Draft
First Five-Year Review Report
for the
Former Nike Missile Battery Fire Control Area (PMR-001)

Phoenix Military Reservation
Jacksonville, Maryland

June 2016

Prepared for:
U.S. Army Environmental Command

Approved by: **Date:**

_____ _____

[redacted]
Colonel, Signal Corps, Commanding
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ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
ARAR	applicable or relevant and appropriate requirement
ARCADIS	ARCADIS U.S., Inc.
Berger-Pirnie	Louis Berger & Associates, Inc. and Malcolm Pirnie, Inc.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	constituent of concern
COPC	constituent of potential concern
DCE	dichloroethene
DD	Decision Document
DGR	directed groundwater remediation
DO	dissolved oxygen
DoD	Department of Defense
FCA	Fire Control Area
FGGM	Fort George G. Meade
FFS	Focused Feasibility Study
ft	foot (feet)
gpm	gallons per minute
LUC	land use control
MCL	maximum contaminant level
MDARNG	Maryland Army National Guard
MNA	monitored natural attenuation
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
ND	not detected
ORP	oxidation reduction potential
O&M	operation and maintenance
PIKA-MP	PIKA-Malcolm Pirnie Joint Venture, LLC
PMR	Phoenix Military Reservation
PP	Proposed Plan
PRG	preliminary remediation goal
RA	remedial action
RAO	remedial action objective

RI	remedial investigation
SCL	site cleanup level
SLERA	screening level ecological risk assessment
TBC	to-be-considered
TCE	trichloroethene
TOC	total organic carbon
USACE	U.S. Army Corps of Engineers
USAEC	U.S. Army Environmental Command
USEPA	U.S. Environmental Protection Agency
VISL	vapor intrusion screening level
VOC	volatile organic compound
mg/L	milligrams per liter
µg/L	micrograms per liter
^{o}F	degrees Fahrenheit

EXECUTIVE SUMMARY

This is the first five-year review of remedial actions taken at the Phoenix Military Reservation (PMR) Fire Control Area (FCA). The review was conducted to determine if remedial actions implemented at the site are and will continue to be protective of human health and the environment.

The U.S. Army prepared this review in conformance with applicable requirements of the Comprehensive Environmental Response, Compensation, and Liability Act §121 and the National Oil and Hazardous Substances Pollution Contingency Plan. This five-year review is required because hazardous substances remain at the site at levels that do not allow for unlimited use and unrestricted exposure. The methods, findings, and conclusions of the review, identified issues, and recommendations are documented in this report. The triggering action for this five-year review was the initiation of remedial actions at the PMR FCA on March 31, 2014. This review was completed prior to five years from the date of the triggering action to coincide with existing reviews ongoing at Fort George G. Meade (FGGM).

PMR-001

PMR is a sub-installation of FGGM. The FCA is located approximately one-half mile west of Jacksonville, Maryland, in northeastern Baltimore County (Figure 1). It occupies approximately 17 acres of land. The area surrounding the facility is rural and residential.

The installation was developed as a Nike Ajax Missile site in 1954. It was modified to use Nike Hercules Missiles in 1958. Command of the site was transferred to the Maryland Army National Guard (MDARNG) in 1962. After the Nike missile program was terminated in 1966, the site remained inactive until 1974. The MDARNG used the site as a training ground for a Military Police Company until 1982. Site buildings were demolished shortly afterwards and the site has been unoccupied since that time.

Site investigations determined that groundwater in a deep water bearing zone was contaminated with volatile organic compounds (trichloroethene, cis-1,2 dichloroethene, and vinyl chloride). A human health risk assessment concluded that unacceptable risks were present for hypothetical future adult and child residential receptors at the site. A Decision Document was issued in 2013; the selected remedy consisted of directed groundwater recirculation, monitored natural attenuation, and land use controls. The remedy was implemented between March 2014 and June 2014 and consisted of the following components:

- One extraction well
- A remediation system designed for batch treatment of extracted groundwater via carbon adsorption
- Reinjection of the treated groundwater using three wells
- Monitored natural attenuation of groundwater
- Maintenance of existing land use controls at the site and the installation of warning signs

Site Inspections, Data Review, Interviews, and Public Notice

A five-year review site inspection was performed on August 25, 2015. Quarterly monitoring data from May 2014 to November 2015 were reviewed. Historical documents including the Remedial Investigation, Focused Feasibility Study, Proposed Plan, and Remedial Design were

also reviewed. Interviews were conducted with FGGM Directorate of Public Works Personnel and surrounding residential property owners. A public notice announcing the start of the five-year review was published in the North County News on November 19, 2015.

Protectiveness Statement

The remedy at the PMR FCA (PMR-001) is protective of human health and the environment.

A directed groundwater recirculation system is operating at the PMR FCA and is functioning as intended to achieve maximum contaminant levels for identified constituents of concern in groundwater in a reasonable timeframe. Land use controls (access restrictions, dig permit requirements, pre-construction environmental survey requirements, and signs) are in place at the PMR, thereby preventing exposure to groundwater that would pose an unacceptable risk to humans.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Phoenix Military Reservation Former Nike Missile Battery Fire Control Area (PMR-001)		
EPA ID: Not applicable		
Region: 3	**State:** MD	**City/County** Jacksonville/Baltimore County

SITE STATUS	
NPL Status: Non-NPL	
Multiple OUs? No	**Has the site achieved construction completion?** Yes

REVIEW STATUS
Lead agency: Other Federal Agency **If "Other Federal Agency" was selected above, enter Agency name:** U.S. Army
Author name (Federal or State Project Manager): [redacted]
Author affiliation: Installation Restoration Program Manager, Ft. Meade/Phoenix Military Reservation
Review period: August 2015 – March 2016
Date of site inspection: August 25, 2015
Type of review: Policy
Review number: 1
Triggering action date: March 31, 2014
Due date *(five years after triggering action date)*: March 31, 2019

Issues/Recommendations		
AOC(s) without Issues/Recommendations Identified in the Five-Year Review:		
Former Nike Missile Battery Fire Control Area (PMR-001)		
Protectiveness Statement(s)		
AOC: PMR-001	*Protectiveness Determination:* Protective	*Addendum Due Date (if applicable):* Not Applicable
Protectiveness Statement: The remedy at the PMR FCA (PMR-001) is protective of human health and the environment. A directed groundwater recirculation system is operating at the PMR FCA and is functioning as intended to achieve maximum contaminant levels for identified constituents of concern in groundwater in a reasonable timeframe. Land use controls (access restrictions, dig permit requirements, pre-construction environmental survey requirements, and signs) are in place at the PMR, thereby preventing exposure to groundwater that would pose an unacceptable risk to humans.		

1.0 INTRODUCTION

This review was conducted to determine if remedial actions implemented at the Phoenix Military Reservation (PMR) Former Nike Missile Control Battery Fire Control Area (FCA) (PMR-001) are and will continue to be protective of human health and the environment. The methods, findings, and conclusions of the review are documented in this report.

The U.S. Army has prepared this five-year review pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §121 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The U.S. Environmental Protection Agency (USEPA) interpreted this requirement further in the NCP; 40 CFR §300.430(f) (4) (ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

The PMR FCA has been addressed under CERCLA and the Defense Environmental Restoration Program. The U.S. Army is the lead agency, with oversight performed by the Maryland Department of the Environment. The site is not on the National Priorities List. This is the first five-year review for the site, which was triggered by initiation of the remedial action on March 31, 2014. This review was conducted from September 2015 through March 2016, prior to five years from the triggering action date to coincide with five-year reviews ongoing at Fort George G. Meade (FGGM). The review is required because hazardous substances remain at the site above concentrations allowing for unlimited use and unrestricted exposure.

2.0 SITE CHRONOLOGY

The following table lists the dates of important events for the site.

Table 1 - Chronology of Site Events

Event	Date
The U.S. Army developed PMR as a Nike Ajax Missile Site	1954
The site was modified to use Nike Hercules Missiles	1958
Maryland Army National Guard (MDARNG) assumes command	1962
Nike missile program terminated	1966
U.S. Army granted the MDARNG a five-year lease to use the site as a training ground for a Military Police Company	1974
The MDARNG was granted a five-year lease extension	1979
The MDARNG ceased active operations	1982
Environmental investigations conducted by the Baltimore County Department of Environmental Protection and Sustainability and the U.S. Army	1980s
Quarterly groundwater sampling commenced	1988
Permanent water supply provided to affected residences by the U.S. Army and Baltimore County	July 1992
Remedial Investigation (RI) conducted	1999
RI Phase I investigation initiated	2003
RI Phase II investigations conducted	2005-2007
Supplemental RI conducted	2011
Final Focused Feasibility Study (FFS) issued	June 14, 2013
Final Proposed Plan (PP) issued	August 14, 2013
Final Decision Document (DD) issued	September 2013
Final Remedial Design issued	March 2014
Remedial action started with the installation and development of monitoring and injection wells	March – April 2014
Installation of the treatment system building, associated infrastructure, and site restoration completed	June 2014
Startup and shakedown of the treatment system	June 30, 2014
Full-time system operation started, remedial action implementation completed	July 8, 2014
Final Remedial Action Completion Report issued[1]	December 19, 2014

[1] The Final Remedial Action Completion Report (ARCADIS 2014b) documents the completion of remedial construction activities

3.0 BACKGROUND

3.1 PHYSICAL CHARACTERISTICS

PMR is a sub-installation of FGGM. It is located approximately one-half mile west of Jacksonville, Maryland, in northeastern Baltimore County (Figure 1). It occupies approximately 17 acres of land. The area surrounding the installation is rural and residential.

PMR is currently a vacant lot surrounded by a fence (see Figure 2). The site and a majority of the surrounding area include mixed hardwood forest with isolated open lawns and fields. It is surrounded by residential areas consisting mainly of single family homes on lot sizes typically greater than one acre. A wooded area is located east of the PMR. There are no surface water bodies located on the PMR.

3.1.1 Climate

The climate at PMR and throughout the Baltimore area is moderated by the Chesapeake Bay. Winter weather is relatively mild. The average daily temperature ranges from 34 degrees Fahrenheit (^{o}F) in the winter to 75 ^{o}F in the summer. Prevailing winds are from the north-northwest in the winter months and south to south-southwest in the summer months (National Oceanic and Atmospheric Administration 2011). Precipitation is generally constant throughout the year with high points occurring in August. The average annual total rainfall is 45.7 inches (ARCADIS 2013a).

3.1.2 Topography

PMR is situated on top of a ridge. The terrain consists of rolling hills reaching a maximum elevation of 587 feet (ft) above mean sea level (amsl) that decrease towards the Greene Branch to an elevation of about 540 ft amsl at the northern boundary. The southernmost portion of the PMR slopes towards a tributary of Overshot Run (ARCADIS 2013a).

3.1.3 Hydrology

The PMR contains no surface water bodies. Runoff from the site predominately flows north into the Greene Branch. Runoff from the southernmost portion of the PMR flows towards an unnamed tributary of Overshot Run (ARCADIS 2013a).

3.1.4 Geology

PMR is located within the eastern part of the Piedmont physiographic province. Bedrock in this region consists of schist, gneiss, gabbro, and other highly metamorphosed sedimentary and igneous rocks. The FCA is underlain by the Loch Raven Schist, a formation of the Wissahickon Group. The Loch Raven Schist is characterized by foliations from compressional stresses. The schistosity, a type of foliation associated with mica schists in the vicinity of the PMR, strikes northeast-southwest and dips approximately 30 to 40 degrees to the northwest. Fractures generally occur in the top 100 ft of bedrock (ARCADIS 2013a). Historical reports document two major lineaments near the site. The Major Eastern Lineament trends north and is parallel along the eastern property boundary of the PMR, and the Major Western Lineament is located west of the site and trends north-northwest. Both lineaments terminate at the Greene Branch and are shown on Attachment 10 (Figure 13, Conceptual Site Model).

Saprolitic soils are present above the bedrock; they developed from weathering of the bedrock. The soils are fine-grained and slightly clayey. Sandy and gravelly zones are present immediately

above bedrock (ARCADIS 2013a). Soil thickness ranges from approximately 20 to 50 ft across the PMR.

3.1.5 Hydrogeology

Groundwater beneath the PMR is present in two water bearing zones; shallow and deep. Shallow groundwater occurs in the soils and top of the fractured bedrock. Shallow groundwater flows northwest from the PMR toward the Greene Branch and southwest from the southern portion of the PMR towards the Overshot Run (Figure 2). Depth to water beneath the PMR ranges from approximately 4.3 to 38.8 ft below the top of casing in shallow wells. Deep groundwater primarily occurs within fractures in the top 100 ft of bedrock. The Major Eastern and Western Lineament features are interpreted to be surface representations of subsurface fracturing and serve as preferential pathways for shallow and deep groundwater flow towards the Greene Branch and as discharge points. Groundwater contour maps are provided in Attachment 10.

Surface water was not identified on the PMR. An unnamed natural spring and associated stream are located northwest of the PMR, just past the property line for 14027 Sunnybrook Court. A second unnamed spring is located northeast of the PMR, branching from the Greene Branch along the Major Eastern Lineament (see Attachment 10, Figure 13, Conceptual Site Model).

Domestic water supply wells are located nearby. The closest active wells from the presumed contamination source area (i.e. FCA-1) are approximately 1,100 ft to the west (13929 Sunnybrook Road), 875 feet to the south (11 Mollie Court), and 1,350 ft to the northeast (14118 Sunnybrook Road). The water supply wells produce from 0 to 40 gallons per minute (gpm) and average 5 gpm. In general, the highest permeabilities occur at the soil/bedrock contact (ARCADIS 2013a). Additional information on the private and community water supplies is presented in Section 3.3.

3.1.6 Land and Resource Use

The PMR FCA was developed from farm land to a Nike Ajax Missile site in 1954. It was modified to use Nike Hercules Missiles in 1958. After the Nike missile program was terminated in 1966, the PMR remained inactive until 1974 when the U.S. Army granted the MDARNG a five-year lease, which was followed by a five-year extension. The MDARNG ceased active operations in 1982. Site buildings were demolished shortly after operations ceased, and the PMR has been unoccupied since that time. Future use of the PMR is unknown; however, no transfer of the property from government control is anticipated. Land use controls (LUCs) are in effect at PMR including a restriction on groundwater use until groundwater has been remediated.

Future land use surrounding the PMR is anticipated to remain the same. The site and surrounding area includes a mixture of mature hardwood forests with isolated open lawns and fields. There are no records from the U.S. Fish and Wildlife Service or Baltimore County indicating any threatened or endangered species in this area (ARCADIS 2013c).

3.2 History of Contamination

Environmental impacts related to operational activities at PMR were identified in 1976 when local residents started to complain about their drinking water. Based on community concerns, several site investigations were completed to assess potential impacts from the FCA (ARCADIS 2013a). A dissolved plume of trichloroethene (TCE) was identified in groundwater in the early

1980s. The plume was attributed to the use of chlorinated solvents for vehicle maintenance and cleaning activities during FCA operations. A former septic system was identified as a likely source of the contamination. The septic system included a single septic tank, a single distribution box, three to four leaching wells and a 150 ft-long leaching trench. Figure 3 depicts the location of former site features.

The concentrations were low enough that TCE dissolved and moved with the flow of groundwater. Free phase product, as dense non-aqueous phase liquid, was not identified (ARCADIS 2013c). The central portion of the impacted area occurs in the vicinity of historical site features. A portion of the plume extended south towards FCA-5 (see Attachment 10, Figure 3-1, Deep Trichloroethene Contours [May 2011]).

3.3 INITIAL RESPONSE

An interim remedial action was implemented in July 1992 to eliminate the potential for human exposure to contaminated groundwater from the PMR. A permanent water supply was provided to affected residences by the U.S. Army and Baltimore County (Berger-Pirnie 1999). In 2004, the U.S. Army conducted a survey of homeowners living on Sunnybrook Road adjacent to or across from the site to determine which residences were connected to the community water supply. The extent of the community water supply coverage is illustrated on Figure 4 (inactive domestic well locations identify homes on the public water supply). Wells identified as "inactive" on the figure include four properties north-northeast of the PMR and four properties to the south on Sunnybrook Road. Five additional properties have no water supply wells (14045, 14039, 14002, 13924, and 13922 Sunnybrook Road).

3.4 BASIS FOR TAKING ACTION

The basis for taking action is summarized on forms provided in Attachment 3 and discussed below. TCE was detected in groundwater at concentrations greater than the USEPA maximum contaminant level (MCL) for tap water. A human health risk assessment determined that exposure to groundwater by hypothetical future adult and child residents at the PMR would exceed the USEPA target risk range of $1x10^{-6}$ to $1x10^{-4}$ and that adverse noncarcinogenic effects could potentially occur because the cumulative hazard index was greater than one. Constituents of concern (COCs) for groundwater consist of TCE and its breakdown products, cis-1,2 dichloroethene (DCE) and vinyl chloride.

4.0 REMEDIAL ACTIONS

Remedial action summaries for the PMR are provided in Attachment 3 and discussed below.

4.1 REMEDY SELECTION

Remedial action objectives (RAOs) identified in the DD were established to protect public health and the environment from unacceptable risks (under current and reasonably anticipated future land use scenarios) associated with groundwater contamination. The following RAOs were established (ARCADIS 2013c):

1. Prevent human exposure to groundwater that would cause unacceptable risk over the duration of the response action.
2. Achieve MCLs for the identified COCs in groundwater in a reasonable timeframe thereby restoring groundwater to its beneficial use[2].

Site clean-up levels (SCLs) for groundwater are identified in Table 2; they represent USEPA MCLs.

Table 2- PMR Groundwater Cleanup Levels

COC	Cleanup Level (µg/L)
TCE	5
cis-1,2-DCE	70
Vinyl chloride	2

Note:
µg/L micrograms per liter

The selected remedy consists of remediating groundwater via directed groundwater recirculation (DGR) for a period of five years, monitored natural attenuation (MNA) for 10 to 15 years after the DGR system is shut down, and LUCs.

The DGR system included the following design details and components:

Groundwater

- A single extraction well would be located approximately 30 ft to the east of well FCA-1; it would be operated at an anticipated extraction rate of 1 to 3 gpm.
- Extracted groundwater would be pumped to a 165-gallon equalization tank for storage to facilitate batch treatment, if necessary.
- Extracted groundwater would be treated in two granular activated carbon vessels connected in parallel.
- Treated groundwater would be reinjected using three wells located to the southwest, south, and east of well FCA-1.
- Treated groundwater would be sampled prior to reinjection to ensure the SCLs have been achieved.

[2] Reasonable timeframe is defined as 15 to 20 years (ARCADIS 2013c, 2014a)

A copy of the treatment system schematic is included in Attachment 11 (Figure M-1, Equipment Layout).

LUCs

- Existing LUCs already in place at the PMR (e.g., access restrictions, dig permit requirements, pre-construction environmental survey requirements, and signs) would be maintained and enhanced. Additional controls such as signage would be added.
- Annual site inspections would be performed to confirm that all LUCs at the PMR (signs) are in good condition, that the land use has not changed, and that no unauthorized excavations were performed.

4.2 REMEDY IMPLEMENTATION

The DGR system was installed during multiple mobilizations between March 2014 and June 2014; it consisted of the following components (refer to Figure 2):

- Three injection wells (IW-1, IW-2, and IW-3)
- Monitoring well FCA-1 was converted into an extraction well
- One new monitoring well (FCA-26)
- A treatment system that included:
    - Wooden enclosure
    - One 165 gallon equalization tank for batch treatment of the extracted groundwater
    - Two granular activated carbon units placed in series
    - Influent/effluent piping with pumps, flow meters, valves, and pressure gauges
    - Programmable logic control system with auto-dialer for control and alarm dial out capabilities

The treatment system equipment layout is illustrated in Attachment 11 (Figure M-1).

Startup and shakedown of the DGR system occurred during the week of June 30, 2014, and full time operation began on July 8, 2014 (ARCADIS 2014c).

4.3 OPERATION, MAINTENANCE AND MONITORING

The system remedial design report outlines the following performance monitoring requirements (ARCADIS 2014a):

- Water levels on the property will be gauged quarterly during operation and maintenance (O&M) field work and gradients assessed to evaluate effectiveness of the recirculation system, confirm groundwater flow directions, and evaluate the potential impact on plume geometry.
- Groundwater samples will be collected quarterly at FCA-1, FCA -3, FCA -5, FCA -7, FCA -9, FCA -25, and FCA -26 and analyzed for volatile organic compounds (VOCs) during the first two years of operation of the DGR system. This will be done to:
    - Confirm that COCs in groundwater are not migrating towards residential dwellings.
    - Evaluate effectiveness of the system based upon COC trends in monitoring and extraction wells described under the MNA program. This will be performed

using linear regression after eight rounds of data are collected to identify decreasing trends with a 95 percent level of confidence.

The remedial design report also included the following initial monthly monitoring requirements for the DGR system:

- Inspect the system and well network; correct any leaks or other unusual conditions.
- Record pressure gauge readings and compare them to expected values; make system adjustments as necessary.
- Record flow meter instantaneous and totalizer readings and compare them to expected values; make system adjustments as necessary.
- Collect groundwater samples from the influent, lead carbon effluent (i.e. mid carbon), and lag carbon effluent sample valves quarterly. When COCs (TCE, cis-1,2-DCE, and vinyl chloride) are detected in the lead carbon effluent, remove the lead vessel, place the lag vessel in the lead position, and place a new vessel in the lag position.
- Measure water level in the extraction well; adjust the pumping rate if necessary, and adjust valves to redirect flow through or away from the equalization tank as necessary.

The collection of this data would be used to set the frequency of subsequent routine O&M activities.

Groundwater monitoring is performed quarterly at seven deep zone wells (FCA-1, FCA-3, FCA-5, FCA-7, FCA-9, FCA-25, and FCA-26) for VOCs and field parameters that include pH, dissolved oxygen (DO), oxidation reduction potential (ORP), specific conductivity, turbidity, and temperature. Water levels are also gauged quarterly during O&M field work.

Twelve deep zone wells (FCA-1, FCA-3, FCA-5, FCA-7, FCA-9, FCA-13, FCA-15, FCA-17, FCA-19, FCA-21, FCA-25, and FCA-26) are sampled annually for attenuation parameters that include total organic carbon (TOC), sulfate, nitrate, and dissolved iron. The first annual sampling event was completed during the second quarter of 2015.

Monthly routine visits have been conducted to document system operating parameters, optimize settings, and record the volume of groundwater extracted, treated, and reinjected. Influent, effluent, and mid carbon vessel water samples have been collected on a monthly frequency. They are analyzed for VOCs and attenuation parameters (nitrate, sulfate, dissolved iron, TOC, pH, specific conductivity, turbidity, DO, temperature, and ORP). Data from April to December 2015 were available for the five-year review. Interpretation of the O&M data is discussed in Section 5.4.

5.0 FIVE-YEAR REVIEW PROCESS

5.1 ADMINISTRATIVE COMPONENTS

The following activities were performed for the five-year review:

- Potentially interested parties and the local community were notified of the start of the five-year review
- Documents and site data were reviewed
- A site inspection was performed
- Interviews were conducted with FGGM Directorate of Public Works employees and contractors, the Maryland Department of the Environment, and surrounding property owners

This five-year review report was conducted and written by staff of the U.S. Army Corps of Engineers (USACE) Buffalo District for the U.S. Army.

- [redacted], FE, PMP, HTRW Regional Technical Specialist
- [redacted], PhD, Environmental Toxicologist
- [redacted], Environmental Engineer

Staff from FGGM also provided assistance.

- [redacted], PG, Installation Restoration Manager
- [redacted], PE, FSAME, Environmental Engineer (Sundance Consulting, Inc.)
- [redacted], Environmental Specialist (Sundance Consulting, Inc.)

5.2 COMMUNITY NOTIFICATION AND INVOLVEMENT

A public notice was issued to potentially interested parties on November 19, 2015 that the five-year review process had begun. The notice was published in a local newspaper, the North County News. Copies of the notice and newspaper articles are provided in Attachment 9.

Written interview questions were submitted to surrounding residential property owners. Thirteen (13) responses were received.

The Five-Year Review report will be made available to the public once it has been finalized. Copies of the report will be placed in the designated repositories identified below.

Cockeysville Branch Library
9833 Greenside Drive
Cockeysville, Maryland 21030

U.S. Army Garrison Fort George G. Meade
Directorate of Public Works – Environmental Division
Building 2460, 85th Medical Battalion Avenue
Fort Meade, Maryland 20755-7068

An electronic copy will also be available at
http://www.ftmeade.army.mil/directorates/dpw/environment/phoenix/index.html

Upon completion of the Five-Year Review report, a public notice will be placed in the North County News to announce the availability of the final Five-Year Review report in the document repositories.

5.3 DOCUMENT REVIEW

Relevant, site-related documents were reviewed including the DD, remedial design report, remedial action completion report, and monitoring/inspection reports. A complete list of documents reviewed is provided in Attachment 2.

5.4 DATA REVIEW

The DD indicates that operational and performance monitoring data will be evaluated to:

- Assess performance of the DGR system and ensure contraction of the groundwater plume
- Assess the trends in molar concentrations of TCE over time to ensure that cleanup goals will be achieved in the anticipated timeframes
- Confirm that COCs in groundwater are not migrating towards residential dwellings

The following sections review DGR system operational data, groundwater elevations, groundwater quality, and geochemistry. The data are evaluated against the above criteria. The data reviewed was limited by the relatively short period of time (17 months) that has elapsed since the remedial action was implemented and this review.

Groundwater monitoring data, contour maps, and trend plots are provided in Attachment 10. DGR system operational data is provided in Attachment 11.

5.4.1 DGR System Operation

The DGR system was started on June 30, 2014 and became fully operational on July 8, 2014. It was designed to extract groundwater at 10 gpm (expected rate of 1 to 3 gpm) from well FCA-1 based on the estimated yield of fractured schist bedrock at 50 to 100 ft bgs. The system treats extracted groundwater with granular activated carbon and injects the treated water into three upgradient wells (IW-1, IW-2, and IW-3). Operation of the system, specifically pore flushing induced by the injection of treated water, was expected to reduce the TCE concentration in groundwater at FCA-1 by an order of magnitude after five years. The total volumes extracted and injected and approximate flow rates are provided in Table 3, which represents the period from June 30, 2014 to December 14, 2015 (ARCADIS 2014, PIKA-MP 2015b). Since startup, the system has extracted and treated 80,284 gallons of water at an average flow rate of approximately 0.15 to 0.17 gallon per minute. The 2015 Annual Operation and Maintenance Report (PIKA-MP 2015b) documented an extraction rate of 0.2 gpm, which is consistent with the rates estimated in this five-year review.

Results for the monthly DGR system influent, mid carbon vessel, and effluent samples (April 2015 to December 2015) are provided in Attachment 11 and discussed below.

Table 3 – Treatment System Volumes

Location	Volume (Gallons)											
	11/14/2014	4/22/2015	5/26/2015		6/24/2015		10/22/2015		11/25/2015		12/14/2015	
	Total Since Startup	Total Since Startup	Total Since Startup	GPM Per Period	Total Since Startup	GPM Per Period	Total Since Startup	GPM Per Period	Total Since Startup	GPM Per Period	Total Since Startup	GPM Per Period
Extracted												
Influent	1,136	27,700	35,900	0.167	42,800	0.165	68,400	0.148	76,182	0.159	80,284	0.150
Injected												
IW-01	355	8,200	10,700	0.051	12,500	0.043	20,700	0.047	23,184	0.051	24,428	0.045
IW-02	398	8,600	10,500	0.039	12,500	0.048	19,600	0.041	21,683	0.043	22,876	0.044
IW-03	383	7,100	9,400	0.047	11,400	0.048	18,100	0.039	20,100	0.041	21,115	0.037
Total Injected	1,136	23,900	30,600	0.137	36,400	0.139	58,400	0.127	64,967	0.134	68,419	0.126

Notes:

Flow volume discrepancies between total influent and sum of injected volumes is attributed to well recharge at FCA-1 causing pulsed pumping cycles affecting flowmeter accuracy.

Volumes are recorded during monthly O&M events.

GPM = average gallon per minute calculated over the period between the O&M events

Treatment System Influent: TCE was present above the SCL (5 µg/L) in all samples; the concentrations ranged from 7.4 µg/L (October 2015) to 18 µg/L (April and May 2015). Cis-1,2-DCE was detected at low concentrations (at or below 2 µg/L) or not detected. Vinyl chloride was not detected.

Mid Carbon Vessel: TCE, cis-1,2-DCE, and vinyl chloride were not detected.

Treatment System Effluent: TCE, cis-1,2-DCE, and vinyl chloride were not detected.

5.4.2 Groundwater Elevations

Groundwater elevation data was evaluated relative to the RAOs (Section 4.1) and performance monitoring requirement (Section 4.3) to assess system effectiveness based on hydraulic gradients, flow directions, and impact on contaminant plume geometry.

Figure 8 (Deep Groundwater Contours [May 2011]) in Attachment 10 illustrates groundwater contours prior to implementing the remedy. Groundwater elevations ranged from 543.78 ft amsl at monitoring well FCA-7 (on the PMR) to 384.65 ft amsl at well FCA-15 (downgradient of the PMR). They were generally consistent with topographic contours. Groundwater elevations associated with a baseline monitoring event (April 14, 2014) are also provided in Attachment 10 (Table 1, Groundwater Elevations). Post-remedial action groundwater contours are illustrated on Figure 2 (Groundwater Elevation Contour Map, May 2015) in Attachment 10. The groundwater contours continue to show the highest elevation at monitoring well FCA-7 (542.08 ft amsl) and the lowest elevation at FCA-15 (383.59 ft amsl). A significant lowering of the groundwater surface is observed at extraction well FCA-1 (506.97 ft amsl).

The hydraulic gradient between FCA-1 and the surrounding monitoring well network was evaluated in this five-year review by using groundwater elevation data collected prior to operation of the DGR system (May 2011 and April 2014) and after system startup (May 2015). The data is presented in Attachment 11 (Table 1), which includes an evaluation of hydraulic gradients between the monitoring wells and extraction well FCA-1. The analysis shows that positive hydraulic gradients (i.e. towards FCA-1) were present at wells located on the PMR and the gradients increased in nearly all of the wells after the system was operated. The radius of influence from the extraction well was not evaluated due to the limited number of data points available and potential influences of the reinjection system. The Remedial Action Completion Report (ARCADIS 2014b) did not assess drawdown created by the system. The post remedial action groundwater contours confirm hydraulic influence in the vicinity of FCA-1.

5.4.3 Groundwater Quality

Baseline and post remedial action groundwater monitoring results available for this five-year review included the following quarterly events:

- Second Quarter (May) 2014 (baseline)
- Third Quarter (September) 2014
- Fourth Quarter (October) 2014
- First Quarter (February) 2015
- Second Quarter (May) 2015
- Third Quarter (September) 2015
- Fourth Quarter (November) 2015

The DD identified a DGR system operational period of five years to reduce the TCE concentrations in groundwater by one order of magnitude at extraction well FCA-1. The DD also estimated that MNA would proceed for 10 to 15 years after system decommissioning to further reduce TCE concentrations to less than 5 µg/L.

The groundwater data review in this section focuses on the RAOs (Section 4.1) and performance monitoring requirements (Section 4.3) to evaluate DGR system effectiveness based on COC trends and to confirm that COCs in groundwater are not migrating towards residential dwellings. Attachment 10 includes trend plots for TCE and cis-1,2-DCE. Where applicable, trend analysis was performed on groundwater monitoring results after startup of the DGR system using the Mann-Kendall test for smaller sample sizes at a 95 percent confidence level.

Monitoring wells located on the PMR in the areas of highest impacts (FCA-1, FCA-3 and FCA-26 [all deep monitoring wells]) contained TCE above the SCL after the DGR system was installed and operated.

- **FCA-1** – TCE has been detected above the SCL in five of six post remedial action samples. Concentrations measured in the three most recent samples (May 29, 2015 [17 µg/L], September 11, 2015 [16 µg/L], and November 25, 2015 [17 µg/L]) are an order of magnitude below the baseline result (230 µg/L). No trend is observed in the data. Cis-1,2-DCE has not been detected above the SCL since the DGR system was installed and operated. Vinyl chloride has not been detected.
- **FCA-3** – TCE has been detected above the SCL in all six samples collected since start-up of the DGR system. The concentrations ranged from 24 µg/L to 34 µg/L and are comparable to the baseline result (25 µg/L). An increasing trend is observed for TCE. Cis-1,2-DCE has been detected at low concentrations (3.6 µg/L to 3.9 µg/L) below the SCL in samples collected since start-up of the DGR system. Vinyl chloride has not been not detected.
- **FCA-26** – TCE has been detected above the SCL in all six samples collected since start-up of the DGR system. The concentrations ranged from 62 µg/L to 110 µg/L and are slightly below the baseline result (160 µg/L). No trend is observed in the data. Cis-1,2-DCE has been detected in all six samples collected since start-up of the DGR system. The concentrations ranged from 45 µg/L to 130 µg/L and are above the baseline result (25 µg/L). No trend is observed in the data. Vinyl chloride has not been detected.

Monitoring wells FCA-5, FCA-7, and FCA-9, located on the PMR, did not contain TCE and cis-1,2-DCE above the SCLs since the start of the DGR system. No trend was observed for TCE in these wells. Vinyl chloride has not been detected.

Monitoring wells located off the PMR did not contain TCE and vinyl chloride since start of the remedial action. Cis-1,2-DCE was detected in FCA-21 (0.76 µg/L) during one sampling event (June 4, 2015); all other results were non-detect.

The performance monitoring requirement (to confirm that site COCs in groundwater are not migrating towards residential dwellings in the future) was assessed using the following information:

- Residential dwellings between FCA-1 and FCA-19/FCA-21 are supplied with community water. Private wells on these properties are inactive.
- Shallow groundwater samples collected in 2011 did not identify TCE concentrations above the SCL at the PMR and down gradient of the PMR. There is no apparent risk for vapor intrusion (see Attachment 8 for a complete discussion of the vapor intrusion evaluation).
- Groundwater elevation data confirms that the DGR system influences the groundwater table and flow directions in the source area.

Based on this information, risks posed by the distal end of the plume are controlled.

5.4.4 Groundwater Geochemistry

Baseline water quality and chemistry was established in the RI. A second monitoring event was conducted in May/June 2015 and future events will be performed on an annual basis. The MNA program includes the following analytes and field parameters:

- VOCs
- TOC
- Anions (sulfate and nitrate)
- Dissolved iron
- pH
- Turbidity
- Specific Conductivity
- DO
- Temperature
- ORP

A thorough evaluation of the MNA data will occur after eight data points are available for trending. Many parameters (e.g., electron acceptors) are best interpreted over time rather than as snapshot. The preliminary data indicate that the subsurface environment ranges from oxidizing to reducing. A greater number of monitoring wells exhibited oxidizing conditions after startup of the DGR system. This is likely caused by the injection of oxygenated water into wells IW-1, IW-2, and IW-3.

The baseline data indicated an oxidizing environment at FCA-1 (DO between 7 and 9 milligrams per liter [mg/L] and ORP between 150 and 225 millivolts [mV]). Based on historical decreasing TCE concentrations, attenuation processes such as dispersion, dilution, sorption, and volatilization may have improved groundwater quality in the vicinity of FCA-1. The baseline data at FCA-3 indicates that DO concentrations ranged from 0 to 4.19 mg/L and ORP values ranged from 88 to 706 mV. Baseline results at FCA-7 showed DO from 0 to 3.05 mg/L and ORP from -1 to -31 mV. By the 2015 sampling event, the data indicate that oxidizing environments were present at all three source area monitoring wells (FCA-1, FCA-3 and FCA-7).

Baseline data was not collected at FCA-26 because it was installed in 2014. The 2015 sampling event identified an ORP of -105.4 mV, which suggests a reducing environment. This condition may be supporting anaerobic biodegradation of TCE and the cause of elevated cis-1,2-DCE concentrations at FCA-26.

5.5 SITE INSPECTION

An inspection was conducted by USACE on August 25, 2015 to obtain familiarity with the site, review records, examine the remedial action area, and assess the protectiveness of the remedy. Observations are summarized below. A completed site inspection checklist is provided in Attachment 4. Photographs of the site are provided in Attachment 5.

PMR is wooded and contains open grass-covered areas that are periodically mowed. Remediation system infrastructure consists of a treatment system enclosure, one extraction well, three recirculation wells, monitoring wells, an electric meter, a control box, and an electric junction box. All treatment system components and monitoring wells appeared to be in good condition. There was no evidence of trespass onto the PMR.

5.6 INTERVIEWS

USACE interviewed FGGM Directorate of Public Works employees and contractors, the Maryland Department of the Environment, and surrounding residential property owners. Attachment 6 contains the completed interview records.

5.6.1 FGM Directorate of Public Works, Environmental Division

Interviews were conducted with the following FGGM Directorate of Public Works, Environmental Division employees and contractors:

- [redacted], Installation Restoration Program Manager
- [redacted], Environmental Engineer (Sundance Consulting)
- [redacted], Environmental Specialist (Sundance Consulting)

The interviews did not reveal any problems, significant changes in the monitoring requirements, or unexpected monitoring and maintenance difficulties that affect protectiveness of the remedy.

5.6.2 Maryland Department of the Environment

[redacted], Project Manager for the Maryland Department of the Environment, was interviewed. The interview did not reveal any problems, concerns, or incidents related to the site. The Maryland Department of the Environment is well informed about the site's activity and progress. [redacted] did not provide any comments or recommendations.

5.6.3 Community Members

Interview questionnaires were submitted to surrounding residential property owners on February 5, 2016. Responses were received from 12 nearby residences. Eight of the respondents use a private water supply well located on their property. Most respondents indicated that they were not informed about the site and have not received (or were not aware of) recent information about the site. The following general comments and suggestions were provided:

- Keep the community informed or update the community more often about activities and progress at the site
- Improve community outreach activities
- Conduct a Town Hall meeting
- Notify residents when work will be done at the site
- Test the residential water supply wells

6.0 TECHNICAL ASSESSMENT

6.1 QUESTION A:

Is the Remedy Functioning as Intended by the Decision Document?

Yes, the remedy is functioning as intended by the decision document.

This assessment is based on the remedy's achievement of the RAOs:

1. Prevent human exposure to groundwater that would cause unacceptable risk over the duration of the response action.

   This RAO was evaluated against both the human ingestion pathway and the vapor intrusion pathway:

   - Monitoring data since startup of the DGR system indicates that COCs in several groundwater wells on the PMR have not exceeded the SCLs. COCs have not exceeded the SCLs in all groundwater wells downgradient of the PMR.
   - Human exposure to elevated COC concentrations in groundwater is prevented by LUCs and the public water supply system. LUCs prevent human exposure to groundwater beneath the PMR. A public water supply has been provided to affected properties on Sunnybrook Road. This five-year review included an interview of surrounding property owners to evaluate private water supply use (if any). Groundwater uses were not identified in potentially affected areas.
   - The vapor intrusion risk was evaluated (see Attachment 8). Shallow groundwater data from 2011 and 2012 documented COC concentrations below the SCLs. A hypothetical vapor intrusion screening level for TCE was calculated and found to be above the SCL. Based on this information, human exposure via the vapor intrusion pathway is not occurring.

2. Achieve MCLs for the identified COCs in groundwater in a reasonable timeframe thereby restoring groundwater to its beneficial use.

   Attainment of this RAO should be assessed by evaluating progress of the remedial action. The system has been operational since June 30, 2014 and a limited amount of information is available to assess whether this RAO will be attained. However, the following observations are made based on available information:

   - The DGR system is operating below the anticipated extraction rate of 1 to 3 gpm (currently extracting less than 0.2 gpm).
   - The DGR system provides batch treatment of extracted groundwater and COCs are not present in the effluent water.
   - Groundwater elevations indicate that the system has modified groundwater flow patterns. Increased hydraulic gradients towards the extraction well have been observed for wells on the PMR.
   - The TCE concentrations in source area well FCA-1 have decreased by an order of magnitude since start-up of the DGR system.
   - No trends are observed for TCE and cis-1,2-DCE in most wells on the PMR since start of the remedial action. The small data set for FCA-3 suggests that TCE concentrations in groundwater may be increasing.

Based on this information, the system appears to be operating as designed despite much lower than anticipated flow rates. The reduced extraction rates may indicate that the volume of impacted groundwater is lower than anticipated and, therefore, the overall efficacy of the remedy is not diminished.

6.2 QUESTION B:

Are the Exposure Assumptions, Toxicity Data, Cleanup Levels, and Remedial Action Objectives Used at the Time of the Remedy Still Valid?

Yes, the exposure assumptions, cleanup levels, and RAOs used at the time of the remedy are still valid. There are no newly promulgated or modified requirements of federal and state environmental laws that would change the protectiveness of the remedy (Attachment 7). As explained in Attachment 8, although newer USEPA guidance for assessing the vapor intrusion pathway has been developed since the DD was signed, shallow groundwater containing TCE on site should not pose a vapor intrusion risk to nearby residents. No complete ecological exposure pathways exist to site contaminants.

6.3 QUESTION C:

Has any Other Information Come to Light That Could Call Into Question the Protectiveness of the Remedy?

No other information has come to light that would call into question the protectiveness of the remedy.

6.4 SUMMARY

The remedy was implemented and is functioning as intended by the DD. Human exposure to COCs that would cause unacceptable risk is not occurring. The toxicity data and cleanup levels used at the time of the remedy are still valid. Although newer USEPA guidance for assessing the vapor intrusion pathway has been developed since the DD was signed, shallow groundwater beneath the PMR containing TCE should not pose a vapor intrusion risk to nearby residents. No complete ecological exposure pathways exist to site contaminants. There have been no newly promulgated or modified requirements of federal and state environmental laws, and there is no new information that would call into question the protectiveness of the remedy.

7.0 ISSUES

No issues were identified that affect protectiveness of the remedy.

The following concerns were identified that do not affect protectiveness of the remedy:

- The hydraulic influence of the DGE system is not well understood.
- Local residents expressed a desire for improved community outreach activities and additional testing of their private water supply wells. (The wells were decommissioned in April 2016 and a fact sheet was mailed to local residents on April 13, 2016 that provided updated information about the site and contact information).

8.0 RECOMMENDATIONS AND FOLLOW-UP ACTIONS

Table 4 provides recommendations to address concerns that do not affect protectiveness of the remedy at the PMR FCA (PMR-001).

Table 4- Recommendations for Concerns That Do Not Affect Protectiveness

Concern	Recommendations/ Follow-up Actions	Party Responsible
Hydraulic influence of the DGR system is not well understood.	Record the DGR system status at the time of groundwater elevation gauging to allow for interpretation of hydraulic influence of injection and extraction.	FGGM/PMR
Local residents expressed a desire for improved community outreach activities, additional testing of their private water supply wells, and decommissioning monitoring wells on private property.	Re-evaluate community outreach activities and improve communications. Follow-up on previous commitments to decommission monitoring wells. (The wells were decommissioned in April 2016 and a fact sheet was mailed to local residents on April 13, 2016 that provided updated information about the site and contact information).	FGGM/PMR

9.0 PROTECTIVENESS STATEMENT

The remedy at the PMR FCA (PMR-001) is protective of human health and the environment.

A directed groundwater recirculation system is operating at the PMR FCA and is functioning as intended to achieve MCLs for identified COCs in groundwater in a reasonable timeframe. LUCs (access restrictions, dig permit requirements, pre-construction environmental survey requirements, and signs) are in place at the PMR, thereby preventing exposure to groundwater that would pose an unacceptable risk to humans.

10.0 NEXT REVIEW

The next five-year review for PMR will be conducted by September 2021.

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ATTACHMENT 1

Figures

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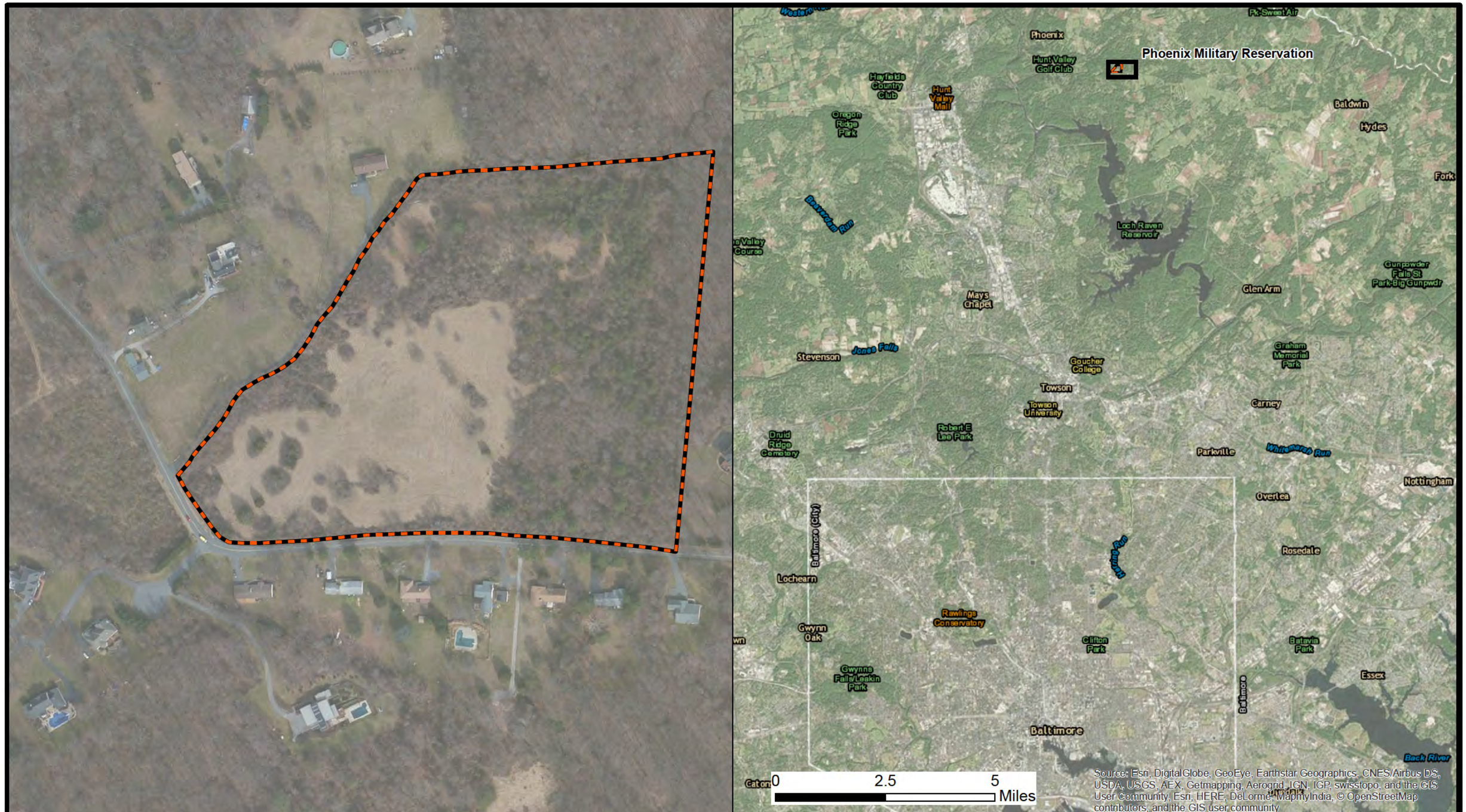

Phoenix Military Reservation Boundary

0 150 300 600 Feet

N W E S

US Army Corps of Engineers
Buffalo District

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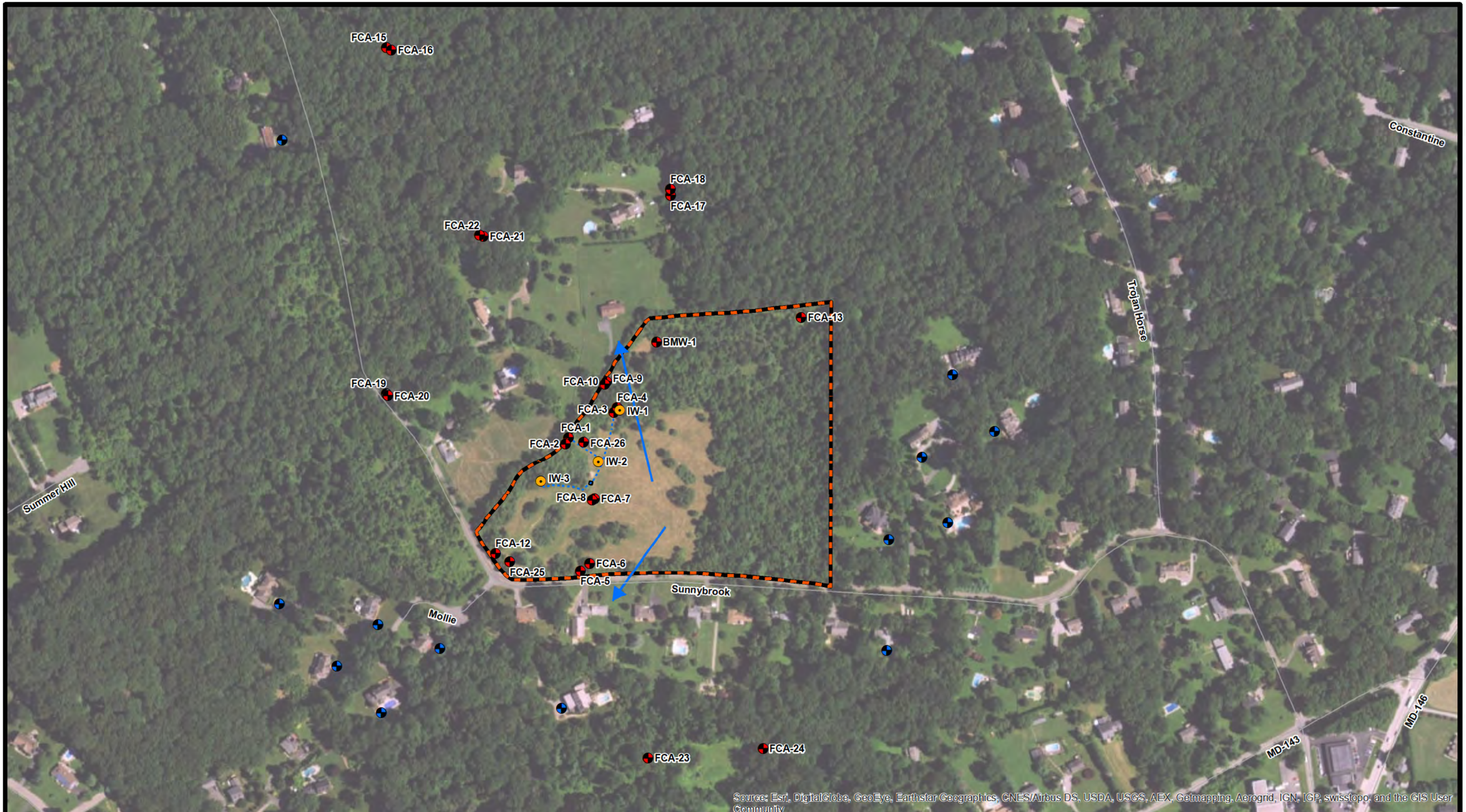
Phoenix Military Reservation Location Map

Phoenix Military Reservation
Jacksonville, Maryland

Figure 1



Active Domestic Water Well
Monitoring Well
Injection Well
Approximate Direction of Groundwater Flow
Water Conveyance
Road Centerline
Phoenix Military Reservation Boundary
10' X 10' Equipment Compound

N
W E
S

Note: Spatial Locations of Water Conveyance and 10' x10' Equipment Compound are estimated based on 2nd Quater Operation and Maintenance Report, Figure 1. Issued July 31, 2015. Approximate Groundwater Flow Direction was interpolated based on PMR Annual Operation and Maintenance Report, Figure 2. Issued December 22, 2014.

