LDWSF
4.8.1
11/14/13

Sanga, Ravi

From: Philip Spadaro [pspadaro@intell-group.com]
Sent: Thursday, November 14, 2013 1:40 PM
To: Abigail Spadaro; Sheri Bozic (sbozic@jorgensenforge.com); Dee Gardner (dgardner@soundearthinc.com); Tom Colligan (Tom.Colligan@floydsnider.com); Arrigoni, Holly; Arrigoni, Holly; Ernst, William D (william.d.ernst@boeing.com); Edwards, Jennifer; Sanga, Ravi; masa461@ECY.WA.GOV; Blocker, Shawn
Subject: RE: Jorgensen Forge Outfall Site
Attachments: JFOS2_Phase 4A_InterimSD_DFAR.PDF; JFOS2_4A_20131107_F1-5B_DRAFT.PDF; Chemistry Section C-C'.pdf; Figure 1 (Vicinity Map).pdf

All –

Attached to this email please find materials for meeting on Friday.

JFOS2_Phase 4A_InterimSD_DFAR.PDF JFOS2_4A_20131107_F1-5B_DRAFT.PDF Chemistry Section C-C'.pdf Figure 1 (Vicinity Map).pdf

Best regards.
Philip

USEPA SF
1425159

SoundEarth Strategies

SUMMARY OF SOIL ANALYTICAL RESULTS
FREIDMAN AND BRUYA, INC. REPORT NO. 310154
JORGENSEN FORGE OUTFALL SITE
SECOND MODIFICATION, PHASE 4A
SEATTLE, WA
CERCLA DOCKET NO. 10-2011-0017

APPROX. ELEV. (feet MLLW)	JFOS2-BH01		JFOS2-BH03		JFOS2-BH04		JFOS2-BH05		APPROX. ELEV. (feet MLLW)
	SAMPLE ID	TOTAL PCBs (mg/kg)	SAMPLE ID	TOTAL PCBs (mg/kg)	SAMPLE ID	TOTAL PCBs (mg/kg)	SAMPLE ID	TOTAL PCBs (mg/kg)	
0.6	JFOS2-BH01-16	**15**	--	--	--	--	--	--	0.6
-0.2	--	--	--	--	JFOS2-BH04-17	**270**	--	--	-0.2
-1.1	JFOS2-BH01-18	<0.02	JFOS2-BH03-18	**280**	--	--	JFOS2-BH05-18	**2.7**	-1.1
-2.0	--	--	--	--	JFOS2-BH04-19 (Duplicate)	**160**	--	--	-2.0
-2.8	JFOS2-BH01-20	**0.17**	JFOS2-BH03-20	**560**	--	--	JFOS2-BH05-20 (Duplicate)	**11**	-2.8
-3.7	--	--	--	--	JFOS2-BH04-21	**34**	--	--	-3.7
-4.6	JFOS2-BH01-22	**0.074**	JFOS2-BH03-22	**110**	--	--	JFOS2-BH05-22	**2.9**	-4.6
-5.4	--	--	--	--	JFOS2-BH04-23	**140**	--	--	-5.4
-6.3	JFOS2-BH01-24	**0.034** js	JFOS2-BH03-24	**0.18**	--	--	JFOS2-BH05-24	<0.02	-6.3
-7.2	--	--	--	--	--	--	--	--	-7.2
-8.0	--	--	JFOS2-BH03-26	**14**	--	--	--	--	-8.0
-8.9	--	--	--	--	--	--	--	--	-8.9
-9.7	--	--	JFOS2-BH03-28	**0.43**	--	--	JFOS2-BH05-28	**4.9**	-9.7
-10.6	--	--	--	--	--	--	--	--	-10.6
-11.5	--	--	JFOS2-BH03-30	**0.055**	JFOS2-BH04-30	**93**	JFOS2-BH05-30	**29**	-11.5
-12.3	--	--	--	--	--	--	--	--	-12.3
-13.2	--	--	JFOS2-BH03-32	<0.02	JFOS2-BH04-32	**0.085**	--	--	-13.2
-14.1	--	--	--	--	--	--	--	--	-14.1
-14.9	--	--	JFOS2-BH03-34	**0.044**	JFOS2-BH04-34	**0.089**	JFOS2-BH05-34	**2.0**	-14.9
-15.8	--	--	--	--	--	--	JFOS2-BH05-35	<0.1	-15.8

NOTES:

signifies total PCB concentration less than or equal to 1 mg/kg, or not detected
signifies total PCB concentration greater than 1 mg/kg
signifies total PCB concentration greater than the TSCA limit of 50 mg/kg
BOLD text signifies at least one PCB congener was detected
Laboratory analysis by Friedman & Bruya of Seattle, Washington
[1]PCBS by EPA Method 8082A

LABORATORY DATA QUALIFIERS:

js = The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

ABBREVIATIONS:

-- = not applicable
< = analyte not detected at or above the reporting limit
ID = identification
mg/kg = milligrams per kilogram
MLLW = mean lower low water
PCB = polychlorinated biphenyl
TSCA = Toxic Substances Control Act

