TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATE OF COMPLIANCE *(Read instructions on the reverse side prior to initiating this form)*	DATE April 7, 2015	TRANSMITTAL NO. TO 011-005

SECTION 1 - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE:
U.S. Army Corps of Engineers New Orleans District P.O. Box 60267 New Orleans, LA 70160	BCE-MMG Joint Venture, LLC New Orleans, LA	W912P8-12-D-0005	Ξ THIS IS A NEW TRANSMITTAL _ THIS IS A RESUBMITTAL OF TRANSMITTAL ____

SPECIFICATION SECTION; (Cover only one section with each transmittal)	PROJECT TITLE AND LOCATION
	Task Order 011 – 005- Risk Re-evaluation of the 2007 USCG- Aerostar Report on the Former US Coast Guard Station, AI#9009, New Orleans, Orleans Parish, Louisiana

ITEM NO. a.	DESCRIPTION OF ITEM *(Type, size, model number, etc.)* b.	MFG. OR CONTR. CAT. CURVE DRAWING OR BROCHURE NO. (*See instruction no. 8*) c.	NO. OF COPIES d.	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE g.	VARIATION *(See instruction no. 6)* h.	FOR CE USE CODE I
				SPEC. PARA. NO. e.	DRAWING SHEET NO. f.			
1	Task Order No. 11 Final Report Submittal		1			4013-ACE		

REMARKS

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

C. Paul Lo/
Lester Nicosia, Project Manager

NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (List by Item No.)	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE
		April 7,2015

April 2015

FINAL RISK RE-EVALUATION OF THE 2007 USCG-AEROSTAR REPORT ON THE FORMER US COAST GUARD STATION, AI# 9009 REVISION 2 NEW ORLEANS, ORLEANS PARISH, LOUISIANA

Prepared for

US Army Corps of Engineers®

New Orleans District

Under Contract to
U.S. Army Corps of Engineers – New Orleans District
Contract No. W912P8-12-D-0005
Task Order # 11

By:

BCE-MMG Joint Venture, LLC.

Bayou Cajun Enterprise, LLC

MMG
Materials Management Group, Inc.

Final Report

for

Risk Re-Evaluation of the 2007 USCG-Aerostar Report on the Former US Coast Guard Station, AI# 9009

New Orleans, Orleans Parish, Louisiana

Approval Page

Materials Management Group, Inc.
C. Paul Lo, Project Manager/Chemist

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Contracting Officer Representative

USACE-MVN
Technical Representative

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1.0 Introduction

Under Task Order 10 of contract number W912P8-12-D-0005 with the U.S. Army Corps of Engineers (USACE), New Orleans District, Bayou Cajun Enterprises - Materials Management Group Joint Venture, LLC. (BCE-MMG) has conducted a risk evaluation of residual soil concentrations left onsite following an emergency cleanup response at the former U.S. Coast Guard (USCG) facility at the Inner Harbor Navigation Canal (IHNC) lock. Soil excavation was conducted in five areas at the site between February and May 2007 based on elevated concentrations of contaminants identified during soil sampling from 16 borings conducted in June 2006. Following completion of excavation activities, confirmatory sample results in two of the areas (former borings B8 and B12) indicated residual petroleum hydrocarbon (diesel and oil ranges) concentrations remaining onsite. Based on discussions with the Louisiana Department of Environmental Quality (LDEQ) and the requirement to address the contamination, BCE-MMG has conducted a re-evaluation of the soil concentrations under the LDEQ Risk Evaluation/Corrective Action Program (RECAP), 2003 (found at http://www.deq.louisiana.gov/portal/DIVISIONS/UndergroundStorageTankandRemediationDivision/RemediationServices/RECAP/RECAPDocument2003.aspx) to determine if the residual contamination found in a few of the confirmatory samples can be left in place.

2.0 Project Background

The site is a former U.S. Coast Guard (USCG) base/support center located at the IHNC lock in New Orleans (4640 Urquhart St.) (see Figure 1). The USCG has occupied the site since the 1930's, with site use including a machine shop as well as administrative offices and barracks. The site was impacted by the flooding that resulted from Hurricane Katrina in 2005, with releases of petroleum products and other hazardous and non-hazardous materials stored onsite. The facility was not reopened (the USCG relocated its facility) and the site has remained vacant since Hurricane Katrina.

The USCG contracted Aerostar Environmental Services, Inc. of Mobile, Alabama (Aerostar) to dispose of hazardous wastes at the site as well as to conduct soil sampling. In June 2006, Aerostar advanced 16 soil borings across the site. The seven samples with the highest field screening results (using an organic vapor analyzer) were sent to a laboratory for analysis for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons - diesel and oil ranges (TPH-D and TPH-O), and RCRA metals. The soil concentrations of TPH-D, TPH-O, PAHs, arsenic, chromium, and lead exceeded the RECAP screening standards for industrial site use in several samples, and five areas were delineated for soil excavation and removal.

Aerostar conducted the soil excavation activities between February and May 2007. The remedial activities consisted of excavating areas measuring four feet by four feet by three feet deep around soil borings B6, B8, B9, B12, and B15. Initial confirmatory sample results from February 2007 indicated that all elevated concentrations were removed from the areas around B6, B9, and B15. However, residual concentrations of TPH-D, TPH-O, and arsenic were elevated in two confirmatory sample locations in the B8 excavation area (west wall and under the AST), and likewise, residual concentrations of TPH-D and TPH-O were elevated in two confirmatory sample locations in the B12 excavation area (west wall and bottom). Furthermore, a release of hydraulic oil was observed seeping into the excavation pit at B8. The site layout and locations of B8 and B12 are depicted in Figure 2.

Subsequently, Aerostar conducted over-excavation at the B8 and B12 areas and additional confirmatory sampling in April and May 2007. Final confirmatory sampling indicated that TPH-D, TPH-O, and some PAHs (benz(a)anthracene, benzo(a)pyrene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene at B8 and benzo(a)pyrene at B12) remained at elevated concentrations in both areas (including under a diesel aboveground storage tank (AST) in the B8 area). Further excavation was not possible due to the presence of the diesel AST and floodwall at the site. Aerostar also advanced additional borings around B8 in an attempt to delineate the extent of the hydraulic oil release. Additional soil borings could not be advanced around the B12 excavation due to the thickness of the concrete. Based on the confirmatory sample results, LDEQ has requested that further action be taken to address the elevated soil concentrations remaining onsite at B8 (designated as AOI 1) and B12 (designated as AOI 2).

A recent site walk conducted in December 2014 revealed that the diesel AST in the B8 area (AOI 1) is no longer present (see Appendix E, Photo 1). The AST must have been removed and disposed off-site by the USCG and/or Aerostar after the May 2007 removal action.

3.0 RECAP Assessment

In August 2014, BCE-MMG was contracted by the USACE New Orleans District (MVN) to conduct a risk re-evaluation, following appropriate and applicable RECAP guidelines, of the remaining soil concentrations onsite for AOI 1 and AOI 2 as listed in the USCG-Aerostar 2007 report (specifically, the concentrations summarized in the tables on pages 15 and 17 of the report). Currently, the former USCG Station at the IHNC Lock is zoned as an industrial area and was evaluated as such under RECAP. See Appendix C for the zoning map (see http://property.nola.gov; search by address).

3.1 Identification of Elevated Soil Concentrations

The residual concentrations remaining onsite, as evidenced by some confirmatory sample results, are summarized in Table 1. The analytical results from areas removed during the over-excavation (original side walls and bottom) as well as the concentrations that are below the RECAP screening standard are not included on Table 1, but are provided in Table 1a. Briefly, at AOI 1 (B8), TPH-D is elevated in the west wall and under the diesel AST, TPH-O is elevated in the west wall, and PAHs (benz(a)anthracene, benzo(a)pyrene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene) are elevated in the south wall (see Figure 3). At AOI 2 (B12), TPH-D is elevated in the west wall and the bottom of the pit, and TPH-O is elevated in the west wall, and benzo(a)pyrene is elevated in the west and south walls (see Figure 4). Tables 1 and 1a also include the applicable RECAP screening standards (soil screening industrial exposure (SSi)).

3.2 RECAP Inputs

BCE-MMG conducted the re-evaluation using RECAP Management Option 1 (MO-1) (found at http://www.deq.louisiana.gov/portal/DIVISIONS/UndergroundStorageTankandRemediationDivision/RemediationServices/RECAP/RECAPDocument2003.aspx, Appendix H). The evaluation followed the procedures detailed in RECAP 2003. RECAP MO-1 was used since the soil concentrations exceed the RECAP screening standards under Screening Option (SO). MO-1 is the next step under the RECAP process. Sufficient data to conduct a Management Option 2 (MO-2) evaluation (including geotechnical analyses and full suites of potential contaminant groups, as well as sampling procedures in accordance with RECAP (also found in RECAP 2003, Appendix H)) were not available. MO-2 evaluation was not conducted.

The soil concentration used for evaluating each constituent of concern (COC) was the highest detected concentration for the COC based on the results of the five confirmatory sample locations in each AOI (four sidewalls and the bottom of the excavation); this is the source concentration. Therefore, the source concentrations are as follows:

B8
TPH-D: 1940 mg/kg
TPH-O: 5250 mg/kg
Benz(a)anthracene: 4.78 mg/kg
Benzo(a)pyrene: 5.03 mg/kg
Indeno(1,2,3-cd)pyrene: 3.05 mg/kg

B12
TPH-D: 2720 mg/kg
TPH-O: 2650 mg/kg
Benzo(a)pyrene: 0.716 mg/kg

In order to include the soil protective of groundwater RECAP standards (required under MO-1 evaluation), BCE-MMG used a known groundwater classification from another site located within one mile of the subject site and on the same side of the Mississippi River as approved by LDEQ. The groundwater classification used is Groundwater 3 drinking water (GW3DW) or groundwater 3A, based on a site located on Chartres St, 1.00 miles from the USCG site (see Figure 1 for reference). The water well can also be referenced using the GIS tool for searching Louisiana Department of Transportation and Development (LDOTD) water well registrations through the Louisiana Department of Natural Resources Strategic Online Natural Resources Information System at http://www.sonris.com. The Chartres St geographic coordinates are N 29º 57'43.6", W 90º 02'38.4". The Chartres St water well used for reference was a monitoring well that was installed as part of a site investigation for groundwater classification and evaluation purposes only; this well has been plugged and abandoned. It was not a public-use water well. The groundwater classification is based on a well yield of 84.8 gallons per day (gpd), and a total dissolved solids (TDS) concentration of 676 mg/l (meeting the RECAP criteria of well yield less than 800 gpd, and TDS concentration less than 10,000 mg/l). In addition, the dilution factor used for adjustment of the soil protective of groundwater standard (where applicable) was 2.6 (based on a distance of 100 feet from point of compliance to point of exposure (measured from B12 to the canal using Google Earth), and a source thickness (s_d) of less than five feet).

