday, September 18, 2014 12:24 PM
To: Rogers, Morgan CTR NAVFAC HQ, BRAC PMO; 'Aycock, Mary'; Hannon, Patricia@Waterboards
Cc: Arnold, Content P CIV NAVFAC SW; Sullivan, James B CIV NAVFACHQ, BRAC PMO; Smits, Marc P CIV NAVFAC SW, PACO; Murchison, David@DTSC
Subject: RE: ***Concurrence Requested*** DRAFT RTCs on Draft Second Five-Year Review Report IRP Sites 2,3,5,16,17,18,24 & AA3 at Former MCAS El Toro

Morgan,

DTSC concurs with the Navy's RTCs for the Draft Second Five-Year Review Report for IRP Sites 2, 3, 5, 16, 17, 18, 24, and AA3 at former MCAS El Toro. We have no further comment.

Thank you,
Jennifer

Jennifer Rich
Project Manager
Department of Toxic Substances Control
Brownfields and Environmental Restoration Program
5796 Corporate Avenue
Cypress, CA 90630

Phone: 714.484.5415

-----Original Message-----

From: Rogers, Morgan CTR NAVFAC HQ, BRAC PMO [<mailto:morgan.rogers.ctr@navy.mil>]
Sent: Thursday, September 18, 2014 11:55 AM
To: 'Aycock, Mary'; Rich, Jennifer@DTSC; Hannon, Patricia@Waterboards
Cc: Arnold, Content P CIV NAVFAC SW; Sullivan, James B CIV NAVFACHQ, BRAC PMO; Smits, Marc P CIV NAVFAC SW, PACO
Subject: ***Concurrence Requested*** DRAFT RTCs on Draft Second Five-Year Review Report IRP Sites 2,3,5,16,17,18,24 & AA3 at Former MCAS El Toro

Dear BCT Members,

Thank you for your participation on the conference call this morning to review the Navy's Draft RTCs on your comments on the Draft Second Five-Year Review Report for Former MCAS El Toro.

We are pleased to transmit a copy of the final Draft RTCs, and the OU vs IRP Site reference table requested by EPA HQ, for your review.

Please submit your concurrence or comments, if any, by Monday, September 22, 2014. We would like to finalize the Final Second Five-Year Review Report by the end of next week September 26th.

Thank you for your continued support with this program. If you have any questions about the RTCs, please contact me.

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From: Rogers, Morgan CTR NAVFAC HQ, BRAC PMO <morgan.rogers.ctr@navy.mil>
Sent: Thursday, September 18, 2014 1:23 PM
To: Wanyoike, Crispin; Dhody, Gaurav
Subject: FW: ***Concurrence Requested*** DRAFT RTCs on Draft Second Five-Year Review Report IRP Sites 2,3,5,16,17,18,24 & AA3 at Former MCAS El Toro

FYI, just need RWQCB concurrence. Patricia had no comments so expect no additional comments.

Let's get ready to go final and get this out by mid-week next week pending RWQCB email concurrence.

Thanks!

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-----Original Message-----

From: Aycok, Mary [<mailto:Aycok.Mary@epa.gov>]
Sent: Thursday, September 18, 2014 1:20 PM
To: Rogers, Morgan CTR NAVFAC HQ, BRAC PMO; 'Rich, Jennifer@DTSC'; Hannon, Patricia@Waterboards
Cc: Arnold, Content P CIV NAVFAC SW; Sullivan, James B CIV NAVFACHQ, BRAC PMO; Smits, Marc P CIV NAVFAC SW, PACO
Subject: RE: ***Concurrence Requested*** DRAFT RTCs on Draft Second Five-Year Review Report IRP Sites 2,3,5,16,17,18,24 & AA3 at Former MCAS El Toro

Dear BCT;

EPA has reviewed the attached RTC's and we have no further comments. Morgan, please forward a final hard copy of the Five-Year Review and a pdf copy including the signature page when you have incorporated all changes. Our goal is to have this document approved by September 30.

