N60508.AR.002579
NAS WHITING FIELD
5090.3a

LETTER REGARDING FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REVIEW OF SITE REHABILITATION COMPLETION REPORT (SRCR) AND NO FURTHER ACTION (NFA) PROPOSAL FOR SITE 2832 AVGAS PIPELINE SECTION E NAS WHITING FIELD FL
6/23/2016
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

June 23, 2016

Department of the Navy
Naval Facilities Engineering Command Southeast
Attn: Arne Olsen, OPUE3
135 Ajax Street North, Building 903
Naval Air Station Jacksonville
Jacksonville, Florida 32212-0030

Subject: Site Rehabilitation Completion Order (SRCO)
Site 2832
AVGAS Pipeline Section E
Naval Air Station Whiting Field
Milton, Santa Rosa County
U.S. Environmental Protection Agency (EPA) ID #FL2 170 023 244

Dear Mr. Olsen:

The Waste Cleanup Program has reviewed the Final Site Rehabilitation Completion Report (SRCR), and No Further Action (NFA) Proposal for Site 2832, AVGAS Pipeline Section E, dated January 6, 2015 (received May 5, 2015), submitted by Resolution Consultants. The Memorandum of Decision (MOD) for Site 2832, containing maps showing the location of the "contaminated site" for which this Order is being issued, is enclosed as Exhibit 1 and is incorporated by reference herein.

The MOD contains a brief site history including listings for earlier submittals and location maps showing the boundaries of excavations with confirmatory sampling results. Site 2832 is currently an open grassed field located between building 2832 and a small wooded area in the northeast portion of the developed industrial area of NAS WF. The aviation gasoline (AVGAS) pipeline was installed in approximately 1943 and continued operation until it was abandoned in-place in the late 1970s. Site 2832 was identified in October 2000 during the closure assessment for the abandoned pipeline. During the pipeline assessment, an area of excessively contaminated soil was identified east of Building 2832 along the pipeline, which consisted of two 6-inch diameter steel pipes running parallel to each other. During the assessment, the area was designated as the Section E Investigation Area. In addition to impacted soil, free product was observed in

one soil boring at approximately 16 feet below land surface (bls). The Closure Assessment Report, submitted to the Department and the Escambia County Health Department in April 2001 recommended that a site assessment be conducted at the location where the impacted soil and groundwater were observed. A response letter issued by the Escambia County Health Department concurred with the recommendation.

Based on the *Memorandum of Decision for No Further Action and Site Rehabilitation Completion Documentation* and other submitted documents, the Department has reasonable assurance that Naval Air Station (NAS) Whiting Field (NAS WF) has met the criteria in Chapter 62-780, Florida Administrative Code (F.A.C.). The submittals indicate that soil and groundwater contaminant concentrations are below the applicable Soil Cleanup Target Levels and Maximum Concentration Limits or Groundwater Cleanup Target Levels as adopted in Chapter 62-777, F.A.C. (Effective date April 17, 2005). Therefore, you have satisfied the site rehabilitation requirements for the above-referenced contaminated site and are released from any further obligation to conduct site rehabilitation at the contaminated site, except as set forth below. See the attachment (Exhibit 1), incorporated by reference herein, which includes information regarding the contaminants, affected media, and applicable cleanup target levels for the contaminated site that is the subject of this Order.

Failure to meet the following requirement will result in the revocation of this Order:

(a) You are required to properly plug and abandon all monitoring wells, injection wells, extraction wells, and sparge wells unless these wells are otherwise required for compliance with a local ordinance or another cleanup within 60 days of receipt of this Order. The wells must be plugged and abandoned in accordance with the requirements of Rule 62-532.500(5), F.A.C. A Well Plugging Report shall be submitted within 30 days of well plugging.

Further, in accordance with Section 376.30701(4), Florida Statutes (F.S.), upon completion of site rehabilitation, additional site rehabilitation is not required unless it is demonstrated that:

(a) Fraud was committed in demonstrating site conditions or completion of site rehabilitation;
(b) New information confirms the existence of an area of previously unknown contamination which exceeds the site-specific rehabilitation levels established in accordance with Section 376.30701(2), F.S., or which otherwise poses the threat of real and substantial harm to public health, safety, or the environment; or
(c) A new discharge of pollutants or hazardous substances occurs at the site subsequent to the issuance of this Order.

Legal Issues

The Department's Order shall become final unless a timely petition for an administrative hearing is filed under sections 120.569 and 120.57, F.S., within **21** days of receipt of this Order. The procedures for petitioning for a hearing are set forth below.

Persons affected by this Order have the following options:

A. If you choose to accept the Department's decision regarding this SRCO, you do not have to do anything. This Order is final and effective on the date filed with the Clerk of the Department, which is indicated on the last page of this Order.

B. If you choose to challenge the decision, you may do the following:

1. File a request for an extension of time to file a petition for hearing with the Department's Agency Clerk in the Office of General Counsel within **21** days of receipt of this Order. Such a request should be made if you wish to meet with the Department in an attempt to informally resolve any disputes without first filing a petition for hearing; or

2. File a petition for administrative hearing with the Department's Agency Clerk in the Office of General Counsel within **21** days of receipt of this Order.

Please be advised that mediation of this decision pursuant to section 120.573, F.S., is not available.

How to Request an Extension of Time to File a Petition for Hearing

For good cause shown, pursuant to Rule 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for hearing. Such a request must be filed (received) by the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, within **21** days of receipt of this Order. Petitioner, if different from Arne Olsen/NAS WF, shall mail a copy of the request to Arne Olsen/NAS WF at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for administrative hearing must be made.

How to File a Petition for Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative hearing under sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) by the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, MS 35, Tallahassee, Florida, 32399-3000, within **21** days of receipt of this Order.

Petitioner, if different from Arne Olsen/NAS WF, shall mail a copy of the petition to Arne Olsen/NAS WF at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under sections 120.569 and 120.57, F.S.

Pursuant to subsection 120.569(2), F.S., and Rule 28-106.201, F.A.C., a petition for administrative hearing shall contain the following information:

a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the site owner's name and address, if different from the petitioner; the DEP facility number; and the name and address of the facility;
b) A statement of when and how each petitioner received notice of the Department's action or proposed action;
c) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
d) A statement of the disputed issues of material fact, or a statement that there are no disputed facts;
e) A statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's action or proposed action; and
g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

This Order is final and effective on the date filed with the Clerk of the Department, which is indicated on the last page of this Order. Timely filing a petition for administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or an Order Responding to Supplemental Information provided to the Department pursuant to meetings with the Department.

Judicial Review

Any party to this Order has the right to seek judicial review of it under section 120.68, F.S., by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the Agency Clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within thirty days after this order is filed with the clerk of the Department (see below).

Questions

Any questions regarding the Department's review of your SRCR/NFA Proposal should be directed to John Winters at (850) 245-8999, or John.Winters@dep.state.fl.us. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850) 245-2242. Contact with any of the above does not constitute a petition for administrative hearing or request for an extension of time to file a petition for administrative hearing.