3.3 MO-1 RECAP Standards

The MO-1 RECAP standards (MO-1 RS) are summarized in Table 2, along with the source concentration for each COC for each AOI. The MO-1 RS are Soili (soil industrial exposure), Soilgw3dw (soil protective of groundwater 3A), and soil saturation. The limiting RS is indicated for each COC. The Soili has been adjusted for additivity where applicable. This applies only to TPH-D and TPH-O, which were both adjusted based on liver as a common target organ. In addition, the dilution factor (DF) of 2.6 was applied where appropriate (TPH-D, benz(a)anthracene, and benzo(a)pyrene).

4.0 Current Structural and Sub-surface Geological Conditions

As indicated in Section 3.0, the former USCG Facility is located in an area classified as industrial (see Appendix C for the Zoning Map).

BCE-MMG has reviewed information from various studies of the area and of the site, including: the 2007 USCG-Aerostar Report; USACE-MVN-supplied maps, engineering drawings, and subsurface information (including a cross-section from a 2002 Design Documentation Report (DDR) for the IHNC Lock project – see Appendix F) to assist in illustrating existing structural or physical conditions and sub-surface geological

conditions at the site (see Appendix D for report references); as well as information from site visits conducted in February and December 2014. Current structural and sub-surface geological conditions are briefly described below.

A. Floodwall/Sheet Pile Barrier to Migration

As depicted on Figure 2, the site is bounded on the west by a floodwall constructed approximately 12 feet in elevation from ground surface of 1-2 feet NGVD. The floodwall is about 15 feet east of the railroad tracks in this industrial corridor of the IHNC. Below the concrete floodwall is sheet piling that is driven to approximately 15 feet below ground surface. This concrete floodwall-sheet pile structure operates as a barrier against potential westward migration of residual COCs remaining in groundwater, if applicable.

B. Geological Subsurface Condition

East of the Carpentry Building is a concrete wharf, approximately 50 feet in length, with piling support deep and structurally-strong enough to support vehicular traffic on the USCG wharf. A recent soil boring from the IHNC Lock area, IHNC-07-29PU (see Appendix B), as well as the cross-section from the 2002 USACE DDR (see Appendix F), show very thick layers of clays (CL and CH) of more than 60 feet across the IHNC. As shown, there are no listed robust groundwater aquifers in the area of the site. The permeability of clays (CL and CH) (which range from $5x10^{-6}$ to $1X10^{-5}$ cm/sec) indicate that the risk for any residual contaminant migrating via groundwater to any aquifer or to the IHNC Canal is negligible. Additionally, considering a distance of approximately 100-200 feet from the Point of Compliance (Source) to the Point of Exposure (Receptor) (depending on the AOI), the rate of potential migration for a contaminant from AOI-1 or AOI-2 to reach the IHNC Canal to the east is slow enough that ending concentrations would be reduced from natural attenuation prior to reaching the canal.

C. Depth to Groundwater /Aquifer Use

Groundwater aquifers in the area of the site are located at the 1200 feet, 700 feet, 400 feet and 200 feet horizons below ground surface (see Appendix F). These aquifers are not used for drinking water in the New Orleans area.

D. In-Place Containment of Residual COCs

The ASTs identified in the 2007 Aerostar Report in the areas of B-8 (AOI 1) and B-12 (AOI 2) have been removed (see Appendix E, Photos 1 and 2. The concrete block foundations from the former secondary containment areas associated with the ASTs serve as the remaining footprint of these former storage container structures, as well as

a barrier to residual concentrations detected under the AST(s). In addition, soil in these two areas were excavated to a depth of greater than 4 feet and backfilled with clean soil. Considering the concrete foundations and clean backfill in place covering the residual concentrations in the soil, the potential migration of and/or exposure to contaminants from AOI 1 and AOI 2 via ingestion as well as dust particulates by workers in this industrial area is negligible. The placement of clean backfill in the excavations and the remaining secondary containment concrete foundations in the former AST areas support the argument that the residual concentrations at AOI 1 and AOI 2 can be managed in-place.

E. Natural Attenuation

Natural attenuation (bioremediation) of fuel hydrocarbon contamination (including diesel and oil) is recognized as an acceptable means of management of contaminated sites. Both the EPA and ASTM have developed guidance documents for using monitored natural attenuation at contaminated sites, including those in the Superfund, RCRA Corrective Action, and UST programs (EPA Office of Solid Waste and Emergency Response Policy Directive, No. 9200.4-17, 1997 and ASTM 1943-98). In the case of petroleum hydrocarbons, bacteria and other microorganisms present in the environment break down the hydrocarbons by using the carbon molecules as a food source. While an evaluation of the microbiological environment at AOI 1 and AOI 2 sites has not been conducted, it is very likely that some level of natural attenuation is occurring at the site.

5.0 Conclusions

Under the preliminary RECAP MO-1 evaluation, as indicated on Table 2, the source concentrations at AOI 1 (B8) all exceed the limiting MO-1 RS. At AOI 2 (B12), both TPH-D and benzo(a)pyrene exceed the limiting MO-1 RS, while TPH-O does not. This evaluation is also presented on RECAP Form 11, included in Appendix A.

Using RECAP MO-1 requires consideration of the soil protective of groundwater standards, which are the limiting RS in some cases. However, as described in Section 4.0 B, it should be noted that it is extremely unlikely that groundwater has or will be impacted at this site. Appendix B includes a soil boring log for a soil boring advanced to 60 feet below ground surface (bgs) on the west bank of the IHNC, in the vicinity of the site, and Appendix F includes a cross-section of the IHNC Lock area. The soil boring and cross-section indicate very thick clay in the subsurface in the area. The combination of the very low permeability of the clay and the groundwater classification of GW3 suggests that exposure via groundwater is unlikely. Additionally, the current structural condition of the site includes barriers to shallow groundwater movement, further limiting the potential to exposure to residual concentrations via groundwater. Removing consideration of the soil protective of groundwater RECAP standards results

in elimination of the TPH-D concentrations at AOI 1 and likewise for the TPH-O concentration and the TPH-D concentration in the excavation pit bottom at AOI 2.

The presence of very thick clay layers and sub-surface structural barriers, as well as the absence of (groundwater and surface water) drinking water receptors within the vicinity of the former USCG Station, along with the consideration of clean backfill in place over the excavated areas support the decision to manage residual contamination in-place.

6.0 Recommendations

Based on BCE-MMG's initial re-evaluation of the existing data for the site (collected by Aerostar) using RECAP Management Option 1, some of the elevated soil concentrations onsite could not be managed using risk assessment and left in place (with the existing data). However, with further examination of the groundwater classification and local groundwater use, soil lithology in the area and qualitative evaluation of groundwater migration (and subsequent qualitative elimination of the soil to groundwater pathway), and current structural conditions at the site, with the exception of the PAH concentrations at AOI 1, the majority of the elevated concentrations can be eliminated from concern under the RECAP standards for industrial exposure (Soili), and the concentrations remaining only slightly exceed the RECAP standards (TPH-O in AOI 1: 5250 mg/kg (Soili = 5000 mg/kg); TPH-D in AOI 2: 2720 mg/kg (Soili = 2550 mg/kg); benzo(a)pyrene in AOI 2: 0.716 mg/kg and 0.501mg/kg (Soili = 0.33 mg/kg). In addition, it is likely that natural attenuation of the hydrocarbon concentrations is occurring in the soil.

Furthermore, the excavations were backfilled with clean soil, the ASTs have been removed from the site, and the concrete foundations of the AST secondary containment structures remain in place, eliminating the potential for direct exposure to residual concentrations of contaminants. There are no immediate plans for excavation or digging at the site, which further limits the potential for exposure.

The proximity of AOI 1 and AOI 2 to the floodwall along the western boundary of the former USCG facility suggests that further excavation in these areas would pose both structural and safety issues for the floodwall in this section of the Hurricane Protection System that the Levee Board as well the USACE-MVN recently completed and inspected. It should be noted that any excavation in areas adjacent to the Hurricane Protection System would require permits from the appropriate Levee Board (Orleans or Jefferson Parish) as well the Geotechnical and Structural engineers of the USACE-MVN.

In summary, although some residual soil in the excavated areas comprising AOI 1 and AOI 2 are above the MO-1 limiting RECAP standards, several factors, including: (1)

industrial zoning; (2) structural barriers at the site (floodwall and sheet pile); (3) site geology - very low permeability of thick clay layers in the subsurface; (4)local groundwater use and absence of drinking water and surface water receptors; (5) placement of clean backfill over the soil with residual contamination; and (6) the likelihood of natural attenuation; all support the argument to manage residual contamination in-place.

Based on the determination that the soil to groundwater pathway (and associated limiting RECAP standards) can be eliminated from concern due to the very low permeability of clay materials, the presence of significantly thick clay layers in the subsurface and surrounding the excavation areas, the presence of structural barriers at the site, as well as the effect of natural attenuation and the factor of excavations being filled with clean soil, BCE-MMG recommends requesting a No Further Interest (NFI) determination for the site from LDEQ, with the understanding that such a determination does not provide site closure.

Tables

Table 1: Summary of Elevated Soil Concentrations at B8 and B12

Parameter	RECAP SSi (mg/kg)	Analytical Result (mg/kg)					
		B8 - West Wall (2)	B8 - under AST	B8 - South Wall (3)	B12 - West Wall (2)	B12 – South Wall (2)	B12 - Bottom (2)
TPH-D	510	1940	993	Did not exceed	2720	Did not exceed	1930
TPH-O	2500	5250	Did not exceed	Did not exceed	2650	Did not exceed	Did not exceed
Benz(a)anthracene	2.9	Did not exceed	Did not exceed	4.78	Did not exceed	Did not exceed	Did not exceed
Benzo(a)pyrene	0.33	Did not exceed	Did not exceed	5.03	0.716	0.501	Did not exceed
Indeno(1,2,3-cd)pyrene	2.9	Did not exceed	Did not exceed	3.05	Did not exceed	Did not exceed	Did not exceed

Table 1a: Summary of Excavated Soil Concentrations and Non-Elevated Soil Concentrations at B8 and B12

