

## Descriptions of PRAP and ROD Sites

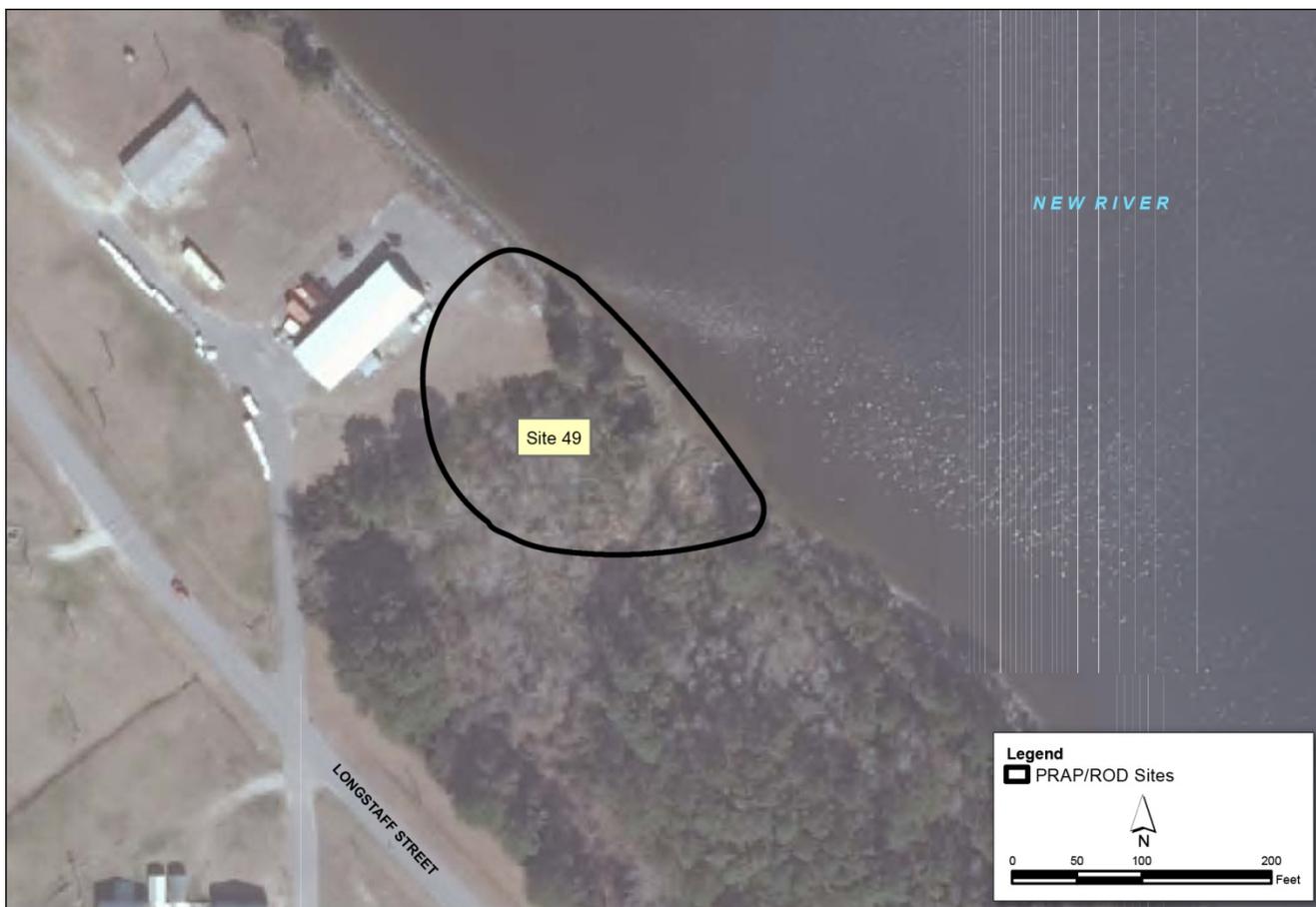
The following sections discuss the site history, summary of previous investigations, and future activities of the four IRP sites that are in the PRAP and ROD phase of the CERCLA process. Because these sites are currently under investigation, the site boundaries encompass the current nature and extent of contamination. There are currently no MMRP sites in the PRAP and ROD phase of the CERCLA process.

### 6.1 IRP PRAP/ROD Sites

#### 6.1.1 Site 49 (OU 23)—MCAS Suspected Minor Dump

Site 49, the MCAS Suspected Minor Dump, encompasses approximately 1 acre and is located within MCAS New River, in the northwest portion of the Base (**Figure 6-1**). The dates of operation are unknown, but Site 49 is suspected of having been used for the disposal of paint cans. A building is located approximately 50 feet from the northeast boundary of the site and is currently used for the storage of miscellaneous industrial materials and paint supplies. A drainage pipe exits the building and ends in the northeast portion of Site 49. A drainage ditch for taxiways, runways, and miscellaneous buildings along Curtis Road and Longstaff Street bisects the site. Various types of construction-related surface debris have been observed at the site.

FIGURE 6-1  
Site IRP 49 (OU 23)



Previous investigations are listed in **Table 6-1**.

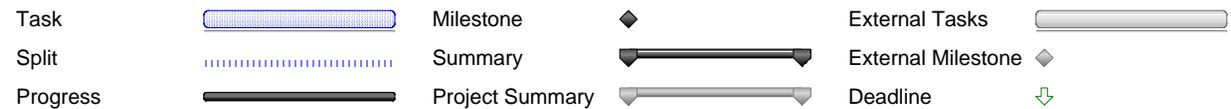
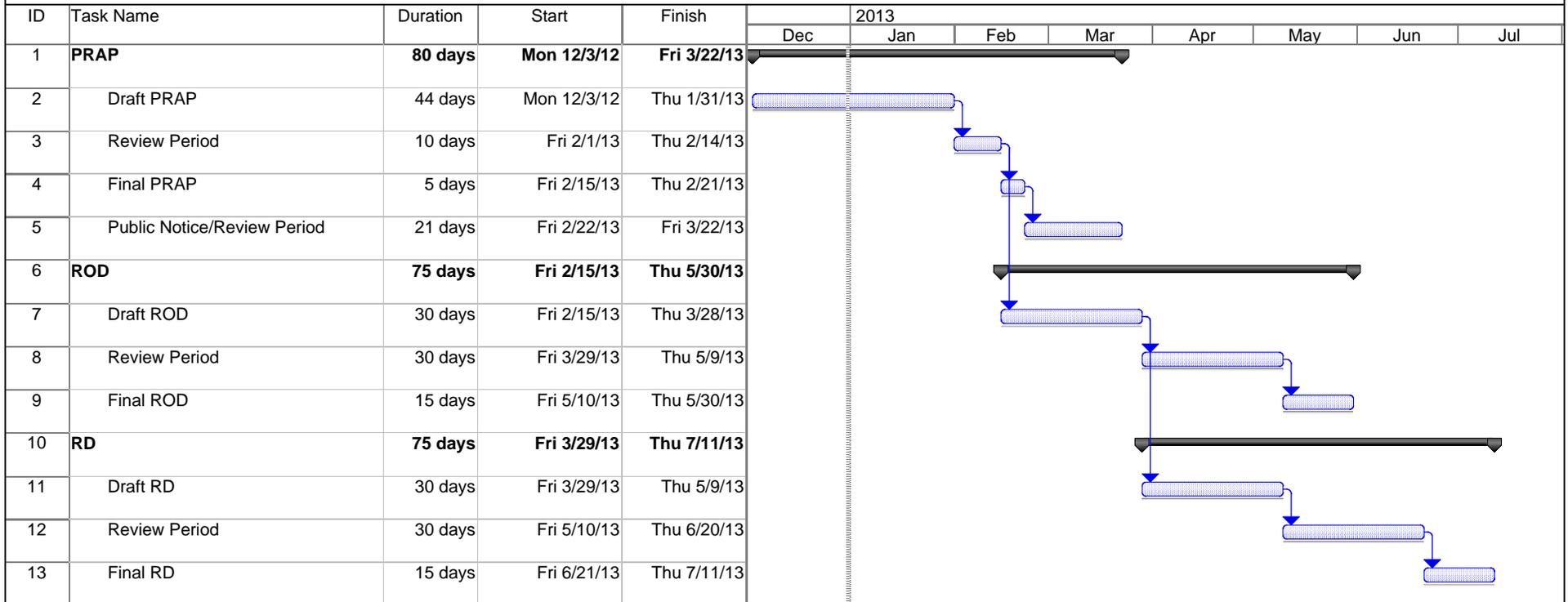
TABLE 6-1  
Previous Investigations Summary, IRP Site 49 (OU 23)