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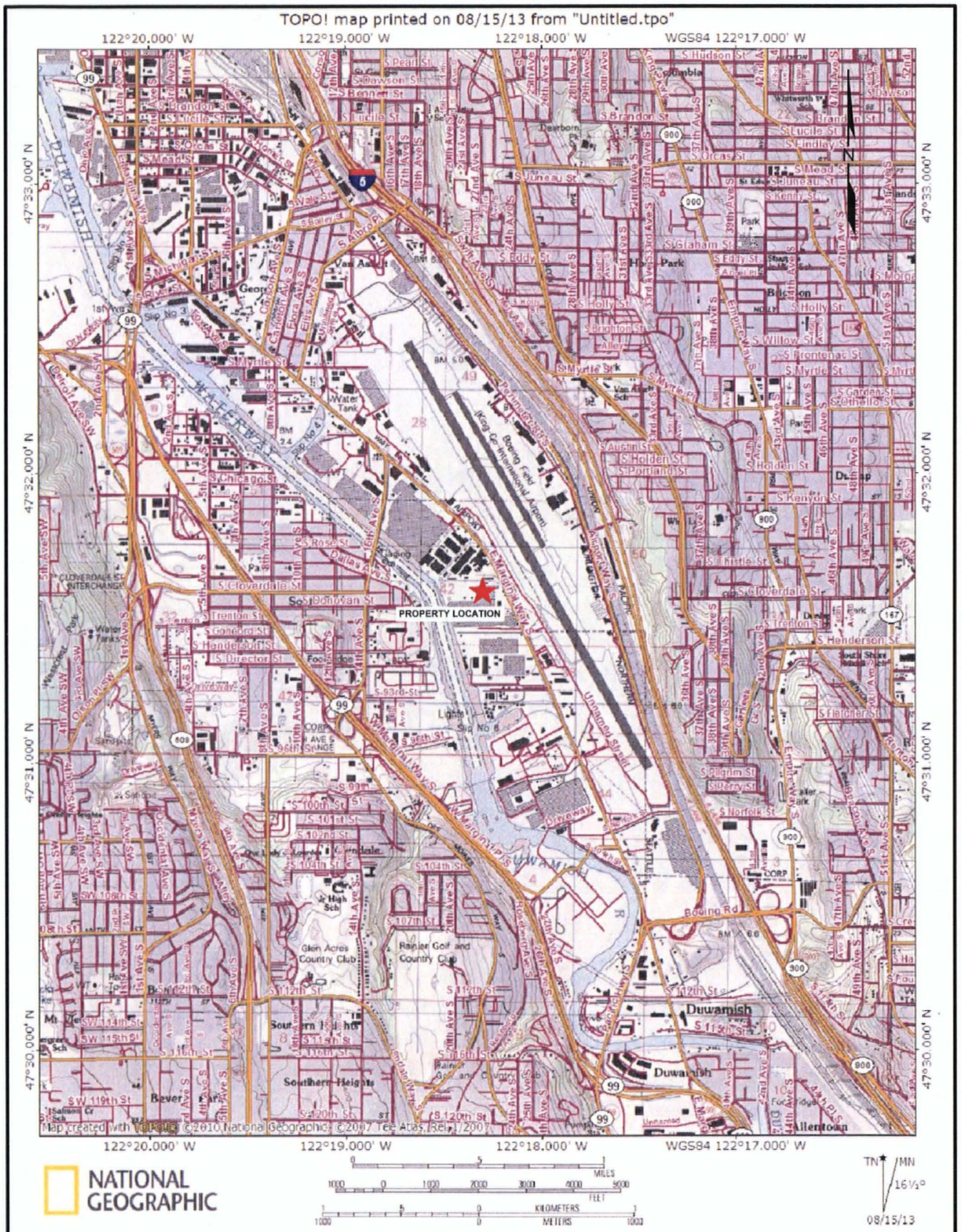

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DATE:	09/05/13
DRAWN BY:	JQC
CHECKED BY:	DHG
CAD FILE:	0995-001-03_PL04A_F1_VIC

PROJECT NAME:	JORGENSEN FORGE PROPERTY
CERCLA DOCKET NUMBER:	10-2011-0017
STREET ADDRESS:	8531 EAST MARGINAL WAY SOUTH
CITY, STATE:	SEATTLE, WASHINGTON

FIGURE 1
PHYSIOGRAPHIC SETTING

P:\0995 JORGENSEN FORGE CORPORATION\TECHNICAL\CAD\PROPERTY LINE OUTFALL\0995-001-03_PL04A_F1_VIC.DWG

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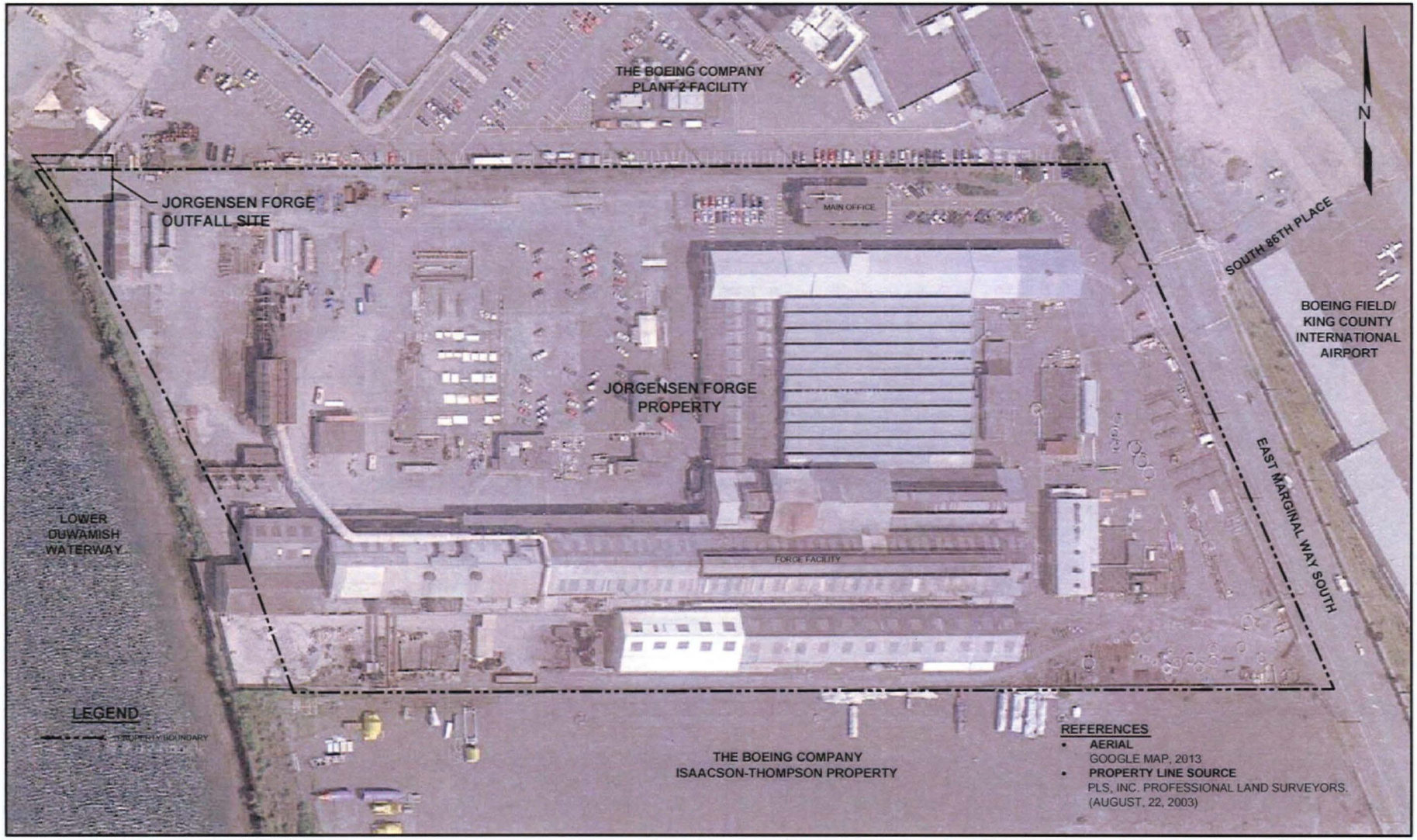