0 150 300 600 Feet

US Army Corps of Engineers®
Buffalo District

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Phoenix Military Reservation Groundwater Flow

Phoenix Military Reservation
Jacksonville, Maryland

Figure 2

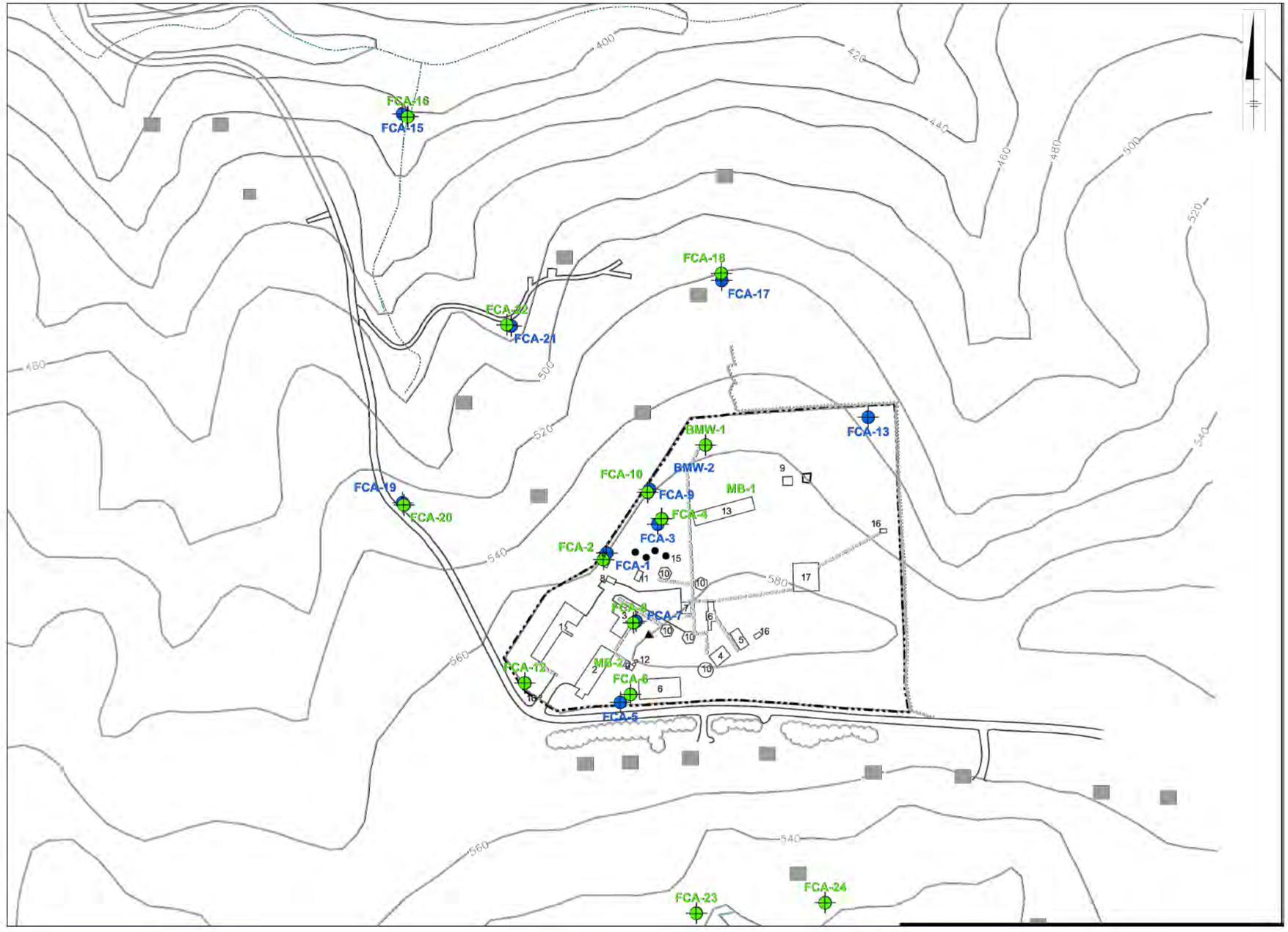
LEGEND:

- STREAM/CREEK
- PROPERTY BOUNDARY
- GRAVEL ROAD/DRIVEWAY
- TREELINE
- TOPOGRAPHIC CONTOUR (CONTOUR INTERVAL = 20 FEET)
- APPROXIMATE LOCATION OF FORMER BUILDING/ SITE FEATURE
- OFFSITE RESIDENCE
- EXISTING MONITORING WELL LOCATION (SHALLOW)
- EXISTING MONITORING WELL LOCATION (DEEP)
- APPROXIMATE LOCATION FORMER UNDERGROUND STORAGE TANK

LIST OF FORMER FEATURES:

1. BARRACKS
2. ADMINISTRATION BUILDING
3. MESS HALL
4. HIPAR BUILDING
5. GENERATOR
6. CORRIDOR BUILDING
7. MOTOR POOL
8. VEHICLE MAINTENANCE RACK
9. PUMPHOUSE (2)
10. RADAR TOWER (5)
11. SEPTIC TANK
12. WATER STORAGE TANK (2)
13. LEACHING TRENCH AREA (ASSUMED LOCATION)
14. PAINT STORAGE SHED
15. LEACHING WELL (4) (ASSUMED LOCATIONS)
16. UNKNOWN SITE FEATURES (4)
17. HELICOPTER PAD

NOTE:
DOCUMENT SOURCED FROM ARCADIS FIGURE 2, HISTORICAL SITE PLAN
SCALE: 1" = 320'



U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
BUFFALO, NY

HISTORICAL SITE FEATURES

Document Name: Historical Site Features
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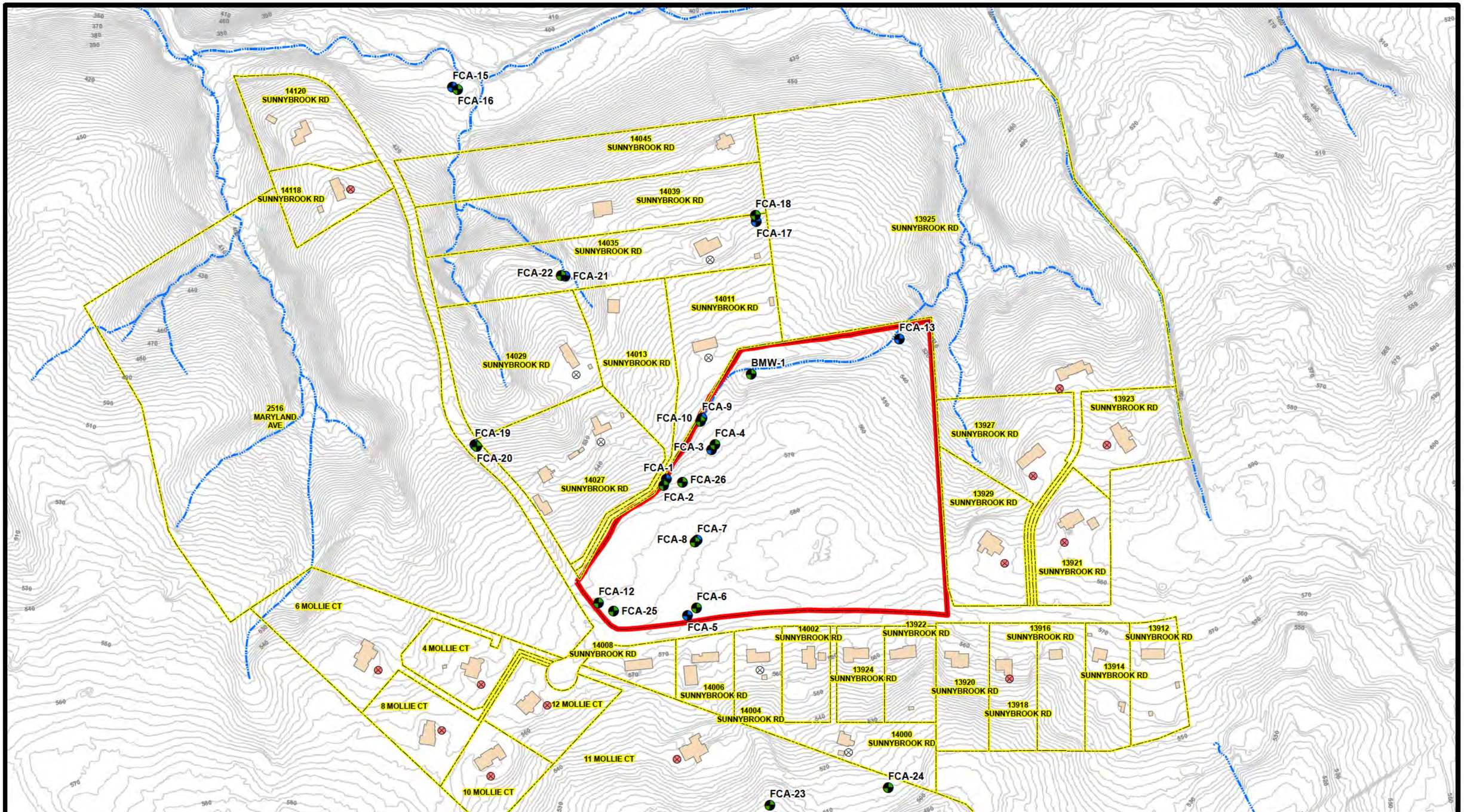
PHOENIX MILITARY RESERVATION
JACKSONVILLE, MARYLAND

FIGURE 3



Shallow Well Location
Deep Well Location
Active Domestic Well Location
Inactive Domestic Well Location
Streams
House
Property Boundary
Phoenix Military Reservation Boundary

N
W E
S

0 150 300 600 Feet

US Army Corps of Engineers
Buffalo District

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Residential Well Locations

Phoenix Military Reservation
Jacksonville, Maryland

Figure 4

ATTACHMENT 2

List of Documents Reviewed

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DOCUMENTS REVIEWED

ARCADIS U.S., Inc. (ARCADIS) 2012. *Final Remedial Investigation Report, Phoenix Military Reservation, Jacksonville, Maryland*. November

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ARCADIS 2013c. *Final Decision Document, Phoenix Military Reservation, Jacksonville, Maryland*. September

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USEPA 2014. *OSWER Vapor Intrusion Assessment VISL Calculator Version 3.3.1*. May

USEPA 2015a. *Regional Screening Levels (RSL) Summary Table, June 2015* (table last updated); available via USEPA Region web sites, e.g., http://www.epa.gov/reg3hwmd/risk/human/rbconcentration_table/Generic_Tables/index.htm

USEPA 2015b. *Integrated Risk Information System* (IRIS), National Center for Environmental Assessments. http://www.epa.gov/iris/

USEPA 2015c. *OSWER Technical Guidance for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*. OSWER Publication 9200.2-154

USEPA no date. *Assessing Protectiveness at Sites for Vapor Intrusion Supplement to the "Comprehensive Five-Year Review Guidance" OSWER Directive 9200.2-84*

USEPA Region 3 2009. *Vapor Intrusion Framework, Interim Final*. USEPA Region 3 Hazardous Waste Site Cleanup Division

ATTACHMENT 3

Decision Document Summary

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Table A3-1 Decision Document Summary Component: Background/Basis for Taking Action Site PMR-001

Decision Document Title:	Final Decision Document, Phoenix Military Reservation, Jacksonville, Maryland September 2013 (DD)
Regulatory Framework:	CERCLA NON-NPL
Remedy Chosen:	Alternative 4 – Directed Groundwater Recirculation, Monitored Natural Attenuation, and Land Use Controls
Media of Concern:	Groundwater
Constituents of Concern:	Trichloroethene (TCE) Cis-1,2 Dichloroethene (DCE) Vinyl chloride
Land Use:	Current: not used Future: residential
Receptors:	Groundwater: future on-site adult and child residents. (DD Section 2.7.1, page 2-5)
Exposure Pathway:	Ingestion, inhalation, and direct contact
Ecological Risk:	*"Based on the site characterization and data evaluation, adverse health effects in ecological receptors from exposure to site-related constituents in sampled environmental media at the PMR are unlikely. Therefore, further study or ecological evaluation is unnecessary."* (DD Section 2.7.2, page 2-6)

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Table A3-2 Decision Document Summary Component: Remedial Action

Site PMR-001

Decision Document Title:	Final Decision Document, Phoenix Military Reservation, Jacksonville, Maryland September 2013 (DD)
Remedy Chosen:	Alternative 4 – Directed Groundwater Recirculation, Monitored Natural Attenuation, and Land Use Controls
Remedial Action Objectives:	• Prevent human exposure to groundwater that would cause unacceptable risk over the duration of the response action • Achieve MCLs for the identified COCs in groundwater within a reasonable timeframe, thereby restoring groundwater to its beneficial use. (DD Section 2.9, page 2-7)
Clean-Up Goals:	Groundwater SCLs were identified only for COCs that exceeded MCLs and their breakdown products. The groundwater SCLs are: • TCE: 5 µg/L • cis-1,2 DCE: 70 µg/L • Vinyl Chloride: 2 µg/L (DD section 2.8, page 2-7)
Applicable or Relevant and Appropriate Requirements:	Chemical specific ARARs are identified in DD Table 1-1. They consist of MCLs established by the Safe Drinking Water Act (SDWA) National Primary Drinking Water Regulations Act 40 CFR 141- 149, 40 CFR 141.61 (a)(1,5,9)
Components of the Remedy:	Groundwater (Directed Groundwater Recirculation System): • Single extraction well located on site approximately 30 ft to the east of monitoring well FCA-1 • Three reinjection wells located on site to the southwest, south and east of monitoring well FCA-1 • Treatment of the extracted groundwater via granular activated carbon • Treated groundwater would be sampled prior to reinjection to ensure cleanup goals have been achieved • Following directed groundwater recirculation, monitored natural attenuation will be used to achieve cleanup goals for the site within 10 to 15 years Land Use Controls (LUCs): • Existing LUCs already in place at the PMR, specifically institutional controls, will be maintained and enhanced; engineering controls such as additional signage will be added

	• Annual site inspections will be performed to establish that all on-site LUCs are in good condition, to confirm that the land use has not changed, and that no unauthorized excavations were performed.

ATTACHMENT 4

Site Inspection Checklist

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Five-Year Review Site Inspection Checklist
Phoenix Military Reservation

I. SITE INFORMATION	
Site name: *Phoenix Military Reservation* *Former Nike Missile Battery Fire Control Area (PMR-001)*	**Date of inspection:** *August 25, 2015*
Location and Region: *Jacksonville MD, Baltimore County*	**EPA ID:** *Not Applicable*
Agency, office, or company leading the five-year review: *US Army Corps of Engineers, Buffalo District*	**Weather/temperature:** *Sunny, calm, ~80º – 85ºF*

Remedy Includes: (Check all that apply)

- ☐ Landfill cover/containment
- ☒ Access controls
- ☒ Institutional controls
- ☒ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other _____
- ☒ Monitored natural attenuation
- ☒ Groundwater containment
- ☐ Vertical barrier walls

Attachments: ☐ Inspection team roster attached ☒ Site map attached (Figure 2)

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** [redacted] (Name) Installation Restoration Manager (Title) Nov. 2, 2015 (Date)
   Interviewed ☐ at site ☐ at office ☒ by phone Phone no. [redacted]
   Problems, suggestions; ☒ Report attached _____

2. **O&M staff** _____ (Name) _____ (Title) _____ (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone Phone no. _____
   Problems, suggestions; ☐ Report attached _____

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 Maryland Department of the Environment
   Contact [redacted] (Name) Project Manager (Title) Nov. 25, 2015 (Date) [redacted] (Phone no.)
   Problems; suggestions; ☒ Report attached _____

4. **Other interviews** (optional) ☒ Reports attached.

- [redacted], Environmental Engineer (Sundance Consulting), Fort Meade Directorate of Public Works, Environmental Division

Five-Year Review Site Inspection Checklist
Phoenix Military Reservation

- [redacted], Environmental Specialist (Sundance Consulting), Fort Meade Directorate of Public Works, Environmental Division
- [redacted], resident
- [redacted] resident
- [redacted], resident
- [redacted], resident
- [redacted], resident
- [redacted], resident
- [redacted], resident
- [redacted], resident
- [redacted], resident
- [redacted], resident
- [redacted], resident
- [redacted], resident
- [redacted], resident

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**

☒ O&M manual	☒ Readily available	☒ Up to date	☐ N/A
☒ As-built drawings	☒ Readily available	☒ Up to date	☐ N/A
☐ Maintenance logs	☐ Readily available	☐ Up to date	☐ N/A

Remarks: ARCADIS 2014. *Final Remedial Action Completion Report, Phoenix Military Reservation Jacksonville, Maryland*. December
ARCADIS 2014. *2014 Annual Operation and Maintenance Report Phoenix Military Reservation Jacksonville, Maryland.* December.

2. **Site-Specific Health and Safety Plan** ☒ Readily available ☒ Up to date ☐ N/A
☐ Contingency plan/emergency response plan ☐ Readily available ☐ Up to date ☐ N/A
Remarks: ARCADIS 2010 *Health and Safety Plan for the Performance Based Acquisition at Fort George G. Meade, Final.* October.

3. **O&M and OSHA Training Records** ☐ Readily available ☐ Up to date ☒ N/A
Remarks: _____

4. **Permits and Service Agreements**

☐ Air discharge permit	☐ Readily available	☐ Up to date	☒ N/A
☐ Effluent discharge	☐ Readily available	☐ Up to date	☒ N/A
☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☒ N/A
☐ Other permits_____	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

5. **Gas Generation Records** ☐ Readily available ☐ Up to date ☒ N/A
Remarks: _____

6. **Settlement Monument Records** ☐ Readily available ☐ Up to date ☒ N/A
Remarks : _____

Five-Year Review Site Inspection Checklist
Phoenix Military Reservation

7. **Groundwater Monitoring Records** ☒ Readily available ☒ Up to date ☐ N/A
Remarks: _____

8. **Leachate Extraction Records** ☐ Readily available ☐ Up to date ☒ N/A
Remarks_ _____

9. **Discharge Compliance Records**
☐ Air ☐ Readily available ☐ Up to date ☒ N/A
☒ Water (effluent) ☒ Readily available ☒ Up to date ☐ N/A
Remarks: _____

10. **Daily Access/Security Logs** ☐ Readily available ☐ Up to date ☒ N/A
Remarks: _____

IV. O&M COSTS

1. **O&M Organization**

☐ State in-house ☐ Contractor for State
☐ PRP in-house ☐ Contractor for PRP
☐ Federal Facility in-house ☒ Contractor for Federal Facility
☐ Other:_____

2. **O&M Cost Records** (Not available)

☐ Readily available ☐ Up to date
☐ Funding mechanism/agreement in place
Original O&M cost estimate: Not available ☐ Breakdown attached

Total annual cost by year for review period if available (not available)

From_____To_____ _____ ☐ Breakdown attached
Date Date Total cost

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: _____

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

A. Fencing

1. **Fencing damaged** ☐ Location shown on site map ☒ Gates secured ☐ N/A

Remarks: Damaged fencing was not observed

Five-Year Review Site Inspection Checklist
Phoenix Military Reservation

B. Other Access Restrictions

1. **Signs and other security measures** ☐ Location shown on site map ☐ N/A

   Remarks: Sign on treatment system enclosure, "NOTICE Environmentally Restricted Area, Groundwater Use Restricted"

C. Institutional Controls (ICs)

1. **Implementation and enforcement**

   Site conditions imply ICs not properly implemented ☐ Yes ☒ No ☐ N/A
   Site conditions imply ICs not being fully enforced ☐ Yes ☒ No ☐ N/A

   Type of monitoring (*e.g.*, self-reporting, drive by) Self-reporting, results provided to MDE
   Frequency Annual
   Responsible party/agency U.S. Army
   Contact [redacted] Installation Restoration Manager Aug 25, 2015 [redacted]
   Name Title Date Phone no.

   Reporting is up-to-date ☒ Yes ☐ No ☐ N/A
   Reports are verified by the lead agency ☒ Yes ☐ No ☐ N/A

   Specific requirements in deed or decision documents have been met ☒ Yes ☐ No ☐ N/A
   Violations have been reported ☐ Yes ☐ No ☒ N/A
   Other problems or suggestions: ☐ Report attached
   None

2. **Adequacy** ☒ ICs are adequate ☐ ICs are inadequate ☐ N/A

D. General

1. **Vandalism/trespassing** ☐ Location shown on site map ☒ No vandalism evident
   Remarks:

2. **Land use changes on site** ☐ N/A
   Remarks: No land use changes were observed on the site

3. **Land use changes off site** ☐ N/A
   Remarks: Land use off site is residential/rural residential. No changes were observed since the decision document and system installation.

VI. GENERAL SITE CONDITIONS

A. Roads ☐ Applicable ☒ N/A

1. **Roads damaged** ☐ Location shown on site map ☐ Roads adequate ☐ N/A
   Remarks: There are no roads on site. Roads outside of the site consist of bituminous concrete pavement.

Five-Year Review Site Inspection Checklist
Phoenix Military Reservation

B. Other Site Conditions

Remarks The site is wooded and contains open grass-covered areas that are routinely mowed. Remediation system infrastructure is present and consists of a treatment system enclosure, one extraction well, three recirculation wells, monitoring wells, an electric meter, a control box, and an electric junction box.

NOTE: Sections VII through VIII were removed from this checklist because they are not applicable

IX. GROUNDWATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

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 One extraction well used, FCA-1

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**

☒ Good condition ☐ Needs Maintenance

Remarks Most extraction system piping is underground and was not observed. Piping, valves, and appurtenances inside a treatment system enclosure were in good condition.

3. **Spare Parts and Equipment**

☒ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided

Remarks

B. Surface Water Collection Structures, Pumps, and Pipelines ☐ Applicable ☒ N/A

C. Treatment System ☒ Applicable ☐ N/A

1. **Treatment Train** (Check components that apply)

☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
☐ Air stripping ☒ Carbon absorbers (2)
☒ Filters Bag filter used
☐ Additive (*e.g.*, chelation agent, flocculent)
☐ Others
☒ Good condition ☐ Needs Maintenance
☒ Sampling ports properly marked and functional
☐ Sampling/maintenance log displayed and up to date
☒ Equipment properly identified
☒ Quantity of groundwater treated annually
☐ Quantity of surface water treated annually

Remarks Directed groundwater recirculation system that consists of one extraction well, treatment with granular activated carbon, and reinjection of treated water via three wells.

2. **Electrical Enclosures and Panels** (properly rated and functional)

☐ N/A ☒ Good condition ☐ Needs Maintenance

Remarks:

3. **Tanks, Vaults, Storage Vessels**

☐ N/A ☒ Good condition ☐ Proper secondary containment ☐ Needs Maintenance

Remarks : 165 gal equalization tank

Five-Year Review Site Inspection Checklist
Phoenix Military Reservation

4. **Discharge Structure and Appurtenances**

☐ N/A ☒ Good condition ☐ Needs Maintenance

Remarks : Three wells used; IW-1, IW-2, and IW-3

5. **Treatment Building(s)**

☐ N/A ☒ Good condition (esp. roof and doorways) ☐ Needs repair

☐ Chemicals and equipment properly stored

Remarks:

6. **Monitoring Wells** (pump and treatment remedy)

☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled ☒ Good condition

☒ All required wells located ☐ Needs Maintenance ☐ N/A

Remarks : Monitoring wells are gauged quarterly to evaluate flow directions and system impact on contaminant plume geometry. Groundwater is sampled quarterly for VOCs from wells FCA-01, -03,-05, -07, -09, -25, and -26.

D. Monitoring Data ☒ Applicable ☐ N/A

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

E. Monitored Natural Attenuation ☒ Applicable ☐ N/A

1. **Monitoring Wells** (natural attenuation remedy)

☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled ☒ Good condition

☒ All required wells located ☐ Needs Maintenance ☐ N/A

Remarks : Annual groundwater monitoring for natural attenuation parameters consists of VOCs, total organic carbon, anions (SO_4 & NO_3), and dissolved iron from wells FCA-01, -03, -05, -07, -09, -13, -15, -17, -19, -21, -25, and -26.

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

Remarks: Land use controls

XI. 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.).

The directed groundwater recirculation system is intended to reduce the toxicity, mobility, and volume of site contaminants through treatment and provide hydraulic control of a dissolved phase contaminant plume to further reduce the mobility of the contaminants. Monitoring data suggests that the remedy is effective and functioning as designed.

Five-Year Review Site Inspection Checklist
Phoenix Military Reservation

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. Performance and long term monitoring and maintenance are conducted. Performance monitoring consists of monthly system monitoring, which includes: 1) inspecting the system and well network, 2) recording pressure gauge readings and making adjustments (if necessary), 3) recording flow meter and totalizer readings and making adjustments (if necessary), and 4) measuring the water level in the extraction well and making adjustments to the pumping rate (if necessary). Quarterly water samples are also taken from the treatment system; they consist of system influent and effluent from each carbon vessel. The samples are analyzed for site COCs (TCE, cis-1,2 DCE, and vinyl chloride). Non-routine maintenance is also performed when alarms are received from the system programmable logic controller and auto dialer. Long term monitoring and maintenance consists of: 1) an annual site inspection to ensure that the current land use has been maintained and conditions are protective of human health and the environment, and 2) inspection of the well network for damage. Groundwater is monitored: 1) quarterly for VOCs, pH, dissolved oxygen, oxidation reduction potential, specific conductivity, turbidity, and temperature and 2) annually for total organic carbon, sulfate (SO_4), nitrate (NO_3), and dissolved iron. Monitoring and maintenance has been performed in accordance with the Decision Document and Remedial Design.
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. Early indicators of potential remedy problems were not identified.
D.	**Opportunities for Optimization**
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. Opportunities for optimization were not identified.

Five-Year Review Site Inspection Checklist
Phoenix Military Reservation

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ATTACHMENT 5

Photographic Record

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PHOTOGRAPHIC RECORD
Phoenix Military Reservation

Former Nike Missile Battery Fire Control Area (PMR-001)

Photo No. 1
(August-25-2015)

Description:

Site entrance (view southwest from inside the site)

Photo No. 2
(August-25-2015)

Description:

Monitoring well FCA-25

PHOTOGRAPHIC RECORD
Phoenix Military Reservation

Former Nike Missile Battery Fire Control Area (PMR-001)

Photo No. 3
(August-25-2015)

Description:

Electric meter and control box (view northwest)

Photo No. 4
(August-25-2015)

Description:

Site interior, northeast view from entrance gate

PHOTOGRAPHIC RECORD
Phoenix Military Reservation

Former Nike Missile Battery Fire Control Area (PMR-001)

Photo No. 5
(August-25-2015)

Description:

Recirculation well IW-3

Photo No. 6
(August-25-2015)

Description:

Equipment compound

PHOTOGRAPHIC RECORD
Phoenix Military Reservation

Former Nike Missile Battery Fire Control Area (PMR-001)

Photo No. 7
(August-25-2015)

Description:

Warning sign on equipment compound door

Photo No. 8
(August-25-2015)

Description:

Liquid phase carbon adsorbers (LPC-01 & -02)

PHOTOGRAPHIC RECORD
Phoenix Military Reservation

Former Nike Missile Battery Fire Control Area (PMR-001)

Photo No. 9
(August-25-2015)

Description:

165-gal equalization tank (T-01)

Photo No. 10
(August-25-2015)

Description:

Treated water discharge lines showing pressure gauges & flow indicators

PHOTOGRAPHIC RECORD
Phoenix Military Reservation

Former Nike Missile Battery Fire Control Area (PMR-001)

Photo No. 11
(August-25-2015)

Description:

Programmable logic controller (PLC) and auto-dialer

Photo No. 12
(August-25-2015)

Description:

Transfer pump (P-02), pressure switch (PSH01), pressure gauge (PI01), & bag filter (BF-01)

PHOTOGRAPHIC RECORD
Phoenix Military Reservation

Former Nike Missile Battery Fire Control Area (PMR-001)

Photo No. 13
(August-25-2015)

Description:

Monitoring wells FCA-7 and FCA-8

Photo No. 14
(August-25-2015)

Description:

Recirculation well IW-2

PHOTOGRAPHIC RECORD
Phoenix Military Reservation

Former Nike Missile Battery Fire Control Area (PMR-001)

Photo No. 15
(August-25-2015)

Description:

Monitoring well FCA-26

Photo No. 16
(August-25-2015)

Description:

Extraction well FCA-1

PHOTOGRAPHIC RECORD
Phoenix Military Reservation

Former Nike Missile Battery Fire Control Area (PMR-001)

Photo No. 17
(August-25-2015)

Description:

Extraction well FCA-1 and perimeter fence (view northwest)

Photo No. 18
(August-25-2015)

Description:

Recirculation well IW-1

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ATTACHMENT 6

Interview Records

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INTERVIEW DOCUMENTATION FORM

Phoenix Military Reservation

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

Name	Title/Position	Organization	Date
[redacted]	*Installation Restoration Program Manager*	*FGGM*	*Nov 2, 2015*
[redacted]	*Environmental Engineer*	*Sundance Consulting*	*Oct 28, 2015*
[redacted]	*Environmental Specialist*	*Sundance Consulting*	*Oct 28, 2015*
[redacted]	*Project Manager*	*MDE*	*Nov 25, 2015*
[redacted]	*Resident*	[redacted]	*Feb 26, 2016*
[redacted]	*Resident*	[redacted]	*Feb 10, 2016*
[redacted]	*Resident*	[redacted]	*Feb 13, 2016*
[redacted]	*Resident*	[redacted]	*Feb 2016*
[redacted]	*Resident*	[redacted]	*April 2016*
[redacted]	*Resident*	[redacted]	*Feb 2016*
[redacted]	*Resident*	[redacted]	*Feb 2016*

INTERVIEW DOCUMENTATION FORM

Phoenix Military Reservation

[redacted]	*Resident*	[redacted]	*Feb 2016*
Name	Title/Position	Address	Date
[redacted]	*Resident*	[redacted]	*Feb 10, 2016*
Name	Title/Position	Address	Date
[redacted]	*Resident*	[redacted]	*Feb 2016*
Name	Title/Position	Address	Date
[redacted]	*Resident*	[redacted]	*Feb 2016*
Name	Title/Position	Address	Date
[redacted]	*Resident*	[redacted]	*Feb 2016*
Name	Title/Position	Address	Date
[redacted]	*Resident*	[redacted]	*Feb 2016*
Name	Title/Position	Address	Date

INTERVIEW RECORD

Site Name:	*Phoenix Military Reservation*	**EPA ID No.:** *Not applicable*	
Subject:	*First Five-Year Review of Remedial Action Conducted at the Former Nike Missile Battery Fire Control Area (PMR-001), Phoenix Military Reservation*	**Time:** *N/A*	**Date:** *Nov 2, 2015*
Type: ☐ Telephone ☐ Visit ☒ Other **Location of Visit:** *Not applicable*		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** *Project Engineer*	**Organization:** *US Army Corps of Engineers, Buffalo District*

Individual Contacted:

Name: [redacted]	**Title:** *Installation Restoration Manager*	**Organization:** *US Army Garrison Fort George G. Meade*
Telephone No: [redacted] **E-Mail Address:** [redacted]	**Street Address:** *4216 Roberts Ave, Suite 5115* **City, State, Zip:** *Fort Meade, MD 20755-7068*	

Summary Of Conversation

1. What are your role and responsibilities for this project?
   I am the Program Manager responsible for the overall management of this and all IRP/MMRP projects.
2. What is the current status of the remedial action (i.e. budget and schedule)?
   Under contract for system O&M and LTM.
3. Have any problems been encountered that required or will require changes to the remedial design or Record of Decision?
   No
4. Do you have any comments, suggestions, or recommendations regarding the project (i.e. design, construction documents, constructability, management, regulatory agencies, etc.)?
   No
5. Are routine inspections performed and records maintained? If so, describe how they are performed and their frequency. Is the reporting up to date?
   Yes, see the monthly O&M checklist in all quarterly reports and the annual summary report.
6. Have there been significant changes in the monitoring requirements, maintenance schedules, or sampling routines since start-up? If so, do they affect the remedy?
   No
7. Have there been unexpected monitoring/maintenance difficulties or increased costs at the sites since start-up? If so, please give details.
   Few alarms occurred with short shutdowns requiring minor parts replacement. All costs covered under existing contract.
8. Are access restrictions (fences and locked gates) maintained and in good condition? Has there been evidence of trespass and/or vandalism at the site? If so, please describe.
   Fences are not part of the ROD. However, any damage is reported and repaired as needed.
9. Are operations and maintenance cost records readily available? If so, are they up to date?
   Not yet; they will be part of a new contract to be awarded by 31 December. AEDB-R contains historic site costs.

INTERVIEW RECORD

Site Name:	*Phoenix Military Reservation*	**EPA ID No.:** *Not applicable*	
Subject:	*First Five-Year Review of Remedial Action Conducted at the Former Nike Missile Battery Fire Control Area (PMR-001), Phoenix Military Reservation*	**Time:** *N/A*	**Date:** *Nov 2, 2015*

10. Have there been opportunities to optimize monitoring, sampling, or maintenance efforts? Please describe the changes and the resultant cost savings and/or improved efficiency.
Yes, the Annual Report contains conclusions and recommendations. None have been needed.

INTERVIEW RECORD

Site Name: *Phoenix Military Reservation*		**EPA ID No.:** *Not applicable*	
Subject: *First Five-Year Review of Remedial Action Conducted at the Former Nike Missile Battery Fire Control Area (PMR-001), Phoenix Military Reservation*		**Time:** *14:00*	**Date:** *28OCT2015*
Type: ☒ Telephone ☐ Visit ☐ Other **Location of Visit:** *Not applicable*		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** *Project Engineer*	**Organization:** *US Army Corps of Engineers, Buffalo District*

Individual Contacted:

Name: [redacted]	**Title:** *Environmental Engineer (Sundance Consulting)*	**Organization:** *US Army Garrison Fort George G. Meade*
Telephone No: [redacted] **E-Mail Address:** [redacted]	**Street Address:** *4216 Roberts Ave, Suite 5115* **City, State, Zip:** *Fort Meade, MD 20755-7068*	

Summary Of Conversation

1. What is your involvement with the project?
   As an on-site contractor, I provide project management, contractor oversight, and review of documents provided by FGGM contractors. I have held this position since July 2010.
2. Have any problems been encountered that required or will require changes to the remedial design or Record of Decision?
   None
3. Do you have any comments, suggestions, or recommendations regarding the project (i.e. design, construction documents, constructability, management, regulatory agencies, etc.)?
   Not at this time.
4. Are routine inspections performed and records maintained? If so, describe how they are performed and their frequency. Is the reporting up to date?
   Yes, monthly O&M inspections are performed and records maintained. Quarterly inspections are documented in quarterly reports. Trends and data summaries for the calendar year are compiled in the 4th quarter report.
5. Have there been significant changes in the monitoring requirements, maintenance schedules, or sampling routines since start-up? If so, do they affect the remedy?
   None
6. Have there been unexpected monitoring/maintenance difficulties or increased costs at the sites since start-up? If so, please give details.
   Possibly, the operating contractor gets system notifications, there have been some parts that have needed to be replaced (i.e., air compressor). Notifications have gone out as expected, the system has repaired and then restarted.
7. Are access restrictions (fences and locked gates) maintained and in good condition? Has there been evidence of trespass and/or vandalism at the site? If so, please describe.
   If there is evidence it is reported to security and base operations who are responsible for the perimeter fence
8. Are operations and maintenance cost records readily available? If so, are they up to date?
   George Knight would have that information.

INTERVIEW RECORD

Site Name:	*Phoenix Military Reservation*	**EPA ID No.:** *Not applicable*	
Subject:	*First Five-Year Review of Remedial Action Conducted at the Former Nike Missile Battery Fire Control Area (PMR-001), Phoenix Military Reservation*	**Time:** *14:00*	**Date:** *28OCT2015*

9. Have there been opportunities to optimize monitoring, sampling, or maintenance efforts? Please describe the changes and the resultant cost savings and/or improved efficiency.
   The opportunities would be summarized within the 4th quarter reports, no changes have been suggested or made to date.

INTERVIEW RECORD

Site Name: *Phoenix Military Reservation*		**EPA ID No.:** *Not applicable*	
Subject: *First Five-Year Review of Remedial Action Conducted at the Former Nike Missile Battery Fire Control Area (PMR-001), Phoenix Military Reservation*		**Time:** *14:30*	**Date:** *28OCT2015*
Type: ☒ Telephone ☐ Visit ☐ Other **Location of Visit:** *Not applicable*		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** *Project Engineer*	**Organization:** *US Army Corps of Engineers, Buffalo District*

Individual Contacted:

Name: [redacted]	**Title:** *Environmental Specialist (Sundance Consulting)*	**Organization:** *US Army Garrison Fort George G. Meade*
Telephone No: [redacted] **E-Mail Address:** [redacted]	**Street Address:** *4216 Roberts Ave, Suite 5115* **City, State, Zip:** *Fort Meade, MD 20755-7068*	

Summary Of Conversation

1. What is your involvement with the project?
   As an on-site contractor, I provide contractor oversight and review documents provided by PMR contractors.
2. Are maintenance activities performed at the site? If so, please describe the activities and how often maintenance is performed.
   Yes, maintenance activities are performed at the site in accordance with the remedial design documents and the O&M manual.
3. Are routine inspections performed and records maintained? If so, please describe how they are performed and their frequency. Is the reporting up to date?
   Yes, annual inspections are performed and records are maintained. They are compiled within an end of year annual report.
4. Have there been significant changes in the monitoring requirements, maintenance schedules, or sampling routines since start-up? Are monitoring and maintenance logs maintained?
   None
5. Has there been unexpected monitoring/maintenance difficulties or increased costs at the sites since start-up? If so, please give details.
   There have been power shutdowns due to storms. An air compressor needed to be replaced and general brush removal has been performed to ensure access to site wells.
6. Are access restrictions (fences and locked gates) maintained and in good condition? Has there been evidence of trespass and/or vandalism at the site? If so, please describe.
   Access restrictions to the system enclosure are maintained and any evidence of trespass or vandalism would be reported to security.
7. Have there been opportunities to optimize monitoring, sampling, or maintenance efforts? If so, please describe the changes and the resultant cost savings and/or improved efficiency.
   There have been none suggested as of yet. Suggestions are compiled in the last quarterly monitoring report.

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INTERVIEW RECORD

Site Name: *Phoenix Military Reservation*		**EPA ID No.:** *Not applicable*	
Subject: *First Five-Year Review of Remedial Action Conducted at the Former Nike Missile Battery Fire Control Area (PMR-001), Phoenix Military Reservation*		**Time:** *0800*	**Date:** *25NOV2015*
Type: ☒ Telephone ☐ Visit ☐ Other **Location of Visit:** *Not applicable*		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** *Project Engineer*	**Organization:** *US Army Corps of Engineers, Buffalo District*

Individual Contacted:

Name: [redacted]	**Title:** *Project Manager*	**Organization:** *Maryland Department of the Environment*
Telephone No: [redacted] **E-Mail Address:** [redacted]	**Street Address:** *1800 Washington Blvd, Suite 625* **City, State, Zip:** *Baltimore, MD 21230-1719*	

Summary Of Conversation

1. What are your role and responsibilities for this project?
   I function as the project manager for the Phoenix Military Reservation for the Maryland Department of the Environment. This involves review of all CERCLA documents and monitoring reports generated for the site.

2. What is your overall impression of the project (general sentiment)?
   To date the remedy is functioning as intended as indicated by the data collected so far.

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 purpose and results.
   We have reviewed the quarterly monitoring reports that have been generated for the site.

4. Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details.
   There have been no community concerns regarding the site.

5. 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 and results of the responses.
   There have been no complaints, violations, or other incidents related to the site.

6. Do you feel well informed about the site's activities and progress?
   Yes, we have been informed about the site's activities and progress.

INTERVIEW RECORD

Site Name:	*Phoenix Military Reservation*	**EPA ID No.:** *Not applicable*	
Subject:	*First Five-Year Review of Remedial Action Conducted at the Former Nike Missile Battery Fire Control Area (PMR-001), Phoenix Military Reservation*	**Time:** *0800*	**Date:** *25NOV2015*

7. Is the remedy functioning as intended?
   The remedy appears to be functioning as intended according to the data that has been generated by the system to date.

8. Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives used at the site at the time of the remedy still valid?
   Yes, assumptions cleanup levels, and remedial action objectives used at the time of the remedy are still valid.

9. Has any other information come to light that could call into question the protectiveness of the remedy?
   No information has come to light at this time that could call into question the protectiveness of the remedy.

10. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
    No comments or recommendations. The site appears to be operating smoothly.

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:** 3/26/2014
Type: ☐ Telephone ☐ Visit ☒ Other (mailed)		☐ Incoming ☐ Outgoing	
Location of Visit: Not applicable			

Contact Made By:

Name: [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name: [redacted]	
Telephone No: [redacted] **Fax No:** **E-Mail Address:** [redacted]	**Street Address:** [redacted] **City, State, Zip:** Phoenix, MD 21131

Interview Questions:

1. Are you the property owner? If no, what is your relationship?
   yes

2. Is your home supplied by a community water system?
   no

3. Is a private water well located on your property? If no, please skip to question 4 (next page).
   yes

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?
   consumption, bathing, gardening, laundry, cleaning, cooking

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.
   not lately - tested last time the government/Arcadis ran the water analysis

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?
   We have a neutralizer and water softner system — neutralizes pH and softens the water

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?

   No

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:
   What is the status of the cleanup and how does this affect my water, Are you going to test our water for contamination.

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?

   The community has always been concerned regarding water quality/contamination as well as plans for the site. These concerns remain

7. 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 but we see, occasionally, vehicles on site with the gate open but have received NO notice of who is working on the property.

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

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

   1) keep the neighbors/community informed regarding the site status and cleanup
   2) Consider conducting a town hall mtg with the community
   3) notify us when someone is going to work on site.
   4) test our water/wells for contamination.

Hello,

My handwriting would probably not suit your needs, so I am typing this.

Time: 10:55 am Date: 2016-02-10

[redacted]

Phoenix, MD 21131

1) Yes, I am.
2) No.
3) Yes.
   a) For normal household uses, drinking, bathing, watering . . .
   b) It has been tested. The last test results I have are from 2011 and showed chloroform at safe levels.
   c) There is a water softener, and neutralizers that, I believe, make the water less acidic.
4) I have received information.
5) Answer #3, I know about it but am not concerned.
6) I have heard concerns expressed as to the eventual disposition of the property, and what effect that might have on local property values.
7) No.
8) #2, somewhat informed.

to a year

For #9, I'll express my continuing complaint. The two wells at "Deep Well Locations" FCA-23 and FCA-24 are on my property. These wells were installed sometime around 2006. I was told at that time that they would be there for 6 months. It is now pushing 10 years later, and the wells are still there. I have not heard a word about when these wells will be removed, if ever. I feel that I was at best misled as to how long those wells would be there.

I'm happy to help out and be a good guy, but this is not an appropriate way to treat someone who is trying to be nice.

I have no idea when samples were last taken from those wells. I don't know to what extent they are even still necessary. I _do_ know that if I want to sell this property I am going to have to explain why those wells are there, and I don't want to have to do that. I would like those wells removed from my property at the earliest possible time consistent with the cleanup operation. Since my impression is that it is in its final phase I am not clear as to why they are still necessary now. If they are, I would like you folks to take some last readings and get them removed as soon as you can.

[redacted]

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**
Type: ☐ Telephone ☐ Visit ☒ Other (mailed) **Location of Visit:** Not applicable		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name:	
Telephone No: **Fax No:** **E-Mail Address:**	**Street Address:** **City, State, Zip:**

Interview Questions:

1. Are you the property owner? If no, what is your relationship?

2. Is your home supplied by a community water system?

3. Is a private water well located on your property? If no, please skip to question 4 (next page).

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?

_____
_____
_____

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:

_____
_____
_____

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?

_____
_____
_____

7. 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.

_____
_____
_____

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

_____
_____
_____

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

_____
_____
_____

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INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:** Feb. 13, 2014
Type: ☐ Telephone ☐ Visit ☒ Other (mailed)		☐ Incoming ☐ Outgoing	
Location of Visit: Not applicable			

Contact Made By:

Name [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name: [redacted]	
Telephone No: [redacted] **Fax No:** **E-Mail Address:**	**Street Address:** [redacted] **City, State, Zip:** Phoenix, Md 21131

Interview Questions:

1. Are you the property owner? If no, what is your relationship?
   Yes

2. Is your home supplied by a community water system?
   No

3. Is a private water well located on your property? If no, please skip to question 4 (next page).
   Yes

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?
   all of the above stated
   consumption, bathing, cleaning, ect.

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.
   No

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?
   NO

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:** Feb. 13, 2016

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?

   NO

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?

   NO

7. 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

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

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

   update/inform community more often

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**
Type: ☐ Telephone ☐ Visit ☒ Other (mailed) **Location of Visit:** Not applicable		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name: [redacted]	
Telephone No: [redacted] **Fax No:** **E-Mail Address** [redacted]	**Street Address:** [redacted] **City, State, Zip:** PHOENIX MD 21131

Interview Questions:

1. Are you the property owner? If no, what is your relationship?
   YES

2. Is your home supplied by a community water system?
   NO

3. Is a private water well located on your property? If no, please skip to question 4 (next page).
   YES

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?
   ALL THE ABOVE + TOPPING OFF POOL

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.
   NO - NOT FOR 2 YEARS - EXON TESTED BECAUSE OF JACKSONVILLE GASOLINE LEAK

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?
   YES - ?

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?

   NO

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?

   NO

7. 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

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

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

   THE ARMY SENT OUT A LETTER REQUESTING VOLUNTEERS FOR A PANEL - I RESPONDED BUT DIDN'T HEAR ANYTHING TILL THEY SENT OUT A SECOND REQUEST FOR INTERESTED PARTIES. I DID NOT RERESPOND SINCE I HAD ALREADY SENT IN MY RESPONSE THAT I WAS INTERESTED. THATS THE LAST I HEARD

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**
Type: ☐ Telephone ☐ Visit ☒ Other (mailed) **Location of Visit:** Not applicable		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name: [redacted]	
Telephone No: [redacted] **Fax No:** **E-Mail Address:** [redacted]	**Street Address:** [redacted] **City, State, Zip:** Phoenix, MD 21131

Interview Questions:

1. Are you the property owner? If no, what is your relationship?
   Yes

2. Is your home supplied by a community water system?
   Yes

3. Is a private water well located on your property? If no, please skip to question 4 (next page).
   Yes but capped off when community water system installed

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?

   Yes

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?

   Concerns about impact on surrounding property

7. 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.

   none recently

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

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

   Would like better follow up information.

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**
Type: ☐ Telephone ☐ Visit ☒ Other (mailed) **Location of Visit:** Not applicable		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name [redacted]	
Telephone No: [redacted] **Fax No:** **E-Mail Address:** [redacted]	**Street Address** [redacted] **City, State, Zip:** Phoenix MD 21131

Interview Questions:

1. Are you the property owner? If no, what is your relationship?
   yes

2. Is your home supplied by a community water system?
   No

3. Is a private water well located on your property? If no, please skip to question 4 (next page).
   yes

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?
   consumption, bathing, garden, pool filling

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.
   By MDE on or about 2013. Results were neg. for TCE

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?
   None other than acid neutralizer/softener

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?

   yes

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:

   I attended local meeting and asked to be on local committee

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?

   NO

7. 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

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

   where can we find recent test data from monitoring wells on the site?

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

   so far so good. Interested in updates on the site's progress.

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**
Type: ☐ Telephone ☐ Visit ☒ Other (mailed) **Location of Visit:** Not applicable		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name: [redacted]	
Telephone No: [redacted] **Fax No:** **E-Mail Address:** [redacted]	**Street Address:** [redacted] **City, State, Zip:** Phoenix MD 21131

Interview Questions:

1. Are you the property owner? If no, what is your relationship?

   Yes

2. Is your home supplied by a community water system?

   NO

3. Is a private water well located on your property? If no, please skip to question 4 (next page).

   yes

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?

   All of the above

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.

   11/3/15 Enviro-Chem Labs: High levels of TDS (sodium & chloride)

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?

   Yes- neutralizer, softener, UV light, Reverse Osmosis (for drinking water)

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?

   No

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?

   No

7. 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

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

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

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**
Type: ☐ Telephone ☐ Visit ☒ Other (mailed) **Location of Visit:** Not applicable		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Nam [redacted]	
Telephone No: [redacted] **Fax No:** **E-Mail Address** [redacted]	**Street Address:** [redacted] **City, State, Zip:** PHOENIX MD 21131

Interview Questions:

1. Are you the property owner? If no, what is your relationship?

   YES

2. Is your home supplied by a community water system?

   NO

3. Is a private water well located on your property? If no, please skip to question 4 (next page).

   YES

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?

   HOUSEHOLD ALL ABOVE

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.

   1+ YEARS AGO - IT WAS CLEAR

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?

   WATER SOFTENER + SILT FILTER

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?

   NO

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?

   NO

7. 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

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

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

   LIKE TO BE ~~INFORMED~~ INFORMED

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:** 7 pm	**Date:** 2/10/16
Type: ☐ Telephone ☐ Visit ☒ Other (mailed) **Location of Visit:** Not applicable		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name: [redacted]	
Telephone No: [redacted] **Fax No:** — **E-Mail Address** [redacted]	**Street Address:** [redacted] **City, State, Zip:** PHOENIX, MD 21131

Interview Questions:

1. Are you the property owner? If no, what is your relationship?
   YES

2. Is your home supplied by a community water system?
   YES

3. Is a private water well located on your property? If no, please skip to question 4 (next page).
   YES

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?
   NOT USED. WELL ABANDONED

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.
   NOT RECENTLY TESTED

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?
   NO TREATMENT

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?

   NO

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?

   THERE IS CURIOUSITY ABOUT WHAT IS HAPPENING NOW & RECENTLY. WHAT ARE PLANS? WHAT ARE ENVIRONMENTAL AND OTHER SAFETY CONCERNS

7. 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

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

   NO INFORMATION WHATSOEVER SINCE WE MOVED IN JUNE, 2013

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

   USE THIS SPACE. DEVELOP OR MAKE PUBLIC USE SPACE. REMOVE CHAIN LINK AND IMPROVE SURROUNDING PROPERTIES.

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**
Type: ☐ Telephone ☐ Visit ☒ Other (mailed) **Location of Visit:** Not applicable		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name: [redacted]	
Telephone No: [redacted] **Fax No:** **E-Mail Address:** [redacted]	**Street Address:** [redacted] **City, State, Zip:** [redacted]

Interview Questions:

1. Are you the property owner? If no, what is your relationship?
   I own 14002 Sunnybrook Rd

2. Is your home supplied by a community water system?
   Yes, our well was contaminated and now Army Corp of engineers supplies water

3. Is a private water well located on your property? If no, please skip to question 4 (next page).
   yes

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?
      n/a

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.
      No

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?
      No

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?
   I went to the remediation meeting in the Fall of 2015

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:
   I live across the street and am concerned and following progress

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?
   yes. I post what I know on social media (neighbor) and many people are interested

7. 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

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:
   I think more of an effort to reach out to community should be made

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

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**
Type: ☐ Telephone ☐ Visit ☒ Other (mailed) **Location of Visit:** Not applicable		☐ Incoming ☐ Outgoing	

Contact Made By:

Name [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name: [redacted]	
Telephone No: [redacted] **Fax No:** **E-Mail Address:**	**Street Address:** [redacted] **City, State, Zip:** PHOENIX, MD. 21131

Interview Questions:

1. Are you the property owner? If no, what is your relationship?

   YES – FOR 53 YRS.

2. Is your home supplied by a community water system?

   YES

3. Is a private water well located on your property? If no, please skip to question 4 (next page).

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?

   WELL ON PROPERTY FILLED IN BY U.S. ARMY COE BECAUSE OF TCE

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.

   –

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?

   –

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?

   YES

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?

   FUTURE PLANS

7. 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

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

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

   THE MAP ATTACHED TO THIS SHOWS WELL LOCATION IN BACK OF HOUSE. MY WELL IS LOCATED IN THE FRONT CORNER. (14004)

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**
Type: ☐ Telephone ☐ Visit ☒ Other (mailed) **Location of Visit:** Not applicable		☐ Incoming ☐ Outgoing	

Contact Made By:

Name: [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name: [redacted]	
Telephone No: [redacted] **Fax No:** **E-Mail Address:** [redacted]	**Street Address:** [redacted] **City, State, Zip:** PHOENIX MD 21131

Interview Questions:

1. Are you the property owner? If no, what is your relationship?
   yes

2. Is your home supplied by a community water system?
   yes

3. Is a private water well located on your property? If no, please skip to question 4 (next page).
   NO

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)?

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known.

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove?

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?

   NO

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?

   yes

7. 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.

   Enviro/ Health Concerns
   Property Values
   Short Term + Long Term PLANS for Development of Site

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

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

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**
Type: ☐ Telephone ☐ Visit ☒ Other (mailed) **Location of Visit:** Not applicable		☐ Incoming ☐ Outgoing	

Contact Made By:

Name [redacted]	**Title:** Project Engineer	**Organization:** US Army Corps of Engineers, Buffalo District

Please provide your contact information:

Name: [redacted]	
Telephone No: [redacted] **Fax No:** **E-Mail Address:** [redacted]	**Street Address:** [redacted] **City, State, Zip:** PHOENIX, MD 21131

Interview Questions:

1. Are you the property owner? If no, what is your relationship?
   YES

2. Is your home supplied by a community water system?
   NO

3. Is a private water well located on your property? If no, please skip to question 4 (next page).
   YES

   a. If a well is present on the property, how is the well water used (i.e. consumption, bathing, lawn watering, gardening, etc.)? ALL USES - DRINKING, BATHING, etc.

   b. If a well is present on the property, has water from the well been tested recently? If so, please provide the date the water was tested, what it was tested for, who tested the water, and results of the testing, if known. NOT TESTED RECENTLY

   c. If a well is present on the property, is there a treatment system on the well? If so, what does the treatment system remove? NO TREATMENT SYSTEM ON WELL

INTERVIEW RECORD

Site Name:	Phoenix Military Reservation Fire Control Area	**EPA ID No.:** Not applicable	
Subject:	Community Interviews for the Five-Year Review	**Time:**	**Date:**

4. Have you received any information about environmental activities performed at the Phoenix Military Reservation Fire Control Area?
   Nothing Recently

5. What is your overall impression of the project? (circle all that apply)
   1. I don't know about it
   2. I know about it but it doesn't impact me
   3. I know about it but am not concerned
   4. I want to know more about it
   5. I am concerned about what is going on there

   Additional comments:
   FROM what I was Told years Ago MY water was safe To DRINK. I ASSUME that IF CONDITIONS changed Then the ARMY would HAVE Informed me.

6. Are you aware of any community concerns regarding the site or the Army's operation and administration of cleanup activities? If so, please give details?
   NO - NOT ANY concerns Recently that I KNOW ABout

7. 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

8. Do you feel well informed about the site's activities and progress? (circle one)
   1. Not informed
   2. Somewhat informed
   3. Informed

   Additional comments:

9. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?
   HAVE A website that Highlight ANY NEW NEGATIVE Info on the groundwater.

ATTACHMENT 7

ARAR Evaluation

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ARAR EVALUATION

BACKGROUND

Section 121 (d)(2)(A) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) specifies that remedial actions must meet federal standards, requirements, criteria, or limitations that are determined to be legally applicable or relevant and appropriate requirements (ARARs). ARARs are those standards, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site. To-Be-Considered criteria (TBCs) are non-promulgated advisories and guidance that are not legally binding, but should be considered in determining the necessary level of cleanup for protection of human health or the environment.

The final remedy selected for a site is designed to meet all chemical-specific, action-specific, and location-specific ARARs and consider all TBCs. Chemical-specific ARARs are health- or risk-based numerical values for individually listed contaminants in specific media. Action-specific ARARs are technology- or activity-based limitations or requirements that are selected to accomplish a remedy. Location-specific ARARs are restrictions placed on the concentration of chemicals or conduct of operations based on the location of a site.

OBJECTIVE

This evaluation is prepared to address Question B of the statement of service, "Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?"

EVALUATION

Former Nike Missile Battery Fire Control Area (PMR-001)

The Final Decision Document for the Phoenix Military Reservation, Jacksonville, Maryland [ARCADIS 2013] addressed potential risks to future hypothetical site users posed by groundwater contamination. The selected remedy for the Former Nike Missile Battery Fire Control Area (PMR-001) consisted of the following components:

- Directed groundwater recirculation
- Monitored natural attenuation (MNA)
- Land use controls (LUCs)

The constituents of concern (COCs) in groundwater at the site were identified in Section 2.8 of the Decision Document (DD) (ARCADIS 2013).

