APPENDIX G

Daily Water Quality Monitoring Forms

SOUTHWEST BANK
RE-EXCAVATION WATER QUALITY MONITORING

Report Date 8/12/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 8/5/2014
Time Period: 8:30 AM to 12:00 PM
Activity: Shoreline Excavation: Intensive Monitoring — Flood Tide
Comments: Boeing conducting debris removal for SW Bank re-excavation. Near-surface samples in low salinity surface flow down river of debris removal. Ambient upstream between Boeing and Jorgensen. Deeper near-bottom samples (in salt wedge) collected up river of Boeing. Near bottom ambient collected down river of South Park Bridge.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface (Inshore) Down River				Near Surface (Offshore) Down River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	9:19	10:17	9:45	10:17	9:32	10:17	10:02	10:17
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.2	4	5.3	4	5.3	4	5.9	4
Temp. (°C)	19.04	19.05	18.81	19.05	18.96	19.05	19.13	19.05
DO (mg/L)	7.81	7.94	7.85	7.94	7.87	7.94	7.88	7.94
pH (units)	7.23	7.31	7.28	7.31	7.25	7.31	7.23	7.31
Sal. (ppt)	6.8	3.5	5.6	3.5	7	3.5	7	3.5
Sample ID	-0411	-0415	-0413	-0415	-0412	-0415	-0414	-0415

Near-Bottom Samples

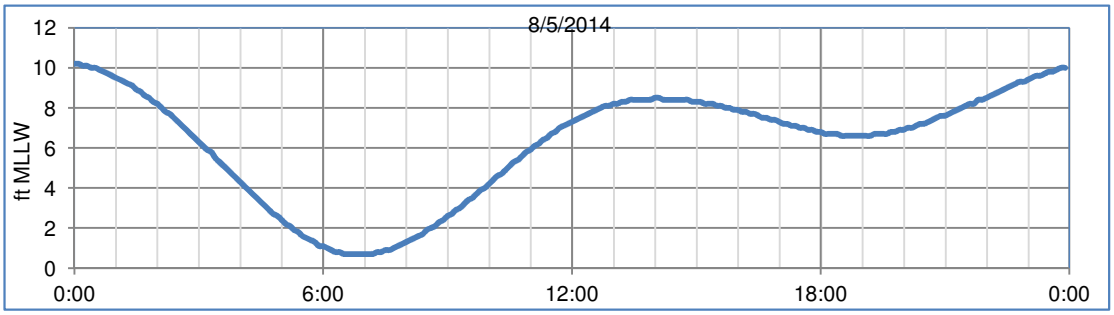
	Near Bottom (Inshore) Up River				Near Bottom (Offshore) Up River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	10:40	11:54	11:17	11:55	10:57	11:56	11:30	11:56
Depth (ft)	8.6	8.6	9.7	9.7	22.1	22.2	22.5	22.2
Turb. (NTU)	12.3	9.5	10.2	8.5	6.1	5.7	4.2	5.7
Temp. (°C)	14.09	14.86	14.31	14.49	13.52	13.43	13.53	13.43
DO (mg/L)	6.69	7.23	6.83	7.11	6.91	6.88	6.92	6.88
pH (units)	7.45	7.54	7.48	7.54	7.54	7.57	7.55	7.57
Sal. (ppt)	26.9	24	26.7	25.4	28.59	28.8	28.6	28.8
Sample ID	-0416	0:00	-0418	—	-0417	—	-0419	—
	Submitted		Submitted					

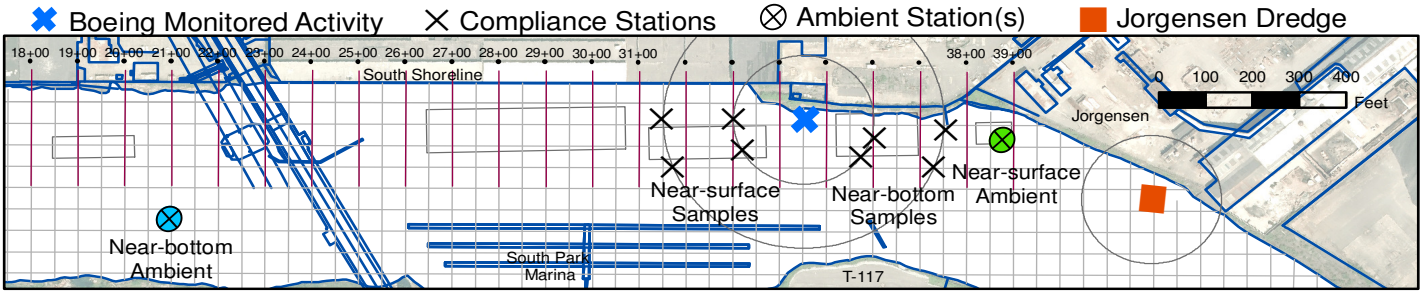
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

6:52 AM	0.7 L
2:05 PM	8.5 H
6:51 PM	6.6 L
12:00 AM	
Sunrise	5:52 AM
Sunset	8:37 PM

Tide Curve





Data Entry

Date 8/5/2014

Activity Shoreline Excavation

Monitoring Level Intensive Monitoring

Start Time: 8:30

End Time: 12:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:19		10:17		9:45		10:17	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.2		4	9	5.3		4	9
Temp. (°C)	19.04		19.05	19.35	18.81		19.05	19.35
DO (mg/L)	7.81		7.94	≤ 6 mg/L	7.85		7.94	≤ 6 mg/L
pH (Units)	7.23		7.31	< 7.0 or >7.81	7.28		7.31	< 7.0 or >7.81
Sal. (ppt)	6.8		3.5		5.6		3.5	
Sample ID	-0411		-0415		-0413		-0415	
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:32		10:17		10:02		10:17	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.3		4	9	5.9		4	9
Temp. (°C)	18.96		19.05	19.35	19.13		19.05	19.35
DO (mg/L)	7.87		7.94	≤ 6 mg/L	7.88		7.94	≤ 6 mg/L
pH (Units)	7.25		7.31	< 7.0 or >7.81	7.23		7.31	< 7.0 or >7.81
Sal. (ppt)	7		3.5		7		3.5	
Sample ID	-0412		-0415		-0414		-0415	
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:40		11:54		11:17		11:55	
Depth (ft)	8.6		8.6		9.7		9.7	
Turb. (NTU)	12.3		9.5	14.5	10.2		8.5	13.5
Temp. (°C)	14.09		14.86	15.79	14.31		14.49	15.45
DO (mg/L)	6.69		7.23	≤ 6 mg/L	6.83		7.11	≤ 6 mg/L
pH (Units)	7.45		7.54	<7.04 and >8.04	7.48		7.54	<7.04 and >8.04
Sal. (ppt)	26.9		24		26.7		25.4	
Sample ID	-0416		-0420		-0418			
Analyze	☑ Submitted				☑ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:57		11:56		11:30		11:56	
Depth (ft)	22.1		22.2		22.5		22.2	
Turb. (NTU)	6.1		5.7	10.7	4.2		5.7	10.7
Temp. (°C)	13.52		13.43	14.48	13.53		13.43	14.48
DO (mg/L)	6.91		6.88	≤ 6 mg/L	6.92		6.88	≤ 6 mg/L
pH (Units)	7.54		7.57	<7.07 and >8.07	7.55		7.57	<7.07 and >8.07
Sal. (ppt)	28.59		28.8		28.6		28.8	
Sample ID	-0417				-0419			
Analyze	☐ Submitted				☐ Submitted			

Report Date 8/12/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 8/6/2014
Time Period: 8:30 AM to 12:00 PM
Activity: Shoreline Excavation: Intensive Monitoring — Flood Tide
Comments: Inshore compliance station (150 ft & 300 ft) collected mid-depth in less than 6 ft of water. Offshore compliance stations included near surface station downriver of Boeing operations and near-bottom station upriver of Boeing operations. Jorgensen not dredging.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Mid-depth (Inshore) Down River				Near Surface (Offshore) Down River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	9:08	10:22	9:24	10:20	9:58	10:20	9:43	10:20
Depth (ft)	3	3	2	2	2	2	2	2
Turb. (NTU)	5.1	3.7	4.4	3	5	3	3.5	3
Temp. (°C)	18.6	18.53	19	18.77	19.03	18.77	19.02	18.77
DO (mg/L)	7.5	7.7	7.75	7.8	7.78	7.8	7.76	7.8
pH (units)	7.12	7.21	7.2	7.22	7.21	7.22	7.29	7.22
Sal. (ppt)	8.9	10.16	6.4	8.97	6.45	8.97	5.95	8.97
Sample ID	-0421	—	-0422	-0425	-0424	-0425	-0423	-0425

Near-Bottom Samples

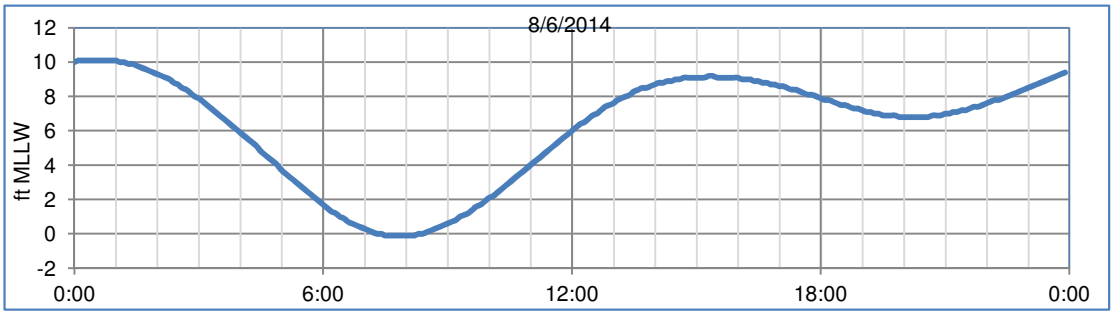
	Near Bottom (Inshore) not collected				Near Bottom (Offshore) Up River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	—	—	—	—	10:44	11:33	11:04	11:35
Depth (ft)	—	—	—	—	6.6	6.6	10.8	10.8
Turb. (NTU)	—	—	—	—	5.2	9.8	10.6	13.6
Temp. (°C)	—	—	—	—	15.6	15.62	14.65	14.74
DO (mg/L)	—	—	—	—	7.16	7.16	6.56	6.89
pH (units)	—	—	—	—	7.27	7.44	7.45	7.5
Sal. (ppt)	—	—	—	—	18.42	21.75	25.48	24.59
Sample ID	—	—	—	—	-0426	—	-0427	-0428

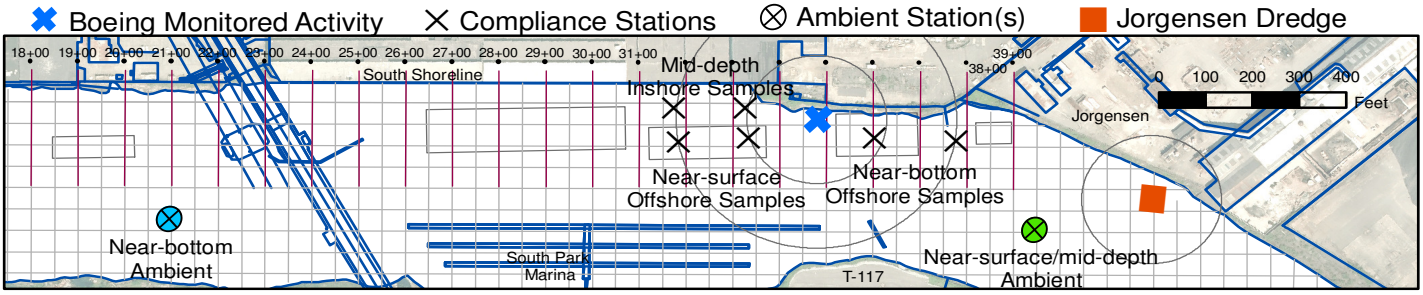
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

12:33 AM	10.2 H
7:50 AM	-0.1 L
3:21 PM	9.2 H
8:13 PM	6.8 L
Sunrise	5:54 AM
Sunset	8:36 PM

Tide Curve





Data Entry

Date 8/6/2014

Activity Shoreline Excavation

Monitoring Level Intensive Monitoring

Start Time: 8:30

End Time: 12:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:08		10:22		9:24		10:20	
Depth (ft)	3		3		2		2	
Turb. (NTU)	5.1		3.7	8.7	4.4		3	8
Temp. (°C)	18.6		18.53	18.83	19		18.77	19.07
DO (mg/L)	7.5		7.7	≤ 6 mg/L	7.75		7.8	≤ 6 mg/L
pH (Units)	7.12		7.21	< 7.0 or >7.71	7.2		7.22	< 7.0 or >7.72
Sal. (ppt)	8.9		10.16		6.4		8.97	
Sample ID	-0421				-0422		-0425	
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:58		10:20		9:43		10:20	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5		3	8	3.5		3	8
Temp. (°C)	19.03		18.77	19.07	19.02		18.77	19.07
DO (mg/L)	7.78		7.8	≤ 6 mg/L	7.76		7.8	≤ 6 mg/L
pH (Units)	7.21		7.22	< 7.0 or >7.72	7.29		7.22	< 7.0 or >7.72
Sal. (ppt)	6.45		8.97		5.95		8.97	
Sample ID	-0424		-0425		-0423		-0425	
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:44		11:33		11:04		11:35	
Depth (ft)	6.6		6.6		10.8		10.8	
Turb. (NTU)	5.2		9.8	14.8	10.6		13.6	18.6
Temp. (°C)	15.6		15.62	16.50	14.65		14.74	15.68
DO (mg/L)	7.16		7.16	≤ 6 mg/L	6.56		6.89	≤ 6 mg/L
pH (Units)	7.27		7.44	< 7.0 or >7.94	7.45		7.5	<7 and >8
Sal. (ppt)	18.42		21.75		25.48		24.59	
Sample ID	-0426				-0427		-0428	
Analyze	☐ Submitted				☐ Submitted			

Report Date 8/12/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 8/7/2014
Time Period: 9:00 AM to 12:00 PM
Activity: Shoreline Excavation: Intensive Monitoring — Flood Tide
Comments: Inshore compliance stations collected at mid-depth in 6 ft or less of water. Offshore compliance stations include near surface samples down river of Boeing activities and near bottom samples upriver of Boeing. Field duplicate collected at downstream ambient station used for deeper near bottom samples. Filter blank and rinsate blank collected.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Mid-depth (Inshore) Down River				Near Surface (Offshore) Down River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	9:13	10:26	9:29	10:26	9:50	10:26	10:09	10:26
Depth (ft)	2.5	2	3	2	2	2	2	2
Turb. (NTU)	6.2	4.4	4.4	4.4	6.4	4.4	5	4.4
Temp. (°C)	18.61	19.5	18.78	19.5	19.03	19.5	19.22	19.5
DO (mg/L)	7.55	7.94	7.74	7.94	7.73	7.94	7.9	7.94
pH (units)	7.09	7.24	7.19	7.24	7.16	7.24	7.25	7.24
Sal. (ppt)	8.3	3.88	5.6	3.88	5.9	3.88	5.24	3.88
Sample ID	-0429	—	-0430	—	-0431	-0433	-0432	—

Near-Bottom Samples

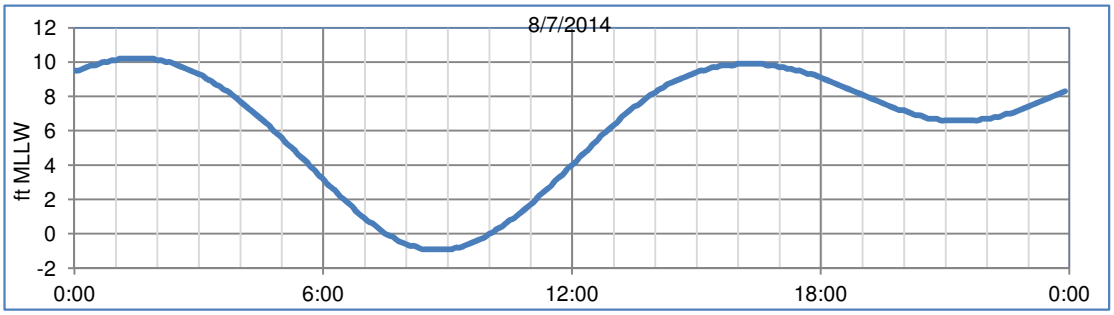
	Near Bottom (Inshore) Not Collected				Near Bottom (Offshore) Up River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	—	—	—	—	10:52	11:32	11:54 *	11:31
Depth (ft)	—	—	—	—	15	15	11.5	11.5
Turb. (NTU)	—	—	—	—	10.1	5.3	7.4 *	4.2
Temp. (°C)	—	—	—	—	14.37	13.73	14.35	14.05
DO (mg/L)	—	—	—	—	6.3	6.73	6.32	6.74
pH (units)	—	—	—	—	7.35	7.5	7.36	7.48
Sal. (ppt)	—	—	—	—	26.13	28.15	25.95	27.1
Sample ID	—	—	—	—	-0434	0436/0437	-0435	—
					Submitted			

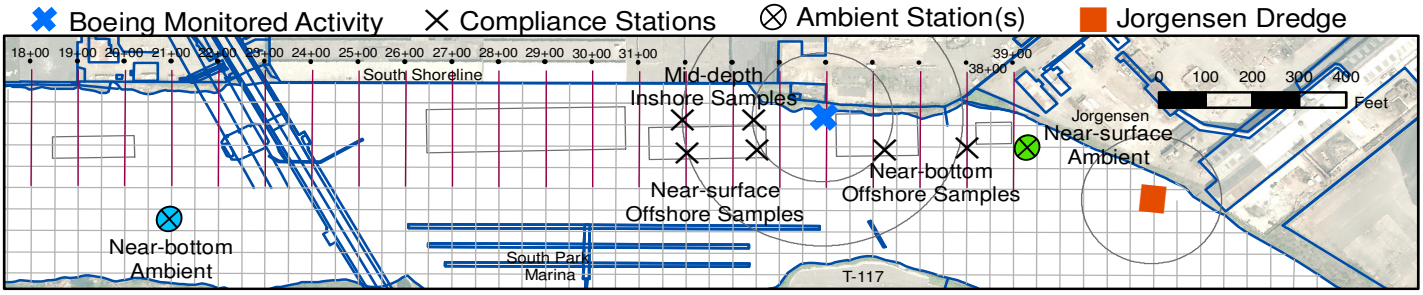
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

1:31 AM	10.2 H
8:46 AM	-0.9 L
4:16 PM	9.9 H
9:21 PM	6.6 L
Sunrise	5:55 AM
Sunset	8:34 PM

Tide Curve





Data Entry

Date 8/7/2014

Activity Shoreline Excavation

nclude near surface samples Intensive Monitoring

Start Time: 9:00

End Time: 12:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:13		10:26		9:29		10:26	
Depth (ft)	2.5		2		3		2	
Turb. (NTU)	6.2		4.4	9.4	4.4		4.4	9.4
Temp. (°C)	18.61		19.5	19.80	18.78		19.5	19.80
DO (mg/L)	7.55		7.94	≤ 6 mg/L	7.74		7.94	≤ 6 mg/L
pH (Units)	7.09		7.24	< 7.0 or >7.74	7.19		7.24	< 7.0 or >7.74
Sal. (ppt)	8.3		3.88		5.6		3.88	
Sample ID	-0429				-0430			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:50		10:26		10:09		10:26	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6.4		4.4	9.4	5		4.4	9.4
Temp. (°C)	19.03		19.5	19.80	19.22		19.5	19.80
DO (mg/L)	7.73		7.94	≤ 6 mg/L	7.9		7.94	≤ 6 mg/L
pH (Units)	7.16		7.24	< 7.0 or >7.74	7.25		7.24	< 7.0 or >7.74
Sal. (ppt)	5.9		3.88		5.24		3.88	
Sample ID	-0431		-0433		-0432			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:52		11:32		11:09	11:54	11:31	
Depth (ft)	15		15		11.5		11.5	
Turb. (NTU)	10.1		5.3	10.3	10.2	7.4	4.2	9.2
Temp. (°C)	14.37		13.73	14.75	14.35		14.05	15.05
DO (mg/L)	6.3		6.73	≤ 6 mg/L	6.32		6.74	≤ 6 mg/L
pH (Units)	7.35		7.5	<7 and >8	7.36		7.48	< 7.0 or >7.98
Sal. (ppt)	26.13		28.15		25.95		27.1	
Sample ID	-0434		0436/0437		-0435			
Analyze	☑ Submitted				☐ Submitted			

Report Date 8/12/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 8/8/2014
Time Period: 10:15 AM to 1:15 PM
Activity: Shoreline Excavation: Intensive Monitoring — Flood Tide
Comments: Jorgensen and Boeing are both dredging. Inshore compliance stations collected at mid-depth in 7 ft or less of water. Offshore compliance stations include near surface samples downriver down river of Boeing activities and near bottom samples upriver of Boeing.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Mid-depth (Inshore) Down River				Near Surface (Offshore) Down River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	13:08 *	11:38	10:52	11:36	11:08	11:36	11:20	11:36
Depth (ft)	3.5 *	3.5	2.5	2	2	2	2	2
Turb. (NTU)	7.8	6.4	7.6	6.7	8.5	6.7	6	6.7
Temp. (°C)	18.26 *	18.4	19.42	19.42	19.47	19.42	19.36	19.42
DO (mg/L)	7.97	7.92	8.19	8.21	8.51	8.21	8.16	8.21
pH (units)	7.19	7.22	7.3	7.35	7.43	7.35	7.47	7.35
Sal. (ppt)	6.5	7.8	4.4	5.22	4.3	5.22	5.6	5.22
Sample ID	-0440	—	-0441	-0444	-0442	-0444	-0443	-0444

Near-Bottom Samples

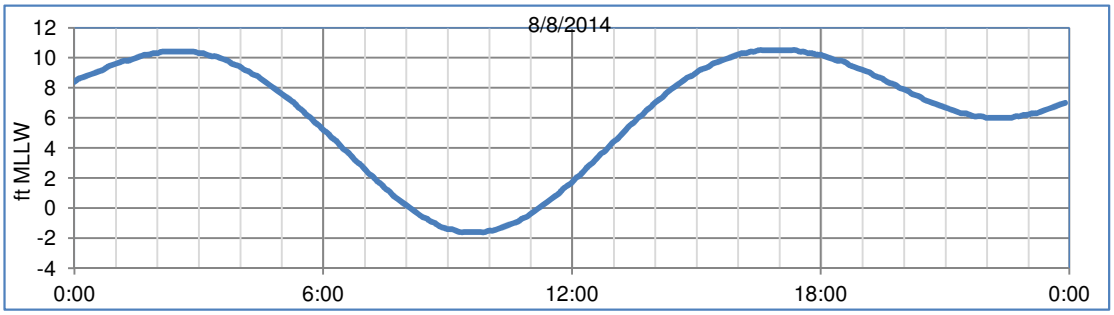
	Near Bottom (Inshore) Not Collected				Near Bottom (Offshore) Up River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	—	—	—	—	12:13	12:45	11:56	12:45
Depth (ft)	—	—	—	—	16.8	16.5	16.5	16.5
Turb. (NTU)	—	—	—	—	14.1	10.6	14.5	10.6
Temp. (°C)	—	—	—	—	14.4	14.13	14.64	14.3
DO (mg/L)	—	—	—	—	6.7	7	6.54	7
pH (units)	—	—	—	—	7.48	7.56	7.41	7.56
Sal. (ppt)	—	—	—	—	26.35	27.13	25.5	27.13
Sample ID	—	—	—	—	-0416	-0447	-0445	-0447

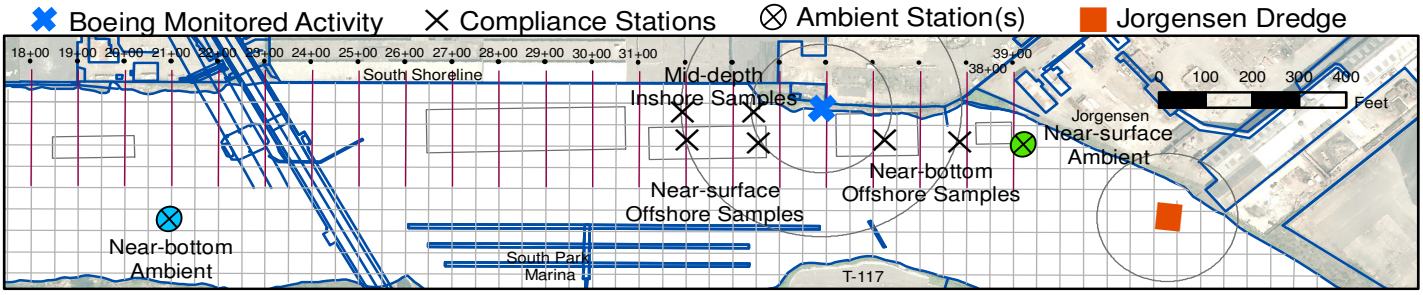
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

2:30 AM	10.4 H
9:38 AM	-1.6 L
4:58 PM	10.5 H
10:17 PM	6 L
Sunrise	5:56 AM
Sunset	8:33 PM

Tide Curve





Data Entry

Date 8/8/2014

Activity Shoreline Excavation

Monitoring Level Intensive Monitoring

Start Time: 10:15

End Time: 13:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:37	13:08	11:38		10:52		11:36	
Depth (ft)	3.5	3.5	3.5		2.5		2	
Turb. (NTU)	7.8		6.4	11.4	7.6		6.7	11.7
Temp. (°C)	18.87	18.26	18.4	18.70	19.42		19.42	19.72
DO (mg/L)	7.97		7.92	≤ 6 mg/L	8.19		8.21	≤ 6 mg/L
pH (Units)	7.19		7.22	< 7.0 or >7.72	7.3		7.35	< 7.0 or >7.85
Sal. (ppt)	6.5		7.8		4.4		5.22	
Sample ID	-0440				-0441		-0444	
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:08		11:36		11:20		11:36	
Depth (ft)	2		2		2		2	
Turb. (NTU)	8.5		6.7	11.7	6		6.7	11.7
Temp. (°C)	19.47		19.42	19.72	19.36		19.42	19.72
DO (mg/L)	8.51		8.21	≤ 6 mg/L	8.16		8.21	≤ 6 mg/L
pH (Units)	7.43		7.35	< 7.0 or >7.85	7.47		7.35	< 7.0 or >7.85
Sal. (ppt)	4.3		5.22		5.6		5.22	
Sample ID	-0442		-0444		-0443		-0444	
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:13		12:45		11:56		12:45	
Depth (ft)	16.8		16.5		16.5		16.5	
Turb. (NTU)	14.1		10.6	15.6	14.5		10.6	15.6
Temp. (°C)	14.4		14.13	15.12	14.64		14.3	15.28
DO (mg/L)	6.7		7	≤ 6 mg/L	6.54		7	≤ 6 mg/L
pH (Units)	7.48		7.56	<7.06 and >8.06	7.41		7.56	<7.06 and >8.06
Sal. (ppt)	26.35		27.13		25.5		27.13	
Sample ID	-0416		-0447		-0445		-0447	
Analyze	☐ Submitted				☐ Submitted			

Report Date 8/12/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 8/9/2014
Time Period: 8:45 AM to 10:45 AM
Activity: Shoreline Excavation: Intensive Monitoring — Ebb Tide
Comments: Jorgensen was not dredging during Boeing's activities. Inshore compliance stations collected at mid-depth in 7.4 ft or less of water. Offshore compliance stations include near surface and near bottom samples collected down river of Boeing.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Mid-depth (Inshore) Down River				Near Surface (Offshore) Down River			
	150 ft	Ambient	300 ft	Ambient	150 ft	Ambient	300 ft	Ambient
Time	10:08	10:35	10:22	10:34	8:58	9:39	9:16	9:39
Depth (ft)	3.7	3.7	2.5	2.5	2	2	2	2
Turb. (NTU)	8.7	5.2	7.2	4.6	4.5	4.6	5.6	4.6
Temp. (°C)	19.41	19.47	19.54	19.44	18.7	19.27	18.76	19.27
DO (mg/L)	8.36	8.52	8.49	8.54	8.1	8.42	8.15	8.42
pH (units)	7.36	7.42	7.49	7.49	7.28	7.45	7.35	7.45
Sal. (ppt)	3.3	3.28	3.1	3.3	7	3.6	5.6	3.6
Sample ID	-0454 Submitted	—	-0455	—	-0448	-0452	-0450	-0452

Near-Bottom Samples

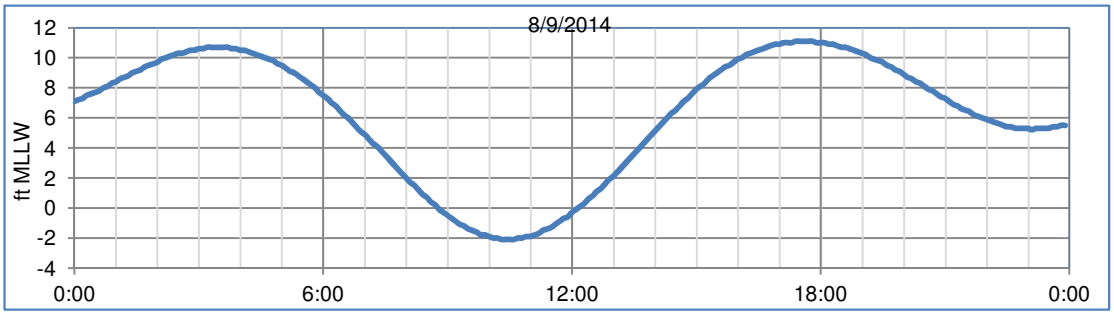
Parameter	Near Bottom (Inshore) Not Collected				Near Bottom (Offshore) Down River			
	150 ft	Ambient	300 ft	Ambient	150 ft	Ambient	300 ft	Ambient
Time	—	—	—	—	9:05	9:49	10:43 *	9:49
Depth (ft)	—	—	—	—	9.1	9.2	9.2	9.2
Turb. (NTU)	—	—	—	—	5.9	5.1	7.3	5.1
Temp. (°C)	—	—	—	—	17.01	17.14	15.37 *	17.14
DO (mg/L)	—	—	—	—	7.55	7.68	7.61	7.68
pH (units)	—	—	—	—	7.3	7.31	7.31	7.31
Sal. (ppt)	—	—	—	—	15.12	12.1	12.52	12.1
Sample ID	—	—	—	—	-0449	-0453	-0451	-0453

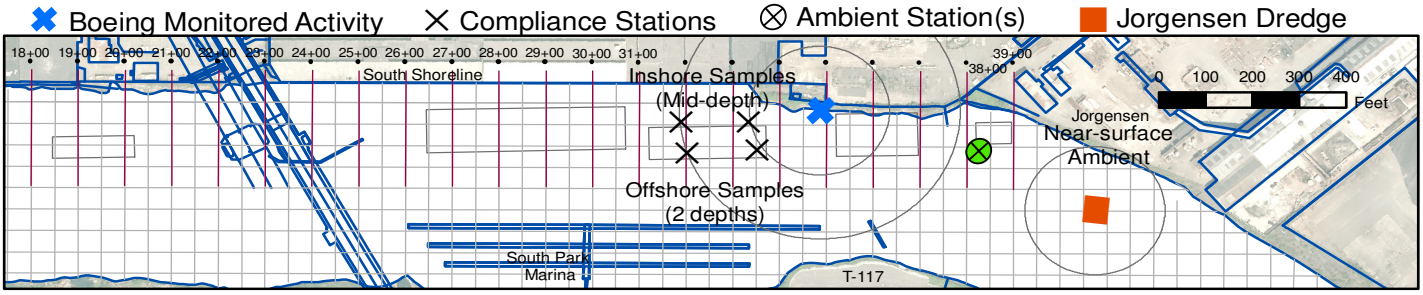
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

3:28 AM	10.7 H
10:27 AM	-2.1 L
5:36 PM	11.1 H
11:07 PM	5.2 L
Sunrise	5:57 AM
Sunset	8:31 PM

Tide Curve





Data Entry

Date 8/9/2014

Activity Shoreline Excavation

Monitoring Level Intensive Monitoring

Start Time: 8:45

End Time: 10:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:08		10:35		10:22		10:34	
Depth (ft)	3.7		3.7		2.5		2.5	
Turb. (NTU)	8.7		5.2	10.2	7.2		4.6	9.6
Temp. (°C)	19.41		19.47	19.77	19.54		19.44	19.74
DO (mg/L)	8.36		8.52	≤ 6 mg/L	8.49		8.54	≤ 6 mg/L
pH (Units)	7.36		7.42	< 7.0 or >7.92	7.49		7.49	< 7.0 or >7.99
Sal. (ppt)	3.3		3.28		3.1		3.3	
Sample ID	-0454				-0455			
Analyze	☑ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	8:58		9:39		9:16		9:39	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.5		4.6	9.6	5.6		4.6	9.6
Temp. (°C)	18.7		19.27	19.57	18.76		19.27	19.57
DO (mg/L)	8.1		8.42	≤ 6 mg/L	8.15		8.42	≤ 6 mg/L
pH (Units)	7.28		7.45	< 7.0 or >7.95	7.35		7.45	< 7.0 or >7.95
Sal. (ppt)	7		3.6		5.6		3.6	
Sample ID	-0448		-0452		-0450		-0452	
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:05		9:49		9:24	10:43	9:49	
Depth (ft)	9.1		9.2		9.2		9.2	
Turb. (NTU)	5.9		5.1	10.1	7.3		5.1	10.1
Temp. (°C)	17.01		17.14	17.44	17.58	15.37	17.14	17.44
DO (mg/L)	7.55		7.68	≤ 6 mg/L	7.61		7.68	≤ 6 mg/L
pH (Units)	7.3		7.31	< 7.0 or >7.81	7.31		7.31	< 7.0 or >7.81
Sal. (ppt)	15.12		12.1		12.52		12.1	
Sample ID	-0449		-0453		-0451		-0453	
Analyze	☐ Submitted				☐ Submitted			

Report Date 8/12/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 8/10/2014
Time Period: 8:45 AM to 11:30 AM
Activity: Shoreline Excavation: Intensive Monitoring — Ebb Tide
Comments: Jorgensen was not dredging during Boeing's activities. Jorgensen moved barges at 9:45 and 10:15. Began backfilling at 11:00. Second upstream ambient measured at tide change. *Near botttom ambient at deepest water depth, main channel, up river of Boeing and down river of Jorgensen barges.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface/ Mid-depth (Inshore) Down River				Near Surface (Inshore) Down River			
	150 ft	Ambient	300 ft	Ambient	150 ft	Ambient	300 ft	Ambient
Time	9:24	10:09	9:45	10:08	10:32	11:17	10:57	11:17
Depth (ft)	4	4	2	2	2	2	2	2
Turb. (NTU)	8.8	4.8	5.7	4.5	4.6	8.7	12	8.7
Temp. (°C)	17.95	19.3	18.86	19.56	19.54	19.8	19.68	19.8
DO (mg/L)	7.89	8.55	8.18	8.6	8.67	8.86	8.57	8.86
pH (units)	7.15	7.29	7.27	7.34	7.4	7.44	7.38	7.44
Sal. (ppt)	11.5	3.42	6.45	2.75	3	2	2.9	2
Sample ID	-0456	—	-0457	-0459	-0461	—	-0463	—

Near-Bottom Samples

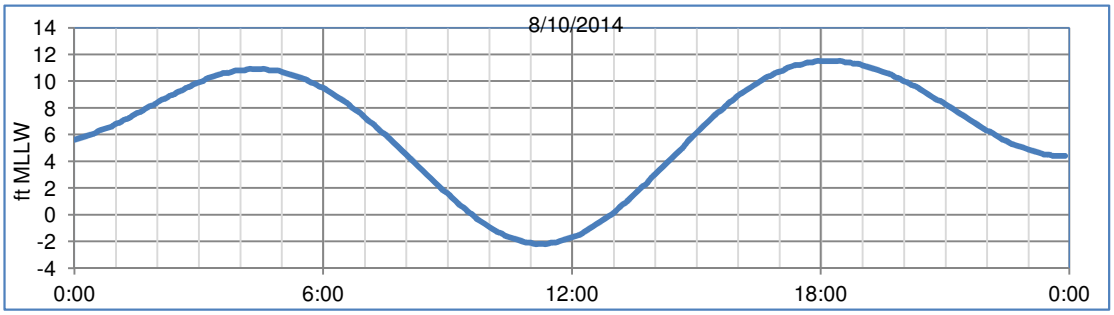
Parameter	Near Bottom (Inshore) Down River				Near Bottom (Offshore) Down River			
	150 ft	Ambient	300 ft	Ambient	150 ft	Ambient*	300 ft	Ambient*
Time	—	—	9:53	10:17	10:38	11:19	11;06	11:19
Depth (ft)	—	—	9.3	9.3	11.8	9.7	12.9	9.7
Turb. (NTU)	—	—	6.3	6.2	9.4	15.5	13	15.5
Temp. (°C)	—	—	17.46	17.37	16.4	16.94	15.4	16.94
DO (mg/L)	—	—	7.81	7.63	7.5	8.14	7.22	8.14
pH (units)	—	—	7.32	7.38	7.36	7.29	7.34	7.29
Sal. (ppt)	—	—	13.68	13.6	21	19.5	22.98	19.5
Sample ID	—	—	-0458	-0460	-0462	—	-0464	—

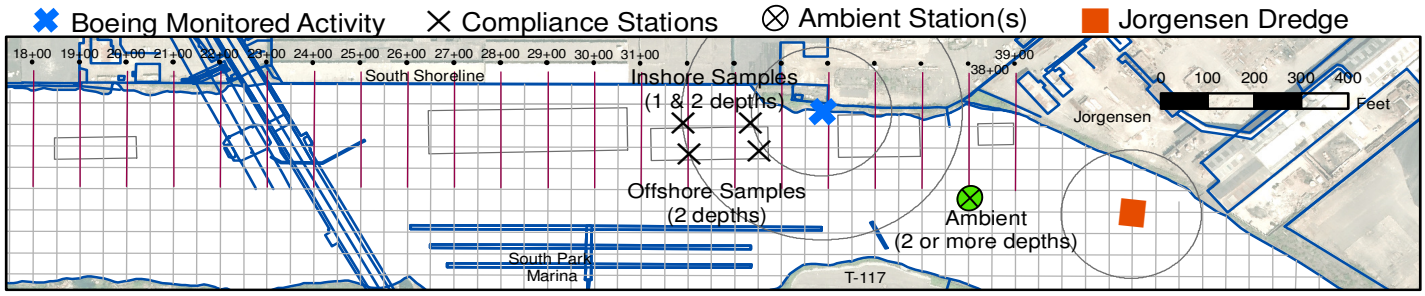
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

4:24 AM	10.9 H
11:15 AM	-2.2 L
6:12 PM	11.5 H
11:55 PM	4.4 L
Sunrise	5:59 AM
Sunset	8:30 PM

Tide Curve





Data Entry

Date 8/10/2014

Activity

Monitoring Level

Start Time:

End Time:

Tide Cycle:

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:24		10:09		9:45		10:08	
Depth (ft)	4		4		2		2	
Turb. (NTU)	8.8		4.8	9.8	5.7		4.5	9.5
Temp. (°C)	17.95		19.3	19.60	18.86		19.56	19.86
DO (mg/L)	7.89		8.55	≤ 6 mg/L	8.18		8.6	≤ 6 mg/L
pH (Units)	7.15		7.29	< 7.0 or >7.79	7.27		7.34	< 7.0 or >7.84
Sal. (ppt)	11.5		3.42		6.45		2.75	
Sample ID	-0456				-0457		-0459	
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:32		11:17		10:57		11:17	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.6		8.7	13.7	12		8.7	13.7
Temp. (°C)	19.54		19.8	20.10	19.68		19.8	20.10
DO (mg/L)	8.67		8.86	≤ 6 mg/L	8.57		8.86	≤ 6 mg/L
pH (Units)	7.4		7.44	< 7.0 or >7.94	7.38		7.44	< 7.0 or >7.94
Sal. (ppt)	3		2		2.9		2	
Sample ID	-0461				-0463			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time					9:53		10:17	
Depth (ft)					9.3		9.3	
Turb. (NTU)				—	6.3		6.2	11.2
Temp. (°C)				—	17.46		17.37	17.67
DO (mg/L)				—	7.81		7.63	≤ 6 mg/L
pH (Units)				—	7.32		7.38	< 7.0 or >7.88
Sal. (ppt)					13.68		13.6	
Sample ID					-0458		-0460	
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:38		11:19		11;06		11:19	
Depth (ft)	11.8		9.7		12.9		9.7	
Turb. (NTU)	9.4		15.5	20.5	13		15.5	20.5
Temp. (°C)	16.4		16.94	17.24	15.4		16.94	17.24
DO (mg/L)	7.5		8.14	≤ 6 mg/L	7.22		8.14	≤ 6 mg/L
pH (Units)	7.36		7.29	< 7.0 or >7.79	7.34		7.29	< 7.0 or >7.79
Sal. (ppt)	21		19.5		22.98		19.5	
Sample ID	-0462				-0464			
Analyze	☐ Submitted				☐ Submitted			

Report Date 8/12/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 8/11/2014
Time Period: 9:30 AM to 12:30 PM
Activity: Shoreline Excavation: Intensive Monitoring — Ebb Tide
Comments: Jorgensen was not dredging during Boeing's activities.
* Near botttom ambient at deepest water depth, main channel, up river of Boeing and down river of Jorgensen barges.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface (Offshore) Downriver				Near Surface (Inshore) Down River			
	150 ft	Ambient	300 ft	Ambient	150 ft	Ambient	300 ft	Ambient
Time	10:21	11:08	10:46	11:08	11:36	12:20	12:04	12:20
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.6	4	3.8	4	3.6	4.1	3.2	4.1
Temp. (°C)	18.87	19.6	19.35	19.6	20.12	20.2	20.43	20.2
DO (mg/L)	8.19	8.7	8.45	8.7	8.96	9.18	9.05	9.18
pH (units)	7.21	7.54	7.36	7.54	7.63	7.68	7.73	7.68
Sal. (ppt)	8.9	4.3	6.2	4.3	2.7	2	2.2	2
Sample ID	-0465	-0469	-0467	-0469	-0471	—	-0473	—

Near-Bottom Samples

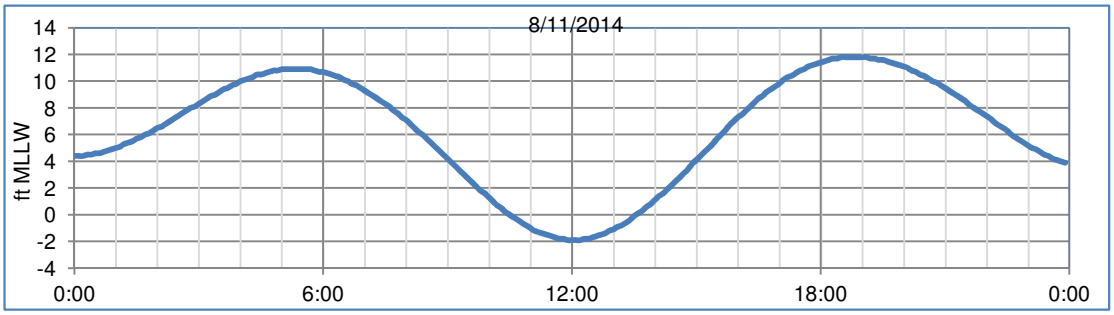
Parameter	Near Bottom (Offshore) Down River				Near Bottom (Inshore) Down River			
	150 ft	Ambient *	300 ft	Ambient	150 ft	Ambient	300 ft	Ambient
Time	10:30	11:16	10:54	11:15	11:46	12:20	12:11	12:21
Depth (ft)	11.2	10.2	6.7	6.7	3	2	6.3	6.3
Turb. (NTU)	5.5	4.7	8.5	4.7	4.9	4.1	5.7	4.3
Temp. (°C)	15.7	16.6	18.63	18.94	20.19	20.2	18.72	18.76
DO (mg/L)	7.28	7.66	8.11	8.46	8.92	9.18	8.23	8.44
pH (units)	7.33	7.39	7.39	7.49	7.63	7.68	7.35	7.44
Sal. (ppt)	22.2	15.8	10.1	7.1	2.48	2	8.12	6.3
Sample ID	-0466	0:00	-0468	—	-0472	—	-0474	—

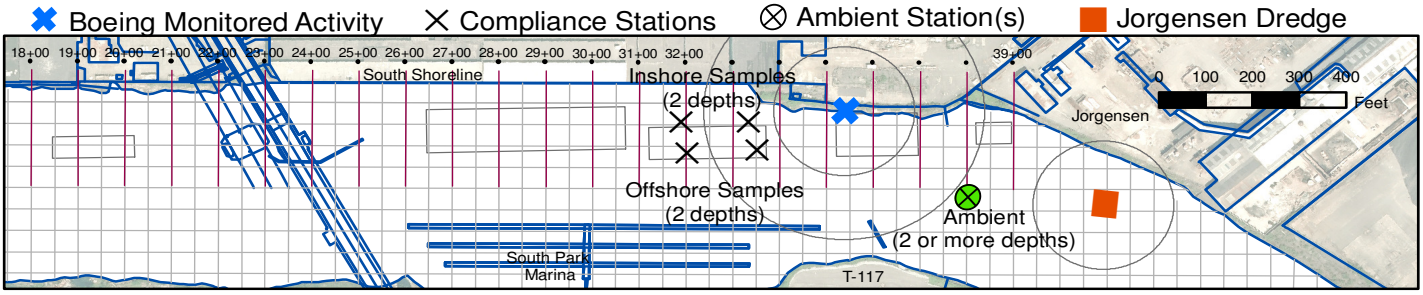
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

5:20 AM	10.9 H
12:01 PM	-1.9 L
6:49 PM	11.8 H
12:00 AM	
Sunrise	6:00 AM
Sunset	8:28 PM

Tide Curve





Data Entry

Date 8/11/2014

Activity Shoreline Excavation

Monitoring Level Intensive Monitoring

Start Time: 9:30

End Time: 12:30

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:21		11:08		10:46		11:08	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.6		4	9	3.8		4	9
Temp. (°C)	18.87		19.6	19.90	19.35		19.6	19.90
DO (mg/L)	8.19		8.7	≤ 6 mg/L	8.45		8.7	≤ 6 mg/L
pH (Units)	7.21		7.54	<7.04 and >8.04	7.36		7.54	<7.04 and >8.04
Sal. (ppt)	8.9		4.3		6.2		4.3	
Sample ID	-0465		-0469		-0467		-0469	
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:36		12:20		12:04		12:20	
2		2		2		2	
3.6		4.1	9.1	3.2		4.1	9.1
20.12		20.2	20.50	20.43		20.2	20.50
8.96		9.18	≤ 6 mg/L	9.05		9.18	≤ 6 mg/L
7.63		7.68	<7.18 and >8.18	7.73		7.68	<7.18 and >8.18
2.7		2		2.2		2	
-0471				-0473			
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:30		11:16		10:54		11:15	
Depth (ft)	11.2		10.2		6.7		6.7	
Turb. (NTU)	5.5		4.7	9.7	8.5		4.7	9.7
Temp. (°C)	15.7		16.6	16.90	18.63		18.94	19.24
DO (mg/L)	7.28		7.66	≤ 6 mg/L	8.11		8.46	≤ 6 mg/L
pH (Units)	7.33		7.39	< 7.0 or >7.89	7.39		7.49	< 7.0 or >7.99
Sal. (ppt)	22.2		15.8		10.1		7.1	
Sample ID	-0466		-0470		-0468			
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:46		12:20		12:11		12:21	
3		2		6.3		6.3	
4.9		4.1	9.1	5.7		4.3	9.3
20.19		20.2	20.50	18.72		18.76	19.06
8.92		9.18	≤ 6 mg/L	8.23		8.44	≤ 6 mg/L
7.63		7.68	<7.18 and >8.18	7.35		7.44	< 7.0 or >7.94
2.48		2		8.12		6.3	
-0472				-0474			
☐ Submitted				☐ Submitted			

Report Date 8/19/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 8/13/2014
Time Period: 10:45 AM to 1:45 PM
Activity: Shoreline Excavation: Routine Monitoring — Ebb Tide
Comments: Jorgensen was not dredging during Boeing's activities. Boeing switched from closed bucket to open bucket excavator for debris removal @ approximately 12:00. Weather overcast with heavy rains during night and early morning.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface/Mid-depth (Inshore) Down River				Near Surface (Offshore) Down River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	11:28	12:21	11:51	12:19	12:47	13:31	13:10	13:31
Depth (ft)	4	4	2	2	2	2	2	2
Turb. (NTU)	8.5	4.2	7.6	4.4	6.8	4.5	5.4	4.5
Temp. (°C)	17.87	18.05	18.06	18.14	19	19.19	19.27	19.19
DO (mg/L)	7.75	7.75	7.94	7.83	8.11	8.26	8.25	8.26
pH (units)	7.41	7.4	7.48	7.46	7.54	7.73	7.59	7.73
Sal. (ppt)	11.53	10.45	11.1	9.71	5.9	5.16	4.7	5.16
Sample ID	-0475	—	-0476	-0478	-0480	—	-0482	—

Near-Bottom Samples

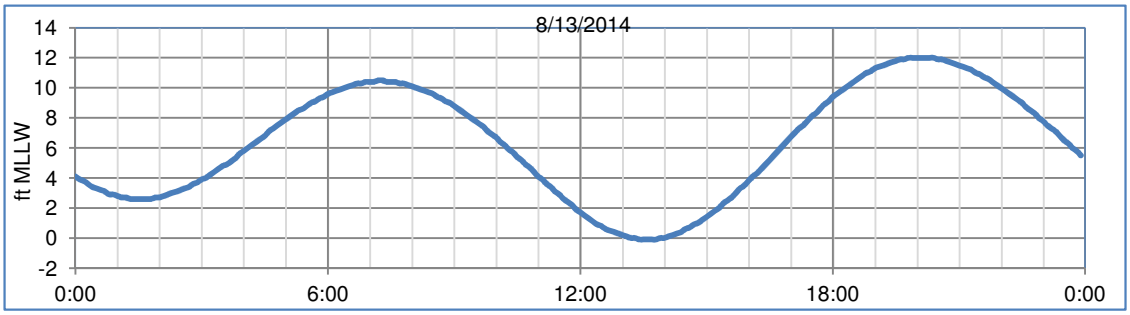
	Near Bottom (Inshore) Down River				Near Bottom (Offshore) Down River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	—	—	12:01	12:29	12:57	13:34	13:20	13:32
Depth (ft)	—	—	6	6	12.4	12.4	7.4	7.4
Turb. (NTU)	—	—	7.4	4.5	4.3	4.2	7.2	5
Temp. (°C)	—	—	17.83	18.24	15.43	14.48	17.68	17.82
DO (mg/L)	—	—	7.9	7.87	7.17	6.79	7.89	7.68
pH (units)	—	—	7.49	7.54	7.51	7.52	7.5	7.42
Sal. (ppt)	—	—	12.3	9.9	21.96	25.66	12.18	11.6
Sample ID	—	—	-0477	-0479	-0481	—	-0483	—

* = Value reflects confirmed result or parameters measured during water sample collection

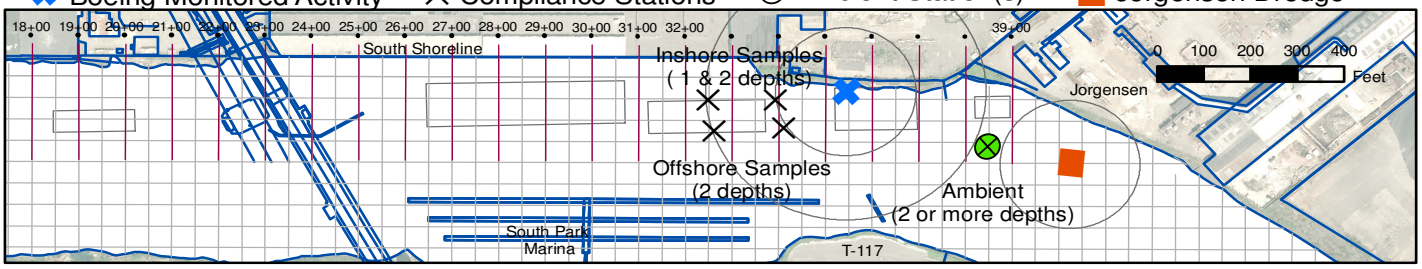
Daily Tides

1:32 AM	2.6 L
7:15 AM	10.5 H
1:35 PM	-0.1 L
8:06 PM	12 H
Sunrise	6:03 AM
Sunset	8:25 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s) ■ Jorgensen Dredge



Data Entry

Date 8/13/2014

Activity Shoreline Excavation

Monitoring Level Routine Monitoring

Start Time: 10:45

End Time: 13:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:28		12:21		11:51		12:19	
Depth (ft)	4		4		2		2	
Turb. (NTU)	8.5		4.2	9.2	7.6		4.4	9.4
Temp. (°C)	17.87		18.05	18.35	18.06		18.14	18.44
DO (mg/L)	7.75		7.75	≤ 6 mg/L	7.94		7.83	≤ 6 mg/L
pH (Units)	7.41		7.4	< 7.0 or >7.9	7.48		7.46	< 7.0 or >7.96
Sal. (ppt)	11.53		10.45		11.1		9.71	
Sample ID	-0475				-0476		-0478	
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:47		13:31		13:10		13:31	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6.8		4.5	9.5	5.4		4.5	9.5
Temp. (°C)	19		19.19	19.49	19.27		19.19	19.49
DO (mg/L)	8.11		8.26	≤ 6 mg/L	8.25		8.26	≤ 6 mg/L
pH (Units)	7.54		7.73	<7.23 and >8.23	7.59		7.73	<7.23 and >8.23
Sal. (ppt)	5.9		5.16		4.7		5.16	
Sample ID	-0480				-0482			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time					12:01		12:29	
Depth (ft)					6		6	
Turb. (NTU)				—	7.4		4.5	9.5
Temp. (°C)				—	17.83		18.24	18.54
DO (mg/L)				—	7.9		7.87	≤ 6 mg/L
pH (Units)				—	7.49		7.54	<7.04 and >8.04
Sal. (ppt)					12.3		9.9	
Sample ID					-0477		-0479	
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:57		13:34		13:20		13:32	
Depth (ft)	12.4		12.4		7.4		7.4	
Turb. (NTU)	4.3		4.2	9.2	7.2		5	10
Temp. (°C)	15.43		14.48	15.44	17.68		17.82	18.12
DO (mg/L)	7.17		6.79	≤ 6 mg/L	7.89		7.68	≤ 6 mg/L
pH (Units)	7.51		7.52	<7.02 and >8.02	7.5		7.42	< 7.0 or >7.92
Sal. (ppt)	21.96		25.66		12.18		11.6	
Sample ID	-0481				-0483			
Analyze	☐ Submitted				☐ Submitted			

Report Date 8/19/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 8/18/2014
Time Period: 7:30 AM to 9:00 AM
Activity: Shoreline Excavation: Routine Monitoring — Flood Tide
Comments: Jorgensen was not dredging during Boeing's activities. Jorgensen moving barges upriver of Boeing prior to the start of monitoring.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface (Inshore) Down River				Near Surface (Offshore) Down River			
	150 ft	Ambient	300 ft	Ambient	150 ft	Ambient	300 ft	Ambient
Time	8:12 *	8:07	7:57	8:07	7:52	8:07	8:01	8:07
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4 *	3.6	7.1	3.6	3.1	3.6	4.8	3.6
Temp. (°C)	18.45	18.49	18.51	18.49	8.78	18.49	18.36	18.49
DO (mg/L)	7.98	8.04	8.06	8.04	18.18	8.04	8.01	8.04
pH (units)	7.24	7.26	7.25	7.25	7.29	7.25	7.27	7.25
Sal. (ppt)	4.6	5.14	3.95	5.14	3.76	5.14	5.3	5.14
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

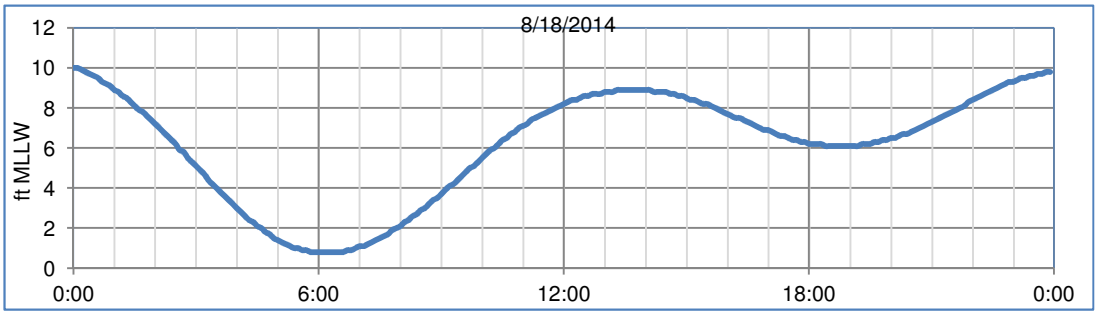
Parameter	Near Bottom (Inshore) Up River				Near Bottom (Offshore) Up River			
	150 ft	Ambient	300 ft	Ambient	150 ft	Ambient	300 ft	Ambient
Time	9:04 *	8:50	8:34	8:50	8:29	8:51	9:36	8:51
Depth (ft)	10.4 *	13.1	12.5	13.1	17.7	17	13.6	17
Turb. (NTU)	8 *	3.4	6.5	3.4	5.7	6.8	6.6	6.8
Temp. (°C)	14.02	13.56	13.88	13.56	13.78	13.37	13.81	13.37
DO (mg/L)	6.37	6.45	6.27	6.45	6.25	6.31	6.37	6.31
pH (units)	7.36	7.54	7.43	7.54	7.45	7.57	7.5	7.57
Sal. (ppt)	26.36	27.95	26.8	27.95	27	28.5	26.97	28.5
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

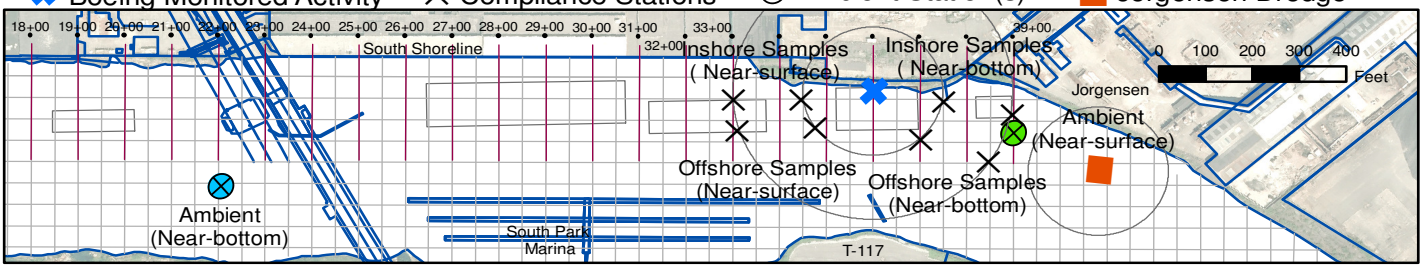
Daily Tides

6:10 AM	0.8 L
1:43 PM	8.9 H
6:46 PM	6.1 L
12:00 AM	
Sunrise	6:09 AM
Sunset	8:16 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s) ■ Jorgensen Dredge



Data Entry

Date 8/18/2014

Activity Shoreline Excavation

Monitoring Level Routine Monitoring

Start Time: 7:30

End Time: 9:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	7:46	8:12	8:07		7:57		8:07	
Depth (ft)	2		2		2		2	
Turb. (NTU)	8.8	4	3.6	8.6	7.1		3.6	8.6
Temp. (°C)	18.45		18.49	18.79	18.51		18.49	18.79
DO (mg/L)	7.98		8.04	≤ 6 mg/L	8.06		8.04	≤ 6 mg/L
pH (Units)	7.24		7.26	< 7.0 or >7.76	7.25		7.25	< 7.0 or >7.75
Sal. (ppt)	4.6		5.14		3.95		5.14	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	7:52		8:07		8:01		8:07	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.1		3.6	8.6	4.8		3.6	8.6
Temp. (°C)	8.78		18.49	18.79	18.36		18.49	18.79
DO (mg/L)	18.18		8.04	≤ 6 mg/L	8.01		8.04	≤ 6 mg/L
pH (Units)	7.29		7.25	< 7.0 or >7.75	7.27		7.25	< 7.0 or >7.75
Sal. (ppt)	3.76		5.14		5.3		5.14	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	8:23	9:04	8:50		8:34		8:50	
Depth (ft)	13.1	10.4	13.1		12.5		13.1	
Turb. (NTU)	9.1	8	3.4	8.4	6.5		3.4	8.4
Temp. (°C)	14.02		13.56	14.60	13.88		13.56	14.60
DO (mg/L)	6.37		6.45	≤ 6 mg/L	6.27		6.45	≤ 6 mg/L
pH (Units)	7.36		7.54	<7.04 and >8.04	7.43		7.54	<7.04 and >8.04
Sal. (ppt)	26.36		27.95		26.8		27.95	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	8:29		8:51		9:36		8:51	
Depth (ft)	17.7		17		13.6		17	
Turb. (NTU)	5.7		6.8	11.8	6.6		6.8	11.8
Temp. (°C)	13.78		13.37	14.43	13.81		13.37	14.43
DO (mg/L)	6.25		6.31	≤ 6 mg/L	6.37		6.31	≤ 6 mg/L
pH (Units)	7.45		7.57	<7.07 and >8.07	7.5		7.57	<7.07 and >8.07
Sal. (ppt)	27		28.5		26.97		28.5	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 8/20/2014
Time Period: 9:15 AM to 11:45 AM
Activity: Shoreline Excavation: Routine Monitoring — Flood Tide
Comments: Jorgensen started dredging at 9:47 and moved the dredge barge twice during the period Boeing was dredging and field crew was conducting monitoring.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface (Inshore) Down Stream 150 ft	Ambient	300 ft	Ambient	Near Surface (Offshore) Down Stream 150 ft	Ambient	300 ft	Ambient
Time	10:08 *	10:01	9:37	10:01	10:12 *	10:01	10:16 *	10:01
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.6 *	4	5.2	4	3.3	4	3.4	4
Temp. (°C)	18.75 *	18.57	18.65	18.57	18.72 *	18.57	18.62 *	18.57
DO (mg/L)	7.91	7.79	7.85	7.79	7.98	7.79	7.93	7.79
pH (units)	7.23	7.3	7.3	7.3	7.39	7.3	7.33	7.3
Sal. (ppt)	5.3	7.9	7.04	7.9	4.98	7.9	6.2	7.9
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