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CAD FILE: 0995-001-03_PL04A_F2_PROP

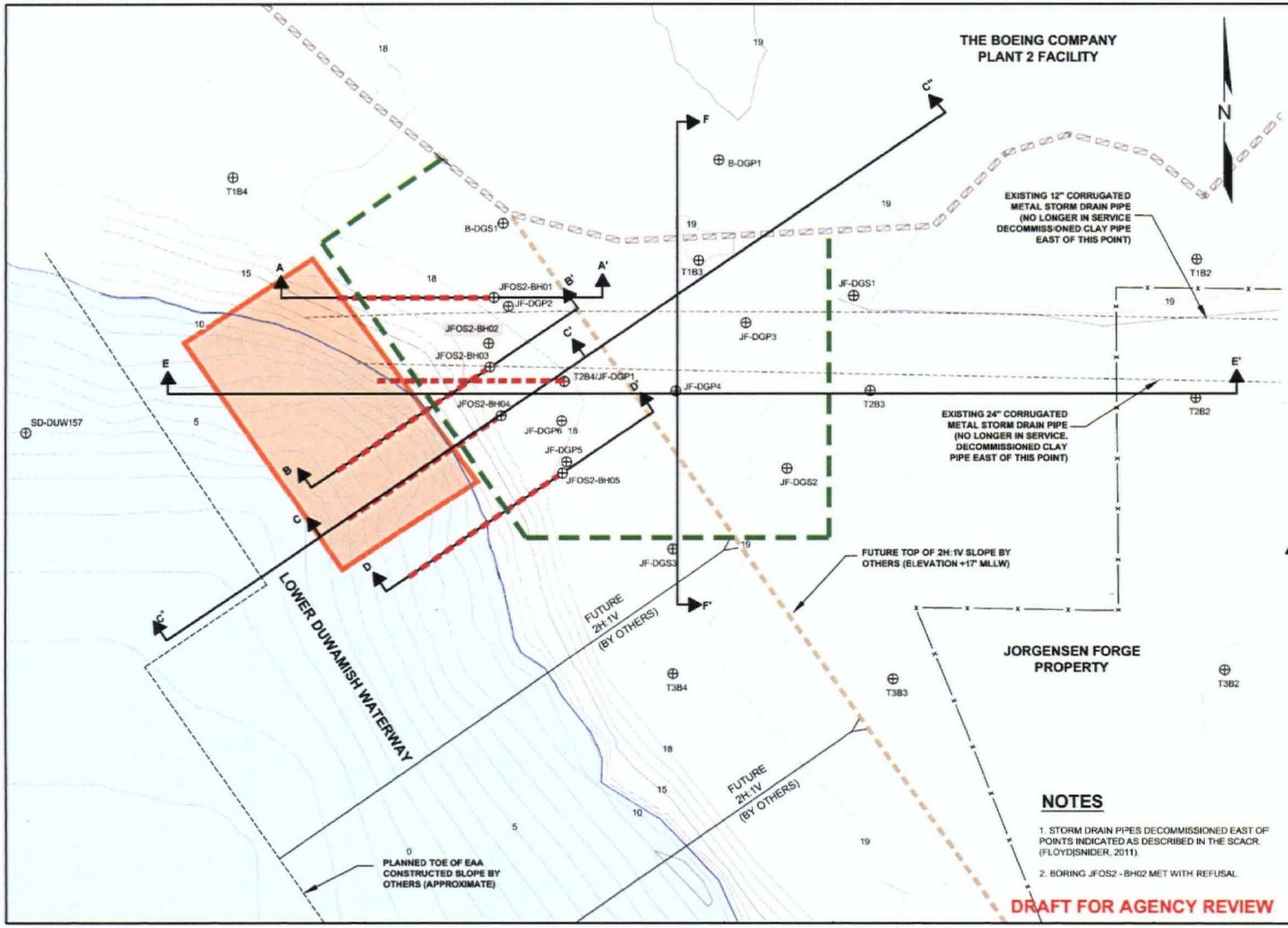
PROJECT NAME: JORGENSEN FORGE OUTFALL SITE
CERCLA DOCKET NUMBER: 10-2011-0017
STREET ADDRESS: 8531 EAST MARGINAL WAY SOUTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 30 60 120 240
APPROXIMATE SCALE IN FEET

FIGURE 2
PROPERTY FEATURES MAP

P:\0995 JORGENSEN FORGE CORPORATION\TECHNICAL\CAD\PROPERTY LINE OUTFALL\0131109 EPA SUBMITTAL\S0995-001-03_PL04A_F2_PROP.DWG 11/7/2013



LEGEND

JFOS2-BH05	SOIL BORING LOCATION AND ID
19	EXISTING CONTOUR - PLS/ETRAC SURVEY (1-FT INTERVAL, MLLW) (AQEA 2013)
	APPROXIMATE CONTOUR
	EXISTING MHHW (+11.1 MLLW)
	EXISTING BOEING SHEET PILE WALL (AQEA 2013)
	CORRUGATED METAL PIPE
	CHAIN LINK FENCE (AQEA, 2013)
	POTENTIAL ADDITIONAL SHORELINE BANK MATERIAL AREA (EPA, 2013)
	PLANNED SHEET PILE WALL (EPA, 2013)
	ANGLE BORING
	LIMITS OF PLANNED EAA EXCAVATION (AQEA, 2013)
	CONSTRUCTED SLOPE (AQEA, 2013)
	TOE OF CONSTRUCTED SLOPE (AQEA, 2013)
EAA	EARLY ACTION AREA
EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY
MHHW	MEAN HIGHER HIGH WATER
MLLW	MEAN LOWER LOW WATER
SCACR	SOURCE CONTROL ACTION COMPLETION REPORT (FLOYD|SNIDER, 2011)
C C'	CROSS SECTION LOCATION
1H:1V	ONE HORIZONTAL DISTANCE TO ONE VERTICAL RISE
JFOS2-BH02	ABANDONED SOIL BORING

REFERENCE

ANCHOR QEA, LLC (AQEA) AND FARALLON CONSULTING , L.L.C, (2012). PHASE 2 GEOPROBE INVESTIGATION SUMMARY REPORT. JORGENSEN FORGE OUTFALL SITE. AUGUST 8.

AQEA, 2013. BID SET DRAWINGS. JORGENSEN FORGE EARLY ACTION AREA, SEATTLE, WA. MAY.

AXIS SURVEY & MAPPING. 2013. JORGENSEN FORGE FACILITY, EXCAVATION EXHIBIT. SEPTEMBER 12.