The only chemical-specific ARAR (below), listed in Table 1-1 of the DD, was used to develop Site Cleanup Levels (SCLs) for groundwater COCs at the site.

> *Safe Drinking Water Act National Primary Drinking Water Regulations (40 CFR 141.61) - Maximum Contaminant Levels (MCLs) for the following volatile organic compounds (VOCs):*
>
> - *Trichloroethene (TCE)*
> - *cis-1,2 Dichloroethene (cis-1,2 DCE)*
> - *Vinyl chloride (VC)*

SCLs for groundwater COCs were identified in Section 2.8 of the DD to protect a future hypothetical resident at the site. As summarized in Table A.7-1, there have been no changes to these MCL-based groundwater SCLs since the DD.

Action-specific ARARs, identified in Table 1-2 of the DD, related to general remediation activities, underground injection, and well construction. Table 1-2 also identified Maryland regulation (COMAR 26.17.06) as an action-specific ARAR for the site, which regulates the appropriation and use of surface water or groundwater (e.g. groundwater extraction). However, as stated in COMAR 26.17.06.03, this regulation does not require permits for agricultural or residential use. Therefore, the protectiveness of the remedy relies on LUCs, and not on these action-specific ARARs. There were no location-specific ARARs identified in the DD.

Since the remedy is in place at the Former Nike Missile Battery Fire Control Area (PMR-001), there are no action-specific ARARs that still must be met at this time to ensure the protectiveness of the remedy. There are no new standards affecting the protectiveness of the remedy. LUCs are required to ensure the protectiveness of the remedy.

CONCLUSIONS

There are no newly promulgated or modified requirements of federal and state environmental laws that would change the protectiveness of the groundwater remedy implemented at the Former Nike Missile Battery Fire Control Area (PMR-001) at the Phoenix Military Reservation.

References

ARCADIS 2013. *The Final Decision Document for the Phoenix Military Reservation, Jacksonville, Maryland*, September.

Table A7-1 Summary of ARAR-Based Cleanup Levels for the Phoenix Military Reservation

Source Area	Medium	COC	SCL [a]	Units	ARAR Basis [b]	Current MCL	Cleanup Goal Change?
Former Nike Missile Battery Fire Control Area (PMR-001)	Groundwater	Trichloroethene	5	µg/L	40 CFR 141.61(a)(5)	5	No
		cis-1,2-Dichloroethene	70	µg/L	40 CFR 141.61(a)(9)	70	No
		Vinyl chloride	2	µg/L	40 CFR 141.61(a)(1)	2	No

Notes:

a Final Decision Document for the Phoenix Military Reservation, Jacksonville, Maryland (ARCADIS 2013)

b National Drinking Water Regulations [40 CFR 141.61] (as of October 9, 2015)

ARAR applicable or relevant and appropriate requirement

COC constituent of concern

MCL maximum contaminant level

SCL site cleanup level

µg/L micrograms per liter

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ATTACHMENT 8

Risk Assessment and Toxicology Evaluation

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Risk Assessment and Toxicology Evaluation

This evaluation is prepared to address Question B of the statement of service, "Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of the remedy selection still valid?"

HUMAN HEALTH RISK ASSESSMENT

Remedial action objectives were developed in the 2013 Decision Document in order to protect human health and the environment. These goals are to:

- Prevent human exposure to groundwater that would cause unacceptable risk over the duration of the response action
- Achieve MCLs for the identified COCs in groundwater in a reasonable timeframe thereby restoring groundwater to its beneficial use

The remedial action is designed to meet the first and second RAOs by preventing ingestion of groundwater that contains site-related contamination (trichloroethene [TCE] as the main constituent of concern) above drinking water standards (i.e. maximum contaminant levels [MCLs]). Since the groundwater cleanup goals are based on applicable or relevant and appropriate requirements, no changes in toxicity values will be evaluated as part of this risk assessment and toxicity review. This portion of the review will consider changes in exposure and risk assessment methodology in the last five years.

Since TCE can also pose a vapor intrusion concerns in addition to its potential risk via ingestion of groundwater, site documents were reviewed to determine whether or not the vapor intrusion pathway was adequately considered. In the initial hazard identification step of the baseline risk assessment that was performed as part of the 2011 Remedial Investigation Report (Appendix E of Arcadis 2012), the potential for vapor intrusion of volatile constituents from groundwater into indoor air in residential dwellings was assessed. The USEPA's Region 3 Interim Final Vapor Intrusion Framework was followed at this site (USEPA 2009). "This guidance states that if a site has groundwater contamination where one or more sufficiently volatile chemicals exceed the MCL and occupied buildings are located above or within 100 feet laterally from the surface footprint of the contaminant plume, the potential for migration to indoor air should be considered." The RI concluded that, "No concentration of TCE was detected in any groundwater sample collected from monitoring wells within 100 feet of a current residence located either to the north or south of the Fire Control Area property. Furthermore, no site-related compound has been detected in any water sample collected from any of the private residential wells. Therefore, in accordance with USEPA Region 3 guidance (2009), no COPC [constituent of potential concern] is identified for the indoor air exposure scenario." In addition, during the public hearing to present the Proposed Plan, one community member asked if the community was breathing TCE. The response indicated, "The deep groundwater is where the contamination is. The shallow groundwater levels have declined below the drinking water standard. And, yes a volatile organic compound will dissipate in the air, but at this site it is not an issue as the contamination is deep and there is clean water above it. So there would be no vapor issue at this site." It should also be noted that residential wells were sampled during the remedial investigation and none of them have detectable levels of TCE.

Since that time, the USEPA has updated its vapor intrusion guidance. In its June 2015 OSWER Technical Guidance for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Source to Indoor Air, the USEPA recommends that "When groundwater is the subsurface vapor source, USEPA generally recommends comparing groundwater concentrations to the VISLs [vapor intrusion screening levels] to estimate the boundaries of the plume, when contaminated groundwater is a subsurface vapor source, for purposes of establishing the boundaries of the vapor intrusion inclusion zone" (USEPA 2015a). To clarify, the USEPA notes that, "Among other possibilities, vapor intrusion impacts observed to occur at distances greater than 100 feet in the absence of a preferential migration route(s) may reflect imprecision in the interpolated edge of a plume, based upon sampling data from sparse monitoring wells, and/or use of screening levels for drinking water, rather than for vapor intrusion (i.e., VISL), to delineate a plume's extent." In fact, the current, generic groundwater VISL for TCE (0.52 micrograms per liter [μg/L]) is lower than its MCL (5 μg/L) (USEPA 2016).. That generic VISL was developed based on an acceptable indoor air concentration for chronic exposure, using an incremental lifetime cancer risk of 1 in a million ($1x10^{-6}$), a target hazard quotient of 0.1, and a groundwater attenuation factor of 0.001 ($1x10^{-3}$), which is appropriate to use except when the groundwater is less than 5 feet below the building foundation. Adjusting the groundwater temperature from the default of 25 degrees Celsius to 15 degrees Celsius (approximate average groundwater temperature at the site), and raising the target cancer risk to the upper end of the acceptable cancer risk range of 1 in ten thousand ($1x10^{-4}$) and a target hazard quotient of 1, results in a VISL for TCE of 8.5 μg/L (Table A.8-1). As this current TCE VISL for site groundwater is greater than the MCL, it can be concluded that the MCL remains protective of the vapor intrusion pathway at this site.

The vapor intrusion pathway was screened out early in the baseline risk assessment. The remedial action focuses on mitigating groundwater contamination in the deep zone, which is the zone from which the nearby residential wells draw their drinking water. The shallow groundwater zone could contribute to a vapor intrusion risk, if concentrations of COCs were above VISL in the shallow zone. The last sampling of the shallow groundwater zone occurred in 2011, and at that time, TCE and vinyl chloride concentrations were all below the MCL, with maximum concentrations on site in wells FCA-2 (TCE concentration of 2.7 μg/L), and FCA-8 (TCE concentration of 2.3 μg/L). The downgradient wells placed in the shallow groundwater zone in the vicinity of the neighboring residences had even lower or non-detectable concentrations of TCE: wells FCA-18 and FCA-20 did not contain detectable concentrations of TCE, but a third shallow down gradient well (FCA-22) had a low detectable concentration of TCE in 2011 (0.3 μg/L). In addition, concentrations of TCE in these shallow groundwater zone have shown a decreasing trend since they were first sampled over 30 years ago (Attachment 10). Therefore it does not appear that shallow groundwater concentrations of TCE will pose an unacceptable risk via the vapor intrusion pathway to the neighboring residents. However, because the shallow groundwater zone is not currently being monitored (no samples have been obtained from this zone since 2011), it is recommended that another round of samples from the existing wells screened in the shallow groundwater zone be obtained to confirm this conclusion, as recent data is lacking.

ENVIRONMENTAL HEALTH (ECOLOGICAL ASSESSMENT)

A screening level ecological risk assessment was conducted at the site to ensure protection of the environment. It was determined that since the contamination was subsurface, below a depth which ecological receptors would encounter, and surface water drainages only result in an intermittent and localized stream which does not represent a significant quality aquatic habitat, that no further action with respect to ecological resources is needed.

Significant Finding

The exposure assumptions, cleanup levels, and remedial action objectives used at the time of the remedy are still valid. Although newer USEPA guidance for assessing the vapor intrusion pathway has been developed since the Decision Document was signed that includes vapor intrusion screening levels that are lower than the MCL for TCE, shallow groundwater containing TCE on site should not pose a vapor intrusion risk to nearby residents. However, it is recommended that another round of samples from the existing wells screened in the shallow groundwater zone be obtained to confirm this conclusion, as recent data from shallow groundwater is lacking.

References

U.S. Environmental Protection Agency (USEPA) 1990. *National Oil and Hazardous Substances Pollution Contingency Plan, Final Rule, FR Vol. 55, No. 46, March 8, 1990*, available from U.S. Government Printing Office, Washington, D.C

USEPA 1997. *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments. Interim Final*. USEPA 540-R-97-006. Solid Waste and Emergency Response. U.S. Environmental Protection Agency, Edison, NJ.

USEPA 1998. *Guidelines for Ecological Risk Assessment*. USEPA/630/R-95/002Fa. U.S. Environmental Protection Agency.

USEPA Region 3 2009. *Vapor Intrusion Framework, Interim Final*. USEPA Region 3 Hazardous Site Cleanup Division.

USEPA June 2015a. *OSWER Technical Guidance for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*. OSWER Publication 9200.2-154.

USEPA 2015b. *Regional Screening Levels (RSL) Summary Table, June 2015* (table last updated); available via USEPA Region web sites, e.g., http://www.epa.gov/reg3hwmd/risk/human/rbconcentration_table/Generic_Tables/index.htm

USEPA 2015c. *Integrated Risk Information System* (IRIS), National Center for Environmental Assessments. http://www.epa.gov/iris/

USEPA January 2016. OSWER Vapor Intrusion Screening Level (VISL) Calculator Version 3.4.6. January 2016. http://www.epa.gov/vaporintrusion

OSWER VAPOR IN RUSION ASSESSMEN
Vapor Intrusion Screening Level (VISL) Calculator Version 3 4 November 2015 RSLs

The primary objective of risk-based screening s to identify sites or bui dings unlikely to pose a health concern through the vapor intrus on pathway. Generally, at propert es where subsurface concentrations of vapor-forming chemicals (e.g., groundwa er or near source soil gas concentrat ons) fa l below screening levels (i.e., VISLs), no further act on or study is warranted, so long as the exposure assumptions match those taken into account by the ca cu ations and the si e fulfi ls the conditions and assumptions of the generic conceptual model underlying the screening evels. In a simi ar fash on, the results of risk-based screening can help the data review team den ify areas, buildings, and/or chemicals that can be e iminated from further assessment. The generic conceptual model underlying these screening levels s described in OSWER Publicat on 9200.2-15 (OSWER Technical Gu de for Assessing and M tigating the Vapor Intrusion Pathway From Subsurface Vapor Sources to Indoor Air) (EPA 2015; Sec ion 6.5)

Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Residential	Select residential or commercial scenar o from pull down l st
Target Risk for Carcinogens	TCR	1.00E-0	Enter target r sk for carcinogens
Target Hazard Quot ent for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens
Average Groundwater Temperature (°C)	Tgw	15	Enter average of the stabil zed groundwater temperature to correct Henry s Law Constant for groundwater target concentrations

	CAS	Chemical Name	Does the chemical meet the definition for volatility? (HLC>1E-5 or VP>1) Yes/No	Does chemical have inhalation toxicity data? (IUR and/or RfC) Yes/No	Is Chemical Sufficiently Volatile and oxic to Pose Inhalation Risk Via Vapor Intrusion from Soil Source? Cvp > C a,target? Yes No	Is Chemical Sufficiently Volatile and oxic to Pose Inhalation Risk Via Vapor Intrusion from Groundwater Source? Chc > C a,target? Yes No	arget Indoor Air Conc @ CR = 1E 04 or HQ = 1 M N(Cia,c;Cia,nc) (ug/m^3)	oxicity Basis C N C	arget Sub Slab and Exterior Soil Gas Conc @ CR = 1E 04 or HQ = 1 Csg (ug/m^3)	arget Ground Water Conc @ CR = 1E 04 or HQ = 1 Cgw (ug/L)	Is arget Ground Water Conc < MCL? Cgw<MCL? Yes/No (MCL ug/L)	Pure Phase Vapor Conc @ 25 C Cvp (ug/m^3)	Maximum Groundwater Vapor Conc Chc (ug/m^3)	emperature for Max Groundwater Vapor Conc Tgw or 25 C	Lower Explosive Limit** LEL (% by vol)	IL EL Source	Inhalation Unit Risk UR (ug/m^3)	IUR Source*	Reference Concentration R C (mg/m^3)	RFC Source*	Mutagenic Indicator i	arget Indoor Air Conc for Carcinogens @ CR = 1E 04 Cia,c (ug/m^3)	arget Indoor Air Conc for Non Carcinogens @ HQ = 1 Cia nc (ug/m^3)
x	79-01-6	Trichloroethylene	Yes	Yes	Yes	Yes	2.1E 00	NC	7.0E 01	8.5E 00	No (5)	.88E 08	3.13E 08	15	8	N	see note	I	2 00E-03	I	TCE	8E 01	2.1E 00
x	75-01-	Vinyl Ch oride	Yes	Yes	Yes	Yes	1.7E 01	C	5.6E 02	2.0E 01	No (2)	1.00E 10	7. 8E 09	15	3.6	N	. 0E-06	I	1 00E-01	I	VC	1 7E 01	1.0E 02

Notes:

(1) **Inhalation Pathway Exposure Parameters (RME):**

Exposure Scenario	Units	Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario in cell G10) Symbol	Selected (based on scenario in cell G10) Value
Averaging time for carcinogens	(yrs)	ATc_R	70	ATc_C	70	ATc	70
Averaging time for non-carcinogens	(yrs)	ATnc_R	26	ATnc_C	25	ATnc	26
Exposure duration	(yrs)	ED_R	26	ED_C	25	ED	26
Exposure frequency	(days/yr)	EF_R	350	EF_C	250	EF	350
Exposure time	(hr/day)	ET_R	2	ET_C	8	ET	2

(2) **Generic Attenuation Factors:**

Source Medium of Vapors	Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario in cell G10) Symbol	Selected (based on scenario in cell G10) Value
Groundwater (-)	AFgw_R	0.001	AFgw_C	0.001	AFgw	0.001
Sub-Slab and Exterior Soil Gas (-)	AFss_R	0.03	AFss_C	0.03	AFss	0.03

(3) **Formulas**
Cia, arget = MIN(C a,c; Cia,nc)
Cia,c (ug/m3) = TCR x ATc x (365 days/yr) x (2 hrs/day) / (ED x EF x ET x IUR)
Cia,nc (ug/m3) = THQ x ATnc x (365 days/yr) x (2 hrs/day) x RfC x (1000 ug/mg) / (ED x EF x ET)

( ) **Special Case Chemicals**

Trichloroethylene	Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario in cell G10) Symbol	Selected (based on scenario in cell G10) Value
	mIURTCE_R	1.00E-06	mIURTCE_C	0.00E 00	mIURTCE	1.00E-06
	IURTCE_R	3.10E-06	URTCE_C	.10E-06	IURTCE	3.10E-06

Mutagenic Chemicals

Note: Th s section app ies to trichloroethylene and other mutagenic chemicals, but not to vinyl chloride.

The exposure durations and age-dependent adjustment factors for mutagenic-mode-of-act on are l sted in the tab e below:

Age Cohort	Exposure Duration (years)	Age dependent adjustment factor
0 - 2 years	2	10
2 - 6 years		3
6 - 16 years	10	3
16 - 26 years	10	1
Mutagenic mode of action (MMOA) adjustment factor		72

This factor s used in the equations for mu agenic chemicals.

See the Navigation Guide equation for C a,c for vinyl chloride.

Notation:
NVT = Not suff ciently volatile and/or toxic to pose inha ation risk in selected exposure scenario for the ind cated medium
C = Carcinogenic
NC = Non-carcinogenic
I = IRIS: EPA Integrated R sk Informat on Sys em (R S). Available online at: http://www.epa.gov/ir s/subst/index.html
P = PPRTV: EPA Provisional Peer Rev ewed Tox city Values (PPRTVs). Avai ab e online at: http://hhpprtv.ornl.gov/pprtv shtml
A = Agency for Toxic Subs ances and D sease Registry (ATSDR) Minimum Risk Levels (MRLs). Available online at: tt :// a sd cdc.go / ls/l de t l
CA = Cali ornia Environmen al Protection Agency/Of ice of Environmental Hea th Hazard Assessment assessments. Available on ine at: http://www.oehha.ca.gov/risk/ChemicalDB/index.asp
H = HEAST: EPA Superfund Hea th Ef ects Assessment Summary Tables (HEAST) da abase. Ava lab e online at: h tp://epa-heast.ornl.gov/heast.shtml
S = See RSL User Guide, Sec ion 5
X = PPRTV Appendix
E = The Engineering Too Box. Available online at h tp://www.engineeringtoolbox.com/exp osive-concentration-limits-d_ 23.html
N = Centers for Disease Control and Prevent on (CDC) National Institute for Occupational Safety and Health (N OSH). Pocket Guide to Chem cal Hazards. Avai ab e online at: http://www.cdc.gov/niosh/npg/default.html http://www.cdc.gov/niosh/npg/default.html
M = Chem cal-specif c MSDS
Mut = Chemical acts according o the mutagenic-mode-of-action, special exposure parameters apply (see footnote ( ) above).
VC = Special exposure equation for vinyl chloride app ies (see Nav gat on Gu de or equat on).
TCE = Special mutagenic and non-mutagenic IURs for tr chloroethylene apply (see footnote ( ) above).
Yel ow highlighting indicates s te-specific parameters that may be edited by the user.
Blue highlighting indicates exposure ac ors that are based on R sk Assessment Guidance for Superfund (RAGS) or EPA vapor intrusion guidance, which genera ly should not be changed.
**Lower explosive im t is the minimum concentration of the compound in air (% by volume) that is needed for the gas o ignite and explode.

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ATTACHMENT 9

Public Notice

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PUBLIC NOTICE

For Immediate Release:

PHOENIX MILITARY RESERVATION, BALTIMORE COUNTY, MARYLAND
THE US ARMY BEGINS FIVE-YEAR REVIEW

The US Army has begun the first five-year review of an environmental remedy undertaken at the Phoenix Military Reservation, Baltimore County, Maryland. The focus of this non-National Priorities List five-year review will be a former Nike Missile Fire Control Area (Site PMR-001).

Trichloroethene is present in groundwater beneath the site at concentrations that exceed the US Environmental Protection Agency maximum contaminant level of 5 micrograms per liter. The environmental remedy that was implemented is directed groundwater recirculation, monitored natural attenuation, and land-use controls. The five-year review will be conducted to determine whether the remedy remains protective of human health and the environment and functions as intended based on the decision document. The five-year review will also assess factors to determine if the remedy will continue to be protective in the future.

If you have any concerns about this site, please contact the Fort Meade/Phoenix Military Reservation Public Affairs Office (301) 677-1361. You may also use our online inquiry form by going to the Fort Meade website at www.ftmeade.army.mil and clicking on Press Center and Contact Us. The report is scheduled for completion by September 2016. When completed, a copy of the final report will be available at the information repositories identified below.

Information Repositories:

US Army Garrison Fort George G. Meade
Directorate of Public Works – Environmental Division
Building 2460 85th Medical Battalion Avenue
Fort Meade, Maryland 20755-7068

Contact Information:

US Army Garrison Fort George G. Meade
Public Affairs Office
Fort Meade, Maryland 20755-7068
(301) 677-1361

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Fort Meade, Maryland 20755-7068

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Cockeysville, Maryland 21030

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ATTACHMENT 10

Groundwater Monitoring Data

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Monitoring, Injection and Extraction Well Details

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Table 11
Monitoring Well Construction Details
Phoenix Military Reservation - Fire Control Area
Jacksonville, Maryland

Monitoring Well ID	Well Type	Installation Date	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Top of Screen (ft msl)	Bottom of screen (ft msl)	Ground Elevation (ft msl)	TOC Elevation (ft msl)	May 2011 Depth to Groundwater (ft BTOC)	May 2011 Groundwater Elevation (ft msl)
FCA-1	Deep	November-82	62	72	498.39	488.39	560.39	563.02	22.43	540.59
FCA-2	Shallow	October-82	19	34	543.12	528.12	562.12	564.63	26.62	538.01
FCA-3	Deep	October-82 / May-06	70	80	490.60	480.60	560.60	563.19	22.86	540.33
FCA-4	Shallow	October-82	26	41	533.89	518.89	559.89	560.96	21.18	539.78
FCA-5	Deep	October-82	65	75	512.13	502.13	577.13	577.85	34.80	543.05
FCA-6	Shallow	October-82	32	52	545.39	525.39	577.39	580.08	38.80	541.28
FCA-7	Deep	October-82 / May-06	84	94	492.22	482.22	576.22	578.54	34.76	543.78
FCA-8	Shallow	October-82 / May-06	32	52	544.08	524.08	576.08	578.29	30.57	547.72
FCA-9	Deep	November-82	71	81	480.58	470.58	551.58	554.22	25.73	528.49
FCA-10	Shallow	November-82	22	37	529.78	514.78	551.78	554.21	26.20	528.01
FCA-12	Shallow	October-82	36	46	538.33	528.33	574.33	576.78	26.68	550.10
FCA-13	Deep	May-06	60	80	468.01	448.01	528.01	530.58	44.47	486.11
FCA-15	Deep	May-06	22	32	365.86	355.86	387.86	391.00	6.35	384.65
FCA-16	Shallow	May-06	4	14	384.35	374.35	388.35	391.56	6.20	385.36
FCA-17	Deep	May-06	77	102	438.85	413.85	515.85	515.52	24.21	491.31
FCA-18	Shallow	May-06	22	42	490.76	470.76	512.76	512.70	23.20	489.50
FCA-19	Deep	May-06	85	105	428.07	408.07	513.07	513.08	19.61	493.47
FCA-20	Shallow	May-06	20	35	494.33	479.33	514.33	514.46	23.28	491.18
FCA-21	Deep	May-06	60	85	417.27	392.27	477.27	477.30	10.17	467.13
FCA-22	Shallow	May-06	4	14	472.43	462.43	476.43	476.24	4.30	471.94
FCA-23	Shallow	May-06	11	26	492.64	477.64	503.64	506.19	16.90	489.29
FCA-24	Shallow	May-06	24	39	487.73	472.73	511.73	514.72	30.17	484.55
FCA-25	Deep	May-11	70	85	505.20	490.20	575.20	578.09	36.70	541.39
BMW-1	Shallow	Unknown / May-06	15	21	526.54	520.54	541.54	544.07	13.33	530.74

Notes
ft bgs - feet below ground surface
ft BTOC - feet below top of casing
ft msl - feet mean sea level

Table 3
Well Construction Details
Phoenix Military Reservation
Jacksonville, Maryland

Well ID	Installation Date	Northing	Easting	Ground Surface Elevation (ft msl)	Measuring Point Elevation	Screened Interval (ft bgs)	Screen Length (ft)	Screen Material Slot Size (inches)	Casing Diameter (inches)	Well Casing Construction	Bottom of Pump (ft bgs)
Extraction Wells											
FCA-01	November-1982	670624.0	1430838.0	560.8	559.92	62 - 72	10	PVC - 0.01	2	Schedule 40 PVC	57
Injection Wells											
IW-1	4/10/2014	670714.8	1430103.1	562.2	560.71	57 - 72	15	Stainless Steel - 0.02	4	Carbon Steel	-
IW-2	4/8/2014	670548.6	1430933.9	571.7	570.11	45 - 60	15	Stainless Steel - 0.02	4	Carbon Steel	-
IW-3	4/10/2014 - 4/14/2014	670485.6	1430748.1	573.5	571.84	Open Borehole[1]	--	--	--	--	-
Monitoring Wells											
FCA-26	4/3/2014	670601.5	1430884.7	565.9	568.44	62.5 - 72.5	10	PVC - 0.02	2	Schedule 40 PVC	-

Notes
[1] - IW-3 was drilled to a total depth of 75 feet below ground surface and constructed with an open borehole.
1. Northing and easting coordinates are relative to the North American Datum (NAD) 83/10, Maryland.
2. Vertical elevations are presented in feet above mean sea level (ft msl) and are relative to the North American Vertical Datum (NAVD) 1988.
ft - feet
ft bgs - feet below ground surface
PVC - polyvinyl chloride

Baseline Groundwater Elevations

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Table 1
Groundwater Elevations
Phoenix Military Reservation
Jacksonville, Maryland

Monitoring Well ID	Installation Date	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Top of Screen (ft msl)	Bottom of screen (ft msl)	Ground Elevation (ft msl)	TOC Elevation (ft msl)	April 2014 Depth to Groundwater (ft bTOC)	April 2014 Groundwater Elevation (ft msl)
FCA-1	November-82	62	72	498.39	488.39	560.39	563.02	21.05	541.97
FCA-3	October-82 / May-06	70	80	490.60	480.60	560.60	563.19	20.56	542.63
FCA-5	October-82	65	75	512.13	502.13	577.13	577.85	34.56	543.29
FCA-7	October-82 / May-06	84	94	492.22	482.22	576.22	578.54	33.31	545.23
FCA-9	November-82	71	81	480.58	470.58	551.58	554.22	18.88	535.34
FCA-25	May-11	70	85	505.20	490.20	575.20	578.09	35.64	542.45
FCA-26	April-14	62.5	72.5	512.70	502.70	575 20	578.09	26.51	551.58

Notes:
ft bgs = feet below ground surface
ft bTOC = feet below top of casing
msl = mean sea level
TOC = Top of Casing

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Groundwater Analytical Data Tables

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Table 4
Phoenix Military Reservation - FCA
Jacksonville, Maryland

Historic Groundwater Quality (TCE and Daughter Products)

FCA-1	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
11/12/82	2000	-	-	-	-	-
10/02/84	1840	-	-	125	125	6 79%
06/07/88	1600	-	-	-	-	-
09/20/88	1100	-	-	-	-	-
01/11/89	770	-	-	-	-	-
04/13/89	650	-	-	-	-	-
12/12/89	920	-	-	-	-	-
03/21/90	1000	-	-	-	-	-
06/12/90	760	-	-	-	-	-
09/25/90	780	-	-	-	-	-
05/07/91	800	<7	100	-	100	12 50%
08/02/91	990	-	-	130	130	13 13%
10/31/91	810	-	-	130	130	16 05%
01/30/92	1100	-	-	190	190	17 27%
05/07/92	1000	<7	200	-	200	20 00%
09/02/93	990	-	-	100	100	10 10%
12/16/93	760	-	-	110	110	14 47%
04/19/94	760	-	-	98	98	12 89%
07/28/94	800	<7	100	-	100	12 50%
10/28/94	780	-	-	120	120	15 38%
05/05/99	510	-	64	-	64	12 55%
06/16/06	153	-	38 2	0 57	38 77	25 34%
08/10/06	295	-	31 9	<2	31 9	10 81%

FCA-2	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
11/13/82	3000	-	-	-	-	-
01/28/83	1000	-	-	-	-	-
09/30/84	1260	-	-	338	338	26 83%
06/07/88	950	-	-	-	-	-
09/20/88	1300	-	-	-	-	-
01/11/89	720	-	-	-	-	-
04/14/89	680	-	-	-	-	-
12/13/89	520	-	-	-	-	-
03/21/90	430	-	-	-	-	-
06/13/90	270	-	-	-	-	-
09/25/90	530	-	-	-	-	-
05/07/91	400	<3	100	-	100	25 00%
07/31/91	550	-	-	180	180	32 73%
10/31/91	1400	-	-	270	270	19 29%
01/30/92	720	-	-	200	200	27 78%
05/06/92	500	<3	200	-	200	40 00%
09/01/93	500	-	-	75	75	15 00%
12/16/93	210	-	-	38	38	18 10%
04/20/94	140	-	-	22	22	15 71%
07/28/94	400	<1	60	-	60	15 00%
10/28/94	220	-	-	36	36	16 36%
05/07/99	55	-	90	-	90	163 64%
06/15/06	3	-	<1	<1	0	0 00%
08/10/06	85 2	-	15 5	<1	15 5	18 19%

FCA-3	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
11/12/82	2000	-	-	-	-	-
12/07/82	3000	-	-	-	-	-
09/28/84	1840	-	-	174	174	9 46%
06/07/88	1500	-	-	-	-	-
09/19/88	750	-	-	-	-	-
01/05/89	700	-	-	-	-	-
04/12/89	530	-	-	-	-	-
12/12/89	580	-	-	-	-	-
03/22/90	450	-	-	-	-	-
06/12/90	360	-	-	-	-	-
09/26/90	570	-	-	-	-	-
05/07/91	500	<3	200	-	200	40 00%
08/02/91	530	-	-	230	230	43 40%
10/31/91	630	-	-	180	180	28 57%
01/30/92	570	-	-	190	190	33 33%
05/07/92	500	<3	200	-	200	40 00%
09/02/93	500	-	-	120	120	24 00%
12/15/93	360	-	-	100	100	27 78%
04/20/94	300	-	-	82	82	27 33%
07/28/94	300	<3	100	-	100	33 33%
10/28/94	340	-	-	110	110	32 35%
05/06/99	120	-	34	-	34	28 33%
06/15/06	48 9	-	7 6	<1	7 6	15 54%
08/10/06	41 2	-	6 8	<1	6 8	16 50%

Table 4
Phoenix Military Reservation - FCA
Jacksonville, Maryland

Historic Groundwater Quality (TCE and Daughter Products)

FCA-4	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
12/07/82	600	-	-	-	-	-
01/28/83	400	-	-	-	-	-
09/24/84	70 8	-	-	7 06	7 06	9 97%
06/07/88	2 87	-	-	-	-	-
09/19/88	53 4	-	-	-	-	-
01/05/89	75	-	-	-	-	-
04/12/89	7 33	-	-	-	-	-
12/11/89	65	-	-	-	-	-
03/19/90	27	-	-	-	-	-
06/11/90	30	-	-	-	-	-
09/26/90	33 7	-	-	-	-	-
07/31/91	55	-	-	23	23	41 82%
10/30/91	51	-	-	24	24	47 06%
01/30/92	120	-	-	44	44	36 67%
05/07/92	130	<0 68	49	-	49	37 69%
05/07/92	100	<0 68	38	-	38	38 00%
09/01/93	27	-	-	3 9	3 9	14 44%
12/15/93	3 89	-	-	0 6	0 6	15 42%
04/19/94	4 7	-	-	1 22	1 22	25 96%
07/28/94	23	<0 68	4 8	-	4 8	20 87%
10/28/94	26 1	-	-	7 68	7 68	29 43%
05/06/99	<5	-	-	<5	0	0 00%
06/15/06	<1	-	<1	<1	0	0 00%
08/10/06	0 54	-	<1	<1	0	0 00%

FCA-5	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
11/12/82	80	-	-	-	-	-
10/02/84	94 1	-	-	4 26	4 26	4 53%
09/21/88	34 6	-	-	-	-	-
01/06/89	26 3	-	-	-	-	-
04/13/89	27 9	-	-	-	-	-
12/13/89	50 1	-	-	-	-	-
03/22/90	34	-	-	-	-	-
06/13/90	36	-	-	-	-	-
09/26/90	48 8	-	-	-	-	-
08/01/91	43	-	-	6 38	6 38	14 84%
10/29/91	32 5	-	-	3 82	3 82	11 75%
01/29/92	35 4	-	-	3 81	3 81	10 76%
05/06/92	32	<0 68	3 6	-	3 6	11 25%
09/01/93	31 1	-	-	3 19	3 19	10 26%
12/16/93	29 1	-	-	3 76	3 76	12 92%
04/20/94	29 5	-	-	4 27	4 27	14 47%
07/28/94	33	<0 68	4 2	-	4 2	12 73%
10/28/94	34 4			4 55	4 55	13 23%
05/05/99	10	-	<5	-	0	0 00%
06/14/06	11 2	-	0 73	<1	0 73	6 52%
08/09/06	7 8	-	2 1	<1	2 1	26 92%

FCA-6	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
12/07/82	50	-	-	-	-	-
01/28/83	30	-	-	-	-	-
01/28/83	40	-	-	-	-	-
09/24/84	9 22	-	-	<1 22	0	0 00%
06/06/88	4 71	-	-	-	-	-
09/20/88	5 34	-	-	-	-	-
01/06/89	4 61	-	-	-	-	-
04/12/89	5 98	-	-	-	-	-
12/11/89	<3 59	-	-	-	-	-
03/21/90	4 78	-	-	-	-	-
06/13/90	4 61	-	-	-	-	-
09/24/90	<3 59	-	-	-	-	-
04/29/91	2 3	<0 68	<0 5	-	0	0 00%
07/31/91	3 84	-	-	<0 43	0	0 00%
10/29/91	<3 59	-	-	<0 43	0	0 00%
01/27/92	<3 59	-	-	<0 43	0	0 00%
05/05/92	9	<0 68	<0 5	-	0	0 00%
08/31/93	<3 59	-	-	<0 43	0	0 00%
12/14/93	<3 59	-	-	<0 43	0	0 00%
04/18/94	<3 59	-	-	<0 43	0	0 00%
07/27/94	2 1	<0 68	<0 5	-	0	0 00%
10/28/94	<3 59	-	-	<0 43	0	0 00%
06/14/06	<1	-	<1	<1	0	0 00%
08/09/06	<1	-	<1	<1	0	0 00%

Table 4
Phoenix Military Reservation - FCA
Jacksonville, Maryland

Historic Groundwater Quality (TCE and Daughter Products)

FCA-7	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
12/07/82	200	-	-	-	-	-
09/30/84	126	-	-	5 13	5 13	4 07%
09/20/88	69	-	-	-	-	-
01/11/89	84	-	-	-	-	-
04/13/89	51 6	-	-	-	-	-
12/12/89	280	-	-	-	-	-
03/22/90	44	-	-	-	-	-
06/13/90	47	-	-	-	-	-
09/26/90	51	-	-	-	-	-
05/07/91	160	<0 68	3 7	-	3 7	2 31%
08/02/91	40	-	-	3 1	3 1	7 75%
10/29/91	64 8	-	-	4 36	4 36	6 73%
01/29/92	57	-	-	5 4	5 4	9 47%
05/06/92	52	<0 68	5 2	-	5 2	10 00%
09/02/93	51	-	-	4 2	4 2	8 24%
12/16/93	38	-	-	4	4	10 53%
04/20/94	43 9	-	-	4 68	4 68	10 66%
07/28/94	48	<0 68	6 4	-	6 4	13 33%
10/28/94	42	-	-	4 6	4 6	10 95%
05/07/99	20	-	<5	-	0	0 00%
06/15/06	14 3	-	2 4	<1	2 4	16 78%
08/09/06	9 1	-	2 1	<1	2 1	23 08%

FCA-8	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
11/13/82	100	-	-	-	-	-
01/28/83	200	-	-	-	-	-
09/30/84	18 8	-	-	<1 22	0	0 00%
06/07/88	47 1	-	-	-	-	-
09/20/88	23	-	-	-	-	-
01/11/89	65 6	-	-	-	-	-
04/12/89	31	-	-	-	-	-
12/13/89	35 6	-	-	-	-	-
03/22/90	49	-	-	-	-	-
06/12/90	15	-	-	-	-	-
09/26/90	11 4	-	-	-	-	-
04/29/91	8 1	<0 68	1 2	-	1 2	14 81%
08/01/91	6 91	-	-	1 13	1 13	16 35%
10/30/91	45 5	-	-	4 18	4 18	9 19%
01/30/92	34	-	-	2 2	2 2	6 47%
05/06/92	5 8	<0 68	0 5		0 5	8 62%
09/01/93	3 5	-	-	1 35	1 35	38 57%
12/16/93	17 2	-	-	3 41	3 41	19 83%
04/19/94	<3 59	-	-	1 4	1 4	0 00%
07/28/94	1 5	<0 68	0 8		0 8	53 33%
10/28/94	15 6	-	-	6 39	6 39	40 96%
05/07/99	8 9	-	<5	-	0	0 00%
06/15/06	1 2	-	<1	<1	0	0 00%
08/09/06	<1	-	<1	<1	0	0 00%

FCA-9	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
11/13/82	20	-	-	-	-	-
09/30/84	59 2	-	-	<1 22	0	0 00%
06/06/88	4 37	-	-	-	-	-
09/19/88	12 8	-	-	-	-	-
01/04/89	8 64	-	-	-	-	-
04/13/89	29 9	-	-	-	-	-
12/12/89	45 5	-	-	-	-	-
12/12/89	52 6	-	-	-	-	-
03/21/90	53	-	-	-	-	-
03/21/90	56	-	-	-	-	-
06/13/90	120	-	-	-	-	-
06/13/90	150	-	-	-	-	-
09/26/90	120	-	-	-	-	-
09/26/90	120	-	-	-	-	-
05/07/91	55	<0 68	4 2	-	4 2	7 64%
08/02/91	120	-	-	3 1	3 1	2 58%
10/30/91	150	-	-	3 8	3 8	2 53%
01/29/92	170	-	-	<4 3	0	0 00%
05/06/92	140	<0 68	5		5	3 57%
09/01/93	<18	-	-	<2 1	0	0 00%
12/15/93	80	-	-	3 02	3 02	3 78%
04/20/94	120	-	-	4 2	4 2	3 50%
07/28/94	120	<0 68	3 6	-	3 6	3 00%
10/28/94	210	-	-	7 19	7 19	3 42%
05/07/99	9 7	-	<5	-	0	0 00%
06/15/06	0 65	-	<1	<1	0	0 00%
08/11/06	<1	-	<1	<1	0	0 00%

Table 4
Phoenix Military Reservation - FCA
Jacksonville, Maryland

Historic Groundwater Quality (TCE and Daughter Products)

FCA-10	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
12/07/82	500	-	-	-	-	-
09/24/84	135	-	-	22 2	22 2	16 44%
06/06/88	59 1	-	-	-	-	-
09/19/88	37	-	-	-	-	-
01/04/89	66	-	-	-	-	-
04/12/89	25 3	-	-	-	-	-
12/11/89	44	-	-	-	-	-
03/19/90	33	-	-	-	-	-
06/11/90	30	-	-	-	-	-
09/25/90	61	-	-	-	-	-
05/01/91	58	<0 68	25	-	25	43 10%
08/01/91	42	-	-	18	18	42 86%
10/28/91	85 7	-	-	21 2	21 2	24 74%
01/30/92	15 1	-	-	5 65	5 65	37 42%
05/05/92	70	<0 68	25	-	25	35 71%
08/31/93	21	-	-	5 6	5 6	26 67%
12/14/93	6 09	-	-	0 93	0 93	15 27%
04/18/94	3 44	-	-	0 99	0 99	28 78%
07/28/94	9 3	<0 68	1 8	-	1 8	19 35%
10/28/94	3 85	-	-	0 94	0 94	24 42%
05/06/99	<5	-	<5	-	0	0 00%
06/15/06	1 5	-	<1	<1	0	0 00%
08/10/06	1 5	-	<1	<1	0	0 00%

FCA-12	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
11/12/82	<2	-	-	-	-	-
09/28/84	<1 14	-	-	<1 22	0	0 00%
06/06/88	<1 1	-	-	-	-	-
09/21/88	<1 1	-	-	-	-	-
01/11/89	<1 1	-	-	-	-	-
04/13/89	<1 1	-	-	-	-	-
12/13/89	<3 59	-	-	-	-	-
03/22/90	<3 59	-	-	-	-	-
06/13/90	<3 59	-	-	-	-	-
09/25/90	<3 59	-	-	-	-	-
04/30/91	<0 5	<0 68	<0 5	-	0	0 00%
07/30/91	<3 59	-	-	<0 43	0	0 00%
10/30/91	<3 59	-	-	<0 43	0	0 00%
01/28/92	<3 59	-	-	<0 43	0	0 00%
05/06/92	<0 5	<0 68	<0 5	-	0	0 00%
08/31/93	<3 59	-	-	<0 43	0	0 00%
12/15/93	<3 59	-	-	<0 43	0	0 00%
04/19/94	<3 59	-	-	<0 43	0	0 00%
07/27/94	<0 5	<0 68	<0 5	-	0	0 00%
10/28/94	<3 59	-	-	<043	0	0 00%
06/15/06	<1	-	<1	<1	0	0 00%
08/07/06	<1	-	<1	<1	0	0 00%

BMW-1	TCE	1,1-DCE	1,2-DCE	T,1,2,-DCE	Total TCE Daughters	Daughter Product %
07/01/82	23	-	-	-	-	-
07/01/82	24	-	-	-	-	-
11/11/82	40	-	-	-	-	-
01/28/83	40	-	-	-	-	-
09/21/84	11 6	-	-	2 03	2 03	17 50%
06/06/88	6 95	-	-	-	-	-
09/19/88	6 28	-	-	-	-	-
01/04/89	7 57	-	-	-	-	-
04/13/89	6 22	-	-	-	-	-
12/12/89	5 77	-	-	-	-	-
03/22/90	4 6	-	-	-	-	-
06/13/90	3 73	-	-	-	-	-
09/25/90	<3 59	-	-	-	-	-
05/06/91	5	-	0 96	-	0 96	19 20%
07/31/91	<3 59	-	-	0 63	0 63	0 00%
10/28/91	<3 59	-	-	0 57	0 57	0 00%
01/28/92	7 97	-	-	2 07	2 07	25 97%
05/05/92	7 6	-	1 7	-	1 7	22 37%
08/31/93	5 23	-	-	0 58	0 58	11 09%
12/14/93	3 82	-	-	0 88	0 88	23 04%
04/20/94	<3 59	-	-	0 58	0 58	0 00%
07/28/94	2 6	-	<0 5	-	0	0 00%
10/28/94	6 22	-	-	1 04	1 04	16 72%
06/16/06	0 3	-	<1	<1	0	0 00%
08/08/06	<1	-	<1	<1	0	0 00%

Notes:
All results in parts per billion (ug/l)
- = Not Detected

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-1	FCA-1	FCA-1	FCA-1	FCA-1
		Sample Date:	6/16/2006	8/10/2006	5/26/2011	4/16/2014	4/16/2014
		Sample Identification:	FCA-1-20060616	FCA-1-20060810	PMR1FCA01(052611)	PMR1-DUP01(041614)	PMR1-FCA01(041614)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	**19000**	**19300**	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	--	< 100 U	--	--
Iron, Total	µg/L	--	< 100 U	**512**	**77 J**	--	--
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	**7650**	**6680**	--	--	--
Manganese, Dissolved	µg/L	--	--	--	**14 J**	--	--
Manganese, Total	µg/L	--	< 15 U	**31**	**29**	--	--
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	**8030**	< 10000 U	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	**15.6**	**10.2**	--	--	--
Acenaphthene	µg/L	--	< 2 U	< 2 U	--	--	--
Acenaphthylene	µg/L	--	< 2 U	< 2 U	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	< 2 U	< 2 U	--	--	--
Carbazole	µg/L	--	< 2 U	< 2 U	--	--	--
Dibenzofuran	µg/L	--	**1.7 J**	**1.6 J**	--	--	--
Fluorene	µg/L	--	**2.2**	**2**	--	--	--
Naphthalene	µg/L	--	**9.3**	**5.5**	--	--	--
Nitrobenzene	µg/L	--	< 2 U	< 2 U	--	--	--
Phenanthrene	µg/L	--	**3**	**2.8**	--	--	--
Phenol	µg/L	--	< 5 U	< 5 U	--	--	--
Total SVOC TICs	µg/L	--	**84.8 J**	**47.6 J**	--	--	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	< 510 U	< 510 U	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,1,1-Trichloroethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,1-Dichloroethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,1-Dichloroethene	µg/L	--	--	--	< 20 U	**0.41 J**	**0.37 J**
1,1-Dichloropropene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,2,3-Trichlorobenzene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,2,3-Trichloropropane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,2,4-Trichlorobenzene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,2,4-Trimethylbenzene	µg/L	--	--	--	< 20 U	**1.2 J**	< 0.50 UJ
1,2-Dibromo-3-chloropropane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,2-Dibromoethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,2-Dichlorobenzene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,2-Dichloroethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,2-Dichloropropane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-1	FCA-1	FCA-1	FCA-1	FCA-1
		Sample Date:	6/16/2006	8/10/2006	5/26/2011	4/16/2014	4/16/2014
		Sample Identification:	FCA-1-20060616	FCA-1-20060810	PMR1FCA01(052611)	PMR1-DUP01(041614)	PMR1-FCA01(041614)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	--	--	< 20 U	**1.3 J**	< 0 50 UJ
1,3-Dichlorobenzene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,3-Dichloropropane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
1,4-Dichlorobenzene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
2,2-Dichloropropane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
2-Butanone (MEK)	µg/L	--	--	--	< 40 U	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
4-Chlorotoluene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
4-Methyl-2-Pentanone	µg/L	--	--	--	< 40 U	< 10 UJ	< 10 UJ
Acetone	µg/L	--	< 10 U	< 20 U	< 80 U	< 10 U	< 10 U
Benzene	µg/L	--	< 1 U	< 2 U	< 20 U	**0.31 J**	**0.27 J**
Bromobenzene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Bromochloromethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Bromodichloromethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Bromoform	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Bromomethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Carbon Disulfide	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Carbon Tetrachloride	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
CFC-11	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
CFC-12	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Chlorobenzene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Chlorodibromomethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Chloroethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Chloroform	µg/L	--	< 1 U	< 2 U	< 20 U	**0.17 J**	< 0 50 UJ
Chloromethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	70	**38.2**	**31.9**	**33**	**30**	**27**
cis-1,3-Dichloropropene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	--	--	< 20 U	**0.38 J**	**0.41 J**
Dibromomethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Dichloromethane	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Ethane	µg/L	--	< 0.1 U	< 0.1 U	--	--	--
Ethene	µg/L	--	< 0.1 U	< 0.1 U	--	--	--
Ethylbenzene	µg/L	--	--	--	< 20 U	**0.23 J**	< 0.50 UJ
Hexachloro-1,3-butadiene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Isopropylbenzene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
m,p-Xylene	µg/L	--	--	--	--	**1.2 J**	< 0 50 UJ
Methane	µg/L	--	< 0.1 U	< 0.1 U	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	--	--	< 40 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
m-Xylene	µg/L	--	--	--	< 20 U	--	--
Naphthalene	µg/L	--	--	--	**3.0 J**	**2.8**	**2.6**
N-Butylbenzene	µg/L	--	--	--	< 20 U	**0.47 J**	**0.39 J**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-1	FCA-1	FCA-1	FCA-1	FCA-1
		Sample Date:	6/16/2006	8/10/2006	5/26/2011	4/16/2014	4/16/2014
		Sample Identification:	FCA-1-20060616	FCA-1-20060810	PMR1FCA01(052611)	PMR1-DUP01(041614)	PMR1-FCA01(041614)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	--	--	< 20 U	**0.10 J**	< 0 50 UJ
o-Xylene	µg/L	--	--	--	**1.3 J**	**1.3**	**1.2**
sec-Butylbenzene	µg/L	--	--	--	**1.4 J**	**1.9**	**1.6**
Styrene (Monomer)	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
tert-Butylbenzene	µg/L	--	--	--	< 20 U	**0.52**	< 0.50 U
Tetrachloroethene	µg/L	--	< 1 U	< 2 U	< 20 U	< 0.50 U	< 0.50 U
Toluene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Total Xylenes	µg/L	--	**0.89 J**	**1.8 J**	**1.3 J**	**2.5 J**	**1.2 J**
trans-1,2-Dichloroethene	µg/L	--	**0.57 J**	< 2 U	< 20 U	**0.36 J**	**0.34 J**
trans-1,3-Dichloropropene	µg/L	--	--	--	< 20 U	< 0.50 U	< 0.50 U
Trichloroethene	µg/L	5	**153**	**295**	**250**	**230**	**220**
Vinyl chloride	µg/L	2	--	--	< 8.0 U	< 0.50 U	< 0.50 U
Total VOC TICs	µg/L	--	**0**	**14 J**	--	--	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	**54000**	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	< 0.34 U	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	< 16000 U	--	--
Alkalinity	µg/L	--	--	--	**63000**	--	--
Chloride	µg/L	--	**12900**	**12800**	**11000**	--	--
Nitrate/Nitrite	µg/L	--	**1900**	**4400**	--	--	--
Nitrate-N	µg/L	--	**1700**	**4300**	< 930 UJ	--	--
Nitrite	µg/L	--	**160**	**91**	**100**	--	--
Sulfate	µg/L	--	**24200**	**26400**	**25000 J**	--	--
Total Dissolved Solids	µg/L	--	**127000**	**129000**	**130000**	--	--
Total Hardness	µg/L	--	**70700**	**71300**	--	--	--
Total Organic Carbon	µg/L	--	< 1000 U	**1900**	< 1300 U	--	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-1	FCA-1	FCA-1	FCA-1	FCA-1
		Sample Date:	9/4/2014	10/15/2014	2/27/2015	5/29/2015	9/1/2015
		Sample Identification:	PMR1FCA-01(090414)	PMR1FCA-1(101514)	PMRI-FCA-01(022715)	PMR1-FCA-1(052915)	DUP01(090115)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	--	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	--	--	< 100 U	--
Iron, Total	µg/L	--	--	--	--	--	--
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	--	--	--	--
Manganese, Dissolved	µg/L	--	--	--	--	--	--
Manganese, Total	µg/L	--	--	--	--	--	--
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	--	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Total SVOC TICs	µg/L	--	--	--	--	--	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,1,1-Trichloroethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,1-Dichloroethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,1-Dichloroethene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,1-Dichloropropene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,2,3-Trichloropropane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,2-Dibromoethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,2-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,2-Dichloroethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-1	FCA-1	FCA-1	FCA-1	FCA-1
		Sample Date:	9/4/2014	10/15/2014	2/27/2015	5/29/2015	9/1/2015
		Sample Identification:	PMR1FCA-01(090414)	PMR1FCA-1(101514)	PMRI-FCA-01(022715)	PMR1-FCA-1(052915)	DUP01(090115)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,3-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,3-Dichloropropane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
1,4-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
2,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
2-Butanone (MEK)	µg/L	--	< 10 U	< 10	< 10 U	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
4-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10	< 10 U	< 10 U	< 10 U
Acetone	µg/L	--	< 10 U	< 10	**8.5 J**	**1.8 J**	< 10 U
Benzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Bromobenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Bromochloromethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Bromodichloromethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Bromoform	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Bromomethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Carbon Disulfide	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Carbon Tetrachloride	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
CFC-11	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
CFC-12	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Chlorobenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Chlorodibromomethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Chloroethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Chloroform	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Chloromethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
cis-1,2-Dichloroethene	µg/L	70	**0.18 J**	**5.6**	**3.8**	**2.1**	**1.6**
cis-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Dibromomethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Dichloromethane	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Ethane	µg/L	--	--	--	--	--	--
Ethene	µg/L	--	--	--	--	--	--
Ethylbenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Hexachloro-1,3-butadiene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Isopropylbenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
m,p-Xylene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Methane	µg/L	--	--	--	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	< 10	< 10 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
m-Xylene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
N-Butylbenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-1	FCA-1	FCA-1	FCA-1	FCA-1
		Sample Date:	9/4/2014	10/15/2014	2/27/2015	5/29/2015	9/1/2015
		Sample Identification:	PMR1FCA-01(090414)	PMR1FCA-1(101514)	PMRI-FCA-01(022715)	PMR1-FCA-1(052915)	DUP01(090115)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
o-Xylene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
sec-Butylbenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Styrene (Monomer)	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
tert-Butylbenzene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Tetrachloroethene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Toluene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Total Xylenes	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
trans-1,2-Dichloroethene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
trans-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Trichloroethene	µg/L	5	**1.6**	**45**	**30**	**17**	**15**
Vinyl chloride	µg/L	2	< 0.50 U	< 0.50	< 0.50 U	< 0.50 U	< 1.0 U
Total VOC TICs	µg/L	--	--	--	--	--	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	--	--	--
Alkalinity	µg/L	--	--	--	--	--	--
Chloride	µg/L	--	--	--	--	--	--
Nitrate/Nitrite	µg/L	--	--	--	--	--	--
Nitrate-N	µg/L	--	--	--	--	**2400 J**	--
Nitrite	µg/L	--	--	--	--	--	--
Sulfate	µg/L	--	--	--	--	**41000 J**	--
Total Dissolved Solids	µg/L	--	--	--	--	--	--
Total Hardness	µg/L	--	--	--	--	--	--
Total Organic Carbon	µg/L	--	--	--	--	< 470 U	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-1	FCA-1	FCA-2	FCA-2	FCA-2	FCA-3
		Sample Date:	9/1/2015	11/25/2015	6/15/2006	8/10/2006	5/26/2011	6/15/2006
		Sample Identification:	PMR1-FCA-01(090115)	PMR1-FCA-01 (112515)	FCA-2-20060615	FCA-2-20060810	PMR1FCA02(052611)	FCA-3-20060615
Chemical	**Units**	**MCL**						
Metals								
Calcium, Total	µg/L	--	--	--	**38600**	**40700**	--	**10500**
Chromium, Total	µg/L	--	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	--	--	--	**140**	--
Iron, Total	µg/L	--	--	--	**102**	**332**	**31000**	< 100 U
Lead, Total	µg/L	--	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	--	**7320**	**7870**	--	**6550**
Manganese, Dissolved	µg/L	--	--	--	--	--	**19**	--
Manganese, Total	µg/L	--	--	--	< 15 U	**22.6**	**200**	**29.5**
Potassium, Total	µg/L	--	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	--	< 5000 U	< 10000 U	--	**8750**
Zinc, Total	µg/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds								
2-Methylnaphthalene	µg/L	--	--	--	< 11 U	< 2 U	--	**3.7**
Acenaphthene	µg/L	--	--	--	< 11 U	< 2 U	--	< 2 U
Acenaphthylene	µg/L	--	--	--	< 11 U	< 2 U	--	< 2 U
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	< 11 U	< 2 U	--	< 2 U
Carbazole	µg/L	--	--	--	< 11 U	< 2 U	--	< 2 U
Dibenzofuran	µg/L	--	--	--	< 26 U	< 5 U	--	**0.84 J**
Fluorene	µg/L	--	--	--	< 11 U	< 2 U	--	**1.1 J**
Naphthalene	µg/L	--	--	--	< 11 U	< 2 U	--	**2.1**
Nitrobenzene	µg/L	--	--	--	**6.8 J**	< 2 U	--	< 2 U
Phenanthrene	µg/L	--	--	--	< 11 U	< 2 U	--	**1.5 J**
Phenol	µg/L	--	--	--	< 26 U	< 5 U	--	< 5 U
Total SVOC TICs	µg/L	--	--	--	**0**	**0**	--	**61.2 J**
Total Petroleum Hydrocarbon (TPH)								
TPH as Pentane	µg/L	--	--	--	< 510 U	< 510 U	--	< 510 U
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,1,1-Trichloroethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,1,2,2-Tetrachloroethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,1-Dichloroethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,1-Dichloroethene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,1-Dichloropropene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,2,3-Trichlorobenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,2,3-Trichloropropane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,2,4-Trichlorobenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,2,4-Trimethylbenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,2-Dibromo-3-chloropropane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,2-Dibromoethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,2-Dichlorobenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,2-Dichloroethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,2-Dichloropropane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-1	FCA-1	FCA-2	FCA-2	FCA-2	FCA-3
		Sample Date:	9/1/2015	11/25/2015	6/15/2006	8/10/2006	5/26/2011	6/15/2006
		Sample Identification:	PMR1-FCA-01(090115)	PMR1-FCA-01 (112515)	FCA-2-20060615	FCA-2-20060810	PMR1FCA02(052611)	FCA-3-20060615
Chemical	**Units**	**MCL**						
1,3,5-Trimethylbenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,3-Dichlorobenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,3-Dichloropropane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
1,4-Dichlorobenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
2,2-Dichloropropane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
2-Butanone (MEK)	µg/L	--	< 10 U	< 10 U	--	--	< 10 U	--
2-Chlorotoluene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
4-Chlorotoluene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10 U	--	--	< 10 U	--
Acetone	µg/L	--	< 10 U	< 10 U	< 10 U	**9.8 J**	< 20 U	< 10 U
Benzene	µg/L	--	< 1.0 U	< 1 0 U	< 1 U	< 1 U	< 5 0 U	< 1 U
Bromobenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Bromochloromethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Bromodichloromethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Bromoform	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Bromomethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Carbon Disulfide	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Carbon Tetrachloride	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
CFC-11	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
CFC-12	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Chlorobenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Chlorodibromomethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Chloroethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Chloroform	µg/L	--	< 1.0 U	< 1 0 U	< 1 U	< 1 U	< 5 0 U	< 1 U
Chloromethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
cis-1,2-Dichloroethene	µg/L	70	**1.6**	**1.6**	< 1 U	**15.5**	**0.19 J**	**7.6**
cis-1,3-Dichloropropene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Cyclohexane	µg/L	--	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Dibromomethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Dichloromethane	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Ethane	µg/L	--	--	--	< 0.1 U	< 0.1 U	--	< 0.1 U
Ethene	µg/L	--	--	--	< 0.1 U	< 0.1 U	--	< 0.1 U
Ethylbenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Hexachloro-1,3-butadiene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Isopropylbenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
m,p-Xylene	µg/L	--	< 1.0 U	< 1 0 U	--	--	--	--
Methane	µg/L	--	--	--	**0.11**	< 0.1 U	--	**0.14**
Methyl Acetate	µg/L	--	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	< 10 U	--	--	< 10 U	--
Methylcyclohexane	µg/L	--	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
m-Xylene	µg/L	--	--	--	--	--	< 5 0 U	--
Naphthalene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
N-Butylbenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-1	FCA-1	FCA-2	FCA-2	FCA-2	FCA-3
		Sample Date:	9/1/2015	11/25/2015	6/15/2006	8/10/2006	5/26/2011	6/15/2006
		Sample Identification:	PMR1-FCA-01(090115)	PMR1-FCA-01 (112515)	FCA-2-20060615	FCA-2-20060810	PMR1FCA02(052611)	FCA-3-20060615
Chemical	**Units**	**MCL**						
N-Propylbenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
o-Xylene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
sec-Butylbenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Styrene (Monomer)	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
tert-Butylbenzene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Tetrachloroethene	µg/L	--	< 1.0 U	< 1 0 U	< 1 U	< 1 U	< 5 0 U	< 1 U
Toluene	µg/L	--	< 1.0 U	< 1 0 U	--	--	**0.20 J**	--
Total Xylenes	µg/L	--	< 1.0 U	< 1 0 U	< 1 U	< 1 U	< 5 0 U	< 1 U
trans-1,2-Dichloroethene	µg/L	--	< 1.0 U	< 1 0 U	< 1 U	< 1 U	< 5 0 U	< 1 U
trans-1,3-Dichloropropene	µg/L	--	< 1.0 U	< 1 0 U	--	--	< 5 0 U	--
Trichloroethene	µg/L	5	**16**	**17**	**3**	**85.2**	**2.7 J**	**48.9**
Vinyl chloride	µg/L	2	< 1.0 U	< 1 0 U	--	--	< 2 0 U	--
Total VOC TICs	µg/L	--	--	--	0	0	--	**32.3 J**
Dissolved Gasses								
Carbon Dioxide	µg/L	--	--	--	--	--	**52000**	--
Carbon Monoxide	µg/L	--	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	< 0.10 U	--
Biogeochemical Parameters								
Nitrogen	µg/L	--	--	--	--	--	< 16000 U	--
Alkalinity	µg/L	--	--	--	--	--	**90000 J**	--
Chloride	µg/L	--	--	--	**2900**	**2500**	**2700**	**5800**
Nitrate/Nitrite	µg/L	--	--	--	**650**	**3500**	--	**710**
Nitrate-N	µg/L	--	--	--	**650**	**3500**	< 300 UJ	**710**
Nitrite	µg/L	--	--	--	< 2 U	< 10 U	< 20 U	**2.6**
Sulfate	µg/L	--	--	--	**56400**	**56000**	**58000**	**36500**
Total Dissolved Solids	µg/L	--	--	--	**157000**	**183000**	**170000**	**81000**
Total Hardness	µg/L	--	--	--	**127000**	**132000**	--	**50500**
Total Organic Carbon	µg/L	--	--	--	**1500**	**2700**	**3700**	**3000**