Mary T. Aycok
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aycock.mary@epa.gov

-----Original Message-----

From: Rogers, Morgan CTR NAVFAC HQ, BRAC PMO [<mailto:morgan.rogers.ctr@navy.mil>]
Sent: Thursday, September 18, 2014 11:55 AM
To: Aycok, Mary; 'Rich, Jennifer@DTSC'; Hannon, Patricia@Waterboards
Cc: Arnold, Content P CIV NAVFAC SW; Sullivan, James B CIV NAVFACHQ, BRAC PMO; Smits, Marc P CIV NAVFAC SW, PACO
Subject: ***Concurrence Requested*** DRAFT RTCs on Draft Second Five-Year Review Report IRP Sites 2,3,5,16,17,18,24 & AA3 at Former MCAS El Toro

Dear BCT Members,

Thank you for your participation on the conference call this morning to review the Navy's Draft RTCs on your comments on the Draft Second Five-Year Review Report for Former MCAS El Toro.

We are pleased to transmit a copy of the final Draft RTCs, and the OU vs IRP Site reference table requested by EPA HQ, for your review.

Please submit your concurrence or comments, if any, by Monday, September 22, 2014. We would like to finalize the Final Second Five-Year Review Report by the end of next week September 26th.

Thank you for your continued support with this program. If you have any questions about the RTCs, please contact me.

Morgan Rogers, PE
Contracted Support to BRAC PMO West
1455 Frazee Road, Suite 900
San Diego, CA 92108
morgan.rogers.ctr@navy.mil
p. 619.532.0930
f. 619.532.0983

From: Rogers, Morgan CTR NAVFAC HQ, BRAC PMO <morgan.rogers.ctr@navy.mil>
Sent: Thursday, September 18, 2014 1:45 PM
To: Wanyoike, Crispin; Dhody, Gaurav
Subject: FW: ***Concurrence Requested*** DRAFT RTCs on Draft Second Five-Year Review Report IRP Sites 2,3,5,16,17,18,24 & AA3 at Former MCAS El Toro

FYI, we have BCT concurrence on the RTCs. Let's go final. Great job!

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-----Original Message-----

From: Hannon, Patricia@Waterboards [<mailto:Patricia.Hannon@waterboards.ca.gov>]
Sent: Thursday, September 18, 2014 1:42 PM
To: Rogers, Morgan CTR NAVFAC HQ, BRAC PMO
Subject: RE: ***Concurrence Requested*** DRAFT RTCs on Draft Second Five-Year Review Report IRP Sites 2,3,5,16,17,18,24 & AA3 at Former MCAS El Toro

Morgan,

We concur with the Navy's RTCs on the draft Second Five-Year Review for IRP Sites 2, 3, 5, 16, 17, 18, 24 & AA3 at Former MCAS El Toro.

Patricia Hannon, PG
Engineering Geologist
Land Disposal and DoD Section
California Water Quality Control Board, Santa Ana Region
3737 Main Street, Suite 500
Riverside CA 92501-3348
Direct: (951) 782-4498
Reception desk: (951) 782-4130
patricia.hannon@waterboards.ca.gov
Website: www.waterboards.ca.gov/santaana

-----Original Message-----

From: Rogers, Morgan CTR NAVFAC HQ, BRAC PMO [<mailto:morgan.rogers.ctr@navy.mil>]
Sent: Thursday, September 18, 2014 11:55 AM
To: 'Aycock, Mary'; Rich, Jennifer@DTSC; Hannon, Patricia@Waterboards
Cc: Arnold, Content P CIV NAVFAC SW; Sullivan, James B CIV NAVFACHQ, BRAC PMO; Smits, Marc P CIV NAVFAC SW, PACO
Subject: ***Concurrence Requested*** DRAFT RTCs on Draft Second Five-Year Review Report IRP Sites 2,3,5,16,17,18,24 & AA3 at Former MCAS El Toro

Dear BCT Members,

Thank you for your participation on the conference call this morning to review the Navy's Draft RTCs on your comments on the Draft Second Five-Year Review Report for Former MCAS El Toro.