Location	Analytical Result (mg/kg)					
	TPH-D	TPH-O	Arsenic	Benz(a)anthracene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene
RECAP SSi (mg/kg)	510	2500	12	2.9	0.33	2.9
B8						
East Wall	70.8*	284*	9.2*	Not analyzed	Not analyzed	Not analyzed
North Wall	298*	Not analyzed	2.3*	Not analyzed	Not analyzed	Not analyzed
South Wall	1690*	Not analyzed	12.9*	Not analyzed	Not analyzed	Not analyzed
West Wall	3150*	1480*	4.8*	Not analyzed	Not analyzed	Not analyzed
Bottom	438*	Not analyzed	2.55*	Not analyzed	Not analyzed	Not analyzed
West Wall (2)	Exceeds	Exceeds	Not analyzed	<0.00582	0.039J	0.177J
East Wall (2)	45.1	67.3J	Not analyzed	0.048J	0.070J	0.221J
South Wall (2)	374*	721*	Not analyzed	<0.0058*	0.134J*	0.248J*
South Wall (3)	212	816	Not analyzed	Exceeds	Exceeds	Exceeds
Under AST	Exceeds	338	Not analyzed	<0.0058	0.0746J	0.180J
B12						
North Wall	144*	32.5*	Not analyzed	Not analyzed	Not analyzed	Not analyzed
South Wall	192*	12.6*	Not analyzed	Not analyzed	Not analyzed	Not analyzed
East Wall	134*	13.6*	Not analyzed	Not analyzed	Not analyzed	Not analyzed
West Wall	194*	103*	Not analyzed	Not analyzed	Not analyzed	Not analyzed
Bottom	530*	53.6*	Not analyzed	Not analyzed	Not analyzed	Not analyzed
North Wall (2)	324	69.4J	Not analyzed	0.211J	0.179J	0.278J
South Wall (2)	248	147	Not analyzed	0.822	Exceeds	0.463
East Wall (2)	136	54.8J	Not analyzed	<0.00576	0.234J	0.34
West Wall (2)	Exceeds	Exceeds	Not analyzed	0.792	Exceeds	0.394
Bottom (2)	Exceeds	<160	Not analyzed	<0.00574	<0.00772	<0.022

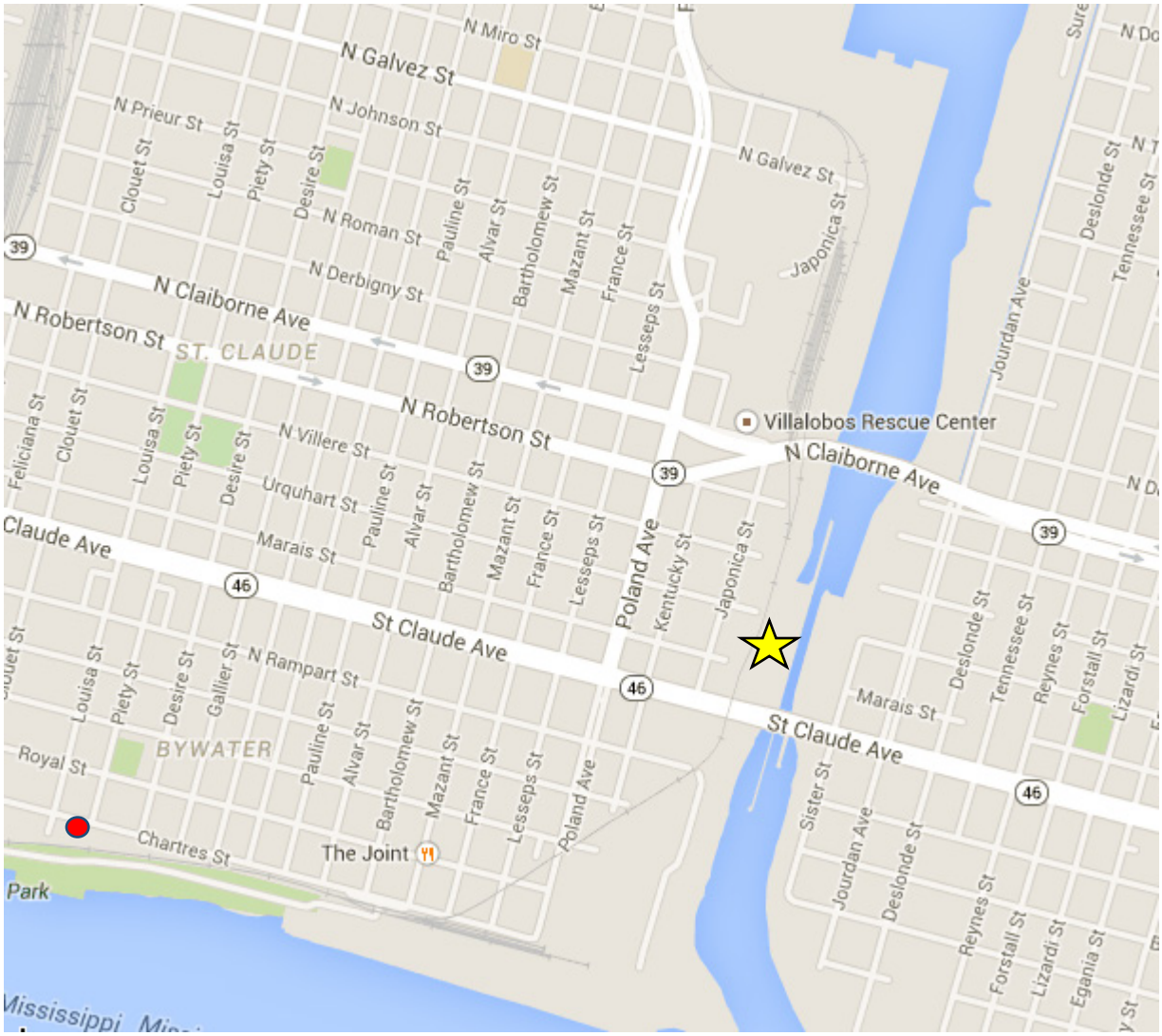
*Excavated

Table 2: Summary of MO-1 RECAP Standards

COC	MO-1 RS (mg/kg)			Limiting MO-1 RS (mg/kg)	AOI 1 (B8) Source Concentration (mg/kg)	AOI 2 (B12) Source Concentration (mg/kg)
	Soili	Soilgw3dw	Soilsat			
TPH-D	2550*	676**	NA	676	1940	2720
TPH-O	5000*	10000	NA	5000	5250	2650
Benz(a)anthracene	2.9	0.042**	NA	0.042	4.78	NA
Benzo(a)pyrene	0.33	59.8**	NA	0.33	5.03	0.716
Indeno(1,2,3-cd)pyrene	2.9	9.2	NA	2.9	3.05	NA

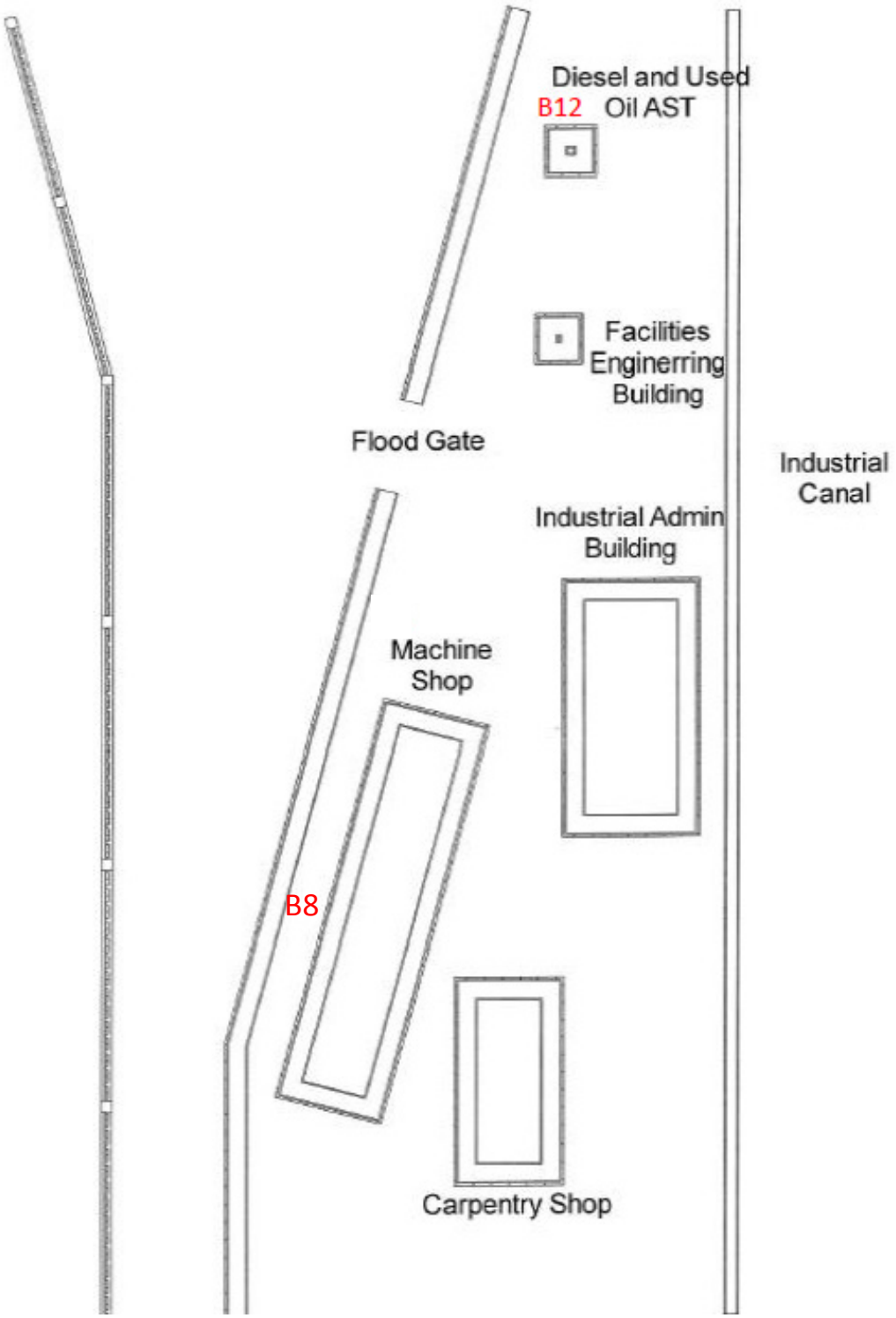
*RECAP Standard is adjusted for additivity based on liver as the target organ.
**Dilution factor of 2.6 applied.