Sincerely,

Peter Cornais, Program Administrator
Waste Cleanup Program
Division of Waste Management

PC/jdw

Enclosure (Exhibit 1)

cc: File
Bryan Baker, FDEP, Tallahassee

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to
§120.52 Florida Statutes, with the
designated Department Clerk, receipt
of which is hereby acknowledged.

_____ June 23, 2016
Clerk Date
(or Deputy Clerk)

MEMORANDUM OF DECISION OF NO FURTHER ACTION
AND SITE REHABILTATION COMPLETION DOCUMENTATION

SITE 2832
AVGAS PIPELINE – SECTION E
NAVAL AIR STATION WHITING FIELD
MILTON, FLORIDA

PURPOSE OF MEMORANDUM

This memorandum has been developed in order to document the decision for No Further Action at Site 2832, Aviation Gasoline (AVGAS) Pipeline – Section E, Naval Air Station Whiting Field (NASWF), Milton, Florida, and to ensure that the rationale for that decision is clear. The Site 2832 project team, consisting of the U.S. Department of the Navy (Navy), Florida Department of Environmental Protection (FDEP), and personnel from various environmental consulting firms, has been involved in the document review and decision-making process and has determined that No Further Action is warranted at this site.

BRIEF SITE DESCRIPTION

Site 2832 is currently an open grassed field located between Building 2832 and a small wooded area in the northeast portion of the developed industrial area of NASWF (**Figure 1**). Site 2832 was identified in October 2000 during the closure assessment of an AVGAS pipeline, which had been abandoned in place during the late 1970s. During the pipeline assessment, an area of excessively contaminated soil (defined as Flame Ionization Detector [FID] headspace screening response of 500 parts per million [ppm] or greater, per Chapter 62-770 Florida Administrative Code [FAC]) was identified east of Building 2832 along the abandoned pipeline, which at this location consisted of two 6-inch diameter steel pipes running parallel to each other (**Figure 1** and **Figure 2**). This assessment area was designated as the AVGAS Pipeline Section E Investigation Area. In addition to impacted soil, free phase petroleum hydrocarbons (hereinafter referred to as free product) were observed in one soil boring at approximately 16 feet below land surface (bls).

WHY IS NO FURTHER ACTION APPROPRIATE?

The No Further Action determination is based on successful completion of remedial actions taken by the Navy to satisfactorily meet the requirements of FAC Chapter 62-780.680(1). Laboratory analytical results from post-remedial action soil and groundwater confirmation samples in combination with historic groundwater sampling analytical results satisfactorily demonstrate that site closure can be justified in accordance with FAC Chapter 62-780.680 (1), RMO Level I – No Further Action without Institutional Controls.

Site conditions and data demonstrating that all requirements for RMO Level I – No Further Action without Institutional Controls have been met include the following:

- The point source of contamination has been removed;
- No free product is present at the site;

- No contaminated soil exceeding residential direct exposure Soil Cleanup Target Levels (SCTLs) is present at the site;
- No perched aquifer is present at the site; and
- No contaminated groundwater exceeding Groundwater Cleanup Target Level (GCTLs) is present at the site.

FORMALIZATION OF THE DECISION

This decision document is being completed by the Navy to ensure that the No Further Action decision is clearly and completely documented, and provides the documentation necessary for FDEP to issue a Site Rehabilitation Completion Order. Issuance of the Site Rehabilitation Completion Order will formalize the site's status as unrestricted re-use. The current site conditions meet the requirements for site completion, as stated in the *Florida Petroleum Contamination Agreement* (Department of the Navy and the State of Florida, October 1990). This decision will be incorporated in the next modification to the NAS Whiting Field Site Management Plan (SMP), as applicable, wherein the site's status will be updated to reflect "Site Rehabilitation Completion Determination without Controls".

Complete copies of investigations and reports leading up to the decision for No Further Action can be reviewed upon request to:

Mike Pattison
Public Works Department
NAS Whiting Field
7183 Langley Street, Building 1416
Milton, FL 32570-6159

FACILITY DESCRIPTION

NASWF is located in Florida's northwest coastal area, in north-central Santa Rosa County, approximately seven miles north of Milton and 20 miles northeast of Pensacola (**Figure 1**). NASWF has an area of approximately 3,490 acres and was constructed in the early 1940s as a naval aviation training facility. NASWF's mission has been to train student naval aviators in the use of basic aircraft instruments, formation and tactical phases of fixed-wing and propeller-driven aircraft, and in the basic and advanced portions of helicopter training. Currently, the North Field is used for fixed-wing aircraft training, while the South Field is used for helicopter training.

DETAILED SITE DESCRIPTION AND HISTORY

Site 2832 is currently an open grassed field located between Building 2832 and a small wooded area in the northeast portion of the developed industrial area of NASWF. The approximate geographic coordinates at the center of the site are 30° 42' 48.8 " latitude and 87° 00' 54.4" longitude. The site lies within the northeastern part of Section 2 in Township 2 North, and Range 28 West, as shown on the Milton North, Florida, United States Geologic Survey Quadrangle Map (USGS, 1987). The Site 2832 layout is presented in **Figure 1** and the conceptual site model (CSM) is presented in **Figure 2**.

The AVGAS pipeline was installed in approximately 1943 and continued operation until it was abandoned in-place in the late 1970s. Site 2832 was identified in October 2000 during the closure assessment for the abandoned pipeline. During the pipeline assessment, an area of excessively contaminated soil was identified east of Building 2832 along the pipeline, which consisted of two 6-inch diameter steel pipes running parallel to each other (**Figure 1**). During the assessment, the area was designated as the Section E Investigation Area. In addition to impacted soil, free product was observed in one soil boring at approximately 16 feet bls. The *Closure Assessment Report*, submitted to the FDEP and the Escambia County Health Department in April 2001 (Tetra Tech Nuclear Utility Services, Inc. [TtNUS], April 2001), recommended that a site assessment be conducted at the location where the impacted soil and groundwater were observed. A response letter issued by the Escambia County Health Department concurred with the recommendation.