Previous Investigation/Action	Date	Activities
IAS (WAR, 1983)	1983	The IAS was conducted to identify potential hazardous sites at MCIEAST-MCB CAMLEJ. The quantity of waste disposed of was determined to be insignificant and did not warrant further investigation.
PA/SI (CH2M HILL, 2011)	2009-2011	To verify the presence or absence of contamination due to the site's history as a dump, confirmatory sampling was conducted. Soil and groundwater samples were collected in July 2009 and analyzed for SVOCs, VOCs, and metals. Based on analytical results, additional groundwater samples were collected in February 2010 and analyzed for VOCs. VOCs, SVOCs, and metals were detected at concentrations exceeding screening criteria in soil. VOCs and metals were detected in groundwater at concentrations exceeding screening criteria. Potential human health and ecological risks were identified due to exposure to VOCs in groundwater. The PA/SI recommended an additional investigation to assess VOCs in groundwater.
RI/FS (CH2M HILL, 2012)	2011 - 2012	Field activities were conducted to assess the nature and extent of contamination and potential human health and environmental impacts. Field activities included soil, groundwater, porewater, surface water, and sediment sampling for VOC analysis. VOC concentrations exceeded screening criteria in one soil sample, one groundwater sample, one surface water sample, and one porewater sample. Potential unacceptable human health risks were identified due to exposure to VOCs in groundwater and RAOs were developed. The remedial alternatives evaluated were no action, monitored natural attenuation (MNA) and LUCs, enhanced <i>in situ</i> bioremediation with LUCs and LTM, and air sparging with LUCs and LTM.

#### 6.1.1.1 Future Activities

The PRAP identifying the preferred alternative to address VOCs in groundwater will be complete in FY 2013, followed by a ROD and RD (**Schedule 6-1**).

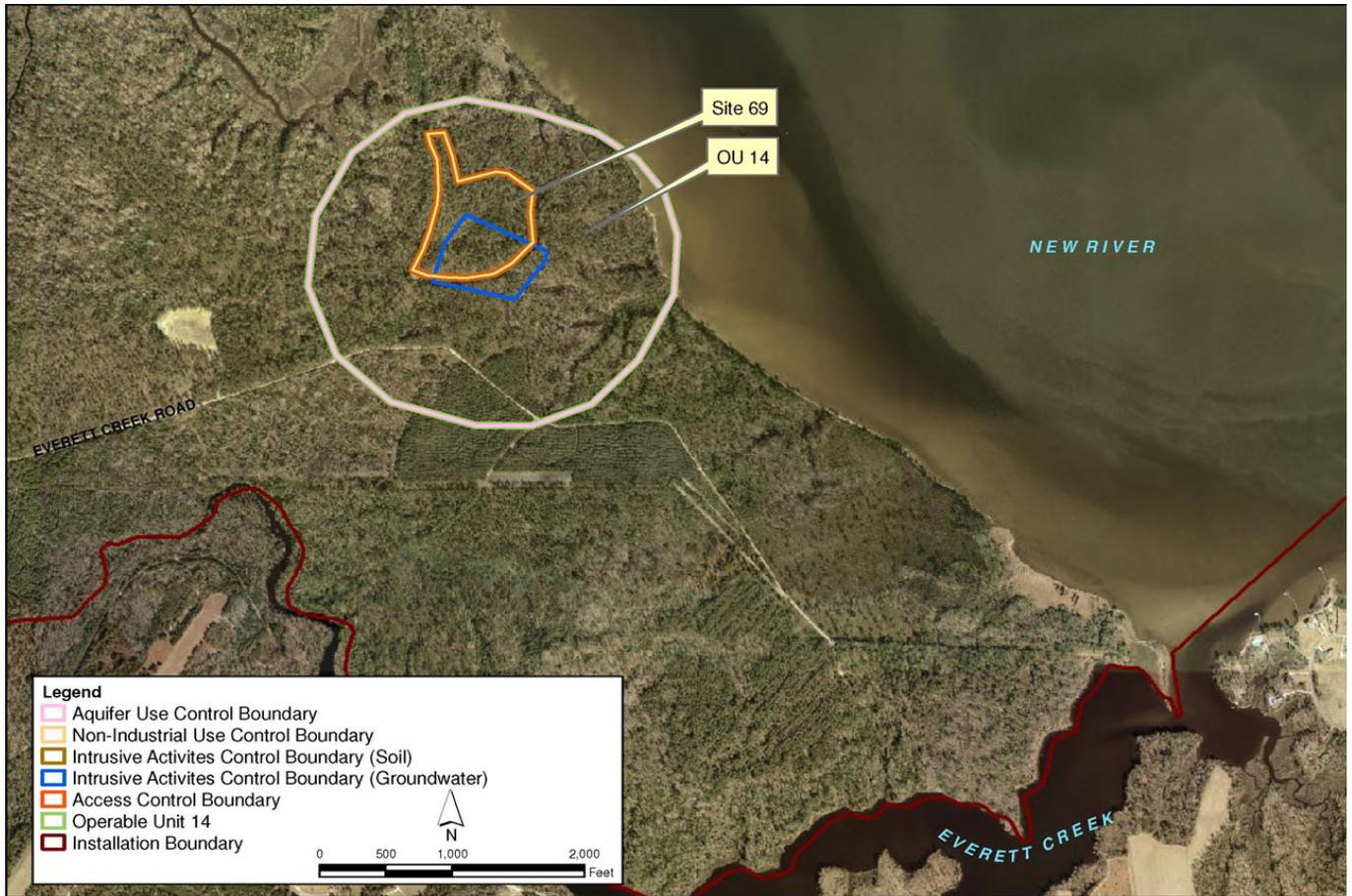
**Schedule 6-1  
IRP Site 49  
FY 2013 Site Management Plan  
MCIEAST-MCB CAMLEJ**



### 6.1.2 Site 69 (OU 14)—Rifle Range Chemical Dump

Site 69, the Rifle Range Chemical Dump, encompasses approximately 14 acres located approximately 1,300 feet west of the New River in the Rifle Range area of MCIEAST-MCB CAMLEJ (Figure 6-2). From 1950 to 1976, Site 69 was reportedly used to dispose of chemical wastes including PCBs, solvents, pesticides, and drums of “gas” that possibly contained cyanide (i.e., tear gas) or other training agents, also known as CA. Site 69 is located within Site UXO-02 (Section 4.1.3), which was used as an explosive range from 1973 to 2002 was addressed under the MMRP.