Figures



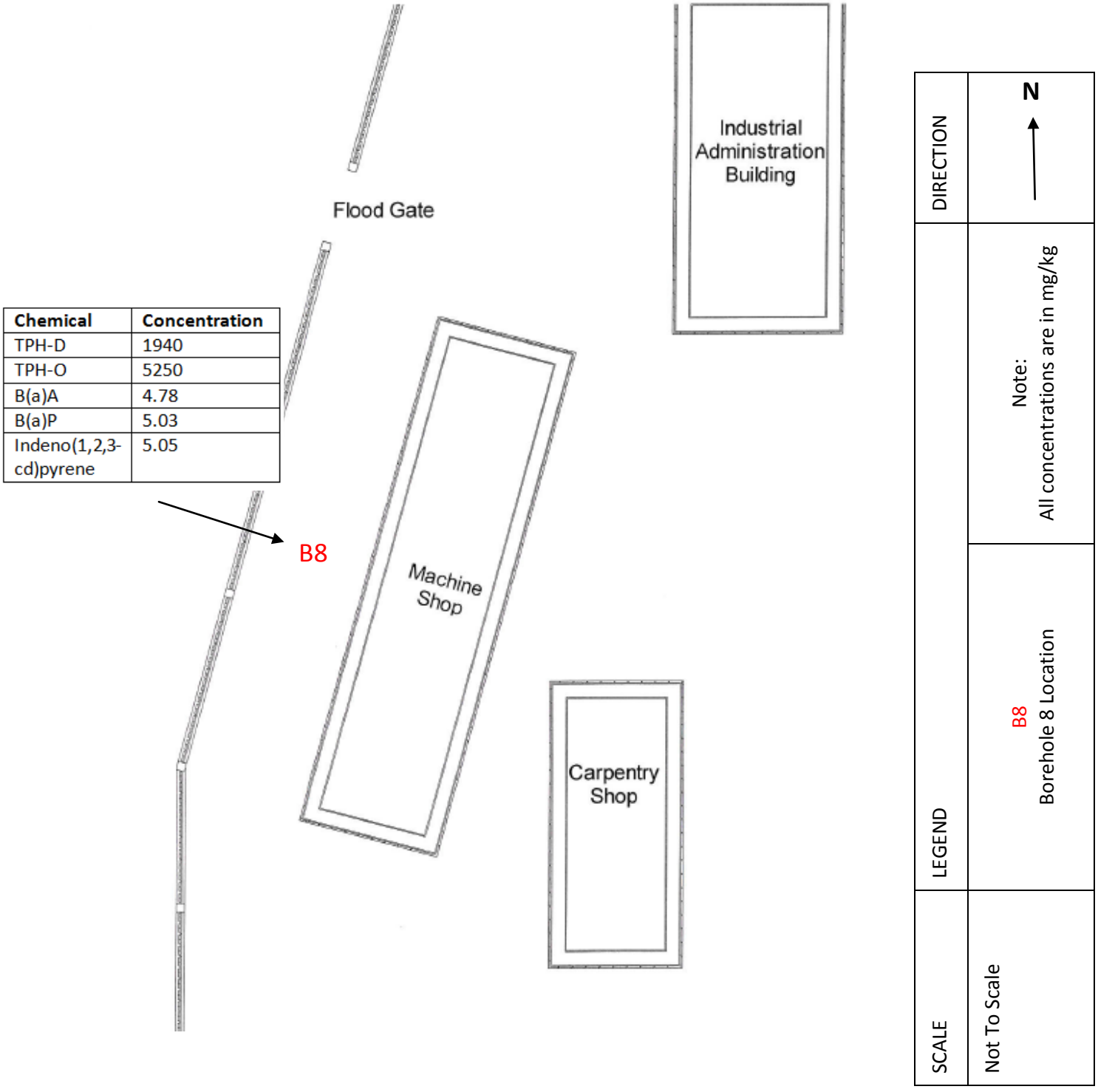
DIRECTION	N
LEGEND	Ground Water Classification Reference Location ISC Location
SCALE	Not To Scale

DRAWN BY C.B.	Date: 1/8/2015	FILE: 4013 ACE	**SITE DIAGRAM** ISC New Orleans 4640 Urquhart St., New Orleans, Louisiana	**MATERIALS MANAGEMENT GROUP, INC.**
			Figure 1 Site Location	3520 GENERAL DEGAULLE DR., SUITE 3010 NEW ORLEANS, LOUISIANA 70114 PHONE: 504-368-0568 FAX: 504-368-8403

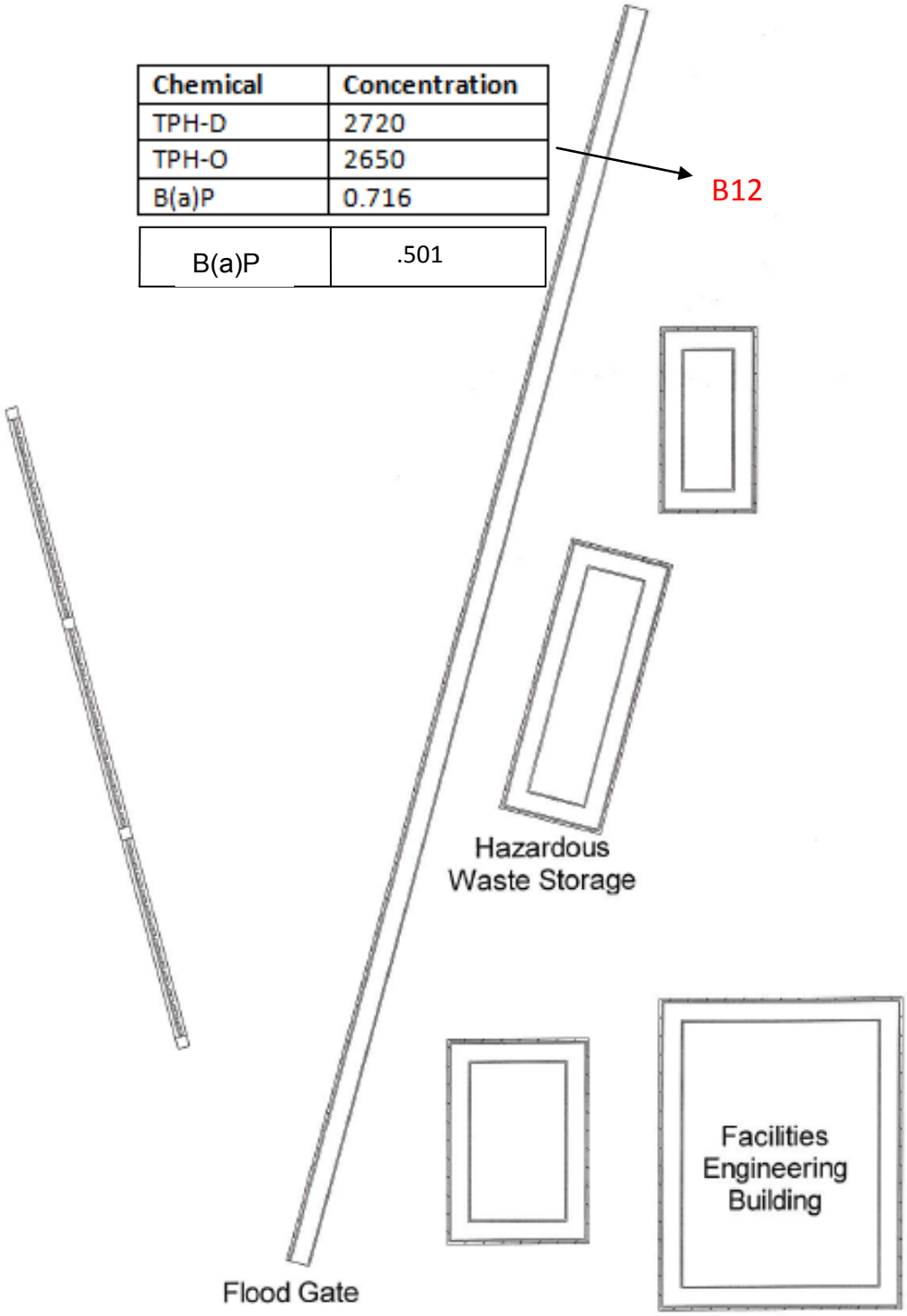


DIRECTION	N
LEGEND	B8 Borehole 8 Location
	B12 Borehole 12 Location
SCALE	Not To Scale

DRAWN BY C.B.	Date: 1/8/2015	FILE: 4013 ACE	**SITE DIAGRAM** ISC New Orleans 4640 Urquhart St., New Orleans, Louisiana	**MATERIALS MANAGEMENT GROUP, INC.**
			Figure 2 Borehole 8 and 12 Locations	3520 GENERAL DEGAULLE DR., SUITE 3010 NEW ORLEANS, LOUISIANA 70114 PHONE: 504-368-0568 FAX: 504-368-8403



DRAWN BY C.B.	Date: 1/8/2015	FILE: 4013 ACE	**SITE DIAGRAM** ISC New Orleans 4640 Urquhart St., New Orleans, Louisiana	**MATERIALS MANAGEMENT GROUP, INC.**
			Figure 3 Elevated Concentrations at AOI 1 (B8)	3520 GENERAL DEGAULLE DR., SUITE 3010 NEW ORLEANS, LOUISIANA 70114 PHONE: 504-368-0568 FAX: 504-368-8403



DIRECTION	N
LEGEND	B12 Borehole 8 Location
	Note: All concentrations are in mg/kg
SCALE	Not To Scale

DRAWN BY C.B.	Date: 11/11/14	FILE: 4013 ACE	**SITE DIAGRAM** ISC New Orleans 4640 Urquhart St., New Orleans, Louisiana	**MATERIALS MANAGEMENT GROUP, INC.**
			Figure 4 Elevated Concentrations at AOI 2 (B12)	3520 GENERAL DEGAULLE DR., SUITE 3010 NEW ORLEANS, LOUISIANA 70114 PHONE: 504-368-0568 FAX: 504-368-8403

Appendix A: RECAP Form 11

4640 URQUHART ST, LA AI# 9009
RECAP FORM 11
MANAGEMENT OPTION 1 SUBMITTAL FOR SOIL 0-15 FT BGS

SOIL 0-15 ft bgs - Identification of the Limiting MO-1 RS:

COC	X $Soil_i$ o $Soil_{ni}$	Additivity Divisor	Final X $Soil_i$ o $Soil_{ni}$	o $Soil_{GW1}$ o $Soil_{GW2}$ X $Soil_{GW3DW}$ o $Soil_{GW3NDW}$	oNO DF o DF2 X DF3 o DF3	Final $Soil_{GW}$	o $Soil_{es*}$	$Soil_{sat}$	Limiting MO-1 RS
TPH-D	5100	2	2550	260	1.5	390	----	NA	390
TPH-O	10000	2	5000	10000	NA	10000	----	NA	5000
Benz(a)anthracene	2.9	NA	2.9	0.016	1.5	0.024	----	NA	0.024
Benzo(a)pyrene	0.33	NA	0.33	23	1.5	34.5	----	NA	0.33
Indeno(1,2,3-cd)pyrene	2.9	NA	2.9	9.2	NA	9.2	----	NA	2.9

*Enclosed space exposure scenario not included at this time.