The following site assessment and remedial actions were conducted by the Navy in response to the AVGAS Pipeline closure assessment findings:

- April through November 2002. Site Assessment field investigation activities identified excessively contaminated soil and free product in a shallow perched aquifer, but no impacts to the Surficial Aquifer were identified (TtNUS, June 2003).
- October 2002 through June 2003. Semi-monthly removal of free product from the perched aquifer was performed (removing a total of 17 gallons of free product).
- December 2003. Remedial Action Plan (RAP) remediation alternatives were evaluated and an alternative was selected consisting of groundwater extraction from the perched aquifer, followed by soil excavation and off-site disposal of contaminated soils (TtNUS, December 2003) to mitigate site contamination.
- September 2006 and September 2008. Modifications to the RAP were prepared, altering the methods used for groundwater extraction (WRS, September 2006 and September 2008).
- March through October 2007. Remedial actions were initiated, consisting of the removal of a section of the AVGAS Pipeline along with the removal of 4,000 gallons of water and 140 gallons of free product from within the pipeline (WRS, May 2009).
- November 2008 to early March 2009. Remedial actions consisting of dewatering of approximately 713,000 gallons of groundwater from the perched aquifer, excavation and disposal of approximately 6,400 cubic yards of impacted soil, backfilling, site restoration, and re-installation of Surficial Aquifer monitoring wells were completed (**Figure 3,** WRS, May 2009).
- March 2009, June 2009, September 2009, and January 2010. Post-remediation monitoring and groundwater sampling were preformed (WRS, February 2010).
- August to September 2013. Post-remedial action monitoring of groundwater and confirmation of soil remediation sampling was conducted by Resolution Consultants, Inc.

SUMMARY OF SITE RISK

A formal risk assessment was not completed as part of the site assessment and remedial actions conducted for Site 2832. However, analytical data were evaluated based on results comparison to the FDEP Cleanup Target Levels for soil and groundwater, which are risk-based standards.

Although Site 2832 lies within the developed industrial area of NASWF, the site has historically remained undeveloped. The only documented development on the site is the AVGAS Pipeline. Based on this known land use, the potential chemicals of concern (COCs) identified during the site assessment were petroleum-

related compounds including benzene, toluene, ethylbenzene, and xylenes (BTEX) and total recoverable petroleum hydrocarbons (TRPH). In addition to these COCs identified during the site assessment, the analyte list for media samples collected during the August and September 2013 post-remedial action soil and groundwater confirmation sampling was expanded to include definitive laboratory analysis of all Chapter 62-780, FAC Table C analytes including select volatile organic compounds (VOCs), Polynuclear Aromatic Hydrocarbons (PAHs), and TRPH plus two additional contaminants of interest, isopropylbenzene and 1,4-dioxane.

Soil

Site assessment activities identified excessively contaminated soil in an approximately 8,390-square foot area of Site 2832 to a depth of approximately 25 feet bls based on FID field screening analyses (TtNUS, June 2003). Additionally within this area, free product was observed in unsaturated and saturated soils associated with an irregular and intermittent perched aquifer system in an approximately 1,600-square foot area located at a depth of 12 to 13.5 feet bls with a thickness ranging from 0.59 to 6.61 feet. Definitive level laboratory analyses of soil samples collected from within this area resulted in detection of benzene at 635 micrograms per kilogram (µg/kg), toluene at 6,260 µg/kg, ethylbenzene at 3,030 µg/kg, xylene at 3,510 µg/kg and TRPH at 42.2 milligrams per kilogram (mg/kg). The site assessment delineated BTEX and TRPH compounds horizontally and vertically to residential SCTLs.

Following the completion of remedial actions, confirmation soil samples were collected in January and February 2009 (WRS, May 2009) and confirmed that all free product and the majority of excessively contaminated soils had been excavated. The 2009 confirmation soil sampling results indicated that only benzene in soil remained in isolated areas at the base of the excavation at concentrations above the residential SCTL (**Figure 3** and **Figure 4**).

In September 2013 additional soil confirmation samples were collected within areas of the former excavation, where the previous soil confirmation samples were collected following the 2009 excavation. The additional confirmation soil samples were collected and analyzed for BTEX, PAHs, and TRPH. Laboratory analyses of the 2013 soil confirmation sampling resulted in only low concentrations of benzene exceeding the leachability SCTL (0.007 mg/kg) in three soil samples. The maximum detected concentration for benzene at the site was 0.018 mg/kg, which is well below the Direct Exposure Residential SCTL criterion (**Figure 4**).

Although the soil leachability SCTL for benzene was exceeded in three soil samples collected between 8 and 16 feet bls, additional soil and groundwater data confirm that soil leaching to groundwater is not currently occurring. These additional data demonstrate that:

- Analytical results for soil samples collected at deeper depth intervals are below the soil leachability SCTL.
- Synthetic precipitation leaching procedure (SPLP) analyses for benzene conducted during the 2009 confirmation soil sampling (SS-19.1 collected from 13 to 15 feet bls) indicate no detections of benzene.
- Definitive laboratory analysis of groundwater samples verified the absence of benzene in the Surficial Aquifer, confirming that leaching to groundwater is not currently occurring.

Based on the successful completion of soil removal activities and the subsequent natural attenuation of benzene in soils to below residential SCTL, there is no remaining soil contamination associated with Site 2832 that would present an unacceptable risk to human health or the environment.

Groundwater

Groundwater contamination was identified in the perched aquifer during the 2002 site assessment activities and consisted of free product and dissolved concentrations of benzene at 12,600 micrograms per liter (µg/L), toluene at 34,400 µg/L, ethylbenzene at 1,630 µg/L, xylene at 1,570 µg/L, TRPH at 16.7 milligrams per liter (mg/L) and lead at 151 mg/L, exceeding GCTLs. Contamination within the perched aquifer was defined horizontally and vertically during the 2002 site assessment activities to GCTLs.

Groundwater samples were also collected from monitoring wells set below the perched aquifer within the Surficial Aquifer during the 2002 site assessment. Laboratory analyses of Surficial Aquifer groundwater did not result in the detection of COCs or other target analytes exceeding GCTLs. Subsequent Surficial Aquifer groundwater sampling events conducted between 2002 and 2010 (seven events total) produced similar results (**Figure 5**). No detection of COCs or other target analytes exceeding GCTLs, no indications of free product or discernible visual or olfactory observations indicating contamination were reported during groundwater sampling.

Implemented remedial actions (dewatering and excavation) conducted in 2008/2009 not only targeted the contaminated soils exceeding SCTL but also targeted free product and residual dissolved phase petroleum hydrocarbons from the dewatered perched aquifer. Low permeability confining soils that supported the perched aquifer at its base were also completely removed during remedial actions. As a consequence, the presence of the irregular and intermittent perched aquifer system was completely removed during the 2009 remedial action.

Because the 2009 post-remedial action confirmation soil sampling results identified residual benzene above SCTL in isolated areas at the base of the excavation, an additional groundwater sampling event was conducted in August 2013. Laboratory analytical data from this sampling event did not result in detection of COC or other target analytes above GCTLs within the Surficial Aquifer (**Figure 5**). Based on the complete removal of the perched aquifer and associated free product and dissolved phase groundwater plumes and absence of detection of COCs or other target analytes above GCTLs in the eight sets of groundwater analytical data collected between 2002 and 2013 from the Surficial Aquifer, residual soil contamination associated with Site 2832 does not present an unacceptable risk to human health or the environment.