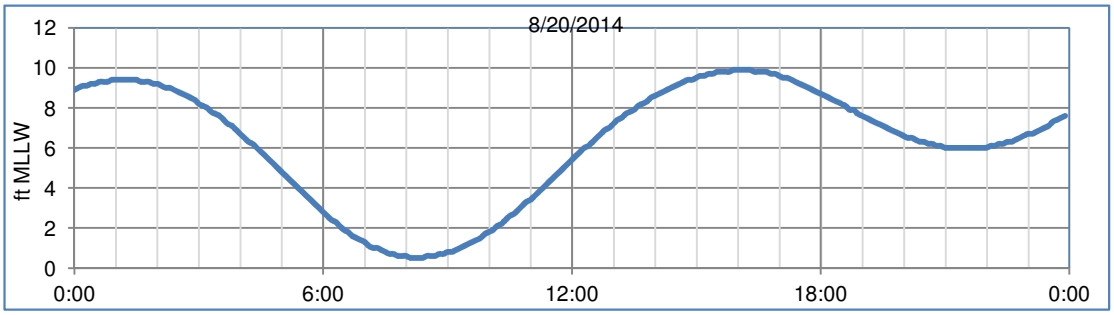
Parameter	Near Bottom (Inshore) Up Stream 150 ft	Ambient	300 ft	Ambient	Near Bottom (Offshore) Up Stream 150 ft	Ambient	300 ft	Ambient
Time	10:22	11:00	11:37 *	11:01	11:25 *	11:03	11:32 *	11:01
Depth (ft)	10	10	18.3 *	15.6	17.1 *	18	14.9 *	15.6
Turb. (NTU)	4.9	5.9	4.5	3.9	4.2	4.3	3.8	3.9
Temp. (°C)	14.45	14.8	13.76	13.53	13.72	13.49	13.76	13.53
DO (mg/L)	6.11	6.76	6.15 *	6.15	6.15 *	6.08	6.18 *	6.15
pH (units)	7.37	7.52	7.47	7.53	7.43	7.54	7.46	7.53
Sal. (ppt)	24.73	23.5	27.4	28	27.5	28.2	27.37	28
Sample ID	—	—	—	—	—	—	—	—

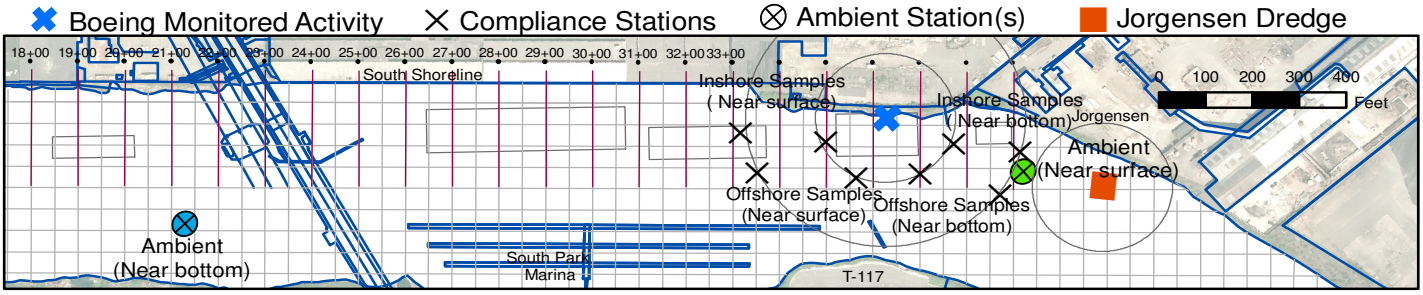
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

1:11 AM	9.4 H
8:16 AM	0.5 L
4:06 PM	9.9 H
9:30 PM	6 L
Sunrise	6:12 AM
Sunset	8:12 PM

Tide Curve





Data Entry

Date 8/20/2014

Activity Shoreline Excavation

Monitoring Level Routine Monitoring

Start Time: 9:15

End Time: 11:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:31	10:08	10:01		9:37		10:01	
Depth (ft)	2		2		2		2	
Turb. (NTU)	17.9	5.6	4	9	5.2		4	9
Temp. (°C)	19	18.75	18.57	18.87	18.65		18.57	18.87
DO (mg/L)	7.91		7.79	≤ 6 mg/L	7.85		7.79	≤ 6 mg/L
pH (Units)	7.23		7.3	< 7.0 or >7.8	7.3		7.3	< 7.0 or >7.8
Sal. (ppt)	5.3		7.9		7.04		7.9	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:42	10:12	10:01		9:46	10:16	10:01	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.3		4	9	3.4		4	9
Temp. (°C)	19.1	18.72	18.57	18.87	18.99	18.62	18.57	18.87
DO (mg/L)	7.98		7.79	≤ 6 mg/L	7.93		7.79	≤ 6 mg/L
pH (Units)	7.39		7.3	< 7.0 or >7.8	7.33		7.3	< 7.0 or >7.8
Sal. (ppt)	4.98		7.9		6.2		7.9	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:22		11:00		10:41	11:37	11:01	
Depth (ft)	10		10		16.2	18.3	15.6	
Turb. (NTU)	4.9		5.9	10.9	4.5		3.9	8.9
Temp. (°C)	14.45		14.8	15.74	13.76		13.53	14.57
DO (mg/L)	6.11		6.76	≤ 6 mg/L	5.96	6.15	6.15	≤ 6 mg/L
pH (Units)	7.37		7.52	<7.02 and >8.02	7.47		7.53	<7.03 and >8.03
Sal. (ppt)	24.73		23.5		27.4		28	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:27	11:25	11:03		10:35	11:32	11:01	
Depth (ft)	18	17.1	18		15.1	14.9	15.6	
Turb. (NTU)	4.2		4.3	9.3	3.8		3.9	8.9
Temp. (°C)	13.72		13.49	14.53	13.76		13.53	14.57
DO (mg/L)	5.92	6.15	6.08	≤ 6 mg/L	5.94	6.18	6.15	≤ 6 mg/L
pH (Units)	7.43		7.54	<7.04 and >8.04	7.46		7.53	<7.03 and >8.03
Sal. (ppt)	27.5		28.2		27.37		28	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 8/26/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 8/25/2014
Time Period: 9:00 AM to 11:15 AM
Activity: Shoreline Excavation: Routine Monitoring — Ebb Tide
Comments: Jorgensen dredging inshore at downstream end of project area. Boeing placing backfill with bulldozer. Visible turbidity from Jorgensen observed by Boeing beach personnel. Ambient for Near Bottom (Offshore) stations collected at deepest available depth up river of monitoring station.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface (Inshore) Down River				Near Surface (Offshore) Down River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	9:22	9:41	9:30	9:50	10:27	10:42	10:19	10:42
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	17.7	53	6.5	53	3.2	3	6.4	3
Temp. (°C)	17.15	17.21	17.3	17.21	17.48	17.66	17.3	17.66
DO (mg/L)	7.87	7.92	8	7.92	8.1	8.23	8.07	8.23
pH (units)	7.36	7.4	7.37	7.4	7.4	7.43	7.45	7.43
Sal. (ppt)	12	11.8	11.42	11.8	11.2	9.8	11.3	9.8
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

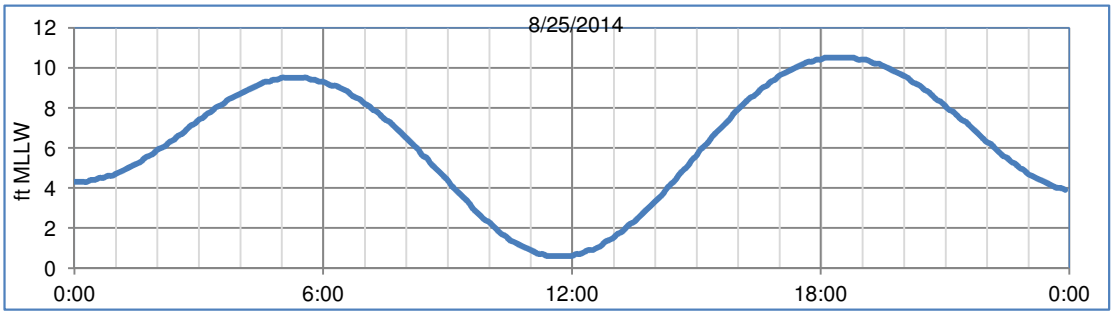
	Near Bottom (Inshore) Down River				Near Bottom (Offshore) Down River			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	9:52 *	9:45	10:00 *	9:44	10:28	10:36	10:20	10:36
Depth (ft)	8.9	9	7.3	7.3	16.9	14.7	17.4	14.7
Turb. (NTU)	11.2 *	9	19	15.4	11.4	22	14	22
Temp. (°C)	15.12	15.46	15.4 *	15.99	14.94	15.35	14.56	15.35
DO (mg/L)	6.81	6.93	7.34	7.19	6.9	6.84	6.7	6.84
pH (units)	7.41	7.48	7.39	7.46	7.5	7.5	7.51	7.5
Sal. (ppt)	22	21.2	18.2	19.7	23.4	22	25.3	22
Sample ID	—	—	—	—	—	—	—	—

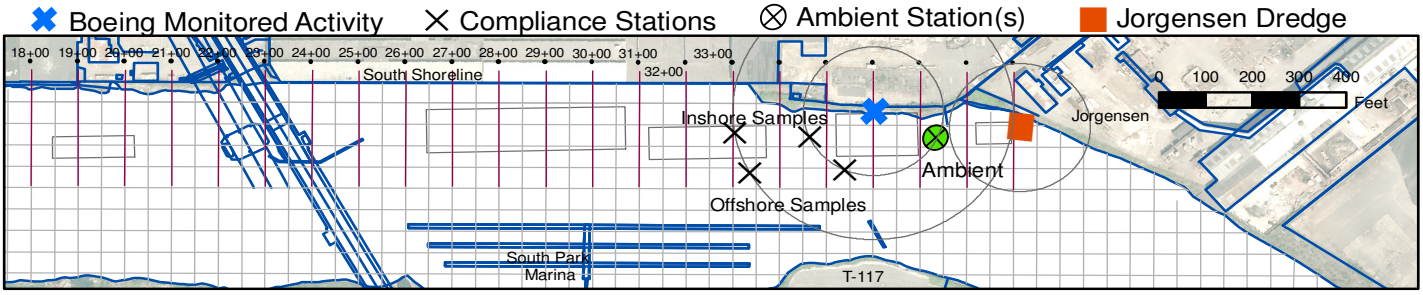
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

5:18 AM	9.5 H
11:42 AM	0.6 L
6:27 PM	10.5 H
12:00 AM	
Sunrise	6:19 AM
Sunset	8:03 PM

Tide Curve





Data Entry

Date 8/25/2014

Activity Shoreline Excavation

Monitoring Level Routine Monitoring

Start Time: 9:00

End Time: 11:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:22		9:41		9:30		9:50	
Depth (ft)	2		2		2		2	
Turb. (NTU)	17.7		53	58	6.5		53	58
Temp. (°C)	17.15		17.21	17.51	17.3		17.21	17.51
DO (mg/L)	7.87		7.92	≤ 6 mg/L	8		7.92	≤ 6 mg/L
pH (Units)	7.36		7.4	< 7.0 or >7.9	7.37		7.4	< 7.0 or >7.9
Sal. (ppt)	12		11.8		11.42		11.8	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:27		10:42		10:19		10:42	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.2		3	8	6.4		3	8
Temp. (°C)	17.48		17.66	17.96	17.3		17.66	17.96
DO (mg/L)	8.1		8.23	≤ 6 mg/L	8.07		8.23	≤ 6 mg/L
pH (Units)	7.4		7.43	< 7.0 or >7.93	7.45		7.43	< 7.0 or >7.93
Sal. (ppt)	11.2		9.8		11.3		9.8	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:24	9:52	9:45		9:32	10:00	9:44	
Depth (ft)	8.9		9		7.3		7.3	
Turb. (NTU)	49.9	11.2	9	14	19		15.4	20.4
Temp. (°C)	15.12		15.46	16.35	16.29	15.4	15.99	16.29
DO (mg/L)	6.81		6.93	≤ 6 mg/L	7.34		7.19	≤ 6 mg/L
pH (Units)	7.41		7.48	< 7.0 or >7.98	7.39		7.46	< 7.0 or >7.96
Sal. (ppt)	22		21.2		18.2		19.7	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:28		10:36		10:20		10:36	
Depth (ft)	16.9		14.7		17.4		14.7	
Turb. (NTU)	11.4		22	27	14		22	27
Temp. (°C)	14.94		15.35	16.25	14.56		15.35	16.25
DO (mg/L)	6.9		6.84	≤ 6 mg/L	6.7		6.84	≤ 6 mg/L
pH (Units)	7.5		7.5	<7 and >8	7.51		7.5	<7 and >8
Sal. (ppt)	23.4		22		25.3		22	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

DREDGE WATER QUALITY MONITORING

Report Date 9/27/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 9/24/2014
Time Period: 1:45 PM to 4:30 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in progress. All ambient station reading collected downstream near downstream in-situ WQ instrument in main channel.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Downstream Near Surface				Upstream Near Surface			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:07	14:55	14:31	14:55	15:31	16:18	15:55	16:18
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4.7	3.6	4	3.6	4.1	3.3	4.2	3.3
Temp. (°C)	16.56	16.63	16.67	16.63	16.77	16.68	16.63	16.68
DO (mg/L)	7.97	8.07	8.13	8.07	8.12	8.03	8.11	8.03
pH (units)	7.33	7.39	7.39	7.39	7.43	7.41	7.44	7.41
Sal. (ppt)	5.26	6.3	4.89	6.3	4.43	6.61	5.21	6.61
Sample ID	-0484	-0488	-0486	-0488	-0526	—	-0528	—

Near-Bottom Samples

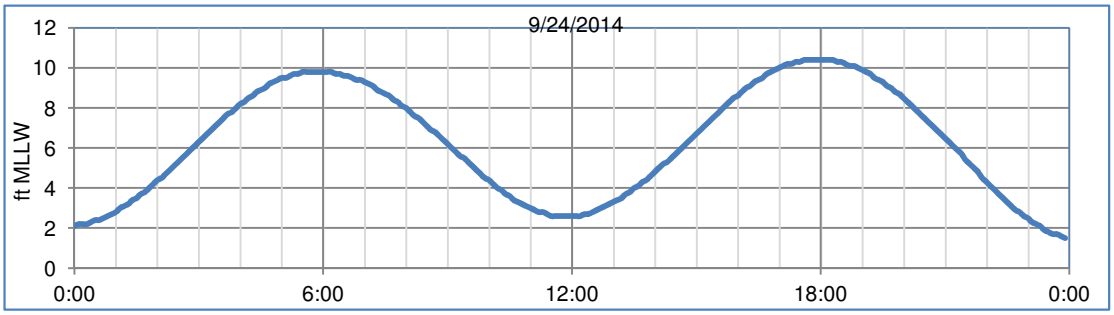
	Downstream Near Bottom				Upstream Near Bottom			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:16	15:04	14:40	15:06	15:39	16:19	16.:03	16:20
Depth (ft)	16.8	16.8	21.1	21	14.8	14.8	23.5	23.6
Turb. (NTU)	7	3.6	6.6	4.5	5.9	2.7	5.4	4.7
Temp. (°C)	13.71	13.42	13.56	13.38	13.52	13.46	13.43	13.38
DO (mg/L)	6.16	6.56	6.39	6.57	6.59	6.65	6.61	6.6
pH (units)	7.52	7.67	7.61	7.68	7.55	7.65	7.66	7.68
Sal. (ppt)	27.95	29.38	28.76	29.6	29	29.25	29.4	29.5
Sample ID	-0485	—	-0487	-0489	-0527	—	-0529	—
	Submitted							

* = Value reflects confirmed result or parameters measured during water sample collection

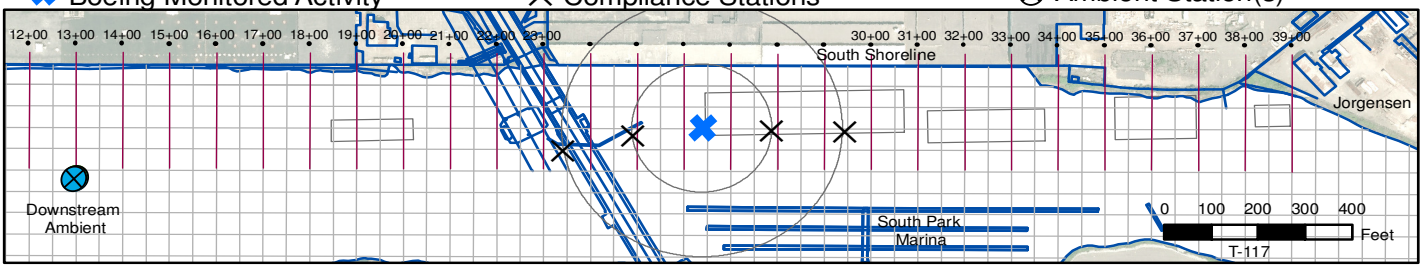
Daily Tides

5:53 AM	9.8 H
11:51 AM	2.6 L
5:56 PM	10.4 H
12:00 AM	
Sunrise	6:59 AM
Sunset	7:03 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 9/24/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 13:45

End Time: 16:30

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:07		14:55		14:31		14:55	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.7		3.6	8.6	4		3.6	8.6
Temp. (°C)	16.56		16.63	16.93	16.67		16.63	16.93
DO (mg/L)	7.97		8.07	≤ 6 mg/L	8.13		8.07	≤ 6 mg/L
pH (Units)	7.33		7.39	< 7.0 or >7.89	7.39		7.39	< 7.0 or >7.89
Sal. (ppt)	5.26		6.3		4.89		6.3	
Sample ID	-0484		-0488		-0486		-0488	
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:31		16:18		15:55		16:18	
2		2		2		2	
4.1		3.3	8.3	4.2		3.3	8.3
16.77		16.68	16.98	16.63		16.68	16.98
8.12		8.03	≤ 6 mg/L	8.11		8.03	≤ 6 mg/L
7.43		7.41	< 7.0 or >7.91	7.44		7.41	< 7.0 or >7.91
4.43		6.61		5.21		6.61	
-0526				-0528			
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:16		15:04		14:40		15:06	
Depth (ft)	16.8		16.8		21.1		21	
Turb. (NTU)	7		3.6	8.6	6.6		4.5	9.5
Temp. (°C)	13.71		13.42	14.47	13.56		13.38	14.43
DO (mg/L)	6.16		6.56	≤ 6 mg/L	6.39		6.57	≤ 6 mg/L
pH (Units)	7.52		7.67	<7.17 and >8.17	7.61		7.68	<7.18 and >8.18
Sal. (ppt)	27.95		29.38		28.76		29.6	
Sample ID	-0485				-0487		-0489	
Analyze	☑ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:39		16:19		16.:03		16:20	
14.8		14.8		23.5		23.6	
5.9		2.7	7.7	5.4		4.7	9.7
13.52		13.46	14.51	13.43		13.38	14.43
6.59		6.65	≤ 6 mg/L	6.61		6.6	≤ 6 mg/L
7.55		7.65	<7.15 and >8.15	7.66		7.68	<7.18 and >8.18
29		29.25		29.4		29.5	
-0527				-0529			
☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 9/25/2014
Time Period: 10:45 AM to 1:45 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Dredging in progress. Downstream ambient station used for all stations. Stations at 150 ft upstream and downstream sampled first followed by 300 ft stations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

1: Maximum depth available at ambient station

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:01	12:23	12:38	13:32	11:29	12:23	13:12	13:32
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.3	3.7	3.5	3.4	3.3	3.7	3.9	3.4
Temp. (°C)	15.97	15.92	16.07	16.2	15.92	15.92	16.2	16.2
DO (mg/L)	7.71	7.77	7.78	7.85	7.78	7.77	7.78	7.85
pH (units)	7.31	7.35	7.37	7.39	7.34	7.35	7.35	7.39
Sal. (ppt)	6.1	6.8	6.08	6.78	6	6.8	5.75	6.78
Sample ID	-0532	—	-0534	—	-0530	—	-0536	—

Near-Bottom Samples

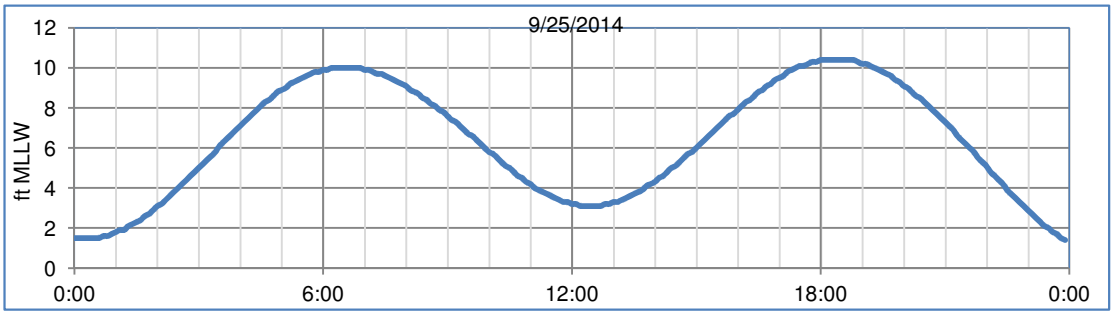
Parameter	Near Bottom Downstream 150 ft	Ambient [1]	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient [1]	300 ft	Ambient
Time	12:09	12:25	12:48	13:34	11:39	12:25	13:19	13:33
Depth (ft)	18.3	17.1	13.7	13.7	26.5	17.1	7.7	7.7
Turb. (NTU)	6.5	4.8	5.4	3.7	5	4.8	4.4	3.8
Temp. (°C)	13.6	13.62	13.81	13.62	13.57	13.62	15.69	15.28
DO (mg/L)	6.3	6.24	6.34	6.25	6.22	6.24	7.5	7.15
pH (units)	7.42	7.43	7.38	7.48	7.5	7.43	7.3	7.27
Sal. (ppt)	28.34	28.27	26.52	28.11	28.5	28.27	9.73	13
Sample ID	-0533	—	-0535	—	-0531	—	-0537	—

* = Value reflects confirmed result or parameters measured during water sample collection

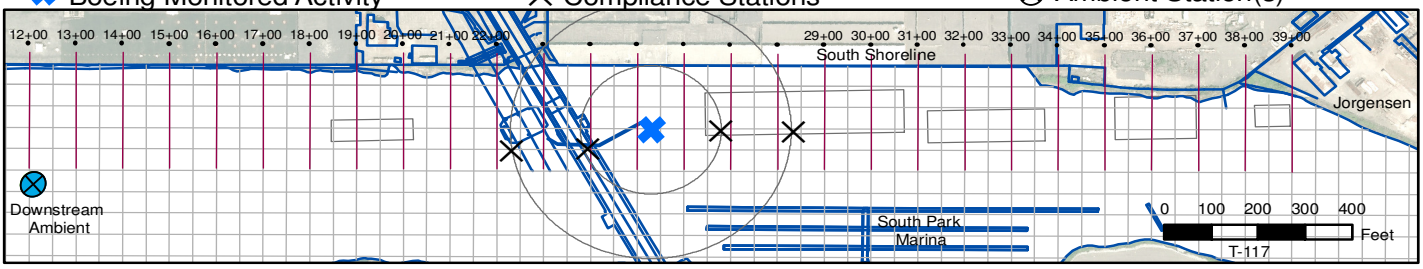
Daily Tides

12:17 AM	1.5 L
6:31 AM	10 H
12:26 PM	3.1 L
6:22 PM	10.4 H
Sunrise	7:00 AM
Sunset	7:01 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 9/25/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 10:45

End Time: 13:45

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:01		12:23		12:38		13:32	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.3		3.7	8.7	3.5		3.4	8.4
Temp. (°C)	15.97		15.92	16.22	16.07		16.2	16.50
DO (mg/L)	7.71		7.77	≤ 6 mg/L	7.78		7.85	≤ 6 mg/L
pH (Units)	7.31		7.35	< 7.0 or >7.85	7.37		7.39	< 7.0 or >7.89
Sal. (ppt)	6.1		6.8		6.08		6.78	
Sample ID	-0532				-0534			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:29		12:23		13:12		13:32	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.3		3.7	8.7	3.9		3.4	8.4
Temp. (°C)	15.92		15.92	16.22	16.2		16.2	16.50
DO (mg/L)	7.78		7.77	≤ 6 mg/L	7.78		7.85	≤ 6 mg/L
pH (Units)	7.34		7.35	< 7.0 or >7.85	7.35		7.39	< 7.0 or >7.89
Sal. (ppt)	6		6.8		5.75		6.78	
Sample ID	-0530				-0536			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:09		12:25		12:48		13:34	
Depth (ft)	18.3		17.1		13.7		13.7	
Turb. (NTU)	6.5		4.8	9.8	5.4		3.7	8.7
Temp. (°C)	13.6		13.62	14.65	13.81		13.62	14.65
DO (mg/L)	6.3		6.24	≤ 6 mg/L	6.34		6.25	≤ 6 mg/L
pH (Units)	7.42		7.43	< 7.0 or >7.93	7.38		7.48	< 7.0 or >7.98
Sal. (ppt)	28.34		28.27		26.52		28.11	
Sample ID	-0533				-0535			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:39		12:25		13:19		13:33	
Depth (ft)	26.5		17.1		7.7		7.7	
Turb. (NTU)	5		4.8	9.8	4.4		3.8	8.8
Temp. (°C)	13.57		13.62	14.65	15.69		15.28	16.18
DO (mg/L)	6.22		6.24	≤ 6 mg/L	7.5		7.15	≤ 6 mg/L
pH (Units)	7.5		7.43	< 7.0 or >7.93	7.3		7.27	< 7.0 or >7.77
Sal. (ppt)	28.5		28.27		9.73		13	
Sample ID	-0531				-0537			
Analyze	☐ Submitted				☐ Submitted			

Report Date 9/29/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 9/26/2014
Time Period: 11:45 AM to 2:15 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Dredging in progress. Downstream ambient station used for all station comparisons. Bridge pier interfers with down current positioning at 300 ft.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

1: Ambient collected at maximum water depth.

Near-Surface Samples

	Near Surface Upstream				Near Surface Downstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	12:08	12:31	11:47	12:31	13:16	13:57	13:39	13:57
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3	3.3	3	3.3	3.2	3.3	3.2	3.3
Temp. (°C)	16.02	16.07	16.05	16.07	16.39	16.6	16.57	16.6
DO (mg/L)	7.94	7.97	7.97	7.97	8	8.03	8.8	8.03
pH (units)	7.32	7.34	7.32	7.34	7.36	7.41	7.42	7.41
Sal. (ppt)	7.65	7.7	6.98	7.7	7.39	7.8	7.33	7.8
Sample ID	-0540	—	-0538	—	-0542	—	-0544	—

Near-Bottom Samples

	Near Bottom Upstream				Near Bottom Downstream			
Parameter	**150 ft**	**Ambient** [1]	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	12:18	12:37	11:54	12:33	13:23	13:59	13:45	14:01
Depth (ft)	22	17.2	7	7	10.83	10.8	18.9	18
Turb. (NTU)	4.4	4.3	3.1	3.8	5.3	3.9	4	3.5
Temp. (°C)	13.52	13.55	15.7	15.82	14.62	14.4	13.58	13.55
DO (mg/L)	6.27	6.51	7.66	7.73	6.95	6.55	6.51	6.27
pH (units)	7.53	7.47	7.27	7.27	7.32	7.38	7.45	7.51
Sal. (ppt)	28.74	28.58	8.9	8.84	19.87	22	28.49	28.5
Sample ID	-0541	—	-0539	—	-0543	—	-0545	—

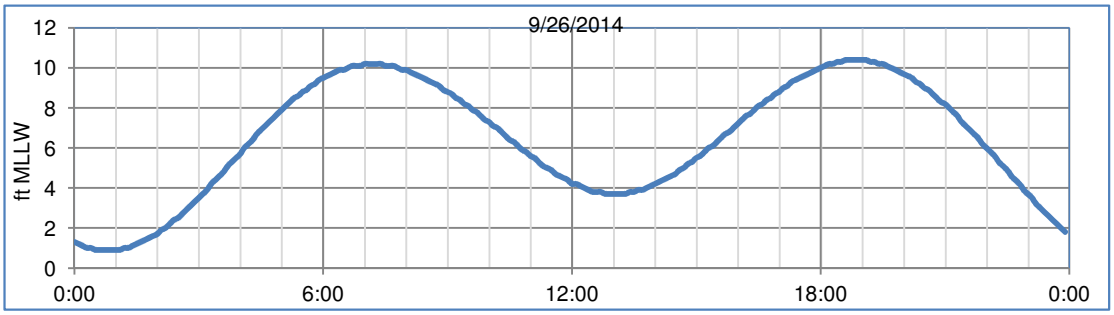
Submitted

* = Value reflects confirmed result or parameters measured during water sample collection

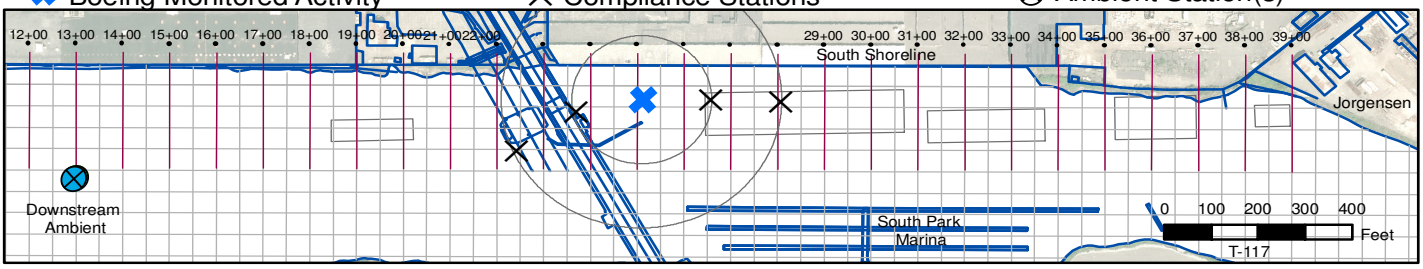
Daily Tides

12:49 AM	0.9 L
7:11 AM	10.2 H
1:02 PM	3.7 L
6:51 PM	10.4 H
Sunrise	7:02 AM
Sunset	6:59 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 9/26/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:45

End Time: 14:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:08		12:31		11:47		12:31	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3		3.3	8.3	3		3.3	8.3
Temp. (°C)	16.02		16.07	16.37	16.05		16.07	16.37
DO (mg/L)	7.94		7.97	≤ 6 mg/L	7.97		7.97	≤ 6 mg/L
pH (Units)	7.32		7.34	< 7.0 or >7.84	7.32		7.34	< 7.0 or >7.84
Sal. (ppt)	7.65		7.7		6.98		7.7	
Sample ID	-0540				-0538			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:16		13:57		13:39		13:57	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.2		3.3	8.3	3.2		3.3	8.3
Temp. (°C)	16.39		16.6	16.90	16.57		16.6	16.90
DO (mg/L)	8		8.03	≤ 6 mg/L	8.8		8.03	≤ 6 mg/L
pH (Units)	7.36		7.41	< 7.0 or >7.91	7.42		7.41	< 7.0 or >7.91
Sal. (ppt)	7.39		7.8		7.33		7.8	
Sample ID	-0542				-0544			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:18		12:37		11:54		12:33	
Depth (ft)	22		17.2		7		7	
Turb. (NTU)	4.4		4.3	9.3	3.1		3.8	8.8
Temp. (°C)	13.52		13.55	14.59	15.7		15.82	16.12
DO (mg/L)	6.27		6.51	≤ 6 mg/L	7.66		7.73	≤ 6 mg/L
pH (Units)	7.53		7.47	< 7.0 or >7.97	7.27		7.27	< 7.0 or >7.77
Sal. (ppt)	28.74		28.58		8.9		8.84	
Sample ID	-0541				-0539			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:23		13:59		13:45		14:01	
Depth (ft)	10.83		10.8		18.9		18	
Turb. (NTU)	5.3		3.9	8.9	4		3.5	8.5
Temp. (°C)	14.62		14.4	15.37	13.58		13.55	14.59
DO (mg/L)	6.95		6.55	≤ 6 mg/L	6.51		6.27	≤ 6 mg/L
pH (Units)	7.32		7.38	< 7.0 or >7.88	7.45		7.51	<7.01 and >8.01
Sal. (ppt)	19.87		22		28.49		28.5	
Sample ID	-0543				-0545			
Analyze	☑ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 9/27/2014
Time Period: 1:00 PM to 2:15 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Dredging in progress. Downstream ambient station used for station comparisons.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

1: Deepest available depth at downstream ambient station.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:06	14:03	13:39	14:03	15:27	16:12	15:51	16:12
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.8	2.6	2.5	2.6	2.9	2.8	3	2.8
Temp. (°C)	16.23	16.44	16.47	16.44	16.45	16.67	16.44	16.67
DO (mg/L)	8.03	8.13	8.19	8.13	8.13	8.27	8.17	8.27
pH (units)	7.12	7.31	7.28	7.31	7.28	7.38	7.34	7.38
Sal. (ppt)	6.27	6.03	5.7	6.03	6.66	6.82	7.79	6.82
Sample ID	-0546	—	-0548	—	-0550	—	-0552	—

Near-Bottom Samples

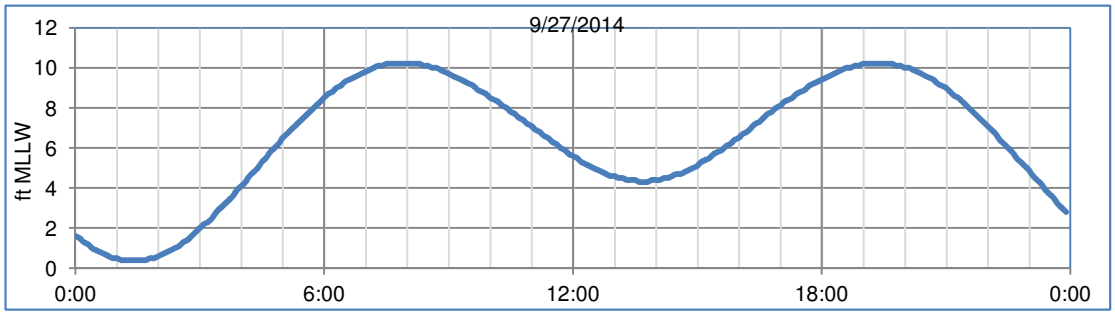
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient [1]	300 ft	Ambient
Time	13:19	14:04	13:49	14;06	15:36	16:16	15:59	16:14
Depth (ft)	8.32	8.3	14.94	14.9	28.92	20.4	18.8	18.8
Turb. (NTU)	2.9	3	3.9	3.5	6.9	4.6	5.7	3.5
Temp. (°C)	15.06	15.06	13.64	13.6	13.49	13.35	13.52	13.35
DO (mg/L)	7.06	7.14	6.4	6.29	6.17	6.37	6.38	6.48
pH (units)	7.26	7.29	7.43	7.51	7.49	7.59	7.5	7.56
Sal. (ppt)	15.4	15.8	27.84	27.82	28.57	29.31	28.46	29.27
Sample ID	-0547	—	-0549	—	-0551	—	-0553	—

* = Value reflects confirmed result or parameters measured during water sample collection

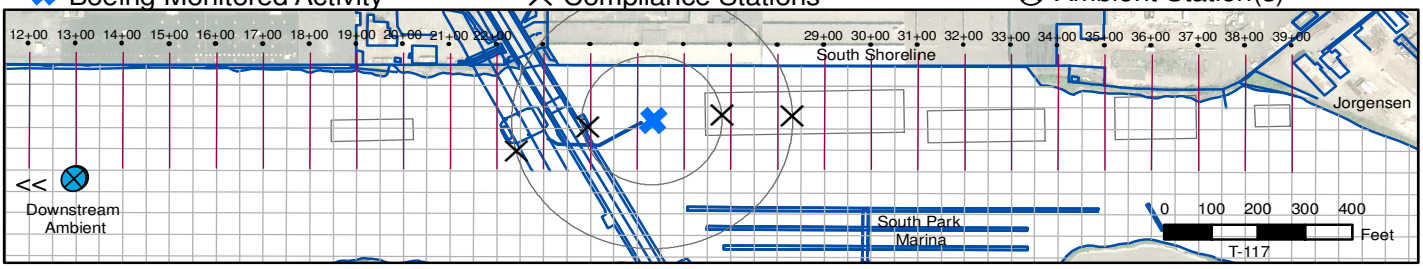
Daily Tides

1:24 AM	0.4 L
7:54 AM	10.2 H
1:41 PM	4.3 L
7:22 PM	10.2 H
Sunrise	7:03 AM
Sunset	6:57 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 9/27/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 13:00

End Time: 14:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:06		14:03		13:39		14:03	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.8		2.6	7.6	2.5		2.6	7.6
Temp. (°C)	16.23		16.44	16.74	16.47		16.44	16.74
DO (mg/L)	8.03		8.13	≤ 6 mg/L	8.19		8.13	≤ 6 mg/L
pH (Units)	7.12		7.31	< 7.0 or >7.81	7.28		7.31	< 7.0 or >7.81
Sal. (ppt)	6.27		6.03		5.7		6.03	
Sample ID	-0546				-0548			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:27		16:12		15:51		16:12	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.9		2.8	7.8	3		2.8	7.8
Temp. (°C)	16.45		16.67	16.97	16.44		16.67	16.97
DO (mg/L)	8.13		8.27	≤ 6 mg/L	8.17		8.27	≤ 6 mg/L
pH (Units)	7.28		7.38	< 7.0 or >7.88	7.34		7.38	< 7.0 or >7.88
Sal. (ppt)	6.66		6.82		7.79		6.82	
Sample ID	-0550				-0552			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:19		14:04		13:49		14;06	
Depth (ft)	8.32		8.3		14.94		14.9	
Turb. (NTU)	2.9		3	8	3.9		3.5	8.5
Temp. (°C)	15.06		15.06	15.98	13.64		13.6	14.63
DO (mg/L)	7.06		7.14	≤ 6 mg/L	6.4		6.29	≤ 6 mg/L
pH (Units)	7.26		7.29	< 7.0 or >7.79	7.43		7.51	<7.01 and >8.01
Sal. (ppt)	15.4		15.8		27.84		27.82	
Sample ID	-0547				-0549			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:36		16:16		15:59		16:14	
Depth (ft)	28.92		20.4		18.8		18.8	
Turb. (NTU)	6.9		4.6	9.6	5.7		3.5	8.5
Temp. (°C)	13.49		13.35	14.41	13.52		13.35	14.41
DO (mg/L)	6.17		6.37	≤ 6 mg/L	6.38		6.48	≤ 6 mg/L
pH (Units)	7.49		7.59	<7.09 and >8.09	7.5		7.56	<7.06 and >8.06
Sal. (ppt)	28.57		29.31		28.46		29.27	
Sample ID	-0551				-0553			
Analyze	☐ Submitted				☐ Submitted			

Report Date 10/2/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/1/2014
Time Period: 11:15 AM to 12:45 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Dredging in progress. WQ instrument malfuntioned during monitoring at the ambient station. Near surface ambient readings were recorded and WQ parameters for one of the near bottom depths was recorded before the equipment malfuntion occurred. 1: Instrument readings from the deepest depth recorded

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Upstream				Near Surface Downstream (not collected)			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	11:25	12:32	12:10	12:32	—	—	—	—
Depth (ft)	2	2	2	2	—	—	—	—
Turb. (NTU)	2.1	2.1	2.3	2.1	—	—	—	—
Temp. (°C)	14.93	14.8	14.92	14.8	—	—	—	—
DO (mg/L)	9.15	8.85	8.75	8.85	—	—	—	—
pH (units)	7.78	7.67	7.76	7.67	—	—	—	—
Sal. (ppt)	2.06	7.25	5.5	7.25	—	—	—	—
Sample ID	-0554	—	-0556	—	—	—	—	—

Near-Bottom Samples

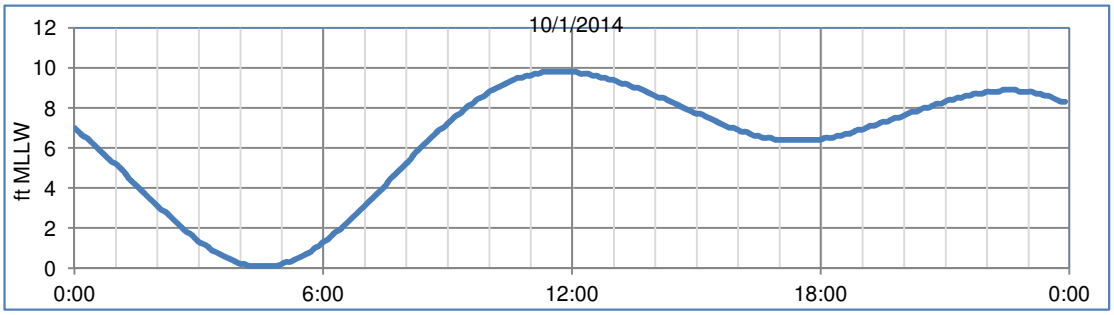
	Near Bottom Upstream				Near Bottom Downstream (not collected)			
Parameter	**150 ft**	**Ambient** [1]	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	11:33	12:33	12:19	12:33	—	—	—	—
Depth (ft)	29.5	9.7	9.72	9.7	—	—	—	—
Turb. (NTU)	4	1.7	2.5	1.7	—	—	—	—
Temp. (°C)	13.06	13.26	13.24	13.26	—	—	—	—
DO (mg/L)	6.31	6.73	6.21	6.73	—	—	—	—
pH (units)	7.57	7.51	7.55	7.51	—	—	—	—
Sal. (ppt)	29.4	27.62	27.86	27.62	—	—	—	—
Sample ID	-0555	—	-0557	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

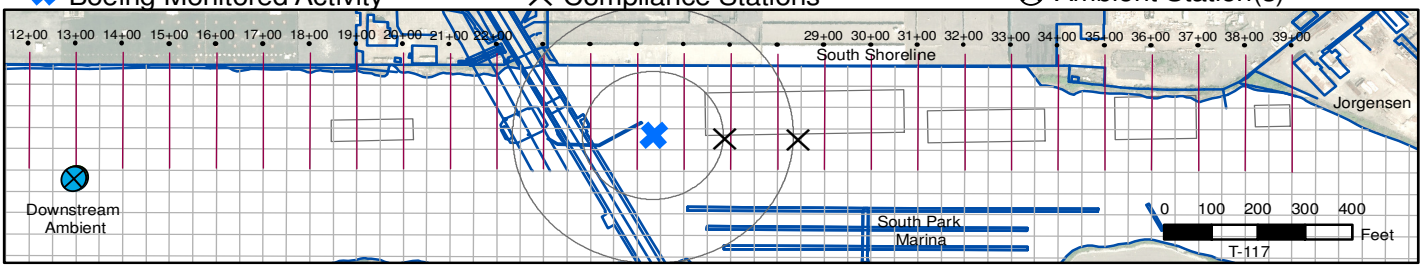
Daily Tides

4:32 AM	0.1 L
11:43 AM	9.8 H
5:25 PM	6.4 L
10:32 PM	8.9 H
Sunrise	7:08 AM
Sunset	6:48 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/1/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:15

End Time: 12:45

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:25		12:32		12:10		12:32	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.1		2.1	7.1	2.3		2.1	7.1
Temp. (°C)	14.93		14.8	15.74	14.92		14.8	15.74
DO (mg/L)	9.15		8.85	≤ 6 mg/L	8.75		8.85	≤ 6 mg/L
pH (Units)	7.78		7.67	<7.17 and >8.17	7.76		7.67	<7.17 and >8.17
Sal. (ppt)	2.06		7.25		5.5		7.25	
Sample ID	-0554				-0556			
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:33		12:33		12:19		12:33	
Depth (ft)	29.5		9.7		9.72		9.7	
Turb. (NTU)	4		1.7	6.7	2.5		1.7	6.7
Temp. (°C)	13.06		13.26	14.33	13.24		13.26	14.33
DO (mg/L)	6.31		6.73	≤ 6 mg/L	6.21		6.73	≤ 6 mg/L
pH (Units)	7.57		7.51	<7.01 and >8.01	7.55		7.51	<7.01 and >8.01
Sal. (ppt)	29.4		27.62		27.86		27.62	
Sample ID	-0555				-0557			
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 10/3/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/2/2014
Time Period: 12:00 PM to 5:30 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Problems with the dredge caused work stoppages.
Compliance monitoring conducted during active dredging.
Debris removal being conducted north of the bridge.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:27	14:56	14:26	14:56	17:39 *	17:25	16:59	17:25
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2	2.2	2.2	2.2	1.9	2.7	1.9	2.7
Temp. (°C)	15.32	15.05	15	15.05	16.04 *	15.97	16.17	15.97
DO (mg/L)	8.36	8.06	8.31	8.06	9.09	8.9	9.21	8.9
pH (units)	7.45	7.65	7.64	7.65	7.97	7.89	8.2	7.89
Sal. (ppt)	8.14	13.92	10.92	13.92	4.5	6.19	4.84	6.19
Sample ID	-0558	—	-0560	—	-0562	—	-0564	—

Near-Bottom Samples

Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:45	15:01	14:36	14:59	16:41	17:26	17:09	17:27
Depth (ft)	23.35	23	12.12	12	11.26	11.26	18.87	18.23
Turb. (NTU)	3.7	2.6	2.6	2.3	2.5	2.5	3.3	3.2
Temp. (°C)	13.04	13.04	13.31	13.29	13.63	13.57	13.23	13.18
DO (mg/L)	6.19	6.07	6.64	6.28	6.82	6.54	6.24	5.94
pH (units)	7.57	7.66	7.69	7.62	7.94	7.62	7.67	7.64
Sal. (ppt)	29.5	29.6	27.69	26.99	25.54	25.05	28.56	28.64
Sample ID	-0559	—	-0561	—	-0563	—	-0565	—

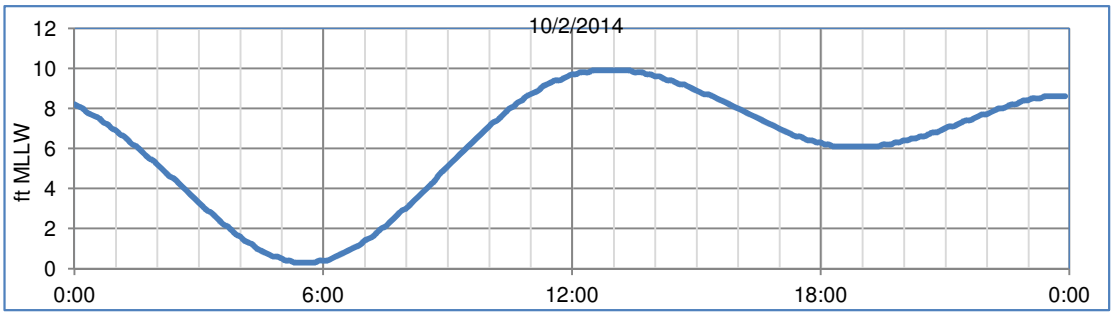
Submitted

* = Value reflects confirmed result or parameters measured during water sample collection

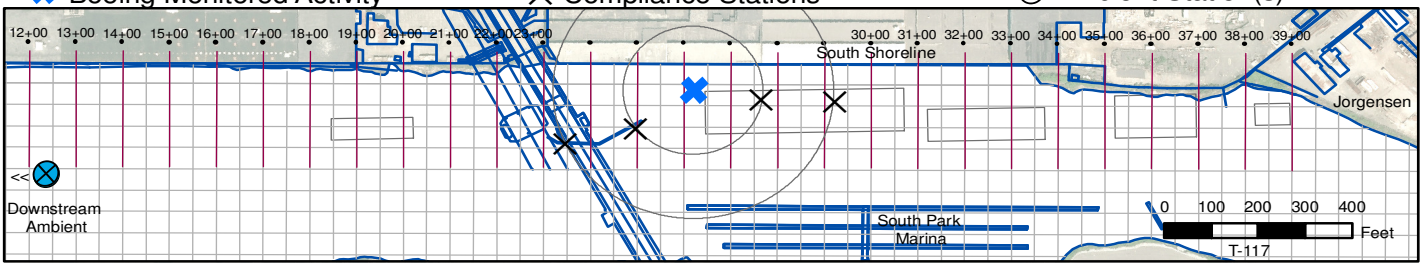
Daily Tides

5:35 AM	0.3 L
12:55 PM	9.9 H
6:51 PM	6.1 L
11:53 PM	8.6 H
Sunrise	7:10 AM
Sunset	6:46 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/2/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:00

End Time: 17:30

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:27		14:56		14:26		14:56	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2		2.2	7.2	2.2		2.2	7.2
Temp. (°C)	15.32		15.05	15.97	15		15.05	15.97
DO (mg/L)	8.36		8.06	≤ 6 mg/L	8.31		8.06	≤ 6 mg/L
pH (Units)	7.45		7.65	<7.15 and >8.15	7.64		7.65	<7.15 and >8.15
Sal. (ppt)	8.14		13.92		10.92		13.92	
Sample ID	-0558				-0560			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:33	17:39	17:25		16:59		17:25	
Depth (ft)	2		2		2		2	
Turb. (NTU)	1.9		2.7	7.7	1.9		2.7	7.7
Temp. (°C)	16.45	16.04	15.97	16.27	16.17		15.97	16.27
DO (mg/L)	9.09		8.9	≤ 6 mg/L	9.21		8.9	≤ 6 mg/L
pH (Units)	7.97		7.89	<7.39 and >8.39	8.2		7.89	<7.39 and >8.39
Sal. (ppt)	4.5		6.19		4.84		6.19	
Sample ID	-0562				-0564			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:45		15:01		14:36		14:59	
Depth (ft)	23.35		23		12.12		12	
Turb. (NTU)	3.7		2.6	7.6	2.6		2.3	7.3
Temp. (°C)	13.04		13.04	14.13	13.31		13.29	14.35
DO (mg/L)	6.19		6.07	≤ 6 mg/L	6.64		6.28	≤ 6 mg/L
pH (Units)	7.57		7.66	<7.16 and >8.16	7.69		7.62	<7.12 and >8.12
Sal. (ppt)	29.5		29.6		27.69		26.99	
Sample ID	-0559				-0561			
Analyze	☑ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:41		17:26		17:09		17:27	
Depth (ft)	11.26		11.26		18.87		18.23	
Turb. (NTU)	2.5		2.5	7.5	3.3		3.2	8.2
Temp. (°C)	13.63		13.57	14.61	13.23		13.18	14.25
DO (mg/L)	6.82		6.54	≤ 6 mg/L	6.24		5.94	≤ 6 mg/L
pH (Units)	7.94		7.62	<7.12 and >8.12	7.67		7.64	<7.14 and >8.14
Sal. (ppt)	25.54		25.05		28.56		28.64	
Sample ID	-0563				-0565			
Analyze	☐ Submitted				☐ Submitted			

Report Date 10/3/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/3/2014
Time Period: 11:00 AM to 1:45 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in progress. Debris removal being conducted downstream (north of the bridge). Ambient station downriver of Slip 4.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

1: Deepest available depth at ambient station

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	11:32	12:18	11:53	12:18	12:50	13:32	13:11	13:32
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.7	2.4	2.6	2.4	2.7	2.3	2.5	2.3
Temp. (°C)	14.8	14.83	14.6	14.83	15.16	14.84	14.55	14.84
DO (mg/L)	8.52	8.61	8.46	8.61	9.08	8.24	8.65	8.24
pH (units)	7.74	7.79	7.79	7.79	7.98	7.69	7.63	7.69
Sal. (ppt)	7.95	8.32	9.06	8.32	4.66	10.09	12.33	10.09
Sample ID	-0566	—	-0568	—	-0570	—	-0572	—

Near-Bottom Samples

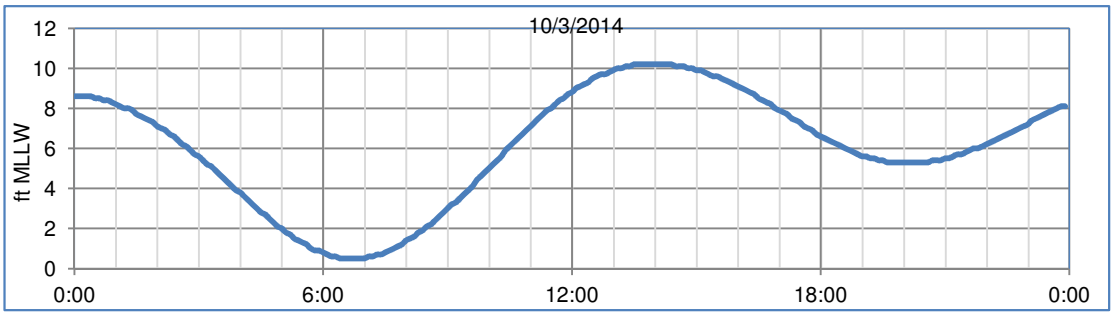
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient [1]	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	11:42	12:20	12:02	12:20	12:58	13:36	13:19	13:34
Depth (ft)	19.17	20	20.1	20	29.74	26.7	23.1	22.8
Turb. (NTU)	6.9	3.9	4.7	3.9	4.3	4	3.9	3.1
Temp. (°C)	13.15	13.1	13.13	13.1	13.11	13.07	13.12	13.09
DO (mg/L)	6.38	6.59	6.55	6.59	6.53	6.48	6.7	6.5
pH (units)	7.63	7.7	7.68	7.7	7.7	7.71	7.72	7.68
Sal. (ppt)	28.72	28.95	28.88	28.95	29.24	29.54	29.19	29.39
Sample ID	-0567	—	-0569	—	-0571	—	-0573	—

* = Value reflects confirmed result or parameters measured during water sample collection

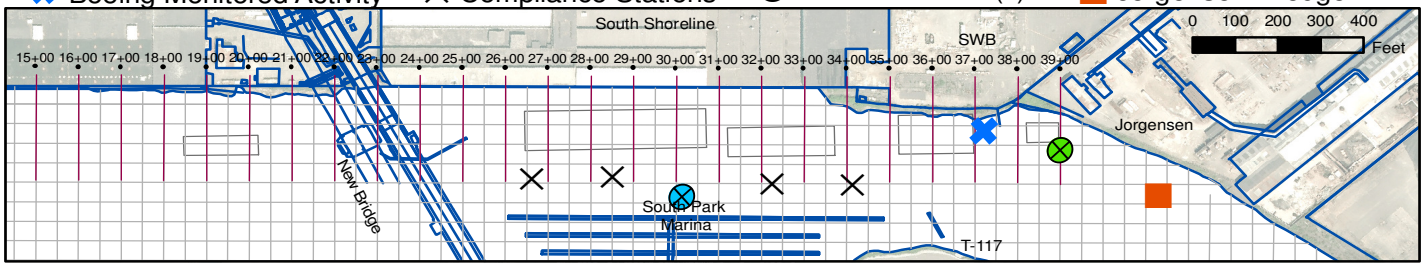
Daily Tides

6:43 AM	0.5 L
1:59 PM	10.2 H
8:05 PM	5.3 L
12:00 AM	
Sunrise	7:11 AM
Sunset	6:44 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊕ Ambient Station(s) ■ Jorgensen Dredge



Data Entry

Date 10/3/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:00

End Time: 13:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:32		12:18		11:53		12:18	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.7		2.4	7.4	2.6		2.4	7.4
Temp. (°C)	14.8		14.83	15.77	14.6		14.83	15.77
DO (mg/L)	8.52		8.61	≤ 6 mg/L	8.46		8.61	≤ 6 mg/L
pH (Units)	7.74		7.79	<7.29 and >8.29	7.79		7.79	<7.29 and >8.29
Sal. (ppt)	7.95		8.32		9.06		8.32	
Sample ID	-0566				-0568			
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:50		13:32		13:11		13:32	
2		2		2		2	
2.7		2.3	7.3	2.5		2.3	7.3
15.16		14.84	15.77	14.55		14.84	15.77
9.08		8.24	≤ 6 mg/L	8.65		8.24	≤ 6 mg/L
7.98		7.69	<7.19 and >8.19	7.63		7.69	<7.19 and >8.19
4.66		10.09		12.33		10.09	
-0570				-0572			
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:42		12:20		12:02		12:20	
Depth (ft)	19.17		20		20.1		20	
Turb. (NTU)	6.9		3.9	8.9	4.7		3.9	8.9
Temp. (°C)	13.15		13.1	14.18	13.13		13.1	14.18
DO (mg/L)	6.38		6.59	≤ 6 mg/L	6.55		6.59	≤ 6 mg/L
pH (Units)	7.63		7.7	<7.2 and >8.2	7.68		7.7	<7.2 and >8.2
Sal. (ppt)	28.72		28.95		28.88		28.95	
Sample ID	-0567				-0569			
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:58		13:36		13:19		13:34	
29.74		26.7		23.1		22.8	
4.3		4	9	3.9		3.1	8.1
13.11		13.07	14.15	13.12		13.09	14.17
6.53		6.48	≤ 6 mg/L	6.7		6.5	≤ 6 mg/L
7.7		7.71	<7.21 and >8.21	7.72		7.68	<7.18 and >8.18
29.24		29.54		29.19		29.39	
-0571				-0573			
☐ Submitted				☐ Submitted			

Report Date 10/6/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/4/2014
Time Period: 10:15 AM to 12:15 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in progress. Ambient station near downstream WQ instrument.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

1: Deepest depth available at ambient station

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	10:22	11:03	10:43	11:03	11:38	11:56	11:15	11:56
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.5	2.3	2.6	2.3	2.2	2.3	2.5	2.3
Temp. (°C)	14.46	14.58	14.49	14.58	14.63	14.3	14.58	14.3
DO (mg/L)	8.62	8.39	8.49	8.39	8.34	7.93	8.45	7.93
pH (units)	7.26	7.31	7.29	7.31	7.35	7.42	7.32	7.42
Sal. (ppt)	5.17	7.3	6.03	7.3	7.5	10.45	7.1	10.45
Sample ID	-0574	—	-0576	—	-0580	—	-0578	—

Near-Bottom Samples

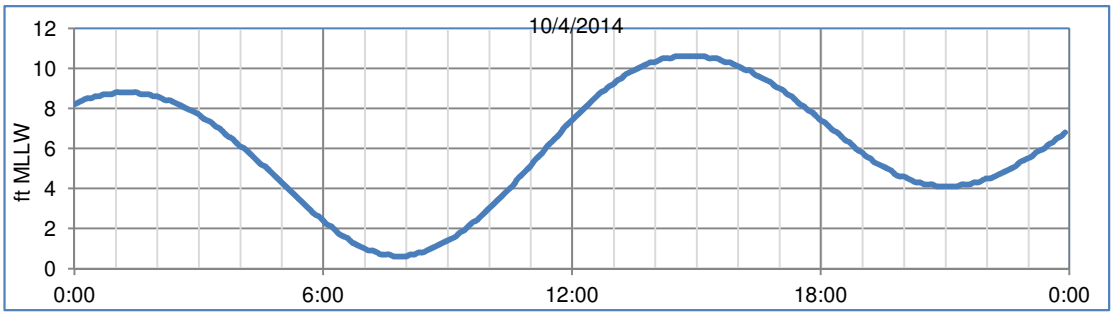
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient [1]	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	10:30	11:05	10:50	11:05	11:45	11:59	11:23	11:59
Depth (ft)	15.4	15.5	15.5	15.5	24.3	21.1	26.3	21.1
Turb. (NTU)	8.7	6.9	4.2	6.9	11.6	7.3	10.6	7.3
Temp. (°C)	13.2	13.16	13.36	13.16	13.15	13.09	13.16	13.09
DO (mg/L)	6.2	6.36	6.47	6.36	6.23	6.37	6.23	6.37
pH (units)	7.51	7.59	7.52	7.59	7.65	7.67	7.62	7.67
Sal. (ppt)	28.18	28.55	26.18	28.55	28.7	29.26	28.45	29.26
Sample ID	-0575	—	-0577	—	-0581	—	-0579	—

* = Value reflects confirmed result or parameters measured during water sample collection