FLOYD|SNIDER, 2011. SOURCE CONTROL ACTION COMPLETION REPORT. MAY 27.

U.S. ENVIRONMENTAL PROTECTION AGENCY, 2013. SECOND MODIFICATION FOR ADMINISTRATIVE ORDER ON CONSENT FOR REMOVAL ACTION, JORGENSEN FORGE OUTFALL SITE, WITH JORGENSEN FORGE CORPORATION, BOEING COMPANY, AND EPA. CERCLA DOCKET NO. 10-2011-0017. JUNE 25.

WINDWARD ENVIRONMENTAL, LLC. 2010. LOWER DUWAMISH WATERWAY REMEDIAL INVESTIGATION, REMEDIAL INVESTIGATION REPORT. JULY 9.

NOTES

1. STORM DRAIN PIPES DECOMMISSIONED EAST OF POINTS INDICATED AS DESCRIBED IN THE SCACR. (FLOYD|SNIDER, 2011).
2. BORING JFOS2 - BH02 MET WITH REFUSAL.

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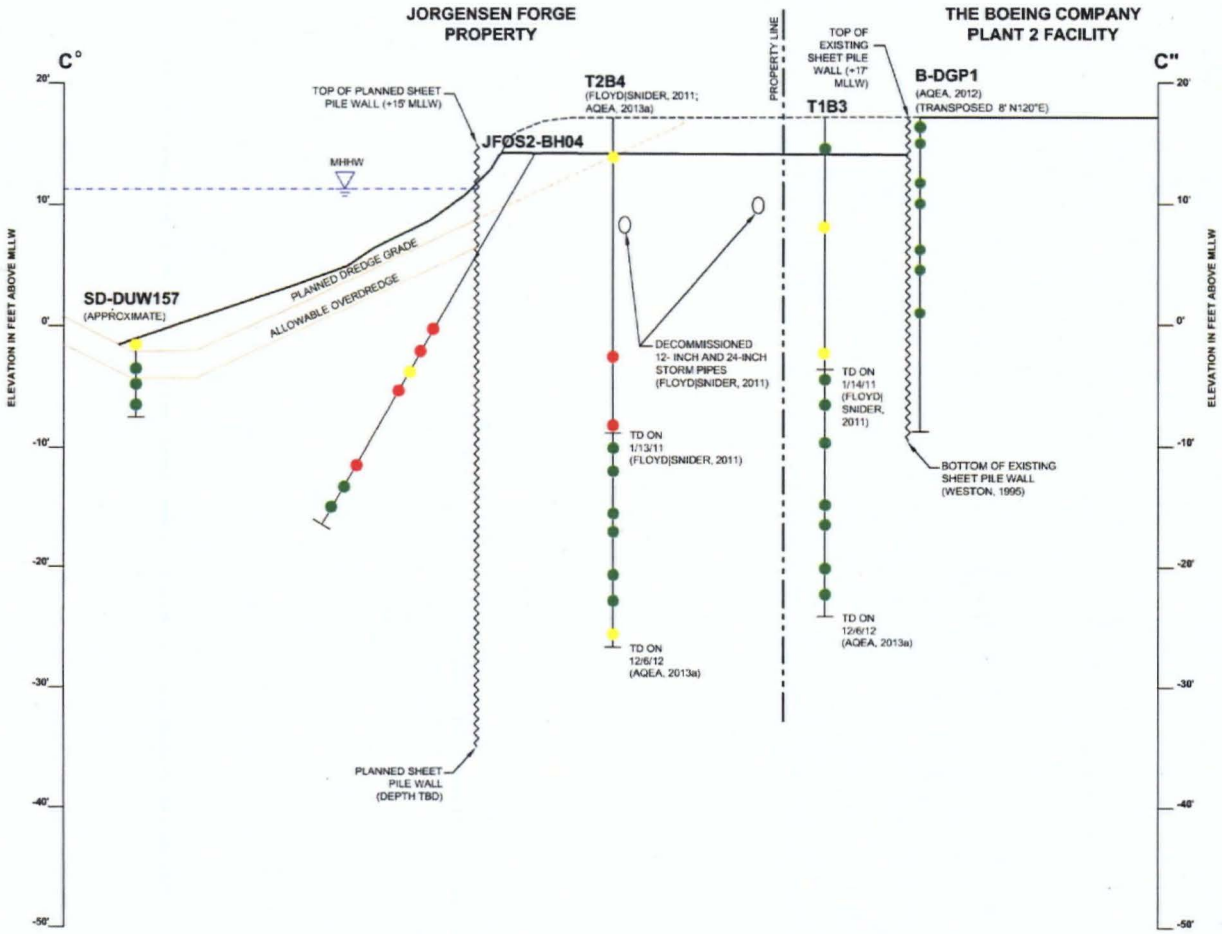
CITY, STATE:	SEATTLE, WASHINGTON

0 5 10 20
APPROXIMATE SCALE IN FEET

FIGURE 3
JORGENSEN FORGE OUTFALL SITE
PHASE 4A LAYOUT MAP

P:\0995 JORGENSEN FORGE CORPORATION\TECHNICAL\CAD\PROPERTY LINE OUTFALL\20131109 EPA SUBMITTAL\0995-001-03_PL04A_F3.DWG 11/6/2013



LEGEND

JFOS2-BH04	BORING ID
	PLANNED DREDGE GRADE (APPROXIMATE) (AQEA, 2013b) PLANNED 2H:1V SLOPE (AQEA, 2013b)
	FORMER TOPOGRAPHY (AQEA, 2013b)
	CURRENT TOPOGRAPHY (AXIS, 2013)
	TOTAL PCB CONCENTRATION EXCEEDS 50 mg/kg
	TOTAL PCB CONCENTRATION IS BETWEEN 1 AND 50 mg/kg
	TOTAL PCB CONCENTRATION IS LESS THAN 1 mg/kg, OR NOT DETECTED
mg/kg	MILLIGRAM PER KILOGRAM
MHHW	MEAN HIGHER HIGH WATER (+11.1' MLLW)
MLLW	MEAN LOWER LOW WATER
PCB	POLYCHLORINATED BIPHENYL
TBD	TO BE DETERMINED
TD	TOTAL DEPTH

REFERENCES

ANCHOR QEA, LLC (AQEA) AND FARALLON CONSULTING L.L.C. 2012. PHASE 2 GEOPROBE INVESTIGATION SUMMARY REPORT, JORGENSEN FORGE OUTFALL SITE. AUGUST 8.

AQEA, 2013a. MEMORANDUM, RESULTS OF ADDITIONAL SOIL GEOPROPE VERTICAL CHARACTERIZATION AT THE JORGENSEN FORGE OUTFALL SITE. JANUARY 25.