RATIONALE FOR NO FURTHER ACTION

The occurrence of a release of AVGAS from an abandoned pipeline was identified at Site 2832 as documented in the *Closure Assessment Report (*TtNUS, April 2001). Subsequently performed site assessment activities determined the nature of the AVGAS release and delineated the extent of contaminated soil and groundwater media in the environment. Site assessment results, as documented in the *Site Assessment Report for AVGAS Pipeline – Section E (*TtNUS, June 2003), were used in the development of a *Remedial Action Plan* (TtNUS, December 2003) and *RAP Modifications* (WRS, September 2006 and 2008) to document the proposed remedial alternatives selected to remediate contaminated site media (soil and groundwater) to cleanup target levels established within FAC Chapter 62-770.

The successful completion of remedial actions outlined in the RAP and RAP Modifications were implemented by the Navy between March 2007 and January 2010. Remedial actions taken by the Navy included the removal of a section of the abandoned AVGAS pipeline (the source of contamination), removal of contaminated subsurface media (free product, soil, and groundwater) associated with the released AVGAS, and post-remedial action confirmation sampling of soil and groundwater and were documented in the *Draft Project Completion Report, AVGAS Pipeline – Section E (UST 2), NASWF, Milton,*

Florida (WRS, May 2009). Additional post-remedial action confirmation sampling of soil and groundwater was conducted in August/September 2013, to verify the results of the remedial action. Laboratory analytical results from the 2013 soil and groundwater confirmation samples in combination with historic soil and groundwater sampling analytical results satisfactorily demonstrate that site closure can be justified in accordance with FAC Chapter 62-780.680 (1), RMO Level I – No Further Action without Institutional Controls.

Site 2832 conditions and data demonstrating that all requirements for RMO Level I – No Further Action without Institutional Controls have been met include the following:

- The point source of contamination has been removed;
- No free product is present at the site;
- No contaminated soil exceeding residential direct exposure SCTLs is present at the site;
- No perched aquifer is present at the site; and
- No contaminated groundwater exceeding GCTLs is present at the site.

REFERENCES

Department of the Navy and the State of Florida, October 1990. *Florida Petroleum Contamination Agreement*.

FDEP, February April 2005. *Petroleum Contamination Site Cleanup Criteria*, FAC Chapter 62-770.

FDEP, February 2012. *Contaminated Site Cleanup Criteria*, *RMO Options Level 1*, FAC Chapter 62-780.680(1).

TtNUS, April 2001. *AVGAS Pipeline Closure Assessment Report.*

TtNUS, June 2003. *Site Assessment Report for AVGAS Pipeline – Section E.*

TtNUS, December 2003. *Remedial Action Plan for AVGAS Pipeline – Section E.*

USGS, 1987. United States Geologic Survey Quadrangle Map; Milton North, Florida, United States.

WRS Infrastructure & Environment, Inc. (WRS), September 2006. *Remedial Action Plan Modification, AVGAS Pipeline – Section E (UST 2), NASWF, Milton, Florida*.

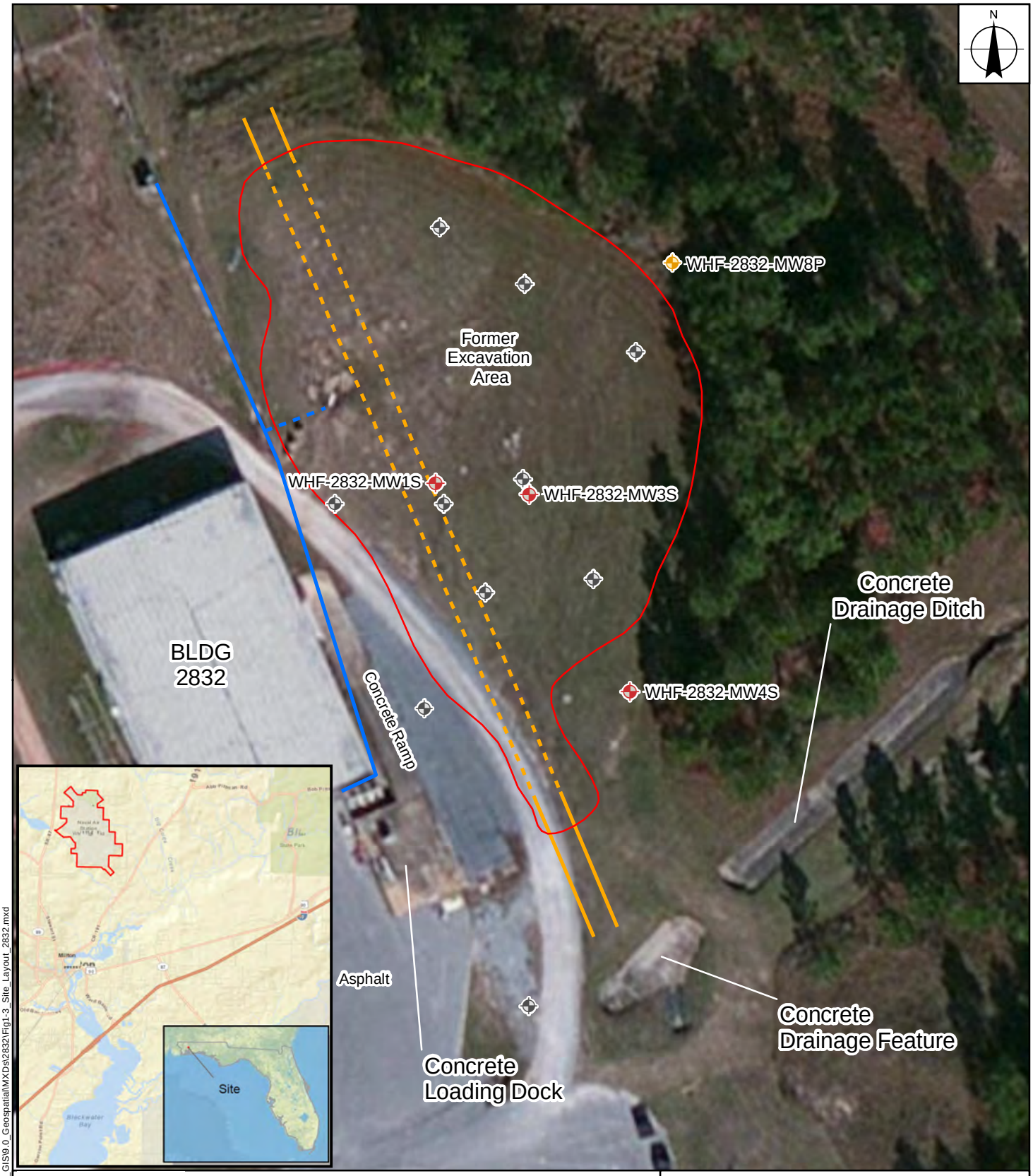
WRS, January 2007. *Work Plan, AVGAS Pipeline – Section E (UST 0002), NASWF, Milton, Florida*.

WRS, 19 September 2008. *Remedial Action Plan Modification, AVGAS Pipeline – Section E (UST 2), NASWF, Milton, Florida*.