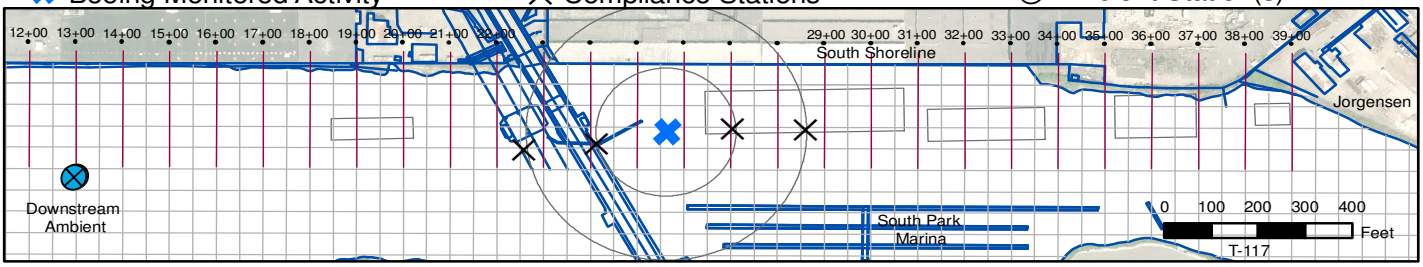
Daily Tides

1:15 AM	8.8 H
7:50 AM	0.6 L
2:50 PM	10.6 H
9:02 PM	4.1 L
Sunrise	7:13 AM
Sunset	6:42 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/4/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 10:15

End Time: 12:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:22		11:03		10:43		11:03	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.5		2.3	7.3	2.6		2.3	7.3
Temp. (°C)	14.46		14.58	15.53	14.49		14.58	15.53
DO (mg/L)	8.62		8.39	≤ 6 mg/L	8.49		8.39	≤ 6 mg/L
pH (Units)	7.26		7.31	< 7.0 or >7.81	7.29		7.31	< 7.0 or >7.81
Sal. (ppt)	5.17		7.3		6.03		7.3	
Sample ID	-0574				-0576			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:38		11:56		11:15		11:56	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.2		2.3	7.3	2.5		2.3	7.3
Temp. (°C)	14.63		14.3	15.28	14.58		14.3	15.28
DO (mg/L)	8.34		7.93	≤ 6 mg/L	8.45		7.93	≤ 6 mg/L
pH (Units)	7.35		7.42	< 7.0 or >7.92	7.32		7.42	< 7.0 or >7.92
Sal. (ppt)	7.5		10.45		7.1		10.45	
Sample ID	-0580				-0578			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:30		11:05		10:50		11:05	
Depth (ft)	15.4		15.5		15.5		15.5	
Turb. (NTU)	8.7		6.9	11.9	4.2		6.9	11.9
Temp. (°C)	13.2		13.16	14.24	13.36		13.16	14.24
DO (mg/L)	6.2		6.36	≤ 6 mg/L	6.47		6.36	≤ 6 mg/L
pH (Units)	7.51		7.59	<7.09 and >8.09	7.52		7.59	<7.09 and >8.09
Sal. (ppt)	28.18		28.55		26.18		28.55	
Sample ID	-0575				-0577			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:45		11:59		11:23		11:59	
Depth (ft)	24.3		21.1		26.3		21.1	
Turb. (NTU)	11.6		7.3	12.3	10.6		7.3	12.3
Temp. (°C)	13.15		13.09	14.17	13.16		13.09	14.17
DO (mg/L)	6.23		6.37	≤ 6 mg/L	6.23		6.37	≤ 6 mg/L
pH (Units)	7.65		7.67	<7.17 and >8.17	7.62		7.67	<7.17 and >8.17
Sal. (ppt)	28.7		29.26		28.45		29.26	
Sample ID	-0581				-0579			
Analyze	☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/7/2014
Time Period: 10:30 AM to 12:15 PM
Activity: Dredging: Routine Monitoring — During Tide Change
Comments: Dredging in progress. Ambient station located downstream ne installed in situ instrument.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

1: Deepest available depth at ambient station.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	10:56	11:12	11:04	11:12	11:31	11:52	11:39	11:52
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.3	2.3	2.1	2.3	2.2	2.4	2.2	2.4
Temp. (°C)	15.32	15.16	15.46	15.16	15.5	15.12	15.48	15.12
DO (mg/L)	8.08	7.95	8.24	7.95	8.24	7.91	8.26	7.91
pH (units)	7.31	7.37	7.37	7.37	7.45	7.41	7.44	7.41
Sal. (ppt)	7.08	8.62	6.19	8.62	4.97	9.76	5.3	9.76
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

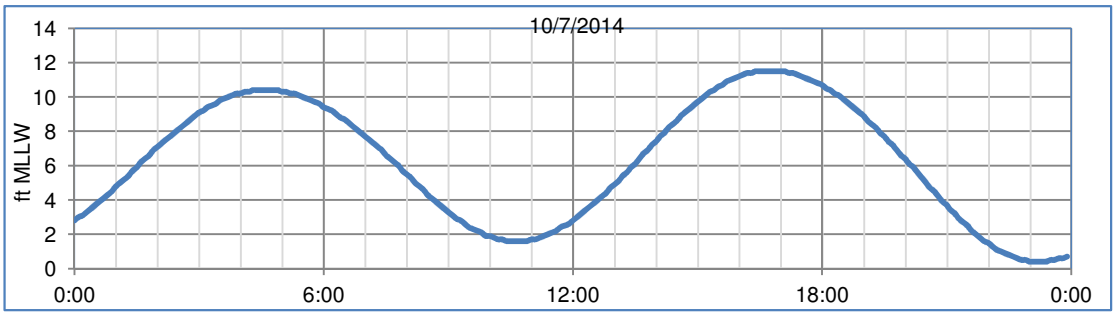
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient [1]	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient [1]	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient [1]
Time	10:58	11:20	11:06	11:14	11:33	11:55	11:41	11:55
Depth (ft)	16.02	12.7	11.17	11.16	24	17.55	18.25	17.55
Turb. (NTU)	5.5	3.7	6.2	3.1	6	5.3	5.6	5.3
Temp. (°C)	13.31	13.48	13.7	13.87	13.31	13.14	13.33	13.14
DO (mg/L)	6.03	6.18	6.24	6.48	6.07	6.07	6.02	6.07
pH (units)	7.48	7.56	7.47	7.47	7.54	7.65	7.55	7.65
Sal. (ppt)	27.15	25.42	24.17	23.37	27.33	28.59	27.07	28.59
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

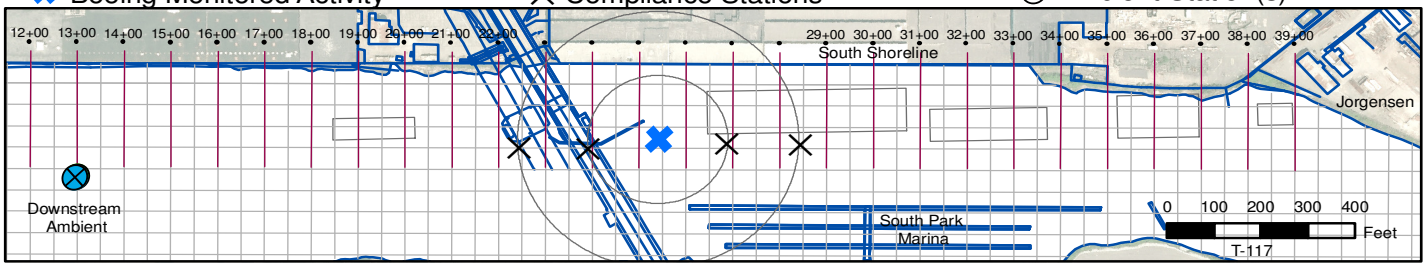
Daily Tides

4:36 AM	10.4 H
10:37 AM	1.6 L
4:46 PM	11.5 H
11:13 PM	0.4 L
Sunrise	7:17 AM
Sunset	6:37 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/7/2014

Activity Dredging

Monitoring Level Routine Monitoring

Start Time: 10:30

End Time: 12:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)								Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:56		11:12		11:04		11:12		11:31		11:52		11:39		11:52	
Depth (ft)	2		2		2		2		2		2		2		2	
Turb. (NTU)	2.3		2.3	7.3	2.1		2.3	7.3	2.2		2.4	7.4	2.2		2.4	7.4
Temp. (°C)	15.32		15.16	16.07	15.46		15.16	16.07	15.5		15.12	16.03	15.48		15.12	16.03
DO (mg/L)	8.08		7.95	≤ 6 mg/L	8.24		7.95	≤ 6 mg/L	8.24		7.91	≤ 6 mg/L	8.26		7.91	≤ 6 mg/L
pH (Units)	7.31		7.37	< 7.0 or >7.87	7.37		7.37	< 7.0 or >7.87	7.45		7.41	< 7.0 or >7.91	7.44		7.41	< 7.0 or >7.91
Sal. (ppt)	7.08		8.62		6.19		8.62		4.97		9.76		5.3		9.76	
Sample ID																
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)								Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:58		11:20		11:06		11:14		11:33		11:55		11:41		11:55	
Depth (ft)	16.02		12.7		11.17		11.16		24		17.55		18.25		17.55	
Turb. (NTU)	5.5		3.7	8.7	6.2		3.1	8.1	6		5.3	10.3	5.6		5.3	10.3
Temp. (°C)	13.31		13.48	14.53	13.7		13.87	14.88	13.31		13.14	14.22	13.33		13.14	14.22
DO (mg/L)	6.03		6.18	≤ 6 mg/L	6.24		6.48	≤ 6 mg/L	6.07		6.07	≤ 6 mg/L	6.02		6.07	≤ 6 mg/L
pH (Units)	7.48		7.56	<7.06 and >8.06	7.47		7.47	< 7.0 or >7.97	7.54		7.65	<7.15 and >8.15	7.55		7.65	<7.15 and >8.15
Sal. (ppt)	27.15		25.42		24.17		23.37		27.33		28.59		27.07		28.59	
Sample ID																
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Report Date 10/13/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/9/2014
Time Period: 9:15 AM to 1:15 PM
Activity: Dredging: Routine Monitoring — During Tide Change
Comments: Dredging in progress. Backfilling occuring upstream of bridge. Barge and equipment movement prevented reoccupaption of downstream stations and sample collection at 300 ft and 150 ft near surface immediately following exceedance at 150 ft near bottom.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:26 *	9:41	12:49 *	13:33	11:05	11:52	11:28	11:52
Depth (ft)	2 *	2	2 *	2	2	2	2	2
Turb. (NTU)	2.9 *	2.1	2.6 *	2.4	2	1.9	2	1.9
Temp. (°C)	15.26 *	14.91	15.14 *	15.1	14.93	15.02	14.99	15.02
DO (mg/L)	8.11 *	8.1	8.09 *	7.86	7.96	8.91	8.02	8.91
pH (units)	7.37 *	7.39	7.34 *	7.4	7.35	7.37	7.35	7.37
Sal. (ppt)	9.4 *	8.1	9.52 *	10.77	9.8	10.14	9.3	10.14
Sample ID	-0589	—	-0587	—	-0583	—	-0585	—

Near-Bottom Samples

Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	10:04 *	9:45	13:01 *	13:35	11:13	11:54	11:34	11:56
Depth (ft)	15.3 *	17.6	11.5 *	11.3	14.2	14.2	20.9	18.5
Turb. (NTU)	14.4 *	3.3	8.3 *	5	6.2	5.9	10.8	5
Temp. (°C)	13.08	13.07	13.85 *	13.5	13.51	13.34	13.21	13.2
DO (mg/L)	6.03	6.12	6.91 *	6.35	6.3	6.18	6.15	6.02
pH (units)	7.62	7.65	7.41 *	7.55	7.54	7.56	7.56	7.61
Sal. (ppt)	28.1	28.7	21.98 *	25.6	24.97	26.47	27.64	27.8
Sample ID	-0582	—	-0588	—	-0584	—	-0586	—

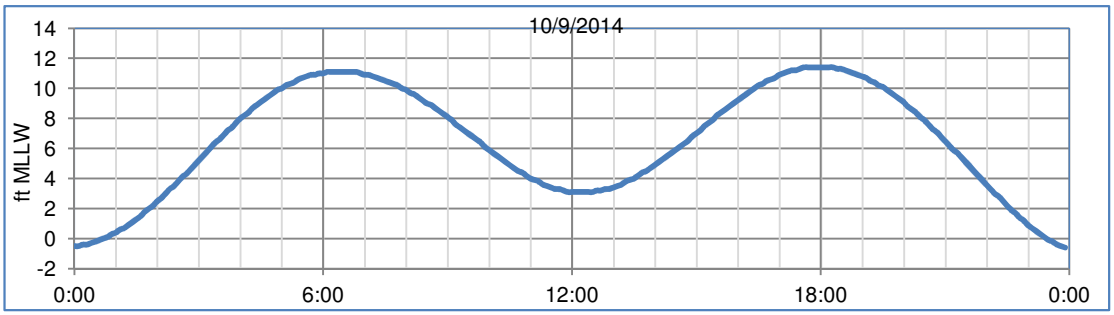
Submitted

* = Value reflects confirmed result or parameters measured during water sample collection

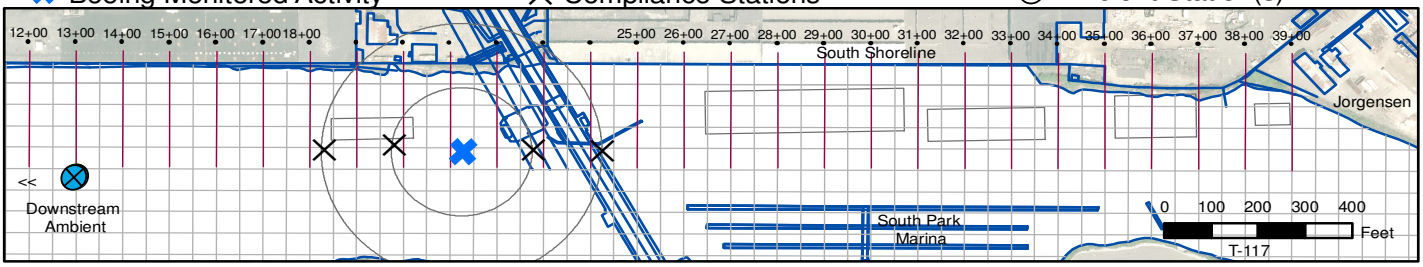
Daily Tides

6:24 AM	11.1 H
12:14 PM	3.1 L
5:58 PM	11.4 H
12:00 AM	
Sunrise	7:20 AM
Sunset	6:33 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/9/2014

Activity Dredging

Monitoring Level Routine Monitoring

Start Time: 9:15

End Time: 13:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:25	13:26	9:41		9:34	12:49	13:33	
Depth (ft)	2	2	2		2	2	2	
Turb. (NTU)	4.6	2.9	2.1	7.1	2.5	2.6	2.4	7.4
Temp. (°C)	14.38	15.26	14.91	15.84	14.57	15.14	15.1	16.02
DO (mg/L)	7.46	8.11	8.1	≤ 6 mg/L	7.7	8.09	7.86	≤ 6 mg/L
pH (Units)	7.29	7.37	7.39	< 7.0 or >7.89	7.49	7.34	7.4	< 7.0 or >7.9
Sal. (ppt)	15.3	9.4	8.1		12.55	9.52	10.77	
Sample ID	-0589	-0589			-0587	-0587		
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:05		11:52		11:28		11:52	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2		1.9	6.9	2		1.9	6.9
Temp. (°C)	14.93		15.02	15.94	14.99		15.02	15.94
DO (mg/L)	7.96		8.91	≤ 6 mg/L	8.02		8.91	≤ 6 mg/L
pH (Units)	7.35		7.37	< 7.0 or >7.87	7.35		7.37	< 7.0 or >7.87
Sal. (ppt)	9.8		10.14		9.3		10.14	
Sample ID	-0583				-0585			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	9:29	10:04	9:45		9:35	13:01	13:35	
Depth (ft)	17.5	15.3	17.6		13.9	11.5	11.3	
Turb. (NTU)	16	14.4	3.3	8.3	6.3	8.3	5	10
Temp. (°C)	13.08		13.07	14.15	13.26	13.85	13.5	14.54
DO (mg/L)	6.03		6.12	≤ 6 mg/L	6.3	6.91	6.35	≤ 6 mg/L
pH (Units)	7.62		7.65	<7.15 and >8.15	7.59	7.41	7.55	<7.05 and >8.05
Sal. (ppt)	28.1		28.7		26.76	21.98	25.6	
Sample ID	-0582	-0582			-0588	-0588		
Analyze	☑ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:13		11:54		11:34		11:56	
Depth (ft)	14.2		14.2		20.9		18.5	
Turb. (NTU)	6.2		5.9	10.9	10.8		5	10
Temp. (°C)	13.51		13.34	14.40	13.21		13.2	14.27
DO (mg/L)	6.3		6.18	≤ 6 mg/L	6.15		6.02	≤ 6 mg/L
pH (Units)	7.54		7.56	<7.06 and >8.06	7.56		7.61	<7.11 and >8.11
Sal. (ppt)	24.97		26.47		27.64		27.8	
Sample ID	-0584				-0586			
Analyze	☐ Submitted				☐ Submitted			

Report Date 10/13/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/9/2014
Time Period: 1:45 PM to 2:30 PM
Activity: Dredging: Additional Monitoring — Flood Tide
Comments: Additional monitoring following confirmed exceedance.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	14:09	14:25	14:14	14:25	13:50	13:59	13:45	13:59
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.4	2.2	2.1	2.2	3.4	2.3	3.1	2.3
Temp. (°C)	15.45	15.2	15.37	15.2	15.35	15.2	15.4	15.2
DO (mg/L)	8.16	8.04	8.09	8.04	8.15	8	8.2	8
pH (units)	7.43	7.46	7.47	7.46	7.44	7.43	7.27	7.43
Sal. (ppt)	10.19	11.21	10.43	11.21	9.65	10.72	9.4	10.72
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

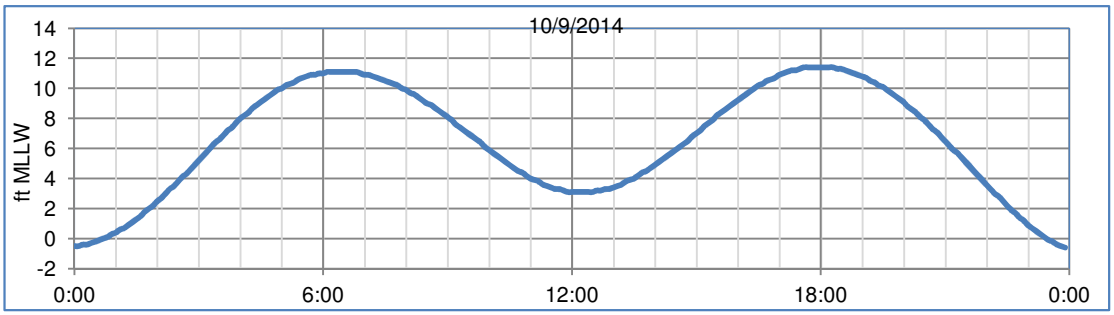
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	14:10	14:26	14:15	14:26	13:51	14:00	13:46	14:01
Depth (ft)	15.4	15.6	15.7	15.6	14.5	14.5	18.7	18
Turb. (NTU)	7.9	2.2	8.3	2.2	6.3	2.7	10	6.4
Temp. (°C)	13.14	13.06	13.1	13.06	13.45	13.12	13.25	13
DO (mg/L)	6.47	6.27	6.26	6.27	6.34	6.36	6.13	6.11
pH (units)	7.59	7.64	7.63	7.64	7.53	7.32	7.56	7.66
Sal. (ppt)	28.38	28.51	28.53	28.51	26.28	28.1	27.6	29.14
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

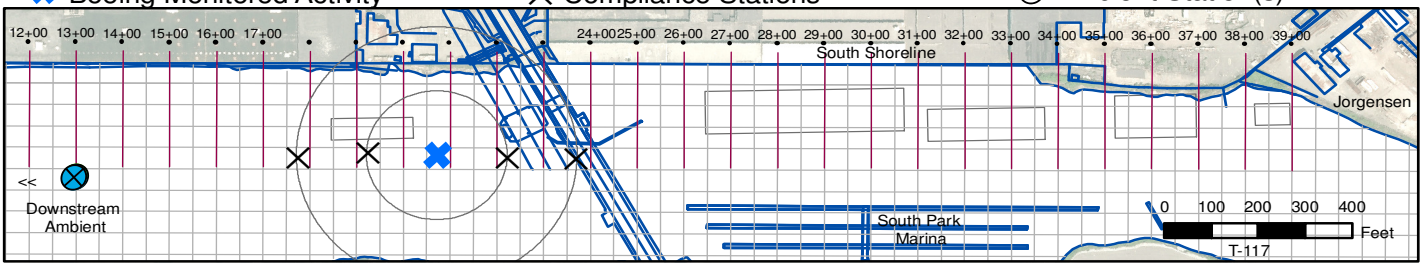
Daily Tides

6:24 AM	11.1 H
12:14 PM	3.1 L
5:58 PM	11.4 H
12:00 AM	
Sunrise	7:20 AM
Sunset	6:33 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/9/2014

Activity Dredging

Monitoring Level Additional Monitoring

Start Time: 13:45

End Time: 14:30

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:09		14:25		14:14		14:25	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.4		2.2	7.2	2.1		2.2	7.2
Temp. (°C)	15.45		15.2	16.11	15.37		15.2	16.11
DO (mg/L)	8.16		8.04	≤ 6 mg/L	8.09		8.04	≤ 6 mg/L
pH (Units)	7.43		7.46	< 7.0 or >7.96	7.47		7.46	< 7.0 or >7.96
Sal. (ppt)	10.19		11.21		10.43		11.21	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:50		13:59		13:45		13:59	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.4		2.3	7.3	3.1		2.3	7.3
Temp. (°C)	15.35		15.2	16.11	15.4		15.2	16.11
DO (mg/L)	8.15		8	≤ 6 mg/L	8.2		8	≤ 6 mg/L
pH (Units)	7.44		7.43	< 7.0 or >7.93	7.27		7.43	< 7.0 or >7.93
Sal. (ppt)	9.65		10.72		9.4		10.72	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:10		14:26		14:15		14:26	
Depth (ft)	15.4		15.6		15.7		15.6	
Turb. (NTU)	7.9		2.2	7.2	8.3		2.2	7.2
Temp. (°C)	13.14		13.06	14.14	13.1		13.06	14.14
DO (mg/L)	6.47		6.27	≤ 6 mg/L	6.26		6.27	≤ 6 mg/L
pH (Units)	7.59		7.64	<7.14 and >8.14	7.63		7.64	<7.14 and >8.14
Sal. (ppt)	28.38		28.51		28.53		28.51	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:51		14:00		13:46		14:01	
Depth (ft)	14.5		14.5		18.7		18	
Turb. (NTU)	6.3		2.7	7.7	10		6.4	11.4
Temp. (°C)	13.45		2:52	14.20	13.25		13	14.09
DO (mg/L)	6.34		6.36	≤ 6 mg/L	6.13		6.11	≤ 6 mg/L
pH (Units)	7.53		7.32	< 7.0 or >7.82	7.56		7.66	<7.16 and >8.16
Sal. (ppt)	26.28		28.1		27.6		29.14	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 10/13/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/9/2014
Time Period: 3:00 PM to 3:45 PM
Activity: Dredging: Additional Monitoring — Flood Tide
Comments: Additional monitoring following confirmed exceedance.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	15:29	15:44	15:35	15:44	15:01	15:19	15:07	15:19
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.4	1.9	2.3	1.9	4.2	2.2	2.7	2.2
Temp. (°C)	15.39	15.18	15.24	15.18	15.43	15.14	15.12	15.14
DO (mg/L)	8.06	7.91	7.87	7.91	8.06	7.84	7.88	7.84
pH (units)	7.45	7.51	7.49	7.51	7.42	7.47	7.46	7.47
Sal. (ppt)	11.7	13.14	12.25	13.14	11.06	12.88	12	12.88
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

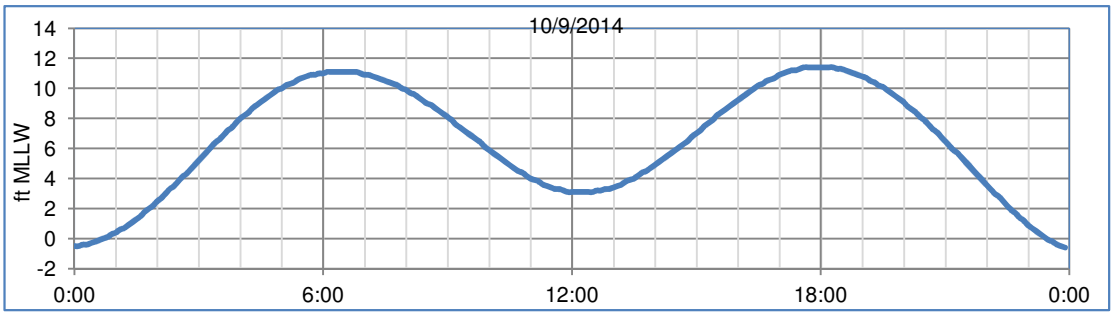
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	15:31	15:45	15:37	15:45	15:03	15:19	2:09	15:20
Depth (ft)	18.5	18.5	18.4	18.5	19.8	19.8	24.1	21.9
Turb. (NTU)	6.8	2.9	4.4	2.9	7.2	3	8.6	3.2
Temp. (°C)	12.95	12.9	12.95	12.9	13	12.92	12.95	12.91
DO (mg/L)	6.25	6.25	6.36	6.25	6.27	6.43	6.16	6.16
pH (units)	7.67	7.7	7.66	7.7	7.63	7.65	7.66	7.69
Sal. (ppt)	29.54	29.78	29.51	29.78	29.23	29.67	29.5	29.67
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

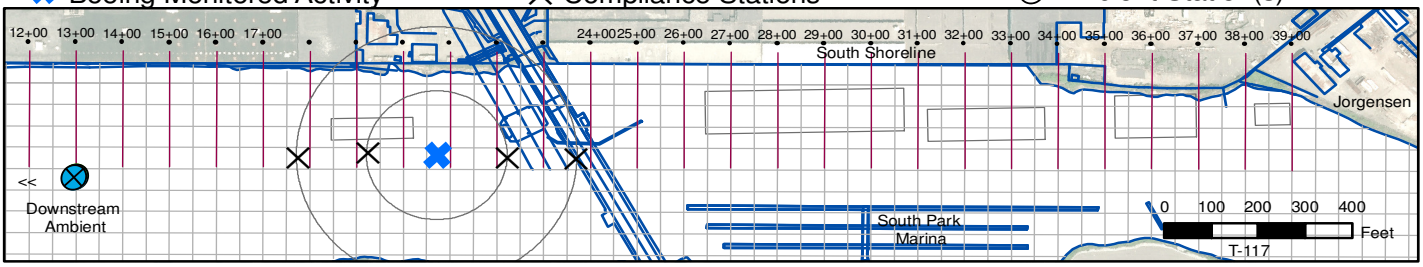
Daily Tides

6:24 AM	11.1 H
12:14 PM	3.1 L
5:58 PM	11.4 H
12:00 AM	
Sunrise	7:20 AM
Sunset	6:33 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/9/2014

Activity Dredging

Monitoring Level Additional Monitoring

Start Time: 15:00

End Time: 15:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:29		15:44		15:35		15:44	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.4		1.9	6.9	2.3		1.9	6.9
Temp. (°C)	15.39		15.18	16.09	15.24		15.18	16.09
DO (mg/L)	8.06		7.91	≤ 6 mg/L	7.87		7.91	≤ 6 mg/L
pH (Units)	7.45		7.51	<7.01 and >8.01	7.49		7.51	<7.01 and >8.01
Sal. (ppt)	11.7		13.14		12.25		13.14	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:01		15:19		15:07		15:19	
2		2		2		2	
4.2		2.2	7.2	2.7		2.2	7.2
15.43		15.14	16.05	15.12		15.14	16.05
8.06		7.84	≤ 6 mg/L	7.88		7.84	≤ 6 mg/L
7.42		7.47	< 7.0 or >7.97	7.46		7.47	< 7.0 or >7.97
11.06		12.88		12		12.88	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:31		15:45		15:37		15:45	
Depth (ft)	18.5		18.5		18.4		18.5	
Turb. (NTU)	6.8		2.9	7.9	4.4		2.9	7.9
Temp. (°C)	12.95		12.9	14.00	12.95		12.9	14.00
DO (mg/L)	6.25		6.25	≤ 6 mg/L	6.36		6.25	≤ 6 mg/L
pH (Units)	7.67		7.7	<7.2 and >8.2	7.66		7.7	<7.2 and >8.2
Sal. (ppt)	29.54		29.78		29.51		29.78	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:03		15:19		2:09		15:20	
19.8		19.8		24.1		21.9	
7.2		3	8	8.6		3.2	8.2
13		12.92	14.02	12.95		12.91	14.01
6.27		6.43	≤ 6 mg/L	6.16		6.16	≤ 6 mg/L
7.63		7.65	<7.15 and >8.15	7.66		7.69	<7.19 and >8.19
29.23		29.67		29.5		29.67	
☐ Submitted				☐ Submitted			

Report Date 10/13/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/9/2014
Time Period: 4:00 PM to 5:00 PM
Activity: Dredging: Additional Monitoring — Flood Tide
Comments: Additional monitoring following confirmed exceedance.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	16:41	16:54	16:48	16:54	16:11	16:31	16:22	16:31
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.1	2	3.2	2	2.7	1.7	2.5	1.7
Temp. (°C)	15.12	15.08	15.38	15.08	15.33	14.96	14.9	14.96
DO (mg/L)	7.9	7.82	8.01	7.82	7.97	7.78	7.78	7.78
pH (units)	7.51	7.56	7.53	7.56	7.46	7.53	7.5	7.53
Sal. (ppt)	13.26	13.8	12.62	13.8	12.61	14.8	15.04	14.8
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

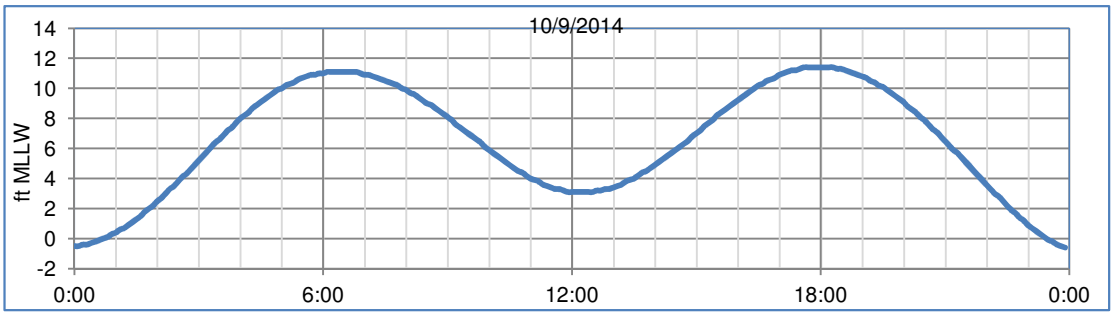
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	16:42	16:56	16:48	16:55	16:12	16:32	16:23	16:33
Depth (ft)	21.26	21.3	19.6	19.6	21.9	21.9	24.9	24.7
Turb. (NTU)	3.6	3.2	3.3	2.5	4.7	2.8	4	2.7
Temp. (°C)	12.94	12.9	12.94	112.91	12.95	12.91	12.94	12.91
DO (mg/L)	6.4	6.17	6.46	6.26	6.28	6.23	6.21	6.15
pH (units)	7.67	7.71	7.67	7.7	7.67	7.7	7.38	7.7
Sal. (ppt)	29.61	29.81	29.65	29.78	29.51	29.67	29.56	29.73
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

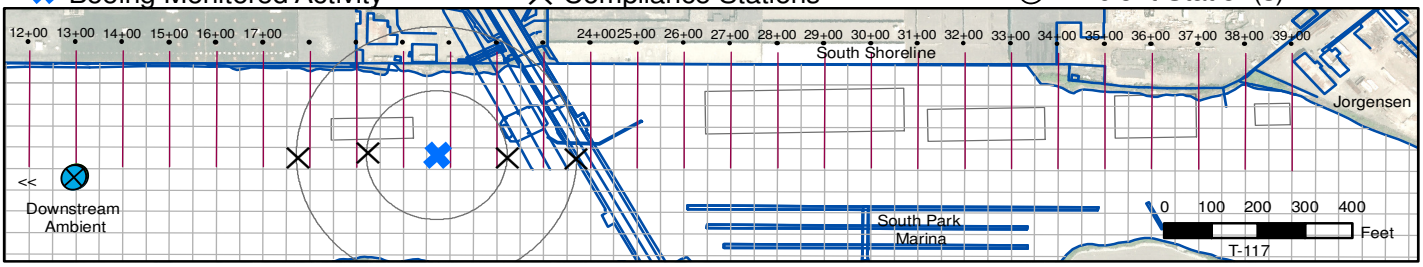
Daily Tides

6:24 AM	11.1 H
12:14 PM	3.1 L
5:58 PM	11.4 H
12:00 AM	
Sunrise	7:20 AM
Sunset	6:33 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/9/2014

Activity Dredging

Monitoring Level Additional Monitoring

Start Time: 16:00

End Time: 17:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:41		16:54		16:48		16:54	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.1		2	7	3.2		2	7
Temp. (°C)	15.12		15.08	16.00	15.38		15.08	16.00
DO (mg/L)	7.9		7.82	≤ 6 mg/L	8.01		7.82	≤ 6 mg/L
pH (Units)	7.51		7.56	<7.06 and >8.06	7.53		7.56	<7.06 and >8.06
Sal. (ppt)	13.26		13.8		12.62		13.8	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:11		16:31		16:22		16:31	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.7		1.7	6.7	2.5		1.7	6.7
Temp. (°C)	15.33		14.96	15.89	14.9		14.96	15.89
DO (mg/L)	7.97		7.78	≤ 6 mg/L	7.78		7.78	≤ 6 mg/L
pH (Units)	7.46		7.53	<7.03 and >8.03	7.5		7.53	<7.03 and >8.03
Sal. (ppt)	12.61		14.8		15.04		14.8	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:42		16:56		16:48		16:55	
Depth (ft)	21.26		21.3		19.6		19.6	
Turb. (NTU)	3.6		3.2	8.2	3.3		2.5	7.5
Temp. (°C)	12.94		12.9	14.00	12.94		112.91	113.21
DO (mg/L)	6.4		6.17	≤ 6 mg/L	6.46		6.26	≤ 6 mg/L
pH (Units)	7.67		7.71	<7.21 and >8.21	7.67		7.7	<7.2 and >8.2
Sal. (ppt)	29.61		29.81		29.65		29.78	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:12		16:32		16:23		16:33	
Depth (ft)	21.9		21.9		24.9		24.7	
Turb. (NTU)	4.7		2.8	7.8	4		2.7	7.7
Temp. (°C)	12.95		12.91	14.01	12.94		12.91	14.01
DO (mg/L)	6.28		6.23	≤ 6 mg/L	6.21		6.15	≤ 6 mg/L
pH (Units)	7.67		7.7	<7.2 and >8.2	7.38		7.7	<7.2 and >8.2
Sal. (ppt)	29.51		29.67		29.56		29.73	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 10/13/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/10/2014
Time Period: 11:45 AM to 1:30 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Dredging in progress. Backfilling in progress upstream of bridge.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:56	12:31	12:15	12:31	12:47	13:27	13:08	13:27
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.3	2.3	2.6	2.3	2.1	2.2	2.2	2.2
Temp. (°C)	14.65	14.65	14.63	14.65	14.79	14.78	14.85	14.78
DO (mg/L)	7.89	8.01	8.04	8.01	8.2	8.14	8.26	8.14
pH (units)	7.37	7.39	7.39	7.39	7.41	7.42	7.41	7.42
Sal. (ppt)	11.5	11.8	11.4	11.8	9.62	10.4	9.38	10.4
Sample ID	-0590	—	-0592	—	-0594	—	-0596	—

Near-Bottom Samples

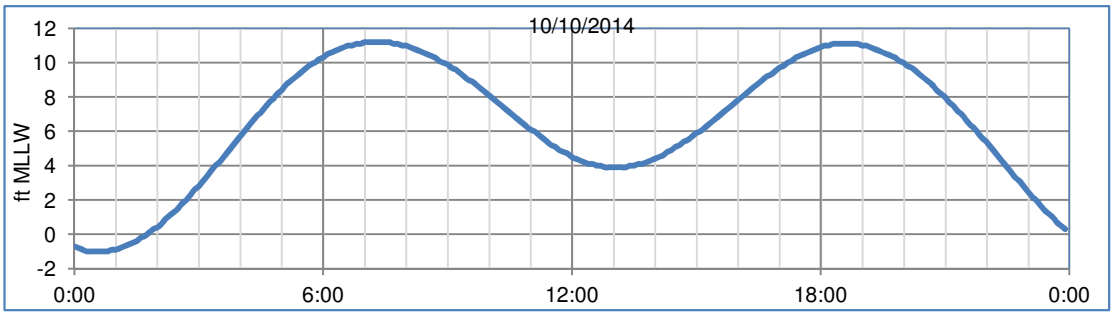
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:33 *	12:33	12:22	12:32	12:55	13:29	13:16	13:28
Depth (ft)	10	10	3.8	3.8	14.4	14.4	12.5	12.5
Turb. (NTU)	6.7 *	3	2.2	2.8	7.5	4.9	2.9	4.2
Temp. (°C)	13.64	13.81	14.61	14.5	13.33	13.23	13.4	13.37
DO (mg/L)	6.69	6.8	8.48	7.68	6.32	6.2	6.52	6.6
pH (units)	7.51	7.49	7.38	7.4	7.53	7.58	7.5	7.5
Sal. (ppt)	20.97	21.4	12	13.3	26.39	27.14	25.9	26.36
Sample ID	-0591	—	-0593	—	-0595	—	-0597	—

* = Value reflects confirmed result or parameters measured during water sample collection

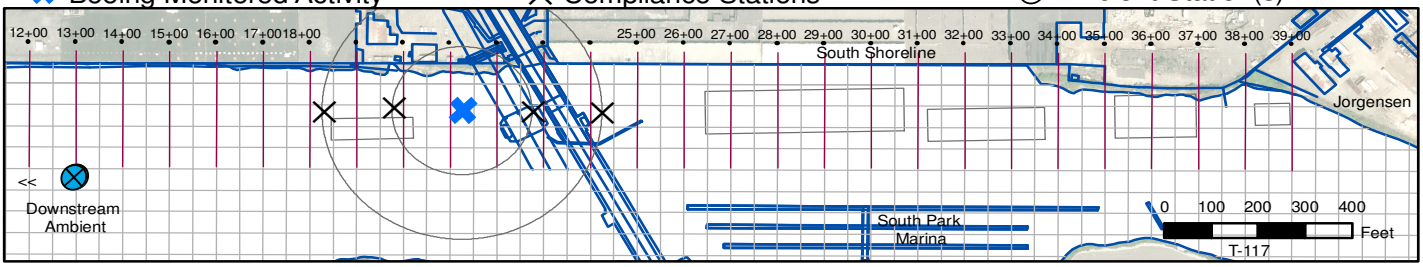
Daily Tides

12:36 AM	-1 L
7:17 AM	11.2 H
1:02 PM	3.9 L
6:37 PM	11.1 H
Sunrise	7:21 AM
Sunset	6:31 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/10/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:45

End Time: 13:30

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:56		12:31		12:15		12:31	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.3		2.3	7.3	2.6		2.3	7.3
Temp. (°C)	14.65		14.65	15.60	14.63		14.65	15.60
DO (mg/L)	7.89		8.01	≤ 6 mg/L	8.04		8.01	≤ 6 mg/L
pH (Units)	7.37		7.39	< 7.0 or >7.89	7.39		7.39	< 7.0 or >7.89
Sal. (ppt)	11.5		11.8		11.4		11.8	
Sample ID	-0590				-0592			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:47		13:27		13:08		13:27	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.1		2.2	7.2	2.2		2.2	7.2
Temp. (°C)	14.79		14.78	15.72	14.85		14.78	15.72
DO (mg/L)	8.2		8.14	≤ 6 mg/L	8.26		8.14	≤ 6 mg/L
pH (Units)	7.41		7.42	< 7.0 or >7.92	7.41		7.42	< 7.0 or >7.92
Sal. (ppt)	9.62		10.4		9.38		10.4	
Sample ID	-0594				-0596			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:03	12:33	12:33		12:22		12:32	
Depth (ft)	10		10		3.8		3.8	
Turb. (NTU)	9.5	6.7	3	8	2.2		2.8	7.8
Temp. (°C)	13.64		13.81	14.83	14.61		14.5	15.46
DO (mg/L)	6.69		6.8	≤ 6 mg/L	8.48		7.68	≤ 6 mg/L
pH (Units)	7.51		7.49	< 7.0 or >7.99	7.38		7.4	< 7.0 or >7.9
Sal. (ppt)	20.97		21.4		12		13.3	
Sample ID	-0591				-0593			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:55		13:29		13:16		13:28	
Depth (ft)	14.4		14.4		12.5		12.5	
Turb. (NTU)	7.5		4.9	9.9	2.9		4.2	9.2
Temp. (°C)	13.33		13.23	14.30	13.4		13.37	14.43
DO (mg/L)	6.32		6.2	≤ 6 mg/L	6.52		6.6	≤ 6 mg/L
pH (Units)	7.53		7.58	<7.08 and >8.08	7.5		7.5	<7 and >8
Sal. (ppt)	26.39		27.14		25.9		26.36	
Sample ID	-0595				-0597			
Analyze	☐ Submitted				☐ Submitted			

Report Date 10/16/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/11/2014
Time Period: 10:30 AM to 12:15 PM
Activity: Dredging: Intensive Monitoring — Ebb Tide
Comments: Dredging in Progress. Backfilling in progress upstream of bridge.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	10:40	11:15	10:58	11:15	11:25	12:05	11:46	12:05
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.5	2	2.6	2	2.1	2.1	2	2.1
Temp. (°C)	14.14	14.34	14.3	14.34	14.32	14.25	14.48	14.25
DO (mg/L)	7.7	8.13	8.15	8.13	8.1	8.2	8.2	8.2
pH (units)	7.53	7.46	7.48	7.46	7.53	7.48	7.45	7.48
Sal. (ppt)	12.2	11	10.9	11	11.54	12.3	10.25	12.3
Sample ID	-0598	—	-0600	—	-0602	—	-0604	—

Near-Bottom Samples

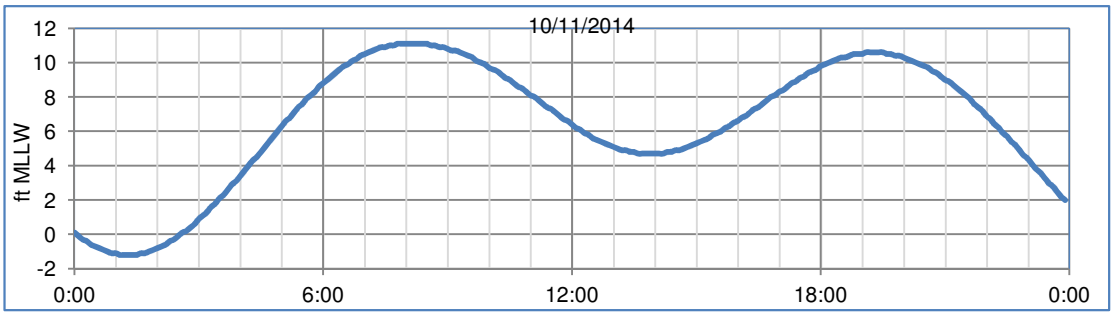
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	10:48	1:16	11:05	11:17	11:32	12:06	11:54	12:07
Depth (ft)	6.3	6.3	7.4	7.4	9.9	9.9	15.8	15.8
Turb. (NTU)	3.7	2.7	4.2	3.1	3.3	2.5	4	3.1
Temp. (°C)	13.39	13.72	13.45	13.5	13.27	13.42	13.14	13.13
DO (mg/L)	6.76	7.22	6.96	6.8	6.65	6.73	6.69	6.26
pH (units)	7.53	7.51	7.52	7.54	7.56	7.57	7.59	7.62
Sal. (ppt)	24.13	17.9	24.05	23	26.16	24.54	27.74	27.9
Sample ID	-0599	—	-0601	—	-0603	—	-0605	—

* = Value reflects confirmed result or parameters measured during water sample collection

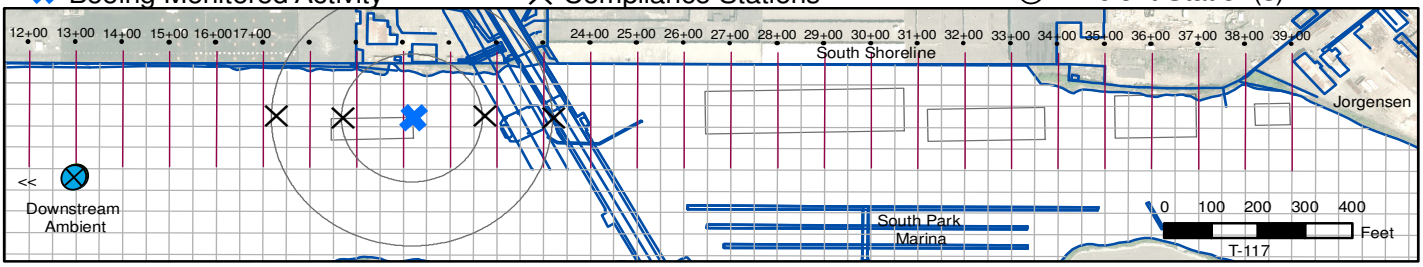
Daily Tides

1:18 AM	-1.2 L
8:09 AM	11.1 H
1:53 PM	4.7 L
7:17 PM	10.6 H
Sunrise	7:22 AM
Sunset	6:29 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/11/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 10:30

End Time: 12:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:40		11:15		10:58		11:15	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.5		2	7	2.6		2	7
Temp. (°C)	14.14		14.34	15.31	14.3		14.34	15.31
DO (mg/L)	7.7		8.13	≤ 6 mg/L	8.15		8.13	≤ 6 mg/L
pH (Units)	7.53		7.46	< 7.0 or >7.96	7.48		7.46	< 7.0 or >7.96
Sal. (ppt)	12.2		11		10.9		11	
Sample ID	-0598				-0600			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:25		12:05		11:46		12:05	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.1		2.1	7.1	2		2.1	7.1
Temp. (°C)	14.32		14.25	15.23	14.48		14.25	15.23
DO (mg/L)	8.1		8.2	≤ 6 mg/L	8.2		8.2	≤ 6 mg/L
pH (Units)	7.53		7.48	< 7.0 or >7.98	7.45		7.48	< 7.0 or >7.98
Sal. (ppt)	11.54		12.3		10.25		12.3	
Sample ID	-0602				-0604			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:48		1:16		11:05		11:17	
Depth (ft)	6.3		6.3		7.4		7.4	
Turb. (NTU)	3.7		2.7	7.7	4.2		3.1	8.1
Temp. (°C)	13.39		13.72	14.74	13.45		13.5	14.54
DO (mg/L)	6.76		7.22	≤ 6 mg/L	6.96		6.8	≤ 6 mg/L
pH (Units)	7.53		7.51	<7.01 and >8.01	7.52		7.54	<7.04 and >8.04
Sal. (ppt)	24.13		17.9		24.05		23	
Sample ID	-0599				-0601			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:32		12:06		11:54		12:07	
Depth (ft)	9.9		9.9		15.8		15.8	
Turb. (NTU)	3.3		2.5	7.5	4		3.1	8.1
Temp. (°C)	13.27		13.42	14.47	13.14		13.13	14.21
DO (mg/L)	6.65		6.73	≤ 6 mg/L	6.69		6.26	≤ 6 mg/L
pH (Units)	7.56		7.57	<7.07 and >8.07	7.59		7.62	<7.12 and >8.12
Sal. (ppt)	26.16		24.54		27.74		27.9	
Sample ID	-0603				-0605			
Analyze	☐ Submitted				☐ Submitted			

Report Date 10/14/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/13/2014
Time Period: 12:30 PM to 1:30 PM
Activity: Dredging: Intensive Monitoring — Ebb Tide
Comments: Dredging suspended at 13:50 before upstream stations were monitored. Dredge relocated to Slip 4. Backfilling in progress approximately 200 yds upriver of dredging.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:39	13:24	13:04	13:24	—	—	—	—
Depth (ft)	2	2	2	2	—	—	—	—
Turb. (NTU)	3.5	2.1	2.4	2.1	—	—	—	—
Temp. (°C)	14.6	14.58	14.39	14.58	—	—	—	—
DO (mg/L)	8.54	8.3	8.11	8.3	—	—	—	—
pH (units)	7.57	7.61	7.87	7.61	—	—	—	—
Sal. (ppt)	8.13	9	12.91	9	—	—	—	—
Sample ID	-0606	—	-0608	—	—	—	—	—

Near-Bottom Samples

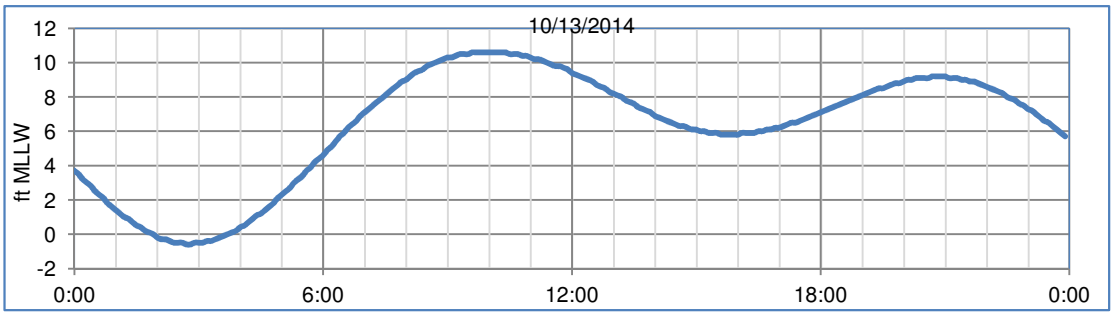
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:38 *	13:26	13:13	13:27	—	—	—	—
Depth (ft)	12.82	12.8	20.75	20.8	—	—	—	—
Turb. (NTU)	10.9 *	2.4	4.5	2.6	—	—	—	—
Temp. (°C)	13.01	13.04	12.94	12.91	—	—	—	—
DO (mg/L)	6.28	6.14	6.16	6.07	—	—	—	—
pH (units)	7.72	7.76	7.61	7.79	—	—	—	—
Sal. (ppt)	28.82	28.32	29.31	29.53	—	—	—	—
Sample ID	-0607	—	-0609	—	—	—	—	—
	Submitted							

* = Value reflects confirmed result or parameters measured during water sample collection

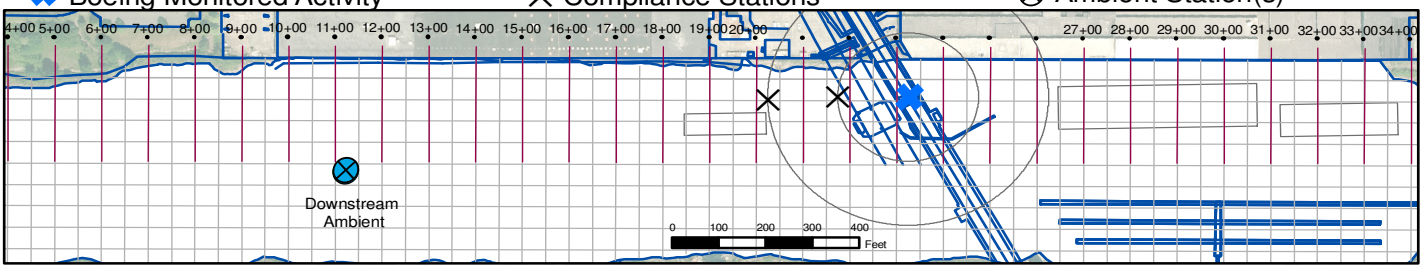
Daily Tides

2:47 AM	-0.6 L
10:00 AM	10.6 H
3:49 PM	5.8 L
8:50 PM	9.2 H
Sunrise	7:25 AM
Sunset	6:25 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/13/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:30

End Time: 13:30

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:39		13:24		13:04		13:24	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.5		2.1	7.1	2.4		2.1	7.1
Temp. (°C)	14.6		14.58	15.53	14.39		14.58	15.53
DO (mg/L)	8.54		8.3	≤ 6 mg/L	8.11		8.3	≤ 6 mg/L
pH (Units)	7.57		7.61	<7.11 and >8.11	7.87		7.61	<7.11 and >8.11
Sal. (ppt)	8.13		9		12.91		9	
Sample ID	-0606				-0608			
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:50	13:38	13:26		13:13		13:27	
Depth (ft)	12.82		12.8		20.75		20.8	
Turb. (NTU)	11.9	10.9	2.4	7.4	4.5		2.6	7.6
Temp. (°C)	13.01		13.04	14.13	12.94		12.91	14.01
DO (mg/L)	6.28		6.14	≤ 6 mg/L	6.16		6.07	≤ 6 mg/L
pH (Units)	7.72		7.76	<7.26 and >8.26	7.61		7.79	<7.29 and >8.29
Sal. (ppt)	28.82		28.32		29.31		29.53	
Sample ID	-0607				-0609			
Analyze	☑ Submitted				☐ Submitted			

Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 10/14/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/13/2014
Time Period: 2:15 PM to 3:15 PM
Activity: Dredging: Intensive Monitoring — Ebb Tide
Comments: Monitoring at Slip 4. No samples collected. Downstream is toward the mouth of the slip. Upstream is toward the head of the slip.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface /Mid Depth Upstream				Near Surface Downstream			
	150 ft	Ambient	300 ft	Ambient	150 ft	Ambient	300 ft	Ambient
Time	14:27	14:39	14:32	14:40	14:49	15:00	14:53	15:00
Depth (ft)	2	2	2.9	2.9	2	2	2	2
Turb. (NTU)	2.1	2.4	2.1	2.5	2.3	2.4	2.5	2.4
Temp. (°C)	14.85	14.61	14.63	14.59	14.89	14.71	14.88	14.71
DO (mg/L)	8.24	8.32	8.13	8.26	8.43	8.32	8.49	8.32
pH (units)	7.47	7.52	7.41	7.54	7.5	7.52	7.53	7.52
Sal. (ppt)	9.5	10.33	11.21	11.98	9.04	9.53	8.66	9.53
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

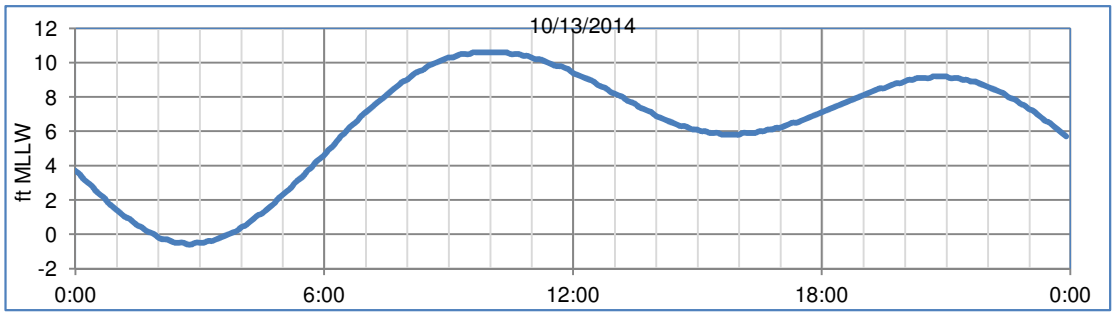
Parameter	Near Bottom Upstream				Near Bottom Downpstream			
	150 ft	Ambient	300 ft	Ambient	150 ft	Ambient	300 ft	Ambient
Time	14:28	14:42	—	—	14:50	15:02	14:54	15:03
Depth (ft)	8.5	8.5	—	—	13.65	13.6	15.2	15.2
Turb. (NTU)	1.7	3.3	—	—	5.7	4.7	2.7	3.3
Temp. (°C)	13.71	13.59	—	—	13.11	13.09	13.02	13.01
DO (mg/L)	7.21	7.08	—	—	6.36	6.23	6.49	3.11
pH (units)	7.57	7.6	—	—	7.58	7.67	7.59	7.68
Sal. (ppt)	21.62	22.14	—	—	28.03	28.02	28.75	28.75
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

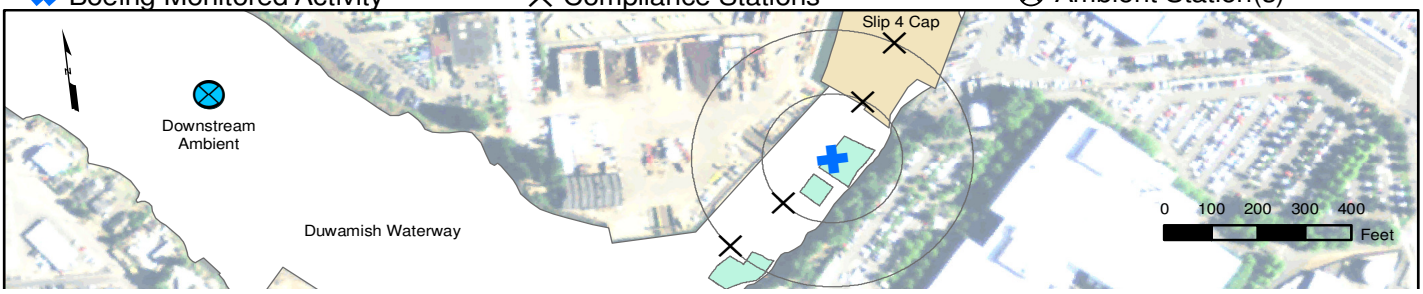
Daily Tides

2:47 AM	-0.6 L
10:00 AM	10.6 H
3:49 PM	5.8 L
8:50 PM	9.2 H
Sunrise	7:25 AM
Sunset	6:25 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/13/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 14:15

End Time: 15:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:27		14:39		14:32		14:40	
Depth (ft)	2		2		2.9		2.9	
Turb. (NTU)	2.1		2.4	7.4	2.1		2.5	7.5
Temp. (°C)	14.85		14.61	15.56	14.63		14.59	15.54
DO (mg/L)	8.24		8.32	≤ 6 mg/L	8.13		8.26	≤ 6 mg/L
pH (Units)	7.47		7.52	<7.02 and >8.02	7.41		7.54	<7.04 and >8.04
Sal. (ppt)	9.5		10.33		11.21		11.98	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:49		15:00		14:53		15:00	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.3		2.4	7.4	2.5		2.4	7.4
Temp. (°C)	14.89		14.71	15.65	14.88		14.71	15.65
DO (mg/L)	8.43		8.32	≤ 6 mg/L	8.49		8.32	≤ 6 mg/L
pH (Units)	7.5		7.52	<7.02 and >8.02	7.53		7.52	<7.02 and >8.02
Sal. (ppt)	9.04		9.53		8.66		9.53	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:28		14:42					
Depth (ft)	8.5		8.5					
Turb. (NTU)	1.7		3.3	8.3				—
Temp. (°C)	13.71		13.59	14.63				—
DO (mg/L)	7.21		7.08	≤ 6 mg/L				—
pH (Units)	7.57		7.6	<7.1 and >8.1				—
Sal. (ppt)	21.62		22.14					
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:50		15:02		14:54		15:03	
Depth (ft)	13.65		13.6		15.2		15.2	
Turb. (NTU)	5.7		4.7	9.7	2.7		3.3	8.3
Temp. (°C)	13.11		13.09	14.17	13.02		13.01	14.10
DO (mg/L)	6.36		6.23	≤ 6 mg/L	6.49		3.11	≤ 6 mg/L
pH (Units)	7.58		7.67	<7.17 and >8.17	7.59		7.68	<7.18 and >8.18
Sal. (ppt)	28.03		28.02		28.75		28.75	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 4/22/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/13/2014
Time Period: 3:45 PM to 5:00 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in Slip4. Upstream is identified as toward head of the slip. Downstream refers to the stations toward the mouth of the slip. There was a significant amount of barge and tug movements during the monitoring round. No samples collected.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface / Mid-depth Upstream				Near Surface Downstream			
	150 ft	Ambient	300 ft	Ambient	150 ft	Ambient	300 ft	Ambient
Time	16:23 *	15:47	16:28 *	15:48	16:14	16:41	16:35	16:41
Depth (ft)	2	2	2.4	2.4	2	2	2	2
Turb. (NTU)	6.4 *	2.1	7 *	2.1	3.7	2.1	3.7	2.1
Temp. (°C)	14.97	14.83	14.68	14.61	14.91	14.65	14.81	14.65
DO (mg/L)	8.32	8.35	8.1	8.18	8.31	8.3	8.31	8.3
pH (units)	7.51	7.48	7.49	7.47	7.49	7.51	7.5	7.51
Sal. (ppt)	9.1	8.86	11.25	10.11	9.51	10.1	10.35	10.1
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