FIGURE 6-2  
IRP Site 69, Operable Unit 14



Previous investigations are listed in Table 6-2. A LUC Summary is provided in Table 6-3.

TABLE 6-2  
Previous Investigations Summary, IRP Site 69

Previous Investigation/Action	Date	Activities
Radiation Survey and Soil Sampling (NEESA, 1981)	1980 - 1981	Based on the reported history that Site 69 was a suspected radioactive waste disposal site, a radiation survey and soil sampling were conducted. Radioactivity was not detected at higher than average natural concentrations and soil sample results indicated naturally-occurring radioactivity.
IAS (WAR, 1983)	1983	The IAS was conducted to identify potential hazardous sites at MCIEAST-MCB CAMLEJ. A confirmation study was recommended at Site 69 based on the presence of buried hazardous or toxic wastes and the potential for migration into the aquifer.

Previous Investigation/Action	Date	Activities
Confirmation Study (ESE, 1987)	1984 - 1987	To verify the presence or absence of contamination due to the site's history as a dump, confirmatory sampling was conducted. Groundwater, surface water, and sediment samples were collected and analyzed for VOCs, pesticides/PCBs, select SVOCs, select metals, and residual chlorine. Analytical results identified VOCs in groundwater and surface water and pentachlorophenol (PCP) in one sediment sample.
RI (Baker, 1997)	1995 - 1997	Field activities were conducted to assess the nature and extent of contamination and potential human health and environmental impacts of the site. Geophysical investigations were conducted and groundwater, surface water, sediment, fish, shellfish, and benthic macro invertebrate samples were collected. Samples were analyzed for VOCs, SVOCs, metals, and pesticides/PCBs. Geophysical investigations indicated buried metallic objects near the groundwater source area. Potential human health risks were identified for future residents due to exposure of VOCs and metals in groundwater. No unacceptable ecological risks were identified and surface water and sediment analytical results indicated that the New River, Everett Creek, and the unnamed tributary north of the site were not impacted by the former disposal operations.
In-Well Aeration Pilot Study (Baker, 1998)	1996 - 1998	A pilot study was initiated to assess the effectiveness of In-well aeration for treatment of VOCs in groundwater. After 2 years of operation and testing, the method was determined to be ineffective at reducing groundwater contamination and the pilot study was discontinued.
PRAP (Baker, 1998)	1998	The PRAP identified MNA and LUCs as the preferred alternative to address potential risks from groundwater and waste. The PRAP was submitted for public review and comment. General comments for informational purposes were addressed during the public meeting and no written comments were received.
Interim Record of Decision (IROD) (Baker, 2000)	2000	The interim selected remedy was LTM for MNA of VOCs in groundwater and to monitor potential migration and LUCs to prevent exposure to waste, soil, and groundwater.
IRA	1998 - 2005	Groundwater LTM for VOCs and Natural Attenuation Indication Parameters (NAIPs) was implemented in 1998 and continued until 2005, as the site is a part of ongoing investigations and studies in which the LTM requirements are being fulfilled or exceeded by site-specific monitoring programs. LUCs were implemented in 2001 and updated in 2002 and remain in place.
Surface Water and Sediment Sampling	2005	Due to a request by Onslow County Commissioners, NCDENR—Department of Water Quality and the Base performed split surface water and sediment sampling in surface waters adjacent to Site 69. NCDENR recommended no further sampling and no advisory to be issued.
Radiation Survey (RASO, 2007)	2007	A radiation survey was conducted and radioactivity was not detected at higher than average natural concentrations, which confirmed the 1980 to 1981 findings.
Supplemental Investigation (CH2M HILL, 2011)	2008 - 2011	A supplemental investigation was conducted simultaneously with the UXO-02 PA/SI to further delineate the nature and extent of contamination and move the site towards a final ROD. Field activities included a geophysical survey, monitoring well installation, and soil, groundwater, surface water, and sediment sampling. Potential human health risks were identified due to exposure to pesticides, PCBs, VOCs, and metals in groundwater. Potential ecological risks were identified due to exposure to pesticides in surface soil and sediment. An FS was recommended to identify RAOs and evaluate potential treatment alternatives. The current site CSM is shown on <b>Figure 6-3</b> .
UXO-02 ESI (CH2M HILL, 2012)	2011-2012	An ESI was conducted at UXO-02, including Site 69, to further investigate potential unacceptable risks identified during the UXO-02 PA/SI and Site 69 Supplemental Investigation. Field activities included an intrusive anomaly investigation, monitoring well installation, and soil, groundwater, surface water, and sediment sampling for pesticides, metals, and/or explosives analyses. No unacceptable human health or ecological risks were identified from potential exposure to soil, surface water, sediment, or metals in surficial aquifer groundwater. NFA is recommended for the portion of UXO-02 located outside of the Site 69 perimeter fence. The remaining environmental impacts to be further assessed are associated with potential risks from exposure to waste and the VOC groundwater plume associated with Site 69.

Previous Investigation/Action	Date	Activities
FS (CH2M HILL, 2012)	2011-2012	Remedial alternatives were evaluated to address the waste disposal area and constituents of concern (COCs) in groundwater. The alternatives evaluated for the waste disposal area were no action, LUCs, capping with LUCs, and removal. The alternatives evaluated for groundwater were no action; MNA with LUCs; permeable reactive barrier (PRB) with MNA and LUCs; ERD with bioaugmentation, MNA, and LUCs; and ISCO with MNA and LUCs.
PRAP (CH2M HILL, 2012)	2012	A PRAP was issued to solicit public input on the preferred alternative (capping with LUCs for waste and MNA and LUCs for groundwater) and a public meeting was held. General comments for informational purposes were addressed during the public meeting and no written comments were received.

TABLE 6-3  
Land Use Control Summary, IRP Site 69

LUC Boundary	Estimated Area (Acres)	Final Land Use Control Implementation Plan (LUCIP)	Onslow County Registration Date
Non-Industrial Use Control Boundary	13.9	July 2002	February 2002
Intrusive Activities Control Boundary (Soil)	13.9		
Intrusive Activities Control Boundary (Groundwater)	8		
Aquifer Use Control Boundary (1,000 feet)	127.2		
Access Control Boundary	13.9		

**6.1.2.1 Future Activities**

A ROD and RD will be completed in FY 2013 (**Schedule 6-2**).