WRS, 21 May 2009. *Draft Project Completion Report, AVGAS Pipeline – Section E (UST 2), NASWF, Milton, Florida*.

WRS, 25 February 2010. *Fourth Quarterly Groundwater Monitoring Report, Whiting AVGAS Pipeline – Section E (UST002), NASWF, Milton, Florida*.

FIGURES



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Legend

- Surficial Monitoring Well
- Perched Monitoring Well
- Abandoned Monitoring Well
- Former Excavation Boundary

Stormwater Conveyance Pipe

- Abandoned
- Active

Abandoned AVGAS Lines

- Abandoned/capped
- Removed During Excavation

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Location of excavation boundary, AVGAS lines, stormwater pipe, and monitoring wells should be considered as approximate

0 30 60 90 120 Feet

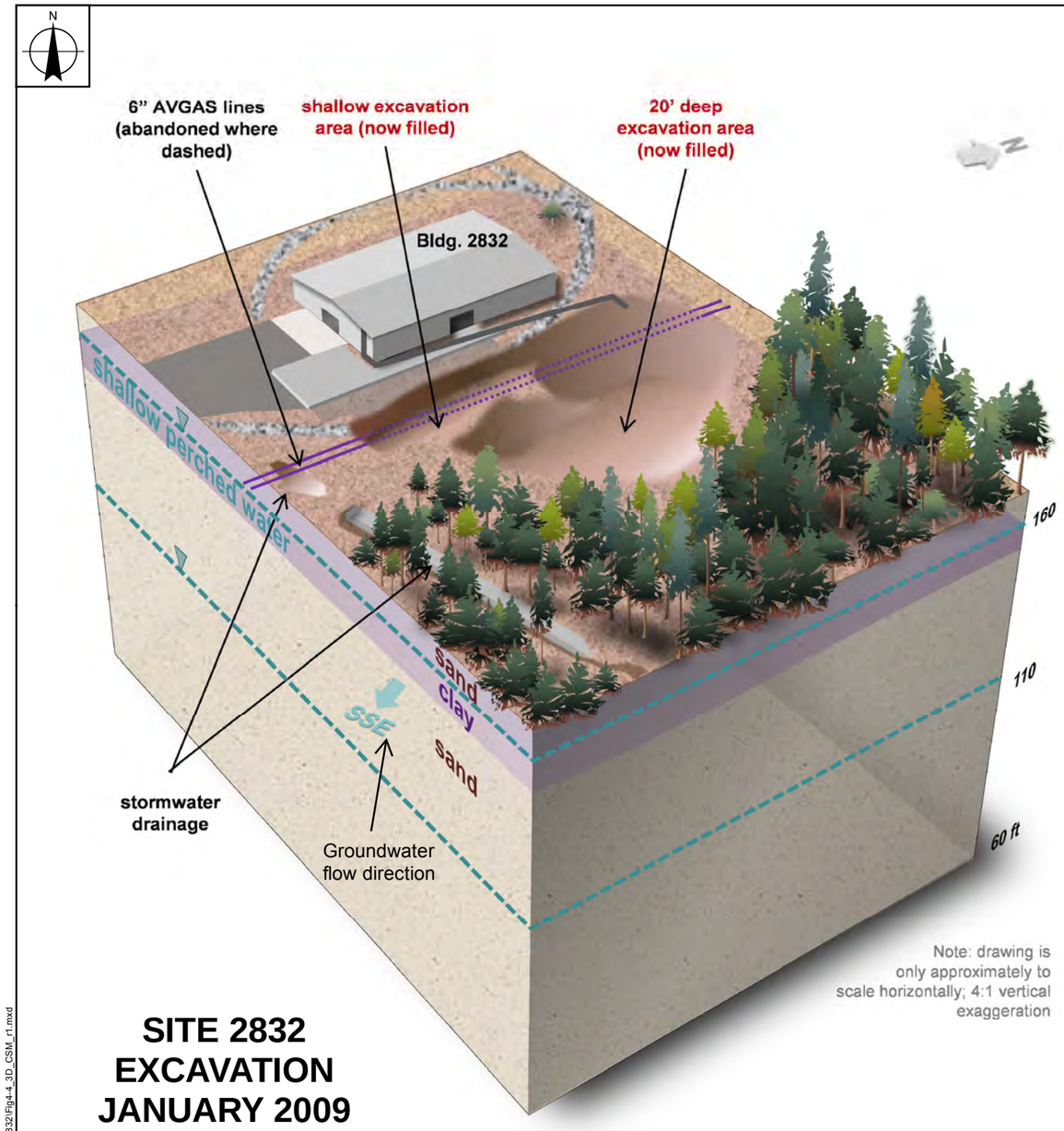
1 inch = 60 feet

FIGURE 1
SITE LAYOUT
NAS WHITING FIELD - SITE 2832
MILTON, FLORIDA

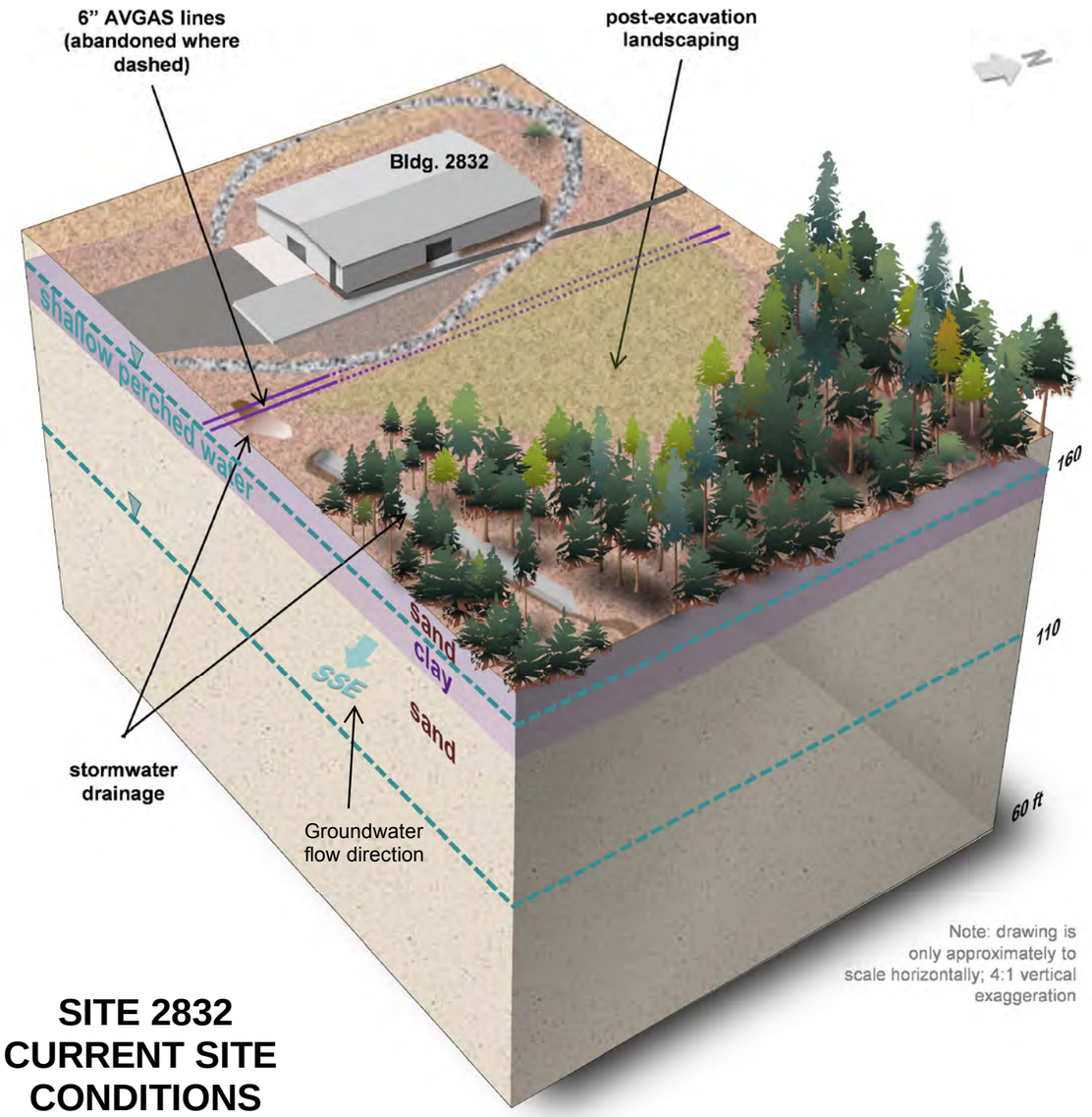
NAVFAC Naval Facilities Engineering Command