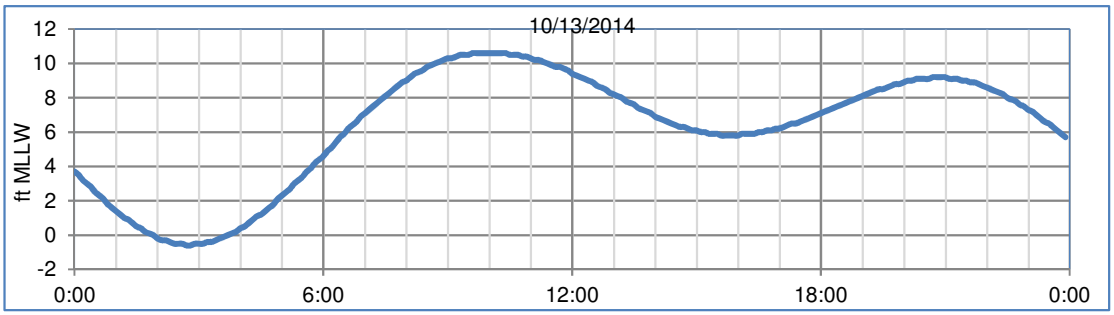
Parameter	Near Bottom Upstream				Near Bottom Downstream			
	150 ft	Ambient	300 ft	Ambient	150 ft	Ambient	300 ft	Ambient
Time	15:35	15:50	—	—	16:56 *	16:16	16:36	16:43
Depth (ft)	8.3	8.3	—	—	12.2	12.2	14.7	14.7
Turb. (NTU)	4.5	2.5	—	—	9.2 *	2.2	4.8	2.5
Temp. (°C)	13.76	13.6	—	—	13.27	14.2	13	14.2
DO (mg/L)	7.1	7.07	—	—	6.3	7.97	6.47	7.73
pH (units)	7.52	7.57	—	—	7.56	7.51	7.59	7.54
Sal. (ppt)	20.9	21.52	—	—	26.95	12.48	28.95	15
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

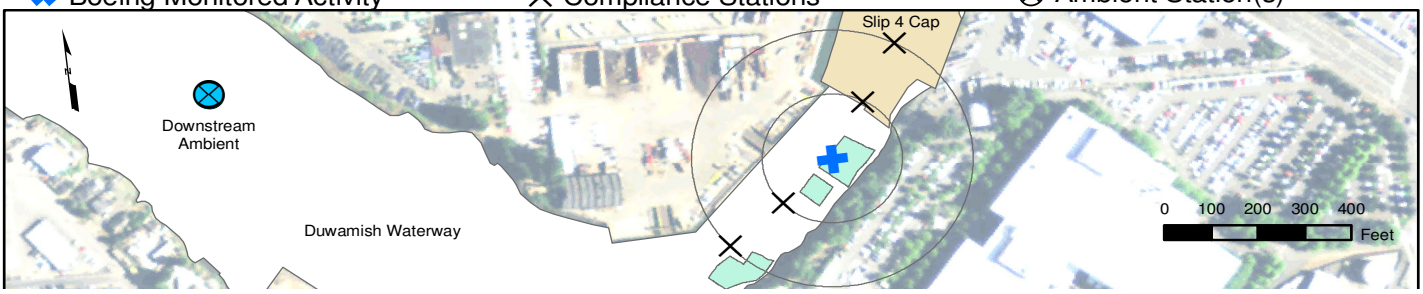
Daily Tides

2:47 AM	-0.6 L
10:00 AM	10.6 H
3:49 PM	5.8 L
8:50 PM	9.2 H
Sunrise	7:25 AM
Sunset	6:25 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/13/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 15:45

End Time: 17:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:33	16:23	15:47		15:39	16:28	15:48	
Depth (ft)	2		2		2.4		2.4	
Turb. (NTU)	7.3	6.4	2.1	7.1	7.4	7	2.1	7.1
Temp. (°C)	14.97		14.83	15.77	14.68		14.61	15.56
DO (mg/L)	8.32		8.35	≤ 6 mg/L	8.1		8.18	≤ 6 mg/L
pH (Units)	7.51		7.48	< 7.0 or >7.98	7.49		7.47	< 7.0 or >7.97
Sal. (ppt)	9.1		8.86		11.25		10.11	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:14		16:41		16:35		16:41	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.7		2.1	7.1	3.7		2.1	7.1
Temp. (°C)	14.91		14.65	15.60	14.81		14.65	15.60
DO (mg/L)	8.31		8.3	≤ 6 mg/L	8.31		8.3	≤ 6 mg/L
pH (Units)	7.49		7.51	<7.01 and >8.01	7.5		7.51	<7.01 and >8.01
Sal. (ppt)	9.51		10.1		10.35		10.1	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:35		15:50					
Depth (ft)	8.3		8.3					
Turb. (NTU)	4.5		2.5	7.5				—
Temp. (°C)	13.76		13.6	14.63				—
DO (mg/L)	7.1		7.07	≤ 6 mg/L				—
pH (Units)	7.52		7.57	<7.07 and >8.07				—
Sal. (ppt)	20.9		21.52					
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:16	16:56	16:16		16:36		16:43	
Depth (ft)	12.2		12.2		14.7		14.7	
Turb. (NTU)	22.3	9.2	2.2	7.2	4.8		2.5	7.5
Temp. (°C)	13.27		14.2	15.18	13		14.2	15.18
DO (mg/L)	6.3		7.97	≤ 6 mg/L	6.47		7.73	≤ 6 mg/L
pH (Units)	7.56		7.51	<7.01 and >8.01	7.59		7.54	<7.04 and >8.04
Sal. (ppt)	26.95		12.48		28.95		15	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 10/15/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/14/2014
Time Period: 11:30 AM to 3:15 PM
Activity: Dredging: Intensive Monitoring — Ebb Tide
Comments: Dredging in Slip 4. Tug and barge movements. Upstream is identified as toward head of the slip. Downstream refers to the stations toward the mouth of the slip. Ambient is upriver in main channel.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:50	15:10	14:08	15:10	13:05 *	12:55	12:34	12:55
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4.1	2.7	2.8	2.7	6.5 *	2.7	3.4	2.7
Temp. (°C)	14.82	14.9	14.92	14.9	14.33	14.52	14.58	14.52
DO (mg/L)	8.64	8.8	8.65	8.8	8.1	8.48	8.14	8.48
pH (units)	7.56	7.58	7.52	7.58	7.45	7.56	7.48	7.56
Sal. (ppt)	9.18	6.09	5.71	6.09	11.23	7.6	9.16	7.6
Sample ID	-0616	—	-0614	—	-0610	—	-0612	—

Near-Bottom Samples

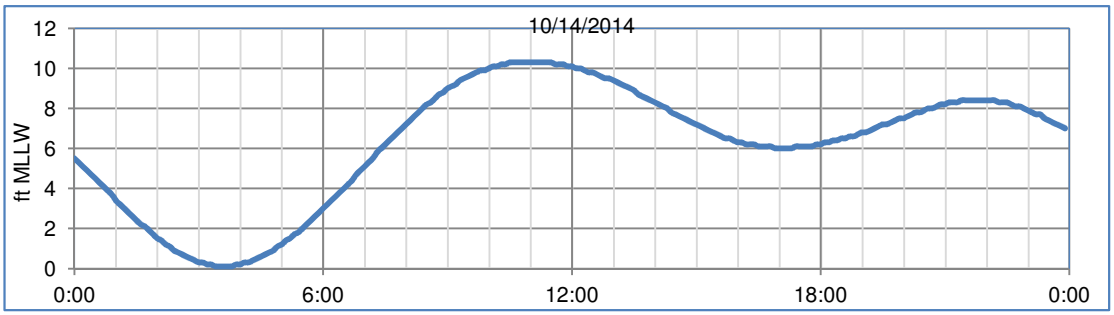
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	15:00	15:11	14:30	15:11	12:10	12:57	12:43	12:58
Depth (ft)	15.82	12.48	17.4	12.48	14.3	14.3	17.82	17.8
Turb. (NTU)	5.2	2.4	4.8	2.4	3.8	2.2	2.6	2.1
Temp. (°C)	12.99	13.16	12.91	13.16	12.9	12.96	12.88	12.89
DO (mg/L)	6.4	6.62	6.89	6.62	6.14	6.3	6.19	6.13
pH (units)	7.62	7.62	7.68	3.62	7.66	7.67	7.67	7.71
Sal. (ppt)	29.04	27.3	29.66	27.3	29.75	29.14	29.88	29.74
Sample ID	-0617	—	-0615	—	-0611	—	-0613	—

* = Value reflects confirmed result or parameters measured during water sample collection

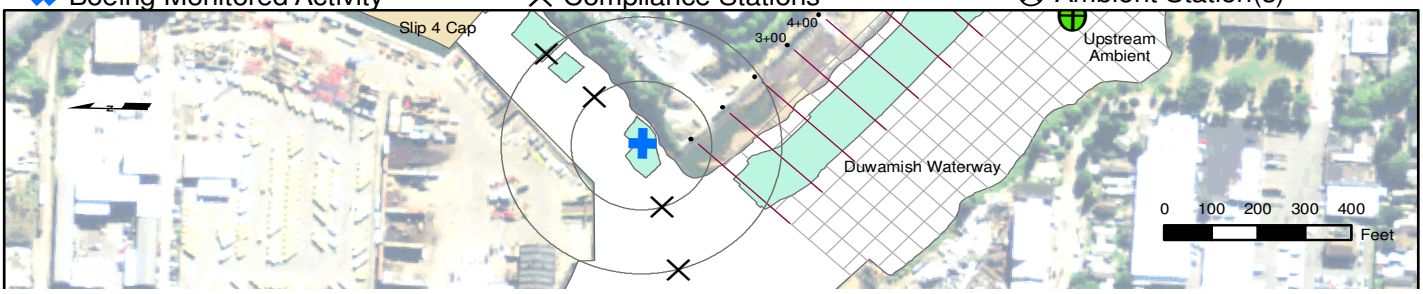
Daily Tides

3:35 AM	0.1 L
11:02 AM	10.3 H
5:05 PM	6 L
9:48 PM	8.4 H
Sunrise	7:27 AM
Sunset	6:23 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/14/2014

Activity Dredging

Intensive Monitoring

Start Time: 11:30

End Time: 15:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:50		15:10		14:08		15:10	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.1		2.7	7.7	2.8		2.7	7.7
Temp. (°C)	14.82		14.9	15.83	14.92		14.9	15.83
DO (mg/L)	8.64		8.8	≤ 6 mg/L	8.65		8.8	≤ 6 mg/L
pH (Units)	7.56		7.58	<7.08 and >8.08	7.52		7.58	<7.08 and >8.08
Sal. (ppt)	9.18		6.09		5.71		6.09	
Sample ID	-0616				-0614			
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:59	13:05	12:55		12:34		12:55	
2		2		2		2	
12.3	6.5	2.7	7.7	3.4		2.7	7.7
14.33		14.52	15.48	14.58		14.52	15.48
8.1		8.48	≤ 6 mg/L	8.14		8.48	≤ 6 mg/L
7.45		7.56	<7.06 and >8.06	7.48		7.56	<7.06 and >8.06
11.23		7.6		9.16		7.6	
-0610				-0612			
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:00		15:11		14:30		15:11	
Depth (ft)	15.82		12.48		17.4		12.48	
Turb. (NTU)	5.2		2.4	7.4	4.8		2.4	7.4
Temp. (°C)	12.99		13.16	14.24	12.91		13.16	14.24
DO (mg/L)	6.4		6.62	≤ 6 mg/L	6.89		6.62	≤ 6 mg/L
pH (Units)	7.62		7.62	<7.12 and >8.12	7.68		3.62	< 7.0 or >4.12
Sal. (ppt)	29.04		27.3		29.66		27.3	
Sample ID	-0617				-0615			
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:10		12:57		12:43		12:58	
14.3		14.3		17.82		17.8	
3.8		2.2	7.2	2.6		2.1	7.1
12.9		12.96	14.05	12.88		12.89	13.99
6.14		6.3	≤ 6 mg/L	6.19		6.13	≤ 6 mg/L
7.66		7.67	<7.17 and >8.17	7.67		7.71	<7.21 and >8.21
29.75		29.14		29.88		29.74	
-0611				-0613			
☐ Submitted				☐ Submitted			

Report Date 10/20/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/17/2014
Time Period: 10:45 AM to 12:30 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in Slip 4. Some barge and tug movement. Upstream is identified as toward head of the slip. Downstream refers to the stations toward the mouth of the slip. Ambient is downriver in main channel.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	11:41	12:19	12:02	12:19	10:47	11:31	11:08	11:31
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.4	2.2	2.3	2.2	2.7	2.1	2.3	2.1
Temp. (°C)	13.78	13.7	13.74	13.7	13.77	13.77	13.86	13.77
DO (mg/L)	8.96	8.51	8.71	8.51	8.59	8.68	8.14	8.68
pH (units)	7.62	7.54	7.59	7.54	7.52	7.54	7.49	7.54
Sal. (ppt)	6.26	8.21	5.99	8.21	5.84	5.34	9.04	5.34
Sample ID	-0622	—	-0624	—	-0618	—	-0620	—

Near-Bottom Samples

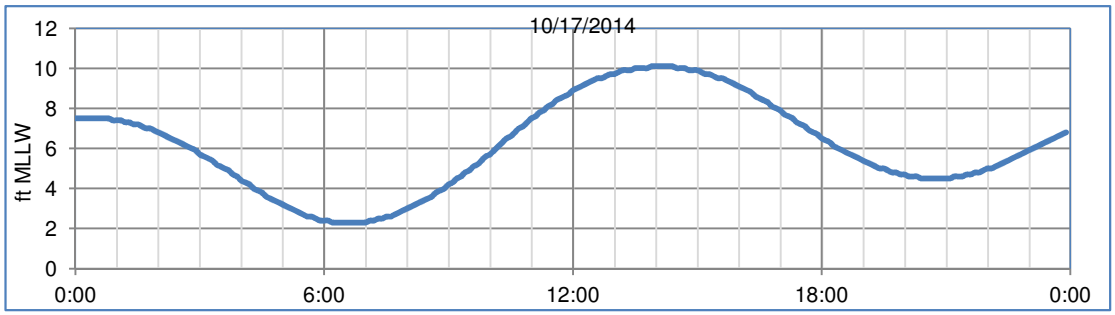
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	11:48	12:22	12:09	12:24	10:54	11:33	11:16	11:33
Depth (ft)	17.9	17.9	22.6	22.6	18	18	17.5	18
Turb. (NTU)	4.6	2.8	3.8	3.5	7.4	2.6	5.8	2.6
Temp. (°C)	12.84	12.85	12.83	12.83	12.85	12.84	12.86	12.84
DO (mg/L)	6.21	6.22	6.36	6.13	6.1	6.22	6.05	6.05
pH (units)	7.65	7.67	7.66	7.68	7.6	7.65	7.61	7.65
Sal. (ppt)	30.1	29.9	30.17	30.21	30	30	29.91	30
Sample ID	-0623	—	-0625	—	-0619	—	-0621	—

* = Value reflects confirmed result or parameters measured during water sample collection

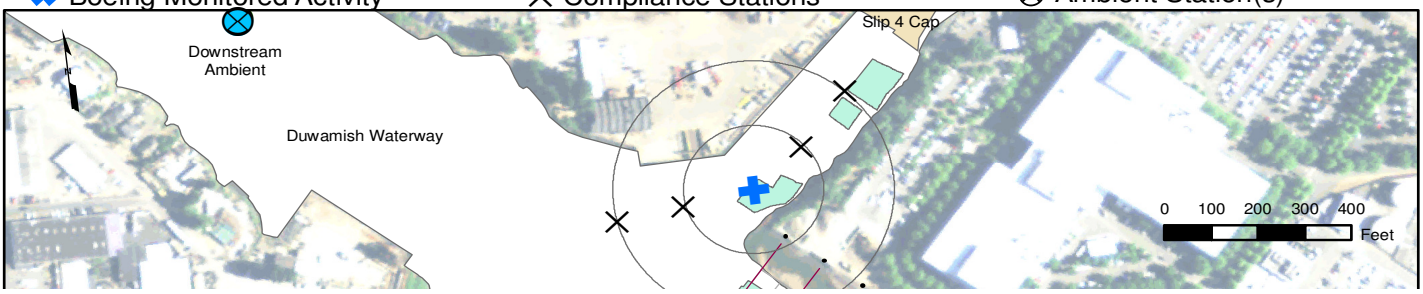
Daily Tides

12:20 AM	7.5 H
6:35 AM	2.3 L
2:06 PM	10.1 H
8:46 PM	4.5 L
Sunrise	7:31 AM
Sunset	6:17 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/17/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 10:45

End Time: 12:30

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:41		12:19		12:02		12:19	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.4		2.2	7.2	2.3		2.2	7.2
Temp. (°C)	13.78		13.7	14.73	13.74		13.7	14.73
DO (mg/L)	8.96		8.51	≤ 6 mg/L	8.71		8.51	≤ 6 mg/L
pH (Units)	7.62		7.54	<7.04 and >8.04	7.59		7.54	<7.04 and >8.04
Sal. (ppt)	6.26		8.21		5.99		8.21	
Sample ID	-0622				-0624			
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
10:47		11:31		11:08		11:31	
2		2		2		2	
2.7		2.1	7.1	2.3		2.1	7.1
13.77		13.77	14.79	13.86		13.77	14.79
8.59		8.68	≤ 6 mg/L	8.14		8.68	≤ 6 mg/L
7.52		7.54	<7.04 and >8.04	7.49		7.54	<7.04 and >8.04
5.84		5.34		9.04		5.34	
-0618				-0620			
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:48		12:22		12:09		12:24	
Depth (ft)	17.9		17.9		22.6		22.6	
Turb. (NTU)	4.6		2.8	7.8	3.8		3.5	8.5
Temp. (°C)	12.84		12.85	13.96	12.83		12.83	13.94
DO (mg/L)	6.21		6.22	≤ 6 mg/L	6.36		6.13	≤ 6 mg/L
pH (Units)	7.65		7.67	<7.17 and >8.17	7.66		7.68	<7.18 and >8.18
Sal. (ppt)	30.1		29.9		30.17		30.21	
Sample ID	-0623				-0625			
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
10:54		11:33		11:16		11:33	
18		18		17.5		18	
7.4		2.6	7.6	5.8		2.6	7.6
12.85		12.84	13.95	12.86		12.84	13.95
6.1		6.22	≤ 6 mg/L	6.05		6.05	≤ 6 mg/L
7.6		7.65	<7.15 and >8.15	7.61		7.65	<7.15 and >8.15
30		30		29.91		30	
-0619				-0621			
☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/21/2014
Time Period: 10:15 AM to 12:15 PM
Activity: Dredging: Routine Monitoring — Flood Tide
Comments: Low DO values found at downstream ambient station in the deeper high salinity salt wedge. Similar values found upstream near ambient in situ WQ instrument and downstream at 1st Ave. Bridge.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient
Time	10:02	10:45	10:36	10:45	11:50	12:03	11:56	12:03
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3	2.8	3.1	2.8	3.5	3.2	3.8	3.2
Temp. (°C)	13.75	13.78	13.77	13.78	13.88	13.91	13.87	13.91
DO (mg/L)	8.75	8.44	8.62	8.44	8.63	8.55	8.533	8.55
pH (units)	7.67	7.49	7.61	7.49	7.51	7.55	7.56	7.55
Sal. (ppt)	6	5.9	5.4	5.9	5.8	5.84	6	5.84
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

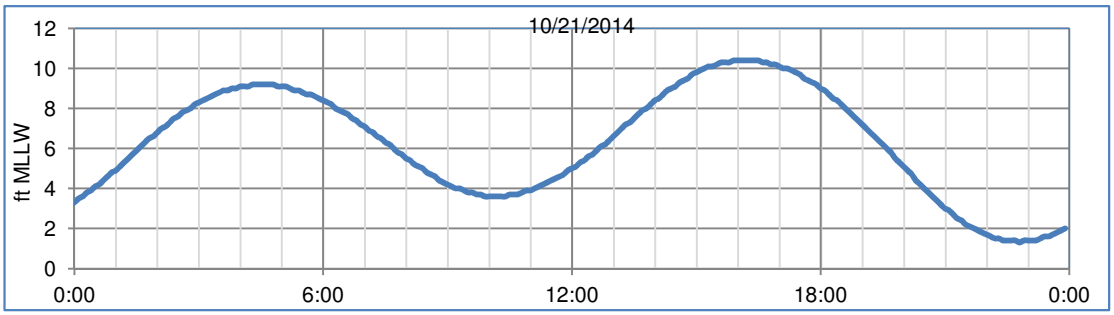
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	11;22 *	10;47	11;27 *	10:49	11:51	12:07	11:57	12:05
Depth (ft)	16.7	16.7	20.8	18.6	16	16	11.9	11.9
Turb. (NTU)	8.4 *	3.8	7.6 *	4	4.4	3.6	2.8	2.6
Temp. (°C)	12.94	12.91	12.93	12.91	12.93	12.9	13.04	13.06
DO (mg/L)	5.78 *	5.79	5.71 *	5.76	5.75	5.8	5.95	5.96
pH (units)	7.62	7.64	7.63	7.65	7.62	7.67	7.78	7.64
Sal. (ppt)	28.6	29.1	28.9	29.11	28.9	29.22	27.4	27.3
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

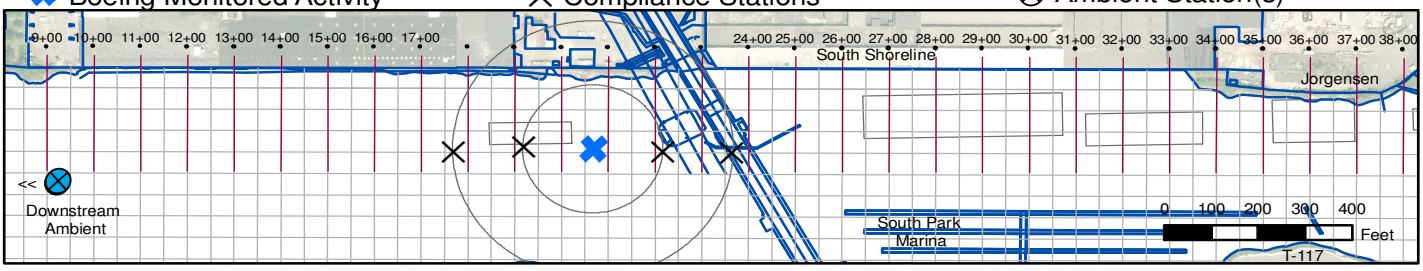
Daily Tides

4:30 AM	9.2 H
10:10 AM	3.6 L
4:11 PM	10.4 H
10:47 PM	1.3 L
Sunrise	7:37 AM
Sunset	6:10 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/21/2014

Activity Dredging

Monitoring Level Routine Monitoring

Start Time: 10:15

End Time: 12:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:02		10:45		10:36		10:45	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3		2.8	7.8	3.1		2.8	7.8
Temp. (°C)	13.75		13.78	14.80	13.77		13.78	14.80
DO (mg/L)	8.75		8.44	≤ 6 mg/L	8.62		8.44	≤ 6 mg/L
pH (Units)	7.67		7.49	< 7.0 or >7.99	7.61		7.49	< 7.0 or >7.99
Sal. (ppt)	6		5.9		5.4		5.9	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:50		12:03		11:56		12:03	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.5		3.2	8.2	3.8		3.2	8.2
Temp. (°C)	13.88		13.91	14.92	13.87		13.91	14.92
DO (mg/L)	8.63		8.55	≤ 6 mg/L	8.533		8.55	≤ 6 mg/L
pH (Units)	7.51		7.55	<7.05 and >8.05	7.56		7.55	<7.05 and >8.05
Sal. (ppt)	5.8		5.84		6		5.84	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:30	11;22	10;47		10;38	11;27	10:49	
Depth (ft)	16.7		16.7		20.8		18.6	
Turb. (NTU)	11.1	8.4	3.8	8.8	10.9	7.6	4	9
Temp. (°C)	12.94		12.91	14.01	12.93		12.91	14.01
DO (mg/L)	5.72	5.78	5.79	< 5.59 mg/L [1]	5.76	5.71	5.76	< 5.56 mg/L [1]
pH (Units)	7.62		7.64	<7.14 and >8.14	7.63		7.65	<7.15 and >8.15
Sal. (ppt)	28.6		29.1		28.9		29.11	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:51		12:07		11:57		12:05	
Depth (ft)	16		16		11.9		11.9	
Turb. (NTU)	4.4		3.6	8.6	2.8		2.6	7.6
Temp. (°C)	12.93		12.9	14.00	13.04		13.06	14.14
DO (mg/L)	5.75		5.8	< 5.6 mg/L [1]	5.95		5.96	< 5.76 mg/L [1]
pH (Units)	7.62		7.67	<7.17 and >8.17	7.78		7.64	<7.14 and >8.14
Sal. (ppt)	28.9		29.22		27.4		27.3	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

1:

WAC 173-201A-210 1 d (i) states that: "When a water body's D.O. is lower than the criteria in Table 210 (1)(d) (or within 0.2 mg/L of the criteria) and that condition is due to natural conditions, then human actions considered cumulatively may not cause the D.O. of that water body to decrease more than 0.2 mg/L."

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/21/2014
Time Period: 12:45 PM to 2:15 PM
Activity: Dredging: Additional Monitoring — Flood Tide
Comments: Dredge moved south of bridge following monitoring at upstream stations and start of monitoring at downstream stations. Downstream stations in shallower water. Deeper saline salt wedge confined to main channel.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Upstream				Near Surface Downstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	12:56	13:22	13:14	13:22	13:54	14:09	14:00	14:09
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.5	2.8	3.4	2.8	3.3	3	3	3
Temp. (°C)	13.16	14.04	13.84	14.04	14.04	14.04	14	14.04
DO (mg/L)	8.76	8.63	8.31	8.63	8.56	8.6	8.72	8.6
pH (units)	7.56	7.55	7.48	7.55	7.66	7.58	7.59	7.58
Sal. (ppt)	5.99	7.2	8.4	7.2	5.36	6.87	6.44	6.87
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

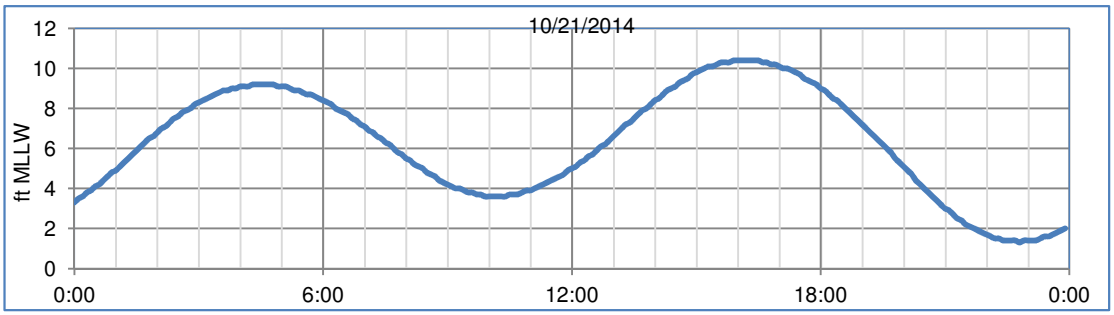
	Near Bottom Upstream				Near Bottom Downstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	12:57	13:28	13:15	13:28	13:55	14:12	14:02	14:10
Depth (ft)	20.8	20.9	23.5	20.9	13.6	13.6	12	12
Turb. (NTU)	6.6	6.1	6.2	6.1	4.4	3.2	4.3	3.1
Temp. (°C)	12.87	12.84	12.87	12.84	12.94	12.95	12.93	12.98
DO (mg/L)	5.8	5.98	5.86	5.98	6.16	6.09	6	6.26
pH (units)	7.69	7.71	7.66	7.71	7.62	7.7	7.66	7.68
Sal. (ppt)	29.48	29.88	29.56	29.88	28.1	28.1	28.7	27.5
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

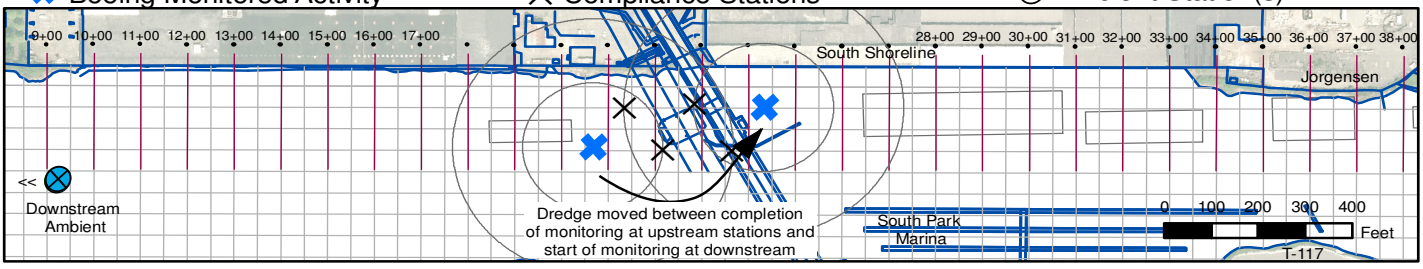
Daily Tides

4:30 AM	9.2 H
10:10 AM	3.6 L
4:11 PM	10.4 H
10:47 PM	1.3 L
Sunrise	7:37 AM
Sunset	6:10 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/21/2014

Activity Dredging

Monitoring Level Additional Monitoring

Start Time: 12:45

End Time: 14:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:56		13:22		13:14		13:22	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.5		2.8	7.8	3.4		2.8	7.8
Temp. (°C)	13.16		14.04	15.04	13.84		14.04	15.04
DO (mg/L)	8.76		8.63	≤ 6 mg/L	8.31		8.63	≤ 6 mg/L
pH (Units)	7.56		7.55	<7.05 and >8.05	7.48		7.55	<7.05 and >8.05
Sal. (ppt)	5.99		7.2		8.4		7.2	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:54		14:09		14:00		14:09	
2		2		2		2	
3.3		3	8	3		3	8
14.04		14.04	15.04	14		14.04	15.04
8.56		8.6	≤ 6 mg/L	8.72		8.6	≤ 6 mg/L
7.66		7.58	<7.08 and >8.08	7.59		7.58	<7.08 and >8.08
5.36		6.87		6.44		6.87	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:57		13:28		13:15		13:28	
Depth (ft)	20.8		20.9		23.5		20.9	
Turb. (NTU)	6.6		6.1	11.1	6.2		6.1	11.1
Temp. (°C)	12.87		12.84	13.95	12.87		12.84	13.95
DO (mg/L)	5.8		5.98	< 5.78 mg/L [1]	5.86		5.98	< 5.78 mg/L [1]
pH (Units)	7.69		7.71	<7.21 and >8.21	7.66		7.71	<7.21 and >8.21
Sal. (ppt)	29.48		29.88		29.56		29.88	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:55		14:12		14:02		14:10	
13.6		13.6		12		12	
4.4		3.2	8.2	4.3		3.1	8.1
12.94		12.95	14.05	12.93		12.98	14.07
6.16		6.09	≤ 6 mg/L	6		6.26	≤ 6 mg/L
7.62		7.7	<7.2 and >8.2	7.66		7.68	<7.18 and >8.18
28.1		28.1		28.7		27.5	
☐ Submitted				☐ Submitted			

1:

WAC 173-201A-210 1 d (i) states that: "When a water body's D.O. is lower than the criteria in Table 210 (1)(d) (or within 0.2 mg/L of the criteria) and that condition is due to natural conditions, then human actions considered cumulatively may not cause the D.O. of that water body to decrease more than 0.2 mg/L."

Report Date 10/22/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/21/2014
Time Period: 2:30 PM to 4:15 PM
Activity: Dredging: Additional Monitoring — Flood Tide
Comments: Monitoring for DO and salinity only.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient
Time	14:44	15:06	14:54	15:06	15:44	15:59	15:51	15:59
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	—	—	—	—	—	—	—	—
Temp. (°C)	—	—	—	—	—	—	—	—
DO (mg/L)	9	8.67	8.7	8.67	8.4	8.57	8.32	8.57
pH (units)	—	—	—	—	—	—	—	—
Sal. (ppt)	4.98	6.98	6.5	6.98	8.57	6.91	9.5	6.91
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

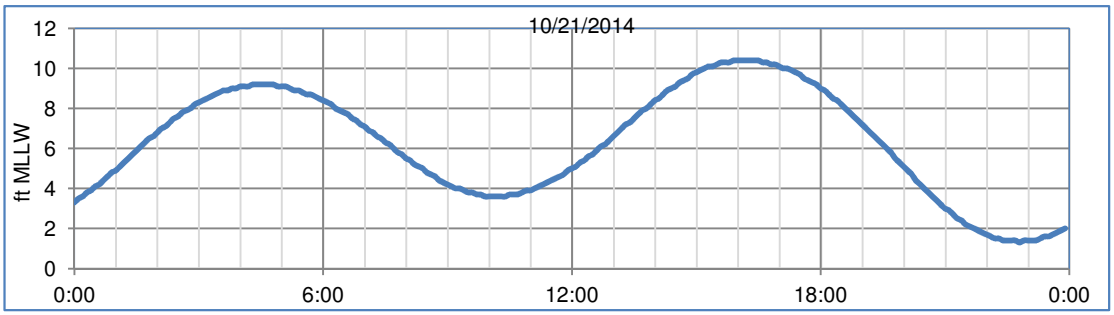
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	14:45	15:08	14:55	15:08	15:45	16:02	15:52	16:01
Depth (ft)	21.8	22	22.3	22	16.7	16.7	13.9	13.9
Turb. (NTU)	—	—	—	—	—	—	—	—
Temp. (°C)	—	—	—	—	—	—	—	—
DO (mg/L)	6.11	6.2	6.09	6.2	6.2	6.23	6.17	6.3
pH (units)	—	—	—	—	—	—	—	—
Sal. (ppt)	29.7	30.04	29.73	30.04	29.86	29.7	28.8	29.42
Sample ID	—	—	—	—	—	—	—	—

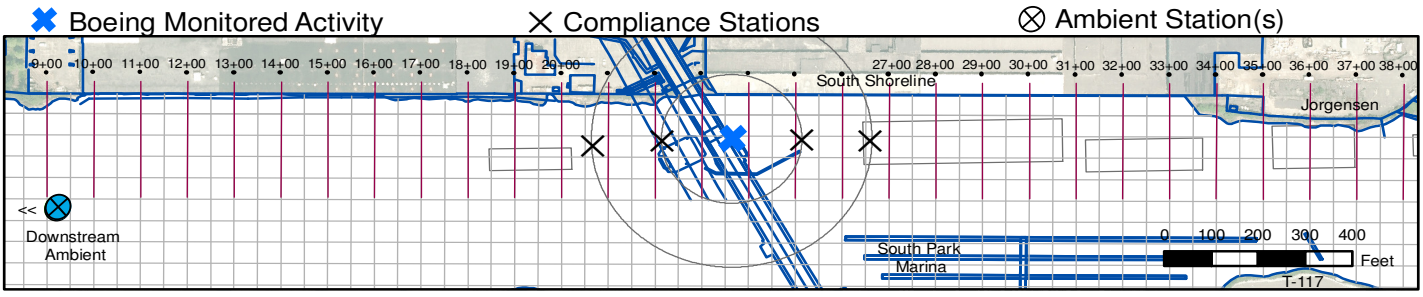
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

4:30 AM	9.2 H
10:10 AM	3.6 L
4:11 PM	10.4 H
10:47 PM	1.3 L
Sunrise	7:37 AM
Sunset	6:10 PM

Tide Curve





Data Entry

Date 10/21/2014

Activity Dredging

Monitoring Level Additional Monitoring

Start Time: 14:30

End Time: 16:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)								Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:44		15:06		14:54		15:06		15:44		15:59		15:51		15:59	
Depth (ft)	2		2		2		2		2		2		2		2	
Turb. (NTU)				—				—				—				—
Temp. (°C)				—				—				—				—
DO (mg/L)	9		8.67	≤ 6 mg/L	8.7		8.67	≤ 6 mg/L	8.4		8.57	≤ 6 mg/L	8.32		8.57	≤ 6 mg/L
pH (Units)				—				—				—				—
Sal. (ppt)	4.98		6.98		6.5		6.98		8.57		6.91		9.5		6.91	
Sample ID																
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)								Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:45		15:08		14:55		15:08		15:45		16:02		15:52		16:01	
Depth (ft)	21.8		22		22.3		22		16.7		16.7		13.9		13.9	
Turb. (NTU)				—				—				—				—
Temp. (°C)				—				—				—				—
DO (mg/L)	6.11		6.2	≤ 6 mg/L	6.09		6.2	≤ 6 mg/L	6.2		6.23	≤ 6 mg/L	6.17		6.3	≤ 6 mg/L
pH (Units)				—				—				—				—
Sal. (ppt)	29.7		30.04		29.73		30.04		29.86		29.7		28.8		29.42	
Sample ID																
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Report Date 10/22/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/21/2014
Time Period: 4:15 PM to 5:15 PM
Activity: Dredging: Additional Monitoring — Ebb Tide
Comments: Monitoring for DO and salinity only.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient
Time	16:29	17:00	16:35	17:00	16:46	17:00	16:52	17:00
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	—	—	—	—	—	—	—	—
Temp. (°C)	—	—	—	—	—	—	—	—
DO (mg/L)	8.64	8.48	8.7	8.48	9.06	8.48	8.98	8.48
pH (units)	—	—	—	—	—	—	—	—
Sal. (ppt)	7.74	7.8	7.89	7.8	4.4	7.8	4.5	7.8
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

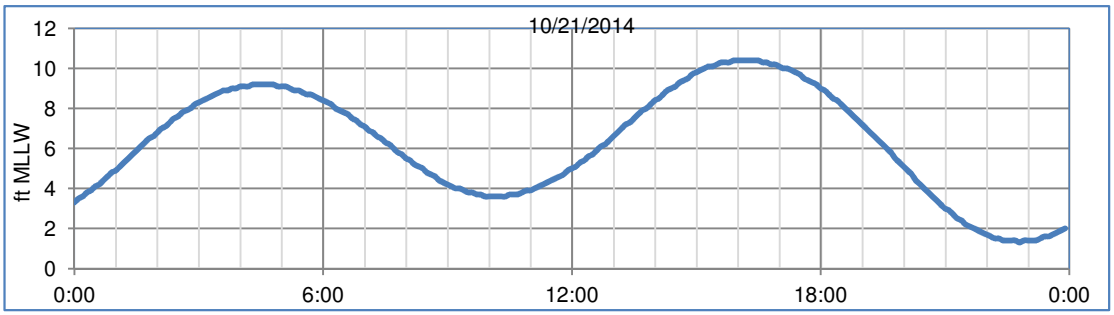
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	16:30	17:02	16:37	17:03	16:48	17:02	16:53	17:02
Depth (ft)	13.8	13.8	19.4	19.4	12.2	13.8	14.3	13.8
Turb. (NTU)	—	—	—	—	—	—	—	—
Temp. (°C)	—	—	—	—	—	—	—	—
DO (mg/L)	6.18	6.21	6.18	6.16	6.52	6.21	6.2	6.21
pH (units)	—	—	—	—	—	—	—	—
Sal. (ppt)	28.7	28.7	29.9	29.8	29.19	28.7	29.5	28.7
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

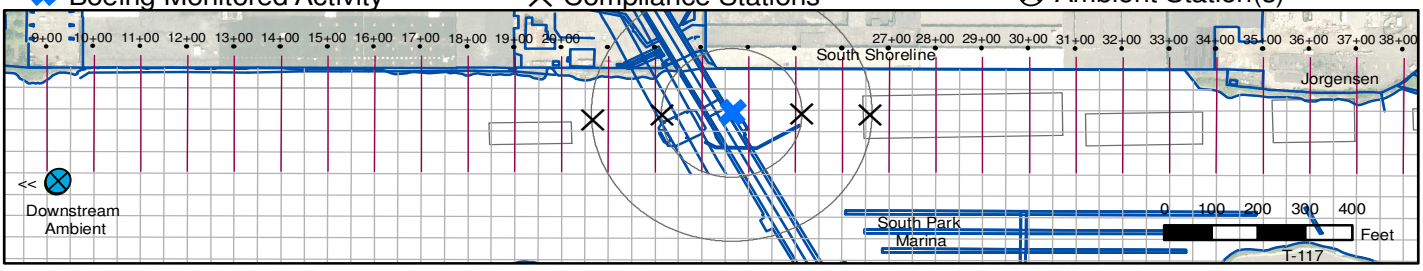
Daily Tides

4:30 AM	9.2 H
10:10 AM	3.6 L
4:11 PM	10.4 H
10:47 PM	1.3 L
Sunrise	7:37 AM
Sunset	6:10 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/21/2014

Activity Dredging

Monitoring Level Additional Monitoring

Start Time: 16:15

End Time: 17:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)								Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:29		17:00		16:35		17:00		16:46		17:00		16:52		17:00	
Depth (ft)	2		2		2		2		2		2		2		2	
Turb. (NTU)				—				—				—				—
Temp. (°C)				—				—				—				—
DO (mg/L)	8.64		8.48	≤ 6 mg/L	8.7		8.48	≤ 6 mg/L	9.06		8.48	≤ 6 mg/L	8.98		8.48	≤ 6 mg/L
pH (Units)				—				—				—				—
Sal. (ppt)	7.74		7.8		7.89		7.8		4.4		7.8		4.5		7.8	
Sample ID																
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)								Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:30		17:02		16:37		17:03		16:48		17:02		16:53		17:02	
Depth (ft)	13.8		13.8		19.4		19.4		12.2		13.8		14.3		13.8	
Turb. (NTU)				—				—				—				—
Temp. (°C)				—				—				—				—
DO (mg/L)	6.18		6.21	≤ 6 mg/L	6.18		6.16	≤ 6 mg/L	6.52		6.21	≤ 6 mg/L	6.2		6.21	≤ 6 mg/L
pH (Units)				—				—				—				—
Sal. (ppt)	28.7		28.7		29.9		29.8		29.19		28.7		29.5		28.7	
Sample ID																
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Report Date 10/27/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/23/2014
Time Period: 10:45 AM to 1:45 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Debris and logs encountered when dredging.
Downstream 300 ft sample collected at mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	10:58	11:37	11:19	11:38	12:33	12:54	11:53	12:54
Depth (ft)	2	2	3.5	3.5	2	2	2	2
Turb. (NTU)	7.1	5.4	8.5	5.2	7.5	5.8	6.3	5.8
Temp. (°C)	13.1	13.12	13.1	13.12	13.15	13.21	13.1	13.21
DO (mg/L)	8.9	8.71	8.73	8.69	8.72	9.06	8.91	9.06
pH (units)	7.53	7.47	7.47	7.45	7.52	7.63	7.58	7.63
Sal. (ppt)	5.39	5.58	5.51	5.39	5.17	5.67	5.02	5.67
Sample ID	-0626	—	-0628	—	-0631	—	-0629	—

Near-Bottom Samples

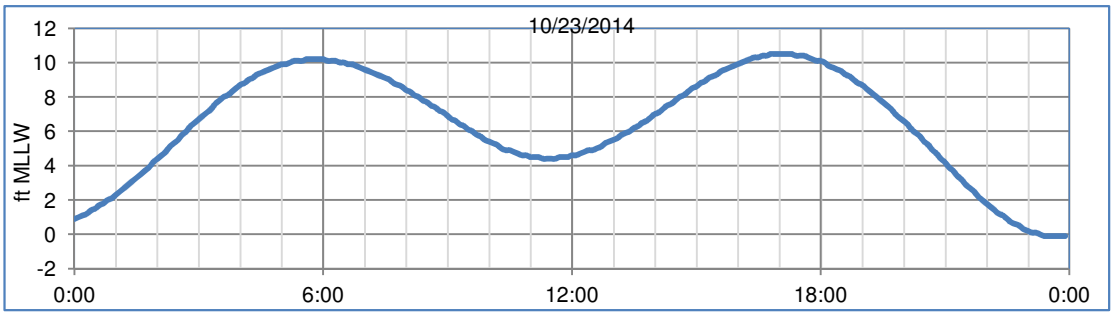
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:19 *	11:39	—	—	13:46 *	12:55	1:12	12:57
Depth (ft)	3.9	3.9	—	—	10.9	10.9	18	18
Turb. (NTU)	15 *	5	—	—	6.1 *	3.2	4.2	3.7
Temp. (°C)	13.1	13.12	—	—	13	12.95	12.9	12.88
DO (mg/L)	8.68	8.66	—	—	7.51	6.82	6.7	6.2
pH (units)	7.48	7.43	—	—	7.54	7.57	7.55	7.65
Sal. (ppt)	5.68	5.66	—	—	22.47	25.58	28.71	29.09
Sample ID	-0627	—	—	—	-0632	—	-0630	—
	Submitted							

* = Value reflects confirmed result or parameters measured during water sample collection

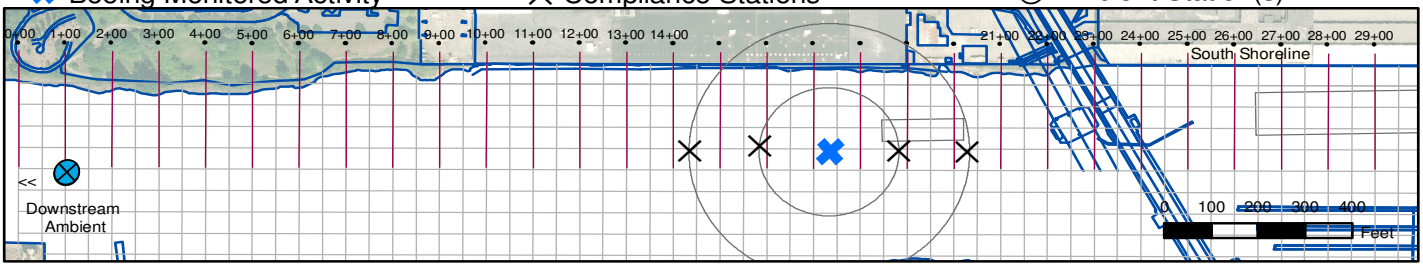
Daily Tides

5:49 AM	10.2 H
11:26 AM	4.4 L
5:04 PM	10.5 H
11:44 PM	-0.1 L
Sunrise	7:40 AM
Sunset	6:07 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/23/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 10:45

End Time: 13:45

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:58		11:37		11:19		11:38	
Depth (ft)	2		2		3.5		3.5	
Turb. (NTU)	7.1		5.4	10.4	8.5		5.2	10.2
Temp. (°C)	13.1		13.12	14.20	13.1		13.12	14.20
DO (mg/L)	8.9		8.71	≤ 6 mg/L	8.73		8.69	≤ 6 mg/L
pH (Units)	7.53		7.47	< 7.0 or >7.97	7.47		7.45	< 7.0 or >7.95
Sal. (ppt)	5.39		5.58		5.51		5.39	
Sample ID	-0626				-0628			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:33		12:54		11:53		12:54	
Depth (ft)	2		2		2		2	
Turb. (NTU)	7.5		5.8	10.8	6.3		5.8	10.8
Temp. (°C)	13.15		13.21	14.28	13.1		13.21	14.28
DO (mg/L)	8.72		9.06	≤ 6 mg/L	8.91		9.06	≤ 6 mg/L
pH (Units)	7.52		7.63	<7.13 and >8.13	7.58		7.63	<7.13 and >8.13
Sal. (ppt)	5.17		5.67		5.02		5.67	
Sample ID	-0631				-0629			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:06	12:19	11:39					
Depth (ft)	3.9		3.9					
Turb. (NTU)	11.9	15	5	10				—
Temp. (°C)	13.1		13.12	14.20				—
DO (mg/L)	8.68		8.66	≤ 6 mg/L				—
pH (Units)	7.48		7.43	< 7.0 or >7.93				—
Sal. (ppt)	5.68		5.66					
Sample ID	-0627							
Analyze	☑ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:40	13:46	12:55		1:12		12:57	
Depth (ft)	10.9		10.9		18		18	
Turb. (NTU)	10.7	6.1	3.2	8.2	4.2		3.7	8.7
Temp. (°C)	13		12.95	14.05	12.9		12.88	13.98
DO (mg/L)	7.51		6.82	≤ 6 mg/L	6.7		6.2	≤ 6 mg/L
pH (Units)	7.54		7.57	<7.07 and >8.07	7.55		7.65	<7.15 and >8.15
Sal. (ppt)	22.47		25.58		28.71		29.09	
Sample ID	-0632				-0630			
Analyze	☐ Submitted				☐ Submitted			

Report Date 10/24/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/23/2014
Time Period: 1:45 PM to 4:45 PM
Activity: Dredging: Additional Monitoring — Flood Tide
Comments: Additional round of monitoring following turbidity exceedance.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient
Time	13:47	14:05	13:53	14:05	14:20	14:36	14:27	14:36
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	6.7	6	5.8	6	6	6.1	6.1	6.1
Temp. (°C)	13.32	13.39	13.34	13.39	13.33	13.36	13.35	13.36
DO (mg/L)	8.71	9.01	9.3	9.01	9.2	8.99	9.27	8.99
pH (units)	7.59	7.66	7.73	7.66	7.78	7.67	7.77	7.67
Sal. (ppt)	4.45	5.71	4.44	5.71	4.18	5.81	3.98	5.81
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

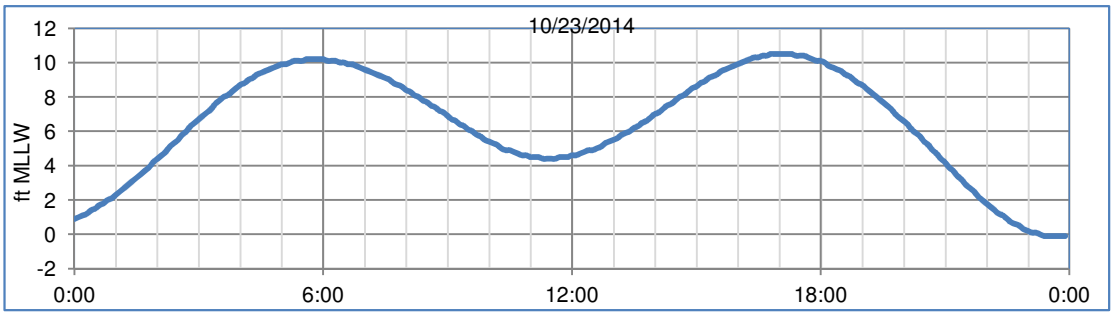
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	13:48	14:06	13:56	14:08	14:21	14:37	14:28	14:37
Depth (ft)	19.1	19.1	22.8	22.2	7.6	8	8.4	8
Turb. (NTU)	7	3.1	8	3.9	6.9	4.2	5.2	4.2
Temp. (°C)	12.89	12.84	12.88	12.84	13.15	13.1	13.13	13.1
DO (mg/L)	6.35	6.49	6.16	6.42	8.33	7.95	8.11	7.95
pH (units)	7.59	7.71	7.65	7.72	7.5	7.57	7.5	7.57
Sal. (ppt)	28.9	30.06	29.04	30.1	11.55	13.8	15.48	13.8
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

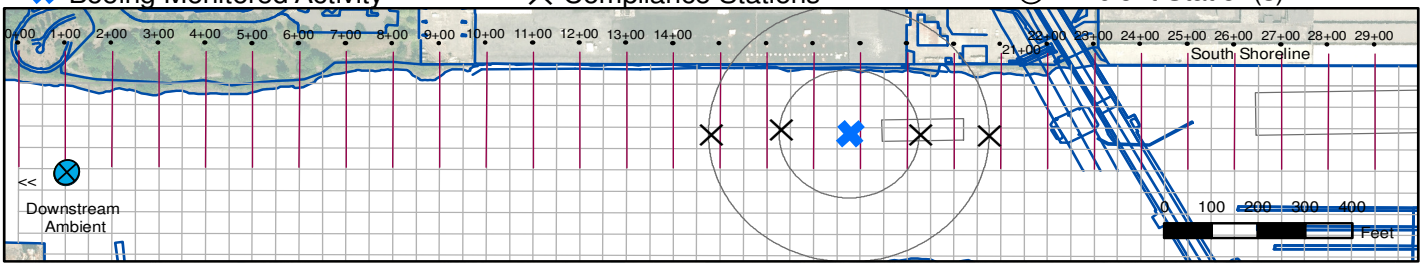
Daily Tides

5:49 AM	10.2 H
11:26 AM	4.4 L
5:04 PM	10.5 H
11:44 PM	-0.1 L
Sunrise	7:40 AM
Sunset	6:07 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/23/2014

Activity Dredging

Monitoring Level Additional Monitoring

Start Time: 13:45

End Time: 16:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:47		14:05		13:53		14:05	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6.7		6	11	5.8		6	11
Temp. (°C)	13.32		13.39	14.44	13.34		13.39	14.44
DO (mg/L)	8.71		9.01	≤ 6 mg/L	9.3		9.01	≤ 6 mg/L
pH (Units)	7.59		7.66	<7.16 and >8.16	7.73		7.66	<7.16 and >8.16
Sal. (ppt)	4.45		5.71		4.44		5.71	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:20		14:36		14:27		14:36	
2		2		2		2	
6		6.1	11.1	6.1		6.1	11.1
13.33		13.36	14.42	13.35		13.36	14.42
9.2		8.99	≤ 6 mg/L	9.27		8.99	≤ 6 mg/L
7.78		7.67	<7.17 and >8.17	7.77		7.67	<7.17 and >8.17
4.18		5.81		3.98		5.81	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:48		14:06		13:56		14:08	
Depth (ft)	19.1		19.1		22.8		22.2	
Turb. (NTU)	7		3.1	8.1	8		3.9	8.9
Temp. (°C)	12.89		12.84	13.95	12.88		12.84	13.95
DO (mg/L)	6.35		6.49	≤ 6 mg/L	6.16		6.42	≤ 6 mg/L
pH (Units)	7.59		7.71	<7.21 and >8.21	7.65		7.72	<7.22 and >8.22
Sal. (ppt)	28.9		30.06		29.04		30.1	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:21		14:37		14:28		14:37	
7.6		8		8.4		8	
6.9		4.2	9.2	5.2		4.2	9.2
13.15		13.1	14.18	13.13		13.1	14.18
8.33		7.95	≤ 6 mg/L	8.11		7.95	≤ 6 mg/L
7.5		7.57	<7.07 and >8.07	7.5		7.57	<7.07 and >8.07
11.55		13.8		15.48		13.8	
☐ Submitted				☐ Submitted			

Report Date 10/24/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/23/2014
Time Period: 4:15 PM to 6:15 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Dredging being conducted in Special Area during beginning of monitoring round. Dredge moved offshore at 17:15. Dredge position shown is actual position at 17:30.
Submitted sample collected from station with highest turbidity during water collection.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient
Time	16:28	17:07	16:45	17:07	17:38	17:07	17:57	17:07
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.8	5.4	5.6	5.4	5.5	5.4	6	5.4
Temp. (°C)	13.26	13.23	13.23	13.23	13.19	13.23	13.14	13.23
DO (mg/L)	9.64	9.52	9.69	9.52	9.5	9.52	9.48	9.52
pH (units)	7.9	7.82	7.94	7.82	7.8	7.82	7.81	7.82
Sal. (ppt)	2.8	4.49	2.3	4.49	3.19	4.49	3.88	4.49
Sample ID	-0633	—	-0635	—	-0637	—	-0639	—

Near-Bottom Samples

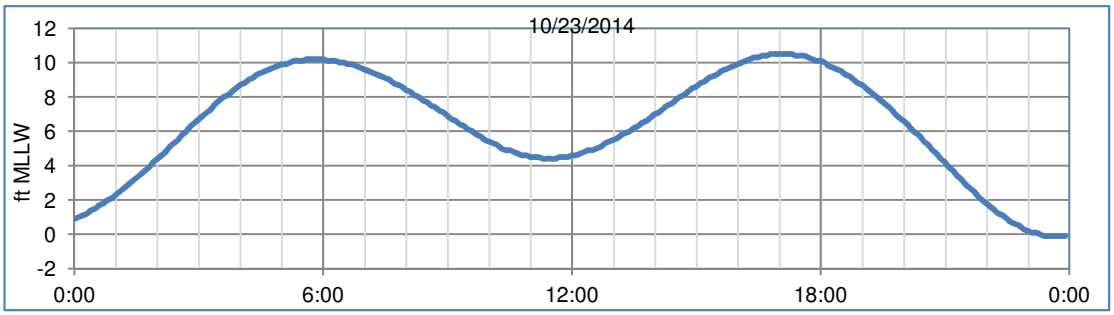
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	16:34	17:08	17:31 *	17:08	17:46	17:08	18:04	17:08
Depth (ft)	15.6	15	14.6	15	21.1	15	21.1	15
Turb. (NTU)	3.6	1.6	2.7 *	1.6	3.9	1.6	4.2	1.6
Temp. (°C)	12.85	12.85	12.88	12.85	12.85	12.85	12.84	12.85
DO (mg/L)	7	6.85	7.05	6.85	6.76	6.85	6.69	6.85
pH (units)	7.68	7.69	7.68	7.69	7.71	7.69	7.71	7.69
Sal. (ppt)	29.86	29.68	28.56	29.68	29.72	29.68	29.95	29.68
Sample ID	-0634	—	-0636	—	-0638	—	-0640	—
			Submitted					

* = Value reflects confirmed result or parameters measured during water sample collection

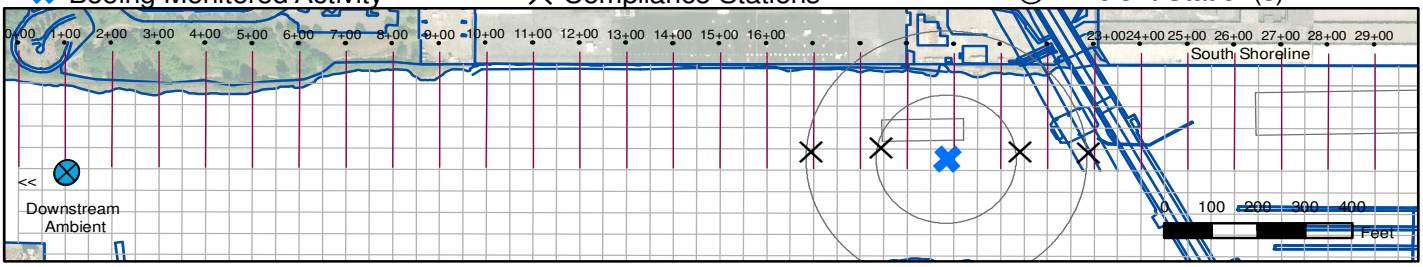
Daily Tides

5:49 AM	10.2 H
11:26 AM	4.4 L
5:04 PM	10.5 H
11:44 PM	-0.1 L
Sunrise	7:40 AM
Sunset	6:07 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/23/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 16:15

End Time: 18:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:28		17:07		16:45		17:07	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.8		5.4	10.4	5.6		5.4	10.4
Temp. (°C)	13.26		13.23	14.30	13.23		13.23	14.30
DO (mg/L)	9.64		9.52	≤ 6 mg/L	9.69		9.52	≤ 6 mg/L
pH (Units)	7.9		7.82	<7.32 and >8.32	7.94		7.82	<7.32 and >8.32
Sal. (ppt)	2.8		4.49		2.3		4.49	
Sample ID	-0633				-0635			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	17:38		17:07		17:57		17:07	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.5		5.4	10.4	6		5.4	10.4
Temp. (°C)	13.19		13.23	14.30	13.14		13.23	14.30
DO (mg/L)	9.5		9.52	≤ 6 mg/L	9.48		9.52	≤ 6 mg/L
pH (Units)	7.8		7.82	<7.32 and >8.32	7.81		7.82	<7.32 and >8.32
Sal. (ppt)	3.19		4.49		3.88		4.49	
Sample ID	-0637				-0639			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:34		17:08		16:53	17:31	17:08	
Depth (ft)	15.6		15		14.6		15	
Turb. (NTU)	3.6		1.6	6.6	9.5	2.7	1.6	6.6
Temp. (°C)	12.85		12.85	13.96	12.88		12.85	13.96
DO (mg/L)	7		6.85	≤ 6 mg/L	7.05		6.85	≤ 6 mg/L
pH (Units)	7.68		7.69	<7.19 and >8.19	7.68		7.69	<7.19 and >8.19
Sal. (ppt)	29.86		29.68		28.56		29.68	
Sample ID	-0634				-0636			
Analyze	☐ Submitted				☑ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	17:46		17:08		18:04		17:08	
Depth (ft)	21.1		15		21.1		15	
Turb. (NTU)	3.9		1.6	6.6	4.2		1.6	6.6
Temp. (°C)	12.85		12.85	13.96	12.84		12.85	13.96
DO (mg/L)	6.76		6.85	≤ 6 mg/L	6.69		6.85	≤ 6 mg/L
pH (Units)	7.71		7.69	<7.19 and >8.19	7.71		7.69	<7.19 and >8.19
Sal. (ppt)	29.72		29.68		29.95		29.68	
Sample ID	-0638				-0640			
Analyze	☐ Submitted				☐ Submitted			

Report Date 10/27/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/24/2014
Time Period: 12:00 PM to 3:00 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in vicinity of and within Special Area during monitoring round.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	14:02	14:45	14:25	14:45	12:07	12:57	12:30	12:57
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.9	4.6	4.8	4.6	4.8	4.9	4.6	4.9
Temp. (°C)	12.93	12.89	12.93	12.89	12.8	12.83	12.86	12.83
DO (mg/L)	9.18	9.27	9.3	9.27	9.16	9.26	9.23	9.26
pH (units)	7.46	7.57	7.51	7.57	7.6	7.93	7.58	7.93
Sal. (ppt)	4.27	4.54	3.7	4.54	4.39	4.59	4.23	4.59
Sample ID	-0645	—	-0647	—	-0641	—	-0643	—