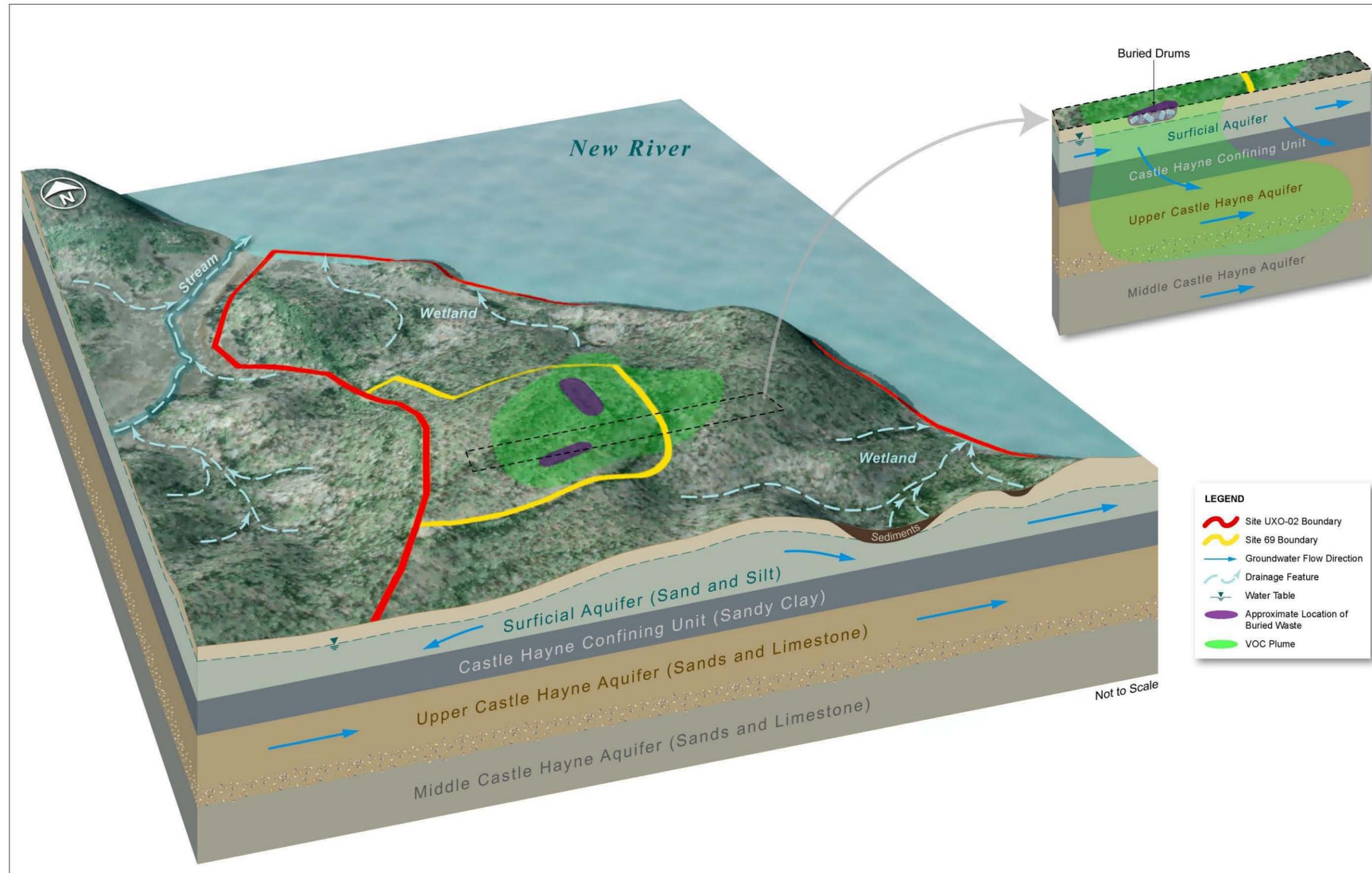
**Schedule 6-2  
IRP Site 69  
FY 2013 Site Management Plan  
MCIEAST-MCB CAMLEJ**

ID	Task Name	Duration	Start	Finish	2013											
					Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr				
1	<b>ROD</b>	<b>150 days</b>	<b>Fri 9/14/12</b>	<b>Thu 4/11/13</b>												
2	Draft ROD	60 days	Fri 9/14/12	Thu 12/6/12												
3	Review Period	60 days	Fri 12/7/12	Thu 2/28/13												
4	Final ROD	30 days	Fri 3/1/13	Thu 4/11/13												
5	<b>RD</b>	<b>150 days</b>	<b>Fri 9/14/12</b>	<b>Thu 4/11/13</b>												
6	Draft RD	60 days	Fri 9/14/12	Thu 12/6/12												
7	Review Period	60 days	Fri 12/7/12	Thu 2/28/13												
8	Final RD	30 days	Fri 3/1/13	Thu 4/11/13												

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

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FIGURE 6-3  
 Site 69 Conceptual Site Model  
 FY 2013 Site Management Plan  
 MCIEAST-MCB CAMLEJ  
 North Carolina