RESOLUTION CONSULTANTS

REQUESTED BY: A. EDDINGTON	DATE: 2/16/2016
DRAWN BY: J CHASTAIN	TASK ORDER NUMBER: JM09



SITE 2832
EXCAVATION
JANUARY 2009



SITE 2832
CURRENT SITE
CONDITIONS

FIGURE 2
CONCEPTUAL SITE MODEL
NAS WHITING FIELD - SITE 2832
MILTON, FLORIDA

NAVFAC Naval Facilities Engineering Command
RESOLUTION CONSULTANTS

REQUESTED BY: A. EDDINGTON	DATE: 1/23/2013
DRAWN BY: M. MARTIN	TASK ORDER NUMBER: JM09

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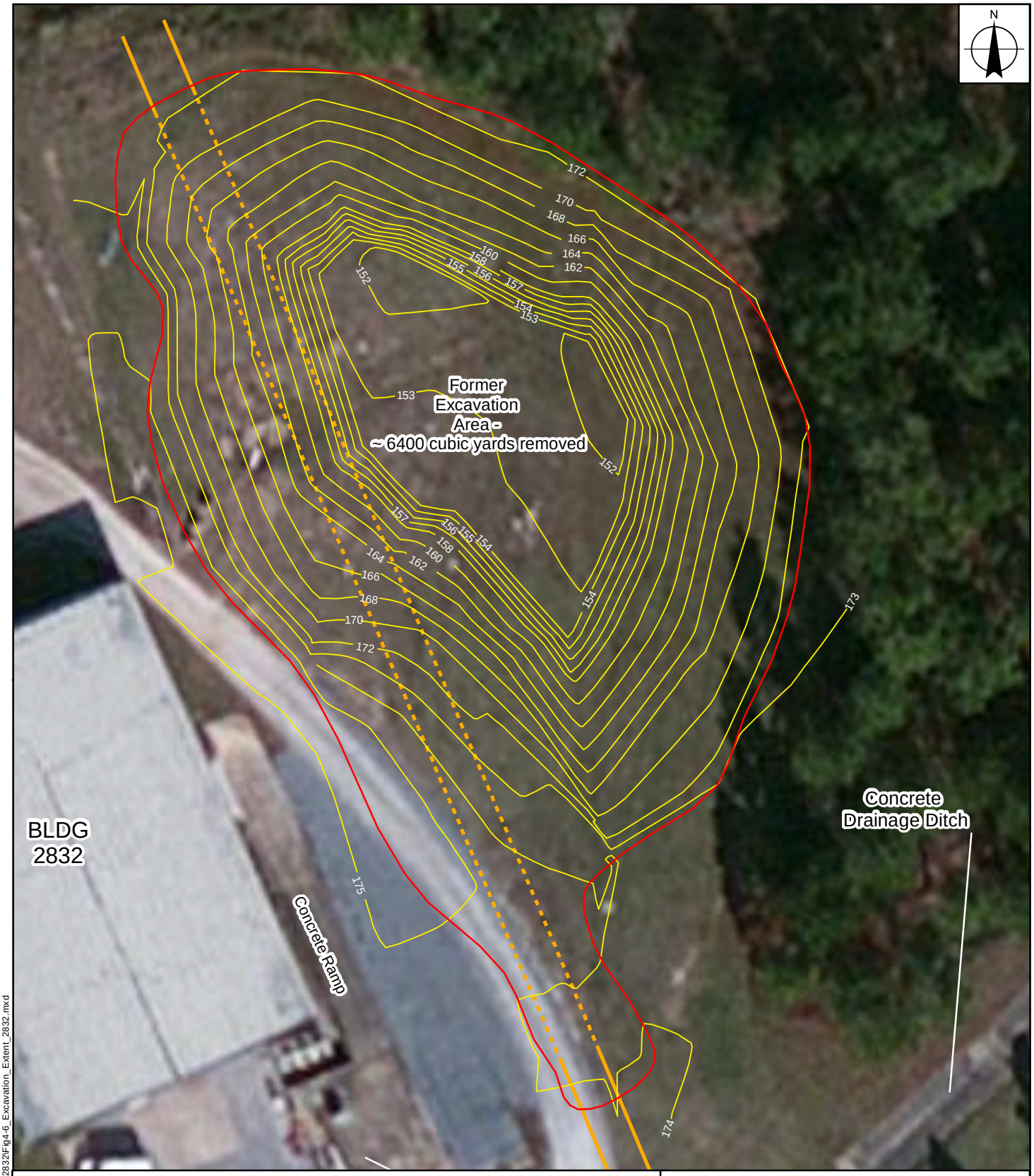

Legend

- Former Excavation Boundary
- Final Excavation Topography

Abandoned AVGAS Lines

- Abandoned/capped
- Removed During Excavation

Basemap Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Data Source: WRS, May 2009

Location of excavation boundary, contours, AVGAS lines, and stormwater pipe should be considered as approximate.