We are pleased to transmit a copy of the final Draft RTCs, and the OU vs IRP Site reference table requested by EPA HQ, for your review.

Please submit your concurrence or comments, if any, by Monday, September 22, 2014. We would like to finalize the Final Second Five-Year Review Report by the end of next week September 26th.

Thank you for your continued support with this program. If you have any questions about the RTCs, please contact me.

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Document Title:

Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: Patricia Hannon, RWQCB RPM, Comments Dated 29 August 2014.

No.	Comment	Response
1.	We have completed our review of the above-referenced document dated June 2014, which we received on June 30, 2014. The report presents the results of the second five-year review of eight IRP Sites (2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3). According to the report, the remedies at these Sites are functioning as intended by their respective Records of Decision and were determined to be protective of human health and the environment. We do not have any comments.	Thank you for your review and concurrence on this document.

Document Title:

Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: DTSC Comments, Letter dated 1 September 2014.

No.	Comment	Response
Attachment 1 – Comments from Jennifer Rich, DTSC Project Manager		
General Comments		
1.	Installation Restoration Program (IRP) Site 16: The United States Environmental Protection Agency requires monitored natural attenuation remedies to be completed within a reasonable time-frame compared to other more active remedies. The Navy should evaluate the progress toward, and provide an estimate of the time required to reach, the completion of the remedy.	The groundwater data reviewed for this Five-Year Review Report demonstrates that the remedy at Installation Restoration Program (IRP) Site 16 is protective of human-health and the environment. Upon the completion of the monitoring well network optimization, an evaluation of the progress and estimated duration of the remedy will be performed.
Specific Comments		
1.	Page xii, Five-Year Review Process, Paragraph 2: a. In which local newspaper was the public notice placed? b. It might be worth mentioning that a "Second Five-Year CERCLA Review Update" was given at the August 20, 2014 Restoration Advisory Board meeting.	a. The text has been updated to reflect that the public notice was issued in the Los Angeles Times and the Orange County Register. "A public notice for this RAB meeting including the notification for the five-year review presentation was published in the Los Angeles Times and the Orange County Register." b. The following text has been added: "In addition, a Second Five-Year CERCLA Review Update was given at the August 20, 2014 RAB meeting. Public notice of this RAB meeting and notification of the update was published in the Los Angeles Times and the Orange County Register."
2.	Page xvi, Paragraph 1: a. It does not appear as though the 2004 Vapor Intrusion Risk Assessment Report includes IRP Site 18. Please explain. b. It would be helpful to include the information presented on page 6-11 ("Changes in Risk" for IRP Site 18 [halfway down the page]) to this discussion.	a. The 2004 Vapor Intrusion Report does not include IRP Site 18. Please see response to Comment 2b below. b. The following text has been added: "The VOCs in groundwater at IRP Site 18 are not expected to pose a threat to human health via the vapor intrusion pathway. Low concentrations of VOCs in the principle aquifer at IRP Site 18 occur at depths of approximately 200 feet below ground surface. Therefore, the pathway for exposure to vapor intrusion is incomplete for IRP Site 18."
3.	Page xxi, Five-Year Review Summary Form (continued): The header in the last box shows "Protectiveness	The header in the last box of the Summary form has been revised as:

Document Title:

Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: DTSC Comments, Letter dated 1 September 2014.