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-3	FCA-3	FCA-3	FCA-3	FCA-3
		Sample Date:	8/10/2006	5/25/2011	5/7/2014	9/4/2014	9/4/2014
		Sample Identification:	FCA-3-20060810	PMR1FCA03(052511)	PMR1-FCA03(050714)	DUP01(090414)	PMR1FCA-03(090414)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	**10400**	--	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	**120**	--	--	--
Iron, Total	µg/L	--	**762**	**1400**	--	--	--
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	**6830**	--	--	--	--
Manganese, Dissolved	µg/L	--	--	**26**	--	--	--
Manganese, Total	µg/L	--	**42.3**	**42**	--	--	--
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	< 10000 U	--	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	< 2.4 U	--	--	--	--
Acenaphthene	µg/L	--	< 2.4 U	--	--	--	--
Acenaphthylene	µg/L	--	< 2.4 U	--	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	< 2.4 U	--	--	--	--
Carbazole	µg/L	--	< 2.4 U	--	--	--	--
Dibenzofuran	µg/L	--	< 6 U	--	--	--	--
Fluorene	µg/L	--	< 2.4 U	--	--	--	--
Naphthalene	µg/L	--	< 2.4 U	--	--	--	--
Nitrobenzene	µg/L	--	< 2.4 U	--	--	--	--
Phenanthrene	µg/L	--	< 2.4 U	--	--	--	--
Phenol	µg/L	--	< 6 U	--	--	--	--
Total SVOC TICs	µg/L	--	**0**	--	--	--	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	< 560 U	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,1-Trichloroethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2,2-Tetrachloroethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-Dichloroethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-Dichloroethene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-Dichloropropene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichloropropane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trichlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trimethylbenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromo-3-chloropropane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromoethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloroethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloropropane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-3	FCA-3	FCA-3	FCA-3	FCA-3
		Sample Date:	8/10/2006	5/25/2011	5/7/2014	9/4/2014	9/4/2014
		Sample Identification:	FCA-3-20060810	PMR1FCA03(052511)	PMR1-FCA03(050714)	DUP01(090414)	PMR1FCA-03(090414)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-Dichlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-Dichloropropane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,4-Dichlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
2,2-Dichloropropane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Butanone (MEK)	µg/L	--	--	< 10 U	< 10 U	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Chlorotoluene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Methyl-2-Pentanone	µg/L	--	--	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	µg/L	--	< 10 U	< 20 U	< 10 U	< 10 U	< 10 U
Benzene	µg/L	--	< 1 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromobenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromochloromethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromodichloromethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromoform	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromomethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon Disulfide	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon Tetrachloride	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
CFC-11	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
CFC-12	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chlorodibromomethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloroethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloroform	µg/L	--	< 1 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloromethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	70	**6.8**	**4.3 J**	**2.9**	**3.2**	**3.3**
cis-1,3-Dichloropropene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Dibromomethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Dichloromethane	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Ethane	µg/L	--	< 0.1 U	--	--	--	--
Ethene	µg/L	--	< 0.1 U	--	--	--	--
Ethylbenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Hexachloro-1,3-butadiene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Isopropylbenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
m,p-Xylene	µg/L	--	--	--	< 0.50 U	< 0.50 U	< 0.50 U
Methane	µg/L	--	**0.42**	--	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	--	< 10 U	< 10 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
m-Xylene	µg/L	--	--	< 5.0 U	--	--	--
Naphthalene	µg/L	--	--	**0.92 J**	**0.47 J**	**0.81**	**0.93**
N-Butylbenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-3	FCA-3	FCA-3	FCA-3	FCA-3
		Sample Date:	8/10/2006	5/25/2011	5/7/2014	9/4/2014	9/4/2014
		Sample Identification:	FCA-3-20060810	PMR1FCA03(052511)	PMR1-FCA03(050714)	DUP01(090414)	PMR1FCA-03(090414)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
o-Xylene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
sec-Butylbenzene	µg/L	--	--	**0.61 J**	**0.47 J**	**0.71**	**0.80**
Styrene (Monomer)	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
tert-Butylbenzene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Tetrachloroethene	µg/L	--	< 1 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	µg/L	--	--	**0.34 J**	< 0.50 U	< 0.50 U	< 0.50 U
Total Xylenes	µg/L	--	< 1 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
trans-1,2-Dichloroethene	µg/L	--	< 1 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
trans-1,3-Dichloropropene	µg/L	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Trichloroethene	µg/L	5	**41.2**	**25**	**22**	**25**	**26**
Vinyl chloride	µg/L	2	--	< 2.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Total VOC TICs	µg/L	--	**5.1 J**	--	--	--	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	**100000**	--	--	--
Carbon Monoxide	µg/L	--	--	< 1000 U	--	--	--
Methane	µg/L	--	--	< 0.53 U	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	< 20000 U	--	--	--
Alkalinity	µg/L	--	--	**32000**	--	--	--
Chloride	µg/L	--	**5500**	**4100**	--	--	--
Nitrate/Nitrite	µg/L	--	**870**	--	--	--	--
Nitrate-N	µg/L	--	**830**	**790**	--	--	--
Nitrite	µg/L	--	**37**	< 26 U	--	--	--
Sulfate	µg/L	--	**36300**	**35000 J**	--	--	--
Total Dissolved Solids	µg/L	--	**125000**	**98000**	--	--	--
Total Hardness	µg/L	--	**58000**	--	--	--	--
Total Organic Carbon	µg/L	--	**2100**	< 1800 U	--	--	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-3	FCA-3	FCA-3	FCA-3	FCA-3
		Sample Date:	10/14/2014	2/25/2015	5/28/2015	8/31/2015	11/25/2015
		Sample Identification:	PMR1FCA-03(101414)	PMRI-FCA-03(022715)	PMR1-FCA-3(052815)	PMR1-FCA-03(083115)	PMR1-FCA-03 (112515)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	--	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	--	**55 J**	--	--
Iron, Total	µg/L	--	--	--	--	--	--
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	--	--	--	--
Manganese, Dissolved	µg/L	--	--	--	--	--	--
Manganese, Total	µg/L	--	--	--	--	--	--
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	--	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Total SVOC TICs	µg/L	--	--	--	--	--	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1,1-Trichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1-Dichloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2,3-Trichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2-Dibromoethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-3	FCA-3	FCA-3	FCA-3	FCA-3
		Sample Date:	10/14/2014	2/25/2015	5/28/2015	8/31/2015	11/25/2015
		Sample Identification:	PMR1FCA-03(101414)	PMRI-FCA-03(022715)	PMR1-FCA-3(052815)	PMR1-FCA-03(083115)	PMR1-FCA-03 (112515)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,3-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
2,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
2-Butanone (MEK)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
4-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	µg/L	--	< 10 U	**8.3 J**	< 10 U	< 10 U	**1.9 J**
Benzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Bromobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Bromochloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Bromodichloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Bromoform	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Bromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Carbon Disulfide	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Carbon Tetrachloride	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
CFC-11	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
CFC-12	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Chlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Chlorodibromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Chloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Chloroform	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Chloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	µg/L	70	**3.4**	**3.3**	**3.6**	**3.9**	**3.9**
cis-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Dibromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Dichloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Ethane	µg/L	--	--	--	--	--	--
Ethene	µg/L	--	--	--	--	--	--
Ethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Hexachloro-1,3-butadiene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Isopropylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
m,p-Xylene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Methane	µg/L	--	--	--	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	**< 10**	< 10 U	< 10 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
m-Xylene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	**< 1.3**	**0.96**	**1.0**	**1.1**	**1.3**
N-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	**0.14 J**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-3	FCA-3	FCA-3	FCA-3	FCA-3
		Sample Date:	10/14/2014	2/25/2015	5/28/2015	8/31/2015	11/25/2015
		Sample Identification:	PMR1FCA-03(101414)	PMRI-FCA-03(022715)	PMR1-FCA-3(052815)	PMR1-FCA-03(083115)	PMR1-FCA-03 (112515)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
o-Xylene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
sec-Butylbenzene	µg/L	--	**1.3**	**1.1**	**0.85**	**1.0**	**1.0**
Styrene (Monomer)	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
tert-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Toluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Total Xylenes	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
trans-1,2-Dichloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
trans-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Trichloroethene	µg/L	5	**27**	**24**	**28**	**31**	**34**
Vinyl chloride	µg/L	2	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Total VOC TICs	µg/L	--	--	--	--	--	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	--	--	--
Alkalinity	µg/L	--	--	--	--	--	--
Chloride	µg/L	--	--	--	--	--	--
Nitrate/Nitrite	µg/L	--	--	--	--	--	--
Nitrate-N	µg/L	--	--	--	**480**	--	--
Nitrite	µg/L	--	--	--	--	--	--
Sulfate	µg/L	--	--	--	**39000**	--	--
Total Dissolved Solids	µg/L	--	--	--	--	--	--
Total Hardness	µg/L	--	--	--	--	--	--
Total Organic Carbon	µg/L	--	--	--	< 900 U	--	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-4	FCA-4	FCA-4	FCA-4	FCA-5	FCA-5
		Sample Date:	6/15/2006	8/10/2006	8/10/2006	5/25/2011	6/14/2006	8/9/2006
		Sample Identification:	FCA-4-20060615	DUP-02(FCA-4)-20060810	FCA-4-20060810	PMR1FCA04(052511)	FCA-5-20060614	FCA-5-20060809
Chemical	**Units**	**MCL**						
Metals								
Calcium, Total	µg/L	--	**7020**	**5640**	**5740**	--	**11100**	**9210**
Chromium, Total	µg/L	--	--	--	--	--	< 10 U	--
Iron, Dissolved	µg/L	--	--	--	--	< 100 U	--	--
Iron, Total	µg/L	--	< 100 U	< 100 U	< 100 U	**56 J**	< 100 U	< 100 U
Lead, Total	µg/L	--	--	--	--	--	< 3 U	--
Magnesium, Total	µg/L	--	**9570**	**8030**	**8150**	--	**5610**	**5910**
Manganese, Dissolved	µg/L	--	--	--	--	**14 J**	--	--
Manganese, Total	µg/L	--	**42.5**	< 15 U	< 15 U	**23**	**88.4**	**75.9**
Potassium, Total	µg/L	--	--	--	--	--	**5790**	--
Sodium, Total	µg/L	--	< 5000 U	< 10000 U	< 10000 U	--	**6430**	< 10000 U
Zinc, Total	µg/L	--	--	--	--	--	**52.5**	--
Semi-Volatile Organic Compounds								
2-Methylnaphthalene	µg/L	--	< 2 U	< 2.1 U	< 2 U	--	< 2 U	< 2 U
Acenaphthene	µg/L	--	< 2 U	< 2.1 U	< 2 U	--	< 2 U	< 2 U
Acenaphthylene	µg/L	--	< 2 U	< 2.1 U	< 2 U	--	< 2 U	< 2 U
bis(2-Ethylhexyl)phthalate	µg/L	--	< 2 U	< 2.1 U	< 2 U	--	**1.3 J**	< 2 U
Carbazole	µg/L	--	< 2 U	< 2.1 U	< 2 U	--	< 2 U	< 2 U
Dibenzofuran	µg/L	--	< 5 U	< 5.3 U	< 5 U	--	< 5 U	< 5 U
Fluorene	µg/L	--	< 2 U	< 2.1 U	< 2 U	--	< 2 U	< 2 U
Naphthalene	µg/L	--	< 2 U	< 2.1 U	< 2 U	--	< 2 U	< 2 U
Nitrobenzene	µg/L	--	< 2 U	< 2.1 U	< 2 U	--	< 2 U	< 2 U
Phenanthrene	µg/L	--	< 2 U	< 2.1 U	< 2 U	--	**0.4 J**	< 2 U
Phenol	µg/L	--	< 5 U	< 5.3 U	< 5 U	--	< 5 U	< 5 U
Total SVOC TICs	µg/L	--	**0**	**0**	**0**	--	**4 J**	**7.5 J**
Total Petroleum Hydrocarbon (TPH)								
TPH as Pentane	µg/L	--	< 510 U	< 530 U	< 510 U	--	< 510 U	< 510 U
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	µg/L	--	--	--	--	< 5.0 U	--	--
1,1,1-Trichloroethane	µg/L	--	--	--	--	< 5.0 U	--	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	--	< 5.0 U	--	--
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	--	< 5.0 U	--	--
1,1-Dichloroethane	µg/L	--	--	--	--	< 5.0 U	--	--
1,1-Dichloroethene	µg/L	--	--	--	--	< 5.0 U	--	--
1,1-Dichloropropene	µg/L	--	--	--	--	< 5.0 U	--	--
1,2,3-Trichlorobenzene	µg/L	--	--	--	--	< 5.0 U	--	--
1,2,3-Trichloropropane	µg/L	--	--	--	--	< 5.0 U	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	< 5.0 U	--	--
1,2,4-Trimethylbenzene	µg/L	--	--	--	--	< 5.0 U	--	--
1,2-Dibromo-3-chloropropane	µg/L	--	--	--	--	< 5.0 U	--	--
1,2-Dibromoethane	µg/L	--	--	--	--	< 5.0 U	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	--	< 5.0 U	--	--
1,2-Dichloroethane	µg/L	--	--	--	--	< 5.0 U	--	--
1,2-Dichloropropane	µg/L	--	--	--	--	< 5.0 U	--	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-4	FCA-4	FCA-4	FCA-4	FCA-5	FCA-5
		Sample Date:	6/15/2006	8/10/2006	8/10/2006	5/25/2011	6/14/2006	8/9/2006
		Sample Identification:	FCA-4-20060615	DUP-02(FCA-4)-20060810	FCA-4-20060810	PMR1FCA04(052511)	FCA-5-20060614	FCA-5-20060809
Chemical	**Units**	**MCL**						
1,3,5-Trimethylbenzene	µg/L	--	--	--	--	< 5.0 U	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	--	< 5.0 U	--	--
1,3-Dichloropropane	µg/L	--	--	--	--	< 5.0 U	--	--
1,4-Dichlorobenzene	µg/L	--	--	--	--	< 5.0 U	--	--
2,2-Dichloropropane	µg/L	--	--	--	--	< 5.0 U	--	--
2-Butanone (MEK)	µg/L	--	--	--	--	< 10 U	--	--
2-Chlorotoluene	µg/L	--	--	--	--	< 5.0 U	--	--
4-Chlorotoluene	µg/L	--	--	--	--	< 5.0 U	--	--
4-Methyl-2-Pentanone	µg/L	--	--	--	--	< 10 U	--	--
Acetone	µg/L	--	< 10 U	< 10 U	< 10 U	< 20 U	< 10 U	< 10 U
Benzene	µg/L	--	< 1 U	< 1 U	< 1 U	< 5.0 U	< 1 U	**0.33 J**
Bromobenzene	µg/L	--	--	--	--	< 5.0 U	--	--
Bromochloromethane	µg/L	--	--	--	--	< 5.0 U	--	--
Bromodichloromethane	µg/L	--	--	--	--	< 5.0 U	--	--
Bromoform	µg/L	--	--	--	--	< 5.0 U	--	--
Bromomethane	µg/L	--	--	--	--	< 5.0 U	--	--
Carbon Disulfide	µg/L	--	--	--	--	< 5.0 U	--	--
Carbon Tetrachloride	µg/L	--	--	--	--	< 5.0 U	--	--
CFC-11	µg/L	--	--	--	--	< 5.0 U	--	--
CFC-12	µg/L	--	--	--	--	< 5.0 U	--	--
Chlorobenzene	µg/L	--	--	--	--	< 5.0 U	--	--
Chlorodibromomethane	µg/L	--	--	--	--	< 5.0 U	--	--
Chloroethane	µg/L	--	--	--	--	< 5.0 U	--	--
Chloroform	µg/L	--	< 1 U	< 1 U	< 1 U	< 5.0 U	< 1 U	< 1 U
Chloromethane	µg/L	--	--	--	--	< 5.0 U	--	--
cis-1,2-Dichloroethene	µg/L	70	< 1 U	< 1 U	< 1 U	< 5.0 U	**0.73 J**	**2.1**
cis-1,3-Dichloropropene	µg/L	--	--	--	--	< 5.0 U	--	--
Cyclohexane	µg/L	--	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	--	--	--	< 5.0 U	--	--
Dibromomethane	µg/L	--	--	--	--	< 5.0 U	--	--
Dichloromethane	µg/L	--	--	--	--	< 5.0 U	--	--
Ethane	µg/L	--	**0.17**	**0.12**	**0.13**	--	**1.1**	**5.7**
Ethene	µg/L	--	< 0.1 U	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U
Ethylbenzene	µg/L	--	--	--	--	< 5.0 U	--	--
Hexachloro-1,3-butadiene	µg/L	--	--	--	--	< 5.0 U	--	--
Isopropylbenzene	µg/L	--	--	--	--	< 5.0 U	--	--
m,p-Xylene	µg/L	--	--	--	--	--	--	--
Methane	µg/L	--	< 0.1 U	< 0.1 U	< 0.1 U	--	**0.82**	**0.15**
Methyl Acetate	µg/L	--	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	--	--	--	< 10 U	--	--
Methylcyclohexane	µg/L	--	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	--	--	--	< 5.0 U	--	--
m-Xylene	µg/L	--	--	--	--	< 5.0 U	--	--
Naphthalene	µg/L	--	--	--	--	< 5.0 U	--	--
N-Butylbenzene	µg/L	--	--	--	--	< 5.0 U	--	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-4	FCA-4	FCA-4	FCA-4	FCA-5	FCA-5
		Sample Date:	6/15/2006	8/10/2006	8/10/2006	5/25/2011	6/14/2006	8/9/2006
		Sample Identification:	FCA-4-20060615	DUP-02(FCA-4)-20060810	FCA-4-20060810	PMR1FCA04(052511)	FCA-5-20060614	FCA-5-20060809
Chemical	**Units**	**MCL**						
N-Propylbenzene	µg/L	--	--	--	--	< 5.0 U	--	--
o-Xylene	µg/L	--	--	--	--	< 5.0 U	--	--
sec-Butylbenzene	µg/L	--	--	--	--	< 5.0 U	--	--
Styrene (Monomer)	µg/L	--	--	--	--	< 5.0 U	--	--
tert-Butylbenzene	µg/L	--	--	--	--	< 5.0 U	--	--
Tetrachloroethene	µg/L	--	< 1 U	< 1 U	< 1 U	< 5.0 U	< 1 U	< 1 U
Toluene	µg/L	--	--	--	--	< 5.0 U	--	--
Total Xylenes	µg/L	--	< 1 U	< 1 U	< 1 U	< 5.0 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	µg/L	--	< 1 U	< 1 U	< 1 U	< 5.0 U	< 1 U	< 1 U
trans-1,3-Dichloropropene	µg/L	--	--	--	--	< 5.0 U	--	--
Trichloroethene	µg/L	5	< 1 U	< 1 U	**0.54 J**	**0.42 J**	**11.2**	**7.8**
Vinyl chloride	µg/L	2	--	--	--	< 2.0 U	--	--
Total VOC TICs	µg/L	--	0	0	0	--	0	0
Dissolved Gasses								
Carbon Dioxide	µg/L	--	--	--	--	**89000**	--	--
Carbon Monoxide	µg/L	--	--	--	--	< 1000 U	--	--
Methane	µg/L	--	--	--	--	< 0 22 U	--	--
Biogeochemical Parameters								
Nitrogen	µg/L	--	--	--	--	< 17000 U	--	--
Alkalinity	µg/L	--	--	--	--	< 19000 U	--	--
Chloride	µg/L	--	**2900**	**2300**	**2300**	**1500**	**10600**	**4800**
Nitrate/Nitrite	µg/L	--	**410**	**470**	**460**	--	**2500**	< 100 U
Nitrate-N	µg/L	--	**410**	**470**	**460**	**350**	**2500**	< 110 U
Nitrite	µg/L	--	< 2 U	< 10 U	< 10 U	< 20 U	< 10 U	**13**
Sulfate	µg/L	--	**36700**	**32900**	**32700**	**25000 J**	**11000**	**11900**
Total Dissolved Solids	µg/L	--	**63000**	**75000**	**68000**	**87000**	**100000**	**76000**
Total Hardness	µg/L	--	**54500**	**54000**	**52000**	--	**60000**	**54000**
Total Organic Carbon	µg/L	--	< 1000 U	< 1000 U	< 1000 U	< 2400 U	**3400**	**1600**

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-5	FCA-5	FCA-5	FCA-5	FCA-5
		Sample Date:	5/31/2011	9/1/2011	4/17/2014	9/3/2014	10/14/2014
		Sample Identification:	PMR1FCA05(053111)	PMR1FCA05(090111)	PMR1-FCA05(041714)	PMR1FCA-05(090314)	PMR1FCA-5(101414)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	--	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	**840**	--	--	--	--
Iron, Total	µg/L	--	**1100**	--	--	--	--
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	--	--	--	--
Manganese, Dissolved	µg/L	--	**100**	--	--	--	--
Manganese, Total	µg/L	--	**110**	--	--	--	--
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	--	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Total SVOC TICs	µg/L	--	--	--	--	--	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,1-Trichloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-Dichloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-Dichloroethene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-Dichloropropene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichlorobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichloropropane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trichlorobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trimethylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromoethane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichlorobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloroethane	µg/L	--	< 5 0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloropropane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-5	FCA-5	FCA-5	FCA-5	FCA-5
		Sample Date:	5/31/2011	9/1/2011	4/17/2014	9/3/2014	10/14/2014
		Sample Identification:	PMR1FCA05(053111)	PMR1FCA05(090111)	PMR1-FCA05(041714)	PMR1FCA-05(090314)	PMR1FCA-5(101414)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-Dichlorobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-Dichloropropane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,4-Dichlorobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
2,2-Dichloropropane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Butanone (MEK)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Chlorotoluene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	µg/L	--	< 20 U	< 20 U	< 10 U	< 10 U	< 10 U
Benzene	µg/L	--	< 5.0 U	**0.20 J**	**0.20 J**	**0.19 J**	**0.18**
Bromobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromochloromethane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromodichloromethane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromoform	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromomethane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon Disulfide	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon Tetrachloride	µg/L	--	< 5 0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
CFC-11	µg/L	--	< 5 0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
CFC-12	µg/L	--	< 5 0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chlorobenzene	µg/L	--	< 5 0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chlorodibromomethane	µg/L	--	< 5 0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloroethane	µg/L	--	< 5 0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloroform	µg/L	--	< 5 0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloromethane	µg/L	--	< 5 0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	70	**0.99 J**	**1.1 J**	**0.83**	**0.72**	**0.81**
cis-1,3-Dichloropropene	µg/L	--	< 5 0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Dibromomethane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Dichloromethane	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Ethane	µg/L	--	--	--	--	--	--
Ethene	µg/L	--	--	--	--	--	--
Ethylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Hexachloro-1,3-butadiene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Isopropylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
m,p-Xylene	µg/L	--	--	--	< 0.50 U	< 0.50 U	< 0.50 U
Methane	µg/L	--	--	--	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
m-Xylene	µg/L	--	< 5.0 U	< 5.0 U	--	--	--
Naphthalene	µg/L	--	**1.0 J**	**0.95 J**	**0.98**	**0.76**	**< 0.99**
N-Butylbenzene	µg/L	--	< 5.0 U	< 5.0 U	**0.19 J**	< 0.50 U	< 0.50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-5	FCA-5	FCA-5	FCA-5	FCA-5
		Sample Date:	5/31/2011	9/1/2011	4/17/2014	9/3/2014	10/14/2014
		Sample Identification:	PMR1FCA05(053111)	PMR1FCA05(090111)	PMR1-FCA05(041714)	PMR1FCA-05(090314)	PMR1FCA-5(101414)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
o-Xylene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
sec-Butylbenzene	µg/L	--	**1.7 J**	**0.95 J**	**1.7**	**1.1**	**1.6**
Styrene (Monomer)	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
tert-Butylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Tetrachloroethene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	µg/L	--	**0.25 J**	**0.39 J**	**0.38 J**	**0.20 J**	**0.24**
Total Xylenes	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
trans-1,2-Dichloroethene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
trans-1,3-Dichloropropene	µg/L	--	< 5.0 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Trichloroethene	µg/L	5	**3.9 J**	**3.4 J**	**3.5**	**2.9**	**3.2**
Vinyl chloride	µg/L	2	< 2.0 U	< 2.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Total VOC TICs	µg/L	--	--	--	--	--	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	--	--	--
Alkalinity	µg/L	--	**57000**	--	--	--	--
Chloride	µg/L	--	**3700**	--	--	--	--
Nitrate/Nitrite	µg/L	--	--	--	--	--	--
Nitrate-N	µg/L	--	< 280 UJ	--	--	--	--
Nitrite	µg/L	--	**7.6 J**	--	--	--	--
Sulfate	µg/L	--	**15000**	--	--	--	--
Total Dissolved Solids	µg/L	--	**92000**	--	--	--	--
Total Hardness	µg/L	--	--	--	--	--	--
Total Organic Carbon	µg/L	--	**2600**	--	--	--	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-5	FCA-5	FCA-5	FCA-5	FCA-6
		Sample Date:	2/25/2015	5/28/2015	8/31/2015	11/25/2015	6/14/2006
		Sample Identification:	PMRI-FCA-05(022515)	PMR1-FCA-5(052815)	PMR1-FCA-05(083115)	PMR1-FCA-05 (112515)	FCA-6-20060614
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	--	--	--	**5520**
Chromium, Total	µg/L	--	--	--	--	--	< 10 U
Iron, Dissolved	µg/L	--	--	**230**	--	--	--
Iron, Total	µg/L	--	--	--	--	--	< 100 U
Lead, Total	µg/L	--	--	--	--	--	< 3 U
Magnesium, Total	µg/L	--	--	--	--	--	< 5000 U
Manganese, Dissolved	µg/L	--	--	--	--	--	--
Manganese, Total	µg/L	--	--	--	--	--	**2510**
Potassium, Total	µg/L	--	--	--	--	--	< 5000 U
Sodium, Total	µg/L	--	--	--	--	--	< 5000 U
Zinc, Total	µg/L	--	--	--	--	--	**50.1**
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	--	--	--	< 2 U
Acenaphthene	µg/L	--	--	--	--	--	**0.7 J**
Acenaphthylene	µg/L	--	--	--	--	--	< 2 U
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	< 2 U
Carbazole	µg/L	--	--	--	--	--	< 2 U
Dibenzofuran	µg/L	--	--	--	--	--	**0.49 J**
Fluorene	µg/L	--	--	--	--	--	**0.62 J**
Naphthalene	µg/L	--	--	--	--	--	< 2 U
Nitrobenzene	µg/L	--	--	--	--	--	< 2 U
Phenanthrene	µg/L	--	--	--	--	--	< 2 U
Phenol	µg/L	--	--	--	--	--	< 5 U
Total SVOC TICs	µg/L	--	--	--	--	--	**0**
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	< 510 U
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,1,1-Trichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,1,2,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,1-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,1-Dichloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,1-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,2,3-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,2,3-Trichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,2,4-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,2,4-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,2-Dibromo-3-chloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,2-Dibromoethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,2-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,2-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-5	FCA-5	FCA-5	FCA-5	FCA-6
		Sample Date:	2/25/2015	5/28/2015	8/31/2015	11/25/2015	6/14/2006
		Sample Identification:	PMRI-FCA-05(022515)	PMR1-FCA-5(052815)	PMR1-FCA-05(083115)	PMR1-FCA-05 (112515)	FCA-6-20060614
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,3-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,3-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
1,4-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
2,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
2-Butanone (MEK)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	--
2-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
4-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	--
Acetone	µg/L	--	**7.1 J**	< 10 U	< 10 U	**3.1 J**	< 10 U
Benzene	µg/L	--	**0.19 J**	< 0.50 U	< 1.0 U	< 1.0 U	< 1 U
Bromobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Bromochloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Bromodichloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Bromoform	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Bromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Carbon Disulfide	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Carbon Tetrachloride	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
CFC-11	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
CFC-12	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Chlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Chlorodibromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Chloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Chloroform	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	< 1 U
Chloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
cis-1,2-Dichloroethene	µg/L	70	**0.64**	**0.42 J**	**0.60 J**	**0.52 J**	< 1 U
cis-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Dibromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Dichloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Ethane	µg/L	--	--	--	--	--	< 0.1 U
Ethene	µg/L	--	--	--	--	--	< 0.1 U
Ethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Hexachloro-1,3-butadiene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Isopropylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
m,p-Xylene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Methane	µg/L	--	--	--	--	--	< 0.1 U
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	--
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
m-Xylene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	**1.1**	**0.77**	**0.89 J**	**0.87 J**	--
N-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-5	FCA-5	FCA-5	FCA-5	FCA-6
		Sample Date:	2/25/2015	5/28/2015	8/31/2015	11/25/2015	6/14/2006
		Sample Identification:	PMRI-FCA-05(022515)	PMR1-FCA-5(052815)	PMR1-FCA-05(083115)	PMR1-FCA-05 (112515)	FCA-6-20060614
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
o-Xylene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
sec-Butylbenzene	µg/L	--	**1.8**	**1.2**	**1.7**	**1.7**	--
Styrene (Monomer)	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
tert-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	**0.27 J**	--
Tetrachloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	< 1 U
Toluene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Total Xylenes	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	< 1 U
trans-1,2-Dichloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	< 1 U
trans-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Trichloroethene	µg/L	5	**2.7**	**1.6**	**3.2**	**3.1**	< 1 U
Vinyl chloride	µg/L	2	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	--
Total VOC TICs	µg/L	--	--	--	--	--	0
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	--	--	--
Alkalinity	µg/L	--	--	--	--	--	--
Chloride	µg/L	--	--	--	--	--	**4500**
Nitrate/Nitrite	µg/L	--	--	--	--	--	**400**
Nitrate-N	µg/L	--	--	< 42 U	--	--	**400**
Nitrite	µg/L	--	--	--	--	--	< 10 U
Sulfate	µg/L	--	--	**9600**	--	--	**5000**
Total Dissolved Solids	µg/L	--	--	--	--	--	**62000**
Total Hardness	µg/L	--	--	--	--	--	**56000**
Total Organic Carbon	µg/L	--	--	**2000**	--	--	< 1000 U

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-6	FCA-6	FCA-7	FCA-7	FCA-7	FCA-7
		Sample Date:	8/9/2006	5/31/2011	6/15/2006	8/9/2006	5/26/2011	4/14/2014
		Sample Identification:	FCA-6-20060809	PMR1FCA06(053111)	FCA-7-20060615	FCA-7-20060809	PMR1FCA07(052611)	PMR1-FCA07(041414)
Chemical	**Units**	**MCL**						
Metals								
Calcium, Total	µg/L	--	**5700**	--	**12900**	**11700**	--	--
Chromium, Total	µg/L	--	--	--	< 10 U	--	--	--
Iron, Dissolved	µg/L	--	--	**60 J**	--	--	**510**	--
Iron, Total	µg/L	--	< 100 U	**4800**	< 100 U	**452**	**840**	--
Lead, Total	µg/L	--	--	--	< 3 U	--	--	--
Magnesium, Total	µg/L	--	< 5000 U	--	**9320**	**9290**	--	--
Manganese, Dissolved	µg/L	--	--	**4700**	--	--	**350**	--
Manganese, Total	µg/L	--	**2720**	**4500**	**219**	**214**	**350**	--
Potassium, Total	µg/L	--	--	--	**5630**	--	--	--
Sodium, Total	µg/L	--	< 10000 U	--	**8880**	< 10000 U	--	--
Zinc, Total	µg/L	--	--	--	**24.3**	--	--	--
Semi-Volatile Organic Compounds								
2-Methylnaphthalene	µg/L	--	< 2 U	--	**3.3**	**0.58 J**	--	--
Acenaphthene	µg/L	--	< 2 U	--	< 2 U	< 2 U	--	--
Acenaphthylene	µg/L	--	< 2 U	--	< 2 U	< 2 U	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	< 2 U	--	**1.4 J**	**1 J**	--	--
Carbazole	µg/L	--	< 2 U	--	< 2 U	< 2 U	--	--
Dibenzofuran	µg/L	--	< 5 U	--	**3.2 J**	**0.63 J**	--	--
Fluorene	µg/L	--	< 2 U	--	**3.4**	**0.68 J**	--	--
Naphthalene	µg/L	--	< 2 U	--	**5.7**	**1.2 J**	--	--
Nitrobenzene	µg/L	--	< 2 U	--	< 2 U	< 2 U	--	--
Phenanthrene	µg/L	--	< 2 U	--	**4.2**	**0.74 J**	--	--
Phenol	µg/L	--	< 5 U	--	< 5 U	< 5 U	--	--
Total SVOC TICs	µg/L	--	**0**	--	**137 J**	**69.2 J**	--	--
Total Petroleum Hydrocarbon (TPH)								
TPH as Pentane	µg/L	--	< 530 U	--	< 560 U	< 500 U	--	--
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,1,1-Trichloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,1,2,2-Tetrachloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,1-Dichloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,1-Dichloroethene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,1-Dichloropropene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,2,3-Trichlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,2,3-Trichloropropane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,2,4-Trichlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,2,4-Trimethylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,2-Dibromo-3-chloropropane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,2-Dibromoethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,2-Dichlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,2-Dichloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,2-Dichloropropane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-6	FCA-6	FCA-7	FCA-7	FCA-7	FCA-7
		Sample Date:	8/9/2006	5/31/2011	6/15/2006	8/9/2006	5/26/2011	4/14/2014
		Sample Identification:	FCA-6-20060809	PMR1FCA06(053111)	FCA-7-20060615	FCA-7-20060809	PMR1FCA07(052611)	PMR1-FCA07(041414)
Chemical	**Units**	**MCL**						
1,3,5-Trimethylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,3-Dichlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,3-Dichloropropane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,4-Dichlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
2,2-Dichloropropane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
2-Butanone (MEK)	µg/L	--	--	< 10 U	--	--	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
4-Chlorotoluene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
4-Methyl-2-Pentanone	µg/L	--	--	< 10 U	--	--	< 10 U	< 10 U
Acetone	µg/L	--	< 10 U	< 20 U	< 10 U	< 10 U	< 20 U	< 10 U
Benzene	µg/L	--	< 1 U	< 5.0 U	**0.56 J**	**0.45 J**	**0.30 J**	**0.30 J**
Bromobenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Bromochloromethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Bromodichloromethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Bromoform	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Bromomethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Carbon Disulfide	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	**0.34 J**
Carbon Tetrachloride	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
CFC-11	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
CFC-12	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Chlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Chlorodibromomethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Chloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Chloroform	µg/L	--	< 1 U	< 5.0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U
Chloromethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	70	< 1 U	< 5.0 U	**2.4**	**2.1**	**1.6 J**	**1.4**
cis-1,3-Dichloropropene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Cyclohexane	µg/L	--	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Dibromomethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Dichloromethane	µg/L	--	--	< 5.0 UJ	--	--	< 5.0 U	< 0.50 U
Ethane	µg/L	--	**0.16**	--	**8.54**	**8.1**	--	--
Ethene	µg/L	--	< 0.1 U	--	< 0.1 U	< 0.1 U	--	--
Ethylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Hexachloro-1,3-butadiene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Isopropylbenzene	µg/L	--	--	**0.16 J**	--	--	< 5.0 U	< 0.50 U
m,p-Xylene	µg/L	--	--	--	--	--	--	< 0.50 U
Methane	µg/L	--	< 0.1 U	--	**0.15**	< 0.1 U	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	--	< 10 U	--	--	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
m-Xylene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	--
Naphthalene	µg/L	--	--	**0.33 J**	--	--	**0.32 J**	**0.71**
N-Butylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	**0.23 J**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-6	FCA-6	FCA-7	FCA-7	FCA-7	FCA-7
		Sample Date:	8/9/2006	5/31/2011	6/15/2006	8/9/2006	5/26/2011	4/14/2014
		Sample Identification:	FCA-6-20060809	PMR1FCA06(053111)	FCA-7-20060615	FCA-7-20060809	PMR1FCA07(052611)	PMR1-FCA07(041414)
Chemical	**Units**	**MCL**						
N-Propylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
o-Xylene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
sec-Butylbenzene	µg/L	--	--	**0.95 J**	--	--	**2.2 J**	**2.5**
Styrene (Monomer)	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
tert-Butylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	**0.29 J**
Tetrachloroethene	µg/L	--	< 1 U	< 5.0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U
Toluene	µg/L	--	--	< 5.0 U	--	--	**0.44 J**	**0.83**
Total Xylenes	µg/L	--	< 1 U	< 5.0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U
trans-1,2-Dichloroethene	µg/L	--	< 1 U	< 5.0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U
trans-1,3-Dichloropropene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
Trichloroethene	µg/L	5	< 1 U	**0.40 J**	**14.3**	**9.1**	**7.4**	**5.5**
Vinyl chloride	µg/L	2	--	< 2.0 U	--	--	< 2.0 U	< 0.50 U
Total VOC TICs	µg/L	--	0	--	**85.9 J**	**64 J**	--	--
Dissolved Gasses								
Carbon Dioxide	µg/L	--	--	--	--	--	**100000**	--
Carbon Monoxide	µg/L	--	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	**6.6**	--
Biogeochemical Parameters								
Nitrogen	µg/L	--	--	--	--	--	< 21000 U	--
Alkalinity	µg/L	--	--	**41000**	--	--	**71000**	--
Chloride	µg/L	--	**4600**	**2900**	**6000**	**5700**	**4200**	--
Nitrate/Nitrite	µg/L	--	**990**	--	< 100 U	**210**	--	--
Nitrate-N	µg/L	--	**990**	< 160 UJ	< 110 U	**210**	< 36 UJ	--
Nitrite	µg/L	--	< 10 U	**15 J**	< 10 U	< 10 U	< 20 U	--
Sulfate	µg/L	--	**4800**	**8000**	**11200**	**10700**	**14000 J**	--
Total Dissolved Solids	µg/L	--	< 10000 U	**55000**	**118000**	**102000**	**100000**	--
Total Hardness	µg/L	--	**35600**	--	**84000**	**69300**	--	--
Total Organic Carbon	µg/L	--	< 1000 U	**3400**	**2100**	**2600**	< 2400 U	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-7	FCA-7	FCA-7	FCA-7	FCA-7
		Sample Date:	9/3/2014	10/15/2014	2/25/2015	5/28/2015	9/1/2015
		Sample Identification:	PMR1FCA-07(090314)	PMR1FCA-07(101514)	PMRI-FCA-07(022515)	PMR1-FCA-7(052815)	PMR1-FCA-07(090115)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	--	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	--	--	**170**	--
Iron, Total	µg/L	--	--	--	--	--	--
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	--	--	--	--
Manganese, Dissolved	µg/L	--	--	--	--	--	--
Manganese, Total	µg/L	--	--	--	--	--	--
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	--	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Total SVOC TICs	µg/L	--	--	--	--	--	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 1.0 U
1,1,1-Trichloroethane	µg/L	--	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 1.0 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
1,1-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
1,1-Dichloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
1,1-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
1,2,3-Trichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
1,2-Dibromoethane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
1,2-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
1,2-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
1,2-Dichloropropane	µg/L	--	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 1.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-7	FCA-7	FCA-7	FCA-7	FCA-7
		Sample Date:	9/3/2014	10/15/2014	2/25/2015	5/28/2015	9/1/2015
		Sample Identification:	PMR1FCA-07(090314)	PMR1FCA-07(101514)	PMRI-FCA-07(022515)	PMR1-FCA-7(052815)	PMR1-FCA-07(090115)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 1.0 U
1,3-Dichlorobenzene	µg/L	--	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 1.0 U
1,3-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
1,4-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
2,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
2-Butanone (MEK)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
4-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	µg/L	--	< 10 U	< 10 U	**6.7 J**	< 10 U	< 10 U
Benzene	µg/L	--	**0.23 J**	**0.22**	**0.29 J**	**0.22 J**	**0.20 J**
Bromobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
Bromochloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
Bromodichloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
Bromoform	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
Bromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
Carbon Disulfide	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
Carbon Tetrachloride	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
CFC-11	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
CFC-12	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
Chlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
Chlorodibromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Chloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Chloroform	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Chloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
cis-1,2-Dichloroethene	µg/L	70	**0.95**	**0.95**	**1.1**	**0.87**	**0.74 J**
cis-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 0.50 U	**0.62**	< 0 50 U	< 0 50 U	< 1.0 U
Dibromomethane	µg/L	--	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 1.0 U
Dichloromethane	µg/L	--	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 1.0 U
Ethane	µg/L	--	--	--	--	--	--
Ethene	µg/L	--	--	--	--	--	--
Ethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
Hexachloro-1,3-butadiene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
Isopropylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
m,p-Xylene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
Methane	µg/L	--	--	--	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
m-Xylene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	**0.24 J**	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
N-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-7	FCA-7	FCA-7	FCA-7	FCA-7
		Sample Date:	9/3/2014	10/15/2014	2/25/2015	5/28/2015	9/1/2015
		Sample Identification:	PMR1FCA-07(090314)	PMR1FCA-07(101514)	PMRI-FCA-07(022515)	PMR1-FCA-7(052815)	PMR1-FCA-07(090115)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 1.0 U
o-Xylene	µg/L	--	< 0.50 U	< 0 50 U	< 0 50 U	< 0 50 U	< 1.0 U
sec-Butylbenzene	µg/L	--	**0.56**	**0.87**	**1.1**	**0.70**	**0.93 J**
Styrene (Monomer)	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
tert-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
Tetrachloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
Toluene	µg/L	--	**0.25 J**	< 0.50 U	**0.18 J**	< 0 50 U	< 1.0 U
Total Xylenes	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
trans-1,2-Dichloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
trans-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U	< 1.0 U
Trichloroethene	µg/L	5	**3.6**	**4**	**4.8**	**3.5**	**4.5**
Vinyl chloride	µg/L	2	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U	< 1.0 U
Total VOC TICs	µg/L	--	--	--	--	--	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	--	--	--
Alkalinity	µg/L	--	--	--	--	--	--
Chloride	µg/L	--	--	--	--	--	--
Nitrate/Nitrite	µg/L	--	--	--	--	--	--
Nitrate-N	µg/L	--	--	--	--	< 13 U	--
Nitrite	µg/L	--	--	--	--	--	--
Sulfate	µg/L	--	--	--	--	**10000**	--
Total Dissolved Solids	µg/L	--	--	--	--	--	--
Total Hardness	µg/L	--	--	--	--	--	--
Total Organic Carbon	µg/L	--	--	--	--	**1800**	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-7	FCA-8	FCA-8	FCA-8	FCA-8
		Sample Date:	11/25/2015	6/15/2006	6/15/2006	8/9/2006	5/26/2011
		Sample Identification:	PMR1-FCA-07 (112515)	DUP-01(FCA-8)-20060615	FCA-8-20060615	FCA-8-20060809	PMR1FCA08(052611)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	< 5000 U	**5570**	< 5000 U	--
Chromium, Total	µg/L	--	--	< 10 U	< 10 U	--	--
Iron, Dissolved	µg/L	--	--	--	--	--	**6500**
Iron, Total	µg/L	--	--	**2940**	**2820**	**6950**	**6800**
Lead, Total	µg/L	--	--	< 3 U	< 3 U	--	--
Magnesium, Total	µg/L	--	--	**5470**	**6060**	**5590**	--
Manganese, Dissolved	µg/L	--	--	--	--	--	**14000**
Manganese, Total	µg/L	--	--	**24600**	**26200**	**21300**	**15000**
Potassium, Total	µg/L	--	--	< 5000 U	< 5000 U	--	--
Sodium, Total	µg/L	--	--	< 5000 U	< 5000 U	< 10000 U	--
Zinc, Total	µg/L	--	--	< 20 U	< 20 U	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	**3.4**	**2.8**	**2.4**	--
Acenaphthene	µg/L	--	--	**4.6**	**4.2**	**3.9**	--
Acenaphthylene	µg/L	--	--	**0.65 J**	**0.6 J**	**0.42 J**	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	< 2 U	< 2 U	< 2 U	--
Carbazole	µg/L	--	--	**1.2 J**	**0.98 J**	**1.2 J**	--
Dibenzofuran	µg/L	--	--	**3.8 J**	**3.6 J**	**3.3 J**	--
Fluorene	µg/L	--	--	**5.6**	**4.9**	**4.8**	--
Naphthalene	µg/L	--	--	**1.1 J**	**1.1 J**	**0.71 J**	--
Nitrobenzene	µg/L	--	--	< 2 U	< 2 U	< 2 U	--
Phenanthrene	µg/L	--	--	**6**	**5.2**	**4.8**	--
Phenol	µg/L	--	--	< 5 U	< 5 U	< 5 U	--
Total SVOC TICs	µg/L	--	--	**250.6 J**	**194.6 J**	**133.2 J**	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	< 530 U	< 510 U	< 520 U	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,1,1-Trichloroethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,1-Dichloroethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,1-Dichloroethene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,1-Dichloropropene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,2,3-Trichlorobenzene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,2,3-Trichloropropane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,2,4-Trichlorobenzene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,2,4-Trimethylbenzene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,2-Dibromoethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,2-Dichlorobenzene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,2-Dichloroethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,2-Dichloropropane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-7	FCA-8	FCA-8	FCA-8	FCA-8
		Sample Date:	11/25/2015	6/15/2006	6/15/2006	8/9/2006	5/26/2011
		Sample Identification:	PMR1-FCA-07 (112515)	DUP-01(FCA-8)-20060615	FCA-8-20060615	FCA-8-20060809	PMR1FCA08(052611)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 1.0 U	--	--	--	**0.28 J**
1,3-Dichlorobenzene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,3-Dichloropropane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
1,4-Dichlorobenzene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
2,2-Dichloropropane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
2-Butanone (MEK)	µg/L	--	< 10 U	--	--	--	< 10 U
2-Chlorotoluene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
4-Chlorotoluene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	--	--	--	< 10 U
Acetone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 20 U
Benzene	µg/L	--	**0.20 J**	< 1 U	< 1 U	< 1 U	< 5 0 U
Bromobenzene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Bromochloromethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Bromodichloromethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Bromoform	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Bromomethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Carbon Disulfide	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Carbon Tetrachloride	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
CFC-11	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
CFC-12	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Chlorobenzene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Chlorodibromomethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Chloroethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Chloroform	µg/L	--	< 1.0 U	< 1 U	< 1 U	< 1 U	< 5 0 U
Chloromethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
cis-1,2-Dichloroethene	µg/L	70	**0.83 J**	< 1 U	< 1 U	**1.3**	**0.55 J**
cis-1,3-Dichloropropene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 1.0 U	--	--	--	**1.2 J**
Dibromomethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Dichloromethane	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Ethane	µg/L	--	--	**16.1**	**8.6**	**18**	--
Ethene	µg/L	--	--	< 0.1 U	< 0.1 U	< 0.1 U	--
Ethylbenzene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Hexachloro-1,3-butadiene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Isopropylbenzene	µg/L	--	< 1.0 U	--	--	--	**1.6 J**
m,p-Xylene	µg/L	--	< 1.0 U	--	--	--	--
Methane	µg/L	--	--	< 0.1 U	< 0.1 U	< 0.1 U	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	--	--	--	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
m-Xylene	µg/L	--	--	--	--	--	< 5 0 U
Naphthalene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
N-Butylbenzene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-7	FCA-8	FCA-8	FCA-8	FCA-8
		Sample Date:	11/25/2015	6/15/2006	6/15/2006	8/9/2006	5/26/2011
		Sample Identification:	PMR1-FCA-07 (112515)	DUP-01(FCA-8)-20060615	FCA-8-20060615	FCA-8-20060809	PMR1FCA08(052611)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
o-Xylene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
sec-Butylbenzene	µg/L	--	**1.3**	--	--	--	**3.8 J**
Styrene (Monomer)	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
tert-Butylbenzene	µg/L	--	**0.19 J**	--	--	--	**0.43 J**
Tetrachloroethene	µg/L	--	< 1.0 U	< 1 U	< 1 U	< 1 U	< 5 0 U
Toluene	µg/L	--	< 1.0 U	--	--	--	**0.23 J**
Total Xylenes	µg/L	--	< 1.0 U	< 1 U	< 1 U	< 1 U	< 5 0 U
trans-1,2-Dichloroethene	µg/L	--	< 1.0 U	< 1 U	< 1 U	< 1 U	< 5 0 U
trans-1,3-Dichloropropene	µg/L	--	< 1.0 U	--	--	--	< 5 0 U
Trichloroethene	µg/L	5	**4.6**	< 1 U	**1.2**	**2.4**	**2.3 J**
Vinyl chloride	µg/L	2	< 1.0 U	--	--	--	< 2 0 U
Total VOC TICs	µg/L	--	--	**178 J**	**114.1 J**	**125.9 J**	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	--	--	**67000**
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	< 3.4 U
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	--	--	< 22000 U
Alkalinity	µg/L	--	--	--	--	--	**66000**
Chloride	µg/L	--	--	< 2000 U	< 2000 U	< 2000 U	**1300**
Nitrate/Nitrite	µg/L	--	--	< 100 U	< 100 U	< 100 U	--
Nitrate-N	µg/L	--	--	< 110 U	< 110 U	< 110 U	< 20 UJ
Nitrite	µg/L	--	--	< 10 U	< 10 U	< 10 U	< 20 U
Sulfate	µg/L	--	--	**7800**	**6800**	**5100**	< 5700 UJ
Total Dissolved Solids	µg/L	--	--	**95000**	**99000**	**35000**	**72000**
Total Hardness	µg/L	--	--	**80000**	**72000**	**59400**	--
Total Organic Carbon	µg/L	--	--	**1700**	**1700**	**1500**	< 2100 U