- CPT/MIP Sampling Location
- Perched Monitoring Well

0 20 40 60 80 Feet

1 inch = 40 feet

FIGURE 3
EXCAVATION TOPOGRAPHY MAP
NAS WHITING FIELD - SITE 2832
MILTON, FLORIDA

NAVFAC Naval Facilities Engineering Command

RESOLUTION CONSULTANTS

REQUESTED BY: A. EDDINGTON	DATE: 2/25/2014
DRAWN BY: J. CHASTAIN	TASK ORDER NUMBER: JM09

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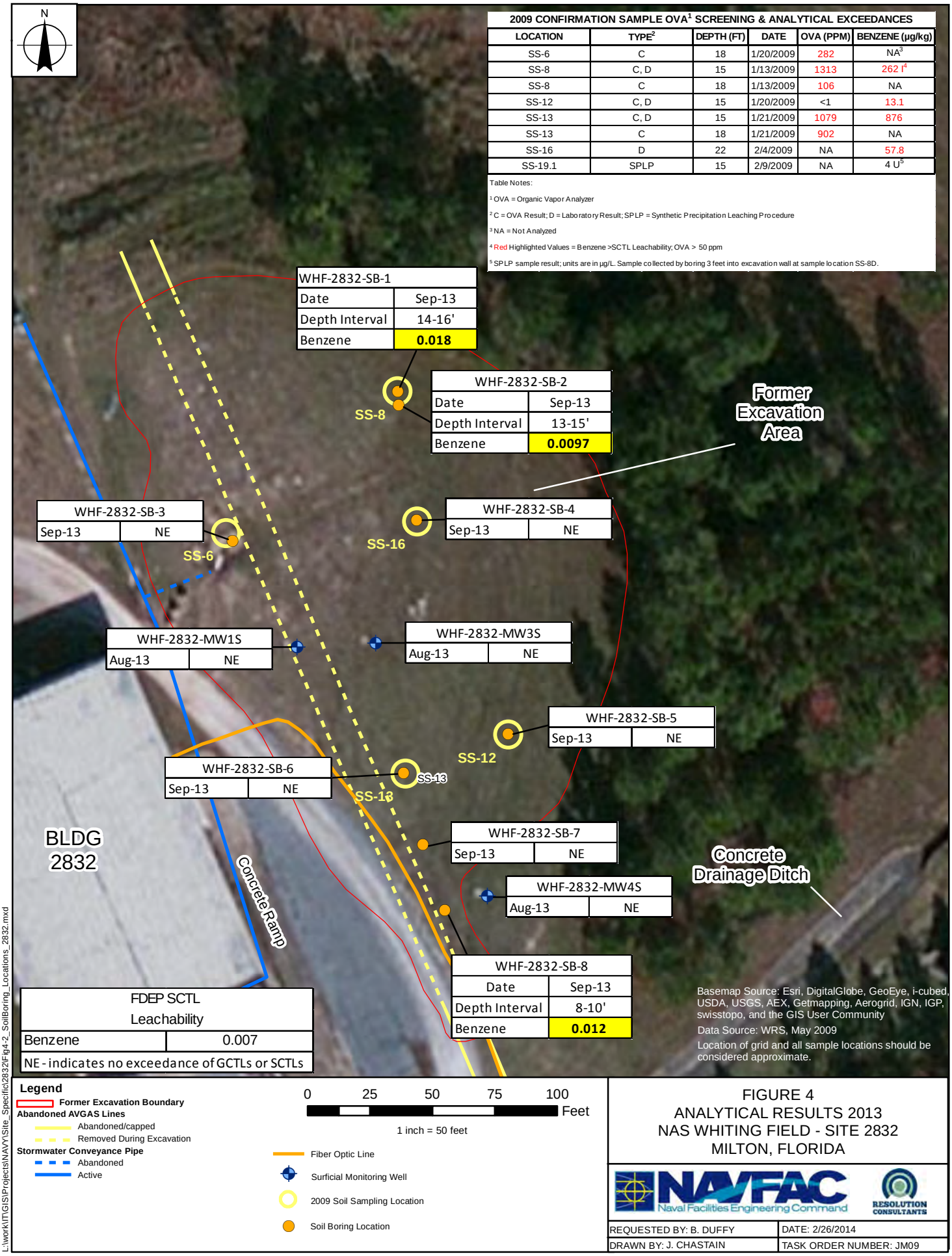
N
2009 CONFIRMATION SAMPLE OVA[1] SCREENING & ANALYTICAL EXCEEDANCES
LOCATION | TYPE[2] | DEPTH (FT) | DATE | OVA (PPM) | BENZENE (µg/kg)
SS-6 | C | 18 | 1/20/2009 | 282 | NA[3]
SS-8 | C, D | 15 | 1/13/2009 | 1313 | 262 I[4]
SS-8 | C | 18 | 1/13/2009 | 106 | NA
SS-12 | C, D | 15 | 1/20/2009 | <1 | 13.1
SS-13 | C, D | 15 | 1/21/2009 | 1079 | 876
SS-13 | C | 18 | 1/21/2009 | 902 | NA
SS-16 | D | 22 | 2/4/2009 | NA | 57.8
SS-19.1 | SPLP | 15 | 2/9/2009 | NA | 4 U[5]
Table Notes:
[1] OVA = Organic Vapor Analyzer
[2] C = OVA Result; D = Laboratory Result; SPLP = Synthetic Precipitation Leaching Procedure
[3] NA = Not Analyzed
[4] Red Highlighted Values = Benzene >SCTL Leachability; OVA > 50 ppm
[5] SPLP sample result; units are in µg/L. Sample collected by boring 3 feet into excavation wall at sample location SS-8D.
WHF-2832-SB-1
Date Sep-13
Depth Interval 14-16'
Benzene 0.018
WHF-2832-SB-2
Date Sep-13
Depth Interval 13-15'
Benzene 0.0097
SS-8
Former Excavation Area
WHF-2832-SB-3
Sep-13 NE
SS-6
WHF-2832-SB-4
Sep-13 NE
SS-16
WHF-2832-MW1S
Aug-13 NE
WHF-2832-MW3S
Aug-13 NE
WHF-2832-SB-5
Sep-13 NE
SS-12
WHF-2832-SB-6
Sep-13 NE
SS-13
SS-19
WHF-2832-SB-7
Sep-13 NE
BLDG 2832
Concrete Ramp
Concrete Drainage Ditch
WHF-2832-MW4S
Aug-13 NE
WHF-2832-SB-8
Date Sep-13
Depth Interval 8-10'
Benzene 0.012
FDEP SCTL Leachability
Benzene 0.007
NE - indicates no exceedance of GCTLs or SCTLs
Basemap Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
Data Source: WRS, May 2009
Location of grid and all sample locations should be considered approximate.
Legend
Former Excavation Boundary
Abandoned AVGAS Lines
Abandoned/capped
Removed During Excavation
Stormwater Conveyance Pipe
Abandoned
Active
0 25 50 75 100 Feet
1 inch = 50 feet
Fiber Optic Line
Surficial Monitoring Well
2009 Soil Sampling Location
Soil Boring Location
FIGURE 4
ANALYTICAL RESULTS 2013
NAS WHITING FIELD - SITE 2832
MILTON, FLORIDA
NAVFAC Naval Facilities Engineering Command
RESOLUTION CONSULTANTS
REQUESTED BY: B. DUFFY
DATE: 2/26/2014
DRAWN BY: J. CHASTAIN
TASK ORDER NUMBER: JM09
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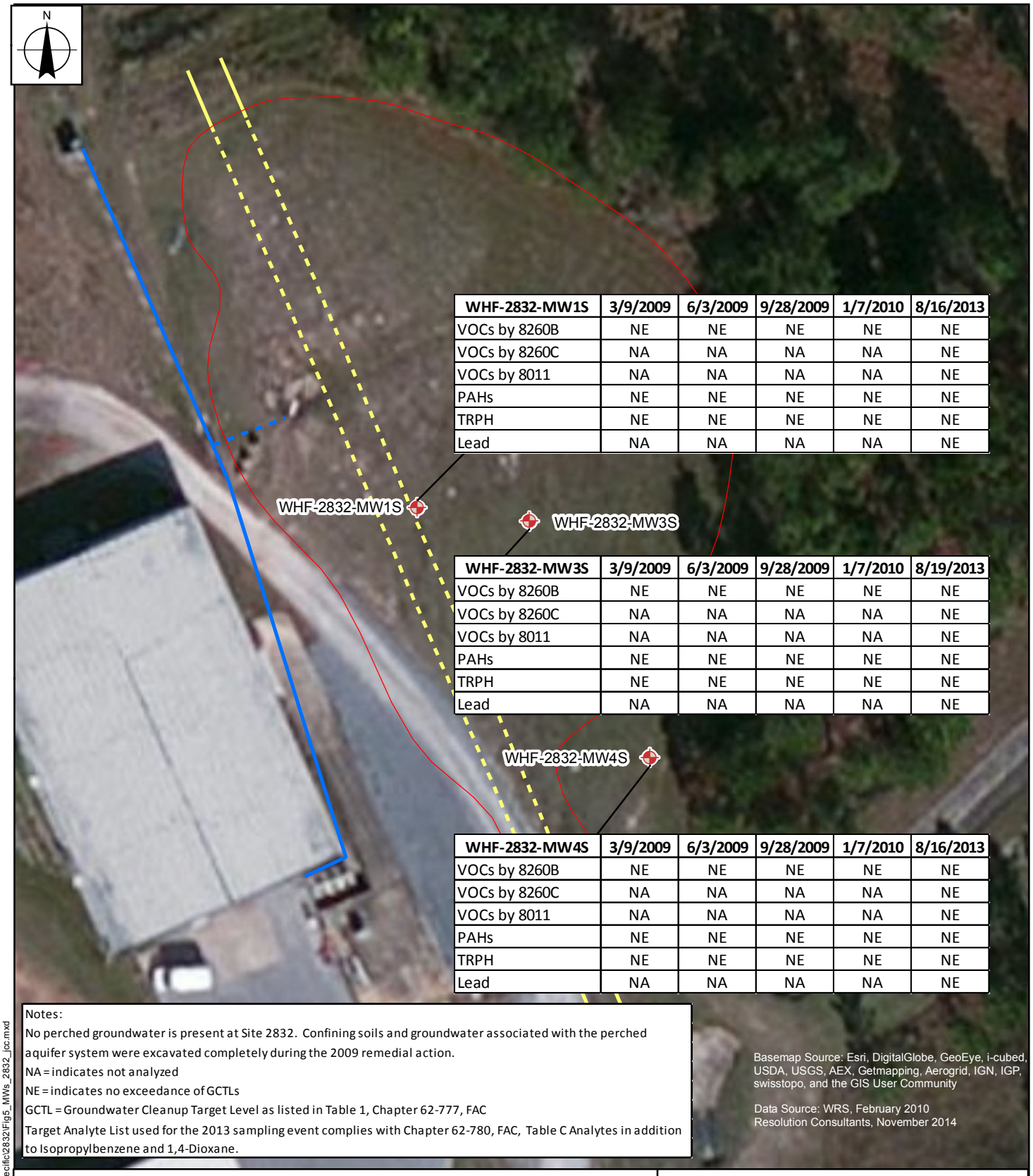