AQEA, 2013b. BID SET DRAWING, JORGENSEN FORGE EARLY ACTION AREA, SEATTLE, WA. MAY.

AXIS SURVEY & MAPPING, 2013. JORGENSEN FORGE FACILITY, EXCAVATION EXHIBIT. SEPTEMBER 12.

FLOYD|SNIDER, 2011. SOURCE CONTROL ACTION COMPLETION REPORT. MAY 27.

ROY F. WESTON, INC. (WESTON), 1995. CONSTRUCTION COMPLETION REPORT, INTERIM CORRECTIVE ACTION, BUILDINGS 2-10 AND 2-66 (EXCERPTS PROVIDED BY BOEING). FEBRUARY.

WINDWARD ENVIRONMENTAL, LLC. 2010. LOWER DUWAMISH WATERWAY REMEDIAL INVESTIGATION, REMEDIAL INVESTIGATION REPORT. JULY 9.

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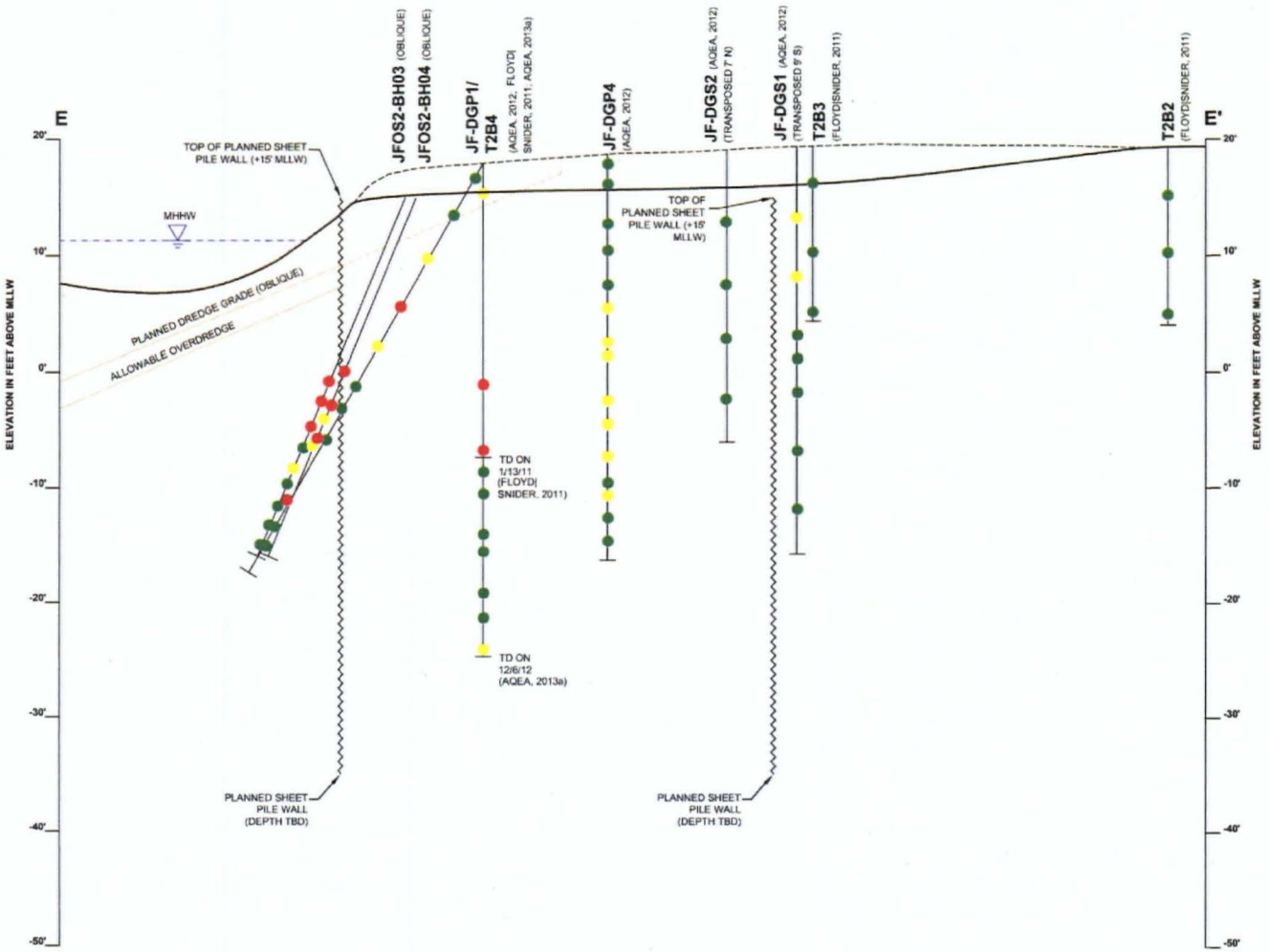
PROJECT NUMBER:	10-2011-0017
STREET ADDRESS:	8531 EAST MARGINAL WAY SOUTH
CITY, STATE:	SEATTLE, WASHINGTON

0 5 10 20
APPROXIMATE SCALE IN FEET

FIGURE 4A
CROSS SECTION C° - C"

P:\0995 JORGENSEN FORGE CORPORATION\TECHNICAL\CAD\PROPERTY LINE OUTFALL\20131029 EPA SUBMITTAL\0995-001-03_PL04A_F4A.DWG 11/5/2013



LEGEND

JFOS2-BH03	BORING ID
	FINAL DREDGE GRADE (APPROXIMATE) (AQEA, 2013b)
	FUTURE 2H:1V SLOPE (AQEA, 2013b)
	FORMER TOPOGRAPHY (AXIS, 2013b)
	CURRENT TOPOGRAPHY (AXIS, 2013)
	TOTAL PCB CONCENTRATION EXCEEDS 50 mg/kg
	TOTAL PCB CONCENTRATION IS BETWEEN 1 AND 50 mg/kg
	TOTAL PCB CONCENTRATION IS LESS THAN 1 mg/kg, OR NOT DETECTED
mg/kg	MILLIGRAM PER KILOGRAM
MHHW	MEAN HIGHER HIGH WATER (+11.1' MLLW)
MLLW	MEAN LOWER LOW WATER
PCB	POLYCHLORINATED BIPHENYL
TBD	TO BE DETERMINED
TD	TOTAL DEPTH

REFERENCES

ANCHOR QEA, LLC (AQEA) AND FARALLON CONSULTING L.L.C. 2012.PHASE 2 GEOPROBE INVESTIGATION SUMMARY REPORT, JORGENSEN FORGE OUTFALL SITE. AUGUST 8.