Near-Bottom Samples

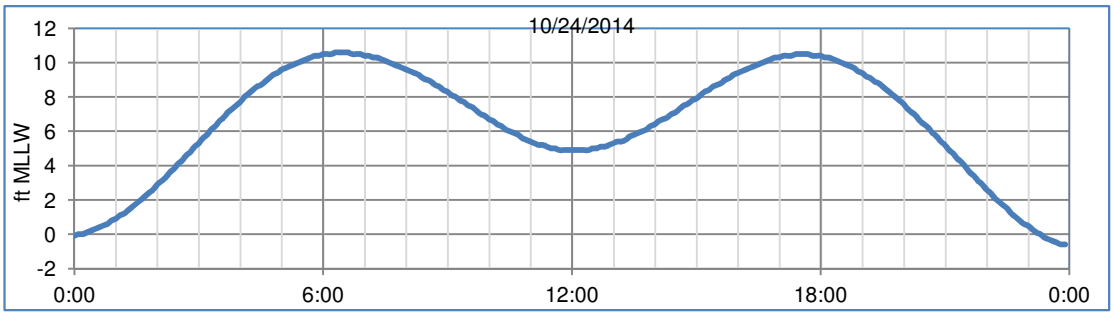
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	14:12	14:46	14:33	14:46	12:16	13:00	12:43	13:06
Depth (ft)	18.5	18.1	17	18.1	10.6	10.6	13.9	13.9
Turb. (NTU)	6.6	3.6	4.5	3.6	5.3	4.7	5.2	4
Temp. (°C)	12.85	12.8	12.84	12.8	12.77	12.79	12.87	12.87
DO (mg/L)	6.38	6.52	6.95	6.52	8.79	7.58	6.59	6.72
pH (units)	7.65	7.71	7.79	7.71	7.6	7.72	7.63	7.76
Sal. (ppt)	28.84	29.63	28.14	29.63	8.04	15.64	22.38	25.07
Sample ID	-0646	—	-0648	—	-0642	—	-0644	—

* = Value reflects confirmed result or parameters measured during water sample collection

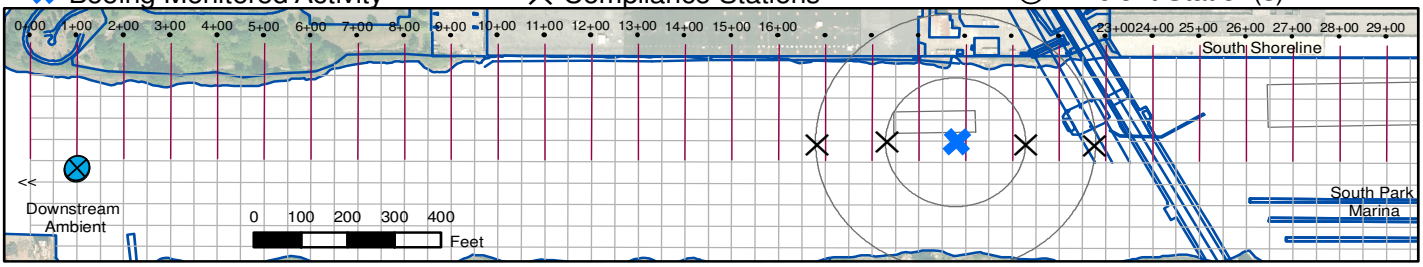
Daily Tides

6:27 AM	10.6 H
12:04 PM	4.9 L
5:33 PM	10.5 H
12:00 AM	
Sunrise	7:41 AM
Sunset	6:05 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/24/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:00

End Time: 15:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:02		14:45		14:25		14:45	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.9		4.6	9.6	4.8		4.6	9.6
Temp. (°C)	12.93		12.89	13.99	12.93		12.89	13.99
DO (mg/L)	9.18		9.27	≤ 6 mg/L	9.3		9.27	≤ 6 mg/L
pH (Units)	7.46		7.57	<7.07 and >8.07	7.51		7.57	<7.07 and >8.07
Sal. (ppt)	4.27		4.54		3.7		4.54	
Sample ID	-0645				-0647			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:07		12:57		12:30		12:57	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.8		4.9	9.9	4.6		4.9	9.9
Temp. (°C)	12.8		12.83	13.94	12.86		12.83	13.94
DO (mg/L)	9.16		9.26	≤ 6 mg/L	9.23		9.26	≤ 6 mg/L
pH (Units)	7.6		7.93	<7.43 and >8.43	7.58		7.93	<7.43 and >8.43
Sal. (ppt)	4.39		4.59		4.23		4.59	
Sample ID	-0641				-0643			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:12		14:46		14:33		14:46	
Depth (ft)	18.5		18.1		17		18.1	
Turb. (NTU)	6.6		3.6	8.6	4.5		3.6	8.6
Temp. (°C)	12.85		12.8	13.91	12.84		12.8	13.91
DO (mg/L)	6.38		6.52	≤ 6 mg/L	6.95		6.52	≤ 6 mg/L
pH (Units)	7.65		7.71	<7.21 and >8.21	7.79		7.71	<7.21 and >8.21
Sal. (ppt)	28.84		29.63		28.14		29.63	
Sample ID	-0646				-0648			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:16		13:00		12:43		13:06	
Depth (ft)	10.6		10.6		13.9		13.9	
Turb. (NTU)	5.3		4.7	9.7	5.2		4	9
Temp. (°C)	12.77		12.79	13.90	12.87		12.87	13.97
DO (mg/L)	8.79		7.58	≤ 6 mg/L	6.59		6.72	≤ 6 mg/L
pH (Units)	7.6		7.72	<7.22 and >8.22	7.63		7.76	<7.26 and >8.26
Sal. (ppt)	8.04		15.64		22.38		25.07	
Sample ID	-0642				-0644			
Analyze	☐ Submitted				☐ Submitted			

Report Date 10/27/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/25/2014
Time Period: 11:00 AM to 1:30 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Dredge in vicinity of Special Area.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	11:01	11:42	11:19	11:42	12:16	13:13	11:55	13:13
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.2	4.6	4.7	4.6	4.3	4.5	4.5	4.5
Temp. (°C)	12.06	12.09	12.09	12.09	12.14	12.15	12.11	12.15
DO (mg/L)	9.53	9.54	9.5	9.54	9.63	9.7	9.54	9.7
pH (units)	7.33	7.38	7.35	7.38	7.43	7.51	7.42	7.51
Sal. (ppt)	3.5	3.48	3.6	3.48	3.43	3.8	3.8	3.8
Sample ID	-0649	—	-0651	—	-0655	—	-0653	—

Near-Bottom Samples

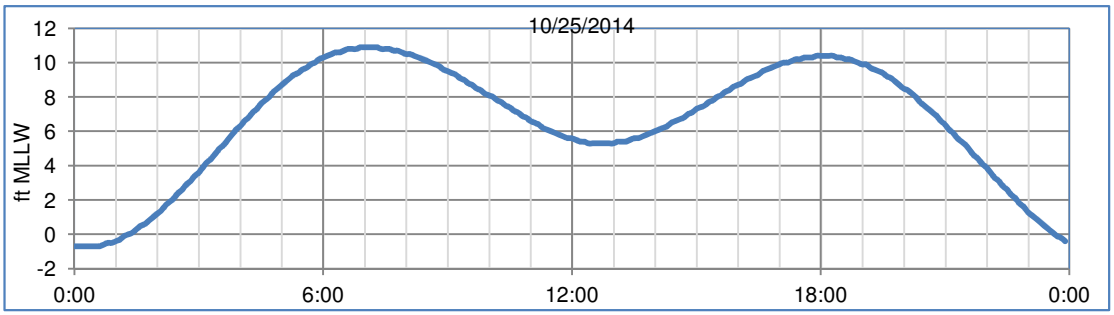
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	11:07	11:45	11::29	11:43	13:00	13:17	12:03	13:15
Depth (ft)	14.16	14.2	10.6	10.6	21.4	20.4	14.9	14.9
Turb. (NTU)	5.6	3.5	5	4.6	6.8	3.6	3.5	3
Temp. (°C)	12.74	12.71	12.31	12.3	12.75	12.75	12.74	12.75
DO (mg/L)	6.6	6.7	8.25	8.54	6.6	6.32	6.49	6.8
pH (units)	7.55	7.58	7.42	7.35	7.76	7.66	7.6	7.5
Sal. (ppt)	27.88	26.94	11.7	10.53	20.65	20.77	27.58	27.9
Sample ID	-0650	—	-0652	—	-0656	—	-0654	—
					Submitted			

* = Value reflects confirmed result or parameters measured during water sample collection

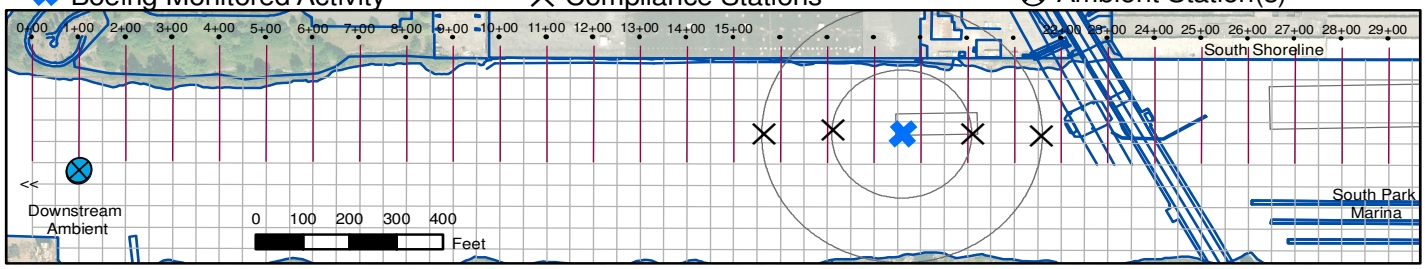
Daily Tides

12:18 AM	-0.7 L
7:07 AM	10.9 H
12:44 PM	5.3 L
6:04 PM	10.4 H
Sunrise	7:43 AM
Sunset	6:03 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/25/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:00

End Time: 13:30

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:01		11:42		11:19		11:42	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.2		4.6	9.6	4.7		4.6	9.6
Temp. (°C)	12.06		12.09	13.28	12.09		12.09	13.28
DO (mg/L)	9.53		9.54	≤ 6 mg/L	9.5		9.54	≤ 6 mg/L
pH (Units)	7.33		7.38	< 7.0 or >7.88	7.35		7.38	< 7.0 or >7.88
Sal. (ppt)	3.5		3.48		3.6		3.48	
Sample ID	-0649				-0651			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:16		13:13		11:55		13:13	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.3		4.5	9.5	4.5		4.5	9.5
Temp. (°C)	12.14		12.15	13.33	12.11		12.15	13.33
DO (mg/L)	9.63		9.7	≤ 6 mg/L	9.54		9.7	≤ 6 mg/L
pH (Units)	7.43		7.51	<7.01 and >8.01	7.42		7.51	<7.01 and >8.01
Sal. (ppt)	3.43		3.8		3.8		3.8	
Sample ID	-0655				-0653			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:07		11:45		11::29		11:43	
Depth (ft)	14.16		14.2		10.6		10.6	
Turb. (NTU)	5.6		3.5	8.5	5		4.6	9.6
Temp. (°C)	12.74		12.71	13.83	12.31		12.3	13.47
DO (mg/L)	6.6		6.7	≤ 6 mg/L	8.25		8.54	≤ 6 mg/L
pH (Units)	7.55		7.58	<7.08 and >8.08	7.42		7.35	< 7.0 or >7.85
Sal. (ppt)	27.88		26.94		11.7		10.53	
Sample ID	-0650				-0652			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:00		13:17		12:03		13:15	
Depth (ft)	21.4		20.4		14.9		14.9	
Turb. (NTU)	6.8		3.6	8.6	3.5		3	8
Temp. (°C)	12.75		12.75	13.87	12.74		12.75	13.87
DO (mg/L)	6.6		6.32	≤ 6 mg/L	6.49		6.8	≤ 6 mg/L
pH (Units)	7.76		7.66	<7.16 and >8.16	7.6		7.5	<7 and >8
Sal. (ppt)	20.65		20.77		27.58		27.9	
Sample ID	-0656				-0654			
Analyze	☑ Submitted				☐ Submitted			

Report Date 10/30/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/27/2014
Time Period: 7:45 PM to 9:45 PM
Activity: Dredging: Intensive Monitoring — Ebb Tide
Comments: Dredging in Early Removal Area.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	19:54	21:32	20:18	21:32	20:53	21:32	21:13	21:32
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.5	4.4	5.1	4.4	4.9	4.4	5	4.4
Temp. (°C)	11.2	11.12	11.17	11.12	11.17	11.12	11.21	11.12
DO (mg/L)	10.49	10.8	10.95	10.8	10.6	10.8	10.51	10.8
pH (units)	8.16	8.11	8.19	8.11	8.03	8.11	8.01	8.11
Sal. (ppt)	0.82	1.11	0.75	1.11	0.97	1.11	1.22	1.11
Sample ID	-0657 Submitted	—	-0659	—	-0661	—	-0663	—

Near-Bottom Samples

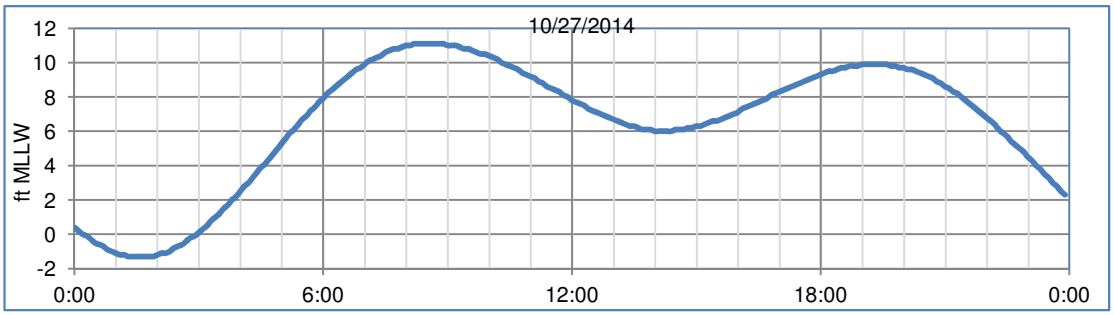
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	20:05	21:34	20:26	21:33	21:00	21:35	21:20	21:33
Depth (ft)	13.6	13.6	10.8	10.8	16.4	16.4	10.8	10.8
Turb. (NTU)	1.8	2.1	2.6	2.4	2.8	3.1	2.2	2.4
Temp. (°C)	12.4	12.44	12.32	12.3	12.41	12.44	12.39	12.3
DO (mg/L)	6.82	5.9	6.48	7	6.7	5.73	7	7
pH (units)	7.56	7.54	7.56	7.48	7.58	7.58	7.58	7.48
Sal. (ppt)	28.74	28.27	26.03	25.48	28.79	28.81	27.97	25.48
Sample ID	-0658	—	-0660	—	-0662	—	-0664	—

* = Value reflects confirmed result or parameters measured during water sample collection

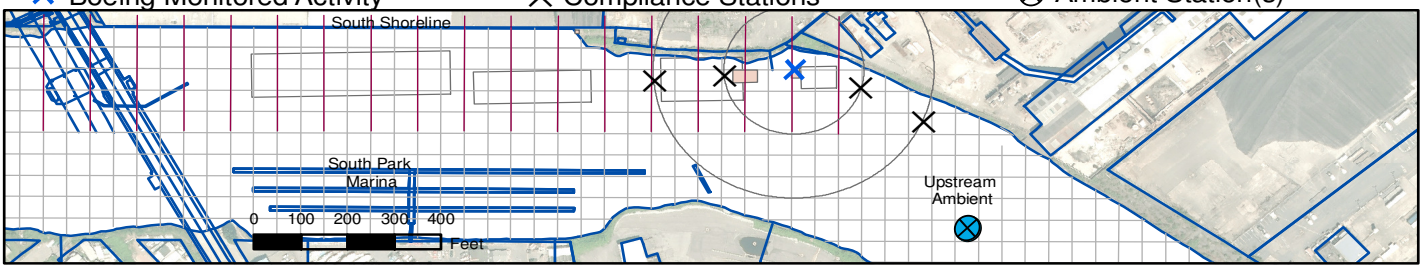
Daily Tides

1:35 AM	-1.3 L
8:35 AM	11.1 H
2:14 PM	6 L
7:18 PM	9.9 H
Sunrise	7:46 AM
Sunset	6:00 PM

Tide Curve



Boeing Monitored Activity Compliance Stations Ambient Station(s)



Data Entry

Date 10/27/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 19:45

End Time: 21:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)								Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	19:54		21:32		20:18		21:32		20:53		21:32		21:13		21:32	
Depth (ft)	2		2		2		2		2		2		2		2	
Turb. (NTU)	5.5		4.4	9.4	5.1		4.4	9.4	4.9		4.4	9.4	5		4.4	9.4
Temp. (°C)	11.2		11.12	12.44	11.17		11.12	12.44	11.17		11.12	12.44	11.21		11.12	12.44
DO (mg/L)	10.49		10.8	≤ 6 mg/L	10.95		10.8	≤ 6 mg/L	10.6		10.8	≤ 6 mg/L	10.51		10.8	≤ 6 mg/L
pH (Units)	8.16		8.11	<7.61 and >8.5	8.19		8.11	<7.61 and >8.5	8.03		8.11	<7.61 and >8.5	8.01		8.11	<7.61 and >8.5
Sal. (ppt)	0.82		1.11		0.75		1.11		0.97		1.11		1.22		1.11	
Sample ID	-0657				-0659				-0661				-0663			
Analyze	☑ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)								Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	20:05		21:34		20:26		21:33		21:00		21:35		21:20		21:33	
Depth (ft)	13.6		13.6		10.8		10.8		16.4		16.4		10.8		10.8	
Turb. (NTU)	1.8		2.1	7.1	2.6		2.4	7.4	2.8		3.1	8.1	2.2		2.4	7.4
Temp. (°C)	12.4		12.44	13.59	12.32		12.3	13.47	12.41		12.44	13.59	12.39		12.3	13.47
DO (mg/L)	6.82		5.9	≤ 6 mg/L	6.48		7	≤ 6 mg/L	6.7		5.73	≤ 6 mg/L	7		7	≤ 6 mg/L
pH (Units)	7.56		7.54	<7.04 and >8.04	7.56		7.48	< 7.0 or >7.98	7.58		7.58	<7.08 and >8.08	7.58		7.48	< 7.0 or >7.98
Sal. (ppt)	28.74		28.27		26.03		25.48		28.79		28.81		27.97		25.48	
Sample ID	-0658				-0660				-0662				-0664			
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Report Date 10/29/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/28/2014
Time Period: 3:45 PM to 6:00 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging not conducted in Special Area during monitoring.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface Downstream Mid-depth 150 ft	Near Surface Downstream Mid-depth Ambient	Near Surface Downstream Mid-depth 300 ft	Near Surface Downstream Mid-depth Ambient
Time	15:52	17:18	16:56	17:18	17:32	17:55	17:42	17:55
Depth (ft)	2	2	2	2	2.9	3.3	3.7	3.3
Turb. (NTU)	4.6	4.4	4.1	4.4	6.8	4.7	6.8	4.7
Temp. (°C)	11.26	11.29	11.43	11.29	11.41	11.27	11.41	11.27
DO (mg/L)	10.1	10.65	10.38	10.65	10.22	10.65	10.42	10.65
pH (units)	7.87	8.11	7.93	8.11	7.91	8.13	8.1	8.13
Sal. (ppt)	3.04	1.34	2.55	1.34	2.48	1.2	2.67	1.2
Sample ID	-0665	—	-0667	—	-0669	—	-0670	—

Near-Bottom Samples

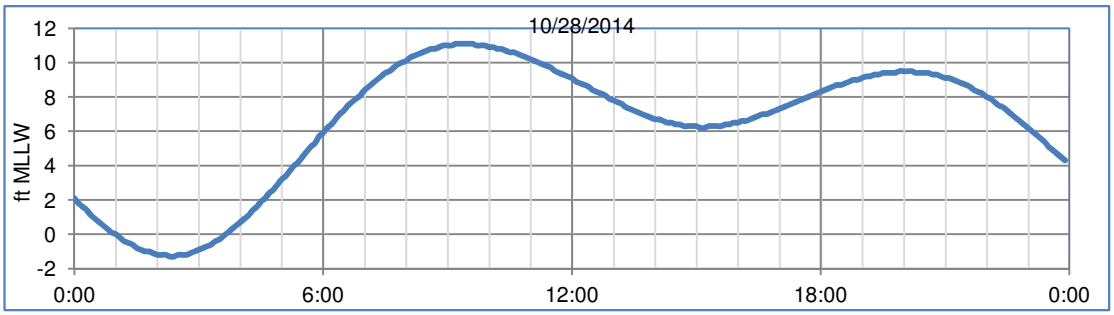
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	16:04	17:19	17:05	17:19	—	—	—	—
Depth (ft)	10.7	10	9.5	10	—	—	—	—
Turb. (NTU)	6.7	4.1	5.1	4.1	—	—	—	—
Temp. (°C)	11.64	11.33	11.43	11.33	—	—	—	—
DO (mg/L)	8.8	9.87	10.33	9.87	—	—	—	—
pH (units)	7.68	7.72	8.03	7.72	—	—	—	—
Sal. (ppt)	13.54	3.91	3.61	3.91	—	—	—	—
Sample ID	-0666	—	-0668	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

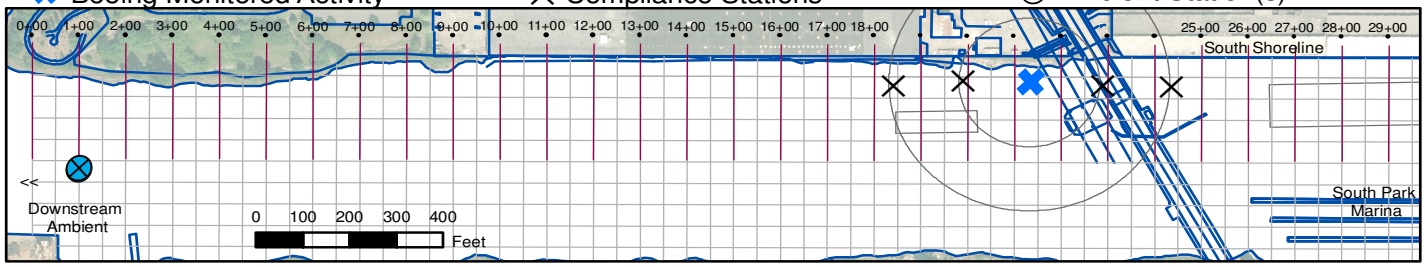
Daily Tides

2:20 AM	-1.3 L
9:26 AM	11.1 H
3:08 PM	6.2 L
8:05 PM	9.5 H
Sunrise	7:47 AM
Sunset	5:58 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/28/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 15:45

End Time: 18:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:52		17:18		16:56		17:18	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.6		4.4	9.4	4.1		4.4	9.4
Temp. (°C)	11.26		11.29	12.58	11.43		11.29	12.58
DO (mg/L)	10.1		10.65	≤ 6 mg/L	10.38		10.65	≤ 6 mg/L
pH (Units)	7.87		8.11	<7.61 and >8.5	7.93		8.11	<7.61 and >8.5
Sal. (ppt)	3.04		1.34		2.55		1.34	
Sample ID	-0665				-0667			
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
17:32		17:55		17:42		17:55	
2.9		3.3		3.7		3.3	
6.8		4.7	9.7	6.8		4.7	9.7
11.41		11.27	12.56	11.41		11.27	12.56
10.22		10.65	≤ 6 mg/L	10.42		10.65	≤ 6 mg/L
7.91		8.13	<7.63 and >8.5	8.1		8.13	<7.63 and >8.5
2.48		1.2		2.67		1.2	
-0669				-0670			
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:04		17:19		17:05		17:19	
Depth (ft)	10.7		10		9.5		10	
Turb. (NTU)	6.7		4.1	9.1	5.1		4.1	9.1
Temp. (°C)	11.64		11.33	12.62	11.43		11.33	12.62
DO (mg/L)	8.8		9.87	≤ 6 mg/L	10.33		9.87	≤ 6 mg/L
pH (Units)	7.68		7.72	<7.22 and >8.22	8.03		7.72	<7.22 and >8.22
Sal. (ppt)	13.54		3.91		3.61		3.91	
Sample ID	-0666				-0668			
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 10/30/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/29/2014
Time Period: 12:30 PM to 2:30 PM
Activity: Dredging: Intensive Monitoring — Ebb Tide
Comments: Dredging inshore of Special Area

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface/Mid-depth Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface/Mid-depth Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:37	13:08	12:55	13:09	13:39	14:12	13:57	14:13
Depth (ft)	2	2	4	4	2	2	3.5	3.5
Turb. (NTU)	6.1	5.1	8.1	5.2	4.7	5.2	4.5	5.3
Temp. (°C)	11.22	11.29	11.24	11.29	11.27	11.31	11.33	11.3
DO (mg/L)	10.25	10.62	10.16	10.23	10.32	10.52	10.52	10.15
pH (units)	7.92	8.08	7.77	7.8	7.97	8.05	7.99	7.84
Sal. (ppt)	1.88	1.7	2.22	2.08	1.49	2.6	1.45	2.7
Sample ID	-0671	—	-0673	—	-0674	—	-0676	—

Near-Bottom Samples

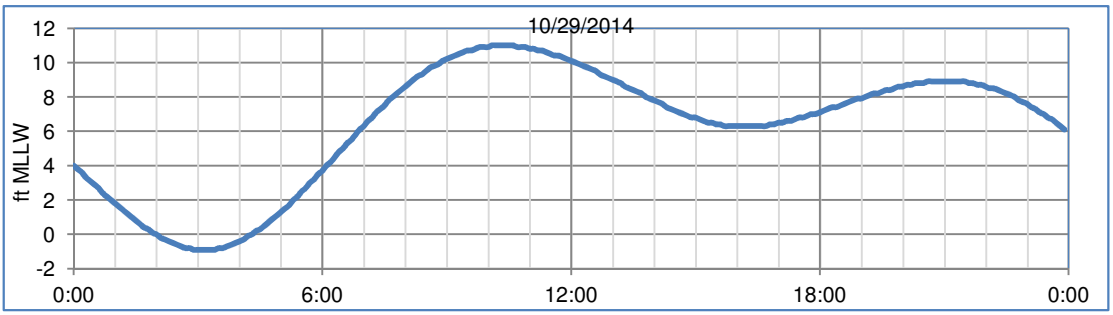
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:44	13:10	—	—	13:45	14:14	—	—
Depth (ft)	6.8	6.8	—	—	7.9	7.9	—	—
Turb. (NTU)	7.6	5.3	—	—	4.8	5.8	—	—
Temp. (°C)	11.28	11.28	—	—	11.22	11.33	—	—
DO (mg/L)	10.26	10.04	—	—	10.3	9.72	—	—
pH (units)	8	7.65	—	—	7.94	7.62	—	—
Sal. (ppt)	4.17	2.87	—	—	2.62	4.84	—	—
Sample ID	-0672	—	—	—	-0675	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

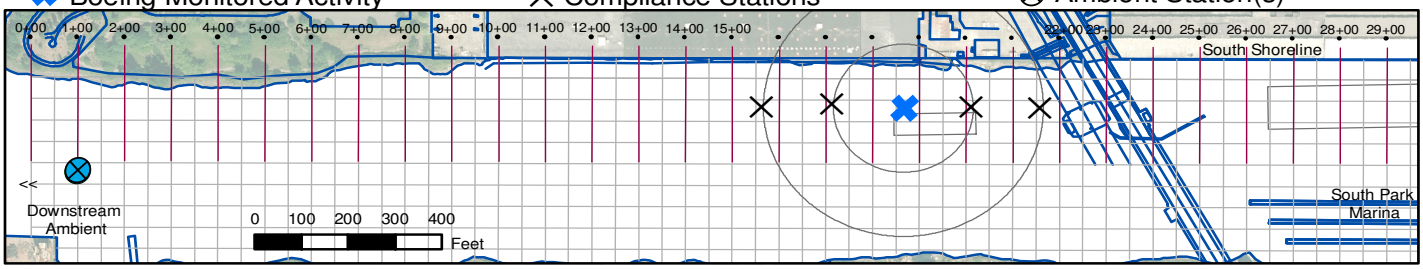
Daily Tides

3:09 AM	-0.9 L
10:21 AM	11 H
4:12 PM	6.3 L
9:03 PM	8.9 H
Sunrise	7:49 AM
Sunset	5:56 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/29/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:30

End Time: 14:30

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)								Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:37		13:08		12:55		13:09		13:39		14:12		13:57		14:13	
Depth (ft)	2		2		4		4		2		2		3.5		3.5	
Turb. (NTU)	6.1		5.1	10.1	8.1		5.2	10.2	4.7		5.2	10.2	4.5		5.3	10.3
Temp. (°C)	11.22		11.29	12.58	11.24		11.29	12.58	11.27		11.31	12.60	11.33		11.3	12.59
DO (mg/L)	10.25		10.62	≤ 6 mg/L	10.16		10.23	≤ 6 mg/L	10.32		10.52	≤ 6 mg/L	10.52		10.15	≤ 6 mg/L
pH (Units)	7.92		8.08	<7.58 and >8.5	7.77		7.8	<7.3 and >8.3	7.97		8.05	<7.55 and >8.5	7.99		7.84	<7.34 and >8.34
Sal. (ppt)	1.88		1.7		2.22		2.08		1.49		2.6		1.45		2.7	
Sample ID	-0671				-0673				-0674				-0676			
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)								Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:44		13:10						13:45		14:14					
Depth (ft)	6.8		6.8						7.9		7.9					
Turb. (NTU)	7.6		5.3	10.3				—	4.8		5.8	10.8				—
Temp. (°C)	11.28		11.28	12.57				—	11.22		11.33	12.62				—
DO (mg/L)	10.26		10.04	≤ 6 mg/L				—	10.3		9.72	≤ 6 mg/L				—
pH (Units)	8		7.65	<7.15 and >8.15				—	7.94		7.62	<7.12 and >8.12				—
Sal. (ppt)	4.17		2.87						2.62		4.84					
Sample ID	-0672								-0675							
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/30/2014
Time Period: 11:45 AM to 1:45 PM
Activity: Dredging: Intensive Monitoring — Ebb Tide
Comments: Dredging conducted in the Early Removal Area.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:58	12:46	12:22	12:46	13:25	13:40	13:00	13:40
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.4	4.9	4.7	4.9	6.3	5	4.7	5
Temp. (°C)	10.76	10.7	10.78	10.7	10.99	10.85	10.75	10.85
DO (mg/L)	10.5	10.73	10.8	10.73	10.44	10.81	10.55	10.81
pH (units)	8.07	8.38	8.34	8.38	8.13	8.36	8.15	8.36
Sal. (ppt)	0.87	0.34	0.62	0.34	0.54	0.72	0.49	0.72
Sample ID	-0677	—	-0679	—	-0683	—	-0681	—

Near-Bottom Samples

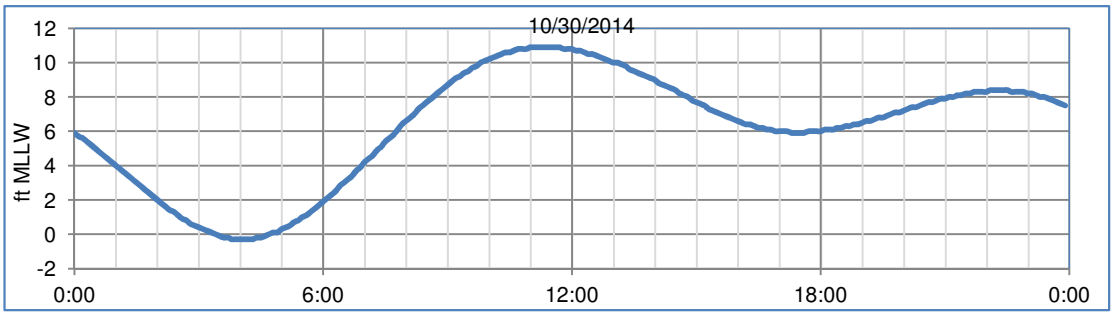
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:06	12:47	12:30	12:47	13:31	13:41	13:08	13:41
Depth (ft)	13.9	14.4	15.2	14.4	13.1	13.5	14.1	13.5
Turb. (NTU)	4.9	2.8	3.9	2.8	2.3	2.2	2.9	2.2
Temp. (°C)	12.08	12.19	12.21	12.19	12.07	12.13	12.18	12.13
DO (mg/L)	6.25	6.65	6.2	6.65	7.59	6.77	6.57	6.77
pH (units)	7.57	7.57	7.61	7.57	7.7	7.57	7.64	7.57
Sal. (ppt)	27.44	28.51	28.74	28.51	27.01	27.4	27.1	27.4
Sample ID	-0678	—	-0680	—	-0684	—	-0682	—

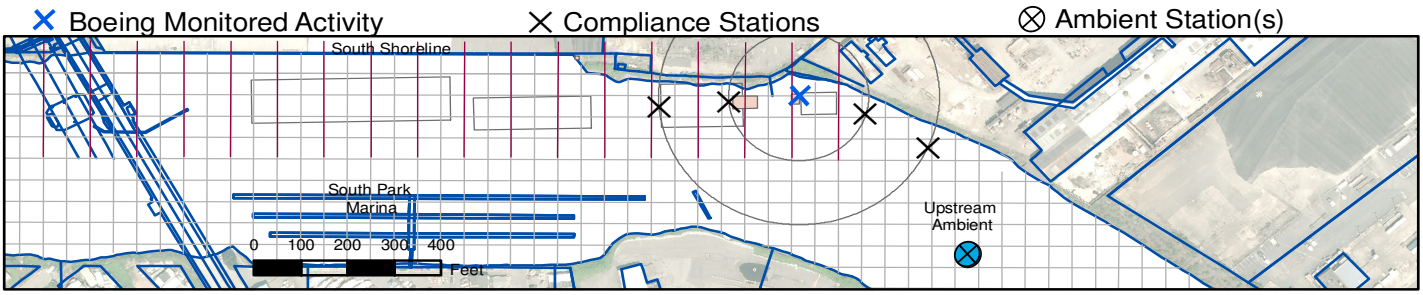
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

4:04 AM	-0.3 L
11:20 AM	10.9 H
5:27 PM	5.9 L
10:19 PM	8.4 H
Sunrise	7:50 AM
Sunset	5:55 PM

Tide Curve





Data Entry

Date 10/30/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:45

End Time: 13:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:58		12:46		12:22		12:46	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.4		4.9	9.9	4.7		4.9	9.9
Temp. (°C)	10.76		10.7	12.08	10.78		10.7	12.08
DO (mg/L)	10.5		10.73	≤ 6 mg/L	10.8		10.73	≤ 6 mg/L
pH (Units)	8.07		8.38	<7.88 and >8.5	8.34		8.38	<7.88 and >8.5
Sal. (ppt)	0.87		0.34		0.62		0.34	
Sample ID	-0677				-0679			
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:25		13:40		13:00		13:40	
2		2		2		2	
6.3		5	10	4.7		5	10
10.99		10.85	12.21	10.75		10.85	12.21
10.44		10.81	≤ 6 mg/L	10.55		10.81	≤ 6 mg/L
8.13		8.36	<7.86 and >8.5	8.15		8.36	<7.86 and >8.5
0.54		0.72		0.49		0.72	
-0683				-0681			
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:06		12:47		12:30		12:47	
Depth (ft)	13.9		14.4		15.2		14.4	
Turb. (NTU)	4.9		2.8	7.8	3.9		2.8	7.8
Temp. (°C)	12.08		12.19	13.37	12.21		12.19	13.37
DO (mg/L)	6.25		6.65	≤ 6 mg/L	6.2		6.65	≤ 6 mg/L
pH (Units)	7.57		7.57	<7.07 and >8.07	7.61		7.57	<7.07 and >8.07
Sal. (ppt)	27.44		28.51		28.74		28.51	
Sample ID	-0678				-0680			
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:31		13:41		13:08		13:41	
13.1		13.5		14.1		13.5	
2.3		2.2	7.2	2.9		2.2	7.2
12.07		12.13	13.31	12.18		12.13	13.31
7.59		6.77	≤ 6 mg/L	6.57		6.77	≤ 6 mg/L
7.7		7.57	<7.07 and >8.07	7.64		7.57	<7.07 and >8.07
27.01		27.4		27.1		27.4	
-0684				-0682			
☐ Submitted				☐ Submitted			

Report Date 11/4/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 10/31/2014
Time Period: 11:30 AM to 2:00 PM
Activity: Dredging: Routine Monitoring — During Tide Change
Comments: Initial pH readings at upstream compliance stations (incoming tide) were higher than normal. Holding bucket had water with high pH and probe showed slow response time. Probe was cleaned and readings returned to normal values. Compliance stations were compared to upstream ambient station readings.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient
Time	13:53 *	13:14	13:47 *	13:14	12:23	13:14	12:32	13:14
Depth (ft)	2 *	2	2 *	2	2	2	2	2
Turb. (NTU)	5.6	7.5	5.7	7.5	6.9	7.5	6.6	7.5
Temp. (°C)	10.93	11.01	10.94	11.01	10.98	11.01	10.96	11.01
DO (mg/L)	10.36	10.28	10.39	10.28	10.18	10.28	10.13	10.28
pH (units)	7.52 *	7.55	7.5 *	7.55	7.8	7.55	7.73	7.55
Sal. (ppt)	0.49	0.35	0.42	0.35	0.94	0.35	1.04	0.35
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

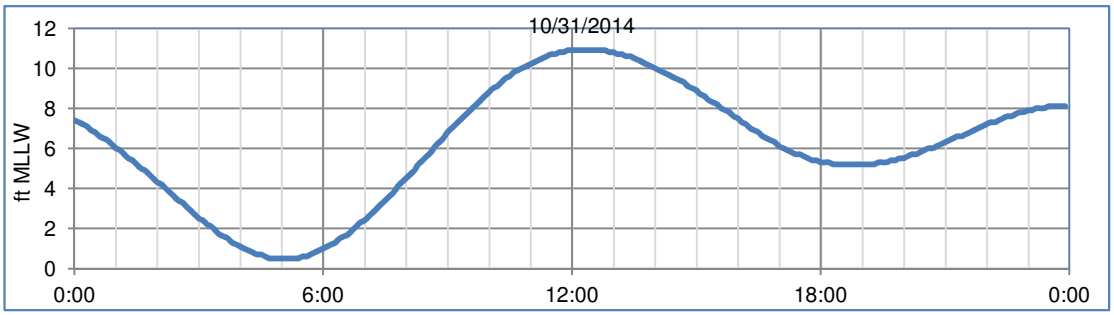
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	13:54 *	13:17	13:48 *	13:15	12:25	13:15	12:37	13:17
Depth (ft)	8.1 *	7.4	6.7 *	5.3	5.3	5.3	7.4	7.4
Turb. (NTU)	8.4	8.6	6	7.8	7.2	7.8	6.7	8.6
Temp. (°C)	11.3	11	11.01	11.01	11.01	11.01	11.08	11
DO (mg/L)	9.01	10.11	9.85	10.19	9.93	10.19	9.65	10.11
pH (units)	7.16 *	7.55	7.34 *	7.45	7.75	7.45	7.34	7.55
Sal. (ppt)	10.04	0.44	4.44	0.38	1.96	0.38	4.51	0.44
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

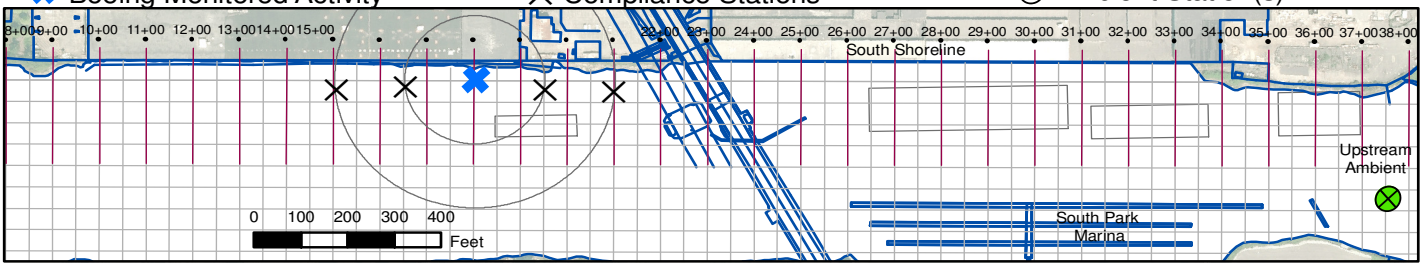
Daily Tides

5:04 AM	0.5 L
12:20 PM	10.9 H
6:46 PM	5.2 L
11:47 PM	8.1 H
Sunrise	7:52 AM
Sunset	5:53 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 10/31/2014

Activity Dredging

Monitoring Level Routine Monitoring

Start Time: 11:30

End Time: 14:00

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)								Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:31	13:53	13:14		11:25	13:47	13:14		12:23		13:14		12:32		13:14	
Depth (ft)	2	2	2		2	2	2		2		2		2		2	
Turb. (NTU)	5.6		7.5	12.5	5.7		7.5	12.5	6.9		7.5	12.5	6.6		7.5	12.5
Temp. (°C)	10.93		11.01	12.34	10.94		11.01	12.34	10.98		11.01	12.34	10.96		11.01	12.34
DO (mg/L)	10.36		10.28	≤ 6 mg/L	10.39		10.28	≤ 6 mg/L	10.18		10.28	≤ 6 mg/L	10.13		10.28	≤ 6 mg/L
pH (Units)	8.57	7.52	7.55	<7.05 and >8.05	8.66	7.5	7.55	<7.05 and >8.05	7.8		7.55	<7.05 and >8.05	7.73		7.55	<7.05 and >8.05
Sal. (ppt)	0.49		0.35		0.42		0.35		0.94		0.35		1.04		0.35	
Sample ID																
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)								Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:32	13:54	13:17		11:26	13:48	13:15		12:25		13:15		12:37		13:17	
Depth (ft)	8.1	8.1	7.4		6.7	6.7	5.3		5.3		5.3		7.4		7.4	
Turb. (NTU)	8.4		8.6	13.6	6		7.8	12.8	7.2		7.8	12.8	6.7		8.6	13.6
Temp. (°C)	11.3		11	12.33	11.01		11.01	12.34	11.01		11.01	12.34	11.08		11	12.33
DO (mg/L)	9.01		10.11	≤ 6 mg/L	9.85		10.19	≤ 6 mg/L	9.93		10.19	≤ 6 mg/L	9.65		10.11	≤ 6 mg/L
pH (Units)	8.29	7.16	7.55	<7.05 and >8.05	8.33	7.34	7.45	< 7.0 or >7.95	7.75		7.45	< 7.0 or >7.95	7.34		7.55	<7.05 and >8.05
Sal. (ppt)	10.04		0.44		4.44		0.38		1.96		0.38		4.51		0.44	
Sample ID																
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Report Date 11/5/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 11/4/2014
Time Period: 1:30 PM to 4:15 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Dredging within Early Removal Area.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient
Time	13:40	14:35	14:14	14:35	14:55	15:59	15:15	15:59
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.8	2.7	2.5	2.7	2.6	2.6	1.7	2.6
Temp. (°C)	11.17	11.2	11.29	11.2	11.09	11.16	11.19	11.16
DO (mg/L)	10.22	10.03	10.23	10.03	9.99	9.74	10.12	9.74
pH (units)	7.34	7.31	7.34	7.31	7.53	7.73	7.47	7.73
Sal. (ppt)	0.78	1.83	0.68	1.83	0.96	0.75	1.06	0.75
Sample ID	-0685	—	-0687	—	-0684	—	-0691	—

Near-Bottom Samples

Parameter	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient
Time	5/201459	14:38	14:21	14:36	15:03	16:02	15:27	16:00
Depth (ft)	15.5	15.5	10.8	10.8	18.1	18.1	11.1	11.1
Turb. (NTU)	3.5	1.5	6	1.3	4	2.8	3.9	2.9
Temp. (°C)	12.23	12.23	12.16	12.14	12.23	12.21	12.06	12
DO (mg/L)	6.6	6.35	6.8	6.65	6.59	6.22	6.14	6.78
pH (units)	7.37	7.55	7.37	7.46	7.53	7.5	7.53	7.38
Sal. (ppt)	29.01	29.2	27.85	27.7	29.11	28.84	26.65	25.11
Sample ID	-0686	—	-0688	—	-0690	—	-0692	—

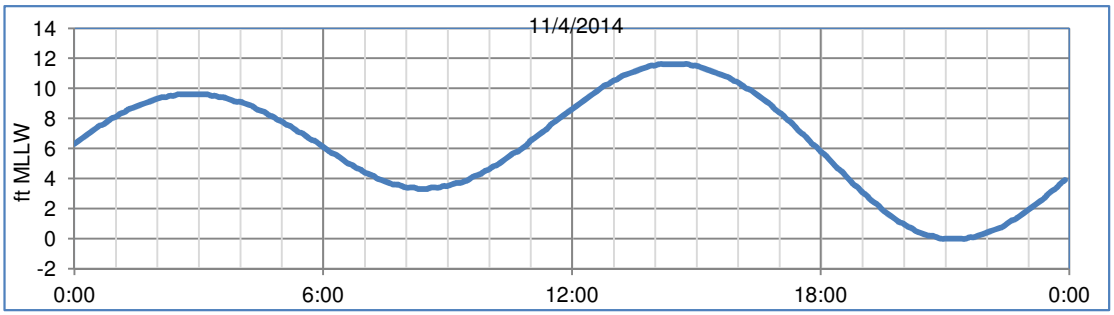
Submitted

* = Value reflects confirmed result or parameters measured during water sample collection

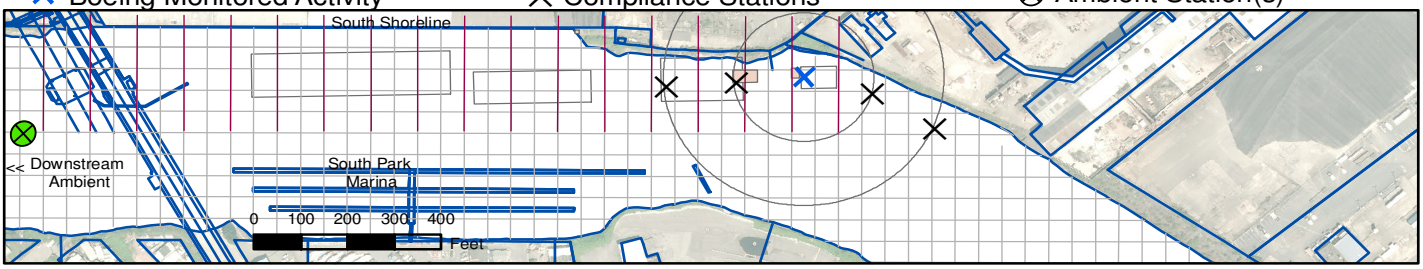
Daily Tides

2:50 AM	9.6 H
8:26 AM	3.3 L
2:27 PM	11.6 H
9:13 PM	0 L
Sunrise	6:58 AM
Sunset	4:47 PM

Tide Curve



✕ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 11/4/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 13:30

End Time: 16:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:40		14:35		14:14		14:35	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.8		2.7	7.7	2.5		2.7	7.7
Temp. (°C)	11.17		11.2	12.50	11.29		11.2	12.50
DO (mg/L)	10.22		10.03	≤ 6 mg/L	10.23		10.03	≤ 6 mg/L
pH (Units)	7.34		7.31	< 7.0 or >7.81	7.34		7.31	< 7.0 or >7.81
Sal. (ppt)	0.78		1.83		0.68		1.83	
Sample ID	-0685				-0687			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:55		15:59		15:15		15:59	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.6		2.6	7.6	1.7		2.6	7.6
Temp. (°C)	11.09		11.16	12.47	11.19		11.16	12.47
DO (mg/L)	9.99		9.74	≤ 6 mg/L	10.12		9.74	≤ 6 mg/L
pH (Units)	7.53		7.73	<7.23 and >8.23	7.47		7.73	<7.23 and >8.23
Sal. (ppt)	0.96		0.75		1.06		0.75	
Sample ID	-0684				-0691			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	311/5/201459		14:38		14:21		14:36	
Depth (ft)	15.5		15.5		10.8		10.8	
Turb. (NTU)	3.5		1.5	6.5	6		1.3	6.3
Temp. (°C)	12.23		12.23	13.40	12.16		12.14	13.32
DO (mg/L)	6.6		6.35	≤ 6 mg/L	6.8		6.65	≤ 6 mg/L
pH (Units)	7.37		7.55	<7.05 and >8.05	7.37		7.46	< 7.0 or >7.96
Sal. (ppt)	29.01		29.2		27.85		27.7	
Sample ID	-0686				-0688			
Analyze	☐ Submitted				☑ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:03		16:02		15:27		16:00	
Depth (ft)	18.1		18.1		11.1		11.1	
Turb. (NTU)	4		2.8	7.8	3.9		2.9	7.9
Temp. (°C)	12.23		12.21	13.39	12.06		12	13.20
DO (mg/L)	6.59		6.22	≤ 6 mg/L	6.14		6.78	≤ 6 mg/L
pH (Units)	7.53		7.5	<7 and >8	7.53		7.38	< 7.0 or >7.88
Sal. (ppt)	29.11		28.84		26.65		25.11	
Sample ID	-0690				-0692			
Analyze	☐ Submitted				☐ Submitted			

Report Date 11/5/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 11/5/2014
Time Period: 11:15 AM to 1:15 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in the Early Removal Areas

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	11:21	12:06	11:41	12:06	12:18	13:01	12:40	13:01
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.7	4.6	4	4.6	3.9	4	3.9	4
Temp. (°C)	10.86	10.68	10.82	10.68	10.87	10.79	10.85	10.79
DO (mg/L)	10.48	10.56	10.51	10.56	10.53	10.5	10.54	10.5
pH (units)	7.27	7.51	7.4	7.51	7.55	7.45	7.52	7.45
Sal. (ppt)	0.44	0.34	0.43	0.34	0.44	0.42	0.44	0.42
Sample ID	-0694	—	-0696	—	-0698	—	-0700	—

Near-Bottom Samples

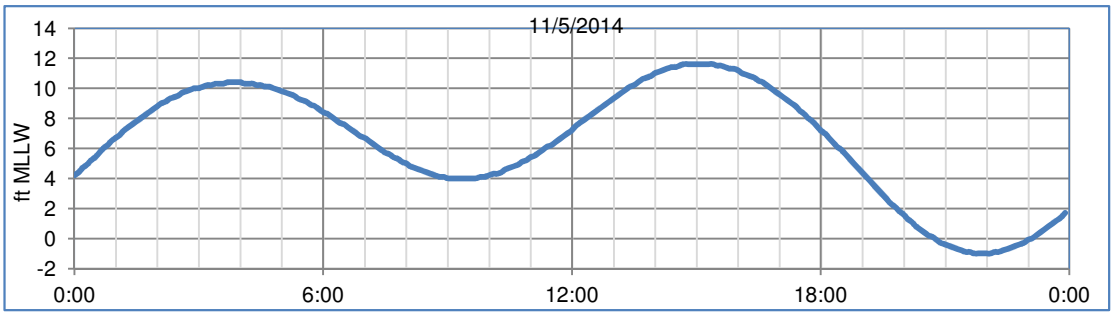
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	11:29	12:07	11:50	12:07	12:26	13:03	12:48	13:02
Depth (ft)	10.1	10.1	16.1	16.3	14	14	10.6	10.6
Turb. (NTU)	3.5	4.3	5.1	4.9	8	4.9	7.6	4.7
Temp. (°C)	10.86	10.8	12.09	12.08	11.84	12.09	11.15	11.07
DO (mg/L)	9.9	10.22	6.3	6.62	6.89	7.86	9.07	9.3
pH (units)	7.1	7.24	7.36	7.4	7.35	7.44	7.27	7.24
Sal. (ppt)	2.69	1.71	27.2	26.88	26.9	27	8.66	6.66
Sample ID	-0695	—	-0697	—	-0699	—	-0701	—

* = Value reflects confirmed result or parameters measured during water sample collection

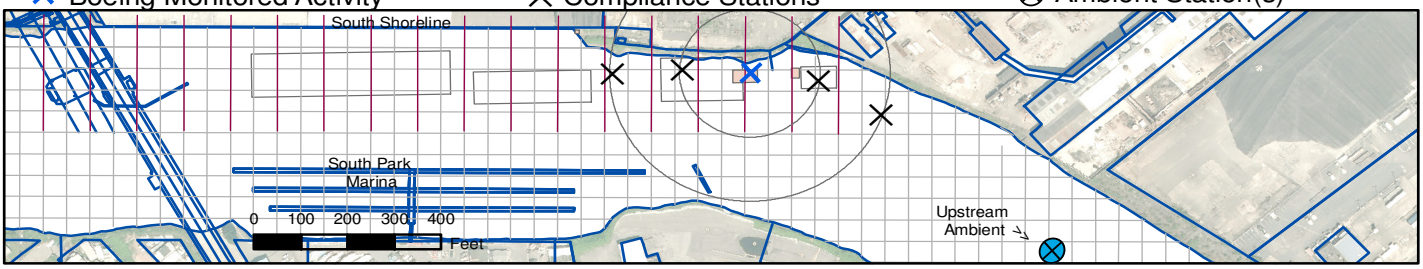
Daily Tides

3:51 AM	10.4 H
9:21 AM	4 L
3:05 PM	11.6 H
9:53 PM	-1 L
Sunrise	6:59 AM
Sunset	4:46 PM

Tide Curve



Boeing Monitored Activity Compliance Stations Ambient Station(s)



Data Entry

Date 11/5/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:15

End Time: 13:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:21		12:06		11:41		12:06	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.7		4.6	9.6	4		4.6	9.6
Temp. (°C)	10.86		10.68	12.06	10.82		10.68	12.06
DO (mg/L)	10.48		10.56	≤ 6 mg/L	10.51		10.56	≤ 6 mg/L
pH (Units)	7.27		7.51	<7.01 and >8.01	7.4		7.51	<7.01 and >8.01
Sal. (ppt)	0.44		0.34		0.43		0.34	
Sample ID	-0694				-0696			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:18		13:01		12:40		13:01	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.9		4	9	3.9		4	9
Temp. (°C)	10.87		10.79	12.16	10.85		10.79	12.16
DO (mg/L)	10.53		10.5	≤ 6 mg/L	10.54		10.5	≤ 6 mg/L
pH (Units)	7.55		7.45	< 7.0 or >7.95	7.52		7.45	< 7.0 or >7.95
Sal. (ppt)	0.44		0.42		0.44		0.42	
Sample ID	-0698				-0700			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:29		12:07		11:50		12:07	
Depth (ft)	10.1		10.1		16.1		16.3	
Turb. (NTU)	3.5		4.3	9.3	5.1		4.9	9.9
Temp. (°C)	10.86		10.8	12.16	12.09		12.08	13.27
DO (mg/L)	9.9		10.22	≤ 6 mg/L	6.3		6.62	≤ 6 mg/L
pH (Units)	7.1		7.24	< 7.0 or >7.74	7.36		7.4	< 7.0 or >7.9
Sal. (ppt)	2.69		1.71		27.2		26.88	
Sample ID	-0695				-0697			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:26		13:03		12:48		13:02	
Depth (ft)	14		14		10.6		10.6	
Turb. (NTU)	8		4.9	9.9	7.6		4.7	9.7
Temp. (°C)	11.84		12.09	13.28	11.15		11.07	12.39
DO (mg/L)	6.89		7.86	≤ 6 mg/L	9.07		9.3	≤ 6 mg/L
pH (Units)	7.35		7.44	< 7.0 or >7.94	7.27		7.24	< 7.0 or >7.74
Sal. (ppt)	26.9		27		8.66		6.66	
Sample ID	-0699				-0701			
Analyze	☐ Submitted				☐ Submitted			

Report Date 11/10/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 11/7/2014
Time Period: 12:45 PM to 2:45 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in the vicinity of and within Special Area.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient
Time	12:53	13:40	13:19	13:40	13:51	14:28	14:13	14:28
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4.8	5	4.8	5	4.7	5	4.8	5
Temp. (°C)	10.75	10.84	10.75	10.84	10.81	10.88	10.84	10.88
DO (mg/L)	10.46	10.4	10.52	10.4	10.51	10.44	10.44	10.44
pH (units)	7.44	7.02	7.49	7.02	7.2	7.34	7.31	7.34
Sal. (ppt)	1.05	1.79	0.87	1.79	1.16	1.66	1.34	1.66
Sample ID	-0693	—	-0703	—	-0705	—	-0707	—

Near-Bottom Samples

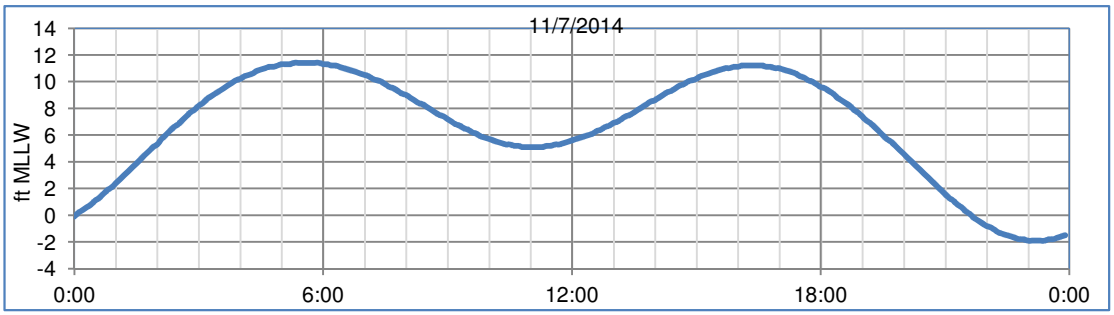
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	13:06	13:42	13:28	13:42	14:00	14:31	14:18	14:31
Depth (ft)	19.4	19	18.2	19	19.8	20.5	21.3	20.5
Turb. (NTU)	7.8	5.5	7.1	5.5	4.5	3.3	5	3.3
Temp. (°C)	12.11	12.18	12.13	12.18	12.17	12.19	12.18	12.18
DO (mg/L)	6.45	6.63	6.68	6.63	6.47	6.34	7.05	7.05
pH (units)	7.45	7.11	7.46	7.11	7.28	7.38	7.24	7.38
Sal. (ppt)	28.28	29.3	28.63	29.3	29.22	29.37	29.3	29.3
Sample ID	-0702	—	-0704	—	-0706	—	-0708	—
	Submitted							

* = Value reflects confirmed result or parameters measured during water sample collection

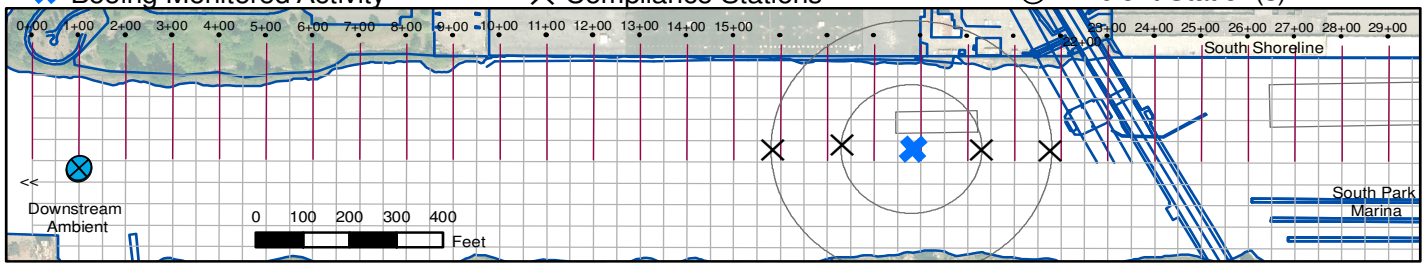
Daily Tides

5:34 AM	11.4 H
11:03 AM	5.1 L
4:20 PM	11.2 H
11:11 PM	-1.9 L
Sunrise	7:02 AM
Sunset	4:43 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 11/7/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:45

End Time: 14:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:53		13:40		13:19		13:40	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.8		5	10	4.8		5	10
Temp. (°C)	10.75		10.84	12.20	10.75		10.84	12.20
DO (mg/L)	10.46		10.4	≤ 6 mg/L	10.52		10.4	≤ 6 mg/L
pH (Units)	7.44		7.02	< 7.0 or >7.52	7.49		7.02	< 7.0 or >7.52
Sal. (ppt)	1.05		1.79		0.87		1.79	
Sample ID	-0693				-0703			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:51		14:28		14:13		14:28	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.7		5	10	4.8		5	10
Temp. (°C)	10.81		10.88	12.23	10.84		10.88	12.23
DO (mg/L)	10.51		10.44	≤ 6 mg/L	10.44		10.44	≤ 6 mg/L
pH (Units)	7.2		7.34	< 7.0 or >7.84	7.31		7.34	< 7.0 or >7.84
Sal. (ppt)	1.16		1.66		1.34		1.66	
Sample ID	-0705				-0707			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:06		13:42		13:28		13:42	
Depth (ft)	19.4		19		18.2		19	
Turb. (NTU)	7.8		5.5	10.5	7.1		5.5	10.5
Temp. (°C)	12.11		12.18	13.36	12.13		12.18	13.36
DO (mg/L)	6.45		6.63	≤ 6 mg/L	6.68		6.63	≤ 6 mg/L
pH (Units)	7.45		7.11	< 7.0 or >7.61	7.46		7.11	< 7.0 or >7.61
Sal. (ppt)	28.28		29.3		28.63		29.3	
Sample ID	-0702				-0704			
Analyze	☑ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:00		14:31		14:18		14:31	
Depth (ft)	19.8		20.5		21.3		20.5	
Turb. (NTU)	4.5		3.3	8.3	5		3.3	8.3
Temp. (°C)	12.17		12.19	13.37	12.18		12.18	13.36
DO (mg/L)	6.47		6.34	≤ 6 mg/L	7.05		7.05	≤ 6 mg/L
pH (Units)	7.28		7.38	< 7.0 or >7.88	7.24		7.38	< 7.0 or >7.88
Sal. (ppt)	29.22		29.37		29.3		29.3	
Sample ID	-0706				-0708			
Analyze	☐ Submitted				☐ Submitted			