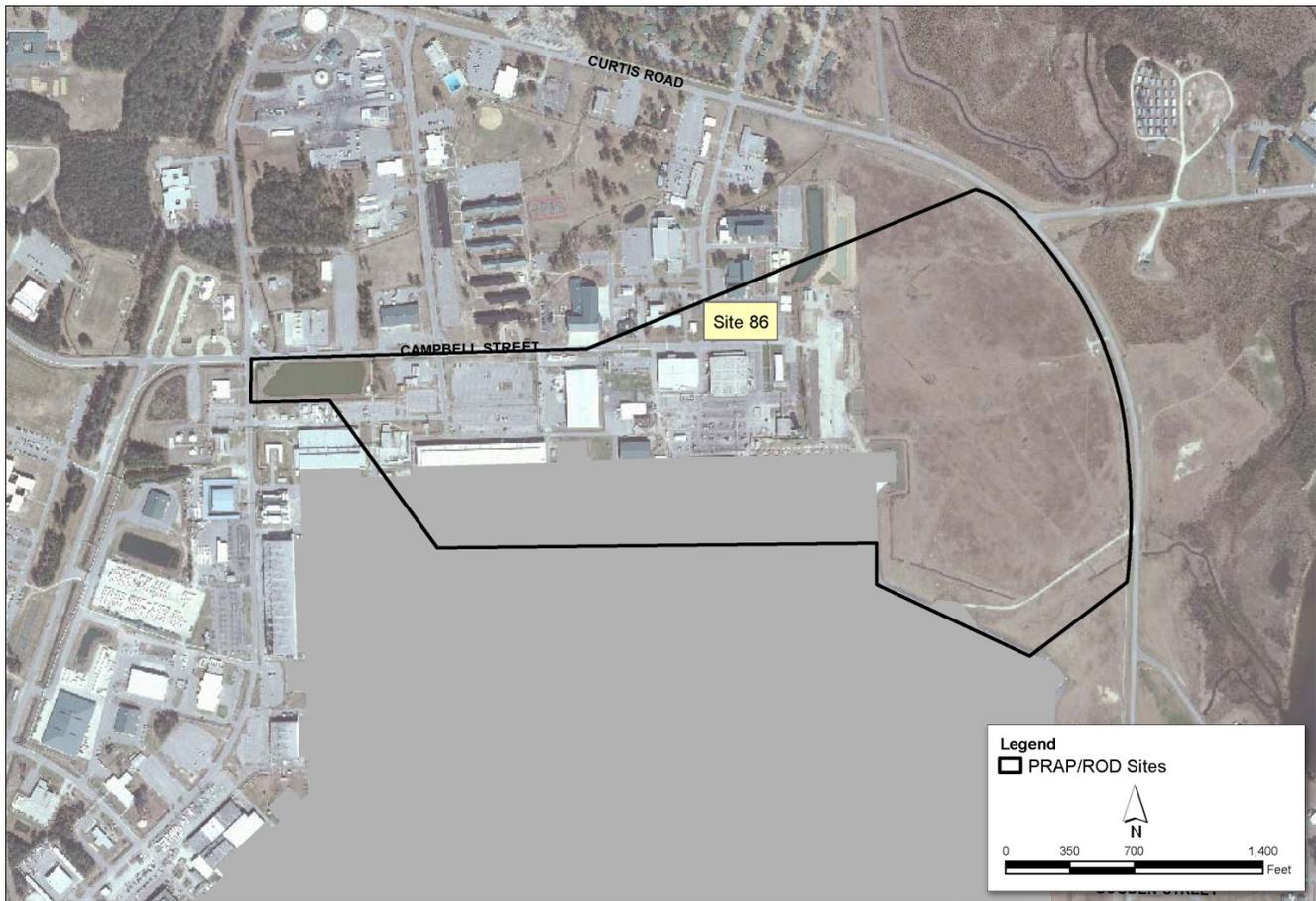


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### 6.1.3 Site 86 (OU 20)—Tank Area AS419-AS421 at MCAS

Site 86, Tank Area AS419-AS421, is located within the operations area of MCAS New River and covers approximately 146 acres (**Figure 6-4**). From 1954 to 1988, Site 86 served as a storage area for petroleum products. In 1954, three 25,000-gallon aboveground storage tanks (ASTs) were installed within an earthen berm. The three tanks were reportedly used for No. 6 fuel oil storage until 1979. From 1979 to 1988, the tanks were used for temporary storage of waste oil. The three tanks were emptied in 1988 and were removed in 1992. Today, the former location of the tanks is grass-covered and only a slight depression remains. In 2006, an RFI was completed for SWMU 303/318 (located south of Site 86) and identified chlorinated VOCs in groundwater from an undetermined source. Based on these results, the IRP Partnering Team agreed that Site 86 would be expanded to include the SWMU area.

**FIGURE 6-4**  
IRP Site 86, Operable Unit 20



Previous investigations are listed in **Table 6-4**.

**TABLE 6-4**  
Previous Investigations Summary, IRP Site 86

Previous Investigation/Action	Date	Activities
Preliminary Site Investigation (ESE, 1990)	1990	A Preliminary Site Investigation was initiated to determine the presence or absence of contamination based on the site's history. Soil samples were collected and analyzed for VOCs and TPH. The results revealed limited TPH contamination and low-level detections of VOCs, likely attributable to localized surface spills.

**TABLE 6-4**  
**Previous Investigations Summary, IRP Site 86**

Previous Investigation/Action	Date	Activities
UST Assessment (O'Brien & Gere, 1992)	1992	Soil and groundwater sampling was conducted to determine the nature and extent of contamination as a result of three onsite ASTs used for temporary storage of waste petroleum products. Results revealed TPH contamination in soil and identified VOCs in groundwater. Due to the lack of significant petroleum-related impacts and the discovery of chlorinated solvent contamination in groundwater, UST-AS419-21 (original Site 86) was transferred from the UST Program to the IRP in April 1994. Further investigation and remediation of groundwater were recommended.
RI (Baker, 1996)	1995 - 1996	A soil and groundwater investigation was conducted to analyze the nature and extent of contamination. Samples were analyzed for VOCs, SVOCs, metals, and TPH. Soil results indicated localized VOC and metals contamination in samples collected within and immediately adjacent to the former AST area and wide-spread, low-level SVOC contamination (primarily PAHs). Groundwater analytical results indicated the presence of VOC contamination limited to the surficial aquifer in the central and southeastern portion of the Site. Although VOCs were not present in the Castle Hayne aquifer, the VOCs appeared to have migrated vertically to the lower portion of the surficial aquifer and were migrating horizontally in the general direction of groundwater flow.
Post-RI Fieldwork (Baker, 2000)	1997 - 2000	To delineate the vertical and horizontal extent of the VOC contamination and to collect additional data to determine the appropriate remedial alternative, post-RI field work was implemented. Soil and groundwater samples were collected for VOCs and NAIPs. A large plume was identified, extending east-northeast from Site 86, and a much smaller plume was identified to the southwest, near a former wash rack area. The plumes were not fully delineated.
LTM	1998 - 2005	Groundwater LTM was conducted for VOCs, NAIPs, and metals at Site 86 to assess whether contamination remained present, had migrated, or was degrading through natural processes. In 2005, the site was removed from the LTM program, as other ongoing investigations and studies were being conducted.
Amended RI (CH2M HILL, Baker, and CDM, 2003)	2001 - 2003	Based on the findings of post-RI monitoring, an Amended RI was conducted in order to further delineate the nature and extent of contamination. Soil and groundwater samples were collected and analyzed for VOCs. Potential human health risks were identified from VOCs in groundwater. No unacceptable ecological risks were identified.
Air/Ozone Sparging Pilot Study (AGVIQ and CH2M HILL, 2006)	2004 - 2006	The Technology Evaluation Report and Pilot Study Work Plan were completed in 2004, which recommended injection of ozone through a horizontal well. The pilot study was conducted from 2005 to 2006 for the main TCE groundwater plume at the site. The report concluded that TCE concentrations were reduced by 99 percent in groundwater.
Expanded Supplemental Remedial Investigation (SRI) (CH2M HILL, 2011)	2007 - 2011	The SRI was conducted to identify the potential source of VOCs, characterize the nature and extent of contamination east of the flight line, and assess potential risk to human health and the environment. Soil, groundwater, sediment, and surface water samples were collected and analyzed for VOCs, SVOCs, pesticides, and metals. Potential human health risks were identified based on future exposure to chromium in soil and VOCs and chromium in groundwater. The current site CSM is shown on <b>Figure 6-5</b> . An FS was recommended to evaluate remedial alternatives.