AQEA, 2013a. MEMORANDUM, RESULTS OF ADDITIONAL SOIL GEOPROBE VERTICAL CHARACTERIZATION AT THE JORGENSEN FORGE OUTFALL SITE. JANUARY 25.

AQEA, 2013b. BID SET DRAWINGS, JORGENSEN FORGE EARLY ACTION AREA. SEATTLE, WA. MAY.

AXIS SURVEY & MAPPING, 2013. JORGENSEN FORGE FACILITY. EXCAVATION EXHIBIT. SEPTEMBER 12.

FLOYD|SNIDER, 2011. SOURCE CONTROL ACTION COMPLETION REPORT, MAY 27.

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0 5 10 20
APPROXIMATE SCALE IN FEET

FIGURE 4B
CROSS SECTION E - E'

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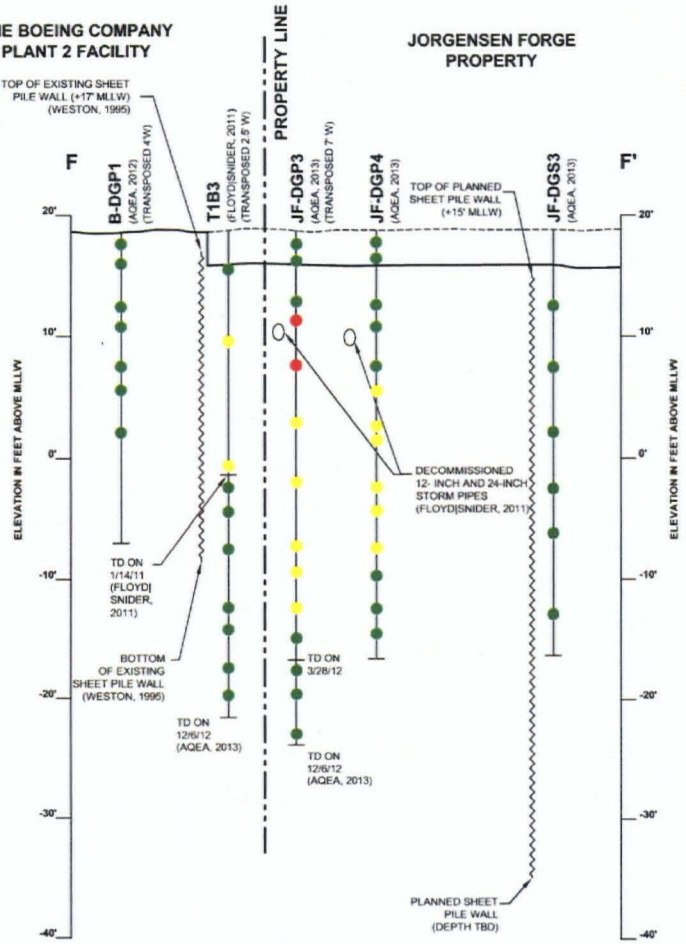

LEGEND

B-DGP1	BORING ID
- - - - - -	FORMER TOPOGRAPHY (AQEA, 2013)
———	CURRENT TOPOGRAPHY (AXIS, 2013)
●	TOTAL PCB CONCENTRATION EXCEEDS 50 mg/kg
●	TOTAL PCB CONCENTRATION IS BETWEEN 1 AND 50 mg/kg
●	TOTAL PCB CONCENTRATION IS LESS THAN 1 mg/kg, OR NOT DETECTED
mg/kg	MILLIGRAM PER KILOGRAM
MHHW	MEAN HIGHER HIGH WATER (+11.1' MLLW)
MLLW	MEAN LOWER LOW WATER
PCB	POLYCHLORINATED BIPHENYL
TBD	TO BE DETERMINED
TD	TOTAL DEPTH

REFERENCES

ANCHOR QEA, LLC (AQEA) AND FARALLON CONSULTING L.L.C, 2012. PHASE 2 GEOPROBE INVESTIGATION SUMMARY REPORT, JORGENSEN FORGE OUTFALL SITE. AUGUST 8.

AQEA, 2013. BID SET DRAWINGS, JORGENSEN FORGE EARLY ACTION AREA, SEATTLE, WA. MAY.

AXIS SURVEY & MAPPING, 2013. JORGENSEN FORGE OUTFALL FACILITY, EXCAVATION EXHIBIT. SEPTEMBER 12.

FLOYD|SNIDER, 2011. SOURCE CONTROL ACTION COMPLETION REPORT, MAY 27.

ROY, F WESTON (WESTON), 1995. CONSTRUCTION COMPLETION REPORT, INTERIM CORRECTIVE ACTION, BUILDINGS 2-10 AND 2-66 (EXCERPTS PROVIDED BY BOEING). FEBRUARY.

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CAD FILE:	0995-001-03_PL04A_F4C

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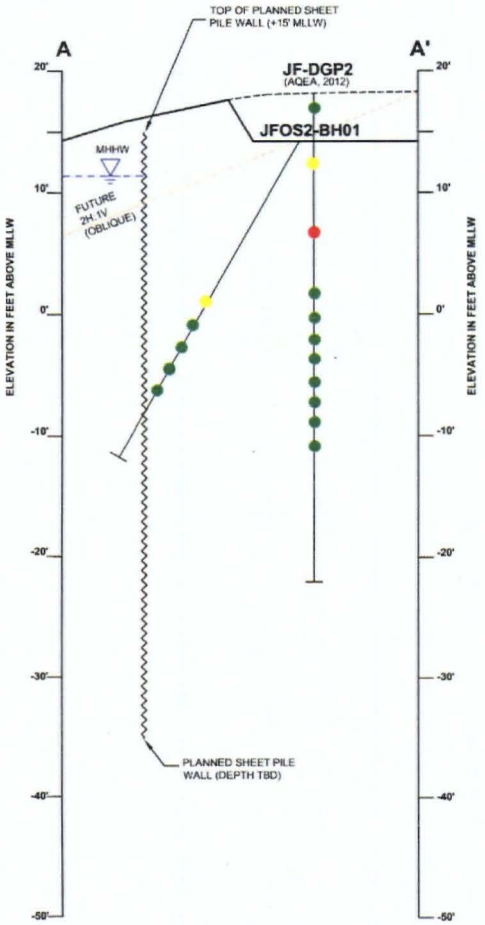
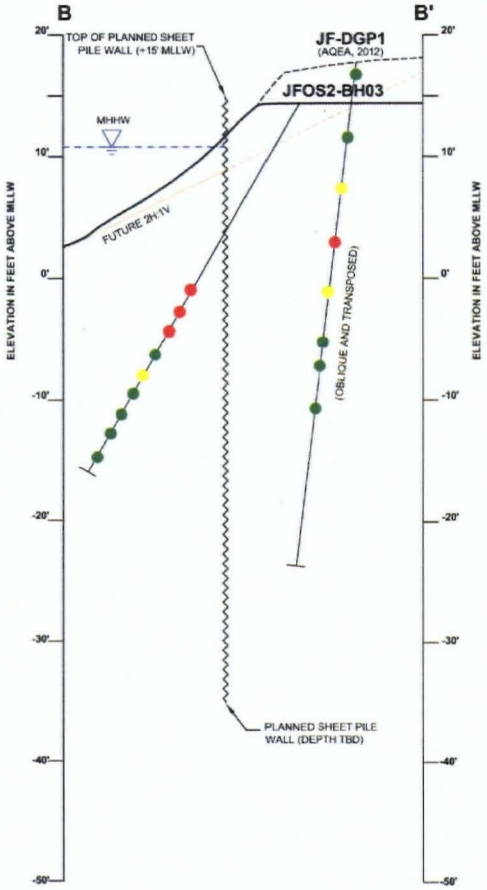
CITY, STATE:	SEATTLE, WASHINGTON