Report Date 11/11/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 11/11/2014
Time Period: 11:00 AM to 12:30 PM
Activity: Dredging: Routine Monitoring — Ebb Tide
Comments: Production dredging north of the South Park Bridge

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:14	11:32	11:20	11:32	11:54	12:21	12:01	12:21
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4.3	4	4.3	4	4	4	4.3	4
Temp. (°C)	8.61	8.52	8.61	8.52	8.59	8.57	8.62	8.57
DO (mg/L)	10.95	11.04	10.86	11.04	10.93	10.96	10.89	10.96
pH (units)	7.2	7.4	7.37	7.4	7.46	7.43	7.49	7.43
Sal. (ppt)	1.76	1.69	2.27	1.69	2.08	2.25	2.29	2.25
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

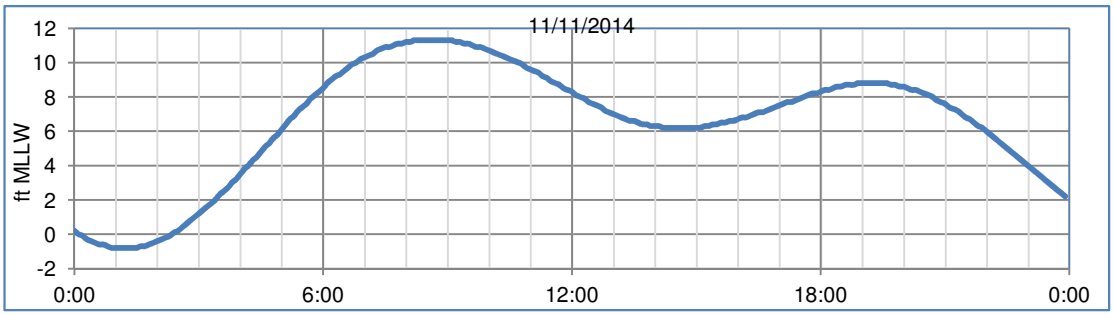
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:15	11:34	11:47 *	11:35	11:56	12:22	12:08	12:22
Depth (ft)	17.9	17.9	20.4 *	21	21.3	13.6	27.4	13.6
Turb. (NTU)	6.2	2.5	3.5 *	2.2	2.4	2.7	2.7	2.7
Temp. (°C)	12.03	12.03	12.04	12.05	12.04	11.77	12.04	11.77
DO (mg/L)	6.95	6.9	6.33	6.32	6.34	7.4	6.18	7.4
pH (units)	7.38	7.44	7.5	7.52	7.54	7.41	7.58	7.41
Sal. (ppt)	28.33	28.51	28.6	28.73	28.71	27.02	28.66	27.02
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

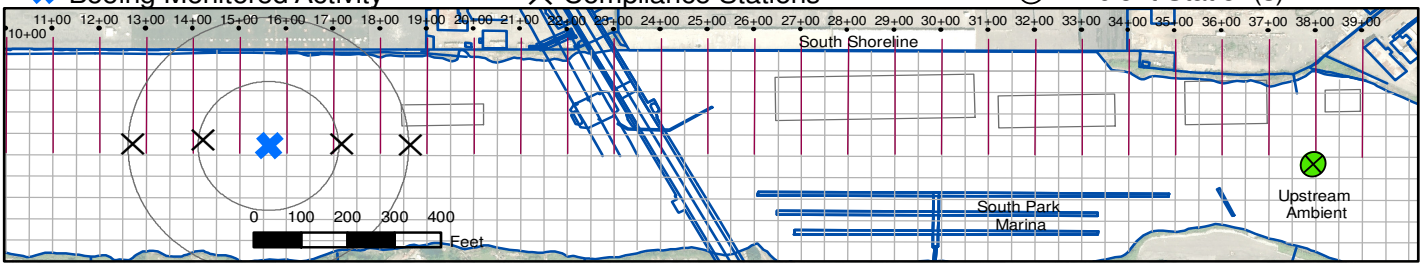
Daily Tides

1:13 AM	-0.8 L
8:37 AM	11.3 H
2:36 PM	6.2 L
7:14 PM	8.8 H
Sunrise	7:09 AM
Sunset	4:38 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 11/11/2014

Activity Dredging

Monitoring Level Routine Monitoring

Start Time: 11:00

End Time: 12:30

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:14		11:32		11:20		11:32	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.3		4	9	4.3		4	9
Temp. (°C)	8.61		8.52	10.36	8.61		8.52	10.36
DO (mg/L)	10.95		11.04	≤ 6 mg/L	10.86		11.04	≤ 6 mg/L
pH (Units)	7.2		7.4	< 7.0 or >7.9	7.37		7.4	< 7.0 or >7.9
Sal. (ppt)	1.76		1.69		2.27		1.69	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:54		12:21		12:01		12:21	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4		4	9	4.3		4	9
Temp. (°C)	8.59		8.57	10.40	8.62		8.57	10.40
DO (mg/L)	10.93		10.96	≤ 6 mg/L	10.89		10.96	≤ 6 mg/L
pH (Units)	7.46		7.43	< 7.0 or >7.93	7.49		7.43	< 7.0 or >7.93
Sal. (ppt)	2.08		2.25		2.29		2.25	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:15		11:34		11:23	11:47	11:35	
Depth (ft)	17.9		17.9		21.1	20.4	21	
Turb. (NTU)	6.2		2.5	7.5	9.4	3.5	2.2	7.2
Temp. (°C)	12.03		12.03	13.23	12.04		12.05	13.24
DO (mg/L)	6.95		6.9	≤ 6 mg/L	6.33		6.32	≤ 6 mg/L
pH (Units)	7.38		7.44	< 7.0 or >7.94	7.5		7.52	<7.02 and >8.02
Sal. (ppt)	28.33		28.51		28.6		28.73	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:56		12:22		12:08		12:22	
Depth (ft)	21.3		13.6		27.4		13.6	
Turb. (NTU)	2.4		2.7	7.7	2.7		2.7	7.7
Temp. (°C)	12.04		11.77	13.00	12.04		11.77	13.00
DO (mg/L)	6.34		7.4	≤ 6 mg/L	6.18		7.4	≤ 6 mg/L
pH (Units)	7.54		7.41	< 7.0 or >7.91	7.58		7.41	< 7.0 or >7.91
Sal. (ppt)	28.71		27.02		28.66		27.02	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 11/13/2014
Time Period: 11:30 AM to 1:15 PM
Activity: Dredging: Routine Monitoring — Ebb Tide
Comments: Production dredging north of bridge

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface/Mid-depth Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:31	12:24	11:48	12:24	12:53	13:11	12:57	13:09
Depth (ft)	2	2	2	2	3.6	3.6	2	2
Turb. (NTU)	4.3	3.8	4	3.8	3.4	3.8	3.6	3.8
Temp. (°C)	4.57	4.08	4.46	4.08	4.82	4.2	4.42	4.23
DO (mg/L)	12.5	12.6	12.32	12.6	12	12.5	12.11	12.56
pH (units)	7.36	7.56	7.77	7.56	7.48	7.53	7.7	7.65
Sal. (ppt)	1.97	0.56	1.59	0.56	2.89	0.99	1.49	0.82
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

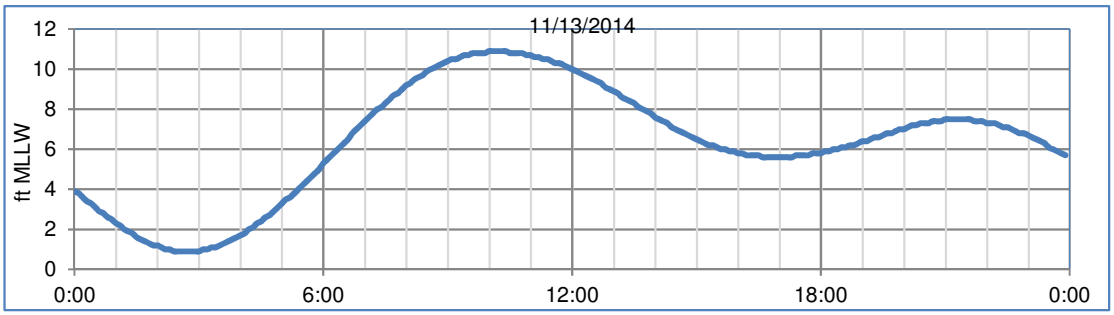
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:41 *	12:30	11:54	12:26	—	—	12:58	13:13
Depth (ft)	8.39 *	12.8	8.5	8.5	—	—	7.33	7.33
Turb. (NTU)	3.9 *	2.4	6.6	3.2	—	—	3.5	3.8
Temp. (°C)	11.52	11.61	9.01	8.53	—	—	6.22	4.71
DO (mg/L)	6.84	6.37	8.62	9.06	—	—	10.97	12
pH (units)	7.52	7.55	7.5	7.34	—	—	7.34	7.33
Sal. (ppt)	27.54	27.57	18.67	15.91	—	—	7.72	2.99
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

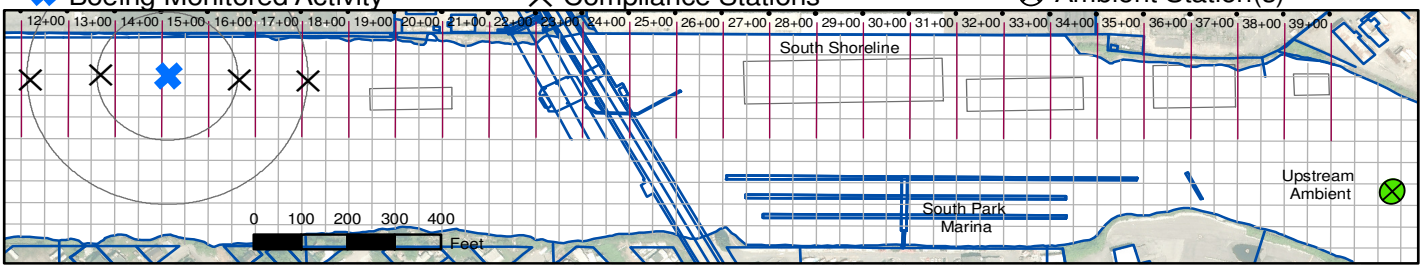
Daily Tides

2:44 AM	0.9 L
10:12 AM	10.9 H
4:57 PM	5.6 L
9:19 PM	7.5 H
Sunrise	7:12 AM
Sunset	4:35 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 11/13/2014

Activity Dredging

Monitoring Level Routine Monitoring

Start Time: 11:30

End Time: 18:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:31		12:24		11:48		12:24	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.3		3.8	8.8	4		3.8	8.8
Temp. (°C)	4.57		4.08	9.85	4.46		4.08	9.85
DO (mg/L)	12.5		12.6	≤ 6 mg/L	12.32		12.6	≤ 6 mg/L
pH (Units)	7.36		7.56	<7.06 and >8.06	7.77		7.56	<7.06 and >8.06
Sal. (ppt)	1.97		0.56		1.59		0.56	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:53		13:11		12:57		13:09	
Depth (ft)	3.6		3.6		2		2	
Turb. (NTU)	3.4		3.8	8.8	3.6		3.8	8.8
Temp. (°C)	4.82		4.2	9.65	4.42		4.23	9.61
DO (mg/L)	12		12.5	≤ 6 mg/L	12.11		12.56	≤ 6 mg/L
pH (Units)	7.48		7.53	<7.03 and >8.03	7.7		7.65	<7.15 and >8.15
Sal. (ppt)	2.89		0.99		1.49		0.82	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:34	12:41	12:30		11:54		12:26	
Depth (ft)	12.85	8.39	12.8		8.5		8.5	
Turb. (NTU)	8.6	3.9	2.4	7.4	6.6		3.2	8.2
Temp. (°C)	11.52		11.61	12.86	9.01		8.53	10.37
DO (mg/L)	6.84		6.37	≤ 6 mg/L	8.62		9.06	≤ 6 mg/L
pH (Units)	7.52		7.55	<7.05 and >8.05	7.5		7.34	< 7.0 or >7.84
Sal. (ppt)	27.54		27.57		18.67		15.91	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time					12:58		13:13	
Depth (ft)					7.33		7.33	
Turb. (NTU)				—	3.5		3.8	8.8
Temp. (°C)				—	6.22		4.71	9.14
DO (mg/L)				—	10.97		12	≤ 6 mg/L
pH (Units)				—	7.34		7.33	< 7.0 or >7.83
Sal. (ppt)					7.72		2.99	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 11/19/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 11/18/2014
Time Period: 11:00 AM to 12:00 PM
Activity: Dredging: Routine Monitoring — Flood Tide
Comments: Production dredging north of the bridge

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface/ Mid-depth Downstream 150 ft	Near Surface/ Mid-depth Downstream Ambient	Near Surface/ Mid-depth Downstream 300 ft	Near Surface/ Mid-depth Downstream Ambient
Time	11:00	11:14	11:00	11:14	11:35	11:50	11:04	11:48
Depth (ft)	2	2	2	2	3.7	3.7	2	2
Turb. (NTU)	2.4	2.7	2.4	2.7	4.9	2.2	2.9	2.3
Temp. (°C)	4.3	4.28	4.15	4.28	5.32	5.04	4.48	4.41
DO (mg/L)	11.8	11.94	11.9	11.94	11.17	11.17	11.78	11.79
pH (units)	7.27	7.74	7.37	7.74	7.28	7.19	7.25	7.22
Sal. (ppt)	3.79	3.68	3.23	3.68	6.91	6.04	4.74	3.54
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

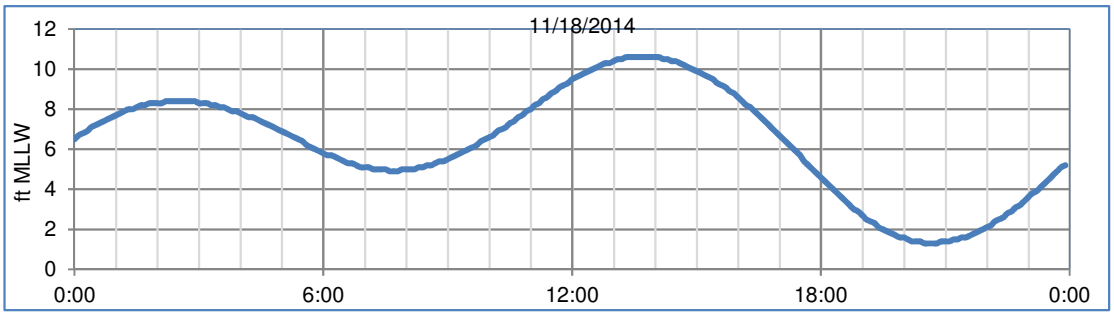
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near BottomDownstream 150 ft	Near BottomDownstream Ambient	Near BottomDownstream 300 ft	Near BottomDownstream Ambient
Time	11:29 *	11:18	11:08	11:16	—	—	11:43	11:52
Depth (ft)	7.9	7.9	5.7	5.7	—	—	5.4	5.4
Turb. (NTU)	6.2 *	2.3	7	2.3	—	—	5.4	2.5
Temp. (°C)	7.95	9.48	5.95	6.72	—	—	6.38	6.85
DO (mg/L)	8.89	7.91	10.25	10.06	—	—	10.3	9.64
pH (units)	7.32	7.58	7.25	7.58	—	—	7.21	7.23
Sal. (ppt)	16.23	18.96	9.81	11.92	—	—	11.2	11.36
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

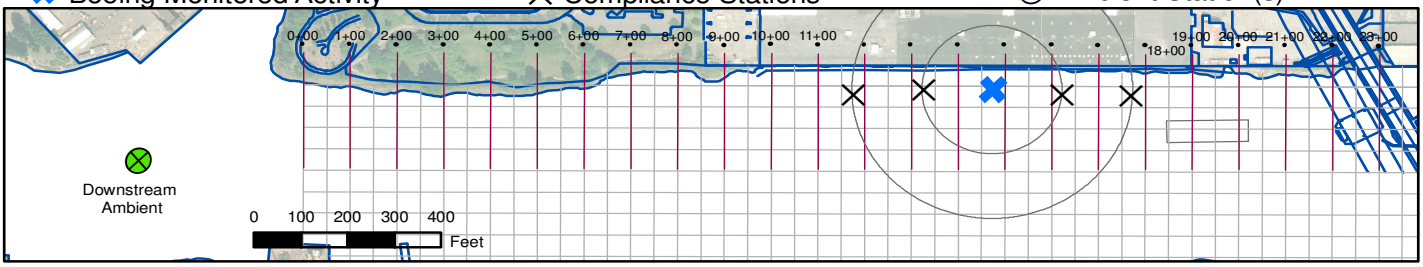
Daily Tides

2:31 AM	8.4 H
7:40 AM	4.9 L
1:42 PM	10.6 H
8:41 PM	1.3 L
Sunrise	7:19 AM
Sunset	4:30 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 11/18/2014

Activity Dredging

Monitoring Level Routine Monitoring

Start Time: 11:00

End Time: 12:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:00		11:14		11:00		11:14	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.4		2.7	7.7	2.4		2.7	7.7
Temp. (°C)	4.3		4.28	9.54	4.15		4.28	9.54
DO (mg/L)	11.8		11.94	≤ 6 mg/L	11.9		11.94	≤ 6 mg/L
pH (Units)	7.27		7.74	<7.24 and >8.24	7.37		7.74	<7.24 and >8.24
Sal. (ppt)	3.79		3.68		3.23		3.68	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:35		11:50		11:04		11:48	
3.7		3.7		2		2	
4.9		2.2	7.2	2.9		2.3	7.3
5.32		5.04	8.99	4.48		4.41	9.39
11.17		11.17	≤ 6 mg/L	11.78		11.79	≤ 6 mg/L
7.28		7.19	< 7.0 or >7.69	7.25		7.22	< 7.0 or >7.72
6.91		6.04		4.74		3.54	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:02	11:29	11:18		11:08		11:16	
Depth (ft)	7.9		7.9		5.7		5.7	
Turb. (NTU)	7.9	6.2	2.3	7.3	7		2.3	7.3
Temp. (°C)	7.95		9.48	11.08	5.95		6.72	9.26
DO (mg/L)	8.89		7.91	≤ 6 mg/L	10.25		10.06	≤ 6 mg/L
pH (Units)	7.32		7.58	<7.08 and >8.08	7.25		7.58	<7.08 and >8.08
Sal. (ppt)	16.23		18.96		9.81		11.92	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
				11:43		11:52	
				5.4		5.4	
			—	5.4		2.5	7.5
			—	6.38		6.85	9.32
			—	10.3		9.64	≤ 6 mg/L
			—	7.21		7.23	< 7.0 or >7.73
				11.2		11.36	
☐ Submitted				☐ Submitted			

Report Date 11/20/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 11/19/2014
Time Period: 10:30 AM to 12:45 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in the Early Removal Area

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient
Time	10:41	11:22	11:03	11:22	11:33	12:31	11:55	12:31
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.5	2	2.2	2	3	2.1	2.7	2.1
Temp. (°C)	4.45	4.57	4.52	4.57	4.6	4.71	4.87	4.71
DO (mg/L)	11.87	11.96	11.91	11.96	11.82	11.75	11.66	11.71
pH (units)	7.25	7.36	7.39	7.36	7.33	7.33	7.32	7.33
Sal. (ppt)	2.75	3.23	2.65	3.23	3.22	3.38	3.13	3.38
Sample ID	-0709	—	-0711	—	-0713	—	-0714	—

Near-Bottom Samples

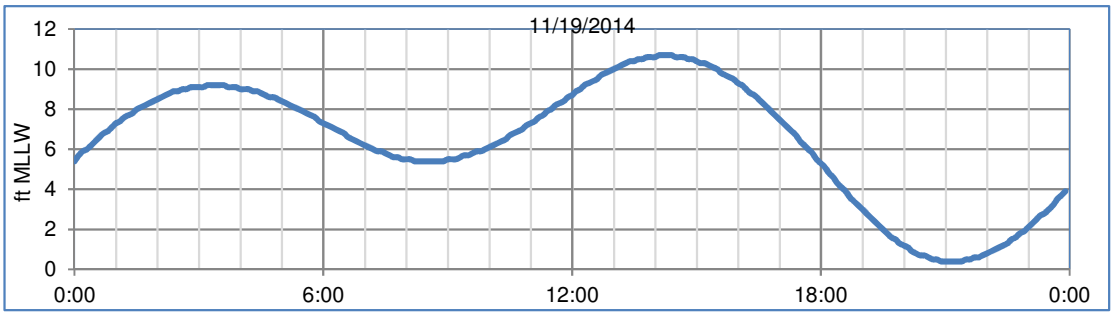
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	10:52	11:23	11:10	11:23	12:17	12:33	12:05	12:32
Depth (ft)	12.1	13	13.9	13	14.2	14.3	9.9	9.9
Turb. (NTU)	5	2.3	3.3	2.3	3.4	1.9	2.4	1.8
Temp. (°C)	11.13	11.13	11.22	11.13	11.25	11.32	9.56	10.4
DO (mg/L)	6.8	7.4	7.86	7.4	7.2	6.7	7.8	7.6
pH (units)	7.41	7.43	7.35	7.43	7.43	7.52	7.32	7.43
Sal. (ppt)	27.5	27.44	27.2	27.44	27.82	28.15	22.01	25.2
Sample ID	-0710	—	-0712	—	-0716	—	-0715	—

* = Value reflects confirmed result or parameters measured during water sample collection

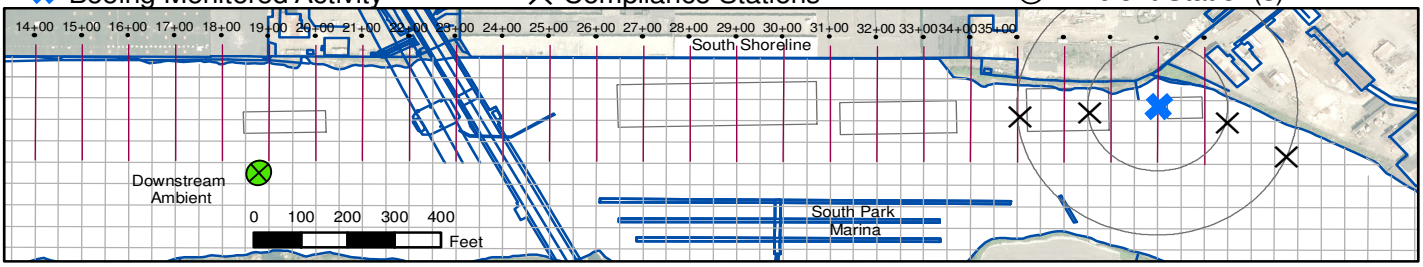
Daily Tides

3:23 AM	9.2 H
8:32 AM	5.4 L
2:14 PM	10.7 H
9:10 PM	0.4 L
Sunrise	7:20 AM
Sunset	4:29 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 11/19/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 10:30

End Time: 12:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:41		11:22		11:03		11:22	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.5		2	7	2.2		2	7
Temp. (°C)	4.45		4.57	9.24	4.52		4.57	9.24
DO (mg/L)	11.87		11.96	≤ 6 mg/L	11.91		11.96	≤ 6 mg/L
pH (Units)	7.25		7.36	< 7.0 or >7.86	7.39		7.36	< 7.0 or >7.86
Sal. (ppt)	2.75		3.23		2.65		3.23	
Sample ID	-0709				-0711			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:33		12:31		11:55		12:31	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3		2.1	7.1	2.7		2.1	7.1
Temp. (°C)	4.6		4.71	9.14	4.87		4.71	9.14
DO (mg/L)	11.82		11.75	≤ 6 mg/L	11.66		11.71	≤ 6 mg/L
pH (Units)	7.33		7.33	< 7.0 or >7.83	7.32		7.33	< 7.0 or >7.83
Sal. (ppt)	3.22		3.38		3.13		3.38	
Sample ID	-0713				-0714			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:52		11:23		11:10		11:23	
Depth (ft)	12.1		13		13.9		13	
Turb. (NTU)	5		2.3	7.3	3.3		2.3	7.3
Temp. (°C)	11.13		11.13	12.44	11.22		11.13	12.44
DO (mg/L)	6.8		7.4	≤ 6 mg/L	7.86		7.4	≤ 6 mg/L
pH (Units)	7.41		7.43	< 7.0 or >7.93	7.35		7.43	< 7.0 or >7.93
Sal. (ppt)	27.5		27.44		27.2		27.44	
Sample ID	-0710				-0712			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:17		12:33		12:05		12:32	
Depth (ft)	14.2		14.3		9.9		9.9	
Turb. (NTU)	3.4		1.9	6.9	2.4		1.8	6.8
Temp. (°C)	11.25		11.32	12.61	9.56		10.4	11.83
DO (mg/L)	7.2		6.7	≤ 6 mg/L	7.8		7.6	≤ 6 mg/L
pH (Units)	7.43		7.52	<7.02 and >8.02	7.32		7.43	< 7.0 or >7.93
Sal. (ppt)	27.82		28.15		22.01		25.2	
Sample ID	-0716				-0715			
Analyze	☐ Submitted				☐ Submitted			

Report Date 11/26/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 11/25/2014
Time Period: 1:00 PM to 2:00 PM
Activity: Dredging: Routine Monitoring — During Tide Change
Comments: Production dredging north of the South Park Bridge

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	13:05	13:23	13:12	13:23	13:33	13:46	13:39	13:48
Depth (ft)	2	2	2	2	2	2	3.4	3.4
Turb. (NTU)	6.9	6.5	6.7	6.5	6.7	6.9	6.5	7.1
Temp. (°C)	7.34	7.24	7.3	7.24	7.28	7.25	7.28	7.19
DO (mg/L)	11.45	11.76	11.6	11.76	11.69	11.83	11.72	11.73
pH (units)	8.42	8.4	8.37	8.4	8.36	8.4	8.38	8.37
Sal. (ppt)	2.01	1.06	2.03	1.06	1.5	0.94	1.33	0.99
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

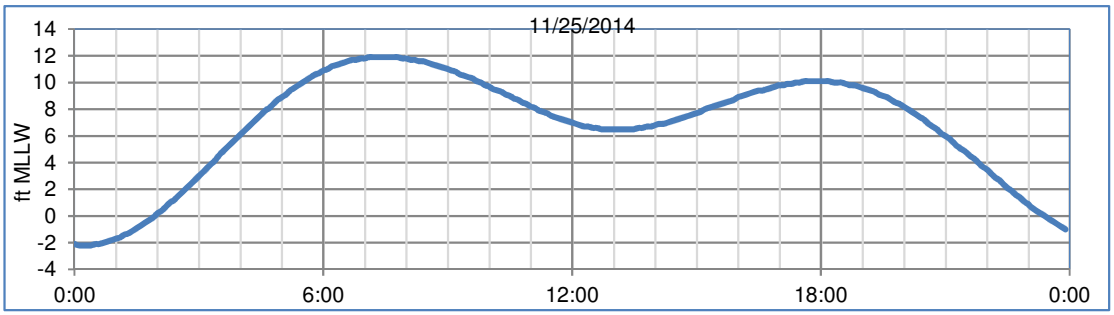
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	13:07	13:24	13:13	13:24	13:35	13:49	—	—
Depth (ft)	7.27	6.5	5.9	6.5	9.5	9.5	—	—
Turb. (NTU)	7.6	7.4	7.3	7.4	6.9	6.9	—	—
Temp. (°C)	7.39	7.26	7.34	7.26	7.28	7.25	—	—
DO (mg/L)	11.38	11.57	11.46	11.57	11.61	11.58	—	—
pH (units)	8.37	8.32	8.34	8.32	8.34	8.32	—	—
Sal. (ppt)	2.75	1.95	2.52	1.95	1.63	1.79	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

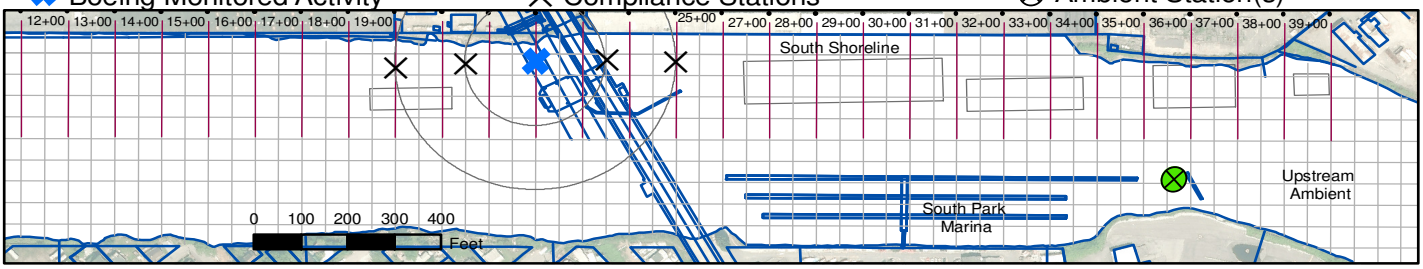
Daily Tides

12:15 AM	-2.2 L
7:27 AM	11.9 H
1:06 PM	6.5 L
5:57 PM	10.1 H
Sunrise	7:29 AM
Sunset	4:24 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 11/25/2014

Activity Dredging

Monitoring Level Routine Monitoring

Start Time: 13:00

End Time: 14:00

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)								Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:05		13:23		13:12		13:23		13:33		13:46		13:39		13:48	
Depth (ft)	2		2		2		2		2		2		3.4		3.4	
Turb. (NTU)	6.9		6.5	11.5	6.7		6.5	11.5	6.7		6.9	11.9	6.5		7.1	12.1
Temp. (°C)	7.34		7.24	9.53	7.3		7.24	9.53	7.28		7.25	9.54	7.28		7.19	9.50
DO (mg/L)	11.45		11.76	≤ 6 mg/L	11.6		11.76	≤ 6 mg/L	11.69		11.83	≤ 6 mg/L	11.72		11.73	≤ 6 mg/L
pH (Units)	8.42		8.4	<7.9 and >8.5	8.37		8.4	<7.9 and >8.5	8.36		8.4	<7.9 and >8.5	8.38		8.37	<7.87 and >8.5
Sal. (ppt)	2.01		1.06		2.03		1.06		1.5		0.94		1.33		0.99	
Sample ID																
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)								Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:07		13:24		13:13		13:24		13:35		13:49					
Depth (ft)	7.27		6.5		5.9		6.5		9.5		9.5					
Turb. (NTU)	7.6		7.4	12.4	7.3		7.4	12.4	6.9		6.9	11.9				—
Temp. (°C)	7.39		7.26	9.54	7.34		7.26	9.54	7.28		7.25	9.54				—
DO (mg/L)	11.38		11.57	≤ 6 mg/L	11.46		11.57	≤ 6 mg/L	11.61		11.58	≤ 6 mg/L				—
pH (Units)	8.37		8.32	<7.82 and >8.5	8.34		8.32	<7.82 and >8.5	8.34		8.32	<7.82 and >8.5				—
Sal. (ppt)	2.75		1.95		2.52		1.95		1.63		1.79					
Sample ID																
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Report Date 12/5/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/4/2014
Time Period: 12:30 PM to 3:30 PM
Activity: Dredging: Routine Monitoring — During Tide Change
Comments: Turbidity exceedance during routine monitoring triggered additional monitoring and sample collection.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient
Time	15:08 *	13:03	13:35 *	13:03	13:56	14:47	14:18	14:47
Depth (ft)	2 *	2	2 *	2	2	2	2	2
Turb. (NTU)	4.5 *	6.1	4.3 *	6.1	4.6	4.8	4.9	4.8
Temp. (°C)	4.64 *	4.69	4.53 *	4.69	4.69	4.78	4.71	4.78
DO (mg/L)	11.84 *	11.77	12.1 *	11.77	11.69	11.88	11.97	11.88
pH (units)	7.49 *	7.37	7.46 *	7.37	7.52	7.38	7.38	7.38
Sal. (ppt)	2.52 *	3.45	2.01 *	3.45	2.7	3.06	2.65	3.06
Sample ID	-0723	—	-0718	—	-0719	—	-0721	—

Near-Bottom Samples

Parameter	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient
Time	15:18 *	13:04	13:19 *	13:04	14:05	14:49	14:27	14:49
Depth (ft)	9 *	9	9.6 *	9	9.8	9.4	9.3	9.4
Turb. (NTU)	12.2 *	4.3	14.6 *	4.3	4.2	5.1	4.8	5.1
Temp. (°C)	8.33 *	7.23	7.59 *	7.23	9.15	8.22	8.4	8.22
DO (mg/L)	9.01 *	9.7	9.04 *	9.7	8.73	8.97	8.9	8.97
pH (units)	7.44 *	7.3	7.5 *	7.3	7.43	7.45	7.44	7.45
Sal. (ppt)	18.66 *	14.66	15.78 *	14.66	20.63	18.6	19.03	18.6
Sample ID	-0724	—	-0717	—	-0720	—	-0722	—

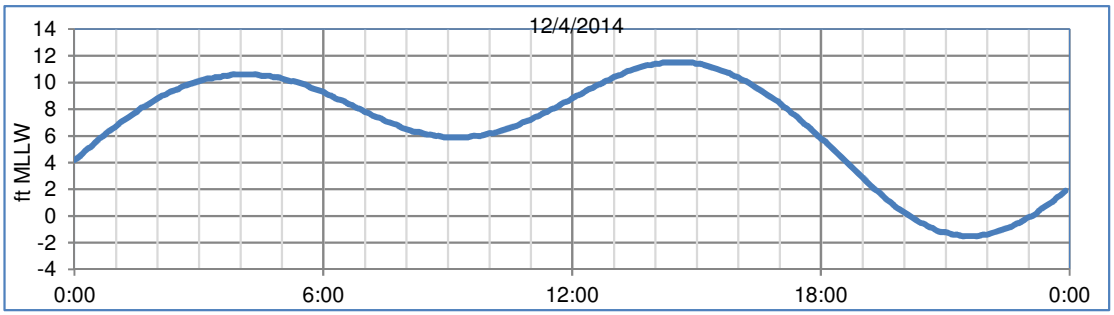
Submitted

* = Value reflects confirmed result or parameters measured during water sample collection

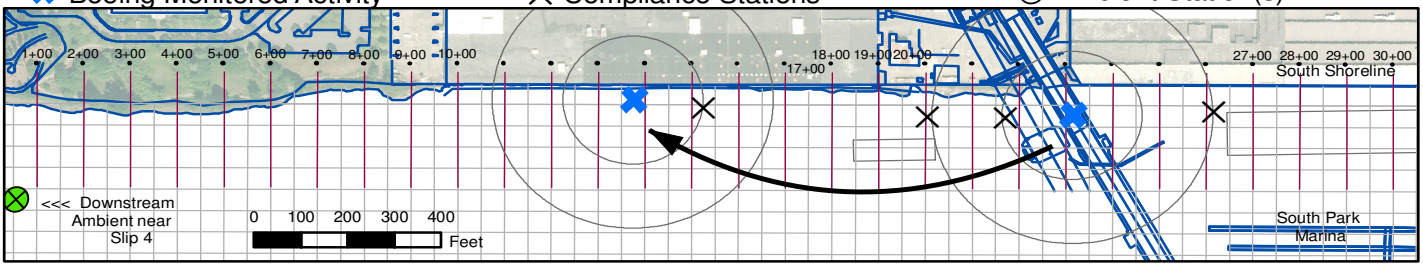
Daily Tides

4:08 AM	10.6 H
9:12 AM	5.9 L
2:32 PM	11.5 H
9:35 PM	-1.5 L
Sunrise	7:40 AM
Sunset	4:19 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 12/4/2014

Activity Dredging

Monitoring Level Routine Monitoring

Start Time: 12:30

End Time: 15:30

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:34	15:08	13:03		12:47	13:35	13:03	
Depth (ft)	2	2	2		2	2	2	
Turb. (NTU)	4.6	4.5	6.1	11.1	6.8	4.3	6.1	11.1
Temp. (°C)	4.67	4.64	4.69	9.15	4.68	4.53	4.69	9.15
DO (mg/L)	11.85	11.84	11.77	≤ 6 mg/L	11.8	12.1	11.77	≤ 6 mg/L
pH (Units)	7.37	7.49	7.37	< 7.0 or >7.87	7.29	7.46	7.37	< 7.0 or >7.87
Sal. (ppt)	2.6	2.52	3.45		3.69	2.01	3.45	
Sample ID		-0723				-0718		
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:56		14:47		14:18		14:47	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.6		4.8	9.8	4.9		4.8	9.8
Temp. (°C)	4.69		4.78	9.10	4.71		4.78	9.10
DO (mg/L)	11.69		11.88	≤ 6 mg/L	11.97		11.88	≤ 6 mg/L
pH (Units)	7.52		7.38	< 7.0 or >7.88	7.38		7.38	< 7.0 or >7.88
Sal. (ppt)	2.7		3.06		2.65		3.06	
Sample ID	-0719				-0721			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:36	15:18	13:04		12:49	13:19	13:04	
Depth (ft)	8.48	9	9		9.6	9.6	9	
Turb. (NTU)	8.6	12.2	4.3	9.3	14.6	14.6	4.3	9.3
Temp. (°C)	5.62	8.33	7.23	9.52	7.23	7.59	7.23	9.52
DO (mg/L)	10.98	9.01	9.7	≤ 6 mg/L	9.85	9.04	9.7	≤ 6 mg/L
pH (Units)	7.23	7.44	7.3	< 7.0 or >7.8	7.28	7.5	7.3	< 7.0 or >7.8
Sal. (ppt)	8.71	18.66	14.66		14.45	15.78	14.66	
Sample ID		-0724				-0717		
Analyze	☐ Submitted				☑ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:05		14:49		14:27		14:49	
Depth (ft)	9.8		9.4		9.3		9.4	
Turb. (NTU)	4.2		5.1	10.1	4.8		5.1	10.1
Temp. (°C)	9.15		8.22	10.15	8.4		8.22	10.15
DO (mg/L)	8.73		8.97	≤ 6 mg/L	8.9		8.97	≤ 6 mg/L
pH (Units)	7.43		7.45	< 7.0 or >7.95	7.44		7.45	< 7.0 or >7.95
Sal. (ppt)	20.63		18.6		19.03		18.6	
Sample ID	-0720				-0722			
Analyze	☐ Submitted				☐ Submitted			

Report Date 12/16/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/5/2014
Time Period: 12:45 PM to 4:00 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Cleanup dredging north of the South Park Bridge. Tugs manuvering in shallow water.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:18	15:09	14:42	15:09	12:55	13:51	13:23	13:51
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.5	5.6	6.5	5.6	5	4.7	4.7	4.7
Temp. (°C)	6	6.11	6.03	6.11	5.9	6.01	5.87	6.01
DO (mg/L)	11.3	11.28	11.28	11.28	11.52	11.45	11.52	11.45
pH (units)	7.33	7.36	7.42	7.36	7.32	7.37	7.4	7.37
Sal. (ppt)	4.19	3.66	3.61	3.66	2.58	3.09	2.65	3.09
Sample ID	-0729	—	-0731	—	-0725	—	-0727	—

Near-Bottom Samples

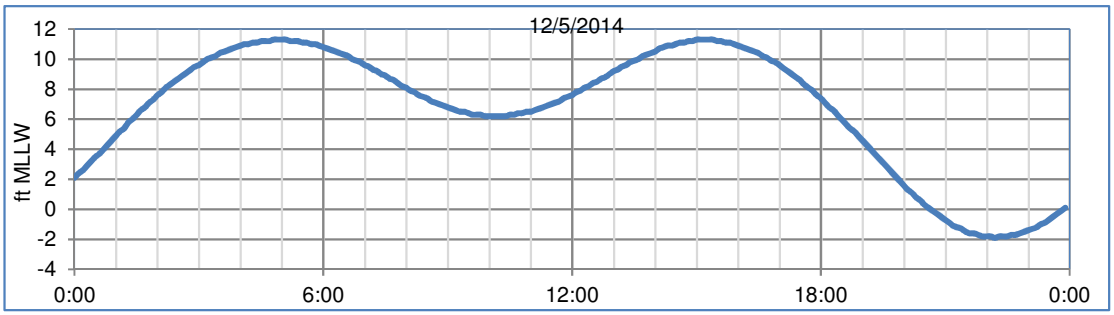
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:53 *	15:11	15:44 *	15:11	13:08	13:52	13:33	13:53
Depth (ft)	7.4	8	8.6	8	7.4	7.4	9.5	9.5
Turb. (NTU)	4..4 *	4.2	3.8 *	4.2	4.5	4.2	5.2	3.7
Temp. (°C)	6.9	7.65	7.9	7.65	6.01	6.85	7.4	8.13
DO (mg/L)	10.52	9.7	9.52	9.7	11.01	10.46	10.07	9.09
pH (units)	7.29	7.4	7.56	7.4	7.22	7.19	7.29	7.4
Sal. (ppt)	8.28	13.74	9.87	13.74	7.11	9.82	12.21	16.38
Sample ID	-0730	—	-0732	—	-0726	—	-0728	—

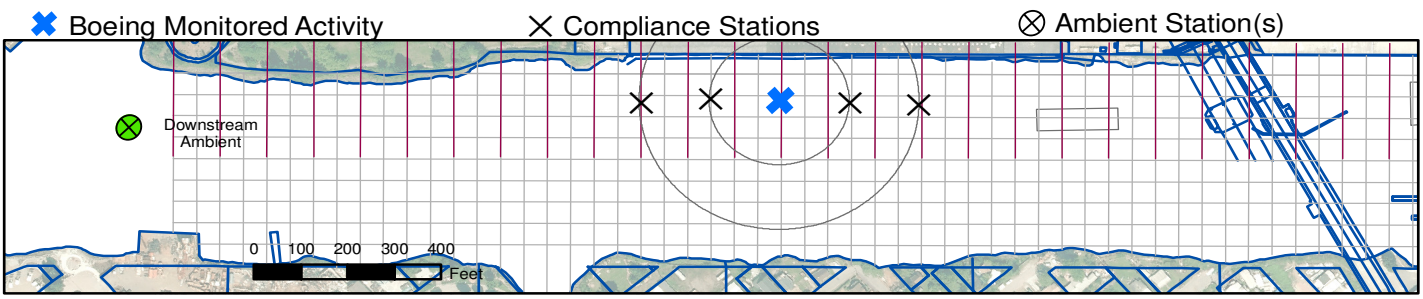
* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

4:58 AM	11.3 H
10:08 AM	6.2 L
3:12 PM	11.3 H
10:13 PM	-1.9 L
Sunrise	7:41 AM
Sunset	4:19 PM

Tide Curve





Data Entry

Date 12/5/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:45

End Time: 16:00

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:18		15:09		14:42		15:09	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.5		5.6	10.6	6.5		5.6	10.6
Temp. (°C)	6		6.11	9.03	6.03		6.11	9.03
DO (mg/L)	11.3		11.28	≤ 6 mg/L	11.28		11.28	≤ 6 mg/L
pH (Units)	7.33		7.36	< 7.0 or >7.86	7.42		7.36	< 7.0 or >7.86
Sal. (ppt)	4.19		3.66		3.61		3.66	
Sample ID	-0729				-0731			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:55		13:51		13:23		13:51	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5		4.7	9.7	4.7		4.7	9.7
Temp. (°C)	5.9		6.01	9.00	5.87		6.01	9.00
DO (mg/L)	11.52		11.45	≤ 6 mg/L	11.52		11.45	≤ 6 mg/L
pH (Units)	7.32		7.37	< 7.0 or >7.87	7.4		7.37	< 7.0 or >7.87
Sal. (ppt)	2.58		3.09		2.65		3.09	
Sample ID	-0725				-0727			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:28	15:53	15:11		14:55	15:44	15:11	
Depth (ft)	7.4		8		8.6		8	
Turb. (NTU)	19.4	4..4	4.2	9.2	14.1	3.8	4.2	9.2
Temp. (°C)	6.9		7.65	9.77	7.9		7.65	9.77
DO (mg/L)	10.52		9.7	≤ 6 mg/L	9.52		9.7	≤ 6 mg/L
pH (Units)	7.29		7.4	< 7.0 or >7.9	7.56		7.4	< 7.0 or >7.9
Sal. (ppt)	8.28		13.74		9.87		13.74	
Sample ID	-0730				-0732			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:08		13:52		13:33		13:53	
Depth (ft)	7.4		7.4		9.5		9.5	
Turb. (NTU)	4.5		4.2	9.2	5.2		3.7	8.7
Temp. (°C)	6.01		6.85	9.32	7.4		8.13	10.09
DO (mg/L)	11.01		10.46	≤ 6 mg/L	10.07		9.09	≤ 6 mg/L
pH (Units)	7.22		7.19	< 7.0 or >7.69	7.29		7.4	< 7.0 or >7.9
Sal. (ppt)	7.11		9.82		12.21		16.38	
Sample ID	-0726				-0728			
Analyze	☐ Submitted				☐ Submitted			

Report Date 12/11/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/6/2014
Time Period: 12:15 PM to 2:45 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Dredging in a Special Area at the south end of the site.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	12:46	13:14	12:17	13:14	13:35	14:37	14:06	14:37
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4.6	4.6	4.7	4.6	5.8	4.7	5.1	4.7
Temp. (°C)	6.96	7.05	6.93	7.05	7.04	7.24	7.07	7.24
DO (mg/L)	11.18	11.07	11.1	11.07	11.22	10.88	11.27	10.88
pH (units)	7.36	7.33	7.32	7.33	7.15	7.33	7.41	7.33
Sal. (ppt)	2.59	3.61	2.65	3.61	2.28	4.51	2.11	4.51
Sample ID	-0735	—	-0733	—	-0737	—	-0739	—

Near-Bottom Samples

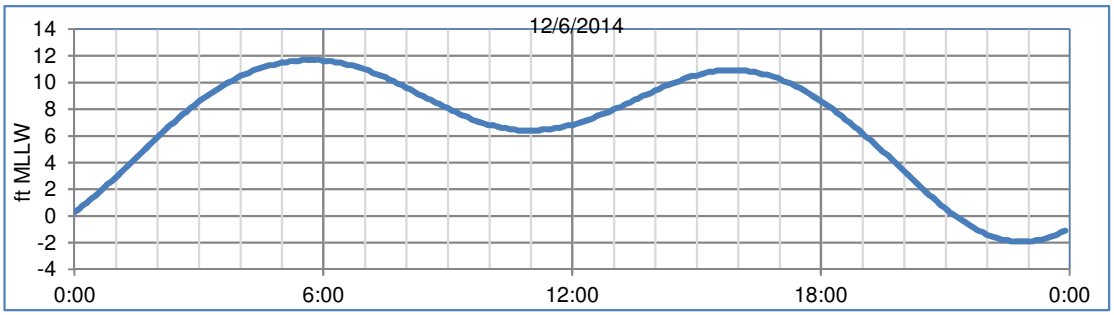
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	12:56	13:17	12:27	13:16	13:45	14:40	14:18	14:39
Depth (ft)	13.9	13.9	12.2	12.2	26.1	26.1	21.8	22
Turb. (NTU)	7.8	3.4	7.4	3.6	4.7	3.3	3.9	3.3
Temp. (°C)	9.89	10.06	8.73	9.82	10.3	10.46	10.33	10.45
DO (mg/L)	7.85	7.38	8.46	7.91	7.52	7.14	7.48	7.35
pH (units)	7.5	7.57	7.42	7.51	7.28	7.63	7.55	7.61
Sal. (ppt)	25.41	25.8	19.75	24.92	27.43	28.31	27.6	28.24
Sample ID	-0736	—	-0734	—	-0738	—	-0740	—
	Submitted							

* = Value reflects confirmed result or parameters measured during water sample collection

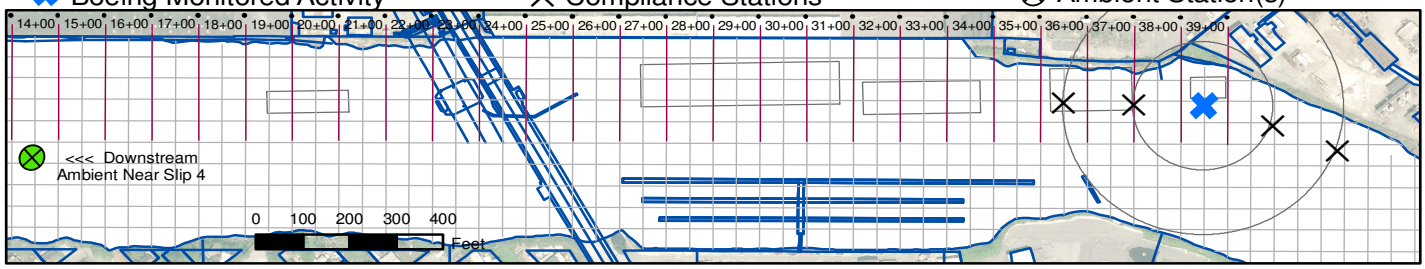
Daily Tides

5:42 AM	11.7 H
10:59 AM	6.4 L
3:52 PM	10.9 H
10:51 PM	-1.9 L
Sunrise	7:42 AM
Sunset	4:18 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 12/6/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:15

End Time: 14:45

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:46		13:14		12:17		13:14	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.6		4.6	9.6	4.7		4.6	9.6
Temp. (°C)	6.96		7.05	9.43	6.93		7.05	9.43
DO (mg/L)	11.18		11.07	≤ 6 mg/L	11.1		11.07	≤ 6 mg/L
pH (Units)	7.36		7.33	< 7.0 or >7.83	7.32		7.33	< 7.0 or >7.83
Sal. (ppt)	2.59		3.61		2.65		3.61	
Sample ID	-0735				-0733			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:35		14:37		14:06		14:37	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.8		4.7	9.7	5.1		4.7	9.7
Temp. (°C)	7.04		7.24	9.53	7.07		7.24	9.53
DO (mg/L)	11.22		10.88	≤ 6 mg/L	11.27		10.88	≤ 6 mg/L
pH (Units)	7.15		7.33	< 7.0 or >7.83	7.41		7.33	< 7.0 or >7.83
Sal. (ppt)	2.28		4.51		2.11		4.51	
Sample ID	-0737				-0739			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:56		13:17		12:27		13:16	
Depth (ft)	13.9		13.9		12.2		12.2	
Turb. (NTU)	7.8		3.4	8.4	7.4		3.6	8.6
Temp. (°C)	9.89		10.06	11.55	8.73		9.82	11.35
DO (mg/L)	7.85		7.38	≤ 6 mg/L	8.46		7.91	≤ 6 mg/L
pH (Units)	7.5		7.57	<7.07 and >8.07	7.42		7.51	<7.01 and >8.01
Sal. (ppt)	25.41		25.8		19.75		24.92	
Sample ID	-0736				-0734			
Analyze	☑ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:45		14:40		14:18		14:39	
Depth (ft)	26.1		26.1		21.8		22	
Turb. (NTU)	4.7		3.3	8.3	3.9		3.3	8.3
Temp. (°C)	10.3		10.46	11.88	10.33		10.45	11.87
DO (mg/L)	7.52		7.14	≤ 6 mg/L	7.48		7.35	≤ 6 mg/L
pH (Units)	7.28		7.63	<7.13 and >8.13	7.55		7.61	<7.11 and >8.11
Sal. (ppt)	27.43		28.31		27.6		28.24	
Sample ID	-0738				-0740			
Analyze	☐ Submitted				☐ Submitted			

Report Date 12/11/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/8/2014
Time Period: 1:30 PM to 3:00 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in the vicinity of the Special Areas at the south end of the site.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient
Time	13:39	14:32	14:07	14:32	14:49	15:35	15:09	15:35
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.5	5.1	3.4	5.1	4.5	7.8	3.7	7.8
Temp. (°C)	7.57	7.61	7.56	7.61	7.65	7.64	7.63	7.64
DO (mg/L)	10.87	10.75	10.98	10.75	10.81	10.82	10.94	10.82
pH (units)	7.28	7.34	7.41	7.34	7.38	7.36	7.35	7.36
Sal. (ppt)	3.19	4.25	2.95	4.25	3.66	3.81	2.95	3.81
Sample ID	-0741	—	-0743	—	-0745	—	-0747	—

Near-Bottom Samples

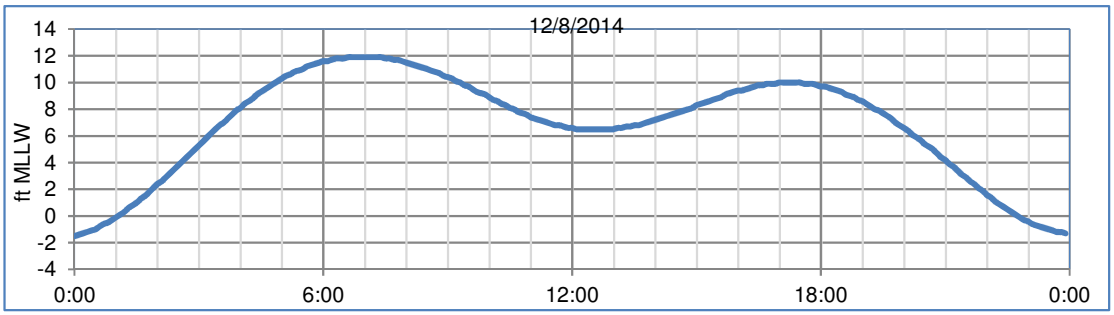
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	13:49	14:35	14:17	14:36	14:58	15:40	15:20	15:36
Depth (ft)	15.6	15.6	20.7	20.7	19.5	19.5	10.5	10.5
Turb. (NTU)	6.9	3.2	4.1	5.6	4	3.7	6.3	3.4
Temp. (°C)	10.17	10.2	10.22	10.36	10.26	10.46	9.05	9.52
DO (mg/L)	7.49	7.47	7.24	7.12	7.36	7.06	8.56	8.13
pH (units)	7.51	7.54	7.56	7.59	7.45	7.55	7.4	7.52
Sal. (ppt)	26.48	26.38	26.77	27.28	27	27.8	19.3	20
Sample ID	-0742	—	-0744	—	-0746	—	-0748	—

* = Value reflects confirmed result or parameters measured during water sample collection

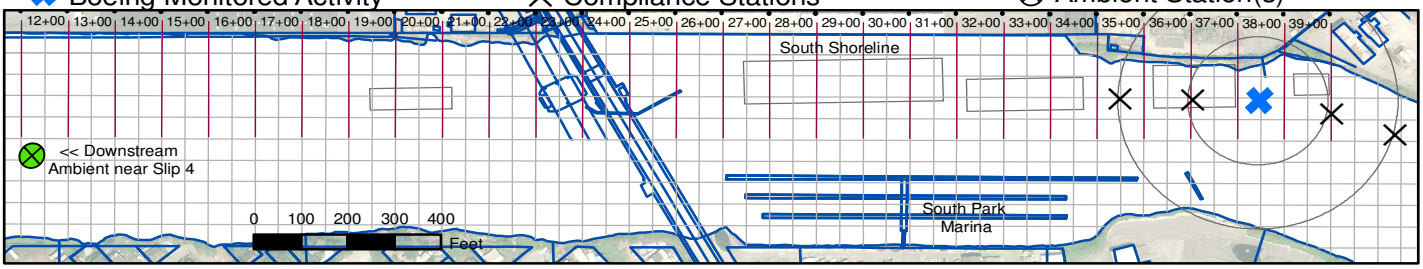
Daily Tides

6:58 AM	11.9 H
12:34 PM	6.5 L
5:15 PM	10 H
12:00 AM	
Sunrise	7:44 AM
Sunset	4:18 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 12/8/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 13:30

End Time: 15:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:39		14:32		14:07		14:32	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.5		5.1	10.1	3.4		5.1	10.1
Temp. (°C)	7.57		7.61	9.75	7.56		7.61	9.75
DO (mg/L)	10.87		10.75	≤ 6 mg/L	10.98		10.75	≤ 6 mg/L
pH (Units)	7.28		7.34	< 7.0 or >7.84	7.41		7.34	< 7.0 or >7.84
Sal. (ppt)	3.19		4.25		2.95		4.25	
Sample ID	-0741				-0743			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:49		15:35		15:09		15:35	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.5		7.8	12.8	3.7		7.8	12.8
Temp. (°C)	7.65		7.64	9.77	7.63		7.64	9.77
DO (mg/L)	10.81		10.82	≤ 6 mg/L	10.94		10.82	≤ 6 mg/L
pH (Units)	7.38		7.36	< 7.0 or >7.86	7.35		7.36	< 7.0 or >7.86
Sal. (ppt)	3.66		3.81		2.95		3.81	
Sample ID	-0745				-0747			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:49		14:35		14:17		14:36	
Depth (ft)	15.6		15.6		20.7		20.7	
Turb. (NTU)	6.9		3.2	8.2	4.1		5.6	10.6
Temp. (°C)	10.17		10.2	11.66	10.22		10.36	11.80
DO (mg/L)	7.49		7.47	≤ 6 mg/L	7.24		7.12	≤ 6 mg/L
pH (Units)	7.51		7.54	<7.04 and >8.04	7.56		7.59	<7.09 and >8.09
Sal. (ppt)	26.48		26.38		26.77		27.28	
Sample ID	-0742				-0744			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:58		15:40		15:20		15:36	
Depth (ft)	19.5		19.5		10.5		10.5	
Turb. (NTU)	4		3.7	8.7	6.3		3.4	8.4
Temp. (°C)	10.26		10.46	11.88	9.05		9.52	11.12
DO (mg/L)	7.36		7.06	≤ 6 mg/L	8.56		8.13	≤ 6 mg/L
pH (Units)	7.45		7.55	<7.05 and >8.05	7.4		7.52	<7.02 and >8.02
Sal. (ppt)	27		27.8		19.3		20	
Sample ID	-0746				-0748			
Analyze	☐ Submitted				☐ Submitted			

Report Date 12/11/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/9/2014
Time Period: 2:00 PM to 4:15 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Cleanup dredging near South Park Bridge.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	1:00	14:45	14:23	14:45	14:58	16:06	15:46	16:06
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4.6	5.7	5.9	5.7	5.3	4.7	4.1	4.7
Temp. (°C)	8.44	8.37	8.45	8.37	8.44	8.39	8.41	8.39
DO (mg/L)	10.61	10.47	10.57	10.47	10.49	10.46	10.65	10.46
pH (units)	7.31	7.31	7.29	7.31	7.33	7.33	7.36	7.33
Sal. (ppt)	3.94	5.15	4.08	5.15	5.3	4.95	3.98	4.95
Sample ID	-0749	—	-0751	—	-0753	—	-0755	—

Near-Bottom Samples

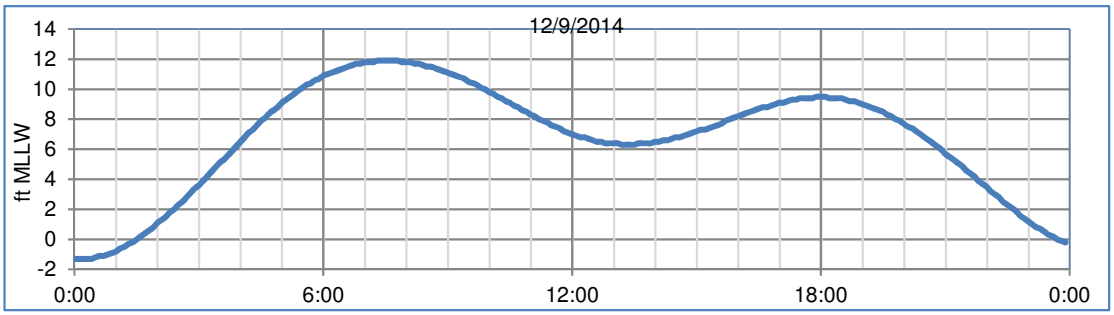
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	14:09	14:46	14:32	14:46	15:07	16:07	15:55	16:12
Depth (ft)	7.38	7.4	7.5	7.4	6.6	6.3	20.9	20.8
Turb. (NTU)	5	6.7	6.6	6.7	5.4	5.1	3.4	5
Temp. (°C)	8.29	8.61	8.43	8.61	8.48	8.52	10.62	10.67
DO (mg/L)	10.48	10.11	10.28	10.11	10.3	10.15	7.11	7.28
pH (units)	7.25	7.34	7.27	7.34	7.31	7.27	7.56	7.55
Sal. (ppt)	5.23	9.65	5.82	9.65	6	7.2	28.19	28.45
Sample ID	-0750	—	-0752	—	-0754	—	-0756	—

* = Value reflects confirmed result or parameters measured during water sample collection