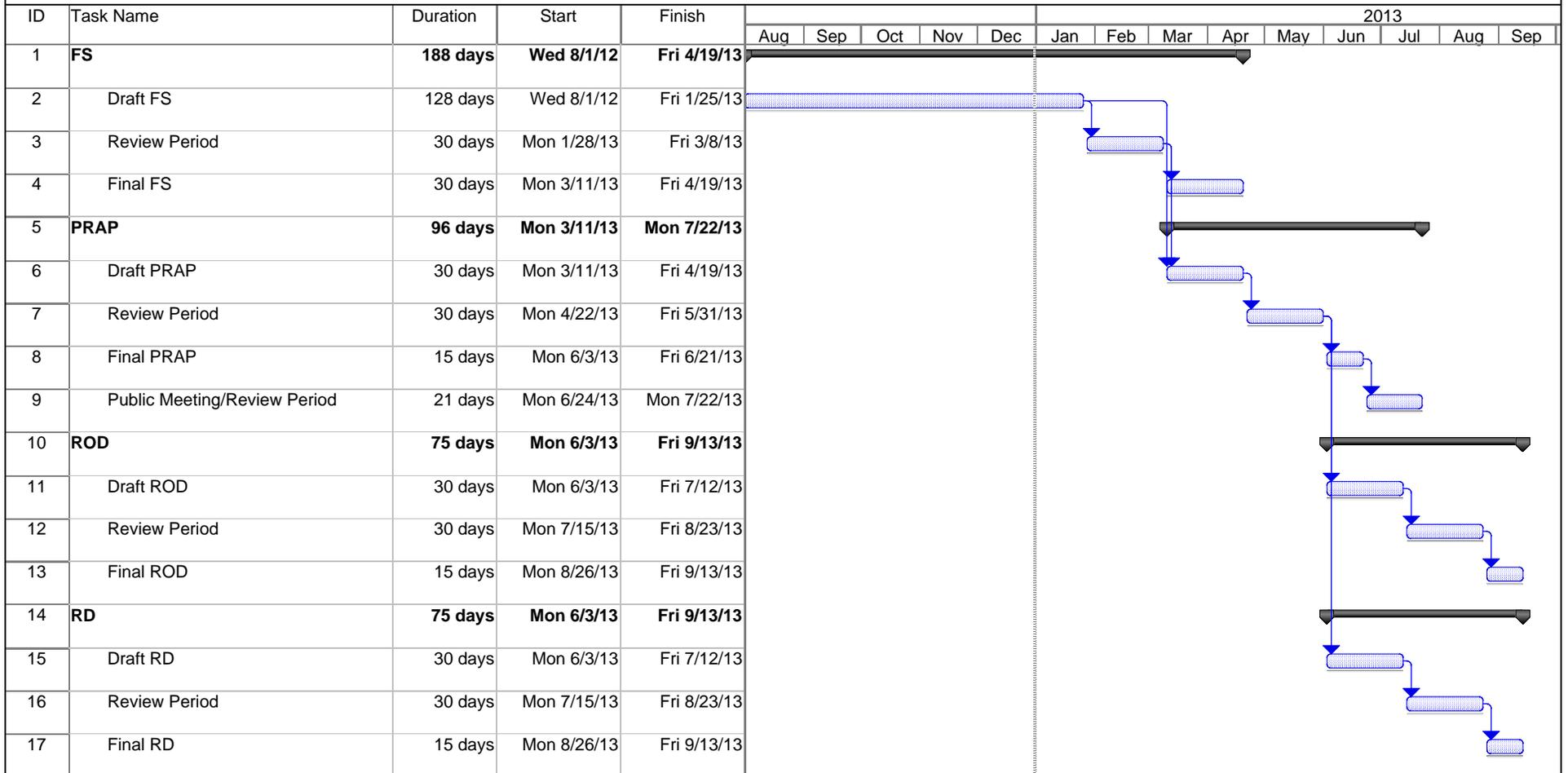
TABLE 6-4  
Previous Investigations Summary, IRP Site 86

Previous Investigation/Action	Date	Activities
Draft Pilot Study (CH2M HILL, 2012)	2011 – 2012	To evaluate effectiveness of technologies to treat the VOC plume, a pilot study was conducted in two separate zones at Site 86. ERD with bioaugmentation was conducted in Zone 1 and ISCO using Slow-Release Permanganate Candles (SRPCs) was conducted in Zone 2. Follow-up monitoring indicates that in Zone 1, the TCE mass was decreased by 93 percent and the VOC mass was reduced by 81 percent. In Zone 2, initial VOC concentrations were reduced by 81 percent and subsequent monitoring results were variable. The results of the pilot study will be used for the development of remedial alternatives in the FS.

### 6.1.3.1 Future Activities

An FS to address VOCs in groundwater is planned for completion in FY 2013 followed by a PRAP and ROD (**Schedule 6-3**). If buildings are planned for construction in the vicinity of the VOC groundwater plume, the potential for a vapor intrusion pathway will be evaluated and mitigated if needed. Base Master Planning maintains current groundwater plume data in geographical information system (GIS) and all construction projects on-Base go through environmental review.