SOIL 0-15 ft bgs – Identification of the AOIC:

COC	Maximum Concentration	95%UCL-AM Concentration	AOI Concentration
AOI 1 (B8)			
TPH-D	1940	NA	1940
TPH-O	5250	NA	5250
Benz(a)anthracene	4.78	NA	4.78
Benzo(a)pyrene	5.03	NA	5.03
Indeno(1,2,3-cd)pyrene	3.05	NA	3.05
AOI 2 (B12)			
TPH-D	2720	NA	2720
TPH-O	2650	NA	2650
Benzo(a)pyrene	0.716	NA	0.716

4640 URQUHART ST, LA AI# 9009
RECAP FORM 11
MANAGEMENT OPTION 1 SUBMITTAL FOR SOIL 0-15 FT BGS

MO-1 SOIL 0-15 ft bgs RECAP ASSESSMENT:

COC	Limiting MO-1 RS	AOI Concentration	AOIC Exceeds MO-1 LRS?
AOI 1 (B8)			
TPH-D	390	1940	**Yes**
TPH-O	5000	5250	**Yes**
Benz(a)anthracene	0.024	4.78	**Yes**
Benzo(a)pyrene	0.33	5.03	**Yes**
Indeno(1,2,3-cd)pyrene	2.9	3.05	**Yes**
AOI 2 (B12)			
TPH-D	390	2720	**Yes**
TPH-O	5000	2650	**No**
Benzo(a)pyrene	0.33	0.716	**Yes**

Appendix B: USACE Boring Log Addressing Soil Permeability

US Army Corps of Engineers
New Orleans District

Boring Log Data Management System

GENERATE BORING LOG TEXT FILE

Boring Log HOME

Save Boring Log File **IHNC-07-29PU.txt**

IHNC-07-29PU - IHNC AND VICINITY FFEBJV

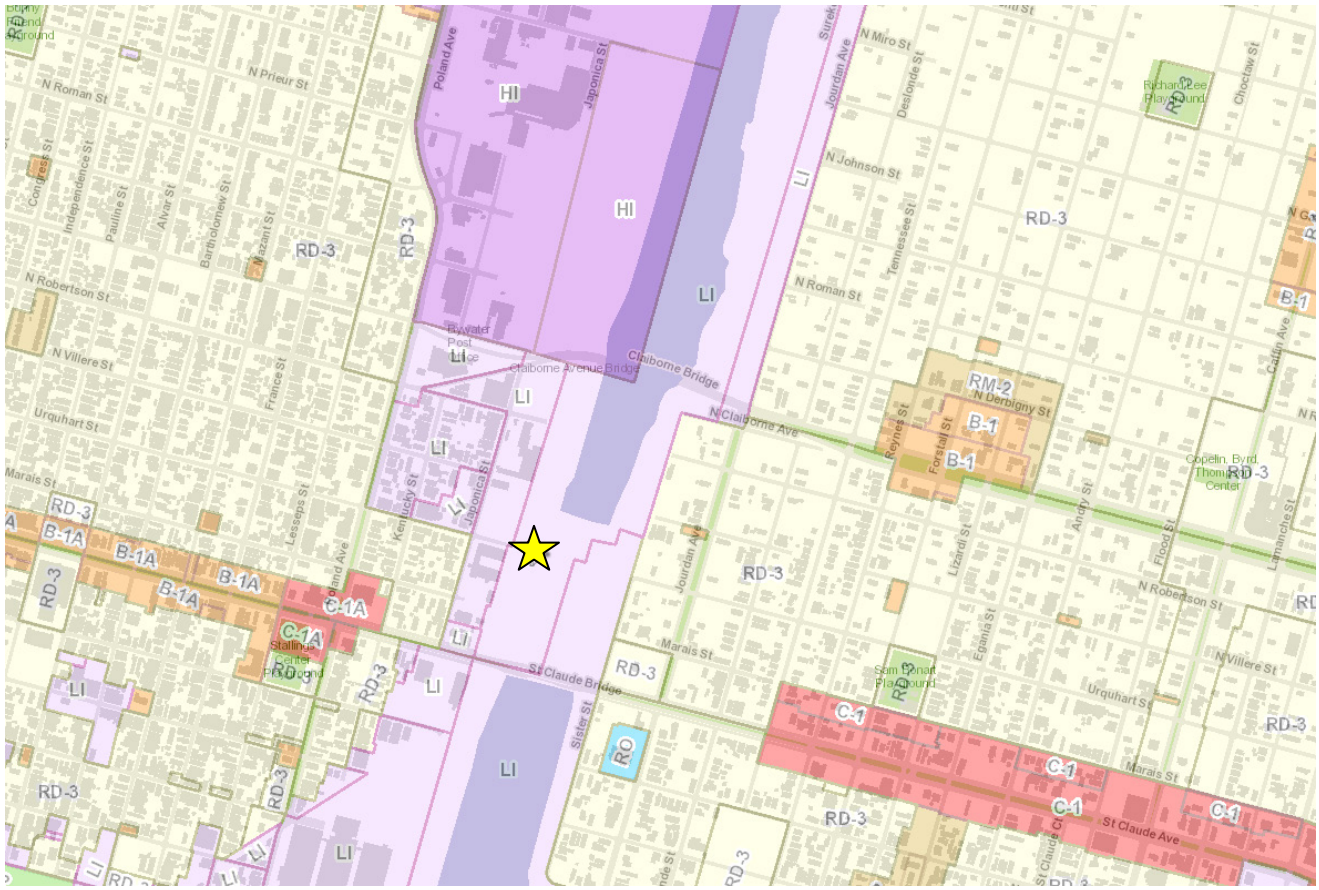
```
ZZ 29^57'58.9"    90^1'38.629" (U)
BOR. IHNC-07-29PU (07-02241)
STA. LAT  N 29^57'58.90"
LONG W 90^01'38.63"
35 FT SOUTH C/L
Date: 1/17/2008

GROUND EL. 2.2
  0.0  0.8 20     SM        GR       CS SIF
  0.8  1.7 25  1.7SM        GR LGR   CS
  1.7  3.0 43  3.0CL     SO DGR      WD
  3.0  3.8 12  3.8SI        GR       CS
  3.8  4.7 20     ML        GR       SIFRT  G
  4.7  5.0 40  5.0ML        GR       CS  O WD SIF
  5.0  6.0     6.0NS
  6.0  6.8 42     CH  SIS M GR
  6.8  7.7 36     CH  SIS M GR
  7.7 10.0 39     CH  SIS M GR       WD
 10.0 10.8 49     CH  SIS M GR       WD
 10.8 11.7 52 11.7CH  SISSO GR       WD                352100102 27      63 111
 11.7 14.0    14.0NS
 14.0 14.8 72 14.8CH  SISSO GR       WD
 14.8 15.7 69 15.7CH   O SO GR       WD RT
 15.7 18.0  0 18.0WD        BR
 18.0 18.8163     CH   O  M DGR      WD
 18.8 19.7116     CH   O SO GR       WD
 19.7 20.6 87     CH   O SO GR       WD
 20.6 22.0 82 22.0CH   O SO GR       SISWD             322 94114 37      82 209
 22.0 22.8 36     CL     SO GR
 22.8 23.7 40     CL     SO GR       CS
 23.7 24.6 32     CL     SO GR
 24.6 26.0 40     CL     SO GR       CS
 26.0 26.8 37 26.8CL     SO GR       CS
 26.8 27.7 37 27.7CL  SISSO GR       CS
 27.7 28.6 52 28.6CH  SISSO GR                         468104 71 25      55 280
 28.6 30.0 36 30.0CL     SO GR
 30.0 30.8 31 30.8ML        GR       CS
 30.8 31.7 37     CL     SO GR       CS
 31.7 32.6 33     CL     SO GR       CS
 32.6 34.0 35     CL     SO GR       CS
 34.0 34.8 40     CL     SO GR       CS
 34.8 35.7 41 35.7CL      M GR       CS                538114 36 23      36 351
 35.7 36.6 43     CH  SIS M GR
 36.6 38.0 52     CH  SIS M GR
 38.0 38.8 55     CH  SIS M GR
 38.8 39.7 61 39.7CH  SIS M GR
 39.7 40.6 57     CH      M GR
 40.6 42.0 55     CH      M GR
```

```
 42.0 42.8 58      CH       M GR
 42.8 43.7 55      CH       M GR                                710105 87 23       55 431
 43.7 44.6 58 44.6CH       M GR
 44.6 46.0 57      CH  SIS M GR
 46.0 46.8 53      CH  SIS M GR
 46.8 47.7 57      CH  SIS M GR
 47.7 48.6 62      CH  SIS M GR
 48.6 50.0 54 50.0CH  SIS M GR
 50.0 50.8 62 50.8CH  SS  M GR
 50.8 51.7 26      SM       GR       SIF S                                .0757
 51.7 52.6 25 52.6SM        GR        S
 52.6 54.0 26 54.0CL     SO GR       SIF S
 54.0 54.8 44 54.8CH     SO GR        S SIF
 54.8 55.7 28      CL    SO GR       SIF S
 55.7 56.6 28 56.6CL     SO GR       SIFCS  S
 56.6 58.0 34 58.0CH  SS  M GR       SIF
 58.0 58.8 45 58.8CH      M GR        S
 58.8 60.0 41 60.0CH  SS  M GR
999.9
*************************************************************************
SHEAR STRENGTH DESIGN VALUES
Test Type:(Q)                    Classif  : CH
Depth/Ele:  7.10/-4.90           Water Con: 36.00
LL,PL,PI :   68, 27, 41          Dry Dens : 83.00
Cohesion :  0.358                Saturat  : 94.00
Shear Str:                       Frict Ang: 00.00
Toggles  :(     )(     )(     )(     )
*************************************************************************
SHEAR STRENGTH DESIGN VALUES
Test Type:(Q)                    Classif  : CHO
Depth/Ele:  20.0/-17.8           Water Con: 86.00
LL,PL,PI :  113, 34, 79          Dry Dens : 50.00
Cohesion :  0.145                Saturat  : 99.00
Shear Str:                       Frict Ang: 00.00
Toggles  :(     )(     )(     )(     )
*************************************************************************
SHEAR STRENGTH DESIGN VALUES
Test Type:(Q)                    Classif  : CL
Depth/Ele:  31.1/-28.9           Water Con: 38.00
LL,PL,PI :   39, 26, 13          Dry Dens : 82.00
Cohesion :  0.288                Saturat  : 98.00
Shear Str:                       Frict Ang: 00.00
Toggles  :(     )(     )(     )(     )
*************************************************************************
SHEAR STRENGTH DESIGN VALUES
Test Type:(Q)                    Classif  : CH
Depth/Ele:  40.0/-37.8           Water Con: 56.00
LL,PL,PI :   82, 27, 55          Dry Dens : 67.00
Cohesion :  0.344                Saturat  :100.00
Shear Str:                       Frict Ang: 00.00
Toggles  :(     )(     )(     )(     )
*************************************************************************
SHEAR STRENGTH DESIGN VALUES
Test Type:(Q)                    Classif  : CH
Depth/Ele:  47.1/-44.9           Water Con: 63.00
LL,PL,PI :   97, 28, 69          Dry Dens : 63.00
Cohesion :  0.311                Saturat  :100.00
Shear Str:                       Frict Ang: 00.00
Toggles  :(     )(     )(     )(     )
*************************************************************************
SHEAR STRENGTH DESIGN VALUES
Test Type:(Q)                    Classif  : CL
Depth/Ele:  55.1/-52.9           Water Con: 32.00
```

Appendix C: Zoning Map

(http://property.nola.gov)

Appendix C: Zoning Map



ISC New Orleans Location

- **All areas in purple are zoned as Industrial Use**

Appendix D: References

References

Aerostar Environmental Services, Inc. October 2007. "Excavation and Removal of Environmentally Impacted Soil Report," Prepared for United States Coast Guard.