No.	Comment	Response
	Statement(s) - Operable Unit 1 Sites". Should it say "Protectiveness Statement(s) - Operable Unit 1 and 2A Sites"?	"Protectiveness Statement(s) – Operable Unit 1 and 2A Sites."
4.	Page 1-1, Section 1.1, Background, Paragraph 1 and Page 2-2, Table 2-1: The "(U.S. EPA, California, DON 1990)" reference does not appear to be included in Section 11.	The following reference has been added in Section 11 and replaces reference "(U.S. EPA, California, DON 1990)." "Federal Facility Agreement. 1990. Federal Facility Agreements between the U.S. Marine Corps, U.S. EPA Region IX, Cal-EPA Department of Toxic Substances Control, and California Regional Water Quality Control Board."
5.	Page 2-1, Section 2.1.3.2, IRP Site 17, Last Sentence: The incorrect BNI reference is listed. It should read "(BNI1996b)".	The reference has been corrected as BNI 1996b.
6.	Page 2-4, Section 2.1.5: Please insert "interim" prior to "ROD".	The text has been revised as suggested.
7.	Page 2-6, Table 2-3, Row 9: The "(Shaw 2011)" reference does not appear to be included in Section 11.	The following Shaw reference has been added in Section 11. "_____. 2011, <i>Final Status Survey Plan, Operable Unit 2C, IRP Site 3, Former Marine Corps Air Station El Toro, California</i> , July."
8.	Page 2-7, Section 2.2.5, Basis for Taking Action, Line 1: There is no "(BNI 1992)" reference in Section 11. Perhaps it should read "JEG 1993"?	The reference has been corrected to "JEG 1993".
9.	Page 2-7, Section 2.3.2, Land and Resource Use: The "(DON 2000)" reference does not appear to be the correct reference for the BRAC Business plan update (see page 11-4).	The text has been cited from the Anomaly Area (AA) 3 Record of Decision (ROD), and the reference has been revised to (DON 2010a).
10.	Page 2-15, Table 2-6, Row 9: The "Weston 2010" reference does not appear to be an "Annual Status Report", but rather an Operating Properly and Successfully Report (see page 11-11).	The reference has been corrected to refer to the Final 2010 Annual Remedy Status Report.
11.	Page 2-16, Section 2.5.5, Basis for Taking Action: Why isn't IRP Site 18 addressed in this section? Also, see	The following text has been added in Section 2.5.5.1: "The basis for taking remedial action at IRP Site 18 are the presence of VOCs in groundwater at

Document Title:

Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: DTSC Comments, Letter dated 1 September 2014.

No.	Comment	Response
	Specific Comment 2b above.	concentrations that exceed the MCLs. A response action was recommended for the site because if the VOCs were to be left unaddressed, they may pose an unacceptable health risk to human receptors exposed to the groundwater." Please also see response to Specific Comment 2b above.
12.	Page 3-14, Section 3.3.3, Operation and Maintenance, and Long-Term Monitoring, Paragraph 2: Please update the second sentence with current information.	The second sentence has been updated with the current information regarding the issuance of the Draft Long-Term Monitoring (LTM) report for AA3 to the agencies in July 2014. "The second O&M report was issued in July 2014 (ERRG 2014), and summarizes data collected....."
13.	Pages 3-19 and 3-20, Section 3.4.3, System Operation and Maintenance, Last Paragraph: Please explain the solution to the problem outlined in this paragraph.	The following text has been added in the last line of the last paragraph of Section 3.4.3: "If water levels continue to drop at the current rate, replacement of non-performing monitoring wells will be evaluated as part of the Site's ongoing monitoring well network optimization." For the purposes of this Report, the information presented is sufficient to conclude that the remedy is protective of human-health and the environment.
14.	Page 3-22, Implementation of ICs, Paragraph 2: For what purpose are the wells being used?	The following text will be added at the end of the subject paragraph to explain the use for the wells: "The wells are being used for monitoring or air sparging/soil vapor extraction, as explained below: 1. The Orange County Health Care Agency (OCHCA) Permit # 11-08-19 was issued to DON for the replacement of abandoned monitoring well 07DBMW43A with new monitoring well 07DBMW43B as components of the Navy's IRP. 2. The OCHCA Permit # 11-06-22 was issued to Exxon Mobil Oil Corporation for the installation of one monitoring and three air sparge/soil vapor extraction wells." These permits are documented in the Final 2011 Annual Remedy Status Report, Installation Restoration Program Sites 18 and 24 Groundwater Remedy, January 2011 – December 2011, Former Marine Corps Air Station El Toro, Irvine, California

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Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: DTSC Comments, Letter dated 1 September 2014.