**Schedule 6-'  
IRP Site 86  
FY 2013 Site Management Plan  
MCIEAST-MCB CAMLEJ**



Project: CT0-81  
Date: Mon 12/31/12

Task



Milestone



Summary



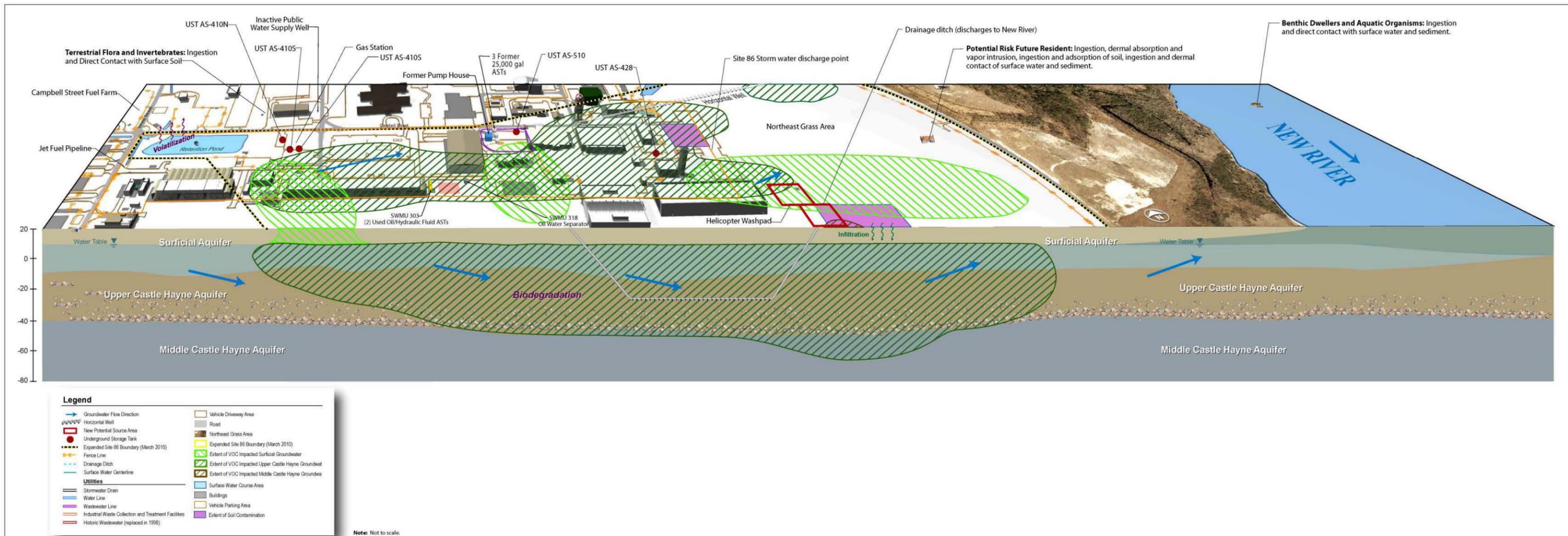
Progress



Tentative Schedule



**FIGURE 6-5**  
 Site 86 Conceptual Site Model  
 FY 2013 Site Management Plan  
 MCIEAST-MCB CAMLEJ  
 North Carolina



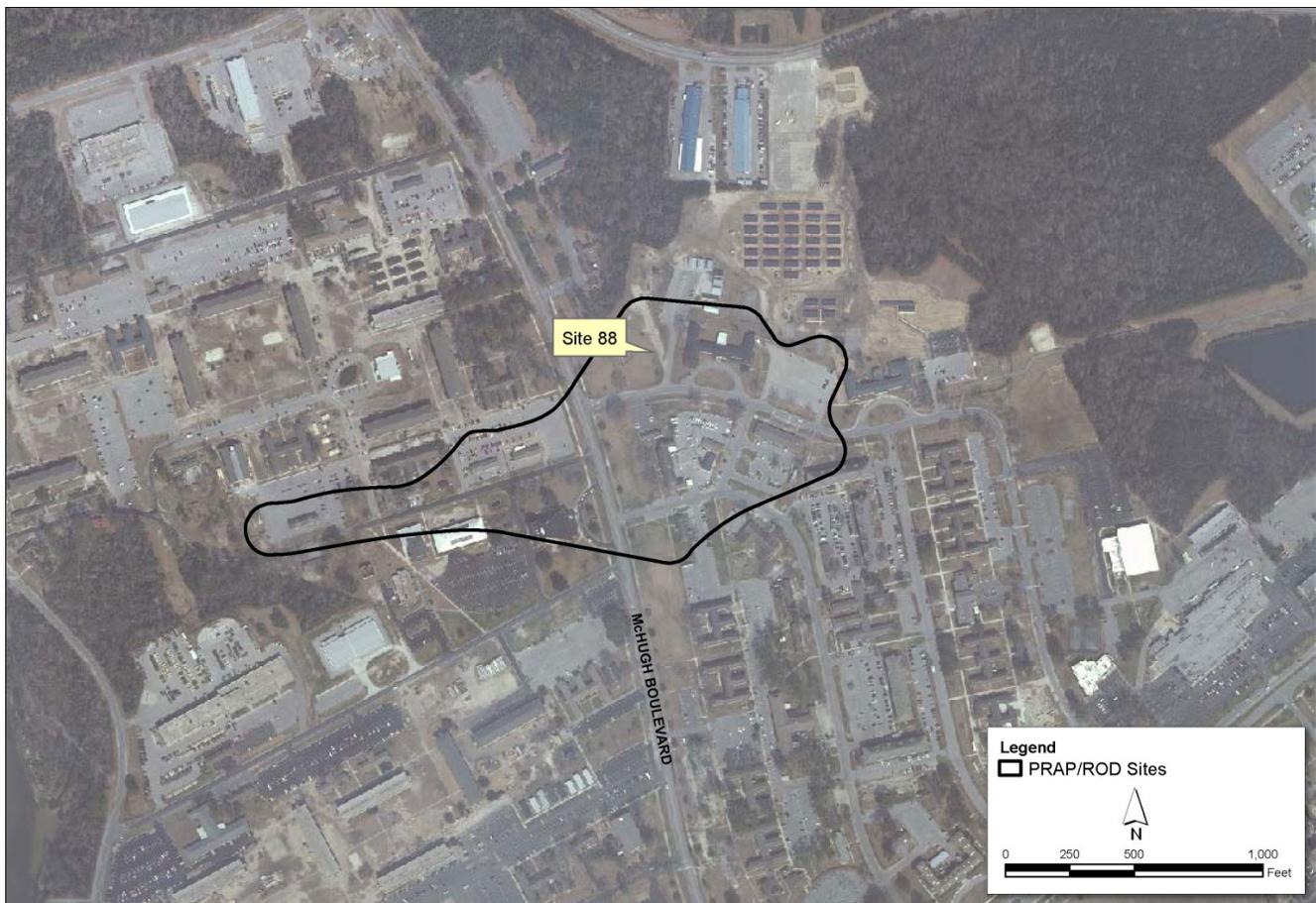
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### 6.1.4 Site 88 (OU 15)—Base Dry Cleaners

Site 88, the former Base Dry Cleaning Facility (former Building 25), is a groundwater contaminant plume that encompasses approximately 41 acres located within the HPIA of MCIEAST-MCB CAMLEJ. Building 25 operated as a dry cleaning facility beginning in the 1940s (**Figure 6-6**). Five 750-gallon USTs were installed on the north side of the building to store dry cleaning fluids. Initially, Varsol™ was used in dry cleaning operations at Building 25. Because of flammability concerns, Varsol's use was discontinued in the 1970s and it was replaced with PCE. The PCE was stored in one 150-gallon AST adjacent to the north wall of Building 25, in the same vicinity as the USTs. PCE was reportedly stored in the AST from the 1970s until 1995. During this time, facility employees have reported that spent PCE was disposed of in floor drains. In December 1986 and March 1995, self-contained dry cleaning machines were installed in Building 25, eliminating the need for bulk storage of PCE. The USTs and AST were removed in November 1995. The dry cleaning operations ceased in January 2004, and the building was demolished to slab in August 2004.

FIGURE 6-6

IRP Site 88, Operable Unit 15



Previous investigations are listed in **Table 6-5**.