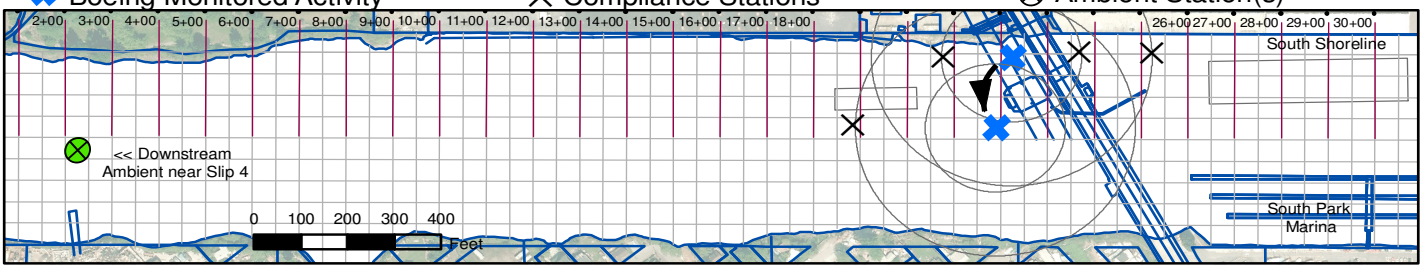
Daily Tides

12:07 AM	-1.3 L
7:32 AM	11.9 H
1:21 PM	6.3 L
5:59 PM	9.5 H
Sunrise	7:45 AM
Sunset	4:18 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 12/9/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 14:00

End Time: 16:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	1:00		14:45		14:23		14:45	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.6		5.7	10.7	5.9		5.7	10.7
Temp. (°C)	8.44		8.37	10.25	8.45		8.37	10.25
DO (mg/L)	10.61		10.47	≤ 6 mg/L	10.57		10.47	≤ 6 mg/L
pH (Units)	7.31		7.31	< 7.0 or >7.81	7.29		7.31	< 7.0 or >7.81
Sal. (ppt)	3.94		5.15		4.08		5.15	
Sample ID	-0749				-0751			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:58		16:06		15:46		16:06	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.3		4.7	9.7	4.1		4.7	9.7
Temp. (°C)	8.44		8.39	10.27	8.41		8.39	10.27
DO (mg/L)	10.49		10.46	≤ 6 mg/L	10.65		10.46	≤ 6 mg/L
pH (Units)	7.33		7.33	< 7.0 or >7.83	7.36		7.33	< 7.0 or >7.83
Sal. (ppt)	5.3		4.95		3.98		4.95	
Sample ID	-0753				-0755			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:09		14:46		14:32		14:46	
Depth (ft)	7.38		7.4		7.5		7.4	
Turb. (NTU)	5		6.7	11.7	6.6		6.7	11.7
Temp. (°C)	8.29		8.61	10.43	8.43		8.61	10.43
DO (mg/L)	10.48		10.11	≤ 6 mg/L	10.28		10.11	≤ 6 mg/L
pH (Units)	7.25		7.34	< 7.0 or >7.84	7.27		7.34	< 7.0 or >7.84
Sal. (ppt)	5.23		9.65		5.82		9.65	
Sample ID	-0750				-0752			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:07		16:07		15:55		16:12	
Depth (ft)	6.6		6.3		20.9		20.8	
Turb. (NTU)	5.4		5.1	10.1	3.4		5	10
Temp. (°C)	8.48		8.52	10.36	10.62		10.67	12.05
DO (mg/L)	10.3		10.15	≤ 6 mg/L	7.11		7.28	≤ 6 mg/L
pH (Units)	7.31		7.27	< 7.0 or >7.77	7.56		7.55	<7.05 and >8.05
Sal. (ppt)	6		7.2		28.19		28.45	
Sample ID	-0754				-0756			
Analyze	☐ Submitted				☐ Submitted			

Report Date 12/11/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/10/2014
Time Period: 11:45 AM to 2:15 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Dredging in the vicinity of the Special Areas at the south end of the project site.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	12:09	12:37	11:45	12:37	13:03	14:10	13:33	14:10
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4.8	5.3	4.5	5.3	4.7	4.9	4.9	4.9
Temp. (°C)	8.73	8.82	8.69	8.82	8.81	8.89	8.83	8.89
DO (mg/L)	10.58	10.47	10.55	10.47	10.52	10.41	10.51	10.41
pH (units)	7.29	7.31	7.26	7.31	7.32	7.37	7.34	7.37
Sal. (ppt)	3.26	4.54	3.15	4.54	3.54	4.41	3.5	4.41
Sample ID	-0759	—	-0757	—	-0761	—	-0763	—

Near-Bottom Samples

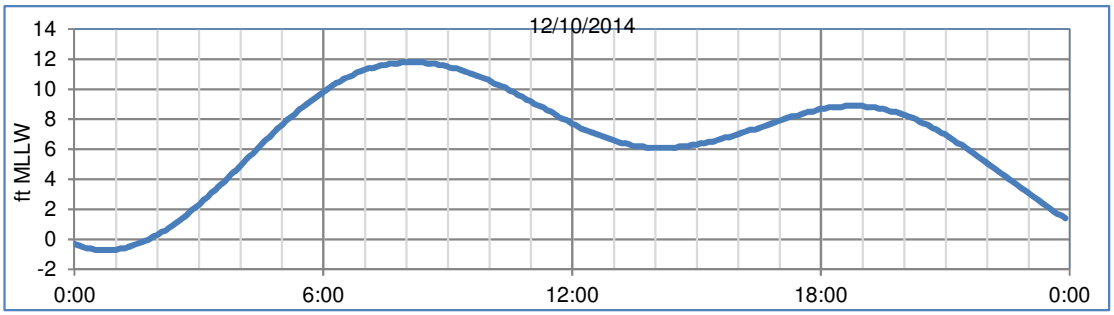
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	12:17	12:38	11:54	12:38	13:11	14:13	13:48	14:12
Depth (ft)	24.6	24.3	24.4	24.3	21.8	21.8	13	13
Turb. (NTU)	7.5	3.1	3.9	3.1	5.4	2.9	7.8	3.7
Temp. (°C)	10.58	10.68	10.62	10.68	10.53	10.15	9.83	9.86
DO (mg/L)	7.07	7.33	6.95	7.33	7.28	7.03	8.18	8.37
pH (units)	7.49	7.48	7.48	7.48	7.46	7.55	7.39	7.42
Sal. (ppt)	27.6	28.3	27.8	28.3	27.3	28.82	17.98	20.19
Sample ID	-0760	—	-0758	—	-0762	—	-0764	—
							Submitted	

* = Value reflects confirmed result or parameters measured during water sample collection

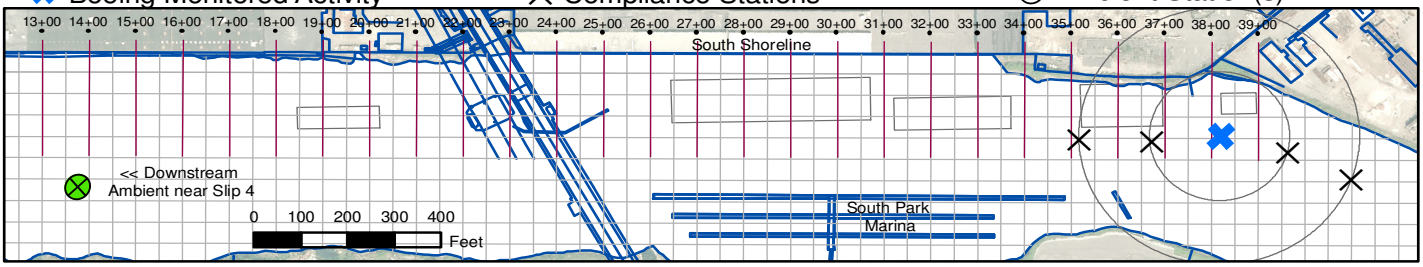
Daily Tides

12:45 AM	-0.7 L
8:07 AM	11.8 H
2:10 PM	6.1 L
6:47 PM	8.9 H
Sunrise	7:46 AM
Sunset	4:18 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 12/10/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:45

End Time: 14:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)								Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:09		12:37		11:45		12:37		13:03		14:10		13:33		14:10	
Depth (ft)	2		2		2		2		2		2		2		2	
Turb. (NTU)	4.8		5.3	10.3	4.5		5.3	10.3	4.7		4.9	9.9	4.9		4.9	9.9
Temp. (°C)	8.73		8.82	10.58	8.69		8.82	10.58	8.81		8.89	10.63	8.83		8.89	10.63
DO (mg/L)	10.58		10.47	≤ 6 mg/L	10.55		10.47	≤ 6 mg/L	10.52		10.41	≤ 6 mg/L	10.51		10.41	≤ 6 mg/L
pH (Units)	7.29		7.31	< 7.0 or >7.81	7.26		7.31	< 7.0 or >7.81	7.32		7.37	< 7.0 or >7.87	7.34		7.37	< 7.0 or >7.87
Sal. (ppt)	3.26		4.54		3.15		4.54		3.54		4.41		3.5		4.41	
Sample ID	-0759				-0757				-0761				-0763			
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)								Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:17		12:38		11:54		12:38		13:11		14:13		13:48		14:12	
Depth (ft)	24.6		24.3		24.4		24.3		21.8		21.8		13		13	
Turb. (NTU)	7.5		3.1	8.1	3.9		3.1	8.1	5.4		2.9	7.9	7.8		3.7	8.7
Temp. (°C)	10.58		10.68	12.06	10.62		10.68	12.06	10.53		10.15	11.62	9.83		9.86	11.39
DO (mg/L)	7.07		7.33	≤ 6 mg/L	6.95		7.33	≤ 6 mg/L	7.28		7.03	≤ 6 mg/L	8.18		8.37	≤ 6 mg/L
pH (Units)	7.49		7.48	< 7.0 or >7.98	7.48		7.48	< 7.0 or >7.98	7.46		7.55	<7.05 and >8.05	7.39		7.42	< 7.0 or >7.92
Sal. (ppt)	27.6		28.3		27.8		28.3		27.3		28.82		17.98		20.19	
Sample ID	-0760				-0758				-0762				-0764			
Analyze	☐ Submitted				☐ Submitted				☐ Submitted				☑ Submitted			

Report Date 12/12/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/11/2014
Time Period: 11:30 AM to 2:30 PM
Activity: Dredging: Intensive Monitoring — Ebb Tide
Comments: Dredging within and adjacent to the Special Areas at the south end of the site during the monitoring at the downstream stations. Dredge moved to vicinity of the South Park bridge. Monitoring conducted at the upstream compliance stations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:44	12:38	12:13	12:38	13:28	14:26	13:57	14:26
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.7	5.2	5.7	5.2	5.2	5.3	5.2	5.3
Temp. (°C)	8.68	8.73	8.69	8.73	8.79	8.81	8.81	8.81
DO (mg/L)	10.65	10.5	10.58	10.5	10.39	10.32	10.25	10.32
pH (units)	7.53	7.4	7.48	7.4	7.37	7.3	7.34	7.3
Sal. (ppt)	1.71	2.21	1.96	2.21	3.52	3.1	3.13	3.1
Sample ID	-0765	—	-0767	—	-0769	—	-0771	—

Near-Bottom Samples

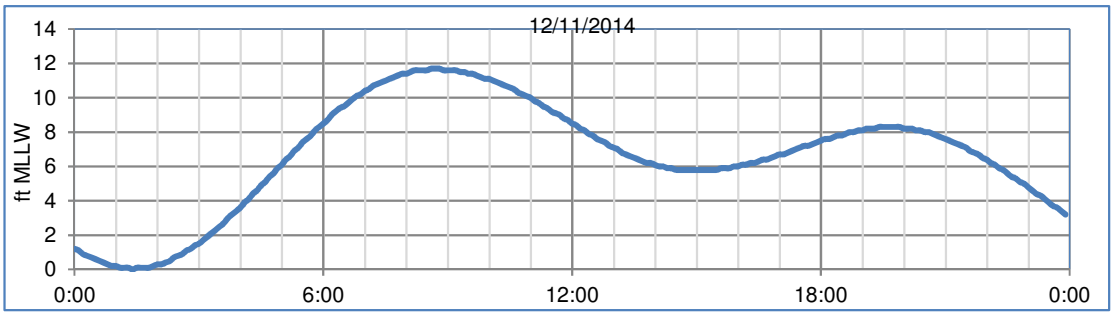
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:54	12:42	12:25	12:39	13:38	14:29	15:00	14:28
Depth (ft)	10.5	10.5	7.6	7.6	18.4	17.9	8	8
Turb. (NTU)	4.3	4.5	5.2	5.1	5.8	3.3	5.1	5.3
Temp. (°C)	9.57	9.04	8.83	8.77	10.63	10.63	9.11	8.84
DO (mg/L)	8.39	9.73	10.03	10.35	7.3	7.47	9.55	10.12
pH (units)	7.47	7.29	7.34	7.3	7.45	7.45	7.32	7.3
Sal. (ppt)	14.78	6.5	4.22	3.22	27.59	27.61	7.5	4.56
Sample ID	-0766	—	-0768	—	-0770	—	-0772	—

* = Value reflects confirmed result or parameters measured during water sample collection

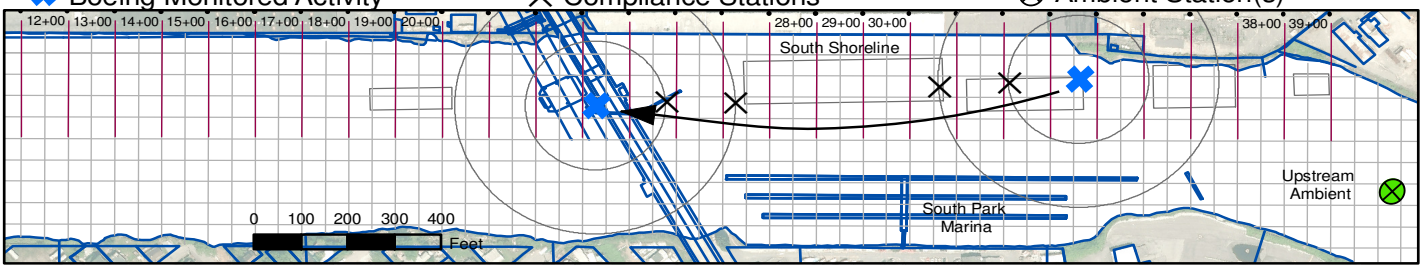
Daily Tides

1:25 AM	0 L
8:43 AM	11.7 H
3:01 PM	5.8 L
7:40 PM	8.3 H
Sunrise	7:47 AM
Sunset	4:18 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 12/11/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:30

End Time: 14:30

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:44		12:38		12:13		12:38	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.7		5.2	10.2	5.7		5.2	10.2
Temp. (°C)	8.68		8.73	10.51	8.69		8.73	10.51
DO (mg/L)	10.65		10.5	≤ 6 mg/L	10.58		10.5	≤ 6 mg/L
pH (Units)	7.53		7.4	< 7.0 or >7.9	7.48		7.4	< 7.0 or >7.9
Sal. (ppt)	1.71		2.21		1.96		2.21	
Sample ID	-0765				-0767			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:28		14:26		13:57		14:26	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.2		5.3	10.3	5.2		5.3	10.3
Temp. (°C)	8.79		8.81	10.57	8.81		8.81	10.57
DO (mg/L)	10.39		10.32	≤ 6 mg/L	10.25		10.32	≤ 6 mg/L
pH (Units)	7.37		7.3	< 7.0 or >7.8	7.34		7.3	< 7.0 or >7.8
Sal. (ppt)	3.52		3.1		3.13		3.1	
Sample ID	-0769				-0771			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:54		12:42		12:25		12:39	
Depth (ft)	10.5		10.5		7.6		7.6	
Turb. (NTU)	4.3		4.5	9.5	5.2		5.1	10.1
Temp. (°C)	9.57		9.04	10.74	8.83		8.77	10.54
DO (mg/L)	8.39		9.73	≤ 6 mg/L	10.03		10.35	≤ 6 mg/L
pH (Units)	7.47		7.29	< 7.0 or >7.79	7.34		7.3	< 7.0 or >7.8
Sal. (ppt)	14.78		6.5		4.22		3.22	
Sample ID	-0766				-0768			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:38		14:29		0.625		14:28	
Depth (ft)	18.4		17.9		8		8	
Turb. (NTU)	5.8		3.3	8.3	5.1		5.3	10.3
Temp. (°C)	10.63		10.63	12.02	9.11		8.84	10.59
DO (mg/L)	7.3		7.47	≤ 6 mg/L	9.55		10.12	≤ 6 mg/L
pH (Units)	7.45		7.45	< 7.0 or >7.95	7.32		7.3	< 7.0 or >7.8
Sal. (ppt)	27.59		27.61		7.5		4.56	
Sample ID	-0770				-0772			
Analyze	☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/12/2014
Time Period: 10:45 AM to 1:00 PM
Activity: Dredging: Intensive Monitoring — Ebb Tide
Comments: Dredging at the south end of the project site in the vicinity of the Special Areas.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	10:52	11:28	11:10	11:28	11:46	12:56	12:35	12:56
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4.6	4.7	4.6	4.7	4.9	4.9	4.9	4.9
Temp. (°C)	8.17	8.3	8.32	8.3	8.31	8.51	8.46	8.51
DO (mg/L)	10.55	10.76	10.5	10.76	10.54	10.53	10.55	10.53
pH (units)	7.44	7.42	7.5	7.42	7.52	7.37	7.32	7.37
Sal. (ppt)	1.69	1.23	1.72	1.23	1.62	2.43	2.22	2.43
Sample ID	-0774	—	-0776	—	-0778	—	-0780	—

Near-Bottom Samples

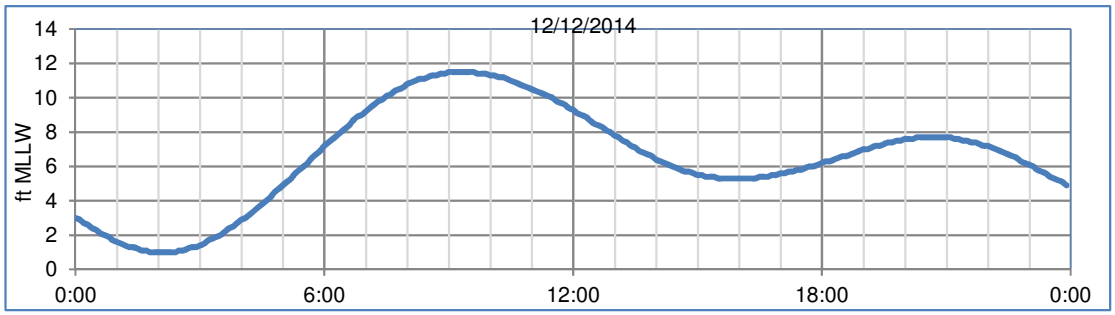
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:40 *	11:31	11:17	11:30	11:54	12:57	12:43	12:58
Depth (ft)	16.2	15.9	11.3	11.2	15	15	18.9	18.9
Turb. (NTU)	7 *	2.2	3.1	2.2	2.4	2.6	3.2	3.3
Temp. (°C)	10.65	10.65	10.42	10.27	10.62	10.61	10.63	10.72
DO (mg/L)	7.47	6.79	7.57	7.3	7.51	7.2	6.76	6.76
pH (units)	7.37	7.51	7.37	7.43	7.38	7.45	7.51	7.54
Sal. (ppt)	27.63	27.59	25.53	24.25	27.56	27.34	27.75	28.17
Sample ID	-0775	—	-0777	—	-0779	—	-0781	—
	Submitted							

* = Value reflects confirmed result or parameters measured during water sample collection

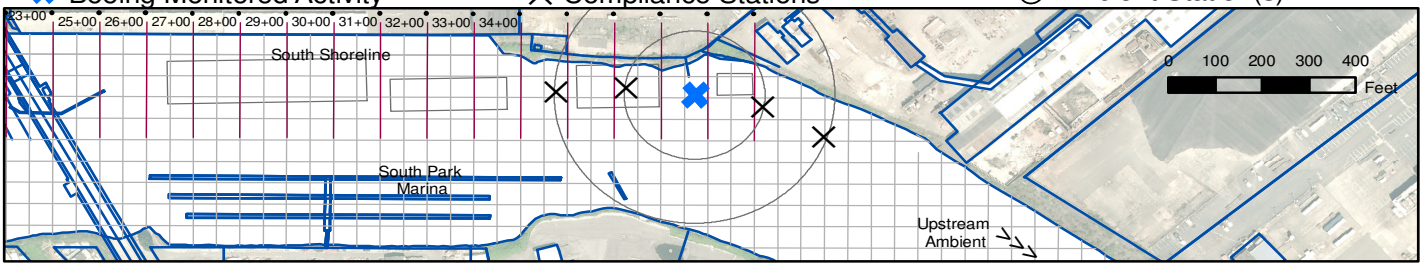
Daily Tides

2:06 AM	1 L
9:20 AM	11.5 H
3:56 PM	5.3 L
8:41 PM	7.7 H
Sunrise	7:48 AM
Sunset	4:18 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 12/12/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 10:45

End Time: 18:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:52		11:28		11:10		11:28	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.6		4.7	9.7	4.6		4.7	9.7
Temp. (°C)	8.17		8.3	10.20	8.32		8.3	10.20
DO (mg/L)	10.55		10.76	≤ 6 mg/L	10.5		10.76	≤ 6 mg/L
pH (Units)	7.44		7.42	< 7.0 or >7.92	7.5		7.42	< 7.0 or >7.92
Sal. (ppt)	1.69		1.23		1.72		1.23	
Sample ID	-0774				-0776			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:46		12:56		12:35		12:56	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.9		4.9	9.9	4.9		4.9	9.9
Temp. (°C)	8.31		8.51	10.35	8.46		8.51	10.35
DO (mg/L)	10.54		10.53	≤ 6 mg/L	10.55		10.53	≤ 6 mg/L
pH (Units)	7.52		7.37	< 7.0 or >7.87	7.32		7.37	< 7.0 or >7.87
Sal. (ppt)	1.62		2.43		2.22		2.43	
Sample ID	-0778				-0780			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:59	11:40	11:31		11:17		11:30	
Depth (ft)	16.2		15.9		11.3		11.2	
Turb. (NTU)	7.9	7	2.2	7.2	3.1		2.2	7.2
Temp. (°C)	10.65		10.65	12.04	10.42		10.27	11.72
DO (mg/L)	7.47		6.79	≤ 6 mg/L	7.57		7.3	≤ 6 mg/L
pH (Units)	7.37		7.51	<7.01 and >8.01	7.37		7.43	< 7.0 or >7.93
Sal. (ppt)	27.63		27.59		25.53		24.25	
Sample ID	-0775				-0777			
Analyze	☑ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:54		12:57		12:43		12:58	
Depth (ft)	15		15		18.9		18.9	
Turb. (NTU)	2.4		2.6	7.6	3.2		3.3	8.3
Temp. (°C)	10.62		10.61	12.00	10.63		10.72	12.10
DO (mg/L)	7.51		7.2	≤ 6 mg/L	6.76		6.76	≤ 6 mg/L
pH (Units)	7.38		7.45	< 7.0 or >7.95	7.51		7.54	<7.04 and >8.04
Sal. (ppt)	27.56		27.34		27.75		28.17	
Sample ID	-0779				-0781			
Analyze	☐ Submitted				☐ Submitted			

Report Date 12/18/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/16/2014
Time Period: 10:45 AM to 2:15 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: The pH probe on the WQ instrument appeared to be malfunctioning. Attempts to clean and correct the problem in the field were unsuccessful. Comparison of the field pH readings showed the instrument reading approximately 0.25 units lower than the in-situ ambient instrument.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Upstream				Near Surface Downstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	10:55	11:45	11:21	11:45	13:23	14:08	13:48	14:08
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.5	3.1	2.3	3.1	2.4	2.5	2.5	2.5
Temp. (°C)	6.18	6.39	6.17	6.39	6.46	6.37	6.42	6.37
DO (mg/L)	11.56	11.25	11.15	11.25	11.43	11.57	11.92	11.57
pH (units)	6.76	6.84	6.82	6.84	6.93	7.38	7.17	7.38
Sal. (ppt)	1.36	2.61	1.29	2.61	1.8	0.98	1.7	0.98
Sample ID	-0782	—	-0784	—	-0786	—	-0788	—

Near-Bottom Samples

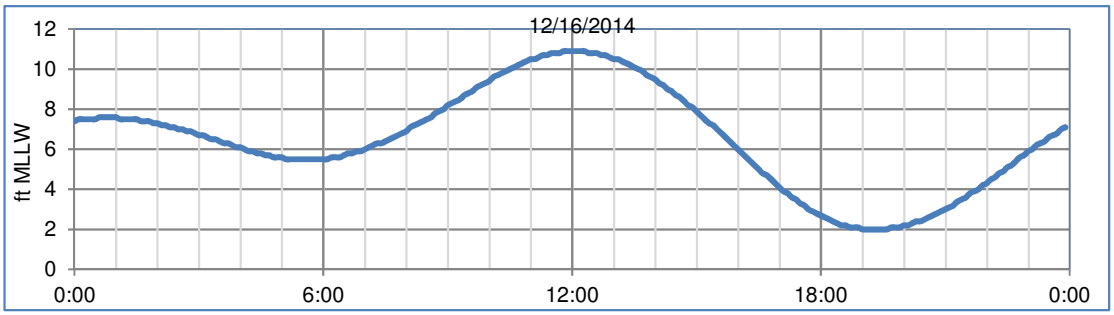
	Near Bottom Upstream				Near Bottom Downstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	11;05	11:47	11:31	11:46	13:34	14:09	13:55	14:09
Depth (ft)	21.7	21.7	19.8	19.8	10.9	10	9	10
Turb. (NTU)	4.5	2.3	4.5	2.4	5	3.9	4.4	3.9
Temp. (°C)	10.81	10.88	10.84	10.88	10.48	10.02	9.03	10.02
DO (mg/L)	7.35	6.76	7	7.16	6.82	8.14	8.86	8.14
pH (units)	6.87	7.04	6.96	7.01	7.09	7.28	7.25	7.28
Sal. (ppt)	28.89	29.19	28.93	29.16	26.19	24.72	18.59	24.72
Sample ID	-0783	—	-0785	—	-0787	—	-0789	—

* = Value reflects confirmed result or parameters measured during water sample collection

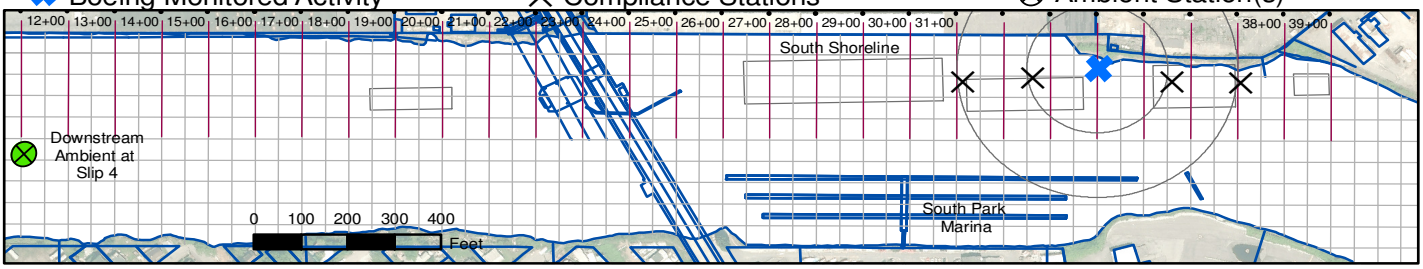
Daily Tides

12:47 AM	7.6 H
5:35 AM	5.5 L
12:03 PM	10.9 H
7:17 PM	2 L
Sunrise	7:51 AM
Sunset	4:19 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 12/16/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 10:45

End Time: 14:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:55		11:45		11:21		11:45	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.5		3.1	8.1	2.3		3.1	8.1
Temp. (°C)	6.18		6.39	9.12	6.17		6.39	9.12
DO (mg/L)	11.56		11.25	≤ 6 mg/L	11.15		11.25	≤ 6 mg/L
pH (Units)	6.76		6.84	< 7.0 or >7.34	6.82		6.84	< 7.0 or >7.34
Sal. (ppt)	1.36		2.61		1.29		2.61	
Sample ID	-0782				-0784			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:23		14:08		13:48		14:08	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.4		2.5	7.5	2.5		2.5	7.5
Temp. (°C)	6.46		6.37	9.12	6.42		6.37	9.12
DO (mg/L)	11.43		11.57	≤ 6 mg/L	11.92		11.57	≤ 6 mg/L
pH (Units)	6.93		7.38	< 7.0 or >7.88	7.17		7.38	< 7.0 or >7.88
Sal. (ppt)	1.8		0.98		1.7		0.98	
Sample ID	-0786				-0788			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11;05		11:47		11:31		11:46	
Depth (ft)	21.7		21.7		19.8		19.8	
Turb. (NTU)	4.5		2.3	7.3	4.5		2.4	7.4
Temp. (°C)	10.81		10.88	12.23	10.84		10.88	12.23
DO (mg/L)	7.35		6.76	≤ 6 mg/L	7		7.16	≤ 6 mg/L
pH (Units)	6.87		7.04	< 7.0 or >7.54	6.96		7.01	< 7.0 or >7.51
Sal. (ppt)	28.89		29.19		28.93		29.16	
Sample ID	-0783				-0785			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:34		14:09		13:55		14:09	
Depth (ft)	10.9		10		9		10	
Turb. (NTU)	5		3.9	8.9	4.4		3.9	8.9
Temp. (°C)	10.48		10.02	11.52	9.03		10.02	11.52
DO (mg/L)	6.82		8.14	≤ 6 mg/L	8.86		8.14	≤ 6 mg/L
pH (Units)	7.09		7.28	< 7.0 or >7.78	7.25		7.28	< 7.0 or >7.78
Sal. (ppt)	26.19		24.72		18.59		24.72	
Sample ID	-0787				-0789			
Analyze	☐ Submitted				☐ Submitted			

Report Date 12/18/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/17/2014
Time Period: 11:00 AM to 1:00 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Continuing to have problems with the pH probe on the WQ instrument. New pH probe ordered for instrument.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface/ Mid-depth Downstream 150 ft	Near Surface/ Mid-depth Downstream Ambient	Near Surface/ Mid-depth Downstream 300 ft	Near Surface/ Mid-depth Downstream Ambient
Time	11:00	11:50	11:23	11:50	12:04	12:51	12:20	12:50
Depth (ft)	2	2	2	2	3.5	3.5	2	2
Turb. (NTU)	2.5	2.6	2.2	2.6	3.1	2.5	2.4	2.5
Temp. (°C)	6.43	6.56	6.42	6.56	6.62	6.88	6.54	6.7
DO (mg/L)	11.58	11.5	11.49	11.5	11.17	10.94	11.13	11.19
pH (units)	7.04	7.31	7.13	7.31	7.38	7.97	7.58	8.07
Sal. (ppt)	1.58	2.23	1.62	2.23	2.79	4.2	2.24	3.09
Sample ID	-0790	—	-0792	—	-0794	—	-0795	—

Near-Bottom Samples

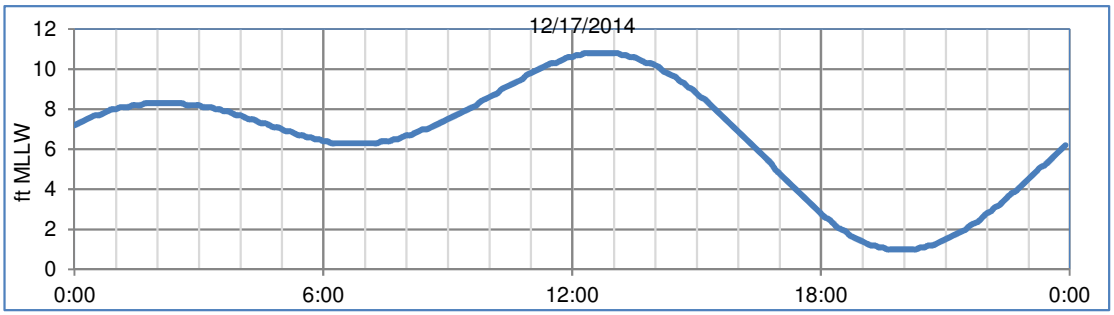
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	11:10	11:53	11:33	11:52	—	—	12:32	12:52
Depth (ft)	21.4	21.4	13	13	—	—	8.4	8.4
Turb. (NTU)	4	2.3	4.5	1.9	—	—	5.8	2.4
Temp. (°C)	10.8	10.81	10.55	10.54	—	—	9.51	9.17
DO (mg/L)	7.06	6.77	7.69	7.21	—	—	8.16	8.82
pH (units)	7.08	7.31	7.09	7.28	—	—	7.78	7.9
Sal. (ppt)	28.62	28.87	27.46	27.17	—	—	21.69	8.61
Sample ID	-0791	—	-0793	—	—	—	-0796	—

* = Value reflects confirmed result or parameters measured during water sample collection

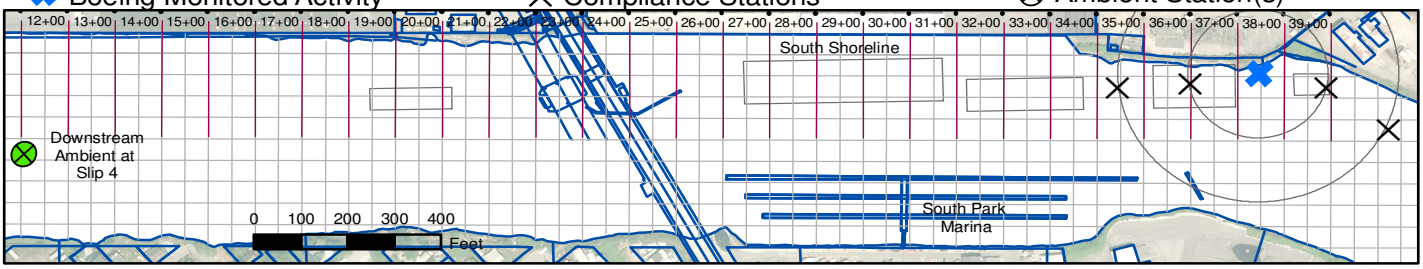
Daily Tides

2:09 AM	8.3 H
6:45 AM	6.3 L
12:43 PM	10.8 H
7:56 PM	1 L
Sunrise	7:52 AM
Sunset	4:19 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 12/17/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:00

End Time: 18:00

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:00		11:50		11:23		11:50	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.5		2.6	7.6	2.2		2.6	7.6
Temp. (°C)	6.43		6.56	9.19	6.42		6.56	9.19
DO (mg/L)	11.58		11.5	≤ 6 mg/L	11.49		11.5	≤ 6 mg/L
pH (Units)	7.04		7.31	< 7.0 or >7.81	7.13		7.31	< 7.0 or >7.81
Sal. (ppt)	1.58		2.23		1.62		2.23	
Sample ID	-0790				-0792			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:04		12:51		12:20		12:50	
Depth (ft)	3.5		3.5		2		2	
Turb. (NTU)	3.1		2.5	7.5	2.4		2.5	7.5
Temp. (°C)	6.62		6.88	9.34	6.54		6.7	9.25
DO (mg/L)	11.17		10.94	≤ 6 mg/L	11.13		11.19	≤ 6 mg/L
pH (Units)	7.38		7.97	<7.47 and >8.47	7.58		8.07	<7.57 and >8.5
Sal. (ppt)	2.79		4.2		2.24		3.09	
Sample ID	-0794				-0795			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:10		11:53		11:33		11:52	
Depth (ft)	21.4		21.4		13		13	
Turb. (NTU)	4		2.3	7.3	4.5		1.9	6.9
Temp. (°C)	10.8		10.81	12.17	10.55		10.54	11.95
DO (mg/L)	7.06		6.77	≤ 6 mg/L	7.69		7.21	≤ 6 mg/L
pH (Units)	7.08		7.31	< 7.0 or >7.81	7.09		7.28	< 7.0 or >7.78
Sal. (ppt)	28.62		28.87		27.46		27.17	
Sample ID	-0791				-0793			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time					12:32		12:52	
Depth (ft)					8.4		8.4	
Turb. (NTU)				—	5.8		2.4	7.4
Temp. (°C)				—	9.51		9.17	10.84
DO (mg/L)				—	8.16		8.82	≤ 6 mg/L
pH (Units)				—	7.78		7.9	<7.4 and >8.4
Sal. (ppt)					21.69		8.61	
Sample ID					-0796			
Analyze	☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/18/2014
Time Period: 10:30 AM to 1:15 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: The pH probe on the WQ instrument is still operating incorrectly. New probe on order.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	10:40	11:27	11:04	11:27	12:14	13:06	12:40	13:06
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.2	3.1	2.3	3.1	3.9	2.6	5.7	2.6
Temp. (°C)	6.59	6.79	6.62	6.79	6.74	6.97	6.76	6.97
DO (mg/L)	11.21	11.12	11.29	11.12	11.05	11.04	11.08	11.04
pH (units)	7.64	7.77	7.64	7.77	8.16	8.18	8.25	8.18
Sal. (ppt)	1.99	3.15	1.92	3.15	2.4	5.09	2.2	5.09
Sample ID	-0797	—	-0799	—	-0802	—	-0804	—

Near-Bottom Samples

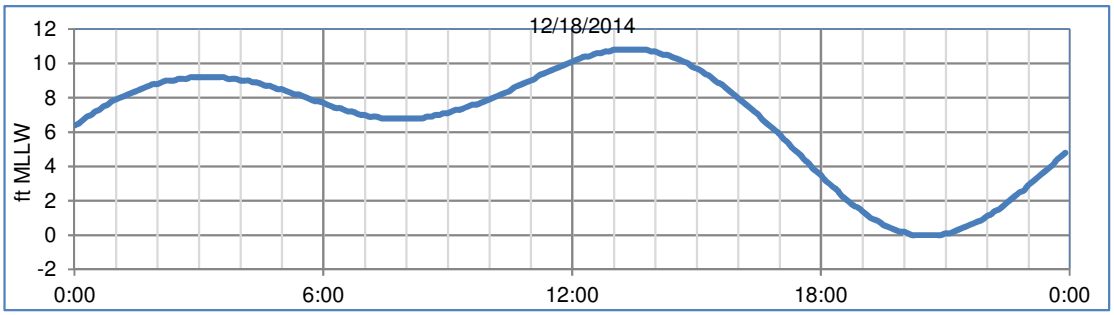
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	10:49	11:30	11:12	11:29	12:25	13:07	12:48	13:06
Depth (ft)	24.1	24	18.8	18.8	8.8	8.8	6.2	6.2
Turb. (NTU)	5	3.4	5	3.9	6.3	4.1	5.3	2.9
Temp. (°C)	10.68	10.73	10.6	10.69	9.21	9.09	7.92	8
DO (mg/L)	6.91	6.9	7.66	7.37	8.3	8.8	9.94	10
pH (units)	7.71	7.89	7.68	7.85	8.15	8.27	8.09	8.18
Sal. (ppt)	28.28	28.66	27.92	28.37	19.05	18.45	11.57	14.14
Sample ID	-0798	—	-0801	—	-0803	—	-0805	—

* = Value reflects confirmed result or parameters measured during water sample collection

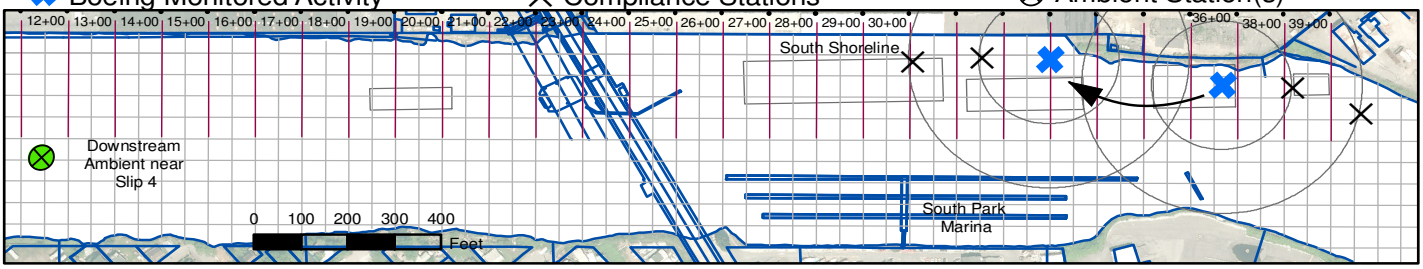
Daily Tides

3:11 AM	9.2 H
7:52 AM	6.8 L
1:23 PM	10.8 H
8:33 PM	0 L
Sunrise	7:53 AM
Sunset	4:19 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 12/18/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 10:30

End Time: 18:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:40		11:27		11:04		11:27	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.2		3.1	8.1	2.3		3.1	8.1
Temp. (°C)	6.59		6.79	9.30	6.62		6.79	9.30
DO (mg/L)	11.21		11.12	≤ 6 mg/L	11.29		11.12	≤ 6 mg/L
pH (Units)	7.64		7.77	<7.27 and >8.27	7.64		7.77	<7.27 and >8.27
Sal. (ppt)	1.99		3.15		1.92		3.15	
Sample ID	-0797				-0799			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:14		13:06		12:40		13:06	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.9		2.6	7.6	5.7		2.6	7.6
Temp. (°C)	6.74		6.97	9.38	6.76		6.97	9.38
DO (mg/L)	11.05		11.04	≤ 6 mg/L	11.08		11.04	≤ 6 mg/L
pH (Units)	8.16		8.18	<7.68 and >8.5	8.25		8.18	<7.68 and >8.5
Sal. (ppt)	2.4		5.09		2.2		5.09	
Sample ID	-0802				-0804			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:49		11:30		11:12		11:29	
Depth (ft)	24.1		24		18.8		18.8	
Turb. (NTU)	5		3.4	8.4	5		3.9	8.9
Temp. (°C)	10.68		10.73	12.10	10.6		10.69	12.07
DO (mg/L)	6.91		6.9	≤ 6 mg/L	7.66		7.37	≤ 6 mg/L
pH (Units)	7.71		7.89	<7.39 and >8.39	7.68		7.85	<7.35 and >8.35
Sal. (ppt)	28.28		28.66		27.92		28.37	
Sample ID	-0798				-0801			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:25		13:07		12:48		13:06	
Depth (ft)	8.8		8.8		6.2		6.2	
Turb. (NTU)	6.3		4.1	9.1	5.3		2.9	7.9
Temp. (°C)	9.21		9.09	10.78	7.92		8	10.00
DO (mg/L)	8.3		8.8	≤ 6 mg/L	9.94		10	≤ 6 mg/L
pH (Units)	8.15		8.27	<7.77 and >8.5	8.09		8.18	<7.68 and >8.5
Sal. (ppt)	19.05		18.45		11.57		14.14	
Sample ID	-0803				-0805			
Analyze	☐ Submitted				☐ Submitted			

Report Date 12/19/2014

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 12/19/2014
Time Period: 11:15 AM to 1:00 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments:

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient
Time	11:16	11:59	11:37	11:59	12:12	12:48	12:31	12:48
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4.3	4.4	4.9	4.4	4.5	4.3	4.7	4.3
Temp. (°C)	7.59	7.67	7.57	7.67	7.74	7.8	7.74	7.8
DO (mg/L)	10.69	10.74	10.75	10.74	10.66	10.66	10.81	10.66
pH (units)	7.24	7.23	7.23	7.23	7.24	7.24	7.27	7.24
Sal. (ppt)	2.92	3.55	2.98	3.55	4.09	4.74	3.57	4.74
Sample ID	-0806	—	-0808	—	-0810	—	-0812	—

Near-Bottom Samples

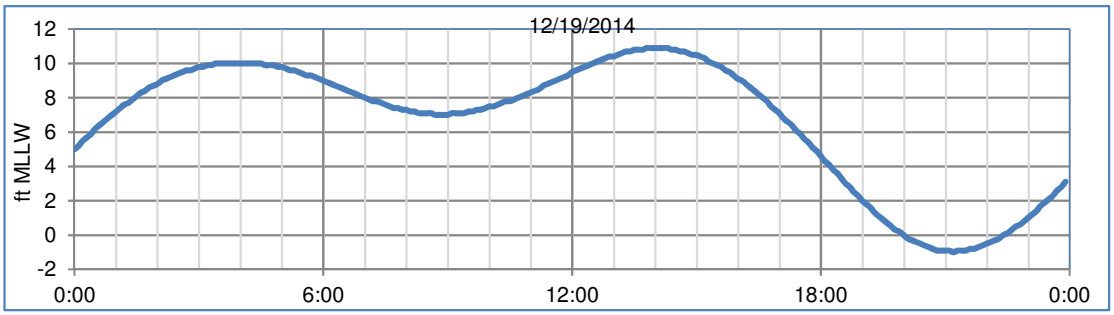
Parameter	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient
Time	11:24	12:00	11:44	12:01	12:20	12:50	12:37	12:49
Depth (ft)	8	8	10	10	22.8	22.8	15.3	15.3
Turb. (NTU)	6.5	4.9	5.1	3.5	2.8	3.3	3.2	4
Temp. (°C)	8.44	8.62	9.89	9.63	10.61	10.63	10.55	10.57
DO (mg/L)	9.45	9.3	8	8.01	7.18	7.03	7.7	7.61
pH (units)	7.23	7.21	7.33	7.34	7.45	7.47	7.39	7.44
Sal. (ppt)	10.33	12.94	23.55	21.83	28.36	28.55	28.11	28.05
Sample ID	-0807	—	-0809	—	-0811	—	-0813	—

* = Value reflects confirmed result or parameters measured during water sample collection

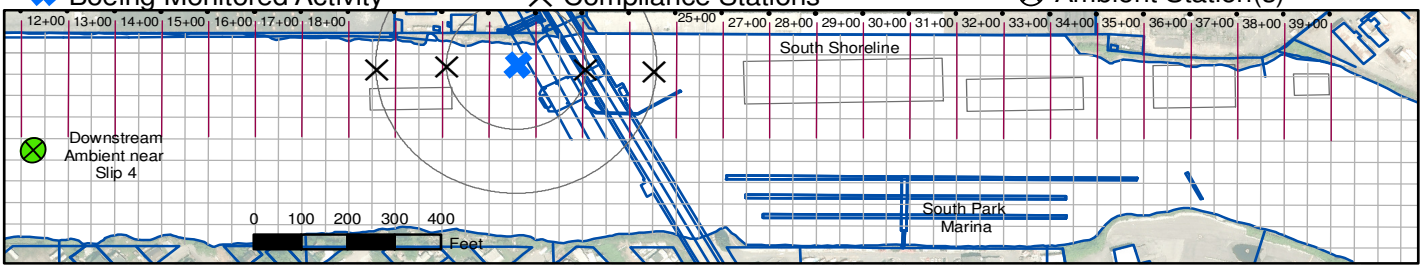
Daily Tides

3:58 AM	10 H
8:50 AM	7 L
2:02 PM	10.9 H
9:11 PM	-1 L
Sunrise	7:53 AM
Sunset	4:20 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 12/19/2014

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:15

End Time: 18:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:16		11:59		11:37		11:59	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.3		4.4	9.4	4.9		4.4	9.4
Temp. (°C)	7.59		7.67	9.79	7.57		7.67	9.79
DO (mg/L)	10.69		10.74	≤ 6 mg/L	10.75		10.74	≤ 6 mg/L
pH (Units)	7.24		7.23	< 7.0 or >7.73	7.23		7.23	< 7.0 or >7.73
Sal. (ppt)	2.92		3.55		2.98		3.55	
Sample ID	-0806				-0808			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:12		12:48		12:31		12:48	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.5		4.3	9.3	4.7		4.3	9.3
Temp. (°C)	7.74		7.8	9.87	7.74		7.8	9.87
DO (mg/L)	10.66		10.66	≤ 6 mg/L	10.81		10.66	≤ 6 mg/L
pH (Units)	7.24		7.24	< 7.0 or >7.74	7.27		7.24	< 7.0 or >7.74
Sal. (ppt)	4.09		4.74		3.57		4.74	
Sample ID	-0810				-0812			
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:24		12:00		11:44		12:01	
Depth (ft)	8		8		10		10	
Turb. (NTU)	6.5		4.9	9.9	5.1		3.5	8.5
Temp. (°C)	8.44		8.62	10.43	9.89		9.63	11.20
DO (mg/L)	9.45		9.3	≤ 6 mg/L	8		8.01	≤ 6 mg/L
pH (Units)	7.23		7.21	< 7.0 or >7.71	7.33		7.34	< 7.0 or >7.84
Sal. (ppt)	10.33		12.94		23.55		21.83	
Sample ID	-0807				-0809			
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:20		12:50		12:37		12:49	
Depth (ft)	22.8		22.8		15.3		15.3	
Turb. (NTU)	2.8		3.3	8.3	3.2		4	9
Temp. (°C)	10.61		10.63	12.02	10.55		10.57	11.97
DO (mg/L)	7.18		7.03	≤ 6 mg/L	7.7		7.61	≤ 6 mg/L
pH (Units)	7.45		7.47	< 7.0 or >7.97	7.39		7.44	< 7.0 or >7.94
Sal. (ppt)	28.36		28.55		28.11		28.05	
Sample ID	-0811				-0813			
Analyze	☐ Submitted				☐ Submitted			

Report Date 1/28/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/6/2015
Time Period: 12:00 PM to 2:00 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging using hydraulic suction dredge operated by divers. High turbidity conditions in river due to runoff.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	12:53	13:07	13:00	13:07	13:40	13:47	13:33	13:47
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	120	112	121	112	12.8	124	122	124
Temp. (°C)	6.26	6.27	6.26	6.27	6.26	6.22	6.26	6.22
DO (mg/L)	12.43	12.43	12.38	12.43	12.36	12.46	12.42	12.46
pH (units)	7.14	7.41	7.15	7.41	7.18	7.19	7.12	7.19
Sal. (ppt)	0.44	0.47	0.45	0.47	0.39	0.19	0.54	0.19
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

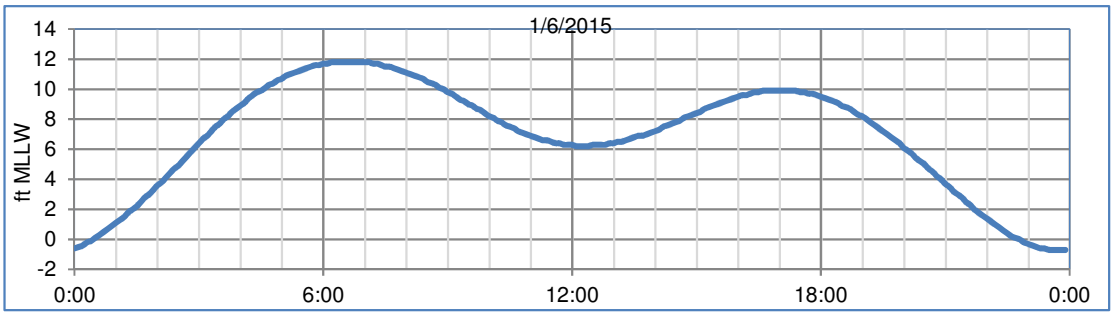
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	12:55	13:23	13:02	13:24	13:41	13:49	13:34	13:48
Depth (ft)	18.4	18.4	22.5	20.2	17.1	17.1	8.7	8.7
Turb. (NTU)	12.1	122	29	109	134	122.3	131	123
Temp. (°C)	6.3	6.28	8.94	6.44	6.29	6.26	6.27	6.23
DO (mg/L)	12.27	12.28	8.24	12.07	12.32	12.31	12.38	12.43
pH (units)	7.07	7.09	7.07	7	7.02	7.16	7.04	7.11
Sal. (ppt)	0.86	0.94	20.7	1.7	0.87	0.54	0.76	0.3
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

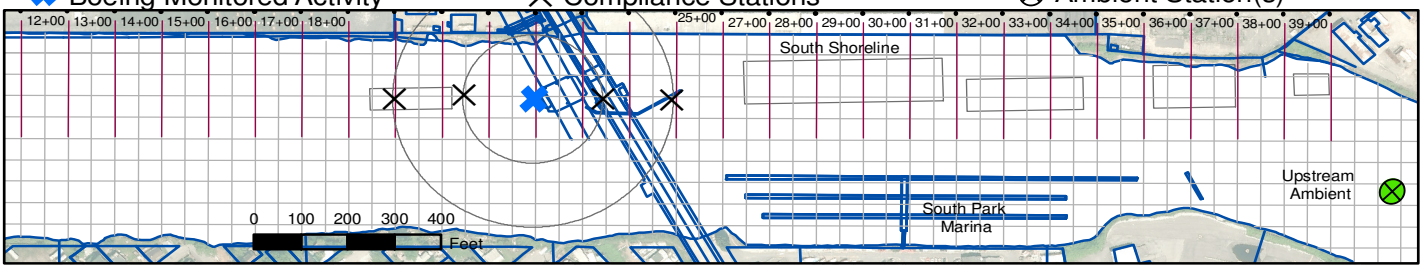
Daily Tides

6:38 AM	11.8 H
12:17 PM	6.2 L
5:02 PM	10 H
11:47 PM	-0.7 L
Sunrise	7:57 AM
Sunset	4:34 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/6/2015

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:00

End Time: 14:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:53		13:07		13:00		13:07	
Depth (ft)	2		2		2		2	
Turb. (NTU)	120		112	117	121		112	117
Temp. (°C)	6.26		6.27	9.08	6.26		6.27	9.08
DO (mg/L)	12.43		12.43	≤ 6 mg/L	12.38		12.43	≤ 6 mg/L
pH (Units)	7.14		7.41	< 7.0 or >7.91	7.15		7.41	< 7.0 or >7.91
Sal. (ppt)	0.44		0.47		0.45		0.47	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:40		13:47		13:33		13:47	
Depth (ft)	2		2		2		2	
Turb. (NTU)	12.8		124	129	122		124	129
Temp. (°C)	6.26		6.22	9.06	6.26		6.22	9.06
DO (mg/L)	12.36		12.46	≤ 6 mg/L	12.42		12.46	≤ 6 mg/L
pH (Units)	7.18		7.19	< 7.0 or >7.69	7.12		7.19	< 7.0 or >7.69
Sal. (ppt)	0.39		0.19		0.54		0.19	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:55		13:23		13:02		13:24	
Depth (ft)	18.4		18.4		22.5		20.2	
Turb. (NTU)	12.1		122	127	29		109	114
Temp. (°C)	6.3		6.28	9.08	8.94		6.44	9.14
DO (mg/L)	12.27		12.28	≤ 6 mg/L	8.24		12.07	≤ 6 mg/L
pH (Units)	7.07		7.09	< 7.0 or >7.59	7.07		7	< 7.0 or >7.5
Sal. (ppt)	0.86		0.94		20.7		1.7	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:41		13:49		13:34		13:48	
Depth (ft)	17.1		17.1		8.7		8.7	
Turb. (NTU)	134		122.3	127.3	131		123	128
Temp. (°C)	6.29		6.26	9.08	6.27		6.23	9.07
DO (mg/L)	12.32		12.31	≤ 6 mg/L	12.38		12.43	≤ 6 mg/L
pH (Units)	7.02		7.16	< 7.0 or >7.66	7.04		7.11	< 7.0 or >7.61
Sal. (ppt)	0.87		0.54		0.76		0.3	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 1/28/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/8/2015
Time Period: 12:00 PM to 3:15 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Dredging using hydraulic suction dredge operated by divers. High turbidity conditions in river due to runoff.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	12:46 *	12:35	12:17	12:35	13:01	13:10	12:55	13:10
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	63	60.3	62	60.3	62.8	60.9	60	60.9
Temp. (°C)	6.21	6.19	6.23	6.19	6.21	6.17	6.23	6.17
DO (mg/L)	12.26	12.32	12.28	12.32	12.3	12.35	12.31	12.35
pH (units)	8.1 *	8.09	7.61	8.09	8.34	8.48	8.34	8.48
Sal. (ppt)	0.56	0.32	0.55	0.32	0.41	0.24	0.36	0.24
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

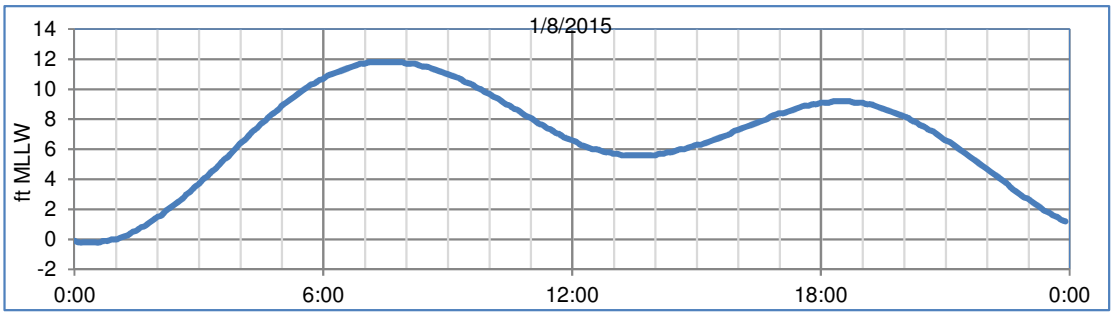
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	12:47 *	12:37	12:18	12:38	13:02	13:11	12:57	13:11
Depth (ft)	12.2	12.2	18.7	17.7	10.4	10	9.4	10
Turb. (NTU)	63.6	70	31	60.2	61.8	62.4	60.8	62.4
Temp. (°C)	6.25	6.2	8.3	6.45	6.2	6.14	6.22	6.14
DO (mg/L)	13.18	12.23	9.65	11.85	12.25	12.3	12.26	12.3
pH (units)	8.19 *	8.1	7.64	8.05	8.29	8.42	8.3	8.42
Sal. (ppt)	0.71	0.5	19.3	2.7	0.53	0.32	0.44	0.32
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

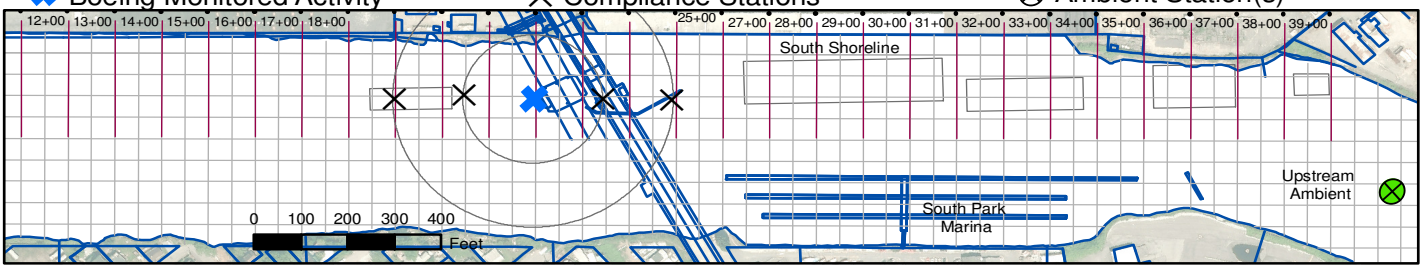
Daily Tides

12:23 AM	-0.2 L
7:32 AM	11.8 H
1:34 PM	5.6 L
6:30 PM	9.2 H
Sunrise	7:56 AM
Sunset	4:36 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/8/2015

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:00

End Time: 15:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:11	12:46	12:35		12:17		12:35	
Depth (ft)	2		2		2		2	
Turb. (NTU)	63		60.3	65.3	62		60.3	65.3
Temp. (°C)	6.21		6.19	9.05	6.23		6.19	9.05
DO (mg/L)	12.26		12.32	≤ 6 mg/L	12.28		12.32	≤ 6 mg/L
pH (Units)	7.43	8.1	8.09	<7.59 and >8.5	7.61		8.09	<7.59 and >8.5
Sal. (ppt)	0.56		0.32		0.55		0.32	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:01		13:10		12:55		13:10	
Depth (ft)	2		2		2		2	
Turb. (NTU)	62.8		60.9	65.9	60		60.9	65.9
Temp. (°C)	6.21		6.17	9.05	6.23		6.17	9.05
DO (mg/L)	12.3		12.35	≤ 6 mg/L	12.31		12.35	≤ 6 mg/L
pH (Units)	8.34		8.48	<7.98 and >8.5	8.34		8.48	<7.98 and >8.5
Sal. (ppt)	0.41		0.24		0.36		0.24	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:13	12:47	12:37		12:18		12:38	
Depth (ft)	12.2		12.2		18.7		17.7	
Turb. (NTU)	63.6		70	75	31		60.2	65.2
Temp. (°C)	6.25		6.2	9.06	8.3		6.45	9.15
DO (mg/L)	13.18		12.23	≤ 6 mg/L	9.65		11.85	≤ 6 mg/L
pH (Units)	7.47	8.19	8.1	<7.6 and >8.5	7.64		8.05	<7.55 and >8.5
Sal. (ppt)	0.71		0.5		19.3		2.7	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:02		13:11		12:57		13:11	
Depth (ft)	10.4		10		9.4		10	
Turb. (NTU)	61.8		62.4	67.4	60.8		62.4	67.4
Temp. (°C)	6.2		6.14	9.04	6.22		6.14	9.04
DO (mg/L)	12.25		12.3	≤ 6 mg/L	12.26		12.3	≤ 6 mg/L
pH (Units)	8.29		8.42	<7.92 and >8.5	8.3		8.42	<7.92 and >8.5
Sal. (ppt)	0.53		0.32		0.44		0.32	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 2/16/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/13/2015
Time Period: 11:45 AM to 12:30 PM
Activity: Dredging: Additional Monitoring — Ebb Tide
Comments: Slip 4 dredge monitoring. Access to upstream (toward head) monitoring stations unsafe due to equipment operations. Downstream monitoring only per L. Inouye.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	11:59	12:23	12:07	12:23	—	—	—	—
Depth (ft)	2	2	2	2	—	—	—	—
Turb. (NTU)	5	4.8	4.5	4.8	—	—	—	—
Temp. (°C)	8.95	8.91	8.94	8.91	—	—	—	—
DO (mg/L)	11.02	11.19	10.85	11.19	—	—	—	—
pH (units)	7.14	7.49	7.35	7.49	—	—	—	—
Sal. (ppt)	2.2	0.27	2.56	0.27	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