0 5 10 20
APPROXIMATE SCALE IN FEET

FIGURE 4C
CROSS SECTION F - F'

P:\0995 JORGENSEN FORGE CORPORATION\TECHNICAL\CAD\PROPERTY LINE OUTFALL\20131029 EPA SUBMITTAL\0995-001-03_PL04A_F4C.DWG 11/5/2013





LEGEND

JFOS2-BH01	BORING ID
	FINAL DREDGE GRADE (APPROXIMATE) (AQEA, 2013)
	FUTURE 2H:1V SLOPE (AQEA, 2013)
	FORMER TOPOGRAPHY (AQEA, 2013)
	CURRENT TOPOGRAPHY (AXIS, 2013)
●	TOTAL PCB CONCENTRATION EXCEEDS 50 mg/kg
●	TOTAL PCB CONCENTRATION IS BETWEEN 1 AND 50 mg/kg
●	TOTAL PCB CONCENTRATION IS LESS THAN 1 mg/kg, OR NOT DETECTED
mg/kg	MILLIGRAM PER KILOGRAM
MHHW	MEAN HIGHER HIGH WATER (+11.1' MLLW)
MLLW	MEAN LOWER LOW WATER
PCB	POLYCHLORINATED BIPHENYL
TBD	TO BE DETERMINED

REFERENCES

ANCHOR QEA, LLC (AQEA) AND FARALLON CONSULTING L.L.C. 2012.PHASE 2 GEOPROBE INVESTIGATION SUMMARY REPORT, JORGENSEN FORGE OUTFALL SITE. AUGUST 8.

AQEA. 2013. BID SET DRAWINGS, JORGENSEIN FORGE EARLY ACTION AREA, SEATTLE, WA. MAY.

AXIS SURVEY & MAPPING (AXIS). 2013. JORGIENSEN FORGE FACILITY, EXCAVATION EXHIBIT. SEPTEMBER 12.

NOTES

BORING JFOS2-BH02 MET WITH REFUSAL, THEREFORE NO LOG IS PROVIDED

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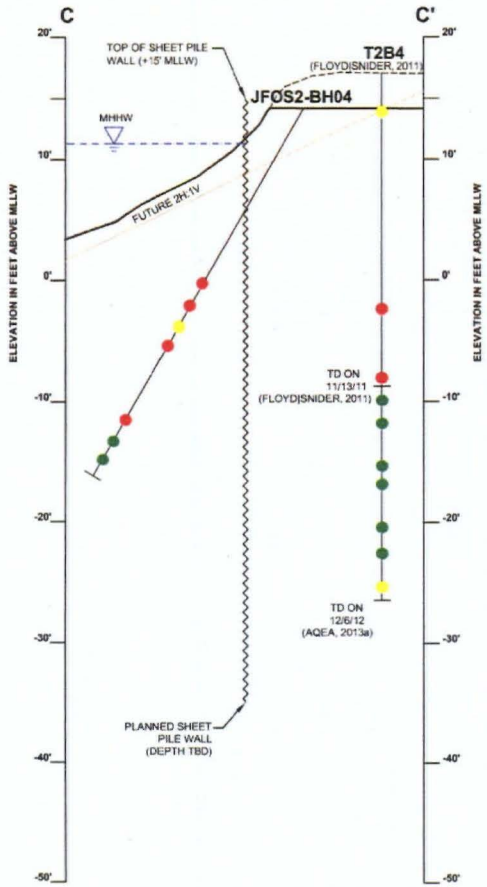
CAD FILE: 0995-001-03_PL04A_F5A

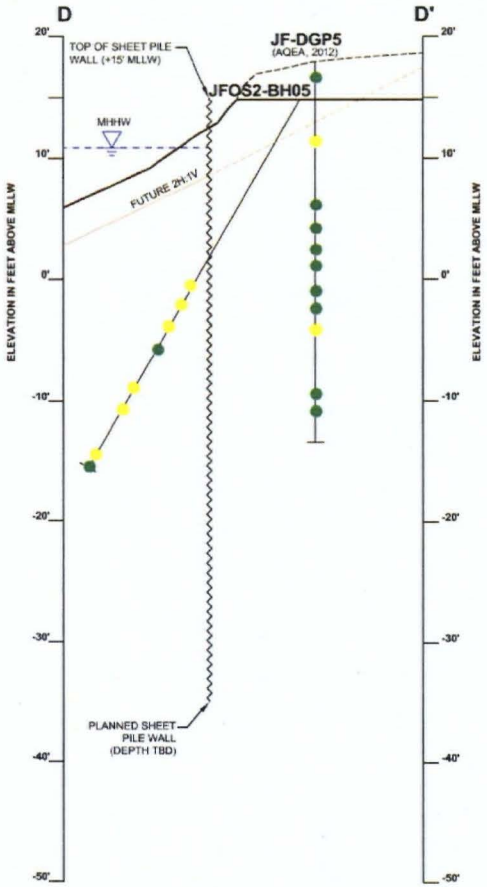
PROJECT NAME: JORGENSEN FORGE OUTFALL SITE
PROJECT NUMBER: 10-2011-0017
STREET ADDRESS: 8531 EAST MARGINAL WAY SOUTH
CITY, STATE: SEATTLE, WASHINGTON

0 5 10 20
APPROXIMATE SCALE IN FEET

FIGURE 5A
CROSS SECTIONS A - A' : B - B'