No.	Comment	Response
		(Weston 2012).
15.	Page 3-23, Implementation of ICs, Paragraph 3: Please state whether or not the land-use restrictions identified in the ROD for IRP Site 24 will also be incorporated into a Covenant to Restrict the Use of Property when the property overlying the on-Station portion of IRP Site 24 is conveyed to a non-Federal entity.	The following text has been added at the end of the subject paragraph: "In addition, when the on-Station portion of IRP Site 24 is conveyed to a non-Federal entity, the land-use restrictions identified in the ROD will also be incorporated into CRUP entered into by the Navy and DTSC as provided in the Navy/DTSC 2000 MOA."
16.	Page 3-26, Section 3.5.3.3, O&M Requirements - SGU Treatment Plant Sampling: Please update the third sentence with current information.	The subject sentence will be modified as follows: "Continued sampling at the ECLMP was recommended in the Draft 2013 Annual Remedy Status Report (ARSR) (ECS 2014)."
17.	Page 5-3, Line 6: Please refer to Specific Comment 1a above.	Consistent with the response to Specific Comment 1a, the text has been revised to state, "A public notice for this RAB meeting including the notification for the five-year review presentation was published in the Los Angeles Times and the Orange County Register."
18.	Page 5-12, Section 5.4.3.6, Leased Property: Please refer to Specific Comment 9 above.	Consistent with the response to Specific Comment 9, the text has been cited from the AA3 ROD, and the reference has been revised to DON 2010a.
19.	Page 6-7, Changes in Exposure Pathways and Toxicity, Paragraph 2: Why is Table 6-1 labeled as "Vapor Intrusion Risk Evaluation for IRP Site 24" if it is also applicable to IRP Site 16?	The heading for Table 6-1 has been revised as follows: "Table 6-1: Preliminary Evaluation of Changes in Toxicity Values -- Vapor Intrusion Risk Evaluation for IRP Sites 16 and 24"
20.	Page 6-9, Paragraph 1: The "(Weston 2010)" reference does not appear to be the correct reference for the <i>Draft Final Interim Remedial Action Completion Report Addendum</i> (see page 11-11).	The Draft Final Interim Remedial Action Completion Report Addendum is presented in Appendix A of the Final Operating Properly and Successfully Report. The subject text has been modified as follows: "Consistent with this design and extraction strategy, and as documented in the Draft Final Interim Remedial Action Completion Report Addendum (Appendix A to the Final Operating Properly and Successfully Report [Weston 2010b])...."
21.	Page 11-3: The 6th and 7th references say "Installation Restoration Program Site 3 and 5", but page 2-4, Table 2-2 shows them as being IRP Sites 2 and 17. Please	The references are for IRP Sites 2 and 17, and have been corrected in Section 11.

Document Title:

Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: DTSC Comments, Letter dated 1 September 2014.