City of New Orleans. 2014. Zoning use by property address - http://property.nola.gov

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Materials Management Group, Inc. August 2012. "Voluntary Remedial Investigation Report, 3200 Chartres Street" Groundwater classification reference.

National Groundwater Association. February 1998. "Natural Attenuation: EPA's New Policy Directive Vis a Vis ASTM's New Industry Standard" LUSTLine Bulletin article.

USACE. May 2002. "Design Documentation Report No. 3, Lock Foundation Report."

USACE. August 2014. "Statement of Work for Risk Re-evaluation of 2007 USCG-Aerostar Report on the Former US Coast Guard Station."

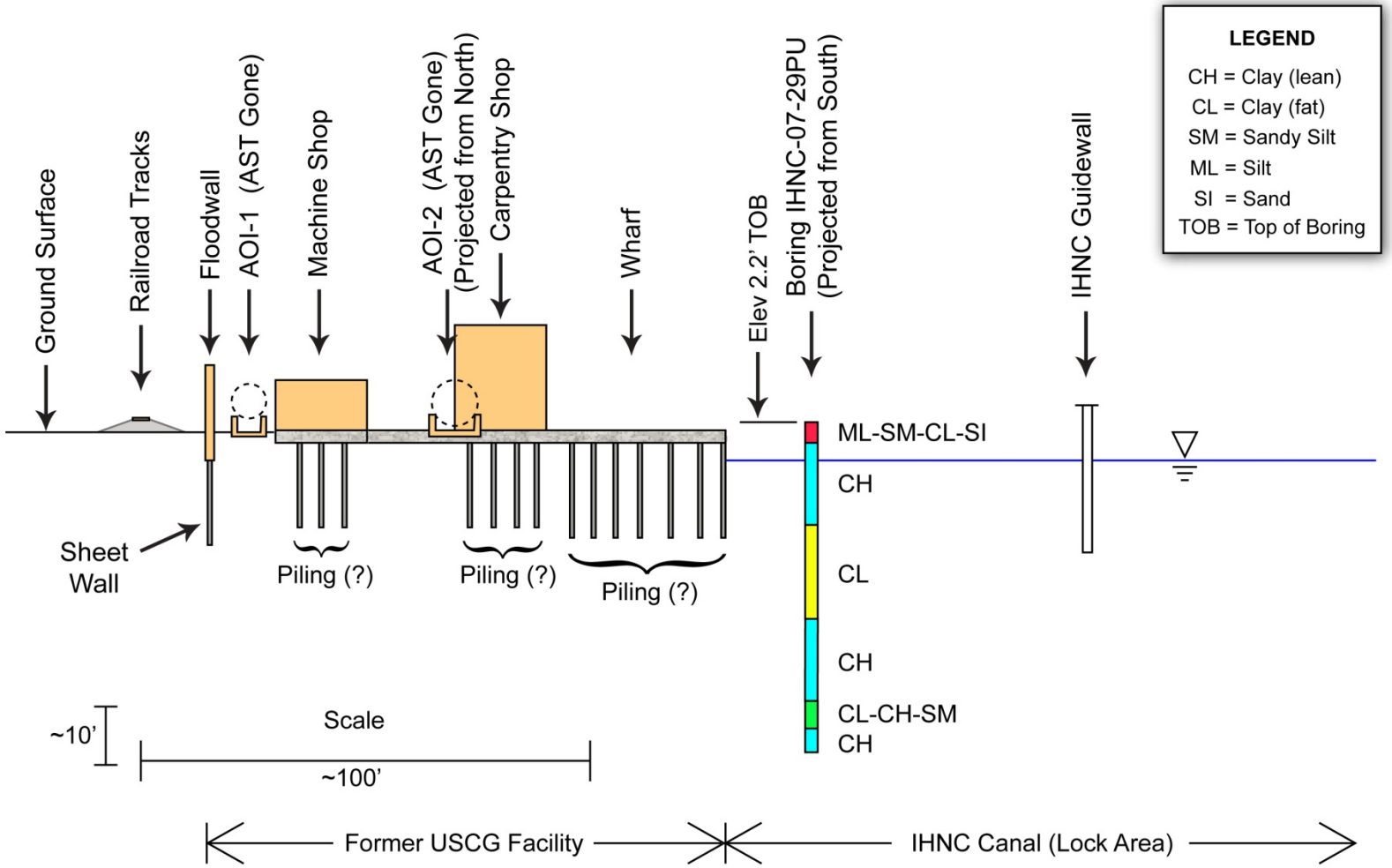
Appendix E: Photographs

Photograph 1: Former AST Area
Camera facing south

Photograph 2: Former AST Area
Camera facing north

Appendix F: Cross-Section – IHNC Lock Area

Schematic Cross Section of the Former US Coast Guard Facility



JOHN BEL EDWARDS
GOVERNOR

CHUCK CARR BROWN, PH.D.
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL ASSESSMENT

March 2, 2023

Bobby Duplantier, Senior Project Manager
US Corps of Engineers, New Orleans District
7400 Leake Avenue
New Orleans, LA 70118

RE: Team Leader Notification
Former US Coast Guard Integrated Support Command; **AI Number 9009**
USACE Inner Harbor Navigational Canal (IHNC) Lock
4640 Urquhart Street, New Orleans
Orleans Parish, LA

Dear Mr. Duplantier:

I have been designated as Team Leader for your facility. I will be your single point of contact with the Department for all remediation-related activities dealing with soil and/or groundwater issues through investigation, risk evaluation, corrective action and corrective action monitoring. Please be advised that in accordance with LAC 33: VI Chapter 6, the Department will track oversight costs and bill for cost recovery.

Your facility has been assigned an internal tracking number which needs to appear on all correspondence submitted to the Department. This **A**gency **I**nterest (AI) number for your facility is **9009**. Please direct all future correspondence regarding remediation issues in triplicate to: Estuardo Silva, P.G., Administrator; Remediation Division; P.O. Box 4314; Baton Rouge, LA 70821-4314.

I will be contacting you in the near future to discuss the status of your facility and to prioritize any outstanding issues you may have with the Department. It is my intent to make this transition as smooth as possible. In the interim, should you have any questions concerning this matter, contact me at 504-736-7763 or adrienne.gossman@la.gov.

Sincerely,

Adrienne Gossman

Adrienne V. Gossman
Environmental Scientist
Remediation Division

c: Imaging Operations – IAS

JOHN BEL EDWARDS
GOVERNOR

CHUCK CARR BROWN, PH.D.
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL ASSESSMENT

March 20, 2023

Brad L. Inman
PPMD
U.S. Army Corps of Engineers New Orleans District
7400 Leake Avenue
New Orleans, LA 701118

RE: Response to 2019 RECAP Report: Investigation Work Plan Request
Former US Coast Guard Integrated Support Command; **AI Number 9009**
USACE Inner Harbor Navigational Canal (IHNC) Lock
4640 Urquhart Street, New Orleans
Orleans Parish, LA

Dear Mr. Inman:

The Louisiana Department of Environmental Quality – Remediation Division (LDEQ-RD) has completed our review of the *Risk Evaluation/Corrective Action Plan (RECAP) Site Investigation and Interim Action Report* dated April 2019 submitted on your behalf by JESCO. Thank you for providing this information.

Analytical results reported in the above reference document indicate that the vertical and horizontal extent of contamination has not been fully delineated and warrants further evaluation. Additionally, light non-aqueous phase liquid (LNAPL) was observed in Temporary Monitoring Well (TMW) 3. The 2019 RECAP Report suggested corrective action as the next step. However, based on the presence of LNAPL and the exceedances in soil and groundwater, it will also be necessary to further delineate Areas of Interest (AOI) 1 and 2.

Please submit a site investigation work plan to delineate the vertical and horizontal extent of contamination. This work plan shall be submitted to the Department within 90 days. This work plan shall meet the requirements of LAC 33:I Chapter 13 (Risk Evaluation/Corrective Action Program (RECAP)), Appendix B, Section B.2.4.

Please note that the Department's review found the following deficiencies with the 2019 RECAP Report:

- It is unclear if the June 2018 temporary monitoring wells were screened in the correct zone to capture LNAPL and/or hydrocarbon constituents of concerns. The screen interval was 10-15 ft. below ground surface (bgs), while the boring logs indicated groundwater from 3-5 ft. Future groundwater well installation will need to ensure the correct groundwater zone is screened.

- Inconsistencies between RECAP Form 5, RECAP Form 6, and Well Construction Diagrams (Appendix B3) were noted for four groundwater wells, TMW-03, TMW-16, TMW-17, and TMW-19. Future sampling efforts will need to ensure correct documentation of the well construction.

- Due to the presence of LNAPL in monitoring well TMW 3, Management Option 2 (MO-2) evaluation cannot be considered at this time.

Please keep the above comments in mind when moving forward with the proposed investigation work plan.

All correspondence regarding this matter should be submitted in triplicate and directed to:

Estuardo Silva, P.G., Administrator
Remediation Division
P.O. Box 4314
Baton Rouge, LA 70821-4314

Please include the Agency Interest (AI) number referenced above on all correspondence. You may contact Adrienne Gossman at 504-736-7763 or adrienne.gossman@la.gov with any questions. Thank you for addressing this matter.