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-9	FCA-9	FCA-9	FCA-9	FCA-9	FCA-9
		Sample Date:	6/15/2006	8/11/2006	6/3/2011	5/6/2014	9/4/2014	10/15/2014
		Sample Identification:	FCA-9-20060615	FCA-9-20060811	PMR1FCA09(060311)	PMR1-FCA09(050614)	PMR1FCA-09(090414)	DUP-01(101514)
Chemical	**Units**	**MCL**						
Metals								
Calcium, Total	µg/L	--	**26600**	**29500**	--	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	--	**64 J**	--	--	--
Iron, Total	µg/L	--	< 100 U	**1160**	**4000**	--	--	--
Lead, Total	µg/L	--	--	--	--	--	--	--
Magnesium, Total	µg/L	--	< 5000 U	< 5000 U	--	--	--	--
Manganese, Dissolved	µg/L	--	--	--	**6.1 J**	--	--	--
Manganese, Total	µg/L	--	< 15 U	**53.1**	**45**	--	--	--
Potassium, Total	µg/L	--	--	--	--	--	--	--
Sodium, Total	µg/L	--	< 5000 U	< 10000 U	--	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds								
2-Methylnaphthalene	µg/L	--	< 2 U	< 2.1 U	--	--	--	--
Acenaphthene	µg/L	--	< 2 U	< 2.1 U	--	--	--	--
Acenaphthylene	µg/L	--	< 2 U	< 2.1 U	--	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	< 2 U	< 2.1 U	--	--	--	--
Carbazole	µg/L	--	< 2 U	< 2.1 U	--	--	--	--
Dibenzofuran	µg/L	--	< 5 U	< 5.3 U	--	--	--	--
Fluorene	µg/L	--	< 2 U	< 2.1 U	--	--	--	--
Naphthalene	µg/L	--	< 2 U	< 2.1 U	--	--	--	--
Nitrobenzene	µg/L	--	< 2 U	< 2.1 U	--	--	--	--
Phenanthrene	µg/L	--	< 2 U	< 2.1 U	--	--	--	--
Phenol	µg/L	--	< 5 U	< 5.3 U	--	--	--	--
Total SVOC TICs	µg/L	--	**286.2 J**	**0**	--	--	--	--
Total Petroleum Hydrocarbon (TPH)								
TPH as Pentane	µg/L	--	< 510 U	< 520 U	--	--	--	--
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,1-Trichloroethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-Dichloroethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-Dichloroethene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,1-Dichloropropene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichlorobenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,3-Trichloropropane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trichlorobenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2,4-Trimethylbenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromo-3-chloropropane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dibromoethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichlorobenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloroethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloropropane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-9	FCA-9	FCA-9	FCA-9	FCA-9	FCA-9
		Sample Date:	6/15/2006	8/11/2006	6/3/2011	5/6/2014	9/4/2014	10/15/2014
		Sample Identification:	FCA-9-20060615	FCA-9-20060811	PMR1FCA09(060311)	PMR1-FCA09(050614)	PMR1FCA-09(090414)	DUP-01(101514)
Chemical	**Units**	**MCL**						
1,3,5-Trimethylbenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-Dichlorobenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,3-Dichloropropane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
1,4-Dichlorobenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
2,2-Dichloropropane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Butanone (MEK)	µg/L	--	--	--	< 10 U	< 10 U	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Chlorotoluene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Methyl-2-Pentanone	µg/L	--	--	--	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	µg/L	--	< 10 U	< 10 U	< 20 U	< 10 U	< 10 U	< 10 U
Benzene	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromobenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromochloromethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromodichloromethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromoform	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromomethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon Disulfide	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Carbon Tetrachloride	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
CFC-11	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
CFC-12	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chlorobenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chlorodibromomethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloroethane	µg/L	--	--	--	< 5.0 UJ	< 0.50 U	< 0.50 U	< 0.50 U
Chloroform	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloromethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	70	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 0.50 U	**0.41**
cis-1,3-Dichloropropene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Cyclohexane	µg/L	--	--	--	--	--	--	**--**
Cymene (p-Isopropyltoluene)	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Dibromomethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Dichloromethane	µg/L	--	--	--	< 5.0 U	< 0.50 U	**0.19 J**	< 0.50 U
Ethane	µg/L	--	**0.23**	**1.1**	--	--	--	--
Ethene	µg/L	--	< 0.1 U	< 0.1 U	--	--	--	--
Ethylbenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Hexachloro-1,3-butadiene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Isopropylbenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
m,p-Xylene	µg/L	--	--	--	--	< 0.50 U	< 0.50 U	< 0.50 U
Methane	µg/L	--	< 0.1 U	< 0.1 U	--	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	--	--	< 10 U	< 10 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
m-Xylene	µg/L	--	--	--	< 5.0 U	--	--	--
Naphthalene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
N-Butylbenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-9	FCA-9	FCA-9	FCA-9	FCA-9	FCA-9
		Sample Date:	6/15/2006	8/11/2006	6/3/2011	5/6/2014	9/4/2014	10/15/2014
		Sample Identification:	FCA-9-20060615	FCA-9-20060811	PMR1FCA09(060311)	PMR1-FCA09(050614)	PMR1FCA-09(090414)	DUP-01(101514)
Chemical	**Units**	**MCL**						
N-Propylbenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
o-Xylene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
sec-Butylbenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Styrene (Monomer)	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
tert-Butylbenzene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Tetrachloroethene	µg/L	--	< 1 U	**0.54 J**	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Total Xylenes	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
trans-1,2-Dichloroethene	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
trans-1,3-Dichloropropene	µg/L	--	--	--	< 5.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Trichloroethene	µg/L	5	**0.65 J**	< 1 U	**0.82 J**	**0.30 J**	**0.43 J**	**0.57**
Vinyl chloride	µg/L	2	--	--	< 2.0 U	< 0.50 U	< 0.50 U	< 0.50 U
Total VOC TICs	µg/L	--	**5.3 J**	0	--	--	--	--
Dissolved Gasses								
Carbon Dioxide	µg/L	--	--	--	**25000**	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--	--
Methane	µg/L	--	--	--	**71**	--	--	--
Biogeochemical Parameters								
Nitrogen	µg/L	--	--	--	< 17000 U	--	--	--
Alkalinity	µg/L	--	--	--	**110000**	--	--	--
Chloride	µg/L	--	< 2000 U	< 2000 U	**1500**	--	--	--
Nitrate/Nitrite	µg/L	--	**680**	**1100**	--	--	--	--
Nitrate-N	µg/L	--	**680**	**1100**	**700**	--	--	--
Nitrite	µg/L	--	< 2 U	< 10 U	< 20 U	--	--	--
Sulfate	µg/L	--	**5800**	**6400**	**4200**	--	--	--
Total Dissolved Solids	µg/L	--	**96000**	**120000**	**100000**	--	--	--
Total Hardness	µg/L	--	**78800**	**128000**	--	--	--	--
Total Organic Carbon	µg/L	--	**10100**	**6000**	**3400**	--	--	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-9	FCA-9	FCA-9	FCA-9	FCA-9
		Sample Date:	10/15/2014	2/27/2015	5/28/2015	8/31/2015	11/25/2015
		Sample Identification:	PMR1FCA-09(101514)	PMRI-FCA-09(022715)	PMR1-FCA-9(052815)	PMR1-FCA-09(083115)	PMR1-FCA-09 (112515)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	--	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	--	< 100 U	--	--
Iron, Total	µg/L	--	--	--	--	--	--
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	--	--	--	--
Manganese, Dissolved	µg/L	--	--	--	--	--	--
Manganese, Total	µg/L	--	--	--	--	--	--
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	--	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Total SVOC TICs	µg/L	--	--	--	--	--	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1,1-Trichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1-Dichloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,1-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2,3-Trichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2-Dibromoethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-9	FCA-9	FCA-9	FCA-9	FCA-9
		Sample Date:	10/15/2014	2/27/2015	5/28/2015	8/31/2015	11/25/2015
		Sample Identification:	PMR1FCA-09(101514)	PMRI-FCA-09(022715)	PMR1-FCA-9(052815)	PMR1-FCA-09(083115)	PMR1-FCA-09 (112515)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,3-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
2,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
2-Butanone (MEK)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
4-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	µg/L	--	< 10 U	**7.4 J**	< 10 U	< 10 U	< 10 U
Benzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Bromobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Bromochloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Bromodichloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Bromoform	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Bromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Carbon Disulfide	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Carbon Tetrachloride	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
CFC-11	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
CFC-12	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Chlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Chlorodibromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Chloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Chloroform	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Chloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	µg/L	70	**0.38**	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
cis-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Dibromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Dichloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Ethane	µg/L	--	--	--	--	--	--
Ethene	µg/L	--	--	--	--	--	--
Ethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Hexachloro-1,3-butadiene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Isopropylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
m,p-Xylene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Methane	µg/L	--	--	--	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
m-Xylene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
N-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-9	FCA-9	FCA-9	FCA-9	FCA-9
		Sample Date:	10/15/2014	2/27/2015	5/28/2015	8/31/2015	11/25/2015
		Sample Identification:	PMR1FCA-09(101514)	PMRI-FCA-09(022715)	PMR1-FCA-9(052815)	PMR1-FCA-09(083115)	PMR1-FCA-09 (112515)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
o-Xylene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
sec-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Styrene (Monomer)	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
tert-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Toluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Total Xylenes	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
trans-1,2-Dichloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
trans-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Trichloroethene	µg/L	5	**0.63**	**0.81**	< 0.50 U	< 1.0 U	**0.54 J**
Vinyl chloride	µg/L	2	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U
Total VOC TICs	µg/L	--	--	--	--	--	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	--	--	--
Alkalinity	µg/L	--	--	--	--	--	--
Chloride	µg/L	--	--	--	--	--	--
Nitrate/Nitrite	µg/L	--	--	--	--	--	--
Nitrate-N	µg/L	--	--	--	**810**	--	--
Nitrite	µg/L	--	--	--	--	--	--
Sulfate	µg/L	--	--	--	**2600**	--	--
Total Dissolved Solids	µg/L	--	--	--	--	--	--
Total Hardness	µg/L	--	--	--	--	--	--
Total Organic Carbon	µg/L	--	--	--	**4300**	--	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-10	FCA-10	FCA-10	FCA-10	FCA-12	FCA-12
		Sample Date:	6/15/2006	8/10/2006	5/25/2011	5/25/2011	6/15/2006	8/7/2006
		Sample Identification:	FCA-10-20060615	FCA-10-20060810	PMR1DUP01(052511)	PMR1FCA10(052511)	FCA-12-20060615	FCA-12-20060807
Chemical	**Units**	**MCL**						
Metals								
Calcium, Total	µg/L	--	**6920**	**6110**	--	--	**10400**	**11300**
Chromium, Total	µg/L	--	--	--	--	--	< 10 U	--
Iron, Dissolved	µg/L	--	--	--	< 100 U	< 100 U	--	--
Iron, Total	µg/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	**374**
Lead, Total	µg/L	--	--	--	--	--	--	--
Magnesium, Total	µg/L	--	**6940**	**6780**	--	--	**5520**	**5620**
Manganese, Dissolved	µg/L	--	--	--	**220**	**210**	--	--
Manganese, Total	µg/L	--	**299**	**299**	**200**	--	**59.9**	< 15 U
Potassium, Total	µg/L	--	--	--	--	--	< 5000 U	--
Sodium, Total	µg/L	--	**5750**	< 10000 U	--	--	**5470**	< 10000 U
Zinc, Total	µg/L	--	--	--	--	--	< 20 U	--
Semi-Volatile Organic Compounds								
2-Methylnaphthalene	µg/L	--	< 2 U	< 2 U	--	--	< 2 U	< 2 U
Acenaphthene	µg/L	--	< 2 U	< 2 U	--	--	< 2 U	< 2 U
Acenaphthylene	µg/L	--	< 2 U	< 2 U	--	--	< 2 U	< 2 U
bis(2-Ethylhexyl)phthalate	µg/L	--	< 2 U	< 2 U	--	--	< 2 U	< 2 U
Carbazole	µg/L	--	< 2 U	< 2 U	--	--	< 2 U	< 2 U
Dibenzofuran	µg/L	--	< 5 U	< 5 U	--	--	< 5 U	< 5 U
Fluorene	µg/L	--	< 2 U	< 2 U	--	--	< 2 U	< 2 U
Naphthalene	µg/L	--	< 2 U	< 2 U	--	--	< 2 U	< 2 U
Nitrobenzene	µg/L	--	< 2 U	< 2 U	--	--	< 2 U	< 2 U
Phenanthrene	µg/L	--	< 2 U	< 2 U	--	--	< 2 U	< 2 U
Phenol	µg/L	--	< 5 U	< 5 U	--	--	< 5 U	< 5 U
Total SVOC TICs	µg/L	--	**0**	**0**	--	--	**0**	**0**
Total Petroleum Hydrocarbon (TPH)								
TPH as Pentane	µg/L	--	< 510 U	< 510 U	--	--	< 510 U	< 510 U
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,1,1-Trichloroethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,1-Dichloroethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,1-Dichloroethene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,1-Dichloropropene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,2,3-Trichlorobenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,2,3-Trichloropropane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,2,4-Trimethylbenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,2-Dibromo-3-chloropropane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,2-Dibromoethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,2-Dichloroethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,2-Dichloropropane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-10	FCA-10	FCA-10	FCA-10	FCA-12	FCA-12
		Sample Date:	6/15/2006	8/10/2006	5/25/2011	5/25/2011	6/15/2006	8/7/2006
		Sample Identification:	FCA-10-20060615	FCA-10-20060810	PMR1DUP01(052511)	PMR1FCA10(052511)	FCA-12-20060615	FCA-12-20060807
Chemical	**Units**	**MCL**						
1,3,5-Trimethylbenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,3-Dichloropropane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
1,4-Dichlorobenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
2,2-Dichloropropane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
2-Butanone (MEK)	µg/L	--	--	--	< 10 U	< 10 U	--	--
2-Chlorotoluene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
4-Chlorotoluene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
4-Methyl-2-Pentanone	µg/L	--	--	--	< 10 U	< 10 U	--	--
Acetone	µg/L	--	< 10 U	< 10 U	< 20 U	< 20 U	< 10 U	< 10 U
Benzene	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 5.0 U	< 1 U	< 1 U
Bromobenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Bromochloromethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Bromodichloromethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Bromoform	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Bromomethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Carbon Disulfide	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Carbon Tetrachloride	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
CFC-11	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
CFC-12	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Chlorobenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Chlorodibromomethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Chloroethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Chloroform	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 5.0 U	< 1 U	< 1 U
Chloromethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
cis-1,2-Dichloroethene	µg/L	70	< 1 U	< 1 U	**0.19 J**	< 5 0 UJ	< 1 U	< 1 U
cis-1,3-Dichloropropene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Cyclohexane	µg/L	--	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Dibromomethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Dichloromethane	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Ethane	µg/L	--	< 0.1 U	< 0.1 U	--	--	< 0.1 U	< 0.1 U
Ethene	µg/L	--	< 0.1 U	< 0.1 U	--	--	< 0.1 U	< 0.1 U
Ethylbenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Hexachloro-1,3-butadiene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Isopropylbenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
m,p-Xylene	µg/L	--	--	--	--	--	--	--
Methane	µg/L	--	**0.14**	**0.24**	--	--	< 0.1 U	< 0.1 U
Methyl Acetate	µg/L	--	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	--	--	< 10 U	< 10 U	--	--
Methylcyclohexane	µg/L	--	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
m-Xylene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Naphthalene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
N-Butylbenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-10	FCA-10	FCA-10	FCA-10	FCA-12	FCA-12
		Sample Date:	6/15/2006	8/10/2006	5/25/2011	5/25/2011	6/15/2006	8/7/2006
		Sample Identification:	FCA-10-20060615	FCA-10-20060810	PMR1DUP01(052511)	PMR1FCA10(052511)	FCA-12-20060615	FCA-12-20060807
Chemical	**Units**	**MCL**						
N-Propylbenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
o-Xylene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
sec-Butylbenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Styrene (Monomer)	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
tert-Butylbenzene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Tetrachloroethene	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 5.0 U	< 1 U	< 1 U
Toluene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Total Xylenes	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 5.0 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 5.0 U	< 1 U	< 1 U
trans-1,3-Dichloropropene	µg/L	--	--	--	< 5.0 U	< 5.0 U	--	--
Trichloroethene	µg/L	5	**1.5**	**1.5**	**1.2 J**	**1.1 J**	< 1 U	< 1 U
Vinyl chloride	µg/L	2	--	--	< 2.0 U	< 2.0 U	--	--
Total VOC TICs	µg/L	--	0	0	--	--	0	0
Dissolved Gasses								
Carbon Dioxide	µg/L	--	--	--	**120000**	**110000**	--	--
Carbon Monoxide	µg/L	--	--	--	< 1000 U	< 1000 U	--	--
Methane	µg/L	--	--	--	< 1.8 U	< 1.3 U	--	--
Biogeochemical Parameters								
Nitrogen	µg/L	--	--	--	< 22000 U	< 16000 U	--	--
Alkalinity	µg/L	--	--	--	< 21000 U	< 28000 U	--	--
Chloride	µg/L	--	**16500**	**2900**	**2400**	**2400**	**2000**	**2000**
Nitrate/Nitrite	µg/L	--	**790**	**780**	--	--	**290**	**270**
Nitrate-N	µg/L	--	**790**	**780**	**1100**	**1100**	**290**	**270**
Nitrite	µg/L	--	< 2 U	< 10 U	< 20 U	< 20 U	< 10 U	< 10 U
Sulfate	µg/L	--	**168000**	**33600**	**31000 J**	**31000 J**	**28200**	**29100**
Total Dissolved Solids	µg/L	--	**66000**	**80000**	**78000**	**72000**	**73000**	**78000**
Total Hardness	µg/L	--	**40400**	**54000**	--	--	**60000**	**47500**
Total Organic Carbon	µg/L	--	< 1000 U	< 1000 U	< 1300 U	< 1700 U	**1800**	< 1000 U

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-12	FCA-13	FCA-13	FCA-13	FCA-13	FCA-15
		Sample Date:	5/25/2011	6/16/2006	8/7/2006	5/24/2011	5/27/2015	6/14/2006
		Sample Identification:	PMR1FCA12(052511)	FCA-13-20060616	FCA-13-20060807	PMR1FCA13(052411)	PMR1-FCA-13 (052715)	FCA-15-20060614
Chemical	**Units**	**MCL**						
Metals								
Calcium, Total	µg/L	--	--	**10700**	**7060**	--	--	**42500**
Chromium, Total	µg/L	--	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	< 100 U	--	--	< 100 U	< 100 U	--
Iron, Total	µg/L	--	**430**	< 100 U	< 100 U	**1800**	--	< 100 U
Lead, Total	µg/L	--	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	**5040**	< 5000 U	--	--	**8410**
Manganese, Dissolved	µg/L	--	< 15 U	--	--	< 15 U	--	--
Manganese, Total	µg/L	--	**9.3 J**	**34.4**	**23.3**	**130**	--	< 15 U
Potassium, Total	µg/L	--	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	**8190**	< 10000 U	--	--	**10200**
Zinc, Total	µg/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds								
2-Methylnaphthalene	µg/L	--	--	< 2 2 U	< 2.2 U	--	--	< 2 U
Acenaphthene	µg/L	--	--	< 2 2 U	< 2.2 U	--	--	< 2 U
Acenaphthylene	µg/L	--	--	< 2 2 U	< 2.2 U	--	--	< 2 U
bis(2-Ethylhexyl)phthalate	µg/L	--	--	< 2 2 U	< 2.2 U	--	--	**4.7**
Carbazole	µg/L	--	--	< 2 2 U	< 2.2 U	--	--	< 2 U
Dibenzofuran	µg/L	--	--	< 5.4 U	< 5.6 U	--	--	< 5 U
Fluorene	µg/L	--	--	< 2.2 U	< 2.2 U	--	--	< 2 U
Naphthalene	µg/L	--	--	< 2.2 U	< 2.2 U	--	--	< 2 U
Nitrobenzene	µg/L	--	--	< 2.2 U	< 2.2 U	--	--	< 2 U
Phenanthrene	µg/L	--	--	< 2 2 U	< 2.2 U	--	--	< 2 U
Phenol	µg/L	--	--	< 5.4 U	< 5.6 U	--	--	< 5 U
Total SVOC TICs	µg/L	--	--	**0**	**0**	--	--	**5.8 J**
Total Petroleum Hydrocarbon (TPH)								
TPH as Pentane	µg/L	--	--	< 520 U	< 510 U	--	--	--
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1,1-Trichloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1,2,2-Tetrachloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1-Dichloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1-Dichloroethene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1-Dichloropropene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2,3-Trichlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2,3-Trichloropropane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2,4-Trichlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2,4-Trimethylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2-Dibromo-3-chloropropane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2-Dibromoethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2-Dichlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2-Dichloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2-Dichloropropane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-12	FCA-13	FCA-13	FCA-13	FCA-13	FCA-15
		Sample Date:	5/25/2011	6/16/2006	8/7/2006	5/24/2011	5/27/2015	6/14/2006
		Sample Identification:	PMR1FCA12(052511)	FCA-13-20060616	FCA-13-20060807	PMR1FCA13(052411)	PMR1-FCA-13 (052715)	FCA-15-20060614
Chemical	**Units**	**MCL**						
1,3,5-Trimethylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,3-Dichlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,3-Dichloropropane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,4-Dichlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
2,2-Dichloropropane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
2-Butanone (MEK)	µg/L	--	< 10 U	--	--	< 10 U	< 10 U	--
2-Chlorotoluene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
4-Chlorotoluene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
4-Methyl-2-Pentanone	µg/L	--	< 10 U	--	--	< 10 U	< 10 U	--
Acetone	µg/L	--	< 20 U	< 10 U	< 10 U	< 20 U	< 10 U	< 10 U
Benzene	µg/L	--	< 5 0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 1 U
Bromobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Bromochloromethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Bromodichloromethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Bromoform	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Bromomethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Carbon Disulfide	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Carbon Tetrachloride	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
CFC-11	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
CFC-12	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Chlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Chlorodibromomethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Chloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Chloroform	µg/L	--	< 5 0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 1 U
Chloromethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
cis-1,2-Dichloroethene	µg/L	70	< 5 0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 1 U
cis-1,3-Dichloropropene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Cyclohexane	µg/L	--	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Dibromomethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Dichloromethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Ethane	µg/L	--	--	< 0.1 U	< 0.1 U	--	--	< 0.1 U
Ethene	µg/L	--	--	**0.19**	**0.11**	--	--	< 0.1 U
Ethylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Hexachloro-1,3-butadiene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Isopropylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
m,p-Xylene	µg/L	--	--	--	--	--	< 0.50 U	--
Methane	µg/L	--	--	**0.51**	**0.3**	--	--	< 0.1 U
Methyl Acetate	µg/L	--	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	--	--	< 10 U	< 10 U	--
Methylcyclohexane	µg/L	--	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
m-Xylene	µg/L	--	< 5 0 U	--	--	< 5.0 U	--	--
Naphthalene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
N-Butylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-12	FCA-13	FCA-13	FCA-13	FCA-13	FCA-15
		Sample Date:	5/25/2011	6/16/2006	8/7/2006	5/24/2011	5/27/2015	6/14/2006
		Sample Identification:	PMR1FCA12(052511)	FCA-13-20060616	FCA-13-20060807	PMR1FCA13(052411)	PMR1-FCA-13 (052715)	FCA-15-20060614
Chemical	**Units**	**MCL**						
N-Propylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
o-Xylene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
sec-Butylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Styrene (Monomer)	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
tert-Butylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Tetrachloroethene	µg/L	--	< 5 0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 1 U
Toluene	µg/L	--	**0.20 J**	--	--	< 5.0 U	< 0.50 U	--
Total Xylenes	µg/L	--	< 5 0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 1 U
trans-1,2-Dichloroethene	µg/L	--	< 5 0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 1 U
trans-1,3-Dichloropropene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Trichloroethene	µg/L	5	< 5 0 U	**0.45 J**	< 1 U	**0.17 J**	< 0.50 U	< 1 U
Vinyl chloride	µg/L	2	< 2 0 U	--	--	< 2.0 U	< 0.50 U	--
Total VOC TICs	µg/L	--	--	0	0	--	--	0
Dissolved Gasses								
Carbon Dioxide	µg/L	--	**56000**	--	--	**8300**	--	--
Carbon Monoxide	µg/L	--	< 1000 U	--	--	< 1000 U	--	--
Methane	µg/L	--	< 0.51 U	--	--	< 0.10 U	--	--
Biogeochemical Parameters								
Nitrogen	µg/L	--	< 16000 U	--	--	< 21000 U	--	--
Alkalinity	µg/L	--	**36000**	--	--	**32000**	--	--
Chloride	µg/L	--	**1900**	**2900**	**2800**	**1800 J**	--	**67600**
Nitrate/Nitrite	µg/L	--	--	**660**	**740**	--	--	< 100 U
Nitrate-N	µg/L	--	**720**	**660**	**740**	**500**	**590**	< 110 U
Nitrite	µg/L	--	< 20 U	< 2 U	< 10 U	**9.5 J**	--	< 10 U
Sulfate	µg/L	--	**23000 J**	**20900**	**23000**	**72000**	**34000**	**10900**
Total Dissolved Solids	µg/L	--	**74000**	**69000**	**80000**	**150000**	--	**276000**
Total Hardness	µg/L	--	--	**40400**	**33700**	--	--	**170000**
Total Organic Carbon	µg/L	--	< 1400 U	< 1000 U	< 1000 U	< 1000 U	**970 J**	< 1000 U

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-15	FCA-15	FCA-15	FCA-16	FCA-16
		Sample Date:	8/8/2006	5/27/2011	5/29/2015	6/13/2006	8/8/2006
		Sample Identification:	FCA-15-20060808	PMR1FCA15(052711)	PMR1-FCA-15(052915)	FCA-16-20060613	FCA-16-20060808
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	**33400**	--	--	**8140**	**6750**
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	< 100 U	< 100 U	--	--
Iron, Total	µg/L	--	**372**	**270**	--	**15100**	**37000**
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	**9180**	--	--	< 5000 U	< 5000 U
Manganese, Dissolved	µg/L	--	--	**36**	--	--	--
Manganese, Total	µg/L	--	**42.3**	**43**	--	**504**	**460**
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	< 10000 U	--	--	**14400**	**13800**
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	< 2.1 U	--	--	< 2.1 U	< 2.1 U
Acenaphthene	µg/L	--	< 2.1 U	--	--	< 2.1 U	< 2.1 U
Acenaphthylene	µg/L	--	< 2.1 U	--	--	< 2.1 U	< 2.1 U
bis(2-Ethylhexyl)phthalate	µg/L	--	< 2.1 U	--	--	< 2.1 U	**2.7**
Carbazole	µg/L	--	< 2.1 U	--	--	< 2.1 U	< 2.1 U
Dibenzofuran	µg/L	--	< 5.2 U	--	--	< 5.2 U	< 5.2 U
Fluorene	µg/L	--	< 2.1 U	--	--	< 2.1 U	< 2.1 U
Naphthalene	µg/L	--	< 2.1 U	--	--	< 2.1 U	< 2.1 U
Nitrobenzene	µg/L	--	< 2.1 U	--	--	< 2.1 U	< 2.1 U
Phenanthrene	µg/L	--	< 2.1 U	--	--	< 2.1 U	< 2.1 U
Phenol	µg/L	--	< 5.2 U	--	--	< 5.2 U	< 5.2 U
Total SVOC TICs	µg/L	--	**0**	--	--	**29.9 J**	**0**
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,1,1-Trichloroethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,1-Dichloroethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,1-Dichloroethene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,1-Dichloropropene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,2,3-Trichlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,2,3-Trichloropropane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,2,4-Trimethylbenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,2-Dibromo-3-chloropropane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,2-Dibromoethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,2-Dichlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,2-Dichloroethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,2-Dichloropropane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-15	FCA-15	FCA-15	FCA-16	FCA-16
		Sample Date:	8/8/2006	5/27/2011	5/29/2015	6/13/2006	8/8/2006
		Sample Identification:	FCA-15-20060808	PMR1FCA15(052711)	PMR1-FCA-15(052915)	FCA-16-20060613	FCA-16-20060808
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,3-Dichlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,3-Dichloropropane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
1,4-Dichlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
2,2-Dichloropropane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
2-Butanone (MEK)	µg/L	--	--	< 10 U	< 10 UJ	--	--
2-Chlorotoluene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
4-Chlorotoluene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
4-Methyl-2-Pentanone	µg/L	--	--	< 10 U	< 10 UJ	--	--
Acetone	µg/L	--	< 10 U	< 20 U	< 10 UJ	< 10 U	< 10 U
Benzene	µg/L	--	< 1 U	< 5.0 U	< 0.50 UJ	< 1 U	< 1 U
Bromobenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Bromochloromethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Bromodichloromethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Bromoform	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Bromomethane	µg/L	--	--	< 5.0 U	< 0.50 U	--	--
Carbon Disulfide	µg/L	--	--	< 5.0 U	< 0.50 U	--	--
Carbon Tetrachloride	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
CFC-11	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
CFC-12	µg/L	--	--	< 5.0 U	< 0.50 U	--	--
Chlorobenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Chlorodibromomethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Chloroethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Chloroform	µg/L	--	< 1 U	< 5.0 U	< 0.50 UJ	< 1 U	< 1 U
Chloromethane	µg/L	--	--	< 5.0 U	< 0.50 U	--	--
cis-1,2-Dichloroethene	µg/L	70	< 1 U	< 5.0 U	< 0.50 UJ	< 1 U	< 1 U
cis-1,3-Dichloropropene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Dibromomethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Dichloromethane	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Ethane	µg/L	--	< 0.1 U	--	--	**1.1**	< 0.1 U
Ethene	µg/L	--	< 0.1 U	--	--	**0.37**	< 0.1 U
Ethylbenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Hexachloro-1,3-butadiene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Isopropylbenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
m,p-Xylene	µg/L	--	--	--	< 0.50 UJ	--	--
Methane	µg/L	--	< 0.1 U	--	--	**1.8**	**0.13**
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	--	< 10 U	< 10 UJ	--	--
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
m-Xylene	µg/L	--	--	< 5.0 U	--	--	--
Naphthalene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
N-Butylbenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-15	FCA-15	FCA-15	FCA-16	FCA-16
		Sample Date:	8/8/2006	5/27/2011	5/29/2015	6/13/2006	8/8/2006
		Sample Identification:	FCA-15-20060808	PMR1FCA15(052711)	PMR1-FCA-15(052915)	FCA-16-20060613	FCA-16-20060808
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
o-Xylene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
sec-Butylbenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Styrene (Monomer)	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
tert-Butylbenzene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Tetrachloroethene	µg/L	--	< 1 U	< 5.0 U	< 0.50 UJ	< 1 U	< 1 U
Toluene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Total Xylenes	µg/L	--	< 1 U	< 5.0 U	< 0.50 UJ	< 1 U	< 1 U
trans-1,2-Dichloroethene	µg/L	--	< 1 U	< 5.0 U	< 0.50 UJ	< 1 U	< 1 U
trans-1,3-Dichloropropene	µg/L	--	--	< 5.0 U	< 0.50 UJ	--	--
Trichloroethene	µg/L	5	< 1 U	< 5.0 U	< 0.50 UJ	< 1 U	< 1 U
Vinyl chloride	µg/L	2	--	< 2.0 U	< 0.50 UJ	--	--
Total VOC TICs	µg/L	--	0	--	--	0	0
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	**48000**	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	< 0.10 U	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	< 22000 U	--	--	--
Alkalinity	µg/L	--	--	**9100 J**	--	--	--
Chloride	µg/L	--	**51800**	**77000**	--	**48200**	**54400**
Nitrate/Nitrite	µg/L	--	< 100 U	--	--	< 100 U	< 100 U
Nitrate-N	µg/L	--	< 110 U	< 91 UJ	**410 J**	< 110 U	< 110 U
Nitrite	µg/L	--	< 10 U	< 20 UJ	--	< 10 U	< 10 U
Sulfate	µg/L	--	**6500**	**9200 J**	**24000 J**	**20500**	**58500**
Total Dissolved Solids	µg/L	--	**253000**	**240000**	--	**132000**	**141000**
Total Hardness	µg/L	--	**121000**	--	--	**40000**	**31700**
Total Organic Carbon	µg/L	--	< 1000 U	< 1300 U	< 650 U	**1200**	**1900**

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-16	FCA-17	FCA-17	FCA-17	FCA-17	FCA-18
		Sample Date:	5/27/2011	6/13/2006	8/7/2006	6/2/2011	5/29/2015	6/13/2006
		Sample Identification:	PMR1FCA16(052711)	FCA-17-20060613	FCA-17-20060807	PMR1FCA17(060211)	PMR1-FCA-17(052915)	FCA-18-20060613
Chemical	**Units**	**MCL**						
Metals								
Calcium, Total	µg/L	--	--	**11500**	**12600**	--	--	< 5000 U
Chromium, Total	µg/L	--	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	**8200**	--	--	**470**	**210**	--
Iron, Total	µg/L	--	**21000**	< 100 U	**988**	**2500**	--	< 100 U
Lead, Total	µg/L	--	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	< 5000 U	< 5000 U	--	--	< 5000 U
Manganese, Dissolved	µg/L	--	**150**	--	--	**43**	--	--
Manganese, Total	µg/L	--	**170**	< 15 U	**39.2**	**79**	--	< 15 U
Potassium, Total	µg/L	--	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	**19400**	**14300**	--	--	< 5000 U
Zinc, Total	µg/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds								
2-Methylnaphthalene	µg/L	--	--	< 2 U	< 2 U	--	--	< 2 U
Acenaphthene	µg/L	--	--	< 2 U	< 2 U	--	--	< 2 U
Acenaphthylene	µg/L	--	--	< 2 U	< 2 U	--	--	< 2 U
bis(2-Ethylhexyl)phthalate	µg/L	--	--	< 2 U	< 2 U	--	--	< 2 U
Carbazole	µg/L	--	--	< 2 U	< 2 U	--	--	< 2 U
Dibenzofuran	µg/L	--	--	< 5 U	< 5 U	--	--	< 5 U
Fluorene	µg/L	--	--	< 2 U	< 2 U	--	--	< 2 U
Naphthalene	µg/L	--	--	< 2 U	< 2 U	--	--	< 2 U
Nitrobenzene	µg/L	--	--	< 2 U	< 2 U	--	--	< 2 U
Phenanthrene	µg/L	--	--	< 2 U	< 2 U	--	--	< 2 U
Phenol	µg/L	--	--	< 5 U	< 5 U	--	--	< 5 U
Total SVOC TICs	µg/L	--	--	**0**	**21.2 J**	--	--	**0**
Total Petroleum Hydrocarbon (TPH)								
TPH as Pentane	µg/L	--	--	--	--	--	--	--
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1,1-Trichloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1,2,2-Tetrachloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1-Dichloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1-Dichloroethene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,1-Dichloropropene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2,3-Trichlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2,3-Trichloropropane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2,4-Trichlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2,4-Trimethylbenzene	µg/L	--	< 5 0 U	--	--	**0.92 J**	< 0.50 U	--
1,2-Dibromo-3-chloropropane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2-Dibromoethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2-Dichlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2-Dichloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,2-Dichloropropane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-16	FCA-17	FCA-17	FCA-17	FCA-17	FCA-18
		Sample Date:	5/27/2011	6/13/2006	8/7/2006	6/2/2011	5/29/2015	6/13/2006
		Sample Identification:	PMR1FCA16(052711)	FCA-17-20060613	FCA-17-20060807	PMR1FCA17(060211)	PMR1-FCA-17(052915)	FCA-18-20060613
Chemical	**Units**	**MCL**						
1,3,5-Trimethylbenzene	µg/L	--	< 5 0 U	--	--	**0.49 J**	< 0.50 U	--
1,3-Dichlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,3-Dichloropropane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
1,4-Dichlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
2,2-Dichloropropane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
2-Butanone (MEK)	µg/L	--	< 10 U	--	--	< 10 U	< 10 U	--
2-Chlorotoluene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
4-Chlorotoluene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
4-Methyl-2-Pentanone	µg/L	--	< 10 U	--	--	< 10 U	< 10 U	--
Acetone	µg/L	--	< 20 U	< 10 U	< 10 U	< 20 U	< 10 U	< 10 U
Benzene	µg/L	--	< 5 0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 1 U
Bromobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Bromochloromethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Bromodichloromethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Bromoform	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Bromomethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Carbon Disulfide	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Carbon Tetrachloride	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
CFC-11	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
CFC-12	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Chlorobenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Chlorodibromomethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Chloroethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Chloroform	µg/L	--	< 5 0 U	< 1 U	**0.25 J**	< 5.0 U	< 0.50 U	< 1 U
Chloromethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
cis-1,2-Dichloroethene	µg/L	70	< 5 0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 1 U
cis-1,3-Dichloropropene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Cyclohexane	µg/L	--	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 5 0 U	--	--	**0.26 J**	< 0.50 U	--
Dibromomethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Dichloromethane	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Ethane	µg/L	--	--	< 0.1 U	**0.19**	--	--	< 0.1 U
Ethene	µg/L	--	--	**0.2**	**0.59**	--	--	< 0.1 U
Ethylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Hexachloro-1,3-butadiene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Isopropylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
m,p-Xylene	µg/L	--	--	--	--	--	< 0.50 U	--
Methane	µg/L	--	--	**0.14**	**0.4**	--	--	< 0.1 U
Methyl Acetate	µg/L	--	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	--	--	< 10 U	< 10 U	--
Methylcyclohexane	µg/L	--	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
m-Xylene	µg/L	--	< 5 0 U	--	--	< 5.0 U	--	--
Naphthalene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
N-Butylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-16	FCA-17	FCA-17	FCA-17	FCA-17	FCA-18
		Sample Date:	5/27/2011	6/13/2006	8/7/2006	6/2/2011	5/29/2015	6/13/2006
		Sample Identification:	PMR1FCA16(052711)	FCA-17-20060613	FCA-17-20060807	PMR1FCA17(060211)	PMR1-FCA-17(052915)	FCA-18-20060613
Chemical	**Units**	**MCL**						
N-Propylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
o-Xylene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
sec-Butylbenzene	µg/L	--	< 5 0 U	--	--	**0.26 J**	< 0.50 U	--
Styrene (Monomer)	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
tert-Butylbenzene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Tetrachloroethene	µg/L	--	< 5 0 U	< 1 U	**0.51 J**	< 5.0 U	< 0.50 U	< 1 U
Toluene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Total Xylenes	µg/L	--	< 5 0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 1 U
trans-1,2-Dichloroethene	µg/L	--	< 5 0 U	< 1 U	< 1 U	< 5.0 U	< 0.50 U	< 1 U
trans-1,3-Dichloropropene	µg/L	--	< 5 0 U	--	--	< 5.0 U	< 0.50 U	--
Trichloroethene	µg/L	5	< 5 0 U	**5.8**	**3**	< 5.0 U	< 0.50 U	< 1 U
Vinyl chloride	µg/L	2	< 2 0 U	--	--	< 2.0 U	< 0.50 U	--
Total VOC TICs	µg/L	--	--	0	0	--	--	0
Dissolved Gasses								
Carbon Dioxide	µg/L	--	**40000**	--	--	**13000**	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--	--
Methane	µg/L	--	< 0.57 U	--	--	**470**	--	--
Biogeochemical Parameters								
Nitrogen	µg/L	--	< 18000 U	--	--	< 28000 U	--	--
Alkalinity	µg/L	--	**20000**	--	--	< 41000 U	--	--
Chloride	µg/L	--	**35000**	**4900**	**3900**	**2200**	--	**3800**
Nitrate/Nitrite	µg/L	--	--	**1200**	**620**	--	--	**3000**
Nitrate-N	µg/L	--	< 41 UJ	**1200**	**600**	**480**	**650 J**	**3000**
Nitrite	µg/L	--	< 20 UJ	**27**	**18**	**9.6 J**	--	< 10 U
Sulfate	µg/L	--	**13000 J**	**42200**	**25700**	**3400**	**890 J**	**5600**
Total Dissolved Solids	µg/L	--	**150000**	**152000**	**112000**	**62000**	--	**47000**
Total Hardness	µg/L	--	--	**52000**	**39600**	--	--	**36000**
Total Organic Carbon	µg/L	--	< 2500 U	**3500**	< 1000 U	< 1800 U	**2800**	< 1000 U

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-18	FCA-18	FCA-19	FCA-19	FCA-19	FCA-19
		Sample Date:	8/7/2006	6/2/2011	6/12/2006	8/8/2006	6/1/2011	5/28/2015
		Sample Identification:	FCA-18-20060807	PMR1FCA18(060211)	FCA-19-20060612	FCA-19-20060808	PMR1FCA19(060111)	PMR1-FCA-19(052815)
Chemical	**Units**	**MCL**						
Metals								
Calcium, Total	µg/L	--	< 5000 U	--	**198000**	**98700**	--	--
Chromium, Total	µg/L	--	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	< 100 U	--	--	< 100 U	< 100 U
Iron, Total	µg/L	--	< 100 U	**240**	< 100 U	**146**	**53 J**	--
Lead, Total	µg/L	--	--	--	--	--	--	--
Magnesium, Total	µg/L	--	< 5000 U	--	< 5000 U	< 5000 U	--	--
Manganese, Dissolved	µg/L	--	--	**5.2 J**	--	--	< 15 U	--
Manganese, Total	µg/L	--	< 15 U	**7.4 J**	< 15 U	< 15 U	< 15 U	--
Potassium, Total	µg/L	--	--	--	--	--	--	--
Sodium, Total	µg/L	--	< 10000 U	--	**55600**	**44800**	--	--
Zinc, Total	µg/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds								
2-Methylnaphthalene	µg/L	--	< 2 U	--	< 2 U	< 2.1 U	--	--
Acenaphthene	µg/L	--	< 2 U	--	< 2 U	< 2.1 U	--	--
Acenaphthylene	µg/L	--	< 2 U	--	< 2 U	< 2.1 U	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	< 2 U	--	**1.3 J**	**4.9**	--	--
Carbazole	µg/L	--	< 2 U	--	< 2 U	< 2.1 U	--	--
Dibenzofuran	µg/L	--	< 5 U	--	< 5 U	< 5.3 U	--	--
Fluorene	µg/L	--	< 2 U	--	< 2 U	< 2.1 U	--	--
Naphthalene	µg/L	--	< 2 U	--	< 2 U	< 2.1 U	--	--
Nitrobenzene	µg/L	--	< 2 U	--	< 2 U	< 2.1 U	--	--
Phenanthrene	µg/L	--	< 2 U	--	< 2 U	< 2.1 U	--	--
Phenol	µg/L	--	< 5 U	--	**1.8 J**	< 5.3 U	--	--
Total SVOC TICs	µg/L	--	**0**	--	**58.6 J**	**22.1 J**	--	--
Total Petroleum Hydrocarbon (TPH)								
TPH as Pentane	µg/L	--	--	--	--	--	--	--
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,1,1-Trichloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
1,1,2,2-Tetrachloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
1,1-Dichloroethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
1,1-Dichloroethene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
1,1-Dichloropropene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
1,2,3-Trichlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
1,2,3-Trichloropropane	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
1,2,4-Trichlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
1,2,4-Trimethylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
1,2-Dibromo-3-chloropropane	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
1,2-Dibromoethane	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
1,2-Dichlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
1,2-Dichloroethane	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
1,2-Dichloropropane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-18	FCA-18	FCA-19	FCA-19	FCA-19	FCA-19
		Sample Date:	8/7/2006	6/2/2011	6/12/2006	8/8/2006	6/1/2011	5/28/2015
		Sample Identification:	FCA-18-20060807	PMR1FCA18(060211)	FCA-19-20060612	FCA-19-20060808	PMR1FCA19(060111)	PMR1-FCA-19(052815)
Chemical	**Units**	**MCL**						
1,3,5-Trimethylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,3-Dichlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
1,3-Dichloropropane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
1,4-Dichlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
2,2-Dichloropropane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
2-Butanone (MEK)	µg/L	--	--	< 10 U	--	--	**6.9 J**	**1.6 J**
2-Chlorotoluene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
4-Chlorotoluene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
4-Methyl-2-Pentanone	µg/L	--	--	< 10 U	--	--	**0.50 J**	< 10 U
Acetone	µg/L	--	< 10 U	< 20 U	**21.9**	**26.7**	< 51 U	< 10 U
Benzene	µg/L	--	< 1 U	< 5.0 U	< 1 U	< 1 U	< 5.0 U	< 0 50 U
Bromobenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
Bromochloromethane	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
Bromodichloromethane	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
Bromoform	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
Bromomethane	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
Carbon Disulfide	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
Carbon Tetrachloride	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
CFC-11	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
CFC-12	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
Chlorobenzene	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
Chlorodibromomethane	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
Chloroethane	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
Chloroform	µg/L	--	< 1 U	< 5.0 U	**0.44 J**	< 1 U	< 5.0 U	< 0.50 U
Chloromethane	µg/L	--	--	< 5.0 U	--	--	**0.89 J**	< 0 50 U
cis-1,2-Dichloroethene	µg/L	70	< 1 U	< 5.0 U	< 1 U	< 1 U	< 5.0 U	< 0 50 U
cis-1,3-Dichloropropene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
Cyclohexane	µg/L	--	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
Dibromomethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
Dichloromethane	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
Ethane	µg/L	--	< 0.1 U	--	**0.11**	< 0.1 U	--	--
Ethene	µg/L	--	< 0.1 U	--	**0.17**	**0.42**	--	--
Ethylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
Hexachloro-1,3-butadiene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
Isopropylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
m,p-Xylene	µg/L	--	--	--	--	--	--	< 0 50 U
Methane	µg/L	--	< 0.1 U	--	**0.27**	**0.46**	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	--	< 10 U	--	--	**2.3 J**	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	--	< 5.0 U	--	--	**0.80 J**	< 0 50 U
m-Xylene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	--
Naphthalene	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
N-Butylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-18	FCA-18	FCA-19	FCA-19	FCA-19	FCA-19
		Sample Date:	8/7/2006	6/2/2011	6/12/2006	8/8/2006	6/1/2011	5/28/2015
		Sample Identification:	FCA-18-20060807	PMR1FCA18(060211)	FCA-19-20060612	FCA-19-20060808	PMR1FCA19(060111)	PMR1-FCA-19(052815)
Chemical	**Units**	**MCL**						
N-Propylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
o-Xylene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0.50 U
sec-Butylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
Styrene (Monomer)	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
tert-Butylbenzene	µg/L	--	--	< 5.0 U	--	--	< 5.0 U	< 0 50 U
Tetrachloroethene	µg/L	--	< 1 U	< 5.0 U	< 1 U	**0.51 J**	**0.29 J**	< 0 50 U
Toluene	µg/L	--	--	< 5.0 U	--	--	**0.33 J**	< 0 50 U
Total Xylenes	µg/L	--	< 1 U	< 5.0 U	< 1 U	< 1 U	< 5.0 U	< 0 50 U
trans-1,2-Dichloroethene	µg/L	--	< 1 U	< 5.0 U	< 1 U	< 1 U	< 5.0 U	< 0 50 U
trans-1,3-Dichloropropene	µg/L	--	--	< 5.0 U	--	--	< 5 0 U	< 0 50 U
Trichloroethene	µg/L	5	< 1 U	< 5.0 U	< 1 U	< 1 U	< 5 0 U	< 0 50 U
Vinyl chloride	µg/L	2	--	< 2.0 U	--	--	**0.22 J**	< 0 50 U
Total VOC TICs	µg/L	--	0	--	0	0	--	--
Dissolved Gasses								
Carbon Dioxide	µg/L	--	--	**34000**	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--	--
Methane	µg/L	--	--	**0.86**	--	--	--	--
Biogeochemical Parameters								
Nitrogen	µg/L	--	--	< 18000 U	--	--	--	--
Alkalinity	µg/L	--	--	< 10000 U	--	--	**92000**	--
Chloride	µg/L	--	**3200**	**3200**	**23200**	**16900**	**17000**	--
Nitrate/Nitrite	µg/L	--	**3600**	--	**3200**	**3900**	--	--
Nitrate-N	µg/L	--	**3600**	**2800**	**3100**	**3200**	< 27 UJ	**1600**
Nitrite	µg/L	--	< 10 U	< 20 U	**51**	**690**	**2200**	--
Sulfate	µg/L	--	**6000**	**10000**	**218000**	**122000**	**110000**	**130000**
Total Dissolved Solids	µg/L	--	**32000**	**42000**	**791000**	**475000**	**140000**	--
Total Hardness	µg/L	--	**19800**	--	**522000**	**242000**	--	--
Total Organic Carbon	µg/L	--	< 1000 U	< 1000 U	**7100**	**4000**	**5700**	**2800**