No.	Comment	Response
	reconcile.	
22.	Page 11-9: The 6th reference refers to "[IRP Sites 18 and 24]". Shouldn't it only refer to IRP Site 18 (see page 3-21)?	The subject reference has been revised to refer to only IRP Site 18.
23.	Figure 2-7: What does the light green portion of the IRP Site 18 plume represent? The light green color is not shown in the legend.	To be consistent with the figures in the Draft 2013 Annual Remedy Status Report for IRP Sites 18 and 24, the light green portion of the IRP Site 18 plume has been deleted from the figure.
Editorial Comments		
1.	Table of Contents, Page v, Figures: <ul style="list-style-type: none"> a. The title for Figure 2-2 should read, "Former MCAS El Toro Property Map and IRP Sites" for consistency with the figure itself. b. The title for Figure 3-6 should read, "IRP Site 16 Groundwater TCE Concentrations December 2013" for consistency with the figure itself. 	The Table of Contents has been corrected as suggested.
2.	Acronyms and Abbreviations: <ul style="list-style-type: none"> a. Please spell out acronyms the first time they are used in the document. b. DTSC: There is a typographical error. Please change "Substance" to "Substances." 	<ul style="list-style-type: none"> a. The document has been checked to ensure that the acronyms are spelled out the first time they are used in the document. b. The typographical error has been corrected.
3.	Pages xi and xii, Table ES-1: <ul style="list-style-type: none"> a. IRP Sites 2 and 17: Although the information is discussed later in the document, it would be helpful to note, here in the summary, that the 2000 Record of Decision (ROD) is actually an interim ROD and that there are two Explanation of Significant Differences (ESDs) associated with these sites. b. IRP Sites 18 and 24: Similar to the above comment, it would be helpful to mention there are 	<ul style="list-style-type: none"> a. The following text has been added as suggested in Table ES-1: "In June 2009, the Navy signed a Final Explanation of Significant Differences (ESD) (DON 2009a) that documents significant and non-significant changes in certain components of the selected remedies for IRP Sites 2 and 17 presented in the Final Interim ROD. In May 2011, the Navy signed a final ESD (DON 2011b) that documents a significant change to the widths of the buffer zones surrounding the landfills from 1,000 feet to 100 feet, and also documented a non-significant change." b. The following text has been added as suggested in Table ES-1: "During the RD, the CERCLA remedy was modified and the changes

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Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: DTSC Comments, Letter dated 1 September 2014.

No.	Comment	Response
	two ESDs associated with these sites.	were documented in an ESD signed in June 2006 (DON 2006b). Another ESD to the OU-1 and OU-2A Groundwater ROD was prepared in December 2008 to address vapor sampling at the conclusion of groundwater remediation at the vadose zone source area (DON 2008b)."
4.	Page 1-1, Section 1, Introduction, Line 2 - Marine Corps Air Station (MCAS) El Toro is also referred to as the "Base" and "Site" throughout this Report.	The text in Section 1 has been revised as: "...Former Marine Corps Air Station (MCAS) El Toro (also referred to as the Base and Station)...."
5.	Page 2-13, Line 2: "tetrachlorethylene (PCE)" is misspelled.	The spelling has been corrected.
6.	Page 5-5, Section 5.4.1.4, Groundwater Concentration Data: It appears the wording in paragraph 1, line 14 and paragraph 3, line 1 needs to be re-worked.	The text in the last line of paragraph 1 has been revised to: "Based on the results of the groundwater sampling conducted from 2009 through 2013, none....." The text in line 1 of paragraph 1 has been revised to: "In the sampling events conducted from 2009 through 2010....."
7.	Section 11, References: a. Please ensure the references are listed in alphabetical order. b. Page 11-9: The 12th reference contains a couple of typographical errors.	a. The references section has been revised to ensure that all references are listed in alphabetical order. b. The typographical errors have been corrected.
8.	Figures 2-3 and 2-4: The "Notes" at the bottom, left of the page should say "Final Updated Community Involvement Plan (December 2012)" not "Final Community Implementation Plan (December 2012)".	The notes on Figures 2-3 and 2-4 have been revised as suggested.
9.	Figures 2-5 and 3-5: There is a typographical error in the title. "Anomaly" should be changed to "Anomaly".	The typographical error on Figures 2-5 and 3-5 has been corrected.
10.	Appendix G: There is a typographical error in the title on the page dated June 2014. "ANOMLAY" should be changed to "ANOMALY".	The typographical error has been corrected.
11.	Appendix L: Interview questionnaire for Eileen Mananian	The typographical error has been corrected.

Document Title:

Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: DTSC Comments, Letter dated 1 September 2014.