Sincerely,

Laura LeBouef, P.G.
Environmental Scientist Manager
Remediation Division

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c: Imaging Operations – IAS
USACE – Robert Brooks

Louisiana Department of Environmental Quality
FIELD INTERVIEW FORM

Agency Interest #: 9009 | Inspection Date: 3/30/2023 | Departure Date: 3/30/2023 | Time of Arrival: 11:52 AM | Time of Departure: 1:34 PM

Facility Name: Former USCG ISC – USACE IHNC Lock | Phone #:

Location: 4640 Urquhart Street, New Orleans

Parish Name: Orleans

Mailing Address: 7400 Leake Avenue (Street/P.O. Box) | New Orleans (City) | LA (State) | 70118 (Zip)

Facility Representative: Brad Inman | Title: Branch Chief, PAR Division

Inspection Type: annual | Program Involved: ☐ Air ☐ Waste ☐ Water Other IAS - Remediation

Inspector's Observations: (e.g. Areas and Equipment Inspected, Problems, Deficiencies, Remarks, Verbal Commitments from Facility Representatives)

Three US Army Corps of Engineers (USACE) representatives, Joe Musso, David Schulman, and Bob Brooks walked the former US Coast Guard (USCG) area, located on the northern portion of the USACE Inner Harbor Navigational Canal (IHNC) Lock property. Current site conditions around AOI 1 (former boring 8) and AOI 2 (former boring 12) were observed. Investigation derived waste (IDW) was not observed. Temporary wells from the 2018 sampling events are not present and evidence of plugging and abandoning (P&A) the boreholes was observed at a few locations in AOI 2. Due to overgrown vegetation at AOI, evidence of well P&A was not found. Large construction material including creosote poles were noted in AOI 2. Jay Manly, Assistant Lock Master, joined the inspection partway through. Storage of hydrocarbon containing substances, such as the creosote poles, should be discontinued within AOI 1 and AOI 2. Mr. Manly indicated that the poles may belong to Entergy. The former machine shop (adjacent to AOI 1) was observed to determine if a drill rig would be able to access the inside of the building. The unmarked drums that were first discovered inside the former machine shop during the July 7, 2010 inspection have been removed. Photos from site visit are attached.

Areas of Concern	Explanation	Resolved?	
AOI 1	Phase in groundwater (LNAPL)	☐YES	☒ NO
AOI 1	Soil exceeds RECAP standards	☐YES	☒ NO
AOI 2	Soil and GW exceeds RECAP standards	☐YES	☒ NO
Drums	Unmarked drums	☒YES	☐ NO

Photos Taken? ☒ YES ☐ NO | Samples Taken? ☐ YES ☒ NO (Attach Chain-of-Custody)

Received by: Signature: Emailed to Brad Inman and copied three reps present during inspection | Title:

Print Name:

(NOTE: Signature DOES NOT indicate agreement with Inspector's Notes)

Inspector(s): Adrienne Gossman | Attachments: Photo Form

Reviewer:

NOTE: The information contained on this form reflects only the preliminary observations of the inspector(s). It should not be interpreted as a final determination by the Department of Environmental Quality or any of its officers or personnel as to any matter, including, but not limited to, a determination of compliance or lack thereof by the facility operator with any requirements of statutes regulations or permits. Each day of non-compliance constitutes a separate violation of the regulations and/or the Louisiana Environmental Quality Act.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 1 of 14
Description: View of northern portion of IHNC Lock property. Photo taken facing north.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 2 of 14
Description: View of former machine shop. Photo taken facing northwest.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 3 of 14
Description: View of overgrown vegetation around AOI 1. Floodwall in background and former machine shop on right. Photo taken facing northwest.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 4 of 14
Description: View of AOI 1 facing north. Former AST containment area located adjacent to former machine shop (white building).

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 5 of 14
Description: View of area between floodwall and building, north of AOI 1. Photo taken facing north.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 6 of 14
Description: View of AOI facing south. Scrap metal is located within former AST containment area.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 7 of 14
Description: View of AOI 2 facing southwest. Floodwall in the background. AST containment area (raised yellow wall) located in the middle of the photo. A large metal object is being stored within the large former AST containment area.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 8 of 14
Description: View of AOI 2 facing south. Large metal poles on left, AST containment in middle, and floodwall on the right.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 9 of 14
Description: View of creosote poles (or pilings) located in AOI 2. Photo taken facing northwest.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 10 of 14
Description: View of northern portion of IHNC Lock facing south. Metal poles and sheet pilings in foreground on right.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 11 of 14
Description: View of AOI 2 facing west. Construction equipment located within AOI 2. Creosote pilings are located parallel to the floodwall in background of photo.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 12 of 14
Description: View of plugged boreholes in AOI 2. Photo facing south.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 13 of 14
Description: View of plugged boreholes in AOI 2. Photo facing south. Creosote poles on left behind square object.

Site	Former USCG ISC – USACE IHNC Lock	Location:	4640 Urquhart Street Northern portion of Inner Harbor Navigational Canal (IHNC) Lock		
AI#	9009				
City	New Orleans	Parish:	Orleans	Photographer	Adrienne Gossman

Photo #: 14 of 14
Description: View of AOI 2 facing north. Yellow AST containment wall right of the floodwall. Construction material, including more creosote poles, on right side of photo in background.

JOHN BEL EDWARDS
GOVERNOR

ROGER W. GINGLES
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL ASSESSMENT

May 23, 2023

Brad L. Inman
Projects and Restoration Branch
U.S. Army Corps of Engineers New Orleans District
7400 Leake Avenue
New Orleans, LA 70118

RE: U.S. Army Corps of Engineers April 17, 2023 Letter
Former US Coast Guard Integrated Support Command; **AI Number 9009**
USACE Inner Harbor Navigational Canal (IHNC) Lock
4640 Urquhart Street, New Orleans
Orleans Parish, LA

Dear Mr. Inman:

The Louisiana Department of Environmental Quality – Remediation Division (LDEQ-RD) acknowledges receipt of your letter dated April 17, 2023. The letter indicates U.S. Army Corp of Engineers (USACE) will attempt to meet the LDEQ-RD 90-day deadline for submitting a Risk Evaluation/Corrective Action Program (RECAP) site investigation work plan. If USACE will not be able to submit the report by the June 30, 2023 deadline due to funding concerns, please provide a timeframe for completing the work plan.

Please contact Adrienne Gossman at 504-736-7763 or adrienne.gossman@la.gov with any questions. All correspondence must include the **AI number** and be submitted in triplicate to: Estuardo Silva, P.G., Administrator; Remediation Division; P.O. Box 4314; Baton Rouge, LA 70821-4314.

Thank you for your cooperation.

Sincerely,

Brad Bourgoyne, P.G.
Geologist Supervisor
Remediation Division

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c: Imaging Operations – IAS
USACE – Robert Brooks

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS LA 70118-3651

Estuardo Silva, P.G., Administrator
Remediation Division
P.O. Box 4314
Baton Rouge, LA 70821-4314

Dear Mr. Silva,

Thank you for your letter dated May 23, 2023, regarding the Risk Evaluation/Corrective Action Plan (RECAP) Site Investigation and Interim Action Report dated April 2019 (**AI Number 9009**), which was submitted by JESCO Environmental & Geotechnical Services Inc. (JESCO) on behalf of the U.S. Army Corps of Engineers New Orleans District (USACE). We appreciate the Louisiana Department of Environmental Quality – Remediation Division (LDEQ-RD) providing us with valuable feedback.

We are pleased to inform you that we have prepared the requested site investigation work plan to address the deficiencies and concerns outlined in your letter. The report provides a comprehensive site investigation work plan that includes the delineation of the vertical and horizontal extent of contamination, in accordance with the requirements specified in LAC 33:I Chapter 13 (Risk Evaluation/Corrective Action Program (RECAP)), Appendix B, Section B.2.4.

Our team has carefully reviewed the analytical results presented in the previous reference document, and we have taken into account the presence of light non-aqueous phase liquid (LNAPL) in Temporary Monitoring Well (TMW) 3. Furthermore, we have thoroughly evaluated the exceedances in soil and groundwater and have extended the delineation efforts to encompass Areas of Interest (AOI) 1 and 2.

In addressing the deficiencies identified in the 2019 RECAP Report, we have paid special attention to the following:

Ensuring correct screening of the June 2018 temporary monitoring wells to capture LNAPL and hydrocarbon constituents of concern. The revised groundwater well installations have been designed to accurately target the appropriate groundwater zone, in line with the recommendations provided.

Resolving the inconsistencies noted between RECAP Form 5, RECAP Form 6, and Well Construction Diagrams (Appendix B3) for the four groundwater wells (TMW-03, TMW-16, TMW-17, and TMW-19). We have updated the well construction documentation to ensure consistency and accuracy in future sampling efforts.

Considering the presence of LNAPL in monitoring well TMW 3, we have excluded Management Option 2 (MO-2) evaluation for the time being, as per your recommendation.

We have enclosed the comprehensive investigation work plan and associated appendices, which includes the necessary revisions and improvements based on the feedback provided. We believe this work plan is appropriate to move this investigation forward and addresses your concerns with the previous report. The report has been prepared in triplicate, and each copy has been labeled accordingly.

Should you have any further questions or require additional clarification regarding the enclosed report, please do not hesitate to contact me at Brad.L.Inman@usace.army.mil. We appreciate your guidance throughout this process and thank you for your continued support and collaboration.

We look forward to your review of the enclosed report and the next steps to be taken in this matter.

Sincerely,

Brad L. Inman
Chief, Projects and Restoration Branch

JOHN BEL EDWARDS
GOVERNOR

ROGER W. GINGLES
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL ASSESSMENT

September 8, 2023

Brad L. Inman
Projects and Restoration Branch
U.S. Army Corps of Engineers New Orleans District
7400 Leake Avenue
New Orleans, LA 701118

RE: Investigation Work Plan Approval
Former US Coast Guard Integrated Support Command; **AI Number 9009**
USACE Inner Harbor Navigational Canal (IHNC) Lock
4640 Urquhart Street, New Orleans
Orleans Parish, LA

Dear Mr. Inman:

The Louisiana Department of Environmental Quality – Remediation Division (LDEQ - RD) has completed review of the investigation work plan dated July 24, 2023, submitted by your agency. Thank you for providing this information.

The U.S. Army Corps of Engineers explained that implementation of this Investigation Work Plan depends on when federal funding will be allocated. Once funding is secured, please implement your investigation with the following stipulations:

1. According to RECAP B2.5.2, surface soil is 0-15 ft below ground surface (bgs). Please ensure that all borings extend to 15 ft bgs. Please provide justification if it is not feasible to extend to 15 ft bgs at some locations.

2. According to RECAP 2.13, to determine background concentrations, at least four discrete samples will need to be collected. The work plan only proposes two boring locations for background sample collection. Please add two more locations outside of the suspected impact area for determining background concentrations.

3. Please explain why soil samples will come from the 6-8 foot interval from each boring as noted in section 2.6.1 of the work plan. Please note that RECAP B2.5.2 requires soil samples from the following intervals: 1) soil interval with the highest organic vapor measurement; 2) soil-groundwater interface; and 3) total depth of the boring. If the 0-3 ft bgs interval is expected to be impacted based on release mechanism, then a soil sample should be collected from there too.

4. If the bottom of boring has an elevated organic vapor measurement, please continue to extend the boring to ensure that the extent of possible vertical contamination is determined.