P:\0995 JORGENSEN FORGE CORPORATION\TECHNICAL\CAD\PROPERTY LINE OUTFALL\20131029 EPA SUBMITTAL\0995-001-03_PL04A_F5A.DWG 11/6/2013





LEGEND

JFOS2-BH05	BORING ID
	FINAL DREDGE GRADE (APPROXIMATE) (AQEA, 2013)
	FUTURE 2H:1V SLOPE (AQEA, 2013)
	FORMER TOPOGRAPHY (AQEA, 2013)
	CURRENT TOPOGRAPHY (AXIS, 2013)
●	TOTAL PCB CONCENTRATION EXCEEDS 50 mg/kg
●	TOTAL PCB CONCENTRATION IS BETWEEN 1 AND 50 mg/kg
●	TOTAL PCB CONCENTRATION IS LESS THAN 1 mg/kg, OR NOT DETECTED
mg/kg	MILLIGRAM PER KILOGRAM
MHHW	MEAN HIGHER HIGH WATER (+11.1' MLLW)
MLLW	MEAN LOWER LOW WATER
PCB	POLYCHLORINATED BIPHENYL
TBD	TO BE DETERMINED
TD	TOTAL DEPTH

REFERENCES

ANCHOR QEA, LLC (AQEA) AND FARALLON CONSULTING L.L.C. 2012.PHASE 2 GEOPROBE INVESTIGATION SUMMARY REPORT. JORGENSEN FORGE OUTFALL SITE. AUGUST 8.

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AQEA, 2013b. BID SET DRAWINGS, JORGENSEN FORGE EARLY ACTION AREA, SEATTLE, WA. MAY.

AXIS SURVEY & MAPPING, 2013. JORGENSEN FORGE FACILITY, EXCAVATION EXHIBIT. SEPTEMBER 12.

FLOYD|SNIDER, 2011. SOURCE CONTROL ACTION COMPLETION REPORT. MAY 27.

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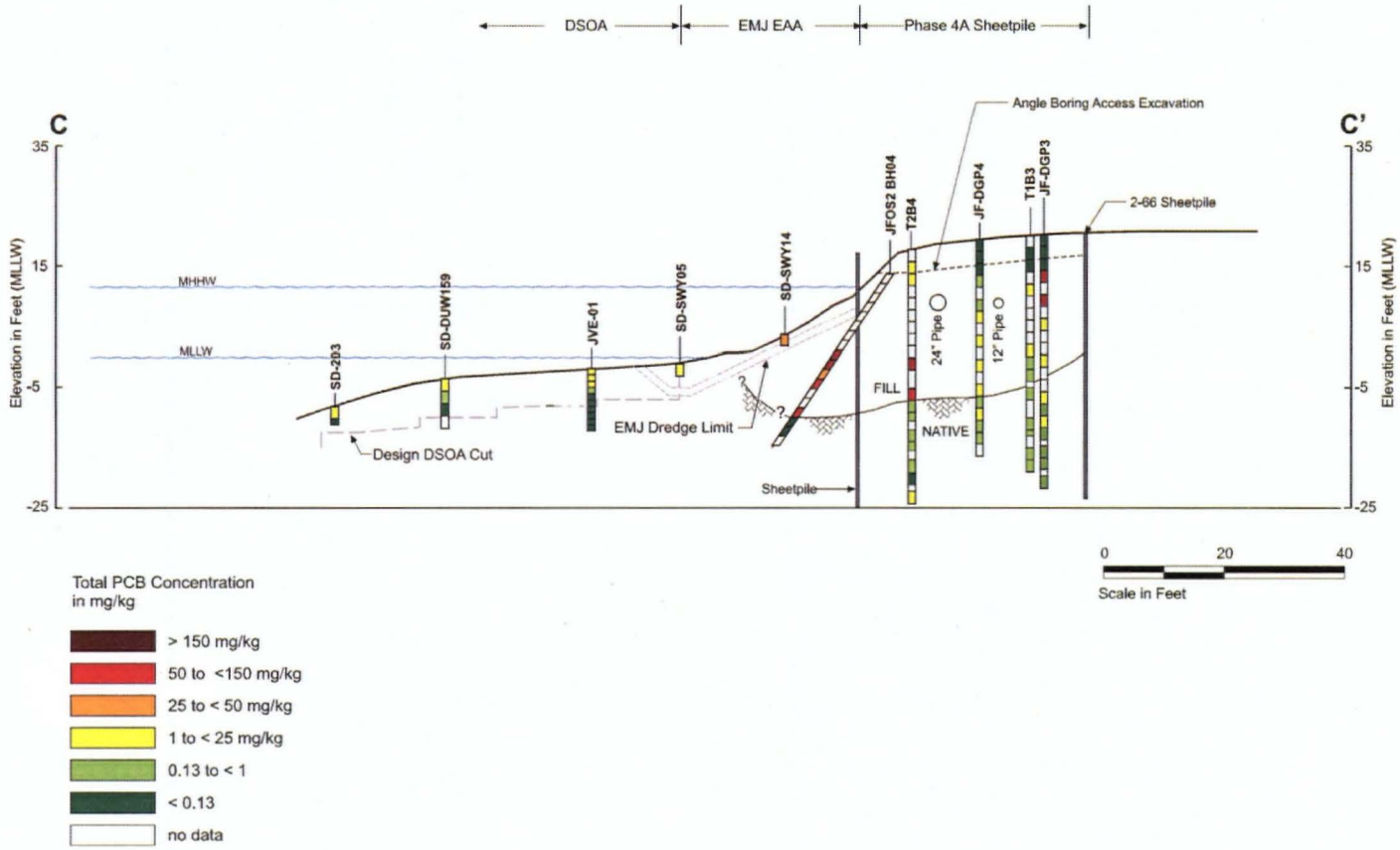
CAD FILE: 0995-001-03_PL04A_FIG5B

PROJECT NAME: JORGENSEN FORGE OUTFALL SITE
PROJECT NUMBER: 10-2011-0017
STREET ADDRESS: 8531 EAST MARGINAL WAY SOUTH
CITY, STATE: SEATTLE, WASHINGTON

0 5 10 20
APPROXIMATE SCALE IN FEET

FIGURE 5B
CROSS SECTIONS C - C' : D - D'

P:\0995 JORGENSEN FORGE CORPORATION\TECHNICAL\CAD\PROPERTY LINE OUTFALL\20131029 EPA SUBMITTAL\0995-001-03 PL04A FIG5.DWG 11/6/2013



DRAFT - FOR DISCUSSION PURPOSES

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Jorgensen Forge Phase 4A
Outfall Site
Seattle/Tukwila, Washington

Figure X
Chemistry Section C-C'