No.	Comment	Response
	(page 1 of 3) - There is a typographical error in Eileen's response to the first question; "de-filter" should be changed to "de-salter".	
Attachment 2 – Comments from Dave Murchison, Engineering Geologist, Cypress Geological Services Unit		
1.	GSU generally concurs with the recommendations made in the Report.	Comment noted.
2.	GSU notes the discussion of the history of IRP Site 2 does not include the consolidation of outlying waste volumes into the main Area A and Area B portions of the landfill during the remedial action. The consolidation of waste at IRP Site 3, on the other hand, is discussed later in the Report. The Report should be modified to include a brief discussion of the consolidation of waste at IRP Site 2.	The last paragraph in section 3.1.2.2 documents that waste consolidation was a component of the remedy but does not specify that Areas C and D were consolidated into Area A and B. To clarify, this paragraph has been revised as follows: "The implementation of the remedial action components for IRP Sites 2 and 17 are presented in detail in the RACR. They consist of landfill cover construction (which encompasses waste consolidation from Areas C and D into Areas A and B ; subgrade and foundation layer preparation; ET cover installation; construction of drainage and rip rap energy dissipater features; well and settlement monument installation; site access road construction; security fence and signage installation; erosion control and site restoration; biological monitoring; and land surveying) and the implementation of ICs."
3.	Page 2-7 sections 2.3.1 and 2.3.2 state that Anomaly Area 3 is located in the northwestern portion of the former base. This is incorrect. It is located in the northeastern portion. See Figure 2-2 of the Report. In addition, the reader is referred to Figure 2-5 for a location map, and the correct figure is Figure 2-2. The Report should be corrected.	The text has been revised as suggested to reflect that AA3 is located in the northeastern portion of former MCAS El Toro.
4.	Page 2-9 section 2.4.3 Site History of IRP Site 16, the text states fires were generally extinguished with water. GSU suggests that the firefighters used foam and 'Light Water' agents to extinguish the fires. The Navy should	The text in Section 2.4.3 is consistent with previous site documentation dating back to 1993. Review of the IRP Site 16 historical documents has not produced any indication that PFC-containing firefighting agents have been used at the Site.

Document Title:

Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: DTSC Comments, Letter dated 1 September 2014.

No.	Comment	Response
	verify the firefighting methods used at the site and modify the Report.	
5.	GSU concurs with the need for further monitoring well network optimization at IRP Site 16.	Comment noted.
6.	GSU points out that, in addition to the installation of additional wells at IRP Site 16, the originally designated sentry well, 16_MW13, should be replaced with a new sentry well beyond the MCL boundary of the TCE plume, in the direction of contaminant transport.	Section 5.4.4.2 acknowledges that the known distribution of trichloroethylene (TCE) continues to be updated and that the monitoring well network is being optimized along the western boundary. This suggested change will be evaluated as part of the Site's ongoing monitoring well network optimization.
7.	Section 5.5.4, site inspection for IRP Site 16, third paragraph. The document asserts that " ... degradation products associated with TCE have been observed in multiple wells in recent monitoring events." GSU does not concur with this assessment. Cis-1,2-dichloroethene has been detected in well 16_MW18 in three events since December 2012. No other wells have detectable daughter products since 2008, and no evidence of dehalogenating bacteria, the presence of suitable substrate, or anoxic conditions in groundwater have been presented. The Navy should correct the language of the Report.	The text in Section 5.5.4 has been revised as: "...and that cis-1,2-dichloroethene, a degradation product associated with TCE, has been observed in a single well (16_MW18) in recent monitoring events." Please note that cis-1,2-dichloroethene has not been historically reported in other wells, suggesting the recent reports of this compound are likely due to the degradation of TCE.

Document Title:

Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: Mary Aycock, EPA RPM, Comments Received via Emails, Dated 22 August 2014 and 4 September 2014.