5. According to Table 2.5 in the work plan, only five polycyclic aromatic hydrocarbons (PAHs) will be reported. Since EPA method 8270D is being used to analyze polycyclic aromatic hydrocarbons (PAHs), the analytical reports should include the full analyte list for the method utilized. Please ensure that all 16 parent PAHs are reported in the investigation report.

Please provide a written response to items 1 and 3 above **within 60 days**. In addition, please provide a **yearly update by October 30th of each year** to keep LDEQ informed of the status of the work plan implementation. Please notify this office at least **5 calendar days in advance** of the initiation of field activities to allow for field oversight. Please contact Adrienne Gossman at 504-736-7763 or adrienne.gossman@la.gov with any questions. All correspondence must include the AI number and be submitted in triplicate to:

Estuardo Silva, P.G., Administrator
Remediation Division
P.O. Box 4314
Baton Rouge, LA 70821-4314

Thank you for your cooperation.

Sincerely,

Laura LeBouef, P.G.
Geologist Supervisor
Remediation Division

avg

c: Imaging Operations – IAS
USACE – Robert Brooks

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS LA 70118-3651

Estuardo Silva, P.G., Administrator
Remediation Division
P.O. Box 4314
Baton Rouge, LA 70821-4314

RE: Response to Investigation Work Plan Approval
Former US Coast Guard Integrated Support Command; **AI Number 9009**
USACE Inner Harbor Navigational Canal (IHNC) Lock
4640 Urquhart Street, New Orleans
Orleans Parish, LA

Dear Mr. Silva,

I am writing to acknowledge receipt of the letter dated September 8, 2023, from Laura LeBouef regarding the Investigation Work Plan submitted on July 24, 2023. We appreciate the detailed review and are committed to addressing each stipulation as requested. To document our concurrence with the suggested improvements to the work plan, we have provided responses to each of the five items in the letter:

1. Depth of Borings: As requested, where feasible, borings will be advanced to 15 ft below ground surface (bgs). All sections of the work plan addressing boring depth will be revised to indicate a depth of 15 ft. Justification will be provided in the investigation report for any boring not extending to 15 ft bgs.

The work plan, as written, limited the boring depth to 13 ft. based upon the following information. For the 2019 investigation, seven borings were advanced at AOI-1 with six reaching a depth of 15 ft. (Boring B-3, placed within the former AST containment, hit refusal at 5 ft.). The other six borings were sampled at the 13 to 15 ft. interval. Except for a single hit on arsenic at boring B-1, of 12.1 mg/Kg, all samples at that depth were clean (less than the RECAP Screening Standard for all COCs). At AOI-2 thirteen borings were advanced to a depth of 15 ft. Eleven of the borings were sampled at the 13 to 15 ft interval (B-19 and B-20 were not sampled). All samples at that depth were clean. The 2019 investigation report and the submitted 2023 work plan concluded that there was sufficient data to indicate that the vertical extent of the COCs at both AOIs does not exceed 13 ft.

2. Background Samples: We will revise the work plan to add two additional background boring/sampling locations and the collection of four discrete samples in accordance with the requirements of RECAP 2.13.

3. Soil Sample Intervals: As required by RECAP B2.5.2, soil samples will be collected at each boring location from, at a minimum, the following locations and intervals: 1) soil interval with the highest organic vapor measurement; 2) soil-groundwater interface; 3)

the total depth of the boring; and 4) the 0-3 ft bgs interval. All sections of the work plan addressing sample depth and location will be revised to indicate these sampling locations and intervals. Justification will be provided in the investigation report for any deviation from this requirement. Additional samples may be taken to help delineate the vertical extent of contamination.

The work plan, as written, with the requirement to collect soil samples from the 6-8 ft interval was based upon the following information. As provided above, the work plan concluded that there was sufficient existing data to indicate that the extent of contamination does not exceed 13 ft. In preparing the work plan, we also concluded that there was sufficient data in the 2019 report to indicate that contamination exists from 0 to 5 ft., at both AOIs, across some yet to be determined horizontal area. Our existing data is insufficient to determine the extent of contamination in the 5 to 13 ft. interval. The 6 to 8 ft sampling interval was selected as being the upper extent of the 5 to 13 ft. interval of interest. We do not anticipate finding any SVOCs or petroleum fractions below the thin and shallow groundwater layer (approximately at 3-5 ft bgs for AOI-1 and 5- 7 ft for AOI-2, with a widening and deepening of the layer approaching the canal). However, samples will be collected below the groundwater layer to verify this assumption and to help determine the vertical extent of contamination.

4. Elevated Organic Vapor Measurement: The work plan sampling plan will be revised to require that if the bottom of any boring has an elevated organic vapor measurement, then that boring shall be extended deeper to support appropriate vertical delineation of the contamination.

5. Reporting of PAHs: The work plan will be revised to require that all 16 parent PAHs identifiable by method 8270D be reported with the analytical results and that the data be included in the investigation report.

We will continue to keep LDEQ informed of the status of the work plan implementation by providing yearly updates by October 30th of each year, as requested.

Sincerely,

BRAD L. INMAN (for)
Chief, Projects and Restoration Branch

JEFF LANDRY
GOVERNOR

AURELIA S. GIACOMETTO
SECRETARY

STATE OF LOUISIANA

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL ASSESSMENT

November 18, 2024

Ms. Jennifer M. Vititoe, Chief
Projects and Restoration Branch
US Army Corps of Engineers New Orleans District
7400 Leake Avenue
New Orleans, LA 70118

RE: Annual update –Investigation Work Plan Status
Integrated Support Command; A**gency Interest Number (9009)**
USACE Inner Harbor Navigational Canal (IHNC) Lock
4640 Urquhart Street
New Orleans, Orleans Parish, LA

Dear Ms. Vititoe:

The Louisiana Department of Environmental Quality – Remediation Division (LDEQ-RD) has received and reviewed the referenced annual update on the Investigation Work Plan Status dated October 14, 2024. Thank you for providing this information. This status report is acceptable and will be added to our file for future reference.

By October 30th of each year, please provide an update on the status of the work plan implementation. In addition, please notify this office at least **5 calendar days in advance** of the initiation of field activities to allow for field oversight. You may contact Regina Atterberry Philson at (225) 219-3697 or regina.philson@la.gov with any questions. All correspondence must include the AI number and be submitted in triplicate to Estuardo Silva, P.G., Administrator, Remediation Division, P.O. Box 4314, Baton Rouge, LA 70821-4314.

Thank you for your cooperation.

Sincerely,

Madeline Abernethy
Environmental Scientist Manager
Remediation Division

c: Imaging Operations – IAS

JOHN BEL EDWARDS
GOVERNOR

ROGER W. GINGLES
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL ASSESSMENT

November 30, 2023

Brad L. Inman
Projects and Restoration Branch
U.S. Army Corps of Engineers New Orleans District
7400 Leake Avenue
New Orleans, LA 701118

RE: Receipt of Letter
Former US Coast Guard Integrated Support Command; **AI Number 9009**
USACE Inner Harbor Navigational Canal (IHNC) Lock
4640 Urquhart Street, New Orleans
Orleans Parish, LA

Dear Mr. Inman:

The Louisiana Department of Environmental Quality – Remediation Division (LDEQ-RD) acknowledges receipt of your letter Response to Investigation Work Plan Approval dated November 2, 2023, submitted by your agency. We have completed our review and understand that implementation of the work plan depends on when federal funding will be allocated. Once funding is secured, please implement the investigation with the agreed upon changes.

By October 30th of each year, please provide an update on the status of the work plan implementation. In addition, please notify this office at least **5 calendar days in advance** of the initiation of field activities to allow for field oversight. You may contact Adrienne Gossman at 504-736-7763 or adrienne.gossman@la.gov with any questions. All correspondence must include the AI number and be submitted in triplicate to:

Estuardo Silva, P.G., Administrator
Remediation Division
P.O. Box 4314
Baton Rouge, LA 70821-4314

Thank you for your cooperation.

Sincerely,

Laura LeBouef, P.G.
Geologist Supervisor
Remediation Division

avg

c: Imaging Operations – IAS
USACE – Robert Brooks
USACE – Jennifer M. Vititoe
USACE – David Shulman

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS LA 70118-3651

Estuardo Silva, P.G., Administrator
Remediation Division
P.O. Box 4314
Baton Rouge, LA 70821-4314

Annual Update on Investigation Work Plan Status
Former US Coast Guard Integrated Support Command; **AI Number 9009**
USACE Inner Harbor Navigational Canal (IHNC) Lock
4640 Urquhart Street, New Orleans
Orleans Parish, LA

Dear Mr. Silva,

I am writing to acknowledge receipt of the letter dated November 30, 2023, from Laura LeBouef regarding an annual update on the status of the Investigation Work Plan submitted on July 24, 2023. The ongoing development of the Integrated General Reevaluation Report and Supplemental Environmental Impact Statement (GRR/SEIS) is scheduled for completion by July 2025. Upon the completion of the GRR/SEIS and allocation of funding from Congress, the project will move into the Pre-construction, Engineering, and Design (PED) phase, potentially beginning in Fiscal Year 2026, at which time implementation of the subject Investigation Work Plan could begin. It is unlikely that any borings or sampling at the site would occur prior to Calendar Year 2027.

We will continue to keep LDEQ informed of the status of the work plan implementation by providing yearly updates by October 30th of each year, as requested.

Sincerely,

VITITOE.JENNIFER.MICHELET.1365552050

Digitally signed by VITITOE.JENNIFER.MICHELET.1365552050
Date: 2024.10.10 10:30:01 -05'00'

Jennifer M. Vititoe, P.E.
Chief, Projects and Restoration Branch

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS LA 70118-3651

16 APR 2026

Estuardo Silva, P.G., Administrator
Remediation Division
P.O. Box 4314
Baton Rouge, LA 70821-4314

Annual Update on Investigation Work Plan Status
Former US Coast Guard Integrated Support Command; **AI Number 9009**
USACE Inner Harbor Navigational Canal (IHNC) Lock
4640 Urquhart Street, New Orleans
Orleans Parish, LA

Dear Mr. Silva,

I am writing to acknowledge receipt of the letter dated November 30, 2023, from Laura LeBouef regarding an annual update on the status of the Investigation Work Plan submitted on July 24, 2023. The ongoing development of the Integrated General Reevaluation Report and Supplemental Environmental Impact Statement (GRR/SEIS) is scheduled for completion by July 2026. Upon the completion of the GRR/SEIS and allocation of funding from Congress, the project will move into the Pre-construction, Engineering, and Design (PED) phase, potentially beginning in Fiscal Year 2028, at which time implementation of the subject Investigation Work Plan could begin. It is unlikely that any borings or sampling at the site would occur prior to Calendar Year 2029.

We will continue to keep LDEQ informed of the status of the work plan implementation by providing yearly updates by October 30th of each year, as requested.

Sincerely,

Jeffrey J. Varisco
Chief, Projects and Restoration Branch