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-20	FCA-20	FCA-20	FCA-21	FCA-21	FCA-21
		Sample Date:	6/12/2006	8/8/2006	6/1/2011	6/14/2006	8/9/2006	6/1/2011
		Sample Identification:	FCA-20-20060612	FCA-20-20060808	PMR1FCA20(060111)	FCA-21-20060614	FCA-21-20060809	PMR1FCA21(060111)
Chemical	**Units**	**MCL**						
Metals								
Calcium, Total	µg/L	--	**8910**	**9400**	--	**52800**	**15400**	--
Chromium, Total	µg/L	--	--	--	--	**581**	--	--
Iron, Dissolved	µg/L	--	--	--	< 100 U	--	--	< 100 U
Iron, Total	µg/L	--	< 100 U	**745**	**900**	< 100 U	**1270**	**2900**
Lead, Total	µg/L	--	--	--	--	**3.2**	--	--
Magnesium, Total	µg/L	--	**8570**	**8250**	--	< 5000 U	< 5000 U	--
Manganese, Dissolved	µg/L	--	--	--	**13 J**	--	--	**11 J**
Manganese, Total	µg/L	--	**15.8**	**55.7**	**56**	< 15 U	< 15 U	**33**
Potassium, Total	µg/L	--	--	--	--	**22100**	--	--
Sodium, Total	µg/L	--	**34600**	**37700**	--	**76700**	**34200**	--
Zinc, Total	µg/L	--	--	--	--	**48.9**	--	--
Semi-Volatile Organic Compounds								
2-Methylnaphthalene	µg/L	--	< 2 U	< 2 U	--	< 2 2 U	< 2.2 U	--
Acenaphthene	µg/L	--	< 2 U	< 2 U	--	< 2 2 U	< 2.2 U	--
Acenaphthylene	µg/L	--	< 2 U	< 2 U	--	< 2 2 U	< 2.2 U	--
bis(2-Ethylhexyl)phthalate	µg/L	--	< 2 U	< 2 U	--	< 2.2 U	< 2.2 U	--
Carbazole	µg/L	--	< 2 U	< 2 U	--	< 2.2 U	< 2.2 U	--
Dibenzofuran	µg/L	--	< 5 U	< 5 U	--	< 5.4 U	< 5.6 U	--
Fluorene	µg/L	--	< 2 U	< 2 U	--	< 2.2 U	< 2.2 U	--
Naphthalene	µg/L	--	< 2 U	< 2 U	--	< 2.2 U	< 2.2 U	--
Nitrobenzene	µg/L	--	< 2 U	< 2 U	--	< 2 2 U	< 2.2 U	--
Phenanthrene	µg/L	--	< 2 U	< 2 U	--	< 2 2 U	< 2.2 U	--
Phenol	µg/L	--	< 5 U	< 5 U	--	< 5.4 U	< 5.6 U	--
Total SVOC TICs	µg/L	--	**0**	**4.9 J**	--	**49.6 J**	**29.2 J**	--
Total Petroleum Hydrocarbon (TPH)								
TPH as Pentane	µg/L	--	--	--	--	--	--	--
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,1,1-Trichloroethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,1-Dichloroethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,1-Dichloroethene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,1-Dichloropropene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,2,3-Trichlorobenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,2,3-Trichloropropane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,2,4-Trichlorobenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,2,4-Trimethylbenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,2-Dibromo-3-chloropropane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,2-Dibromoethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,2-Dichlorobenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,2-Dichloroethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,2-Dichloropropane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-20	FCA-20	FCA-20	FCA-21	FCA-21	FCA-21
		Sample Date:	6/12/2006	8/8/2006	6/1/2011	6/14/2006	8/9/2006	6/1/2011
		Sample Identification:	FCA-20-20060612	FCA-20-20060808	PMR1FCA20(060111)	FCA-21-20060614	FCA-21-20060809	PMR1FCA21(060111)
Chemical	**Units**	**MCL**						
1,3,5-Trimethylbenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,3-Dichlorobenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,3-Dichloropropane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
1,4-Dichlorobenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
2,2-Dichloropropane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
2-Butanone (MEK)	µg/L	--	--	--	< 10 U	--	--	< 10 U
2-Chlorotoluene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
4-Chlorotoluene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
4-Methyl-2-Pentanone	µg/L	--	--	--	< 10 U	--	--	< 10 U
Acetone	µg/L	--	< 10 U	< 10 U	< 20 UJ	**6.2 J**	< 10 U	< 20 U
Benzene	µg/L	--	< 1 U	< 1 U	< 5 0 U	< 1 U	< 1 U	< 5.0 U
Bromobenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Bromochloromethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Bromodichloromethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Bromoform	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Bromomethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Carbon Disulfide	µg/L	--	--	--	< 5 0 U	--	--	**0.23 J**
Carbon Tetrachloride	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
CFC-11	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
CFC-12	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Chlorobenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Chlorodibromomethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Chloroethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Chloroform	µg/L	--	**0.34 J**	< 1 U	< 5 0 U	**1.8**	< 1 U	< 5.0 U
Chloromethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
cis-1,2-Dichloroethene	µg/L	70	< 1 U	< 1 U	< 5 0 U	**0.8 J**	**1.7**	**1.2 J**
cis-1,3-Dichloropropene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Cyclohexane	µg/L	--	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Dibromomethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Dichloromethane	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Ethane	µg/L	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	--
Ethene	µg/L	--	< 0.1 U	< 0.1 U	--	< 0.1 U	**0.11**	--
Ethylbenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Hexachloro-1,3-butadiene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Isopropylbenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
m,p-Xylene	µg/L	--	--	--	--	--	--	--
Methane	µg/L	--	< 0.1 U	< 0.1 U	--	**0.14**	< 0.1 U	--
Methyl Acetate	µg/L	--	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	--	--	< 10 U	--	--	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	--	--	< 5 0 U	--	--	**0.59 J**
m-Xylene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Naphthalene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
N-Butylbenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-20	FCA-20	FCA-20	FCA-21	FCA-21	FCA-21
		Sample Date:	6/12/2006	8/8/2006	6/1/2011	6/14/2006	8/9/2006	6/1/2011
		Sample Identification:	FCA-20-20060612	FCA-20-20060808	PMR1FCA20(060111)	FCA-21-20060614	FCA-21-20060809	PMR1FCA21(060111)
Chemical	**Units**	**MCL**						
N-Propylbenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
o-Xylene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
sec-Butylbenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Styrene (Monomer)	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
tert-Butylbenzene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Tetrachloroethene	µg/L	--	< 1 U	< 1 U	< 5 0 U	< 1 U	< 1 U	< 5.0 U
Toluene	µg/L	--	--	--	< 5 0 U	--	--	**0.24 J**
Total Xylenes	µg/L	--	< 1 U	< 1 U	< 5 0 U	< 1 U	< 1 U	< 5.0 U
trans-1,2-Dichloroethene	µg/L	--	< 1 U	< 1 U	< 5 0 U	< 1 U	< 1 U	< 5.0 U
trans-1,3-Dichloropropene	µg/L	--	--	--	< 5 0 U	--	--	< 5.0 U
Trichloroethene	µg/L	5	< 1 U	< 1 U	< 5 0 U	< 1 U	**0.51 J**	**0.60 J**
Vinyl chloride	µg/L	2	--	--	< 2 0 U	--	--	< 2.0 U
Total VOC TICs	µg/L	--	0	0	--	0	0	--
Dissolved Gasses								
Carbon Dioxide	µg/L	--	--	--	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--	--
Biogeochemical Parameters								
Nitrogen	µg/L	--	--	--	--	--	--	--
Alkalinity	µg/L	--	--	--	< 11000 U	--	--	**84000**
Chloride	µg/L	--	**84000**	**90800**	**190000**	**20200**	**5500**	**12000**
Nitrate/Nitrite	µg/L	--	**3800**	**3500**	--	**390**	**2800**	--
Nitrate-N	µg/L	--	**3800**	**3500**	**3400 J**	**370**	**2800**	< 20 UJ
Nitrite	µg/L	--	< 10 U	< 10 U	< 20 U	**23**	< 10 U	**8.1 J**
Sulfate	µg/L	--	**5100**	**5000**	**11000**	**205000**	**80000**	**370000**
Total Dissolved Solids	µg/L	--	**190000**	**198000**	**410000**	**441000**	**219000**	**650000**
Total Hardness	µg/L	--	**54000**	**59400**	--	**124000**	**54000**	--
Total Organic Carbon	µg/L	--	< 1000 U	< 1000 U	< 1000 U	**6700**	**2700**	**3300**

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-21	FCA-22	FCA-22	FCA-22	FCA-22
		Sample Date:	6/4/2015	6/14/2006	8/9/2006	8/9/2006	6/1/2011
		Sample Identification:	PMR1-FCA-21(060415)	FCA-22-20060614	DUP-01(FCA-22)-20060809	FCA-22-20060809	PMR1FCA22(060111)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	**7160**	**6390**	**6390**	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	**110**	--	--	--	< 100 U
Iron, Total	µg/L	--	--	< 100 U	< 100 U	< 100 U	< 100 U
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	**5900**	**5530**	**5670**	--
Manganese, Dissolved	µg/L	--	--	--	--	--	< 15 U
Manganese, Total	µg/L	--	--	< 15 U	< 15 U	< 15 U	< 15 U
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	**8650**	< 10000 U	< 10000 U	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	< 2 U	< 2.1 U	< 2.1 U	--
Acenaphthene	µg/L	--	--	< 2 U	< 2.1 U	< 2.1 U	--
Acenaphthylene	µg/L	--	--	< 2 U	< 2.1 U	< 2.1 U	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	< 2 U	< 2.1 U	< 2.1 U	--
Carbazole	µg/L	--	--	< 2 U	< 2.1 U	< 2.1 U	--
Dibenzofuran	µg/L	--	--	< 5 U	< 5.2 U	< 5.3 U	--
Fluorene	µg/L	--	--	< 2 U	< 2.1 U	< 2.1 U	--
Naphthalene	µg/L	--	--	< 2 U	< 2.1 U	< 2.1 U	--
Nitrobenzene	µg/L	--	--	< 2 U	< 2.1 U	< 2.1 U	--
Phenanthrene	µg/L	--	--	< 2 U	< 2.1 U	< 2.1 U	--
Phenol	µg/L	--	--	< 5 U	< 5.2 U	< 5.3 U	--
Total SVOC TICs	µg/L	--	--	**0**	**4.8 J**	**0**	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,1,1-Trichloroethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,1-Dichloroethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,1-Dichloroethene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,1-Dichloropropene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,2,3-Trichlorobenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,2,3-Trichloropropane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,2,4-Trichlorobenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,2,4-Trimethylbenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,2-Dibromoethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,2-Dichlorobenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,2-Dichloroethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,2-Dichloropropane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-21	FCA-22	FCA-22	FCA-22	FCA-22
		Sample Date:	6/4/2015	6/14/2006	8/9/2006	8/9/2006	6/1/2011
		Sample Identification:	PMR1-FCA-21(060415)	FCA-22-20060614	DUP-01(FCA-22)-20060809	FCA-22-20060809	PMR1FCA22(060111)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,3-Dichlorobenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,3-Dichloropropane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
1,4-Dichlorobenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
2,2-Dichloropropane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
2-Butanone (MEK)	µg/L	--	< 10 U	--	--	--	< 10 U
2-Chlorotoluene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
4-Chlorotoluene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	--	--	--	< 10 U
Acetone	µg/L	--	**2.4 J**	< 10 U	< 10 U	< 10 U	< 20 U
Benzene	µg/L	--	< 0.50 U	< 1 U	< 1 U	< 1 U	< 5.0 U
Bromobenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Bromochloromethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Bromodichloromethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Bromoform	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Bromomethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Carbon Disulfide	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Carbon Tetrachloride	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
CFC-11	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
CFC-12	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Chlorobenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Chlorodibromomethane	µg/L	--	< 0 50 U	--	--	--	< 5.0 U
Chloroethane	µg/L	--	< 0 50 U	--	--	--	< 5.0 U
Chloroform	µg/L	--	< 0 50 U	< 1 U	< 1 U	< 1 U	< 5.0 U
Chloromethane	µg/L	--	< 0 50 U	--	--	--	< 5.0 U
cis-1,2-Dichloroethene	µg/L	70	**0.76**	< 1 U	< 1 U	< 1 U	< 5.0 U
cis-1,3-Dichloropropene	µg/L	--	< 0 50 U	--	--	--	< 5.0 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Dibromomethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Dichloromethane	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Ethane	µg/L	--	--	< 0.1 U	< 0.1 U	< 0.1 U	--
Ethene	µg/L	--	--	< 0.1 U	< 0.1 U	< 0.1 U	--
Ethylbenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Hexachloro-1,3-butadiene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Isopropylbenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
m,p-Xylene	µg/L	--	< 0.50 U	--	--	--	--
Methane	µg/L	--	--	< 0.1 U	< 0.1 U	< 0.1 U	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	--	--	--	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	**0.51**	--	--	--	< 5.0 U
m-Xylene	µg/L	--	--	--	--	--	< 5.0 U
Naphthalene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
N-Butylbenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-21	FCA-22	FCA-22	FCA-22	FCA-22
		Sample Date:	6/4/2015	6/14/2006	8/9/2006	8/9/2006	6/1/2011
		Sample Identification:	PMR1-FCA-21(060415)	FCA-22-20060614	DUP-01(FCA-22)-20060809	FCA-22-20060809	PMR1FCA22(060111)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
o-Xylene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
sec-Butylbenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Styrene (Monomer)	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
tert-Butylbenzene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Tetrachloroethene	µg/L	--	< 0.50 U	< 1 U	< 1 U	< 1 U	< 5.0 U
Toluene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Total Xylenes	µg/L	--	< 0.50 U	< 1 U	< 1 U	< 1 U	< 5.0 U
trans-1,2-Dichloroethene	µg/L	--	< 0.50 U	< 1 U	< 1 U	< 1 U	< 5.0 U
trans-1,3-Dichloropropene	µg/L	--	< 0.50 U	--	--	--	< 5.0 U
Trichloroethene	µg/L	5	< 0.50 U	**0.73 J**	**0.39 J**	**0.47 J**	**0.30 J**
Vinyl chloride	µg/L	2	< 0.50 U	--	--	--	< 2.0 U
Total VOC TICs	µg/L	--	--	0	0	0	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	--	--	--
Alkalinity	µg/L	--	--	--	--	--	< 13000 U
Chloride	µg/L	--	--	**25100**	**17800**	**17900**	**8900**
Nitrate/Nitrite	µg/L	--	--	**4400**	**3800**	**3700**	--
Nitrate-N	µg/L	--	**370**	**4400**	**3800**	**3700**	**4200 J**
Nitrite	µg/L	--	--	< 10 U	< 10 U	< 10 U	< 20 U
Sulfate	µg/L	--	**410000**	**9700**	**11600**	**12000**	**18000**
Total Dissolved Solids	µg/L	--	--	**84000**	**60000**	**58000**	**76000**
Total Hardness	µg/L	--	--	**48000**	**37600**	**39600**	--
Total Organic Carbon	µg/L	--	**3500**	< 1000 U	< 1000 U	< 1000 U	< 1100 U

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-23	FCA-23	FCA-23	FCA-24	FCA-24	FCA-24
		Sample Date:	6/13/2006	8/8/2006	6/2/2011	6/13/2006	6/13/2006	8/8/2006
		Sample Identification:	FCA-23-20060613	FCA-23-20060808	PMR1FCA23(060211)	DUP2(FCA-24)-20060613	FCA-24-20060613	FCA-24-20060808
Chemical	**Units**	**MCL**						
Metals								
Calcium, Total	µg/L	--	**10200**	**9500**	--	< 5000 U	< 5000 U	< 5000 U
Chromium, Total	µg/L	--	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	--	< 100 U	--	--	--
Iron, Total	µg/L	--	< 100 U	< 100 U	**280**	< 100 U	< 100 U	< 100 U
Lead, Total	µg/L	--	--	--	--	--	--	--
Magnesium, Total	µg/L	--	**8350**	**7960**	--	< 5000 U	< 5000 U	< 5000 U
Manganese, Dissolved	µg/L	--	--	--	**7.7 J**	--	--	--
Manganese, Total	µg/L	--	< 15 U	< 15 U	**11 J**	**59.2**	**19**	**28.3**
Potassium, Total	µg/L	--	--	--	--	--	--	--
Sodium, Total	µg/L	--	**13900**	**13300**	--	**5140**	**7490**	< 10000 U
Zinc, Total	µg/L	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds								
2-Methylnaphthalene	µg/L	--	< 2 U	< 2 U	--	< 2.4 U	< 2 U	< 2.1 U
Acenaphthene	µg/L	--	< 2 U	< 2 U	--	< 2.4 U	< 2 U	< 2.1 U
Acenaphthylene	µg/L	--	< 2 U	< 2 U	--	< 2.4 U	< 2 U	< 2.1 U
bis(2-Ethylhexyl)phthalate	µg/L	--	< 2 U	< 2 U	--	< 2.4 U	< 2 U	< 2.1 U
Carbazole	µg/L	--	< 2 U	< 2 U	--	< 2.4 U	< 2 U	< 2.1 U
Dibenzofuran	µg/L	--	< 5 U	< 5 U	--	< 6 U	< 5 U	< 5.3 U
Fluorene	µg/L	--	< 2 U	< 2 U	--	< 2.4 U	< 2 U	< 2.1 U
Naphthalene	µg/L	--	< 2 U	< 2 U	--	< 2.4 U	< 2 U	< 2.1 U
Nitrobenzene	µg/L	--	< 2 U	< 2 U	--	< 2.4 U	< 2 U	< 2.1 U
Phenanthrene	µg/L	--	< 2 U	< 2 U	--	< 2.4 U	< 2 U	< 2.1 U
Phenol	µg/L	--	< 5 U	< 5 U	--	< 6 U	< 5 U	< 5.3 U
Total SVOC TICs	µg/L	--	**0**	**0**	--	**785 J**	**0**	**0**
Total Petroleum Hydrocarbon (TPH)								
TPH as Pentane	µg/L	--	**2000**	< 520 U	--	**1400**	**1100**	< 520 U
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	µg/L	--	--	--	< 5.0 U	--	--	--
1,1,1-Trichloroethane	µg/L	--	--	--	< 5.0 U	--	--	--
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	< 5.0 U	--	--	--
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	< 5.0 U	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	< 5.0 U	--	--	--
1,1-Dichloroethene	µg/L	--	--	--	< 5.0 U	--	--	--
1,1-Dichloropropene	µg/L	--	--	--	< 5.0 U	--	--	--
1,2,3-Trichlorobenzene	µg/L	--	--	--	< 5.0 U	--	--	--
1,2,3-Trichloropropane	µg/L	--	--	--	< 5.0 U	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	< 5.0 U	--	--	--
1,2,4-Trimethylbenzene	µg/L	--	--	--	< 5.0 U	--	--	--
1,2-Dibromo-3-chloropropane	µg/L	--	--	--	< 5.0 U	--	--	--
1,2-Dibromoethane	µg/L	--	--	--	< 5.0 U	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	< 5.0 U	--	--	--
1,2-Dichloroethane	µg/L	--	--	--	< 5.0 U	--	--	--
1,2-Dichloropropane	µg/L	--	--	--	< 5.0 U	--	--	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-23	FCA-23	FCA-23	FCA-24	FCA-24	FCA-24
		Sample Date:	6/13/2006	8/8/2006	6/2/2011	6/13/2006	6/13/2006	8/8/2006
		Sample Identification:	FCA-23-20060613	FCA-23-20060808	PMR1FCA23(060211)	DUP2(FCA-24)-20060613	FCA-24-20060613	FCA-24-20060808
Chemical	**Units**	**MCL**						
1,3,5-Trimethylbenzene	µg/L	--	--	--	< 5.0 U	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	< 5.0 U	--	--	--
1,3-Dichloropropane	µg/L	--	--	--	< 5.0 U	--	--	--
1,4-Dichlorobenzene	µg/L	--	--	--	< 5.0 U	--	--	--
2,2-Dichloropropane	µg/L	--	--	--	< 5.0 U	--	--	--
2-Butanone (MEK)	µg/L	--	--	--	< 10 U	--	--	--
2-Chlorotoluene	µg/L	--	--	--	< 5.0 U	--	--	--
4-Chlorotoluene	µg/L	--	--	--	< 5.0 U	--	--	--
4-Methyl-2-Pentanone	µg/L	--	--	--	< 10 U	--	--	--
Acetone	µg/L	--	< 10 U	< 10 U	< 20 U	< 10 U	< 10 U	< 10 U
Benzene	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 1 U	< 1 U	< 1 U
Bromobenzene	µg/L	--	--	--	< 5.0 U	--	--	--
Bromochloromethane	µg/L	--	--	--	< 5.0 U	--	--	--
Bromodichloromethane	µg/L	--	--	--	< 5.0 U	--	--	--
Bromoform	µg/L	--	--	--	< 5.0 U	--	--	--
Bromomethane	µg/L	--	--	--	< 5.0 U	--	--	--
Carbon Disulfide	µg/L	--	--	--	< 5.0 U	--	--	--
Carbon Tetrachloride	µg/L	--	--	--	< 5.0 U	--	--	--
CFC-11	µg/L	--	--	--	< 5.0 U	--	--	--
CFC-12	µg/L	--	--	--	< 5.0 U	--	--	--
Chlorobenzene	µg/L	--	--	--	< 5.0 U	--	--	--
Chlorodibromomethane	µg/L	--	--	--	< 5.0 U	--	--	--
Chloroethane	µg/L	--	--	--	< 5.0 UJ	--	--	--
Chloroform	µg/L	--	**0.5 J**	**0.58 J**	< 5.0 U	< 1 U	< 1 U	< 1 U
Chloromethane	µg/L	--	--	--	< 5.0 U	--	--	--
cis-1,2-Dichloroethene	µg/L	70	< 1 U	< 1 U	< 5.0 U	< 1 U	< 1 U	< 1 U
cis-1,3-Dichloropropene	µg/L	--	--	--	< 5.0 U	--	--	--
Cyclohexane	µg/L	--	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	--	--	< 5.0 U	--	--	--
Dibromomethane	µg/L	--	--	--	< 5.0 U	--	--	--
Dichloromethane	µg/L	--	--	--	< 5.0 U	--	--	--
Ethane	µg/L	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	< 0.1 U
Ethene	µg/L	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	< 0.1 U
Ethylbenzene	µg/L	--	--	--	< 5.0 U	--	--	--
Hexachloro-1,3-butadiene	µg/L	--	--	--	< 5.0 U	--	--	--
Isopropylbenzene	µg/L	--	--	--	< 5.0 U	--	--	--
m,p-Xylene	µg/L	--	--	--	--	--	--	--
Methane	µg/L	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	< 0.1 U
Methyl Acetate	µg/L	--	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	--	--	< 10 U	--	--	--
Methylcyclohexane	µg/L	--	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	--	--	< 5.0 U	--	--	--
m-Xylene	µg/L	--	--	--	< 5.0 U	--	--	--
Naphthalene	µg/L	--	--	--	< 5.0 U	--	--	--
N-Butylbenzene	µg/L	--	--	--	< 5.0 U	--	--	--

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-23	FCA-23	FCA-23	FCA-24	FCA-24	FCA-24
		Sample Date:	6/13/2006	8/8/2006	6/2/2011	6/13/2006	6/13/2006	8/8/2006
		Sample Identification:	FCA-23-20060613	FCA-23-20060808	PMR1FCA23(060211)	DUP2(FCA-24)-20060613	FCA-24-20060613	FCA-24-20060808
Chemical	**Units**	**MCL**						
N-Propylbenzene	µg/L	--	--	--	< 5.0 U	--	--	--
o-Xylene	µg/L	--	--	--	< 5.0 U	--	--	--
sec-Butylbenzene	µg/L	--	--	--	< 5.0 U	--	--	--
Styrene (Monomer)	µg/L	--	--	--	< 5.0 U	--	--	--
tert-Butylbenzene	µg/L	--	--	--	< 5.0 U	--	--	--
Tetrachloroethene	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 1 U	< 1 U	< 1 U
Toluene	µg/L	--	--	--	< 5.0 U	--	--	--
Total Xylenes	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	µg/L	--	< 1 U	< 1 U	< 5.0 U	< 1 U	< 1 U	< 1 U
trans-1,3-Dichloropropene	µg/L	--	--	--	< 5.0 U	--	--	--
Trichloroethene	µg/L	5	< 1 U	< 1 U	< 5.0 U	< 1 U	< 1 U	< 1 U
Vinyl chloride	µg/L	2	--	--	< 2.0 U	--	--	--
Total VOC TICs	µg/L	--	0	0	--	0	0	0
Dissolved Gasses								
Carbon Dioxide	µg/L	--	--	--	**89000**	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--	--
Methane	µg/L	--	--	--	< 0.10 U	--	--	--
Biogeochemical Parameters								
Nitrogen	µg/L	--	--	--	< 21000 U	--	--	--
Alkalinity	µg/L	--	--	--	< 10000 U	--	--	--
Chloride	µg/L	--	**48700**	**44900**	**65000**	**24000**	**26900**	**25100**
Nitrate/Nitrite	µg/L	--	**3800**	**4300**	--	**1400**	**2000**	**2900**
Nitrate-N	µg/L	--	**3800**	**4300**	**5200**	**1400**	**2000**	**2900**
Nitrite	µg/L	--	< 10 U	< 10 U	< 20 U	< 2 U	< 10 U	< 10 U
Sulfate	µg/L	--	**4900**	**5100**	**9400**	< 2000 U	< 2000 U	< 2000 U
Total Dissolved Solids	µg/L	--	**160000**	**144000**	**200000**	**52000**	**74000**	**46000**
Total Hardness	µg/L	--	**60000**	**49500**	--	**54500**	**32000**	**25700**
Total Organic Carbon	µg/L	--	< 1000 U	< 1000 U	< 1000 U	**1300**	< 1000 U	< 1000 U

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-24	FCA-25	FCA-25	FCA-25	FCA-25
		Sample Date:	6/2/2011	5/27/2011	5/27/2011	9/1/2011	9/1/2011
		Sample Identification:	PMR1FCA24(060211)	PMR1DUP02(052711)	PMR1FCA25(052711)	PMR1DUP01090111)	PMR1FCA25(090111)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	--	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	< 100 U	**41 J**	**56 J**	--	--
Iron, Total	µg/L	--	**160**	**740**	**950**	--	--
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	--	--	--	--
Manganese, Dissolved	µg/L	--	**19**	**96**	**99**	--	--
Manganese, Total	µg/L	--	**23**	**110**	**120**	--	--
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	--	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Total SVOC TICs	µg/L	--	--	--	--	--	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,1,1-Trichloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,1-Dichloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,1-Dichloroethene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,1-Dichloropropene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,2,3-Trichlorobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,2,3-Trichloropropane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,2,4-Trichlorobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,2,4-Trimethylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,2-Dibromoethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,2-Dichlorobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,2-Dichloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,2-Dichloropropane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-24	FCA-25	FCA-25	FCA-25	FCA-25
		Sample Date:	6/2/2011	5/27/2011	5/27/2011	9/1/2011	9/1/2011
		Sample Identification:	PMR1FCA24(060211)	PMR1DUP02(052711)	PMR1FCA25(052711)	PMR1DUP01090111)	PMR1FCA25(090111)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,3-Dichlorobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,3-Dichloropropane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
1,4-Dichlorobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
2,2-Dichloropropane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
2-Butanone (MEK)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
4-Chlorotoluene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	µg/L	--	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U
Benzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Bromobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Bromochloromethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Bromodichloromethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Bromoform	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Bromomethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Carbon Disulfide	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	**0.36 J**	**0.37 J**
Carbon Tetrachloride	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
CFC-11	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
CFC-12	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Chlorobenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Chlorodibromomethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Chloroethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Chloroform	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Chloromethane	µg/L	--	**0.65 J**	< 5.0 U	< 5.0 U	**0.51 J**	**0.66 J**
cis-1,2-Dichloroethene	µg/L	70	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
cis-1,3-Dichloropropene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Dibromomethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Dichloromethane	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Ethane	µg/L	--	--	--	--	--	--
Ethene	µg/L	--	--	--	--	--	--
Ethylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Hexachloro-1,3-butadiene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Isopropylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
m,p-Xylene	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
m-Xylene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Naphthalene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	**0.32 J**	**0.33 J**
N-Butylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-24	FCA-25	FCA-25	FCA-25	FCA-25
		Sample Date:	6/2/2011	5/27/2011	5/27/2011	9/1/2011	9/1/2011
		Sample Identification:	PMR1FCA24(060211)	PMR1DUP02(052711)	PMR1FCA25(052711)	PMR1DUP01090111)	PMR1FCA25(090111)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
o-Xylene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
sec-Butylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Styrene (Monomer)	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
tert-Butylbenzene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Tetrachloroethene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Toluene	µg/L	--	< 5.0 U	**0.39 J**	**0.34 J**	**0.22 J**	**0.19 J**
Total Xylenes	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
trans-1,2-Dichloroethene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 UJ
trans-1,3-Dichloropropene	µg/L	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	**2.2 J**
Trichloroethene	µg/L	5	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5 0 U
Vinyl chloride	µg/L	2	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2 0 U
Total VOC TICs	µg/L	--	--	--	--	--	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	**62000**	**68000**	**65000**	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	< 0.10 U	< 0 26 U	< 0.34 U	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	< 20000 U	< 15000 U	< 15000 U	--	--
Alkalinity	µg/L	--	< 10000 U	**22000**	**24000**	--	--
Chloride	µg/L	--	**36000**	**91000**	**90000**	--	--
Nitrate/Nitrite	µg/L	--	--	--	--	--	--
Nitrate-N	µg/L	--	**1800**	< 250 UJ	< 230 UJ	--	--
Nitrite	µg/L	--	< 20 U	< 20 UJ	< 20 UJ	--	--
Sulfate	µg/L	--	**3100**	**25000 J**	**25000 J**	--	--
Total Dissolved Solids	µg/L	--	**110000**	**270000**	**280000**	--	--
Total Hardness	µg/L	--	--	--	--	--	--
Total Organic Carbon	µg/L	--	< 1000 U	< 1000 U	< 1000 U	--	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-25	FCA-25	FCA-25	FCA-25	FCA-25
		Sample Date:	5/6/2014	9/3/2014	10/14/2014	2/25/2015	5/27/2015
		Sample Identification:	PMR1-FCA25(050614)	PMR1FCA-25(090314)	PMR1FCA-25(101414)	PMRI-FCA-25(022515)	PMR1-FCA-25 (052715)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	--	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	--	--	--	**1500**
Iron, Total	µg/L	--	--	--	--	--	--
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	--	--	--	--
Manganese, Dissolved	µg/L	--	--	--	--	--	--
Manganese, Total	µg/L	--	--	--	--	--	--
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	--	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Total SVOC TICs	µg/L	--	--	--	--	--	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
1,1,1-Trichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U
1,1-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U
1,1-Dichloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
1,1-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
1,2,3-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
1,2,3-Trichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
1,2,4-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
1,2,4-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
1,2-Dibromoethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
1,2-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
1,2-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
1,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-25	FCA-25	FCA-25	FCA-25	FCA-25
		Sample Date:	5/6/2014	9/3/2014	10/14/2014	2/25/2015	5/27/2015
		Sample Identification:	PMR1-FCA25(050614)	PMR1FCA-25(090314)	PMR1FCA-25(101414)	PMRI-FCA-25(022515)	PMR1-FCA-25 (052715)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
1,3-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
1,3-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
1,4-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
2,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U
2-Butanone (MEK)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U
4-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	µg/L	--	< 10 U	< 10 U	< 10 U	**6.3 J**	< 10 U
Benzene	µg/L	--	< 0.50 U	< 0.50 U	**0.14**	< 0 50 U	< 0 50 U
Bromobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Bromochloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Bromodichloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Bromoform	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Bromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Carbon Disulfide	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Carbon Tetrachloride	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
CFC-11	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
CFC-12	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Chlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Chlorodibromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Chloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Chloroform	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Chloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	70	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
cis-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
Dibromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
Dichloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
Ethane	µg/L	--	--	--	--	--	--
Ethene	µg/L	--	--	--	--	--	--
Ethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U
Hexachloro-1,3-butadiene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Isopropylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
m,p-Xylene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Methane	µg/L	--	--	--	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
m-Xylene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
N-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-25	FCA-25	FCA-25	FCA-25	FCA-25
		Sample Date:	5/6/2014	9/3/2014	10/14/2014	2/25/2015	5/27/2015
		Sample Identification:	PMR1-FCA25(050614)	PMR1FCA-25(090314)	PMR1FCA-25(101414)	PMRI-FCA-25(022515)	PMR1-FCA-25 (052715)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
o-Xylene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
sec-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
Styrene (Monomer)	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0.50 U
tert-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U
Tetrachloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U
Toluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U
Total Xylenes	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U	< 0 50 U
trans-1,2-Dichloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
trans-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Trichloroethene	µg/L	5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Vinyl chloride	µg/L	2	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0 50 U
Total VOC TICs	µg/L	--	--	--	--	--	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	--	--	--
Alkalinity	µg/L	--	--	--	--	--	--
Chloride	µg/L	--	--	--	--	--	--
Nitrate/Nitrite	µg/L	--	--	--	--	--	--
Nitrate-N	µg/L	--	--	--	--	--	< 28 U
Nitrite	µg/L	--	--	--	--	--	--
Sulfate	µg/L	--	--	--	--	--	**30000**
Total Dissolved Solids	µg/L	--	--	--	--	--	--
Total Hardness	µg/L	--	--	--	--	--	--
Total Organic Carbon	µg/L	--	--	--	--	--	**1200**

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-25	FCA-25	FCA-26	FCA-26	FCA-26
		Sample Date:	8/31/2015	11/25/2015	5/7/2014	9/3/2014	10/15/2014
		Sample Identification:	PMR1-FCA-25(083115)	PMR1-FCA-25 (112515)	PMR1-FCA26(050714)	PMR1FCA-26(090314)	PMR1FCA-26(101514)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	--	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	--	--	--	--
Iron, Total	µg/L	--	--	--	--	--	--
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	--	--	--	--
Manganese, Dissolved	µg/L	--	--	--	--	--	--
Manganese, Total	µg/L	--	--	--	--	--	--
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	--	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Total SVOC TICs	µg/L	--	--	--	--	--	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 1.0 U	< 1.0 U	< 0 50 U	< 0 50 U	< 0.50 U
1,1,1-Trichloroethane	µg/L	--	< 1.0 U	< 1.0 U	< 0 50 U	< 0 50 U	< 0.50 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
1,1-Dichloroethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
1,1-Dichloroethene	µg/L	--	< 1.0 U	< 1.0 U	**0.48 J**	**0.35 J**	**0.66**
1,1-Dichloropropene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
1,2,3-Trichlorobenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
1,2,3-Trichloropropane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
1,2,4-Trichlorobenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
1,2,4-Trimethylbenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
1,2-Dibromoethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
1,2-Dichlorobenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
1,2-Dichloroethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
1,2-Dichloropropane	µg/L	--	< 1.0 U	< 1.0 U	< 0 50 U	< 0 50 U	< 0.50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-25	FCA-25	FCA-26	FCA-26	FCA-26
		Sample Date:	8/31/2015	11/25/2015	5/7/2014	9/3/2014	10/15/2014
		Sample Identification:	PMR1-FCA-25(083115)	PMR1-FCA-25 (112515)	PMR1-FCA26(050714)	PMR1FCA-26(090314)	PMR1FCA-26(101514)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0 50 U	< 0 50 U	< 0.50 U
1,3-Dichlorobenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0 50 U	< 0 50 U	< 0.50 U
1,3-Dichloropropane	µg/L	--	< 1.0 U	< 1.0 U	< 0 50 U	< 0 50 U	< 0.50 U
1,4-Dichlorobenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
2,2-Dichloropropane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
2-Butanone (MEK)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
4-Chlorotoluene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Benzene	µg/L	--	< 1.0 U	< 1.0 U	**0.27 J**	**0.12 J**	**0.13**
Bromobenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
Bromochloromethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
Bromodichloromethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
Bromoform	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
Bromomethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
Carbon Disulfide	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	**1.7**	**1.6**
Carbon Tetrachloride	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
CFC-11	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
CFC-12	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
Chlorobenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0.50 U	< 0 50 U
Chlorodibromomethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0.50 U	< 0 50 U
Chloroethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0.50 U	< 0 50 U
Chloroform	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0.50 U	< 0 50 U
Chloromethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	**0.29 J**	**0.18**
cis-1,2-Dichloroethene	µg/L	70	< 1.0 U	< 1.0 U	**25**	**45**	**73**
cis-1,3-Dichloropropene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0.50 U	< 0 50 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 1.0 U	< 1.0 U	< 0 50 U	< 0 50 U	< 0.50 U
Dibromomethane	µg/L	--	< 1.0 U	< 1.0 U	< 0 50 U	< 0 50 U	< 0.50 U
Dichloromethane	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
Ethane	µg/L	--	--	--	--	--	--
Ethene	µg/L	--	--	--	--	--	--
Ethylbenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
Hexachloro-1,3-butadiene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
Isopropylbenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
m,p-Xylene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
Methane	µg/L	--	--	--	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	**< 0.50**
m-Xylene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	< 1.0 U	< 1.0 U	**0.40 J**	**0.30 J**	< 0 50 U
N-Butylbenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-25	FCA-25	FCA-26	FCA-26	FCA-26
		Sample Date:	8/31/2015	11/25/2015	5/7/2014	9/3/2014	10/15/2014
		Sample Identification:	PMR1-FCA-25(083115)	PMR1-FCA-25 (112515)	PMR1-FCA26(050714)	PMR1FCA-26(090314)	PMR1FCA-26(101514)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0 50 U	< 0 50 U	< 0.50 U
o-Xylene	µg/L	--	< 1.0 U	< 1.0 U	< 0 50 U	< 0 50 U	< 0.50 U
sec-Butylbenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0 50 U	< 0 50 U	< 0.50 U
Styrene (Monomer)	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
tert-Butylbenzene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
Tetrachloroethene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
Toluene	µg/L	--	< 1.0 U	< 1.0 U	**0.96**	< 0 50 U	< 0.50 U
Total Xylenes	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0.50 U
trans-1,2-Dichloroethene	µg/L	--	< 1.0 U	< 1.0 U	**0.45 J**	**0.38 J**	**0.65**
trans-1,3-Dichloropropene	µg/L	--	< 1.0 U	< 1.0 U	< 0.50 U	< 0 50 U	< 0 50 U
Trichloroethene	µg/L	5	< 1.0 U	< 1.0 U	**160**	**71**	**110**
Vinyl chloride	µg/L	2	< 1.0 U	< 1.0 U	< 0.50 U	**0.19 J**	< 0 50 U
Total VOC TICs	µg/L	--	--	--	--	--	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	--	--	--
Alkalinity	µg/L	--	--	--	--	--	--
Chloride	µg/L	--	--	--	--	--	--
Nitrate/Nitrite	µg/L	--	--	--	--	--	--
Nitrate-N	µg/L	--	--	--	--	--	--
Nitrite	µg/L	--	--	--	--	--	--
Sulfate	µg/L	--	--	--	--	--	--
Total Dissolved Solids	µg/L	--	--	--	--	--	--
Total Hardness	µg/L	--	--	--	--	--	--
Total Organic Carbon	µg/L	--	--	--	--	--	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-26	FCA-26	FCA-26	FCA-26	FCA-26
		Sample Date:	2/25/2015	2/25/2015	5/28/2015	5/28/2015	9/1/2015
		Sample Identification:	PMRI-DUP-01(022515)	PMRI-FCA-26(022515)	PMR1-DUP-01(052815)	PMR1-FCA-26(052815)	PMR1-FCA-26(090115)
Chemical	**Units**	**MCL**					
Metals							
Calcium, Total	µg/L	--	--	--	--	--	--
Chromium, Total	µg/L	--	--	--	--	--	--
Iron, Dissolved	µg/L	--	--	--	**2300**	**2400**	--
Iron, Total	µg/L	--	--	--	--	--	--
Lead, Total	µg/L	--	--	--	--	--	--
Magnesium, Total	µg/L	--	--	--	--	--	--
Manganese, Dissolved	µg/L	--	--	--	--	--	--
Manganese, Total	µg/L	--	--	--	--	--	--
Potassium, Total	µg/L	--	--	--	--	--	--
Sodium, Total	µg/L	--	--	--	--	--	--
Zinc, Total	µg/L	--	--	--	--	--	--
Semi-Volatile Organic Compounds							
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Total SVOC TICs	µg/L	--	--	--	--	--	--
Total Petroleum Hydrocarbon (TPH)							
TPH as Pentane	µg/L	--	--	--	--	--	--
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,1,1-Trichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,1-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,1-Dichloroethene	µg/L	--	< 0 50 UJ	**0.96 J**	**0.60**	**0.62**	< 1.0 U
1,1-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2,3-Trichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2-Dibromoethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2-Dichloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-26	FCA-26	FCA-26	FCA-26	FCA-26
		Sample Date:	2/25/2015	2/25/2015	5/28/2015	5/28/2015	9/1/2015
		Sample Identification:	PMRI-DUP-01(022515)	PMRI-FCA-26(022515)	PMR1-DUP-01(052815)	PMR1-FCA-26(052815)	PMR1-FCA-26(090115)
Chemical	**Units**	**MCL**					
1,3,5-Trimethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,3-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,3-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
1,4-Dichlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
2,2-Dichloropropane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
2-Butanone (MEK)	µg/L	--	**12**	< 10 U	**6.2 J**	**6.5 J**	< 10 U
2-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
4-Chlorotoluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	**2.6 J**
Benzene	µg/L	--	**0.22 J**	**0.20 J**	< 0 50 UJ	**0.20 J**	< 1.0 U
Bromobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Bromochloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Bromodichloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Bromoform	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Bromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Carbon Disulfide	µg/L	--	**3.7**	**3.8**	**1.1**	**1.1**	< 1.0 U
Carbon Tetrachloride	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
CFC-11	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
CFC-12	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Chlorobenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Chlorodibromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Chloroethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Chloroform	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Chloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
cis-1,2-Dichloroethene	µg/L	70	**170**	**180**	**120**	**130**	**120**
cis-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Cyclohexane	µg/L	--	--	--	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Dibromomethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Dichloromethane	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Ethane	µg/L	--	--	--	--	--	--
Ethene	µg/L	--	--	--	--	--	--
Ethylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Hexachloro-1,3-butadiene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Isopropylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
m,p-Xylene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Methane	µg/L	--	--	--	--	--	--
Methyl Acetate	µg/L	--	--	--	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--	--	--	--
Methyl-tert-butylether	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
m-Xylene	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	**1.2**	**1.3**	**0.40 J**	**0.41 J**	< 1.0 U
N-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-26	FCA-26	FCA-26	FCA-26	FCA-26
		Sample Date:	2/25/2015	2/25/2015	5/28/2015	5/28/2015	9/1/2015
		Sample Identification:	PMRI-DUP-01(022515)	PMRI-FCA-26(022515)	PMR1-DUP-01(052815)	PMR1-FCA-26(052815)	PMR1-FCA-26(090115)
Chemical	**Units**	**MCL**					
N-Propylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
o-Xylene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
sec-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Styrene (Monomer)	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
tert-Butylbenzene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Tetrachloroethene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Toluene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Total Xylenes	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
trans-1,2-Dichloroethene	µg/L	--	**0.88**	**0.79**	**0.64**	**0.65**	**0.70 J**
trans-1,3-Dichloropropene	µg/L	--	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Trichloroethene	µg/L	5	**71**	**78**	**94**	**87**	**95**
Vinyl chloride	µg/L	2	**0.23 J**	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U
Total VOC TICs	µg/L	--	--	--	--	--	--
Dissolved Gasses							
Carbon Dioxide	µg/L	--	--	--	--	--	--
Carbon Monoxide	µg/L	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--
Biogeochemical Parameters							
Nitrogen	µg/L	--	--	--	--	--	--
Alkalinity	µg/L	--	--	--	--	--	--
Chloride	µg/L	--	--	--	--	--	--
Nitrate/Nitrite	µg/L	--	--	--	--	--	--
Nitrate-N	µg/L	--	--	--	< 20 U	< 20 U	--
Nitrite	µg/L	--	--	--	--	--	--
Sulfate	µg/L	--	--	--	**19000**	**19000**	--
Total Dissolved Solids	µg/L	--	--	--	--	--	--
Total Hardness	µg/L	--	--	--	--	--	--
Total Organic Carbon	µg/L	--	--	--	**2300**	**2300**	--

***Notes are provided on the last page of Table 6.**

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-26	FCA-26
		Sample Date:	11/25/2015	11/25/2015
		Sample Identification:	PMR1-DUP-01 (112515)	PMR1-FCA-26 (112515)
Chemical	**Units**	**MCL**		
Metals				
Calcium, Total	µg/L	--	--	--
Chromium, Total	µg/L	--	--	--
Iron, Dissolved	µg/L	--	--	--
Iron, Total	µg/L	--	--	--
Lead, Total	µg/L	--	--	--
Magnesium, Total	µg/L	--	--	--
Manganese, Dissolved	µg/L	--	--	--
Manganese, Total	µg/L	--	--	--
Potassium, Total	µg/L	--	--	--
Sodium, Total	µg/L	--	--	--
Zinc, Total	µg/L	--	--	--
Semi-Volatile Organic Compounds				
2-Methylnaphthalene	µg/L	--	--	--
Acenaphthene	µg/L	--	--	--
Acenaphthylene	µg/L	--	--	--
bis(2-Ethylhexyl)phthalate	µg/L	--	--	--
Carbazole	µg/L	--	--	--
Dibenzofuran	µg/L	--	--	--
Fluorene	µg/L	--	--	--
Naphthalene	µg/L	--	--	--
Nitrobenzene	µg/L	--	--	--
Phenanthrene	µg/L	--	--	--
Phenol	µg/L	--	--	--
Total SVOC TICs	µg/L	--	--	--
Total Petroleum Hydrocarbon (TPH)				
TPH as Pentane	µg/L	--	--	--
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	µg/L	--	< 1.0 U	< 1.0 U
1,1,1-Trichloroethane	µg/L	--	< 1.0 U	< 1.0 U
1,1,2,2-Tetrachloroethane	µg/L	--	< 1.0 U	< 1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	µg/L	--	--	--
1,1,2-Trichloroethane	µg/L	--	< 1.0 U	< 1.0 U
1,1-Dichloroethane	µg/L	--	< 1.0 U	< 1.0 U
1,1-Dichloroethene	µg/L	--	**0.45 J**	**0.41 J**
1,1-Dichloropropene	µg/L	--	< 1.0 U	< 1.0 U
1,2,3-Trichlorobenzene	µg/L	--	< 1.0 U	< 1.0 U
1,2,3-Trichloropropane	µg/L	--	< 1.0 U	< 1.0 U
1,2,4-Trichlorobenzene	µg/L	--	< 1.0 U	< 1.0 U
1,2,4-Trimethylbenzene	µg/L	--	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	µg/L	--	< 1.0 U	< 1.0 U
1,2-Dibromoethane	µg/L	--	< 1.0 U	< 1.0 U
1,2-Dichlorobenzene	µg/L	--	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/L	--	< 1.0 U	< 1.0 U
1,2-Dichloropropane	µg/L	--	< 1.0 U	< 1.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-26	FCA-26
		Sample Date:	11/25/2015	11/25/2015
		Sample Identification:	PMR1-DUP-01 (112515)	PMR1-FCA-26 (112515)
Chemical	**Units**	**MCL**		
1,3,5-Trimethylbenzene	µg/L	--	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	µg/L	--	< 1.0 U	< 1.0 U
1,3-Dichloropropane	µg/L	--	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	µg/L	--	< 1.0 U	< 1.0 U
2,2-Dichloropropane	µg/L	--	< 1.0 U	< 1.0 U
2-Butanone (MEK)	µg/L	--	< 10 U	< 10 U
2-Chlorotoluene	µg/L	--	< 1.0 U	< 1.0 U
4-Chlorotoluene	µg/L	--	< 1.0 U	< 1.0 U
4-Methyl-2-Pentanone	µg/L	--	< 10 U	< 10 U
Acetone	µg/L	--	< 10 UJ	**2.3 J**
Benzene	µg/L	--	< 1.0 U	< 1.0 U
Bromobenzene	µg/L	--	< 1.0 U	< 1.0 U
Bromochloromethane	µg/L	--	< 1.0 U	< 1.0 U
Bromodichloromethane	µg/L	--	< 1.0 U	< 1.0 U
Bromoform	µg/L	--	< 1.0 U	< 1.0 U
Bromomethane	µg/L	--	< 1.0 U	< 1.0 U
Carbon Disulfide	µg/L	--	**0.36 J**	**0.39 J**
Carbon Tetrachloride	µg/L	--	< 1.0 U	< 1.0 U
CFC-11	µg/L	--	< 1.0 U	< 1.0 U
CFC-12	µg/L	--	< 1.0 U	< 1.0 U
Chlorobenzene	µg/L	--	< 1.0 U	< 1.0 U
Chlorodibromomethane	µg/L	--	< 1.0 U	< 1.0 U
Chloroethane	µg/L	--	< 1.0 U	< 1.0 U
Chloroform	µg/L	--	< 1.0 U	< 1.0 U
Chloromethane	µg/L	--	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	µg/L	70	**110**	**110**
cis-1,3-Dichloropropene	µg/L	--	< 1.0 U	< 1.0 U
Cyclohexane	µg/L	--	--	--
Cymene (p-Isopropyltoluene)	µg/L	--	< 1.0 U	< 1.0 U
Dibromomethane	µg/L	--	< 1.0 U	< 1.0 U
Dichloromethane	µg/L	--	< 1.0 U	< 1.0 U
Ethane	µg/L	--	--	--
Ethene	µg/L	--	--	--
Ethylbenzene	µg/L	--	< 1.0 U	< 1.0 U
Hexachloro-1,3-butadiene	µg/L	--	< 1.0 U	< 1.0 U
Isopropylbenzene	µg/L	--	< 1.0 U	< 1.0 U
m,p-Xylene	µg/L	--	< 1.0 U	< 1.0 U
Methane	µg/L	--	--	--
Methyl Acetate	µg/L	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	--	< 10 U	< 10 U
Methylcyclohexane	µg/L	--	--	--
Methyl-tert-butylether	µg/L	--	< 1.0 U	< 1.0 U
m-Xylene	µg/L	--	--	--
Naphthalene	µg/L	--	**0.30 J**	**0.29 J**
N-Butylbenzene	µg/L	--	< 1.0 U	< 1.0 U

Table 6
Comprehensive Groundwater Analytical Data (2006-2015)
Phoenix Military Reservation
Jacksonville, Maryland

		Sample Location:	FCA-26	FCA-26
		Sample Date:	11/25/2015	11/25/2015
		Sample Identification:	PMR1-DUP-01 (112515)	PMR1-FCA-26 (112515)
Chemical	**Units**	**MCL**		
N-Propylbenzene	µg/L	--	< 1.0 U	< 1.0 U
o-Xylene	µg/L	--	< 1.0 U	< 1.0 U
sec-Butylbenzene	µg/L	--	< 1.0 U	< 1.0 U
Styrene (Monomer)	µg/L	--	< 1.0 U	< 1.0 U
tert-Butylbenzene	µg/L	--	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/L	--	< 1.0 U	< 1.0 U
Toluene	µg/L	--	< 1.0 U	< 1.0 U
Total Xylenes	µg/L	--	< 1.0 U	< 1.0 U
trans-1,2-Dichloroethene	µg/L	--	**0.55 J**	**0.47 J**
trans-1,3-Dichloropropene	µg/L	--	< 1.0 U	< 1.0 U
Trichloroethene	µg/L	5	**61**	**62**
Vinyl chloride	µg/L	2	< 1.0 U	< 1.0 U
Total VOC TICs	µg/L	--	--	--
Dissolved Gasses				
Carbon Dioxide	µg/L	--	--	--
Carbon Monoxide	µg/L	--	--	--
Methane	µg/L	--	--	--
Biogeochemical Parameters				
Nitrogen	µg/L	--	--	--
Alkalinity	µg/L	--	--	--
Chloride	µg/L	--	--	--
Nitrate/Nitrite	µg/L	--	--	--
Nitrate-N	µg/L	--	--	--
Nitrite	µg/L	--	--	--
Sulfate	µg/L	--	--	--
Total Dissolved Solids	µg/L	--	--	--
Total Hardness	µg/L	--	--	--
Total Organic Carbon	µg/L	--	--	--

***Notes are provided on the last page of Table 6.**

Figures

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CITY: MPLS DIV/GROUP: IM DB: MG LD: KS
PHOENIX MR
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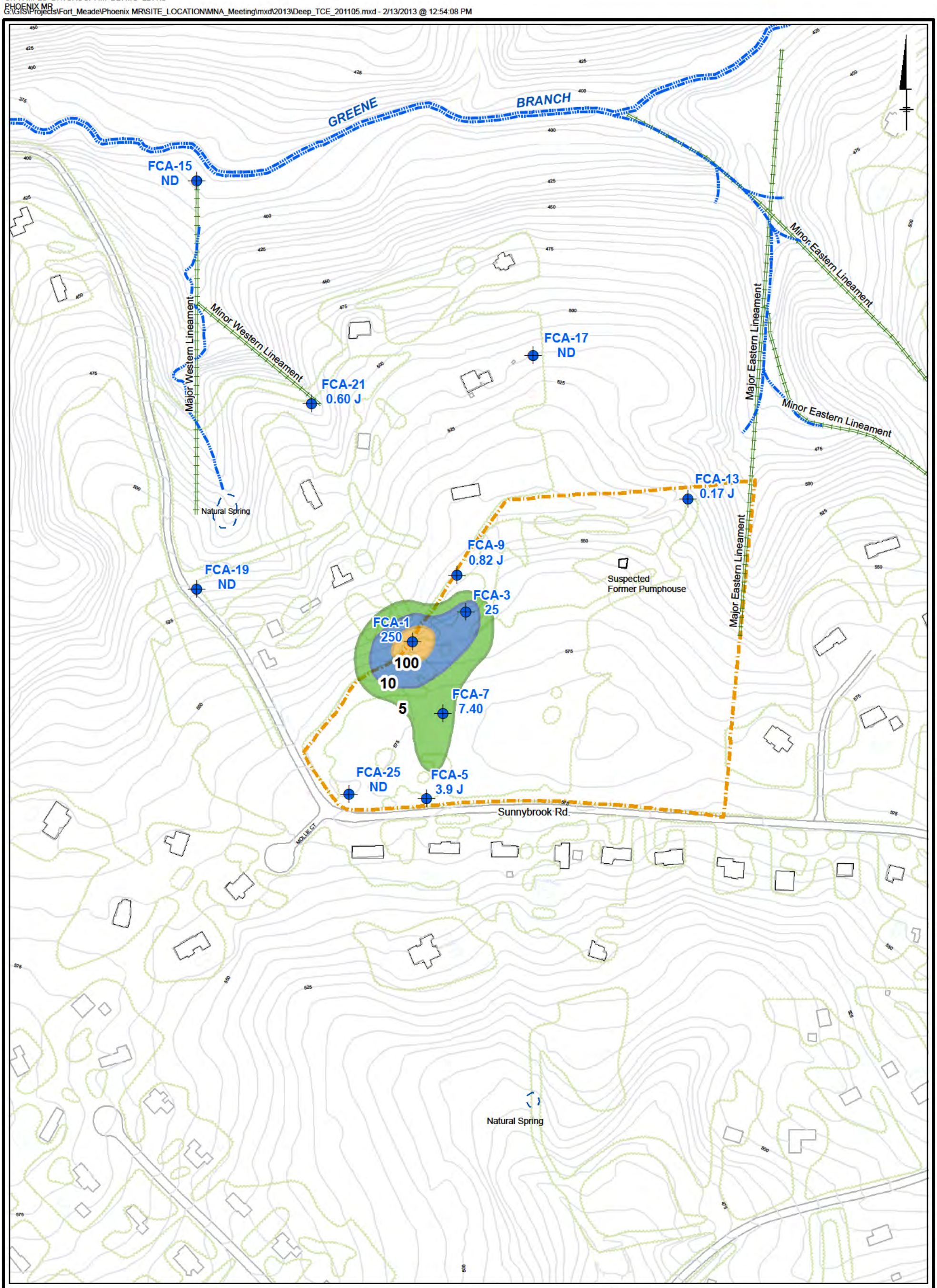