No.	Comment	Response
Comments		
1.	U.S. EPA's presumptive remedy approach for landfills provided the basis for vadose zone remedial action at Installation Restoration Program (IRP) Sites 2, 3, 5 and 17, which included landfill capping and Institutional Controls so as to minimize contact with the waste, and infiltration and potential contaminant leaching to groundwater. Same approach provided the basis for vadose zone remedial action at Anomaly Area 3. The RODs documented NFA for groundwater at these sites.	Comment noted.
2.	Though no issues were identified for IRP Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3 that currently or in the future would prevent the respective remedies at these sites from being protective of human health and/or the environment, consistent with U.S. EPA Guidance (U.S. EPA 2001); recommendations were made in the Second Five-Year Review that do not directly relate to achieving or maintaining the protectiveness of the remedies, but pertain to activities such as O&M of the remedies and coordination with other agencies.	Comment noted.
3.	In order to streamline and synchronize the five-year reviews, other sites including IRP Sites 2, 3, 5, 17, 18, 24, and Anomaly Area 3 were evaluated since the response actions at these sites have either been completed or clean-up is ongoing. This approach is consistent with the U.S. EPA's Five-Year Review Guidance (U.S. EPA 2001).	Comment noted.
4.	In accordance with the U.S. EPA Five-Year Review Guidance (U.S. EPA 2001), the technical assessment for this Five-Year Review focused on responses to the following three key questions for each of the eight subject	Comment noted.

Document Title:

Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: Mary Aycock, EPA RPM, Comments Received via Emails, Dated 22 August 2014 and 4 September 2014.

No.	Comment	Response
	<p>IRP Sites and proper responses were provided in the report.</p> <ol style="list-style-type: none"> 1. Question A: Is the remedy functioning as intended by the decision documents? 2. Question B: Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of remedy selection still valid? 3. Question C: Has any other information come to light that could call into question the protectiveness of the remedy? 	
5.	This was the first Five-Year Review for IRP Sites 3 and 5 and Anomaly Area 3.	Comment noted.
6.	U.S. EPA, through a letter to Jim Callian, BRAC Environmental Coordinator, concurred on deep vadose zone monitoring and the proposed closure and exit strategy for IRP Site 16 in May 2009. U.S. EPA determined that the current body of data was sufficient to evaluate the attainment of RAOs relating to closure of the deep vadose zone (U.S. EPA 2010). As a result, soil gas sampling was discontinued.	Comment noted.
7.	U.S. EPA provided concurrence with the Navy demonstration of IRP Site 24 VOC Source Area Groundwater Remedy that was implemented as designed and operating properly and successfully in accordance with CERCLA Section 120(h)(3).	Comment noted.
Additional Comments Received from EPA Headquarters		
1.	Are there corresponding OUs for the IRP sites? If there are corresponding OUs with the sites, I would suggest a "cross walk table" that identifies the OU and the IRP site. This comment is only a suggestion.	The OUs for the eight sites addressed in this Report are presented in the Five-Year Review Summary form on Page xxi of the Draft Report submitted to the agencies.

Document Title:

Draft Second Five-Year Review Report Installation Restoration Program Sites 2, 3, 5, 16, 17, 18, 24, and Anomaly Area 3, Former Marine Corps Air Station El Toro, California. June 2014.

Reviewer: Mary Aycock, EPA RPM, Comments Received via Emails, Dated 22 August 2014 and 4 September 2014.

No.	Comment	Response
2.	On the summary form, the time of the review period is the actual start date of the review and end date. It should not represent the timeframe of five years.	The time of the review period has been revised from September 2009 to the data evaluation cut-off date of December 2013.
3.	Under the description of IRP 16, there was a discussion of fire fighting training at the site. Was there a potential of PFCs used at the site and if so, was there any sampling done for PFCs/PFOAs?/	Review of the IRP Site 16 historical documents has not produced any indication that PFC-containing firefighting agents have been used at the Site. Accordingly, the Navy has not conducted any sampling for PFCs/PFOAs.