WHF-2832-MW1S	3/9/2009	6/3/2009	9/28/2009	1/7/2010	8/16/2013
VOCs by 8260B	NE	NE	NE	NE	NE
VOCs by 8260C	NA	NA	NA	NA	NE
VOCs by 8011	NA	NA	NA	NA	NE
PAHs	NE	NE	NE	NE	NE
TRPH	NE	NE	NE	NE	NE
Lead	NA	NA	NA	NA	NE

WHF-2832-MW3S	3/9/2009	6/3/2009	9/28/2009	1/7/2010	8/19/2013
VOCs by 8260B	NE	NE	NE	NE	NE
VOCs by 8260C	NA	NA	NA	NA	NE
VOCs by 8011	NA	NA	NA	NA	NE
PAHs	NE	NE	NE	NE	NE
TRPH	NE	NE	NE	NE	NE
Lead	NA	NA	NA	NA	NE

WHF-2832-MW4S	3/9/2009	6/3/2009	9/28/2009	1/7/2010	8/16/2013
VOCs by 8260B	NE	NE	NE	NE	NE
VOCs by 8260C	NA	NA	NA	NA	NE
VOCs by 8011	NA	NA	NA	NA	NE
PAHs	NE	NE	NE	NE	NE
TRPH	NE	NE	NE	NE	NE
Lead	NA	NA	NA	NA	NE

Notes:
No perched groundwater is present at Site 2832. Confining soils and groundwater associated with the perched aquifer system were excavated completely during the 2009 remedial action.
NA = indicates not analyzed
NE = indicates no exceedance of GCTLs
GCTL = Groundwater Cleanup Target Level as listed in Table 1, Chapter 62-777, FAC
Target Analyte List used for the 2013 sampling event complies with Chapter 62-780, FAC, Table C Analytes in addition to Isopropylbenzene and 1,4-Dioxane.

Basemap Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Data Source: WRS, February 2010
Resolution Consultants, November 2014

Legend

- Surficial Monitoring Well
- Former Excavation Boundary

Stormwater Conveyance Pipe

- Abandoned
- Active

Abandoned AVGAS Lines

- Abandoned/capped
- Removed During Excavation

0 25 50 75 100 Feet

1 inch = 50 feet

FIGURE 5
GROUNDWATER ANALYTICAL RESULTS
NAS WHITING FIELD - SITE 2832
MILTON, FLORIDA

NAVFAC Naval Facilities Engineering Command
RESOLUTION CONSULTANTS

REQUESTED BY: B. DUFFY	DATE: 2/18/2016
DRAWN BY: J. CHASTAIN	TASK ORDER NUMBER: JM09

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