Legend

May 2011 Trichloroethene Concentration

- 5 µg/L
- 10 µg/L
- 100 µg/L

5 TCE concentration in µg/L

Deep Well Location
Lineament
Stream
Natural Spring
House
Approximate Site Boundary

Note:
ND = Non-Detect
J = estimated concentration
µg/L = micrograms per liter

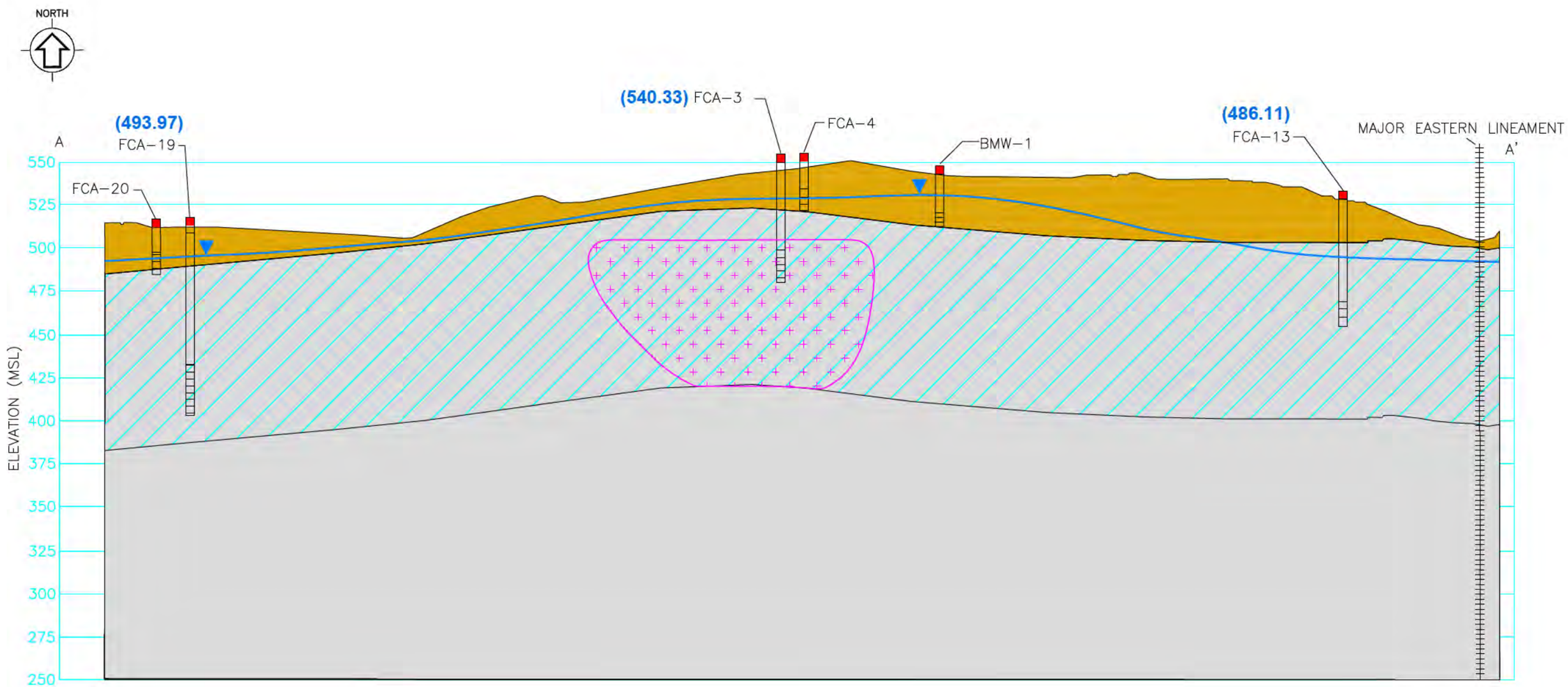
0 250 500
SCALE IN FEET

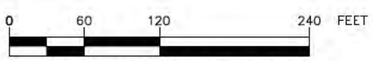
PHOENIX MILITARY RESERVATION
JACKSONVILLE, MARYLAND

DEEP TRICHLOROETHENE CONTOURS (MAY 2011)

ARCADIS

FIGURE
3-1





APRX. HORIZONTAL SCALE
1"= 120'

LEGEND:

- LINEAMENT
- DEEP GROUNDWATER ELEVATION MAY 2011
- (486.11) GROUNDWATER ELEVATION DATA (FEET ABOVE MEAN SEA LEVEL) MAY 2011
- GROUNDWATER FLOW
- INTERPRETED EXTENT OF DISSOLVED CONTAMINANT PLUME
- OVERBURDEN
- NON-FRACTURED SCHIST BEDROCK
- FRACTURED SCHIST BEDROCK
- WELL (RESIDENTIAL OR MONITORING)
- CASING
- SCREENED INTERVAL OR OPEN BORE HOLE

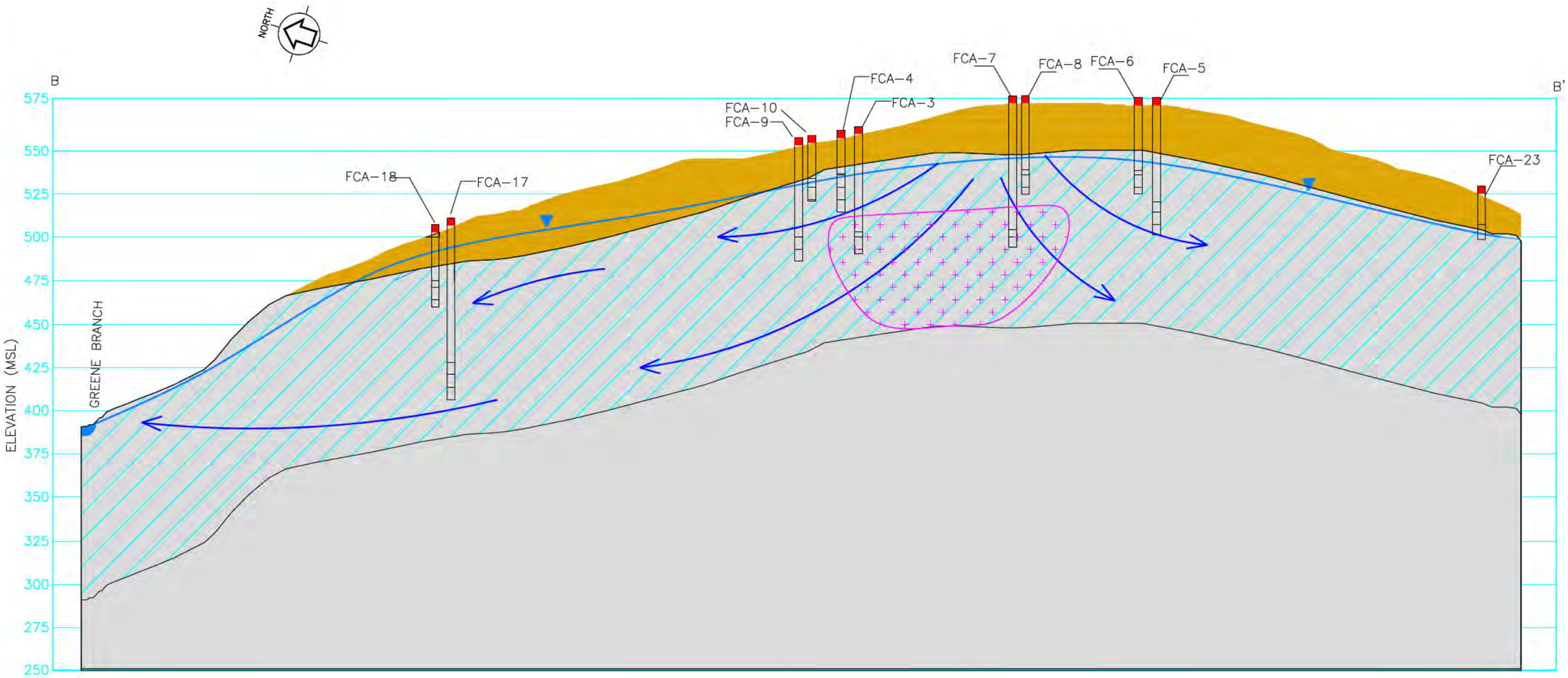
PHOENIX MILITARY RESERVATION
JACKSONVILLE, MARYLAND

CROSS SECTION A-A'

ARCADIS

FIGURE
11

CITY:(Read) DIV/GROUP:(Read) DB:(Read) LD:(Opt) PIC:(Opt) PM:(Read) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\BALTIMORE\ACT\09WEAD\PHOE\DA001\Site Model-May-2011.DWG LAYOUT: XS-A SAVED: 10/7/2011 4:10 PM ACADVER: 18.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACAD.CTB PLOTTED: 10/7/2011 4:12 PM BY: GOFORTH, JOHN



LEGEND:

- DEEP GROUNDWATER ELEVATION MAY 2011
- GROUNDWATER FLOW
- INTERPRETED EXTENT OF DISSOLVED CONTAMINANT PLUME
- OVERBURDEN
- NON-FRACTURED SCHIST BEDROCK
- FRACTURED SCHIST BEDROCK
- WELL (RESIDENTIAL OR MONITORING)
- CASING
- SCREENED INTERVAL OR OPEN BORE HOLE

0 90 180 360 FEET

APRX. HORIZONTAL SCALE
1"= 180'

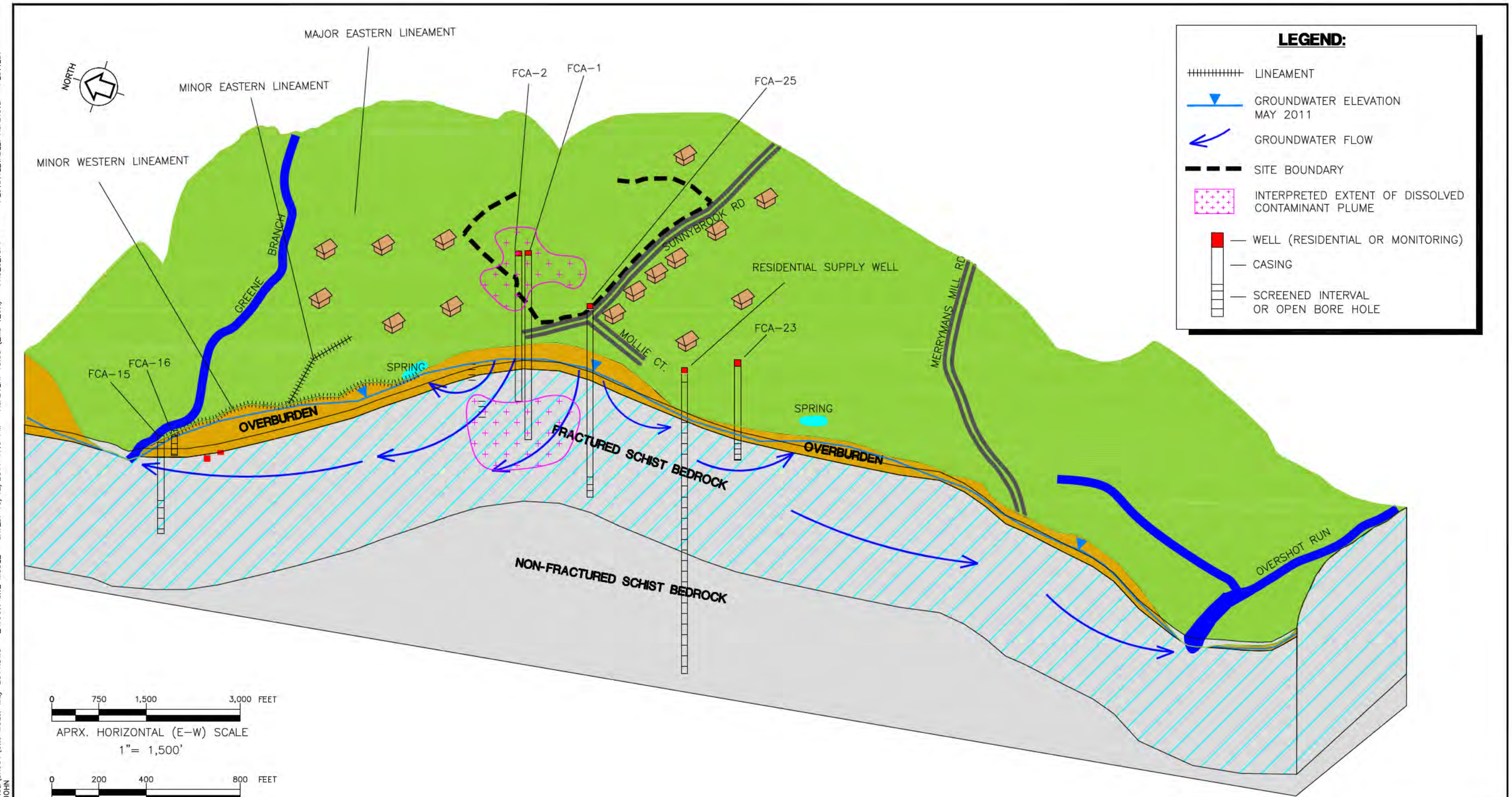
PHOENIX MILITARY RESERVATION
JACKSONVILLE, MARYLAND

CROSS SECTION B-B'

ARCADIS

FIGURE
12

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\BALTIMORE\ACT\GP09MEAD\PHOE\DA001\Site Model-May-2011.DWG LAYOUT: XS-B SAVED: 10/6/2011 11:47 AM
1:26 PM BY: GOFORTH, JOHN AGADVER: 18.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACAD.CTB PLOTTED: 10/7/2011



PHOENIX MILITARY RESERVATION
JACKSONVILLE, MARYLAND

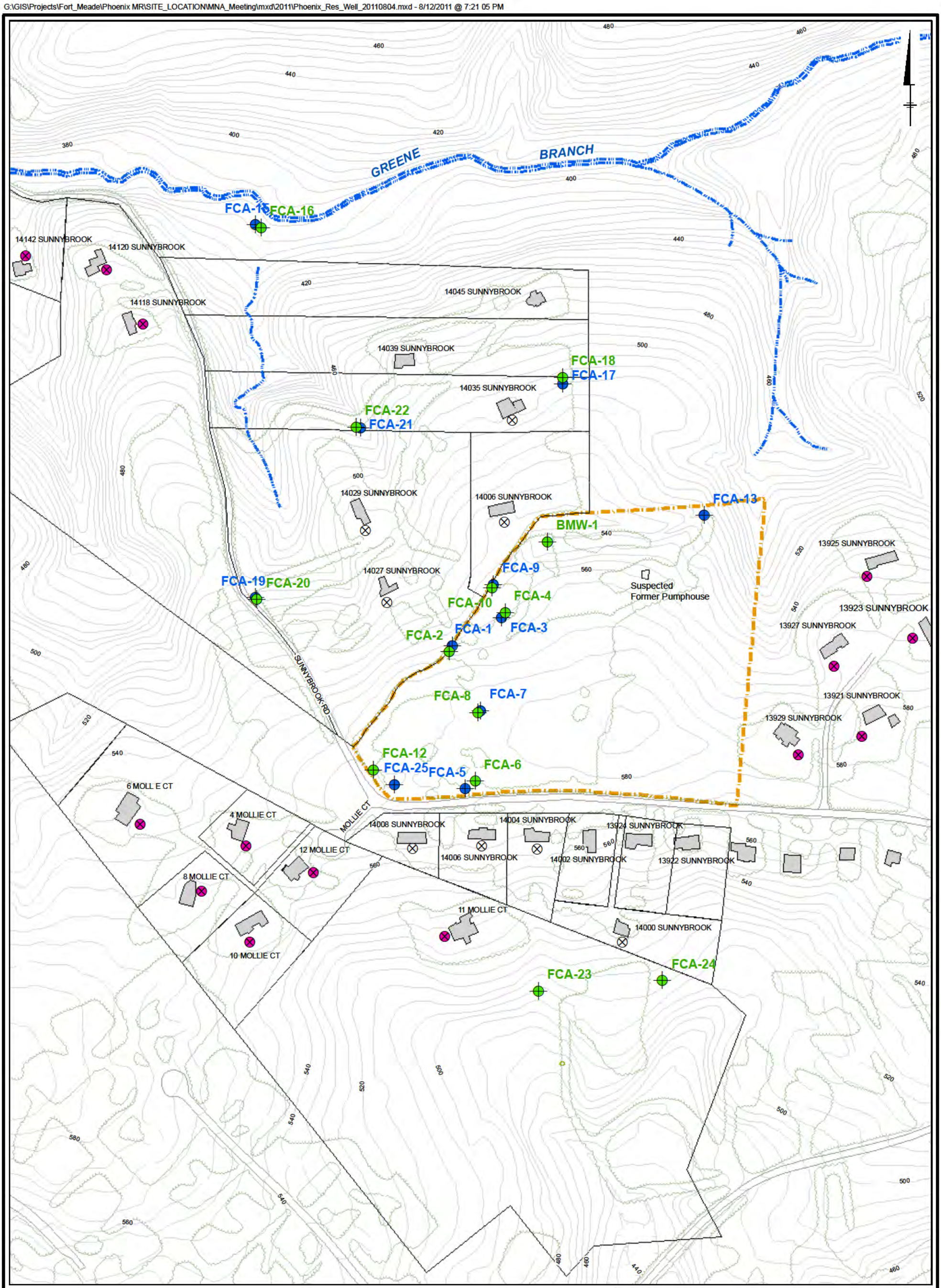
CONCEPTUAL SITE MODEL

ARCADIS

FIGURE
13

CITY:(Req) DIV/GROUP:(Req) DB:(Req) LD:(Opt) PIC:(Opt) PM:(Req) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\BALTIMORE\ACT\GP09MEAD\PHOE\DA001\Site Model-May-2011.DWG LAYOUT: SITE MODEL SAVED: 10/12/2011 1:45 PM
10/12/2011 1:48 PM BY: GOFORTH, JOHN ACADVER: 18.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACAD.CTB PLOTTED:

CITY: MPLS DIV/GROUP: IM DB: MG LD: KS
PMR
G:\GIS\Projects\Fort_Meade\Phoenix MR\SITE_LOCATION\MNA_Meeting\mxd\2011\Phoenix_Res_Well_20110804.mxd - 8/12/2011 @ 7:21 05 PM



Legend

- Deep Well Location
- Shallow Well Location
- Active Domestic Well Location
- Inactive Domestic Well Location
- Approximate Property Boundaries
- House
- Stream
- Approximate Site Boundary

0 200 400
SCALE IN FEET

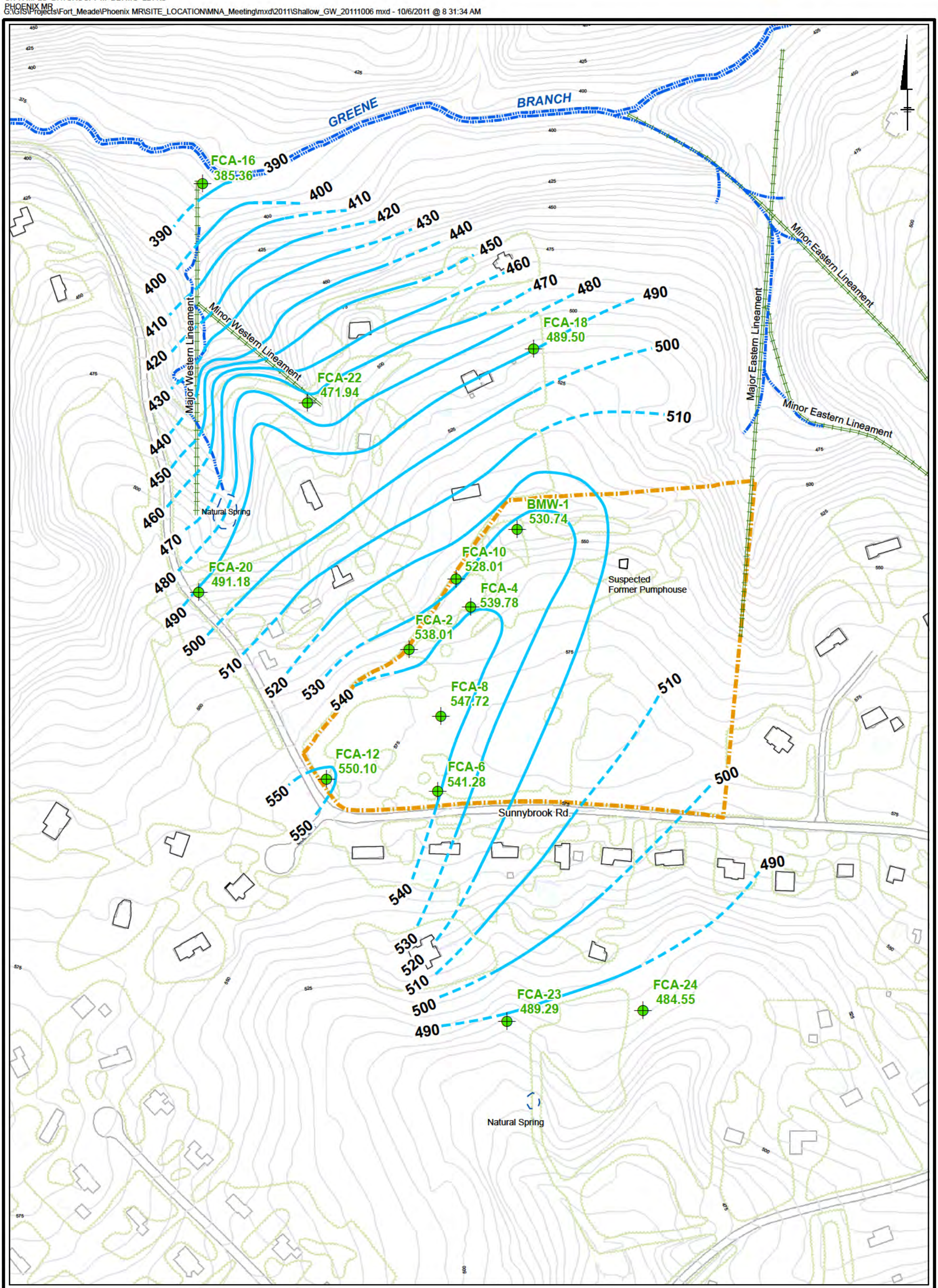
PHOENIX MILITARY RESERVATION
JACKSONVILLE, MARYLAND

RESIDENTIAL WELL LOCATIONS

ARCADIS

FIGURE
5

CITY: MPLS DIV/GROUP: M DB: MG LD: KS
PHOENIX MR
G:\GIS\Projects\Fort_Meade\Phoenix MR\SITE_LOCATION\MNA_Meeting\mxd\2011\Shallow_GW_20111006 mxd - 10/6/2011 @ 8 31:34 AM



Legend

- Shallow Well Location
- Lineament
- Stream
- Groundwater Elevation Contour (Dashed where inferred)
- Natural Spring
- House
- Approximate Site Boundary

0 250 500
SCALE IN FEET

PHOENIX MILITARY RESERVATION
JACKSONVILLE, MARYLAND

SHALLOW GROUNDWATER CONTOURS (MAY 2011)

ARCADIS

FIGURE
7

CITY: MPLS DIV/GROUP: M DB: MG LD: KS
PHOENIX MR
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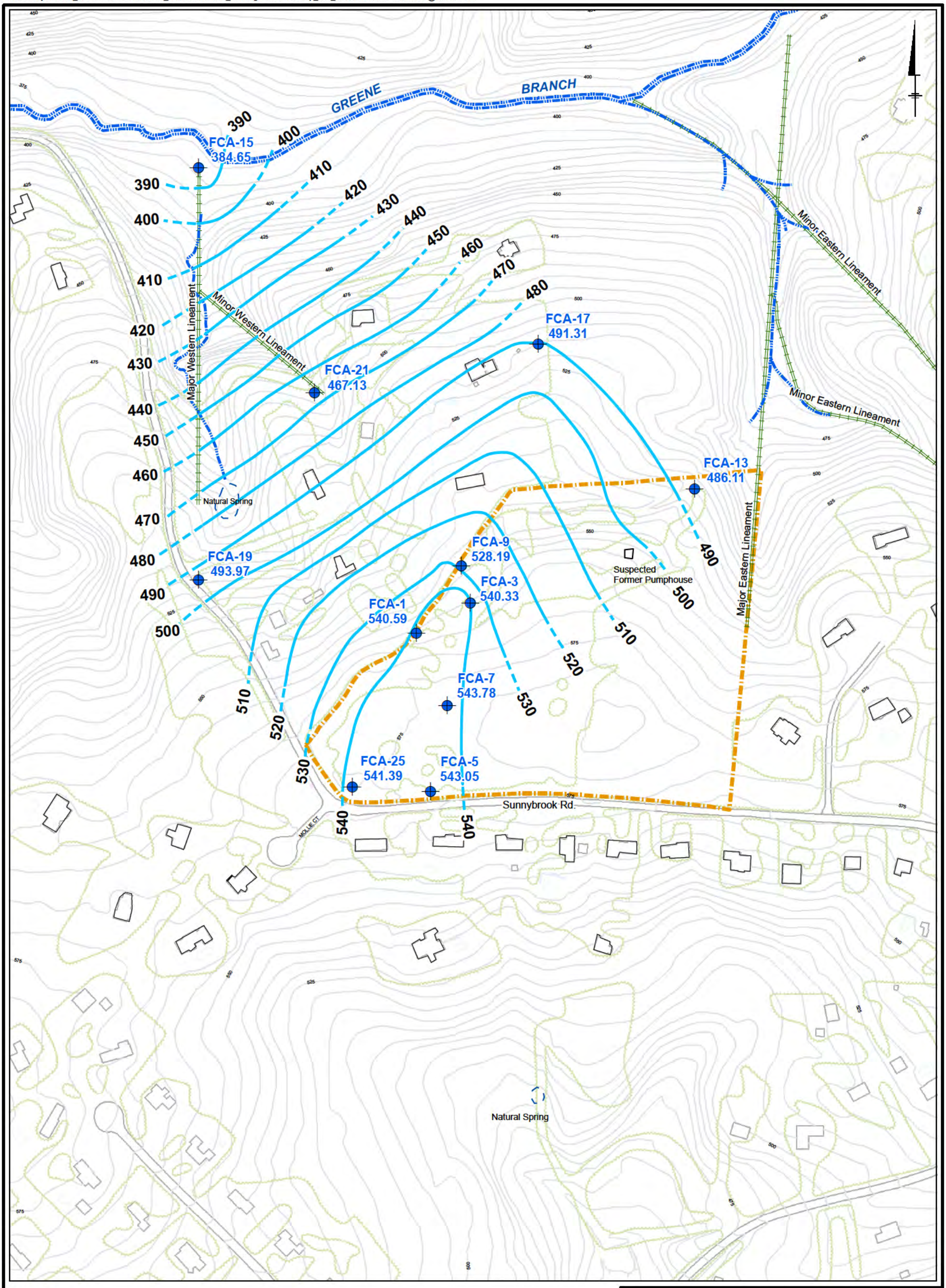


Legend

- Deep Well Location
- Lineament
- Stream
- Groundwater Elevation Contour (Dashed where inferred)
- Natural Spring
- House
- Approximate Site Boundary

0 250 500
SCALE IN FEET

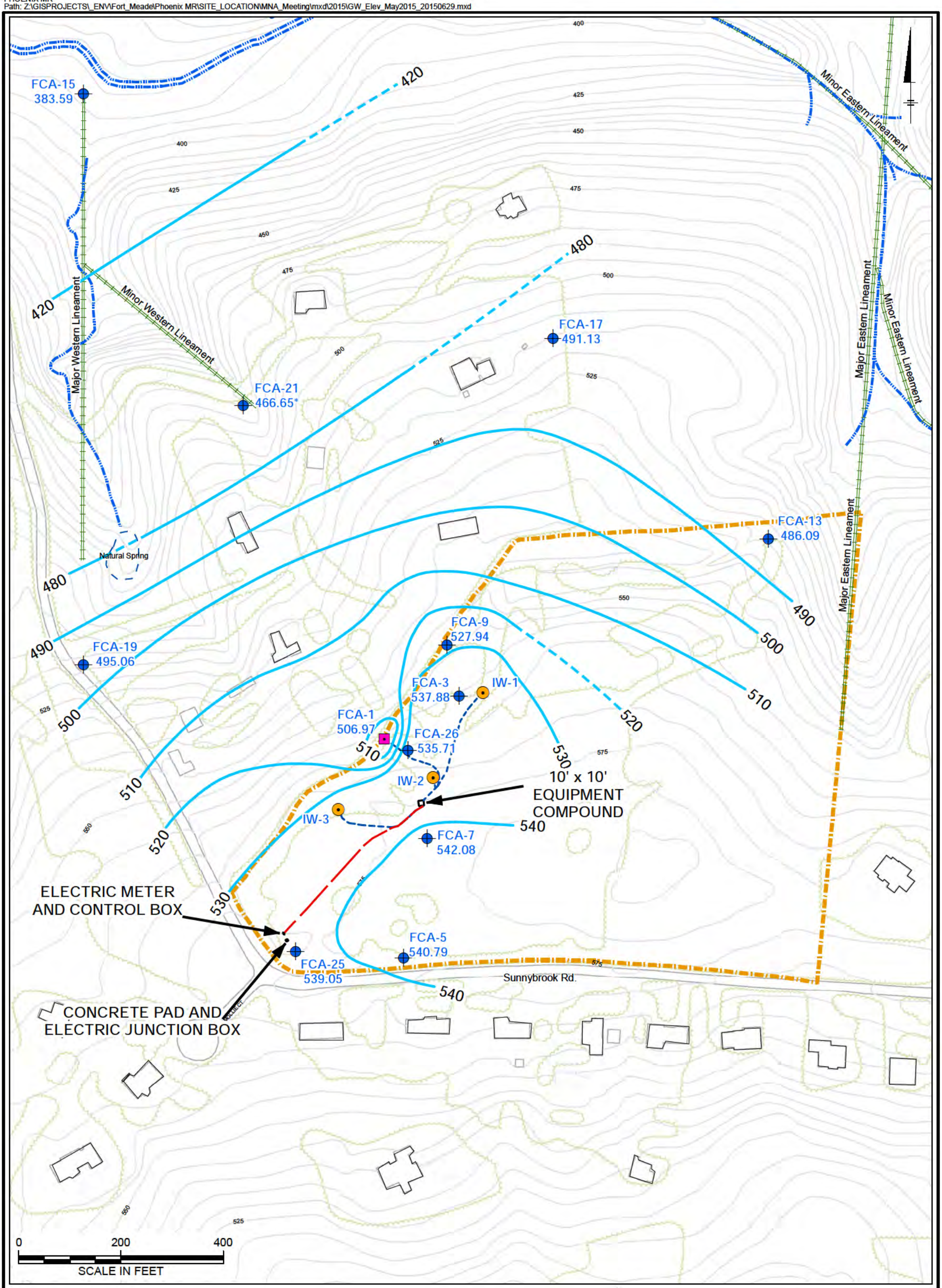
PHOENIX MILITARY RESERVATION
JACKSONVILLE, MARYLAND

DEEP GROUNDWATER CONTOURS (MAY 2011)

ARCADIS

FIGURE
8

CITY: MPLS DIV/GROUP: IM DB: MG LD: KS
PHOENIX MR
Path: Z:\GISPROJECTS_ENV\Fort_Meade\Phoenix MR\SITE_LOCATION\MNA_Meeting\mxd\2015\GW_Elev_May2015_20150629.mxd



Legend

- Deep Monitoring Well Location
- Extraction Well
- Recirculation Well
- Lineament
- Stream
- Electrical Feed
- Water Conveyance
- Groundwater Elevation Contour (Dashed where inferred) — 540 ft msl
- Natural Spring
- House
- Approximate Site Boundary

Note:
*FCA-21 was gauged on June 4, 2015

PHOENIX MILITARY RESERVATION
JACKSONVILLE, MARYLAND

GROUNDWATER ELEVATION
CONTOUR MAP
MAY 2015

PIKA INTERNATIONAL, INC. — A JOINT VENTURE — MALCOLM PIRNIE

FIGURE
2

Groundwater Trends

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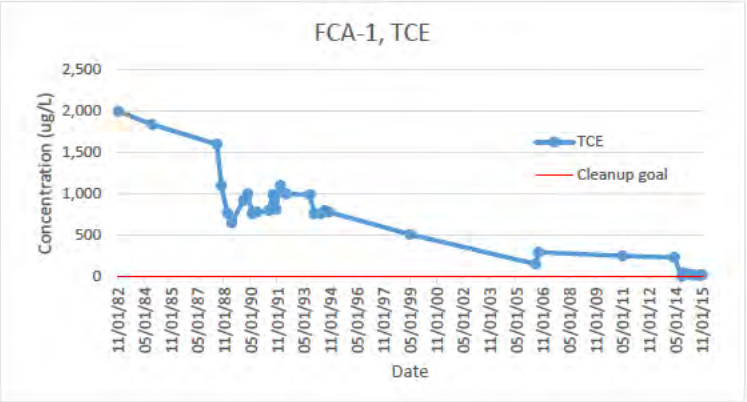
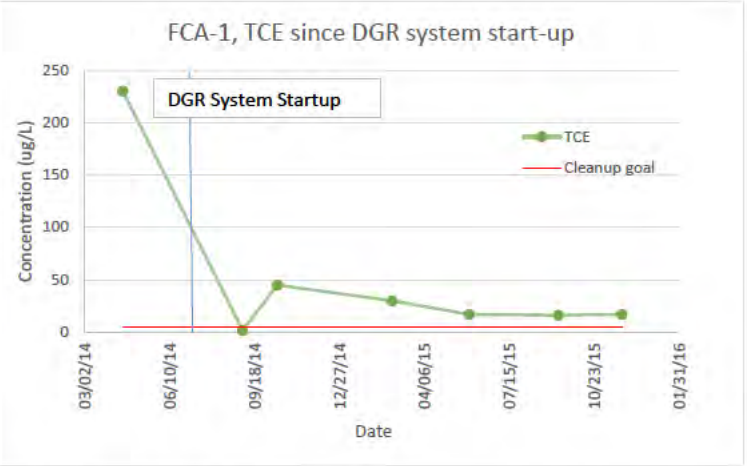
Well FCA-1 TCE Concentrations

Date	TCE (ug/L)
11/12/82	2,000
10/02/84	1,840
06/07/88	1,600
09/20/88	1,100
01/11/89	770
04/13/89	650
12/12/89	920
03/21/90	1,000
06/12/90	760
09/25/90	780
05/07/91	800
08/02/91	990
10/31/91	810
01/30/92	1,100
05/07/92	1,000
09/02/93	990
12/16/93	760
04/19/94	760
07/28/94	800
10/28/94	780
05/05/99	510
06/16/06	153
08/10/06	295
05/26/11	250
04/16/14	230
09/04/14	1.6
10/15/14	45
02/27/15	30
05/29/15	17
09/11/15	16
11/25/15	17



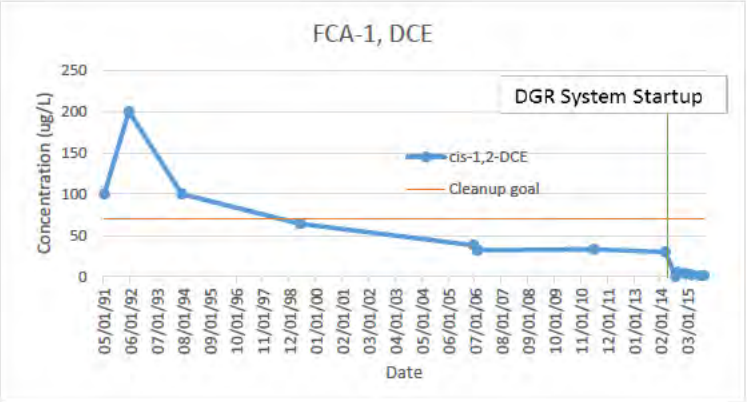


Mann-Kendall Test Using Normal Approximation for Small Sample Size

n	7	
S	-8	
p	0.1565	Table B-10, EM 200-1-16
α	0.05	
Ho:	No trend	
Ha:	p>α	Ho accepted at 95% level of confidence; no trend

Well FCA-1 DCE Concentrations

Date	cis-1,2-DCE (ug/L)
05/07/91	100
05/07/92	200
07/28/94	100
05/05/99	64
06/16/06	38.2
08/10/06	31.9
06/16/06	38.2
08/10/06	31.9
05/26/11	33
04/16/14	30
09/04/14	0.18
10/15/14	5.6
02/27/15	3.8
05/29/15	2.1
09/01/15	1.6
11/25/15	1.6

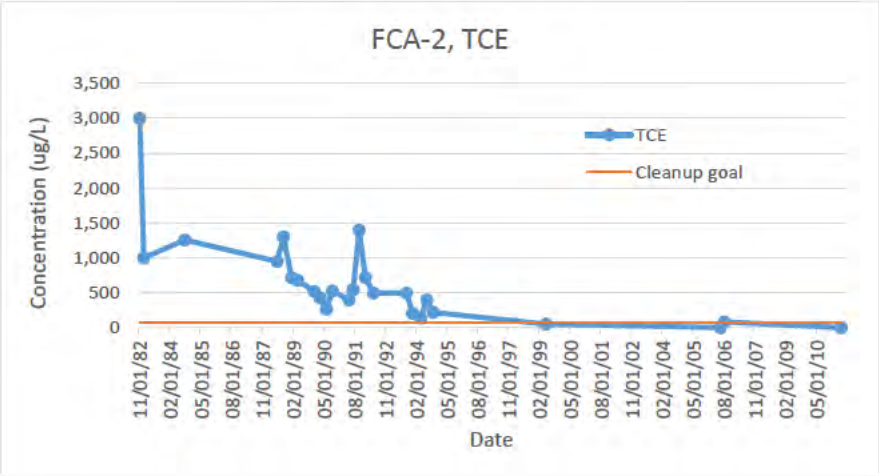


Notes:

Yellow cells represent data since startup of DGR system

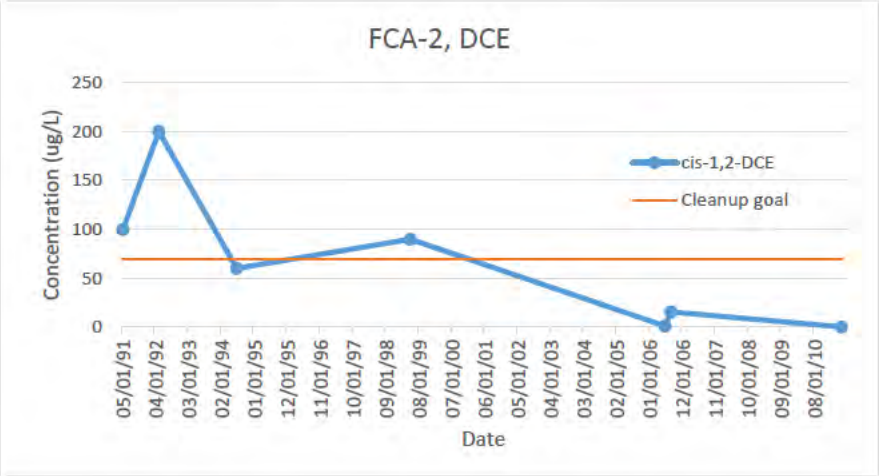
Well FCA-2 TCE Concentrations

Date	TCE (ug/L)
11/13/82	3,000
01/28/83	1,000
09/30/84	1,260
06/07/88	950
09/20/88	1,300
01/11/89	720
04/14/89	680
12/13/89	520
03/21/90	430
06/13/90	270
09/25/90	530
05/07/91	400
07/31/91	550
10/31/91	1,400
01/30/92	720
05/06/92	500
09/01/93	500
12/16/93	210
04/20/94	140
07/28/94	400
10/28/94	220
05/07/99	55
06/15/06	3
08/10/06	85.2
05/26/11	2.7



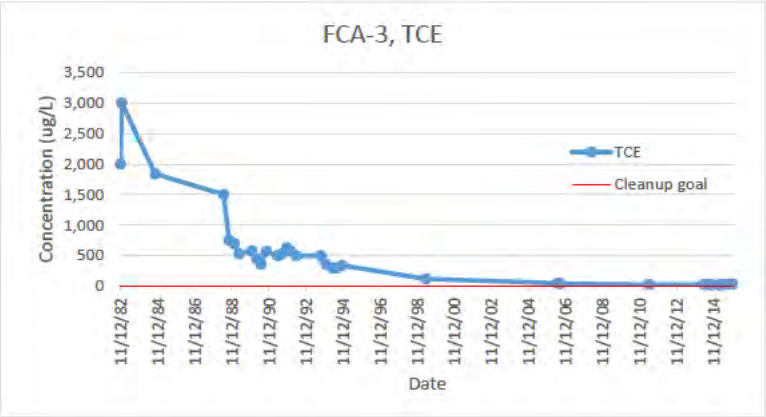
Well FCA-2 DCE Concentrations

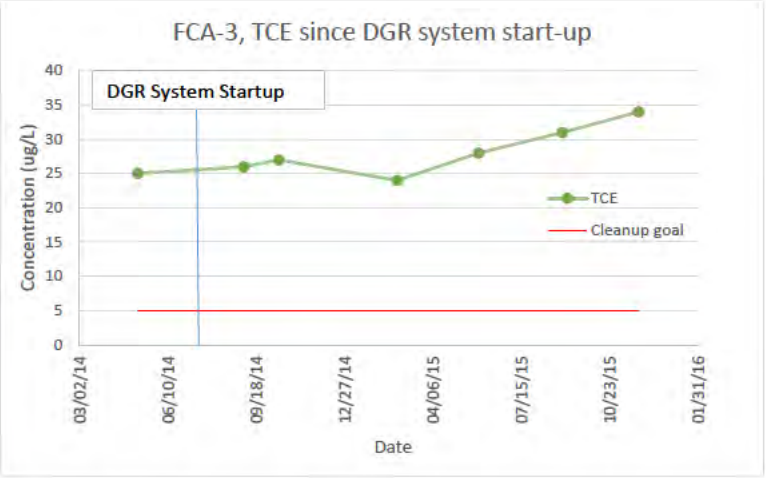
Date	cis-1,2-DCE (ug/L)
05/07/91	100
05/06/92	200
07/28/94	60
05/07/99	90
06/15/06	1.0
08/10/06	15.5
05/26/11	0.2



Well FCA-3 TCE Concentrations

Date	TCE (ug/L)
11/12/82	2,000
12/07/82	3,000
09/28/84	1,840
06/07/88	1,500
09/19/88	750
01/05/89	700
04/12/89	530
12/12/89	580
03/22/90	450
06/12/90	360
09/26/90	570
05/07/91	500
08/02/91	530
10/31/91	630
01/30/92	570
05/07/92	500
09/02/93	500
12/15/93	360
04/20/94	300
07/28/94	300
10/28/94	340
05/06/99	120
06/15/06	48.9
08/10/06	41.2
05/25/11	25
05/07/14	25
09/04/14	26
10/14/14	27
02/25/15	24
05/28/15	28
08/31/15	31
11/25/15	34



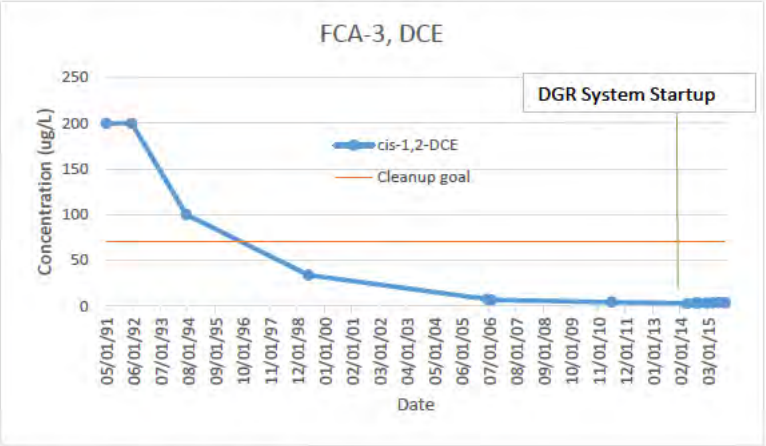


Mann-Kendall Test Using Normal Approximation for Small Sample Size

n	7	
S	15	
p	0.015	
α	0.05	
Ho:	No trend	
Ha:	p<α	Ho rejected at 95% level of confidence; upward trend

Well FCA-3 DCE Concentrations

Date	cis-1 2-DCE (ug/L)
05/07/91	200
05/07/92	200
07/28/94	100
05/06/99	34
06/15/06	7.6
08/10/06	6.8
05/25/11	4.3
05/07/14	2.9
09/04/14	3.3
10/14/14	3.4
02/25/15	3.3
05/28/15	3.6
08/31/15	3.9
11/25/15	3.9

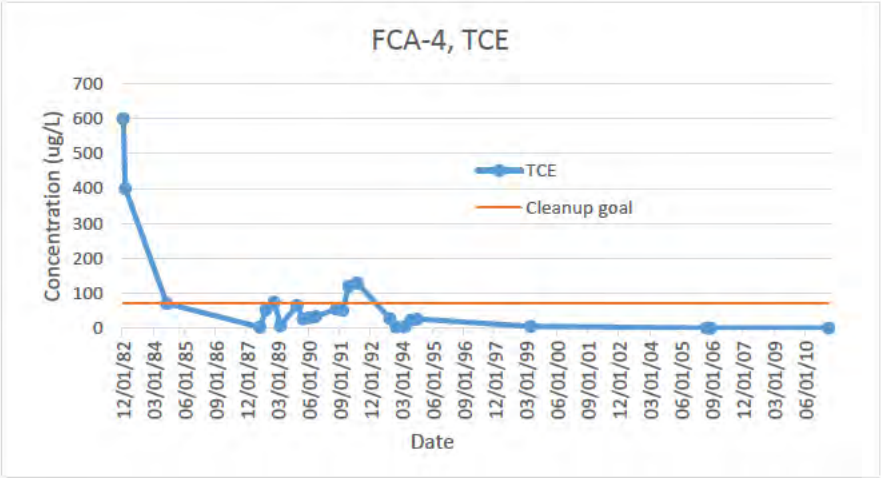


Notes:

Yellow cells represent data since startup of DGR system

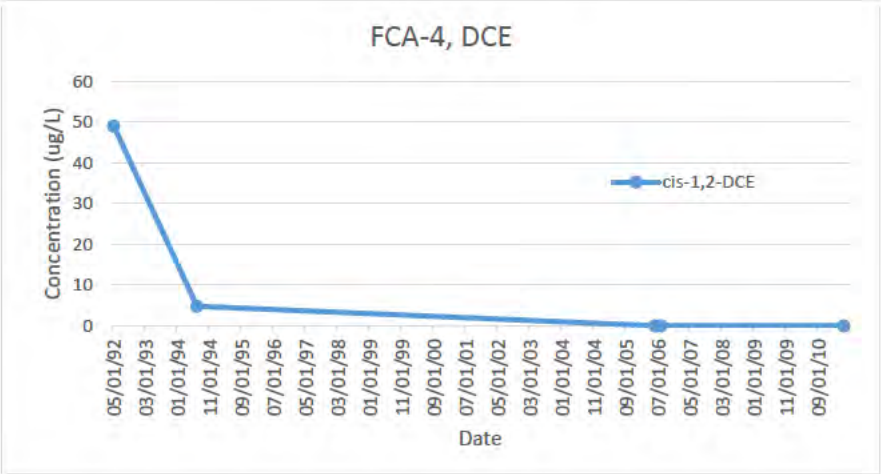
Well FCA-4 TCE Concentrations

Date	TCE (ug/L)
12/07/82	600
01/28/83	400
09/24/84	70.8
06/07/88	2.89
09/19/88	53.4
01/05/89	75
04/12/89	7.33
12/11/89	65
03/19/90	27
06/11/90	30
09/26/90	33.7
07/31/91	55
10/30/91	51
01/30/92	120
05/07/92	130
09/01/93	27
12/15/93	3.89
04/19/94	4.7
07/28/94	23
10/28/94	26.1
05/06/99	5
06/15/06	1
08/10/06	0.54
05/25/11	0.42



Well FCA-4 DCE Concentrations

Date	cis-1,2-DCE (ug/L)
05/07/92	49
07/28/94	4.8
06/15/06	1 U
08/10/06	1 U
05/25/11	5 U

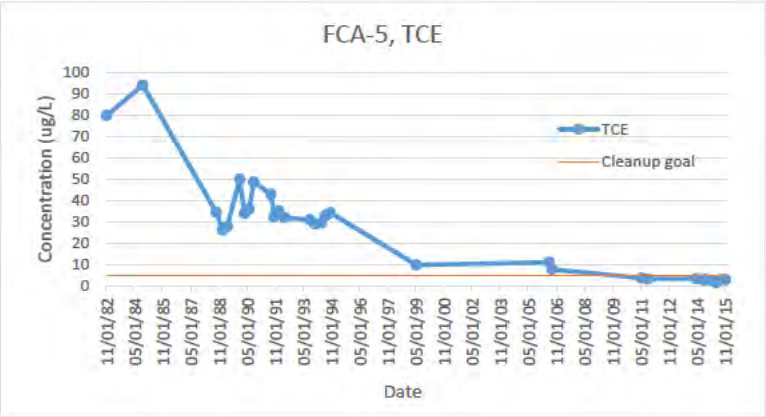


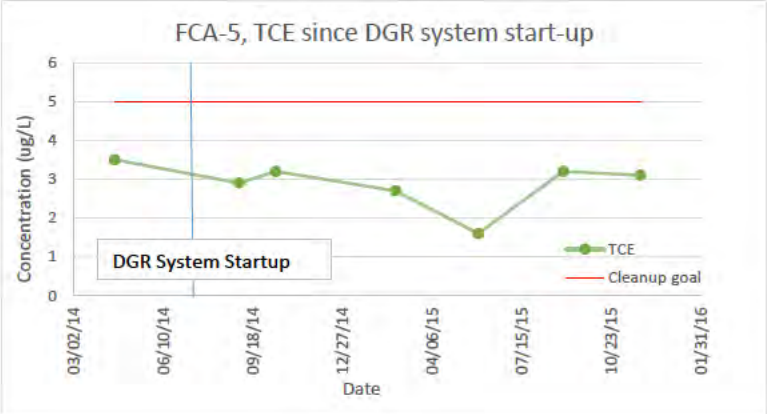
Notes:

U Undetected at the limit of detection

Well FCA-5 TCE Concentrations

Date	TCE (ug/L)
11/12/82	80
10/02/84	94.1
09/21/88	34.6
01/06/89	26.3
04/13/89	27.9
12/13/89	50.1
03/22/90	34
06/13/90	36
09/26/90	48.8
08/01/91	43
10/29/91	32.5
01/29/92	35.4
05/06/92	32
09/01/93	31.1
12/16/93	29.1
04/20/94	29.5
07/28/94	33
10/28/94	34.4
05/05/99	10
06/14/06	11.2
08/09/06	7.8
05/31/11	3.9
09/01/11	3.4
04/17/14	3.5
09/03/14	2.9
10/14/14	3.2
02/25/15	2.7
05/28/15	1.6
08/31/15	3.2
11/25/15	3.1



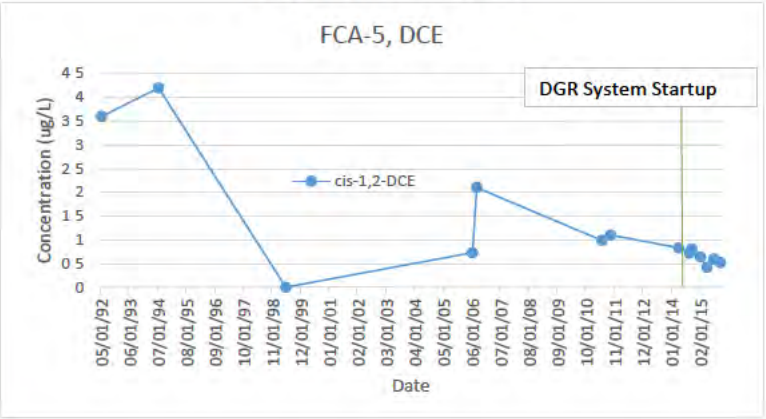


Mann-Kendall Test Using Normal Approximation for Small Sample Size

n	7	
S	-6	
p	0.2337	Table B-10, EM 200-1-16
α	0.05	
Ho:	No trend	
Ha:	p>α	Ho accepted at 95% level of confidence; no trend

Well FCA-5 DCE Concentrations

Date	cis-1,2-DCE (ug/L)
05/06/92	3.6
07/28/94	4.2
05/05/99	5 U
06/14/06	0.73 J
08/09/06	2.1
05/31/11	0.99 J
09/01/11	1.1 J
04/17/14	0.83
09/03/14	0.72
10/14/14	0.81
02/25/15	0.64
05/28/15	0.42 J
08/31/15	0.60 J
11/25/15	0.52 J



Notes:

J	Estimated
U	Undetected at the limit of detection
	Yellow cells represent data since startup of DGR system