TABLE 6-5  
Previous Investigations Summary, IRP Site 88

Previous Investigation/Action	Date	Activities
Focused RI (Baker, 1998)	1996 - 1998	During removal of the USTs and ASTs, chlorinated VOCs and metals were detected in soil samples, and chlorinated VOCs, TPH, and naphthalene were detected in groundwater samples. As a result of these findings, a Focused RI was initiated. Field activities included soil and groundwater sampling for VOC's, and NAIPs. Subsurface soil contamination was identified under and near Building 25, and adjacent to the underground sewer line. Chlorinated solvent contamination was identified in surficial and upper Castle Hayne aquifer groundwater, and Building 25 was confirmed as the source area, suggesting the presence of a dense non-aqueous phase liquid (DNAPL).
DNAPL Recovery (Duke Engineering and Services, 1999)	1998 - 2000	Based on the results of the Focused RI, Site 88 was selected as a candidate for a surfactant enhanced aquifer remediation (SEAR) demonstration for DNAPL remediation. The presence of PCE DNAPL was confirmed, ranging from 16 to 20 feet bgs, directly beneath Building 25 and in an area adjacent to the north side of the building. The SEAR demonstration was conducted in the area north of Building 25 and DNAPL was extracted. Post-SEAR investigations indicated the DNAPL plume was removed from the upper, more permeable regions in the aquifer.
LTM (2002)	1999 - 2002	LTM at Site 88 was implemented in April 1999 and discontinued in 2002 when an Amended RI was initiated.
Reductive Anaerobic Bioremediation <i>In Situ</i> Treatment Technology (RABITT) (Battelle Memorial Institute, 2001)	2000 - 2002	RABITT treatability testing was performed to the northwest of Building 25 to investigate if "microbially-catalyzed reductive dechlorination of chloroethenes could be stimulated in situ". PCE-contaminated groundwater was pumped from 88-MW05IW, amended with electron donor solution (butyric acid and yeast extract), and then injected into 88-MW05IW and groundwater samples were collected and analyzed over a period of 30 weeks. The study concluded that native microbial populations were capable of sequentially reducing PCE to ethene. Also, PCE and TCE concentrations were reduced to below detectable levels in almost all pilot study wells after 14 weeks and remained depressed throughout the remainder of the demonstration.
Supplemental Site Investigation (SSI) (CH2M HILL, 2003)	2002 - 2003	The SSI was conducted to determine the nature and extent of contamination and to provide recommendations for completing a comprehensive RI. Groundwater samples were collected and analyzed for VOCs, metals, and NAIPs. The analytical results indicated a general northwest migration of contaminants. Further, the vertical distribution of VOCs suggested that although appreciable volumes of DNAPL are observed to have accumulated upon the shallow silt layer, this layer was not impermeable, and was evidently allowing dissolved-phase VOCs to migrate vertically to the intermediate-depth aquifer zone.
Membrane Interface Probe (MIP) Investigation (CH2M HILL, 2004)	2004	A MIP investigation was conducted to refine previous source area characterization efforts and conduct vertical soil profiling in the vicinity of Building 25 and the nearby sewer systems. Information provided by the MIP investigation was used to evaluate the horizontal and vertical distribution of the DNAPL source area.
EE/CA and NTCRA (CH2M HILL, 2004; AGVIQ and CH2M HILL, 2006)	2004 - 2006	An EE/CA for the source area beneath Building 25 was completed and presented at a public meeting in June 2004 and shallow soil mixing with clay-zero valent iron (ZVI) was the recommended technology. In 2005, the removal action was completed, treating approximately 7,050 cubic yards (yd <sup>3</sup> ) of impacted soil. Within the treatment area, PCE concentrations in the soil were reduced by greater than 99 percent. Despite the significant source area reduction, residual dissolved phase groundwater contamination remained over a large portion of the surrounding and down gradient areas.

TABLE 6-5  
Previous Investigations Summary, IRP Site 88

Previous Investigation/Action	Date	Activities
RI (CH2M HILL, 2008)	2005 - 2008	An RI was completed to address previous data gaps and complete the source identification and delineation of the release. Field activities included monitoring well installation and groundwater sampling. Samples were analyzed for VOCs and NAIPs. Results indicated a delineated VOC plume in groundwater that extended south of the source area. Potential human health risks were identified from VOCs in groundwater. No unacceptable ecological risks were identified.
Basewide Vapor Intrusion Evaluation (CH2M HILL, AGVIQ, 2009 and CH2M HILL, 2001)	2007 - 2012	Site 88 was included in the phased Basewide vapor intrusion evaluation to determine if complete or significant exposure pathways exist for vapor intrusion into buildings. Vapor intrusion was identified as a pathway of concern at 1 building and a vapor intrusion mitigation system was installed. Although no unacceptable risks were identified from indoor air related to vapor intrusion at any other existing buildings in the vicinity of Site 88, the report recommended subslab soil gas and indoor air monitoring at 1 building with previous exceedances of Base-specific soil gas screening levels every 5 years until 3 rounds indicate no unacceptable risks. Vapor intrusion mitigation systems were installed in 4 buildings from November 2011 to February 2012 and system startup was conducted in February and March 2012 to reduce the possibility of vapor migration into the buildings. If new buildings are planned for construction in the vicinity of the VOC groundwater plume, the potential for a vapor intrusion pathway will be evaluated and mitigated if needed.
Treatability Study (CH2M HILL, 2011)	2010-2011	To evaluate effectiveness of remedial technologies to treat the VOC plume, a pilot study was conducted using ERD and ISCO for contaminant mass reduction and ERD as a biobarrier to prevent further downgradient contaminant migration. For mass reduction, ISCO was demonstrated to be most effective based on a VOC reduction of 87 percent whereas for ERD, an appropriate dose would be cost-prohibitive. The ERD biobarrier achieved up to 97 percent PCE reduction and was effective. The results of the pilot study will be used for the development of remedial alternatives in the FS.
Draft FS (CH2M HILL)	2011-2012	Remedial alternatives were evaluated to address VOCs in soil and groundwater in three zones. Zone 1 is defined as the location of the initial source area with high concentrations of VOC at shallow depths. Zones 2 and 3 are downgradient from Zone 1 and include COC concentrations at a wide range of depths covering a large footprint. Alternatives for Zone 1 soil included no action, LUCs, and excavation. Zone 1 groundwater alternatives included no action, vertical air sparging/soil vapor extraction (SVE), and vertical ISCO. Zone 2 alternatives for groundwater included no action, horizontal air sparging, and horizontal ISCO. Zone 3 groundwater alternatives included no action, MNA, and an ERD barrier. The current site CSM is shown on <b>Figure 6-6</b> .

#### 6.1.4.1 Future Activities

The FS will be finalized in FY 2014, and will be followed by a PRAP and ROD (**Schedule 6-4**). If buildings are planned for construction in the vicinity of the VOC groundwater plume, the potential for a vapor intrusion pathway will be evaluated and mitigated if needed. Base Master Planning maintains current groundwater plume data in GIS, and all construction projects on-Base go through environmental review.

**Schedule 6-4  
IRP Site 88  
FY 2013 Site Management Plan  
MCIEAST-MCB CAMLEJ**

ID	Task Name	Duration	Start	Finish	2012												2013												2014											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct		
1	<b>FS</b>	<b>478 days</b>	<b>Mon 1/2/12</b>	<b>Wed 10/30/13</b>																																				
2	Draft FS	53 days	Mon 1/2/12	Wed 3/14/12																																				
3	Review Period	365 days	Thu 3/15/12	Wed 8/7/13																																				
4	Final FS	60 days	Thu 8/8/13	Wed 10/30/13																																				
5	<b>PRAP</b>	<b>173 days</b>	<b>Mon 3/3/14</b>	<b>Wed 10/29/14</b>																																				
6	Draft PRAP	60 days	Mon 3/3/14	Fri 5/23/14																																				
7	Review Period	60 days	Mon 5/26/14	Fri 8/15/14																																				
8	Final PRAP	30 days	Mon 8/18/14	Fri 9/26/14																																				
9	Public Meeting/Review Period	23 days	Mon 9/29/14	Wed 10/29/14																																				
10	<b>ROD</b>	<b>150 days</b>	<b>Thu 10/30/14</b>	<b>Wed 5/27/15</b>																																				
11	Draft ROD	60 days	Thu 10/30/14	Wed 1/21/15																																				
12	Review Period	60 days	Thu 1/22/15	Wed 4/15/15																																				
13	Final ROD	30 days	Thu 4/16/15	Wed 5/27/15																																				
14	<b>RD</b>	<b>150 days</b>	<b>Thu 5/28/15</b>	<b>Wed 12/23/15</b>																																				
15	Draft RD	90 days	Thu 5/28/15	Wed 9/30/15																																				
16	Review Period	30 days	Thu 10/1/15	Wed 11/11/15																																				
17	Final RD	30 days	Thu 11/12/15	Wed 12/23/15																																				

Project: CT0-81  
Date: Tue 1/8/13

Task Milestone Summary   
 Progress Tentative Schedule



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