Well FCA-6 TCE Concentrations

Date	TCE (ug/L)
12/07/82	50
01/28/83	40
09/24/84	9.22
06/06/88	4.71
09/20/88	5.34
01/06/89	4.61
04/12/89	5.98
12/11/89	3.59
03/21/90	4.78
06/13/90	4.61
09/24/90	3.59
04/29/91	2.3
07/31/91	3.84
10/29/91	3.59
01/27/92	3.59
05/05/92	9
08/31/93	3.59
12/14/93	3.59
04/18/94	3.59
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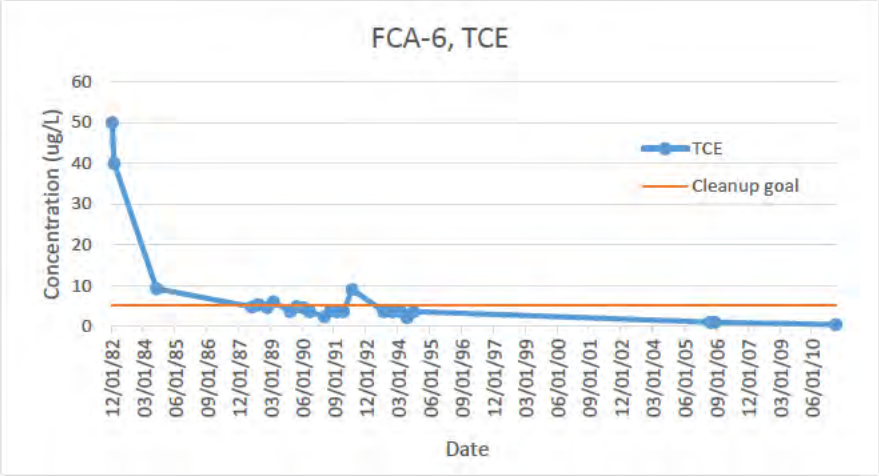
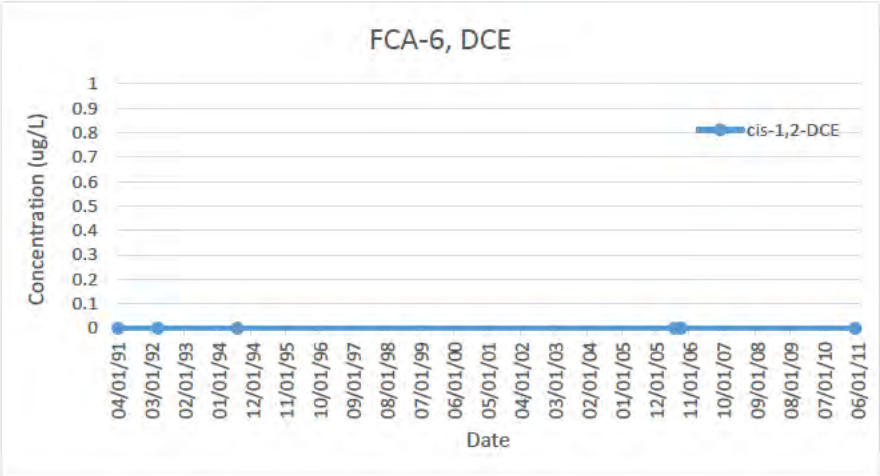
10/28/94	3.59
06/14/06	1
08/09/06	1
05/31/11	0.4



Well FCA-6 DCE Concentrations

Date	cis-1,2-DCE (ug/L)
04/29/91	0.5 U
05/05/92	0.5 U
07/27/94	0.5 U
06/14/06	1 U
08/09/06	1 U
05/31/11	5 U

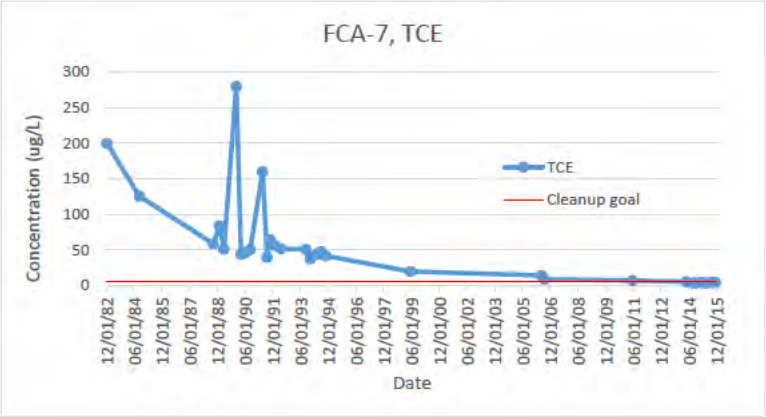


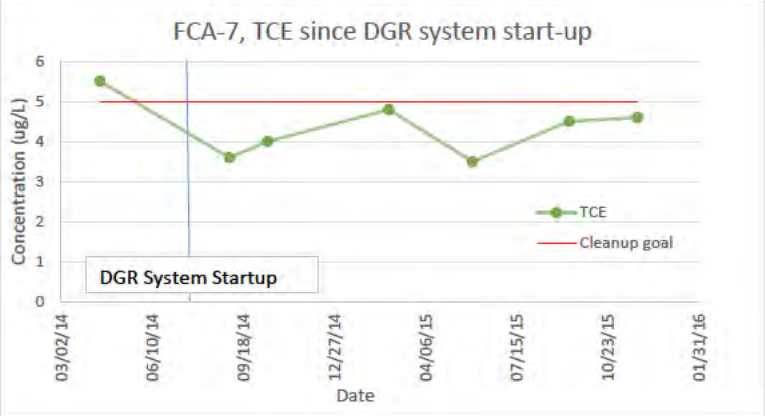
Notes:

U Undetected at the limit of detection

Well FCA-7 TCE Concentrations

Date	TCE (ug/L)
12/07/82	200
09/30/84	126
09/20/88	59
01/11/89	84
04/13/89	51.6
12/12/89	280
03/22/90	44
06/13/90	47
09/26/90	51
05/07/91	160
08/02/91	40
10/29/91	64.8
01/29/92	57
05/06/92	52
09/02/93	51
12/16/93	38
04/20/94	43.9
07/28/94	48
10/28/94	42
05/07/99	20
06/15/06	14.3
08/09/06	9.1
05/26/11	7.4
04/14/14	5.5
09/03/14	3.6
10/15/14	4
02/25/15	4.8
05/28/15	3.5
09/11/15	4.5
11/25/15	4.6



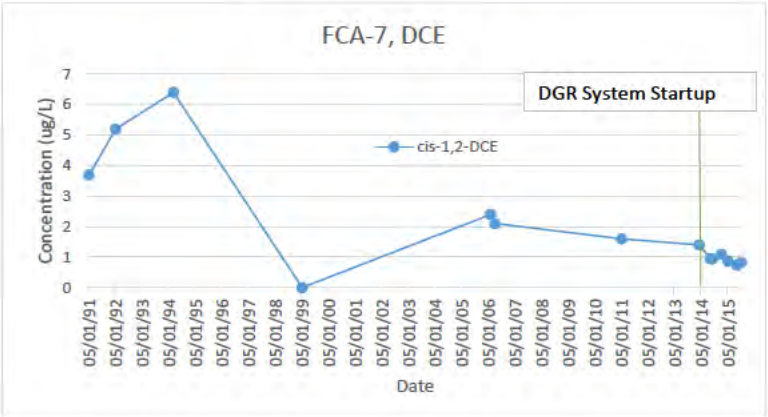


Mann-Kendall Test Using Normal Approximation for Small Sample Size

n	7	
S	-1	
p	0.5	Table B-10, EM 200-1-16
α	0.05	
Ho:	No trend	
Ha:	p>α	Ho accepted at 95% level of confidence; no trend

Well FCA-7 DCE Concentrations

Date	cis-1,2-DCE (ug/L)
05/07/91	3.7
05/06/92	5.2
07/28/94	6.4
05/07/99	5 U
06/15/06	2.4
08/09/06	2.1
05/26/11	1.6 J
04/14/14	1.4
09/03/14	0.95
10/15/14	0.95
02/25/15	1.1
05/28/15	0.87
09/01/15	0.74 J
11/25/15	0.83 J

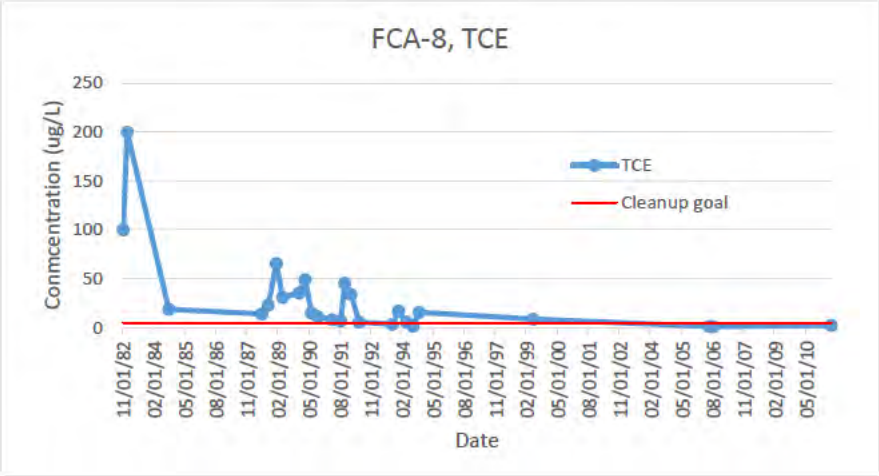


Notes:

J	Estimated
U	Undetected at the limit of detection
	Yellow cells represent data since startup of DGR system

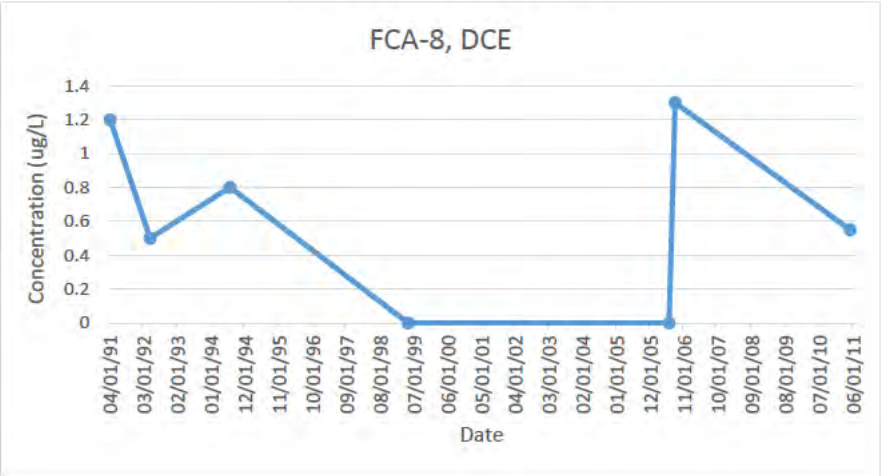
Well FCA-8 TCE Concentrations

Date	TCE (ug/L)
11/13/82	100
01/28/83	200
09/30/84	18.8
06/07/88	14.1
09/20/88	23
01/11/89	65.6
04/12/89	31
12/13/89	35.6
03/22/90	49
06/12/90	15
09/26/90	11.4
04/29/91	8.1
08/01/91	6.91
10/30/91	45.5
01/30/92	34
05/05/92	5.8
09/01/93	3.5
12/16/93	17.2
04/19/94	5.59
07/28/94	1.5
10/28/94	15.6
05/07/99	8.9
06/15/06	1.2
08/09/06	1
05/26/11	2.3



Well FCA-8 DCE Concentrations

Date	cis-1,2-DCE (ug/L)
04/29/91	1.2
05/06/92	0.5
07/28/94	0.8
05/07/99	5 U
06/15/06	1 U
08/09/06	1.3
05/26/11	0.55 J



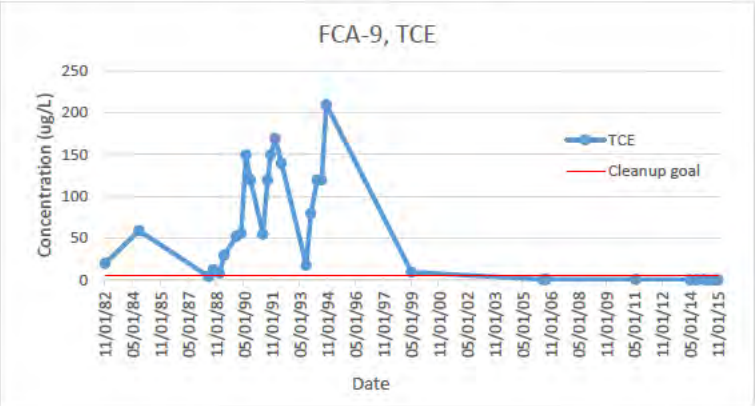
Notes:

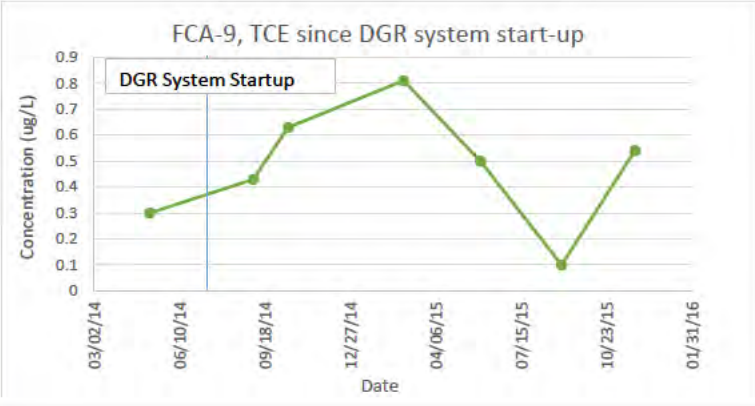
J Estimated

U Undetected at the limit of detection

Well FCA-9 TCE Concentrations

Date	TCE (ug/L)	
11/13/82	20	
09/30/84	59.2	
06/06/88	4.37	
09/19/88	12.8	
01/04/89	8.64	
04/13/89	29.9	
12/12/89	52.6	
03/21/90	56	
06/13/90	150	
09/26/90	120	
05/07/91	55	
08/02/91	120	
10/30/91	150	
01/29/92	170	
05/06/92	140	
09/01/93	18	
12/15/93	80	
04/20/94	120	
07/28/94	120	
10/28/94	210	
05/07/99	9.7	
06/15/06	0.65	
08/11/06	1	
06/03/11	1.1	
05/06/14	0.3	
09/04/14	0.43	
10/15/14	0.63	
02/27/15	0.81	
05/28/15	0.5	U
08/31/15	0.1	U
11/25/15	0.54	J



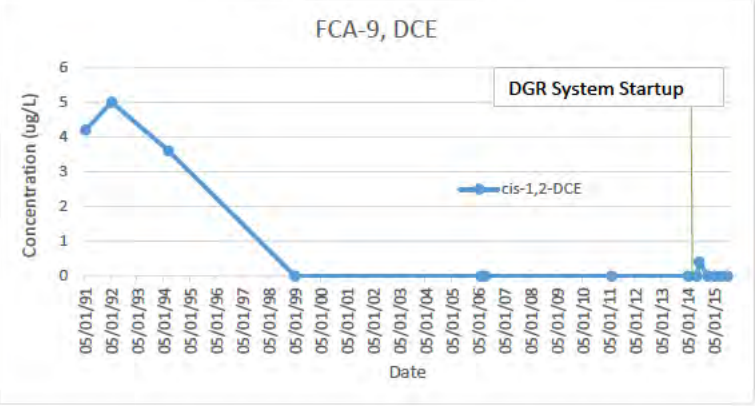


Mann-Kendall Test Using Normal Approximation for Small Sample Size

n	7	
S	0	
p	>0.5	Table B-10, EM 200-1-16
α	0.05	
Ho:	No trend	
Ha:	p>α	Ho accepted at 95% level of confidence; no trend

Well FCA-9 DCE Concentrations

Date	cis-1,2-DCE (ug/L)	
05/07/91	4.2	
05/06/92	5	
07/28/94	3.6	
05/07/99	5	U
06/15/06	1	U
08/11/06	1	U
06/03/11	5	U
05/06/14	0.5	U
09/04/14	0.5	U
10/15/14	0.41	
02/27/15	0.5	U
05/28/15	0.5	U
08/31/15	1	U
11/25/15	1	U

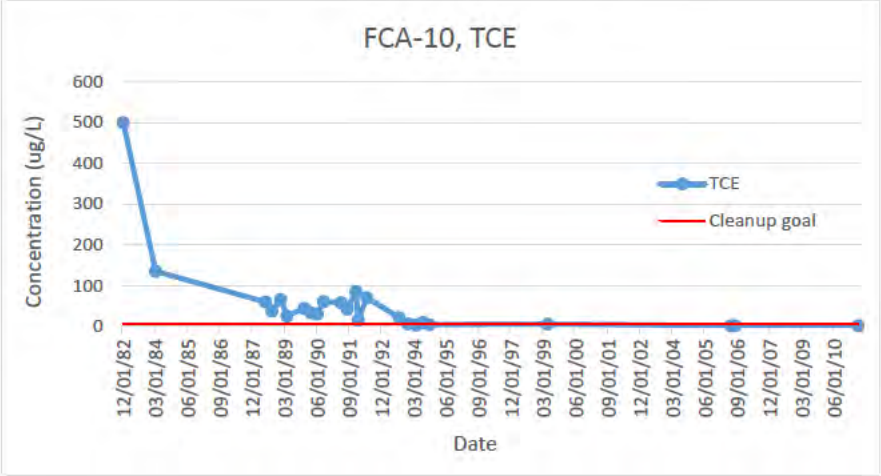


Notes:

J	Estimated
U	Undetected at the limit of detection
	Yellow cells represent data since startup of DGR system

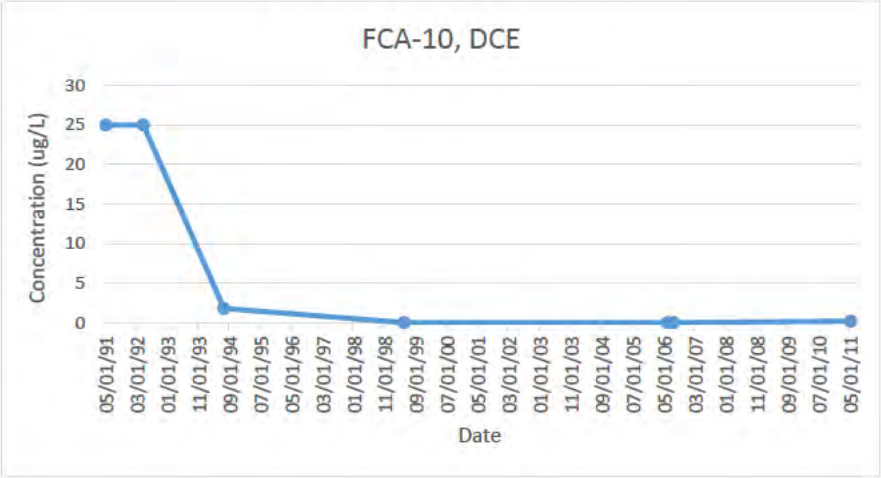
Well FCA-10 TCE Concentrations

Date	TCE (ug/L)
12/07/82	500
03/24/84	135
06/06/88	59.1
09/19/88	37
01/04/89	66
04/12/89	25.3
12/11/89	44
03/19/90	33
06/11/90	30
09/25/90	61
05/01/91	58
08/01/91	42
12/28/91	85.7
01/30/92	15.1
05/05/92	70
08/31/93	21
12/14/93	6.09
04/18/94	3.44
07/28/94	9.3
10/28/94	3.85
05/06/99	5
06/15/06	1.5
08/10/06	1.5
05/25/11	1.2



Well FCA-10 DCE Concentrations

Date	cis-1,2-DCE (ug/L)
05/01/91	25
05/05/92	25
07/28/94	1.8
05/06/99	5 U
06/15/06	1 U
08/10/06	1 U
05/25/11	0.19 J



Notes:

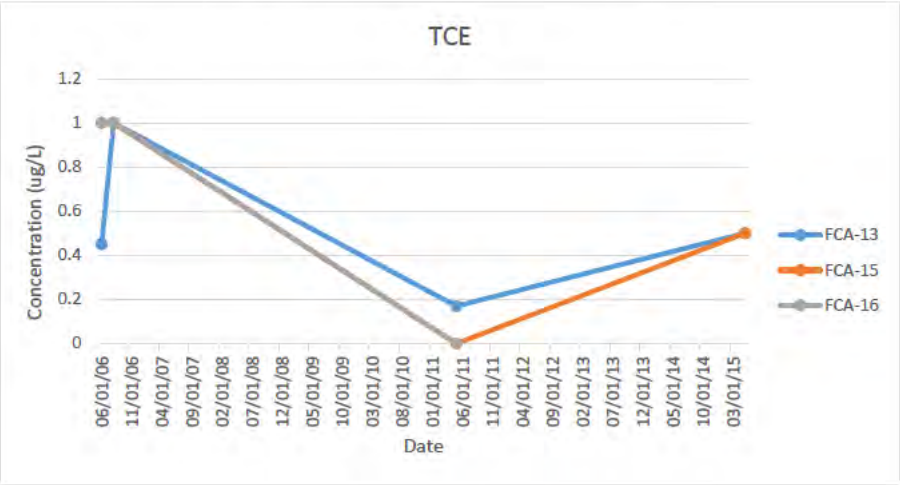
J	Estimated
U	Undetected at the limit of detection

Wells FCA-13, FCA-15, & FCA-16 TCE Concentrations

FCA-13	TCE (ug/L)	
06/16/06	0.45	
08/07/06	1	
05/24/11	0.17	
05/27/15	0.5	U

FCA-15	TCE (ug/L)	
06/14/06	1	
08/08/06	1	
05/27/11	0	
05/29/15	0.5	UJ

FCA-16	TCE (ug/L)
06/13/06	1
08/08/06	1
05/27/11	0

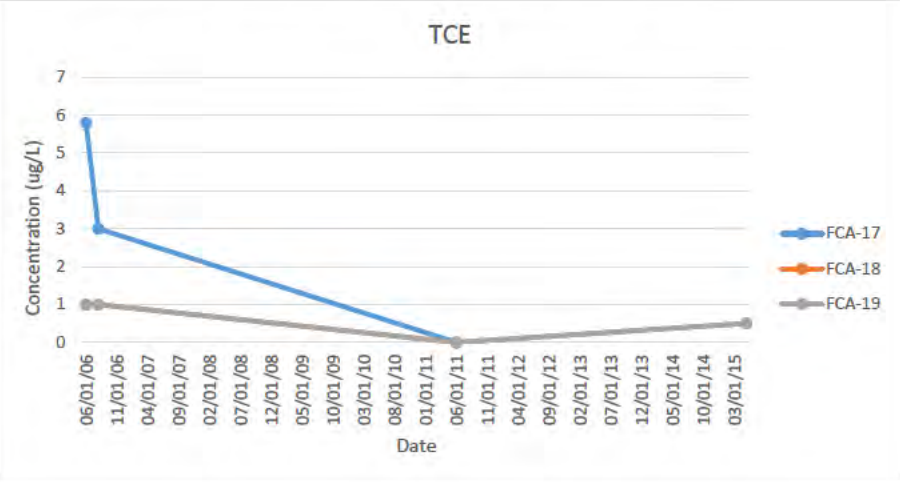


Wells FCA-17, FCA-18, & FCA-19 TCE Concentrations

FCA-17	TCE (ug/L)	
06/13/06	5.8	
08/07/06	3	
06/02/11	0	
05/29/15	0.5	U

FCA-18	TCE (ug/L)
06/13/06	1
08/07/06	1
06/02/11	0

FCA-19	TCE (ug/L)	
06/12/06	1	
08/08/06	1	
06/01/11	0	
05/28/15	0.5	U



Notes:

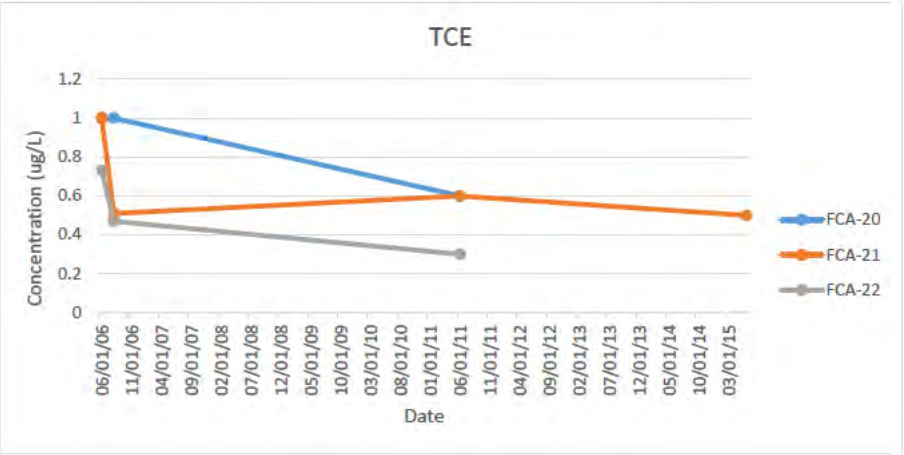
J	Estimated
U	Undetected at the limit of detection
	Yellow cells represent data since startup of DGR system

Wells FCA-20, FCA-21, & FCA-22 TCE Concentrations

FCA-20	TCE (ug/L)	
06/12/06	1	
08/08/06	1	
06/01/11	0.6	

FCA-21	TCE (ug/L)	
06/14/06	1	
08/09/06	0.51	
06/01/11	0.6	
06/04/15	0.5	U

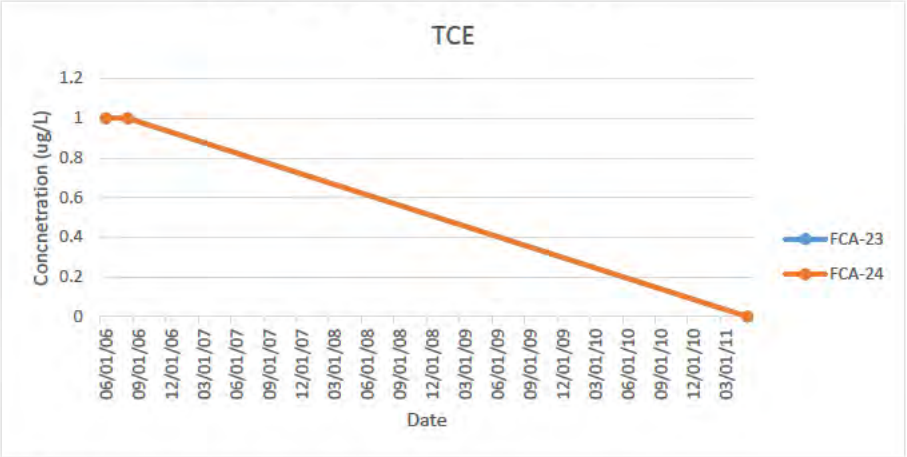
FCA-22	TCE (ug/L)
06/14/06	0.73
08/09/06	0.47
06/01/11	0.3



Wells FCA-23, & FCA-24 TCE Concentrations

FCA-23	TCE (ug/L)
06/13/06	1
08/08/06	1
05/27/11	0

FCA-24	TCE (ug/L)
06/13/06	1
08/08/06	1
05/27/11	0

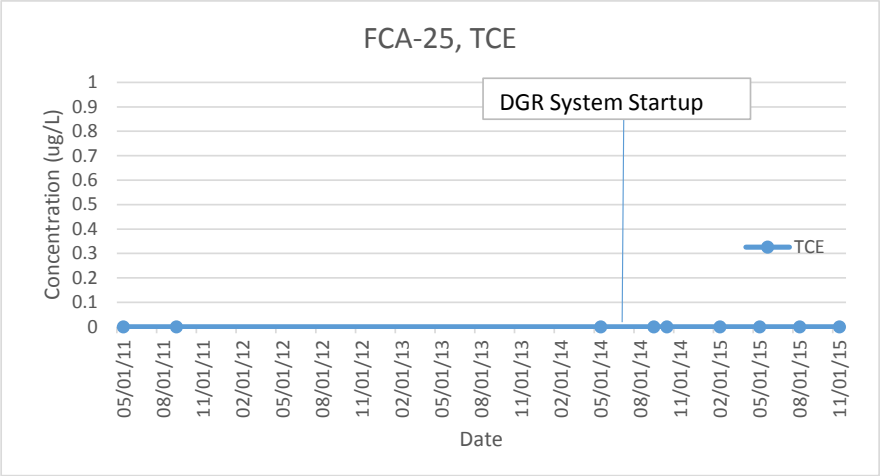


Notes:

U	Undetected at the limit of detection
	Yellow cells represent data since startup of DGR system

Well FCA-25 TCE Concentrations

FCA-25	TCE (ug/L)	
05/27/11	0	
09/01/11	0	
05/06/14	0.5	U
09/03/14	0.5	U
10/14/14	0.5	U
02/25/15	0.5	U
05/27/15	0.5	U
08/31/15	1	U
11/25/15	1	U

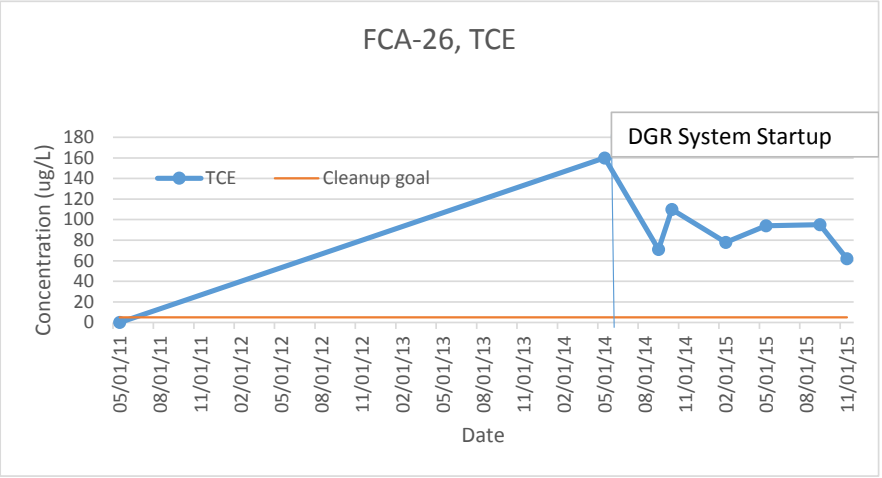


Notes:

U	Undetected at the limit of detection
	Yellow cells represent data since startup of DGR system

Well FCA-26 TCE Concentrations

FCA-26	TCE (ug/L)
05/27/11	0
05/07/14	160
09/03/14	71
10/15/14	110
02/25/15	78
05/28/15	94
09/01/15	95
11/25/15	62

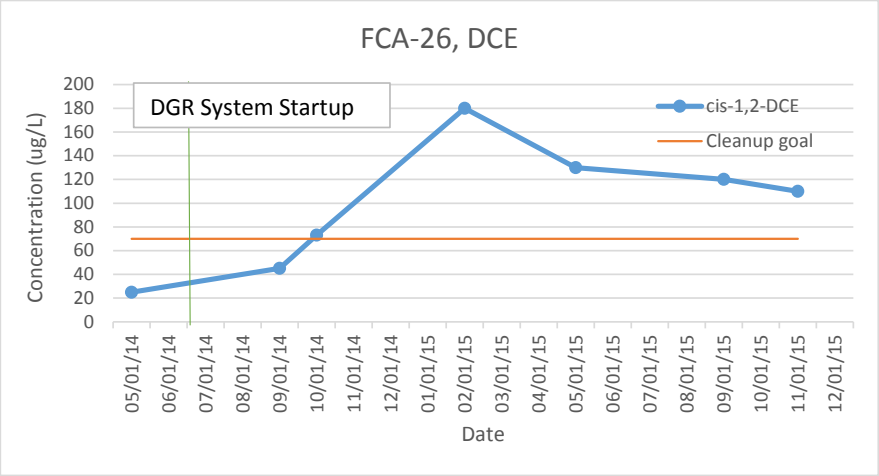


Mann-Kendall Test Using Normal Approximation for Small Sample Size

n	7	
S	-7	
p	0.191	Table B-10, EM 200-1-16
α	0.05	
Ho:	No trend	
Ha:	p>α	Ho accepted at 95% level of confidence; no trend

Well FCA-26 DCE Concentrations

Date	cis-1,2-DCE (ug/L)
05/07/14	25
09/03/14	45
10/15/14	73
02/25/15	180
05/28/15	130
09/01/15	120
11/25/15	110



Mann-Kendall Test Using Normal Approximation for Small Sample Size

n	6	
S	3	
p	0.36	Table B-10, EM 200-1-16
α	0.05	
Ho:	No trend	
Ha:	p>α	Ho accepted at 95% level of confidence; no trend

Yellow cells represent data since startup of DGR system

ATTACHMENT 11
DGR System Operational Data

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Table 5
Summary of System Volumes
Phoenix Military Reservation
Jacksonville, Maryland

	Volumes (Gallons)[2]		
	4/22/2015	**5/26/2015**	**6/24/2015**
Total Influent[1]	27,700	35,900	42,800
Injected Volumes			
IW-01	8,200	10,700	12,500
IW-02	8,600	10,500	12,500
IW-03	7,100	9,400	11,400

Notes:
[1] - Flow volume discrepecies between total influent and sum of injected volumes is attributed to well recharge at FCA-01 causing pulsed pumping cycles affecting flowmeter accuracy.
[2] - Volumes are recorded during monthly operation and maintenance events.

Table 5
Summary of System Volumes
Phoenix Military Reservation
Jacksonville, Maryland

Cumulative Volumes (Gallons)[1]			
Date	**10/22/2015**	**11/25/2015**	**12/14/2015**
Total Influent[2]	68,400	76,182	80,284
Injected Volumes			
IW-01	20,700	23,184	24,428
IW-02	19,600	21,683	22,876
IW-03	18,100	20,100	21,115

Notes:

1. Volumes are cumulative and are recorded during monthly operation and maintenance events.

2. Flow volume discrepancies between total influent and sum of injected volumes is attributed to well recharge at FCA-01 causing pulsed pumping cycles affecting flow meter accuracy.

Table 1 Hydraulic Gradients Relative to FCA-1											
Monitoring Well	Distance from FCA-1 (linear feet)	Ground Elevation (feet)	May-11		Apr-14		May-15		Δh (2011-2014)	Δh (2011-2015)	Δh (2014-2015)
			Elevation (feet)	Hydraulic Gradient (foot/foot)	Elevation (feet)	Hydraulic Gradient (foot/foot)	Elevation (feet)	Hydraulic Gradient (foot/foot)			
FCA-1	NA	560.80	540.59	NA	541.97	NA	506.97	NA	NA	NA	NA
FCA-3	170	560.60	540.33	-0.0015	542.63	0.0039	537.88	0.1818	354%	11988%	4583%
FCA-5	441	577.13	543.05	0.0056	543.29	0.0030	540.79	0.0767	-46%	1275%	2462%
FCA-7	220	576.22	543.78	0.0145	545.23	0.0148	542.08	0.1596	2%	1001%	977%
FCA-9	226	551.58	528.19	-0.0549	535.34	-0.0293	527.94	0.0928	47%	269%	416%
FCA-13	868	528.01	486.11	-0.0628	NA	NA	486.09	-0.0241	NA	62%	NA
FCA-15	1425	387.86	384.65	-0.1094	NA	NA	383.59	-0.0866	NA	21%	NA
FCA-17	870	515.85	491.31	-0.0566	NA	NA	491.13	-0.0182	NA	68%	NA
FCA-19	620	513.07	543.97	0.0055	NA	NA	495.06	-0.0192	NA	-452%	NA
FCA-21	724	477.27	467.13	-0.1015	NA	NA	466.65	-0.0557	NA	45%	NA
FCA-25	453	575.20	541.39	0.0018	542.45	0.0011	539.05	0.0708	-40%	3910%	6583%
FCA-26	53	565.90	NA	NA	551.58	0.1813	535.71	0.5423	NA	NA	199%

Notes:

Distances between monitoring wells are estimated.

NA - Not available

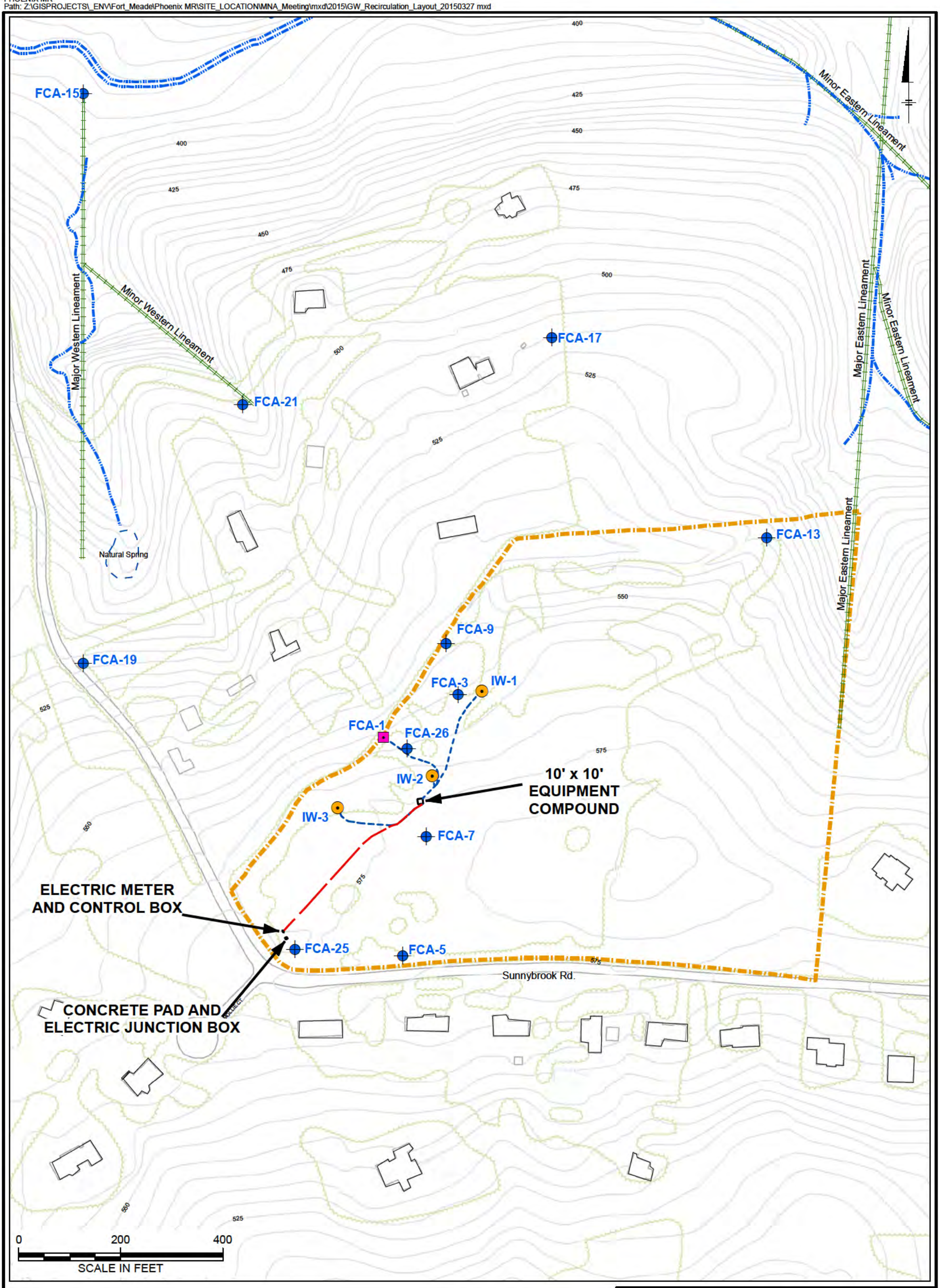
Hydraulic gradient = (groundwater elevation at monitoring well - groundwater elevation at FCA-1)/Distance of separation between monitoring wells

The DGR treatment system operation commenced June 30, 2014

Ground and groundwater elevations are in feet above mean sea level

h = hydraulic gradient

CITY: MPLS DIV/GROUP: IM DB: MG LD: KS
PHOENIX MR
Path: Z:\GISPROJECTS_ENV\Fort_Meade\Phoenix MR\SITE_LOCATION\MNA_Meeting\mxd\2015\GW_Recirculation_Layout_20150327.mxd



Legend

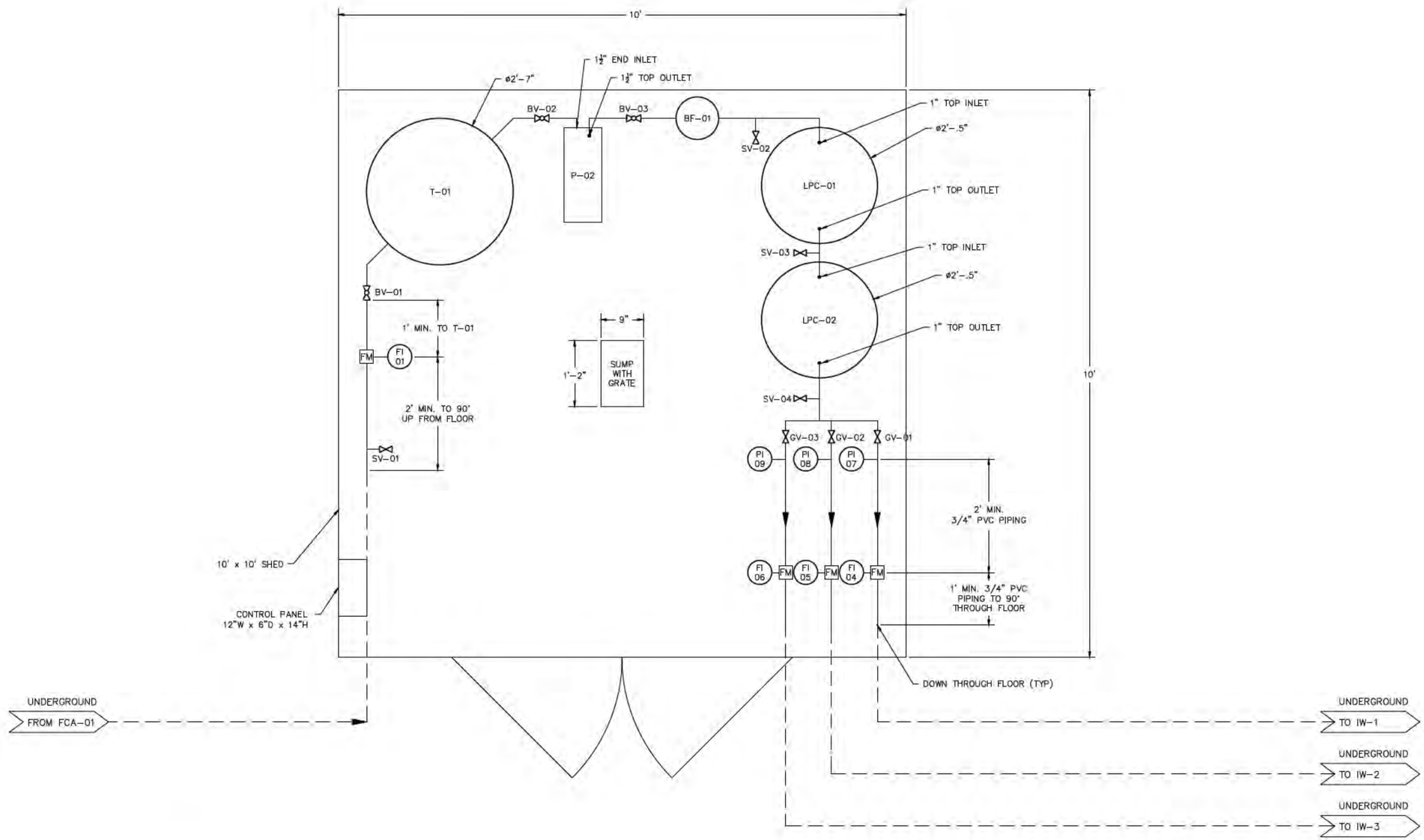
- Deep Monitoring Well Location
- Extraction Well
- Recirculation Well
- Lineament
- Stream
- Electrical Feed
- Water Conveyance
- Natural Spring
- House
- Approximate Site Boundary

PHOENIX MILITARY RESERVATION
JACKSONVILLE, MARYLAND

DIRECTED GROUNDWATER RECIRCULATION LAYOUT

PIKA INTERNATIONAL, INC. A JOINT VENTURE MALCOLM PIRNIE

FIGURE 1



NOTES:

1. LOCATE SUMP TO ALLOW 3' WIDE MINIMUM WALKWAY.

CITY: MINNEAPOLIS, MN DIV/GROUP: ENV/CAD DB: R. OBERLANDER LD: PIC: T. TALELE PM: T. LLEWELLYN TM: W. KAHL
G:\ENVCAD\Minneapolis-MN\ACT\GP09MEAD\PHOE\H3001\DWG\GP09MEAD_M1.dwg LAYOUT: M-1 SAVED: 12/10/2013 9:42 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 12/10/2013 9:42 AM BY: OBERLANDER, ROSEANNE

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Professional Engineer's Name
Professional Engineer's No.
State | Date Signed | Project Mgr. PP
Designed by | Drawn by | Checked by

DRAFT

ARCADIS
ARCADIS U.S., INC.

OPERABLE UNIT 4 • FORT GEORGE G. MEADE, MARYLAND
REMEDIAL DESIGN PLAN

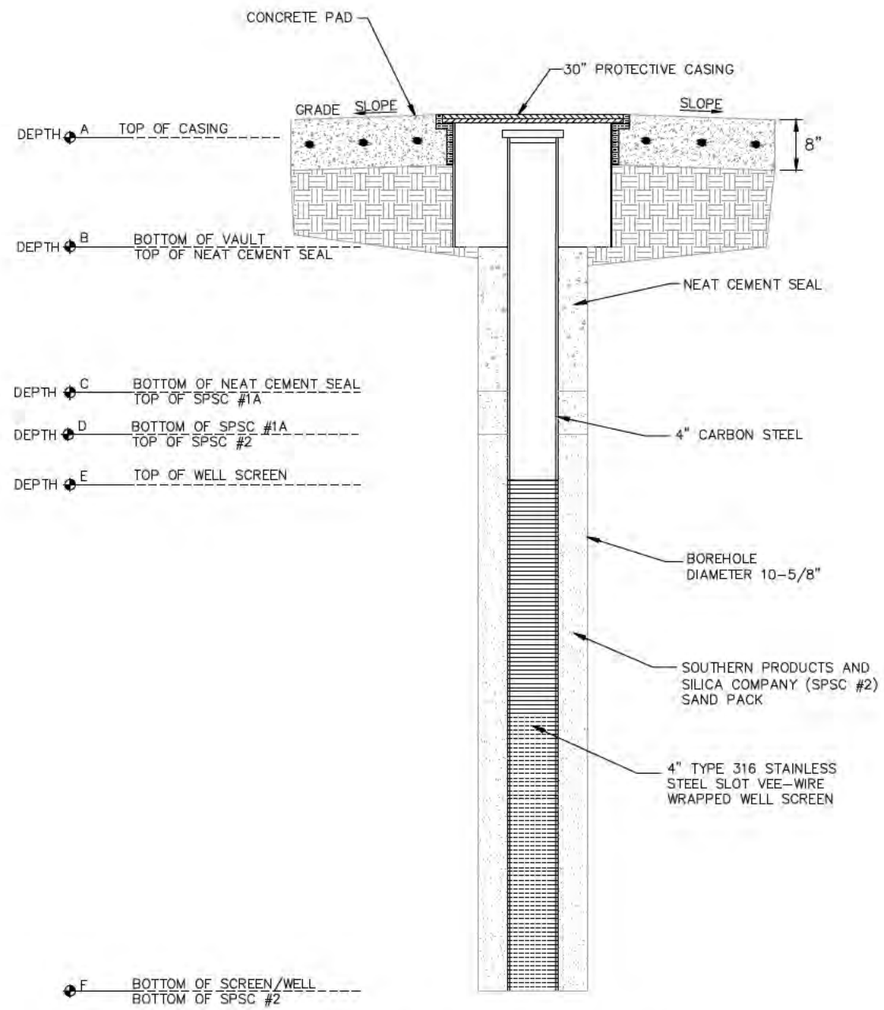
EQUIPMENT LAYOUT

MECHANICAL

ARCADIS Project No. GP09MEAD.PHOE.H3001
Date OCTOBER 2013

ARCADIS
430 FIRST AVE N, SUITE 720
MINNEAPOLIS,MN 55401
TEL:612-339-9434

M-1



INJECTION WELL DETAIL

NOT TO SCALE

WELL CONSTRUCTION SCHEDULE (DEPTHS ARE BELOW GRADE)						
WELL TYPE	A	B	C	D	E	F
DEEP INJECTION	9"	3'	56'	58'	60'	75'

NOTE:

1. ALL DIMENSIONS ARE APPROXIMATE AND ARE SUBJECT TO CHANGE BASED ON ACTUAL CONDITIONS ENCOUNTERED IN FIELD.
2. WELL CONSTRUCTION DEPTHS ARE APPROXIMATE.

CITY: MINNEAPOLIS, MN DIV/GROUP: ENV/CAD DB: R. OBERLANDER LD: PIC: T TALELE PM: T. LLEWELLYN TM: W. KAHL
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Professional Engineer's Name
Professional Engineer's No.
State | Date Signed | Project Mgr. PP
Designed by | Drawn by | Checked by

DRAFT

ARCADIS
ARCADIS U.S., INC.

OPERABLE UNIT 4 • FORT GEORGE G. MEADE, MARYLAND
REMEDIAL DESIGN PLAN

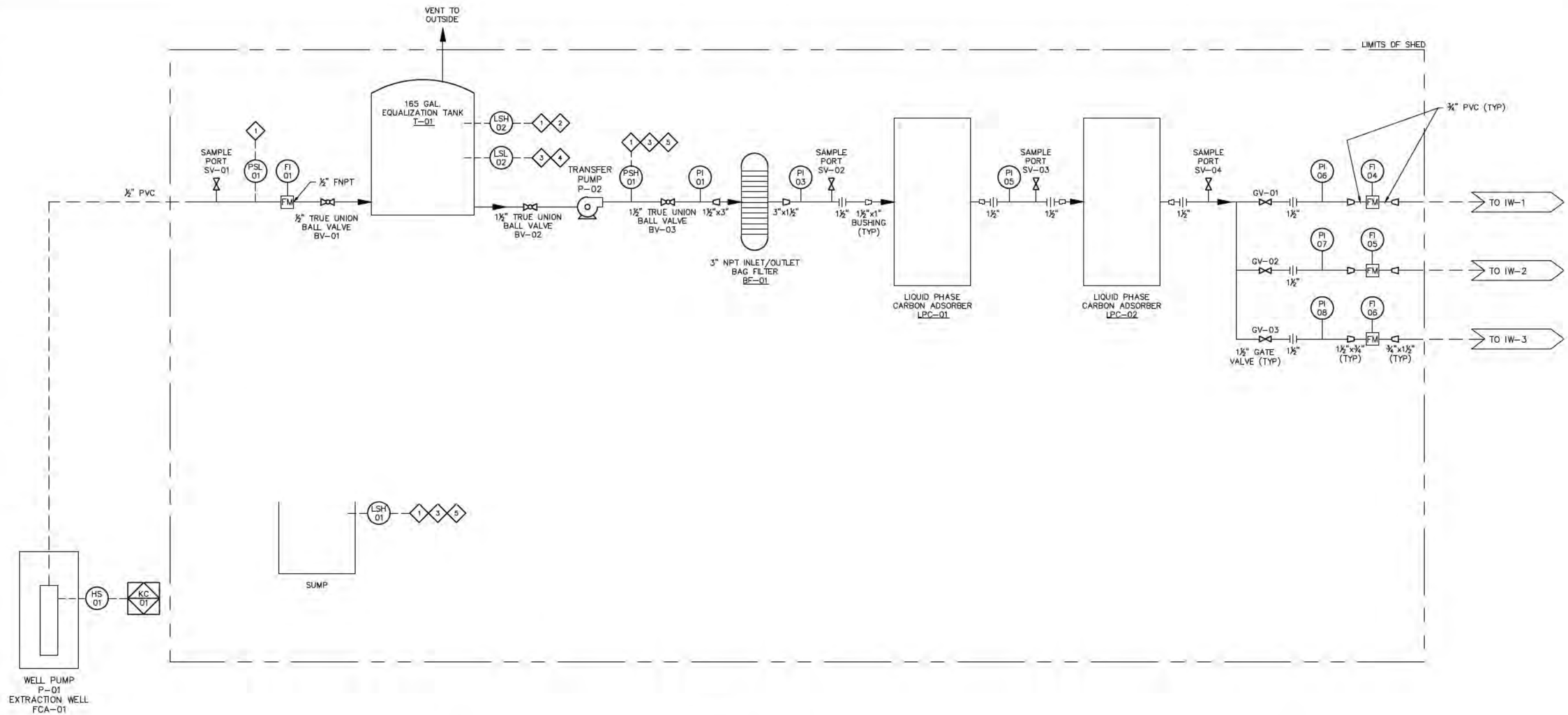
TREATED GROUNDWATER INJECTION WELL CONSTRUCTION DETAIL

MECHANICAL

ARCADIS Project No. GP09MEAD.PHOE.HG001
Date OCTOBER 2013

ARCADIS
430 FIRST AVE N, SUITE 720
MINNEAPOLIS,MN 55401
TEL:612-339-9434

M-2



INTERLOCKS

1. STOP P-1
2. START P-2
3. STOP P-2
4. START P-1
5. AUTODIALER CALL OUT

NOTES:

1. SYSTEM PIPING IS 1 ½" SCHEDULE 40 PVC UNLESS OTHER SIZE IS NOTED.
2. TWO FEET OF ½" PIPING WILL BE INSTALLED UPSTREAM OF EACH FLOW METER, AND ONE FOOT OF ½" PIPING WILL BE INSTALLED DOWNSTREAM OF EACH FLOW METER.
3. TIMER WILL BE USED TO RE-START EXTRACTION WELL PUMP (P-01) AFTER PRESET AMOUNT OF TIME (INPUT BY OPERATOR) FOLLOWING ACTIVATION OF LOW PRESSURE SWITCH, PSL-01.

LEGEND

- GATE VALVE
- BALL VALVE
- REDUCER
- UNION
- BUSHING
- PUMP
- FM FLOW METER
- UNDERGROUND PIPING

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Professional Engineer's Name
Professional Engineer's No.
State | Date Signed | Project Mgr. PP
Designed by | Drawn by | Checked by

DRAFT

ARCADIS
ARCADIS U.S., INC.

OPERABLE UNIT 4 • FORT GEORGE G. MEADE, MARYLAND
REMEDIAL DESIGN PLAN

PIPING AND INSTRUMENTATION DIAGRAM

ARCADIS Project No. GP09MEAD.PHOE.H0001
Date OCTOBER 2013

ARCADIS
430 FIRST AVE N, SUITE 720
MINNEAPOLIS,MN 55401
TEL:612-339-9434

PID-1

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ATTACHMENT 12

Responses to Regulator Review Comments

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