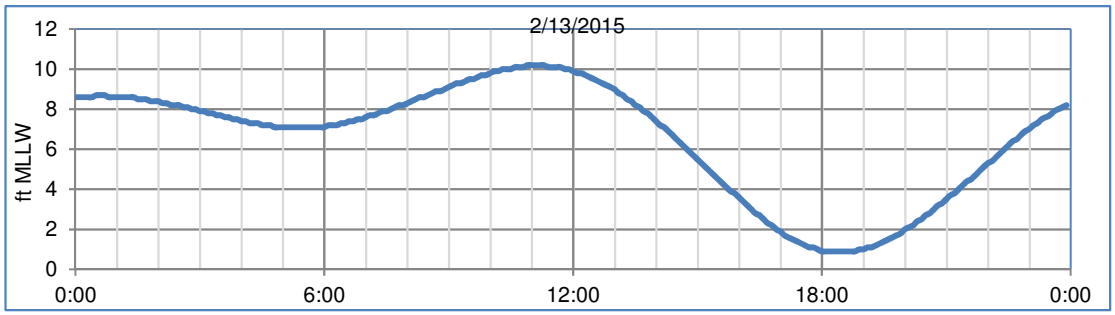
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	12:03	12:25	12:11	12:25	—	—	—	—
Depth (ft)	21.6	20.8	20	20.8	—	—	—	—
Turb. (NTU)	0.5	0	0	0	—	—	—	—
Temp. (°C)	9.81	9.81	9.82	9.81	—	—	—	—
DO (mg/L)	7.72	7.9	7.84	7.9	—	—	—	—
pH (units)	7.42	7.48	7.48	7.48	—	—	—	—
Sal. (ppt)	28.47	28.38	28.47	28.38	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

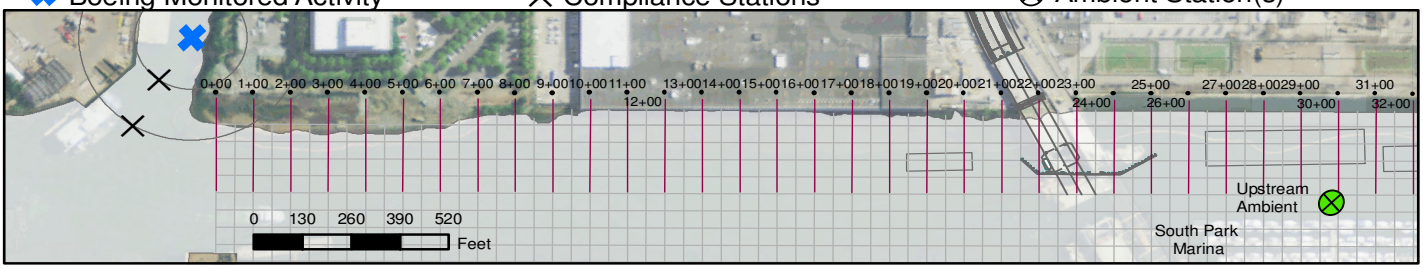
Daily Tides

12:37 AM	8.7 H
5:23 AM	7.1 L
11:08 AM	10.2 H
6:25 PM	0.9 L
Sunrise	7:18 AM
Sunset	5:29 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/13/2015

Activity Dredging

Monitoring Level Additional Monitoring

Start Time: 11:45

End Time: 12:30

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:59		12:23		12:07		12:23	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5		4.8	9.8	4.5		4.8	9.8
Temp. (°C)	8.95		8.91	10.65	8.94		8.91	10.65
DO (mg/L)	11.02		11.19	≤ 6 mg/L	10.85		11.19	≤ 6 mg/L
pH (Units)	7.14		7.49	< 7.0 or >7.99	7.35		7.49	< 7.0 or >7.99
Sal. (ppt)	2.2		0.27		2.56		0.27	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:03		12:25		12:11		12:25	
Depth (ft)	21.6		20.8		20		20.8	
Turb. (NTU)	0.5		0	5	0		0	5
Temp. (°C)	9.81		9.81	11.35	9.82		9.81	11.35
DO (mg/L)	7.72		7.9	≤ 6 mg/L	7.84		7.9	≤ 6 mg/L
pH (Units)	7.42		7.48	< 7.0 or >7.98	7.48		7.48	< 7.0 or >7.98
Sal. (ppt)	28.47		28.38		28.47		28.38	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 2/19/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/17/2015
Time Period: 11:00 AM to 2:45 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in Slip 4. Sheet pile walls in place.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:08	14:40	13:46	14:40	11:07	11:29	11:16	11:29
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	6	2.1	3.4	2.1	3	2.5	3.2	2.5
Temp. (°C)	8.65	8.52	8.29	8.52	7.68	7.92	7.76	7.92
DO (mg/L)	10.82	10.23	10.76	10.23	10.66	10.75	10.73	10.75
pH (units)	7.23	7.59	7.2	7.59	7.29	7.17	7.22	7.17
Sal. (ppt)	3.49	3.1	3.72	3.1	2.48	3.21	2.73	3.21
Sample ID	-0820	—	-0818	—	-0815	—	-0816	—

Near-Bottom Samples

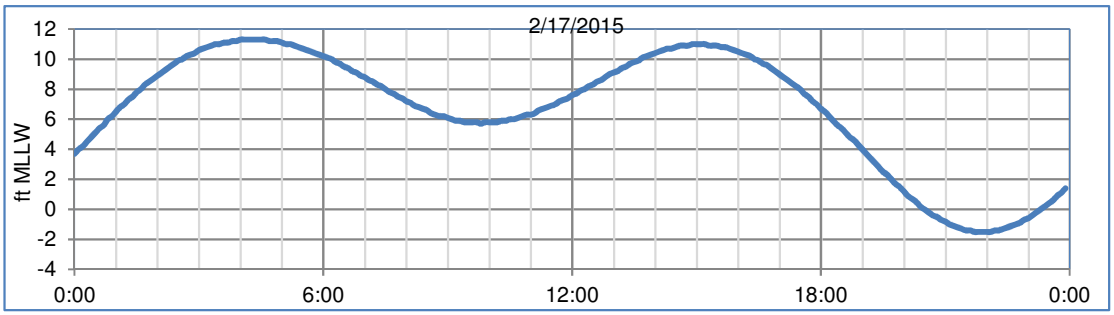
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:18	14:38	13:53	14:38	12:57 *	11:31	11:17	11:31
Depth (ft)	16.8	18	19.5	18	21 *	19	17.8	19
Turb. (NTU)	0.5	0.6	0.1	0.6	12.2 *	0	7.2	0
Temp. (°C)	9.79	9.83	9.84	9.83	9.81	9.79	9.69	9.79
DO (mg/L)	8.34	8.39	8.37	8.39	8	8.36	8.13	8.36
pH (units)	7.51	7.54	7.52	7.54	7.42	7.5	7.37	7.5
Sal. (ppt)	26.67	27.14	27.19	27.14	27.09	26.74	25.78	26.74
Sample ID	-0821	—	-0819	—	-0814	—	-0817	—
					Submitted			

* = Value reflects confirmed result or parameters measured during water sample collection

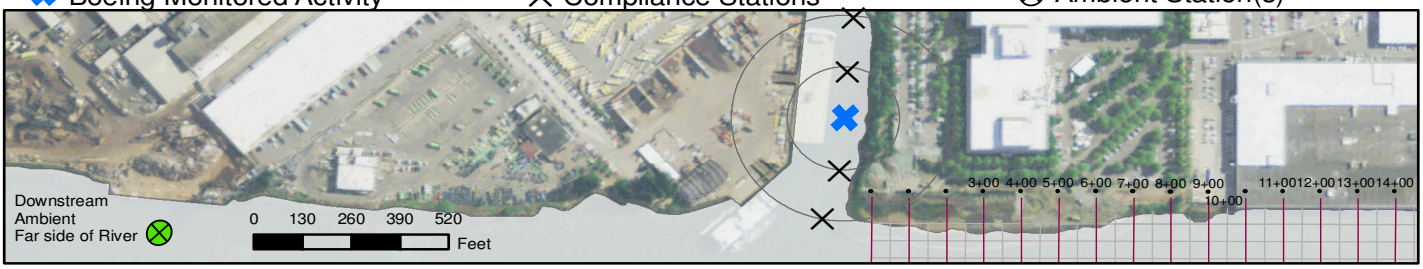
Daily Tides

4:18 AM	11.3 H
9:50 AM	5.7 L
3:04 PM	11 H
9:54 PM	-1.5 L
Sunrise	7:12 AM
Sunset	5:36 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/17/2015

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:00

End Time: 14:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:08		14:40		13:46		14:40	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6		2.1	7.1	3.4		2.1	7.1
Temp. (°C)	8.65		8.52	10.36	8.29		8.52	10.36
DO (mg/L)	10.82		10.23	≤ 6 mg/L	10.76		10.23	≤ 6 mg/L
pH (Units)	7.23		7.59	<7.09 and >8.09	7.2		7.59	<7.09 and >8.09
Sal. (ppt)	3.49		3.1		3.72		3.1	
Sample ID	-0820				-0818			
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:07		11:29		11:16		11:29	
2		2		2		2	
3		2.5	7.5	3.2		2.5	7.5
7.68		7.92	9.95	7.76		7.92	9.95
10.66		10.75	≤ 6 mg/L	10.73		10.75	≤ 6 mg/L
7.29		7.17	< 7.0 or >7.67	7.22		7.17	< 7.0 or >7.67
2.48		3.21		2.73		3.21	
-0815				-0816			
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:18		14:38		13:53		14:38	
Depth (ft)	16.8		18		19.5		18	
Turb. (NTU)	0.5		0.6	5.6	0.1		0.6	5.6
Temp. (°C)	9.79		9.83	11.36	9.84		9.83	11.36
DO (mg/L)	8.34		8.39	≤ 6 mg/L	8.37		8.39	≤ 6 mg/L
pH (Units)	7.51		7.54	<7.04 and >8.04	7.52		7.54	<7.04 and >8.04
Sal. (ppt)	26.67		27.14		27.19		27.14	
Sample ID	-0821				-0819			
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:09	12:57	11:31		11:17		11:31	
21	21	19		17.8		19	
5.7	12.2	0	5	7.2		0	5
9.81		9.79	11.33	9.69		9.79	11.33
8		8.36	≤ 6 mg/L	8.13		8.36	≤ 6 mg/L
7.42		7.5	<7 and >8	7.37		7.5	<7 and >8
27.09		26.74		25.78		26.74	
-0814				-0817			
☑ Submitted				☐ Submitted			

Report Date 2/18/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/17/2015
Time Period: 2:45 PM to 4:15 PM
Activity: Dredging: Intensive Monitoring — Ebb Tide
Comments: Round 2 Dredging in Slip 4. Sheetpile walls in place

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	14:56	15:26	15:06	15:26	15:41	16:01	15:53	16:01
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.3	2	3.6	2	2.6	1.9	2	1.9
Temp. (°C)	8.71	8.53	8.65	8.53	8.64	8.45	8.33	8.45
DO (mg/L)	10.75	10.79	10.66	10.79	10.9	2.88	10.71	2.88
pH (units)	7.24	7.25	7.26	7.25	7.3	7.34	7.29	7.34
Sal. (ppt)	3.32	3.48	3.93	3.48	3.26	3.24	3.91	3.24
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

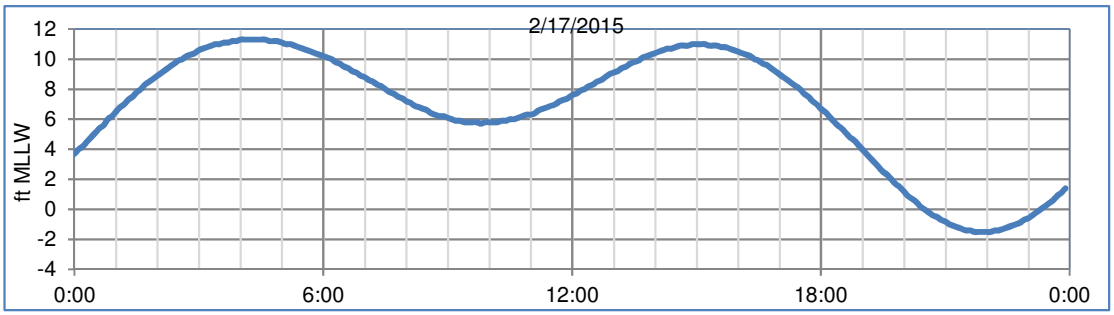
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	14:58	15:28	15:08	15:27	15:42	16:02	15:54	16:02
Depth (ft)	21.2	18.4	12.6	12.6	20.5	20	19.1	20
Turb. (NTU)	4	0	3.4	1.1	0.6	0	0	0
Temp. (°C)	9.82	9.83	9.48	9.66	9.83	9.84	9.83	9.84
DO (mg/L)	8.27	8.29	8.34	8.75	8.45	8.48	8.45	8.48
pH (units)	7.52	7.55	7.46	14.9	7.53	7.58	7.56	7.58
Sal. (ppt)	26.98	26.95	23.12	24.86	27.16	27.21	27.02	27.21
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

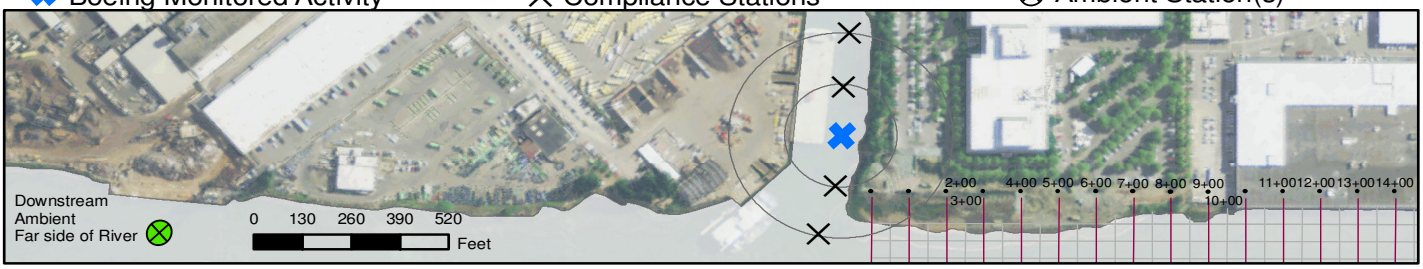
Daily Tides

4:18 AM	11.3 H
9:50 AM	5.7 L
3:04 PM	11 H
9:54 PM	-1.5 L
Sunrise	7:12 AM
Sunset	5:36 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/17/2015

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 14:45

End Time: 16:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:56		15:26		15:06		15:26	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.3		2	7	3.6		2	7
Temp. (°C)	8.71		8.53	10.37	8.65		8.53	10.37
DO (mg/L)	10.75		10.79	≤ 6 mg/L	10.66		10.79	≤ 6 mg/L
pH (Units)	7.24		7.25	< 7.0 or >7.75	7.26		7.25	< 7.0 or >7.75
Sal. (ppt)	3.32		3.48		3.93		3.48	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:41		16:01		15:53		16:01	
2		2		2		2	
2.6		1.9	6.9	2		1.9	6.9
8.64		8.45	10.31	8.33		8.45	10.31
10.9		2.88	≤ 6 mg/L	10.71		2.88	≤ 6 mg/L
7.3		7.34	< 7.0 or >7.84	7.29		7.34	< 7.0 or >7.84
3.26		3.24		3.91		3.24	
☐ Submitted				☐ Submitted			

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:58		15:28		15:08		15:27	
Depth (ft)	21.2		18.4		12.6		12.6	
Turb. (NTU)	4		0	5	3.4		1.1	6.1
Temp. (°C)	9.82		9.83	11.36	9.48		9.66	11.23
DO (mg/L)	8.27		8.29	≤ 6 mg/L	8.34		8.75	≤ 6 mg/L
pH (Units)	7.52		7.55	<7.05 and >8.05	7.46		14.9	<14.4 and >8.5
Sal. (ppt)	26.98		26.95		23.12		24.86	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:42		16:02		15:54		16:02	
20.5		20		19.1		20	
0.6		0	5	0		0	5
9.83		9.84	11.37	9.83		9.84	11.37
8.45		8.48	≤ 6 mg/L	8.45		8.48	≤ 6 mg/L
7.53		7.58	<7.08 and >8.08	7.56		7.58	<7.08 and >8.08
27.16		27.21		27.02		27.21	
☐ Submitted				☐ Submitted			

Report Date 2/19/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/18/2015
Time Period: 12:00 PM to 3:15 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging at Slip 4. Upstream is toward the head of the waterway.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:30	15:03	14:45	15:03	12:01	12:22	12:13	12:22
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.5	2	1.9	2	2.8	1.9	2.6	1.9
Temp. (°C)	7.79	8.06	7.89	8.06	7.5	7.63	7.5	7.63
DO (mg/L)	11.06	10.88	10.93	10.88	10.83	10.82	10.85	10.82
pH (units)	7.27	7.25	7.24	7.25	7.18	7.22	7.24	7.22
Sal. (ppt)	3.91	7.24	5.2	7.24	3.67	4.2	3.63	4.2
Sample ID	-0826	—	-0828	—	-0823	—	-0824	—

Near-Bottom Samples

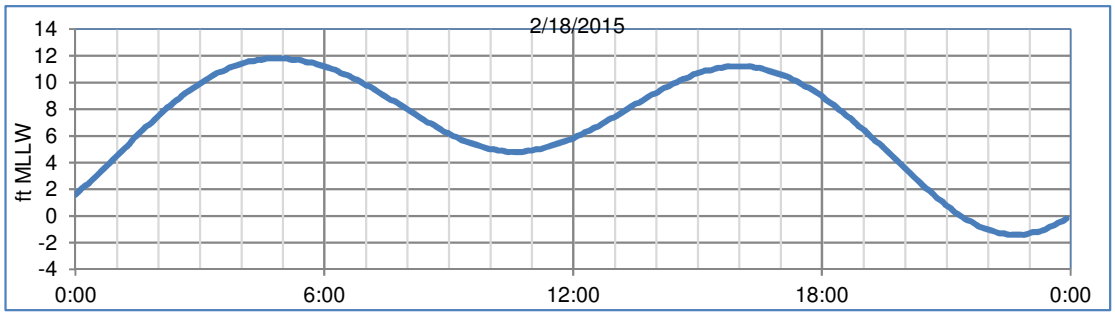
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:42	15:04	14:53	15:04	12:34 *	12:24	12:15	12:33
Depth (ft)	19	21	22.4	21	16.9 *	19.6	11	11
Turb. (NTU)	1.9	0.4	1.1	0.4	12.1 *	1.4	5.8	2.4
Temp. (°C)	9.76	9.8	9.81	9.8	9.79	9.76	8.82	8.54
DO (mg/L)	8.85	8.86	8.87	8.86	8.32	8.6	9.15	9.85
pH (units)	7.54	7.6	7.58	7.6	7.48	7.56	7.27	7.29
Sal. (ppt)	26.28	26.81	26.83	26.81	25.37	26.12	15.85	14.87
Sample ID	-0827	—	-0829	—	-0822	—	-0825	—
					Submitted			

* = Value reflects confirmed result or parameters measured during water sample collection

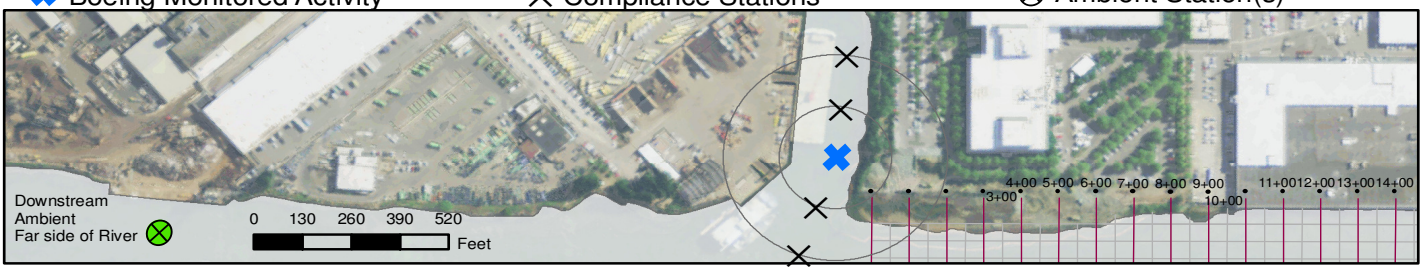
Daily Tides

4:52 AM	11.8 H
10:35 AM	4.8 L
3:59 PM	11.2 H
10:40 PM	-1.4 L
Sunrise	7:10 AM
Sunset	5:37 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/18/2015

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:00

End Time: 15:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:30		15:03		14:45		15:03	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.5		2	7	1.9		2	7
Temp. (°C)	7.79		8.06	10.04	7.89		8.06	10.04
DO (mg/L)	11.06		10.88	≤ 6 mg/L	10.93		10.88	≤ 6 mg/L
pH (Units)	7.27		7.25	< 7.0 or >7.75	7.24		7.25	< 7.0 or >7.75
Sal. (ppt)	3.91		7.24		5.2		7.24	
Sample ID	-0826				-0828			
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:01		12:22		12:13		12:22	
2		2		2		2	
2.8		1.9	6.9	2.6		1.9	6.9
7.5		7.63	9.76	7.5		7.63	9.76
10.83		10.82	≤ 6 mg/L	10.85		10.82	≤ 6 mg/L
7.18		7.22	< 7.0 or >7.72	7.24		7.22	< 7.0 or >7.72
3.67		4.2		3.63		4.2	
-0823				-0824			
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:42		15:04		14:53		15:04	
Depth (ft)	19		21		22.4		21	
Turb. (NTU)	1.9		0.4	5.4	1.1		0.4	5.4
Temp. (°C)	9.76		9.8	11.34	9.81		9.8	11.34
DO (mg/L)	8.85		8.86	≤ 6 mg/L	8.87		8.86	≤ 6 mg/L
pH (Units)	7.54		7.6	<7.1 and >8.1	7.58		7.6	<7.1 and >8.1
Sal. (ppt)	26.28		26.81		26.83		26.81	
Sample ID	-0827				-0829			
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:03	12:34	12:24		12:15		12:33	
19.6	16.9	19.6		11		11	
6.8	12.1	1.4	6.4	5.8		2.4	7.4
9.79		9.76	11.31	8.82		8.54	10.37
8.32		8.6	≤ 6 mg/L	9.15		9.85	≤ 6 mg/L
7.48		7.56	<7.06 and >8.06	7.27		7.29	< 7.0 or >7.79
25.37		26.12		15.85		14.87	
-0822				-0825			
☑ Submitted				☐ Submitted			

Report Date 2/19/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/18/2015
Time Period: 3:15 PM to 4:15 PM
Activity: Dredging: Intensive Monitoring — During Tide Change
Comments: Round 2: Slip 4 dredge monitoring

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:53	16:05	15:59	16:05	15:15	15:30	15:21	15:30
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.8	2	2.7	2	2.2	1.9	2.1	1.9
Temp. (°C)	7.95	7.98	7.92	7.98	7.8	8.11	7.84	8.11
DO (mg/L)	11.15	10.88	11	10.88	10.93	10.95	10.55	10.95
pH (units)	7.38	7.32	7.34	7.32	7.41	7.33	7.32	7.33
Sal. (ppt)	4.04	5.98	4.49	5.98	4.06	6.87	4.11	6.87
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

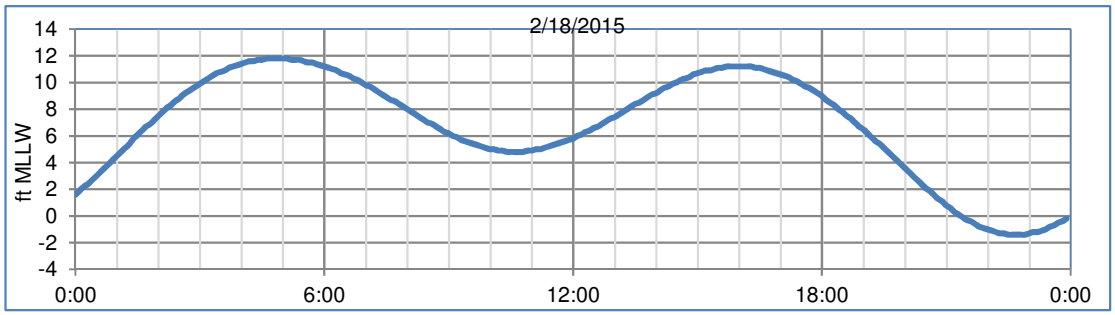
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:54	16:07	16:00	16:07	15:18	15:32	15:23	15:32
Depth (ft)	21.2	22	23	22	25.8	2507	25.6	25.7
Turb. (NTU)	0.5	0.2	0.4	0.2	12.3	0.3	11.4	0.3
Temp. (°C)	9.8	9.8	9.81	9.8	9.8	9.81	9.79	9.81
DO (mg/L)	8.81	8.68	8.87	8.68	8.38	8.51	8.45	8.51
pH (units)	7.6	7.65	7.59	7.65	7.62	7.64	7.58	7.64
Sal. (ppt)	26.86	26.8	26.92	26.8	26.68	26.97	26.52	26.97
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

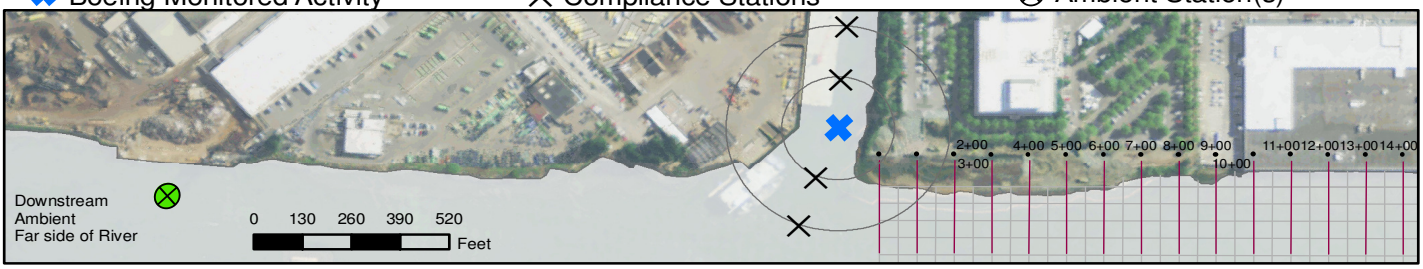
Daily Tides

4:52 AM	11.8 H
10:35 AM	4.8 L
3:59 PM	11.2 H
10:40 PM	-1.4 L
Sunrise	7:10 AM
Sunset	5:37 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/18/2015

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 15:15

End Time: 16:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:53		16:05		15:59		16:05	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.8		2	7	2.7		2	7
Temp. (°C)	7.95		7.98	9.99	7.92		7.98	9.99
DO (mg/L)	11.15		10.88	≤ 6 mg/L	11		10.88	≤ 6 mg/L
pH (Units)	7.38		7.32	< 7.0 or >7.82	7.34		7.32	< 7.0 or >7.82
Sal. (ppt)	4.04		5.98		4.49		5.98	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:15		15:30		15:21		15:30	
2		2		2		2	
2.2		1.9	6.9	2.1		1.9	6.9
7.8		8.11	10.07	7.84		8.11	10.07
10.93		10.95	≤ 6 mg/L	10.55		10.95	≤ 6 mg/L
7.41		7.33	< 7.0 or >7.83	7.32		7.33	< 7.0 or >7.83
4.06		6.87		4.11		6.87	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:54		16:07		16:00		16:07	
Depth (ft)	21.2		22		23		22	
Turb. (NTU)	0.5		0.2	5.2	0.4		0.2	5.2
Temp. (°C)	9.8		9.8	11.34	9.81		9.8	11.34
DO (mg/L)	8.81		8.68	≤ 6 mg/L	8.87		8.68	≤ 6 mg/L
pH (Units)	7.6		7.65	<7.15 and >8.15	7.59		7.65	<7.15 and >8.15
Sal. (ppt)	26.86		26.8		26.92		26.8	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:18		15:32		15:23		15:32	
25.8		2507		25.6		25.7	
12.3		0.3	5.3	11.4		0.3	5.3
9.8		9.81	11.35	9.79		9.81	11.35
8.38		8.51	≤ 6 mg/L	8.45		8.51	≤ 6 mg/L
7.62		7.64	<7.14 and >8.14	7.58		7.64	<7.14 and >8.14
26.68		26.97		26.52		26.97	
☐ Submitted				☐ Submitted			

Report Date 2/19/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/18/2015
Time Period: 12:00 PM to 3:00 PM
Activity: Dredging: Intensive Monitoring — Ebb Tide
Comments: Round 3; Slip 4 dredge monitoring.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	16:45	16:59	16:51	16:59	16:22	16:35	16:28	16:35
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.1	3.3	3	3.3	3.4	2.3	2.6	2.3
Temp. (°C)	8.03	8.08	8.01	8.08	8.05	8.07	8.03	8.07
DO (mg/L)	11.29	10.84	11.09	10.84	11.05	11.02	11.01	11.02
pH (units)	7.46	7.37	7.38	7.37	7.34	7.37	7.47	7.37
Sal. (ppt)	2.07	4.95	2.98	4.95	4.7	5.6	4.07	5.6
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

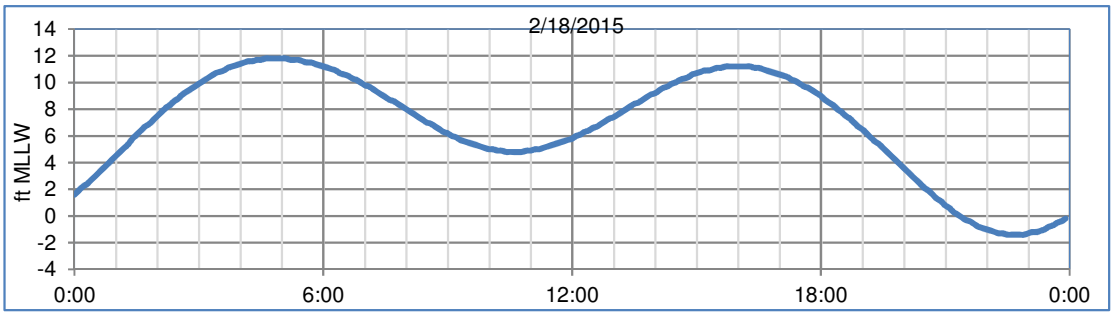
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	16:46	17:00	16:53	17:00	16:24	16:37	16:29	16:37
Depth (ft)	21.5	22	23.8	22	24.7	25	25	25
Turb. (NTU)	0.5	0	0.1	0	17.3	0	6.6	0
Temp. (°C)	9.76	9.8	9.8	9.8	8.79	9.81	9.79	9.81
DO (mg/L)	8.87	8.7	8.7	8.7	8.52	8.74	8.8	8.74
pH (units)	7.59	7.64	7.62	7.64	7.62	7.64	7.6	7.64
Sal. (ppt)	26.42	26.93	26.84	26.93	26.6	26.99	26.58	26.99
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

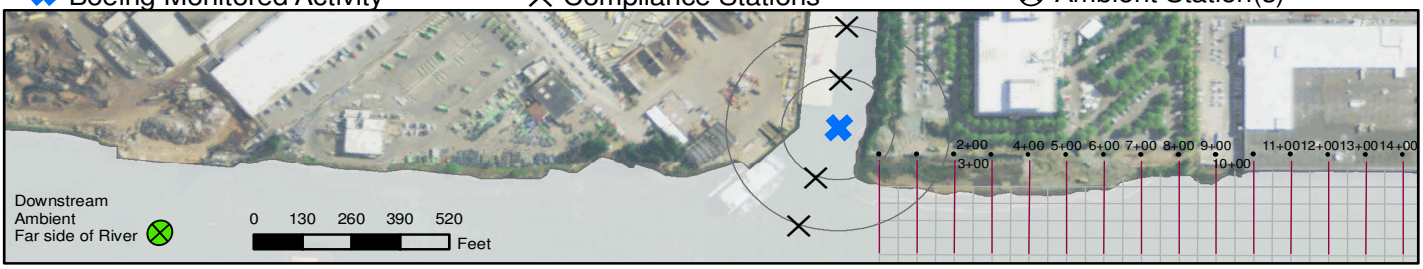
Daily Tides

4:52 AM	11.8 H
10:35 AM	4.8 L
3:59 PM	11.2 H
10:40 PM	-1.4 L
Sunrise	7:10 AM
Sunset	5:37 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/18/2015

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:00

End Time: 15:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:45		16:59		16:51		16:59	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.1		3.3	8.3	3		3.3	8.3
Temp. (°C)	8.03		8.08	10.05	8.01		8.08	10.05
DO (mg/L)	11.29		10.84	≤ 6 mg/L	11.09		10.84	≤ 6 mg/L
pH (Units)	7.46		7.37	< 7.0 or >7.87	7.38		7.37	< 7.0 or >7.87
Sal. (ppt)	2.07		4.95		2.98		4.95	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
16:22		16:35		16:28		16:35	
2		2		2		2	
3.4		2.3	7.3	2.6		2.3	7.3
8.05		8.07	10.05	8.03		8.07	10.05
11.05		11.02	≤ 6 mg/L	11.01		11.02	≤ 6 mg/L
7.34		7.37	< 7.0 or >7.87	7.47		7.37	< 7.0 or >7.87
4.7		5.6		4.07		5.6	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:46		17:00		16:53		17:00	
Depth (ft)	21.5		22		23.8		22	
Turb. (NTU)	0.5		0	5	0.1		0	5
Temp. (°C)	9.76		9.8	11.34	9.8		9.8	11.34
DO (mg/L)	8.87		8.7	≤ 6 mg/L	8.7		8.7	≤ 6 mg/L
pH (Units)	7.59		7.64	<7.14 and >8.14	7.62		7.64	<7.14 and >8.14
Sal. (ppt)	26.42		26.93		26.84		26.93	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
16:24		16:37		16:29		16:37	
24.7		25		25		25	
17.3		0	5	6.6		0	5
8.79		9.81	11.35	9.79		9.81	11.35
8.52		8.74	≤ 6 mg/L	8.8		8.74	≤ 6 mg/L
7.62		7.64	<7.14 and >8.14	7.6		7.64	<7.14 and >8.14
26.6		26.99		26.58		26.99	
☐ Submitted				☐ Submitted			

Report Date 2/20/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/19/2015
Time Period: 11:45 AM to 1:15 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Partial round of monitoring during Slip 4 dredging. Aberdeen moved to bridge for backfilling at 12:05 while additional sheetpile driven.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	12:00	12:10	11:50	12:10	—	—	—	—
Depth (ft)	2	2	2	2	—	—	—	—
Turb. (NTU)	3.3	3.3	3.3	3.3	—	—	—	—
Temp. (°C)	7.83	7.91	7.83	7.91	—	—	—	—
DO (mg/L)	10.64	10.72	10.53	10.72	—	—	—	—
pH (units)	7.21	7.23	7.18	7.23	—	—	—	—
Sal. (ppt)	4.08	4.69	4.17	4.69	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

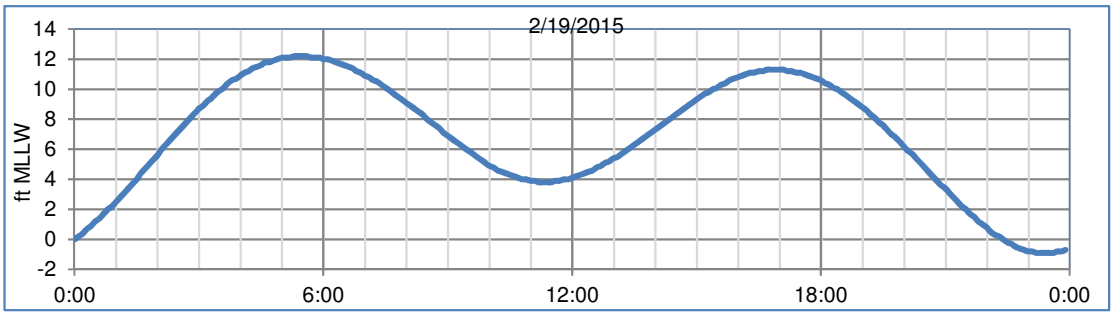
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	13:10 *	12:17	11:54	12:13	—	—	—	—
Depth (ft)	18.3 *	17.3	12	12	—	—	—	—
Turb. (NTU)	6.3 *	5	8.5	6	—	—	—	—
Temp. (°C)	9.56	9.61	8.81	8.89	—	—	—	—
DO (mg/L)	8.57	8.6	9.03	9.17	—	—	—	—
pH (units)	7.46	7.54	7.3	7.37	—	—	—	—
Sal. (ppt)	24.83	25.45	16.36	17.82	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

5:27 AM	12.2 H
11:20 AM	3.8 L
4:54 PM	11.3 H
11:26 PM	-0.9 L
Sunrise	7:08 AM
Sunset	5:39 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)

Data Entry

Date 2/19/2015

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 11:45

End Time: 18:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:00		12:10		11:50		12:10	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.3		3.3	8.3	3.3		3.3	8.3
Temp. (°C)	7.83		7.91	9.94	7.83		7.91	9.94
DO (mg/L)	10.64		10.72	≤ 6 mg/L	10.53		10.72	≤ 6 mg/L
pH (Units)	7.21		7.23	< 7.0 or >7.73	7.18		7.23	< 7.0 or >7.73
Sal. (ppt)	4.08		4.69		4.17		4.69	
Sample ID								

Analyze ☐ Submitted ☐ Submitted

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—

☐ Submitted ☐ Submitted

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:03	13:10	12:17		11:54		12:13	
Depth (ft)	8.4	18.3	17.3		12		12	
Turb. (NTU)	12.3	6.3	5	10	8.5		6	11
Temp. (°C)	9.56		9.61	11.19	8.81		8.89	10.63
DO (mg/L)	8.57		8.6	≤ 6 mg/L	9.03		9.17	≤ 6 mg/L
pH (Units)	7.46		7.54	<7.04 and >8.04	7.3		7.37	< 7.0 or >7.87
Sal. (ppt)	24.83		25.45		16.36		17.82	
Sample ID								

Analyze ☐ Submitted ☐ Submitted

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—

☐ Submitted ☐ Submitted

Report Date 4/21/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/20/2015
Time Period: 12:00 PM to 1:45 PM
Activity: Dredging: Intensive Monitoring — Flood Tide
Comments: Dredging in Slip 4

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:29	13:41	13:36	13:41	12:55 *	12:44	13:09	13:18
Depth (ft)	2	2	3	2	2 *	2	2	2
Turb. (NTU)	6.6	4.6	6.4	4.6	7.9 *	5.1	5.2	5.7
Temp. (°C)	8.64	8.71	8.64	8.71	8.71	8.59	8.69	8.6
DO (mg/L)	10.5	10.62	10.31	10.62	10.05	10.21	10.33	10.24
pH (units)	7.18	7.27	7.22	7.27	7.08	7.14	7.22	7.17
Sal. (ppt)	4.32	4.36	4.44	4.36	5.26	4.56	4.97	4.8
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

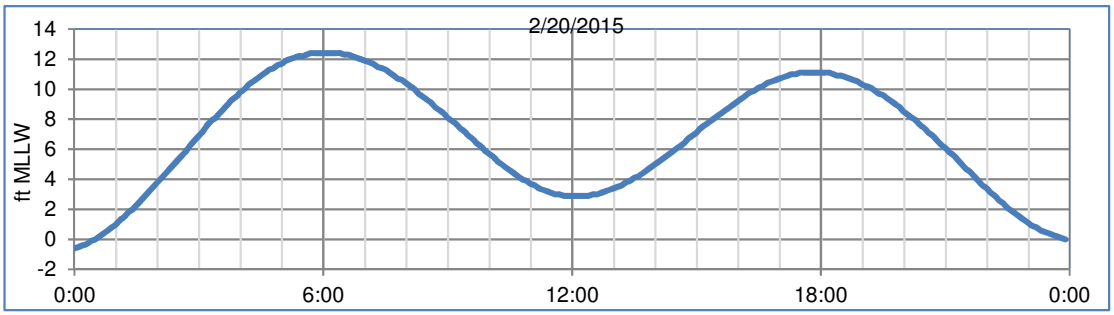
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:31	13:43	13:37	13:43	13:02 *	12:47	13:11	13:19
Depth (ft)	17	18	18.6	18	13.5 *	13.6	5.2	5.2
Turb. (NTU)	5.7	7.7	5.1	7.7	8.2 *	3.9	5.2	4.7
Temp. (°C)	9.51	9.62	9.5	9.62	9.04	9.31	8.62	8.59
DO (mg/L)	8.49	8.49	8.68	8.49	9.07	8.83	10.12	10.1
pH (units)	7.4	7.52	7.38	7.52	7.06	7.37	7.19	7.16
Sal. (ppt)	24.2	26.08	24.42	26.08	15.1	21.16	5.33	5.44
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

Daily Tides

6:03 AM	12.4 H
12:07 PM	2.9 L
5:50 PM	11.1 H
12:00 AM	
Sunrise	7:06 AM
Sunset	5:40 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)

Data Entry

Date 2/20/2015

Activity Dredging

Monitoring Level Intensive Monitoring

Start Time: 12:00

End Time: 13:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:29		13:41		13:36		13:41	
Depth (ft)	2		2		3		2	
Turb. (NTU)	6.6		4.6	9.6	6.4		4.6	9.6
Temp. (°C)	8.64		8.71	10.50	8.64		8.71	10.50
DO (mg/L)	10.5		10.62	≤ 6 mg/L	10.31		10.62	≤ 6 mg/L
pH (Units)	7.18		7.27	< 7.0 or >7.77	7.22		7.27	< 7.0 or >7.77
Sal. (ppt)	4.32		4.36		4.44		4.36	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:59	12:55	12:44		13:09		13:18	
2	2	2		2		2	
11.6	7.9	5.1	10.1	5.2		5.7	10.7
8.71		8.59	10.41	8.69		8.6	10.42
10.05		10.21	≤ 6 mg/L	10.33		10.24	≤ 6 mg/L
7.08		7.14	< 7.0 or >7.64	7.22		7.17	< 7.0 or >7.67
5.26		4.56		4.97		4.8	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:31		13:43		13:37		13:43	
Depth (ft)	17		18		18.6		18	
Turb. (NTU)	5.7		7.7	12.7	5.1		7.7	12.7
Temp. (°C)	9.51		9.62	11.19	9.5		9.62	11.19
DO (mg/L)	8.49		8.49	≤ 6 mg/L	8.68		8.49	≤ 6 mg/L
pH (Units)	7.4		7.52	<7.02 and >8.02	7.38		7.52	<7.02 and >8.02
Sal. (ppt)	24.2		26.08		24.42		26.08	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:00	13:02	12:47		13:11		13:19	
13.6	13.5	13.6		5.2		5.2	
18.3	8.2	3.9	8.9	5.2		4.7	9.7
9.04		9.31	10.95	8.62		8.59	10.41
9.07		8.83	≤ 6 mg/L	10.12		10.1	≤ 6 mg/L
7.06		7.37	< 7.0 or >7.87	7.19		7.16	< 7.0 or >7.66
15.1		21.16		5.33		5.44	
☐ Submitted				☐ Submitted			

BACKFILL WATER QUALITY MONITORING

Report Date 1/30/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/21/2015
Time Period: 1:45 PM to 2:30 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Final backfill placement by both the Aberdeen and the Skookum. Down stream ambient used for comparisons on flood tide and for deeper stations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:19	14:28	14:14	14:28	13:47	14:02	13:52	14:02
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	8.9	9.3	8.8	9.3	9.1	8.7	9.2	8.7
Temp. (°C)	5.95	5.94	5.91	5.94	5.85	5.96	5.85	5.96
DO (mg/L)	12.07	12.05	12.04	12.05	12.1	12	11.92	12
pH (units)	7.36	7.3	7.3	7.3	7.21	7.21	7.43	7.21
Sal. (ppt)	0.39	0.73	0.67	0.73	0.28	0.78	0.29	0.78
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

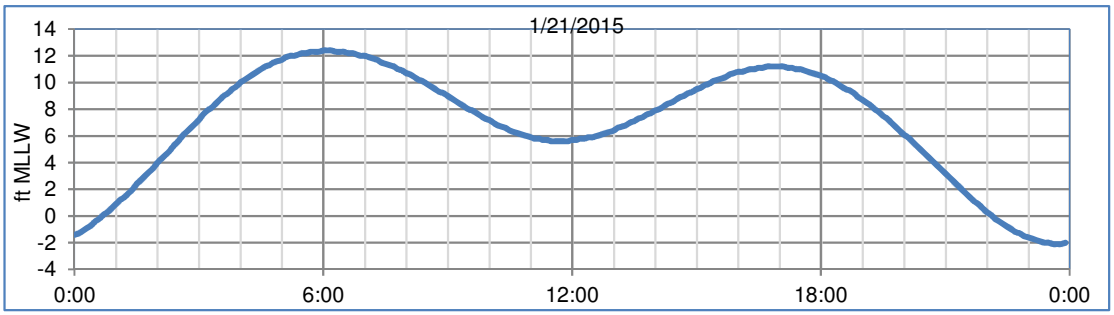
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:20	14:29	14:15	14:29	13:49	14:03	13:54	14:03
Depth (ft)	9	10	10.7	10	22.8	22	23.7	22
Turb. (NTU)	11	8.8	12.7	8.8	8	5.6	7.3	5.6
Temp. (°C)	6.02	6.31	6.11	6.31	9.6	9.6	9.6	9.6
DO (mg/L)	11.92	11.55	11.8	11.55	8.12	7.8	8.1	7.8
pH (units)	7.18	7.27	7.22	7.27	7.43	7.62	7.57	7.62
Sal. (ppt)	1.63	4	2.13	4	26.1	27.6	26.1	27.6
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

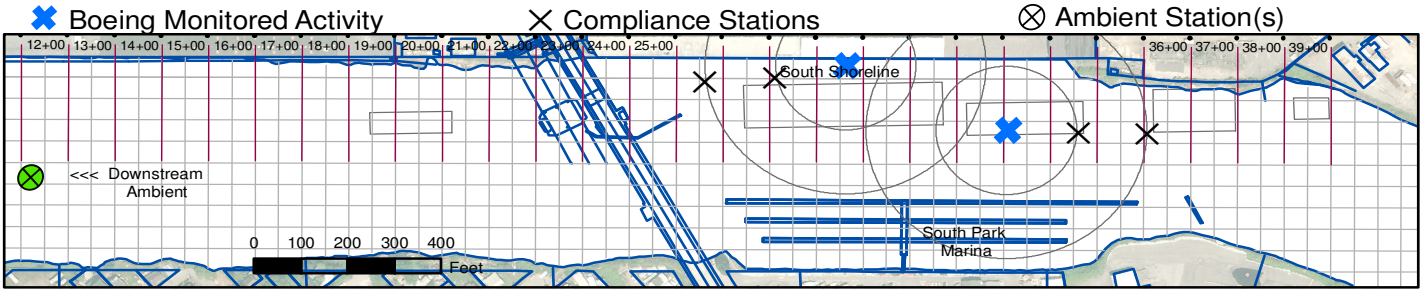
Daily Tides

6:04 AM	12.4 H
11:43 AM	5.6 L
4:54 PM	11.2 H
11:43 PM	-2.1 L
Sunrise	7:48 AM
Sunset	4:54 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/21/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:45

End Time: 14:30

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:19		14:28		14:14		14:28	
Depth (ft)	2		2		2		2	
Turb. (NTU)	8.9		9.3	14.3	8.8		9.3	14.3
Temp. (°C)	5.95		5.94	8.99	5.91		5.94	8.99
DO (mg/L)	12.07		12.05	≤ 6 mg/L	12.04		12.05	≤ 6 mg/L
pH (Units)	7.36		7.3	< 7.0 or >7.8	7.3		7.3	< 7.0 or >7.8
Sal. (ppt)	0.39		0.73		0.67		0.73	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:47		14:02		13:52		14:02	
Depth (ft)	2		2		2		2	
Turb. (NTU)	9.1		8.7	13.7	9.2		8.7	13.7
Temp. (°C)	5.85		5.96	8.99	5.85		5.96	8.99
DO (mg/L)	12.1		12	≤ 6 mg/L	11.92		12	≤ 6 mg/L
pH (Units)	7.21		7.21	< 7.0 or >7.71	7.43		7.21	< 7.0 or >7.71
Sal. (ppt)	0.28		0.78		0.29		0.78	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:20		14:29		14:15		14:29	
Depth (ft)	9		10		10.7		10	
Turb. (NTU)	11		8.8	13.8	12.7		8.8	13.8
Temp. (°C)	6.02		6.31	9.09	6.11		6.31	9.09
DO (mg/L)	11.92		11.55	≤ 6 mg/L	11.8		11.55	≤ 6 mg/L
pH (Units)	7.18		7.27	< 7.0 or >7.77	7.22		7.27	< 7.0 or >7.77
Sal. (ppt)	1.63		4		2.13		4	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:49		14:03		13:54		14:03	
Depth (ft)	22.8		22		23.7		22	
Turb. (NTU)	8		5.6	10.6	7.3		5.6	10.6
Temp. (°C)	9.6		9.6	11.18	9.6		9.6	11.18
DO (mg/L)	8.12		7.8	≤ 6 mg/L	8.1		7.8	≤ 6 mg/L
pH (Units)	7.43		7.62	<7.12 and >8.12	7.57		7.62	<7.12 and >8.12
Sal. (ppt)	26.1		27.6		26.1		27.6	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 1/30/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/22/2015
Time Period: 1:30 PM to 3:00 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Backfilling being conducted from both the Aberdeen and the Skookum.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:39	14:51	14:43	14:51	13:22	13:45	13:31	13:45
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	8.6	6.9	8.7	6.9	6.9	11	7	11
Temp. (°C)	5.99	5.86	5.98	5.86	5.89	5.96	5.89	5.96
DO (mg/L)	12.08	12.13	12.11	12.13	12.14	12.04	11.95	12.04
pH (units)	7.38	7.41	7.34	7.41	7.15	7.38	7.47	7.38
Sal. (ppt)	0.37	0.19	0.43	0.19	0.3	0.73	0.32	0.73
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

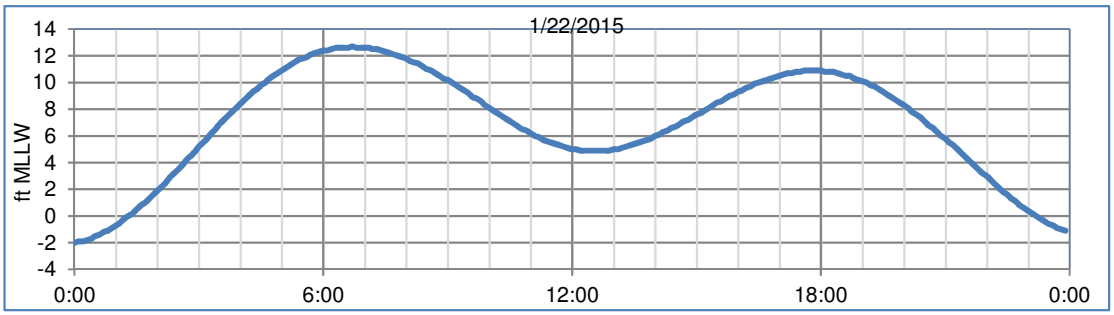
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:40	14:52	14:44	14:52	14:06 *	13:47	13:36	13:49
Depth (ft)	7.3	7.8	8.5	7.8	17.8	17.8	20.7	19.6
Turb. (NTU)	60	7	36.7	7	15 *	4.5	20	7.2
Temp. (°C)	5.99	5.88	5.98	5.88	9.39	9.57	9.47	9.64
DO (mg/L)	12.03	12.08	12.03	12.08	8	8.5	8	7.8
pH (units)	7.22	7.2	7.19	7.2	7.27	7.31	7.26	7.37
Sal. (ppt)	0.77	0.41	0.79	0.41	25.14	26	25.6	26.5
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

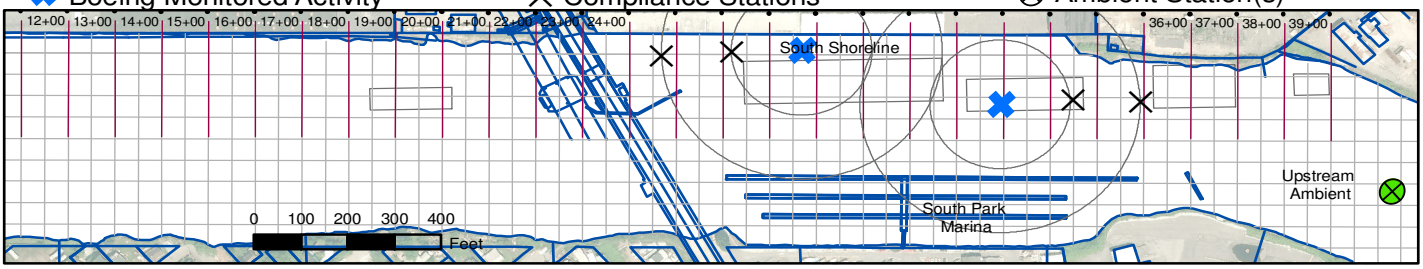
Daily Tides

6:42 AM	12.7 H
12:31 PM	4.9 L
5:49 PM	10.9 H
12:00 AM	
Sunrise	7:47 AM
Sunset	4:55 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/22/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:30

End Time: 15:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:39		14:51		14:43		14:51	
Depth (ft)	2		2		2		2	
Turb. (NTU)	8.6		6.9	11.9	8.7		6.9	11.9
Temp. (°C)	5.99		5.86	8.97	5.98		5.86	8.97
DO (mg/L)	12.08		12.13	≤ 6 mg/L	12.11		12.13	≤ 6 mg/L
pH (Units)	7.38		7.41	< 7.0 or >7.91	7.34		7.41	< 7.0 or >7.91
Sal. (ppt)	0.37		0.19		0.43		0.19	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:22		13:45		13:31		13:45	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6.9		11	16	7		11	16
Temp. (°C)	5.89		5.96	8.99	5.89		5.96	8.99
DO (mg/L)	12.14		12.04	≤ 6 mg/L	11.95		12.04	≤ 6 mg/L
pH (Units)	7.15		7.38	< 7.0 or >7.88	7.47		7.38	< 7.0 or >7.88
Sal. (ppt)	0.3		0.73		0.32		0.73	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:40		14:52		14:44		14:52	
Depth (ft)	7.3		7.8		8.5		7.8	
Turb. (NTU)	60		7	12	36.7		7	12
Temp. (°C)	5.99		5.88	8.97	5.98		5.88	8.97
DO (mg/L)	12.03		12.08	≤ 6 mg/L	12.03		12.08	≤ 6 mg/L
pH (Units)	7.22		7.2	< 7.0 or >7.7	7.19		7.2	< 7.0 or >7.7
Sal. (ppt)	0.77		0.41		0.79		0.41	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:27	14:06	13:47		13:36		13:49	
Depth (ft)	17.8		17.8		20.7		19.6	
Turb. (NTU)	39	15	4.5	9.5	20		7.2	12.2
Temp. (°C)	9.39		9.57	11.16	9.47		9.64	11.21
DO (mg/L)	8		8.5	≤ 6 mg/L	8		7.8	≤ 6 mg/L
pH (Units)	7.27		7.31	< 7.0 or >7.81	7.26		7.37	< 7.0 or >7.87
Sal. (ppt)	25.14		26		25.6		26.5	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/22/2015
Time Period: 2:45 PM to 4:00 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Round 2. Backfilling being conducted from both the Aberdeen and the Skookum.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	15:25	15:55	15:31	15:55	14:59	15:13	15:05	15:13
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	6.9	6.6	6.6	6.6	6.7	6.8	7.2	6.8
Temp. (°C)	5.96	5.85	5.97	5.85	5.9	5.85	5.93	5.85
DO (mg/L)	12.1	12.16	12.12	12.16	12.12	12.04	11.89	12.04
pH (units)	7.57	7.48	7.43	7.48	7.36	7.7	7.84	7.7
Sal. (ppt)	0.3	0.14	0.33	0.14	0.27	0.17	0.24	0.17
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

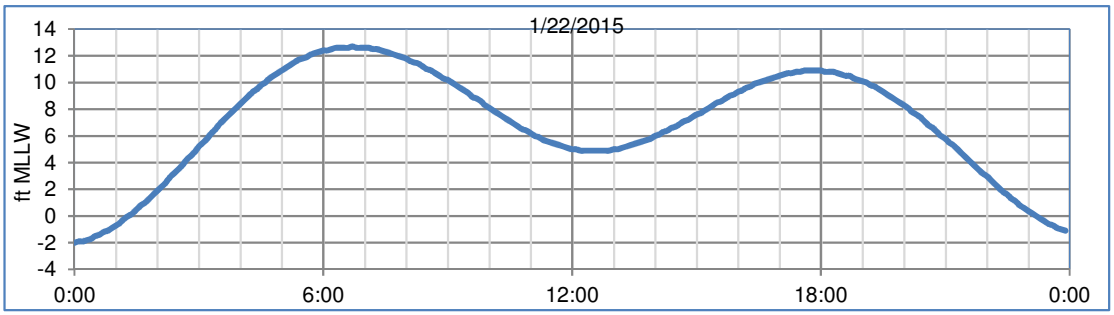
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	15:26	15:56	15:32	15:57	15:01	15:15	15:07	15:15
Depth (ft)	8.8	8.8	11.3	11.3	21.6	18	23.2	18
Turb. (NTU)	60	7.1	15	6.6	6.5	6	19.8	6
Temp. (°C)	6.01	5.85	6.8	6.05	9.68	9.54	9.7	9.54
DO (mg/L)	12.01	12.08	11.03	11.91	8.2	9	8.02	9
pH (units)	7.28	7.25	7.14	7.06	7.32	7.34	7.37	7.34
Sal. (ppt)	0.94	0.47	9.4	2.05	26.7	26.01	26.84	26.01
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

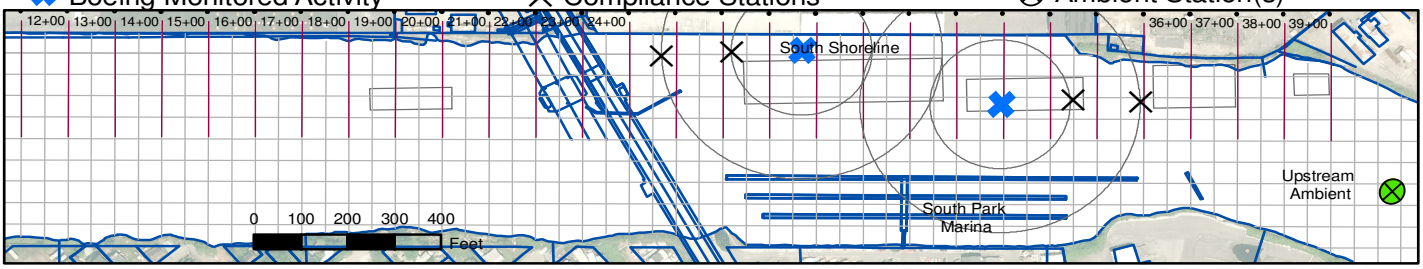
Daily Tides

6:42 AM	12.7 H
12:31 PM	4.9 L
5:49 PM	10.9 H
12:00 AM	
Sunrise	7:47 AM
Sunset	4:55 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/22/2015

Start Time: 14:45

Activity Final Backfilling

End Time: 16:00

round following exceedance.

Monitoring Level Intensive Monitoring

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:25		15:55		15:31		15:55	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6.9		6.6	11.6	6.6		6.6	11.6
Temp. (°C)	5.96		5.85	8.97	5.97		5.85	8.97
DO (mg/L)	12.1		12.16	≤ 6 mg/L	12.12		12.16	≤ 6 mg/L
pH (Units)	7.57		7.48	< 7.0 or >7.98	7.43		7.48	< 7.0 or >7.98
Sal. (ppt)	0.3		0.14		0.33		0.14	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:59		15:13		15:05		15:13	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6.7		6.8	11.8	7.2		6.8	11.8
Temp. (°C)	5.9		5.85	8.97	5.93		5.85	8.97
DO (mg/L)	12.12		12.04	≤ 6 mg/L	11.89		12.04	≤ 6 mg/L
pH (Units)	7.36		7.7	<7.2 and >8.2	7.84		7.7	<7.2 and >8.2
Sal. (ppt)	0.27		0.17		0.24		0.17	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:26		15:56		15:32		15:57	
Depth (ft)	8.8		8.8		11.3		11.3	
Turb. (NTU)	60		7.1	12.1	15		6.6	11.6
Temp. (°C)	6.01		5.85	8.97	6.8		6.05	9.01
DO (mg/L)	12.01		12.08	≤ 6 mg/L	11.03		11.91	≤ 6 mg/L
pH (Units)	7.28		7.25	< 7.0 or >7.75	7.14		7.06	< 7.0 or >7.56
Sal. (ppt)	0.94		0.47		9.4		2.05	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:01		15:15		15:07		15:15	
Depth (ft)	21.6		18		23.2		18	
Turb. (NTU)	6.5		6	11	19.8		6	11
Temp. (°C)	9.68		9.54	11.13	9.7		9.54	11.13
DO (mg/L)	8.2		9	≤ 6 mg/L	8.02		9	≤ 6 mg/L
pH (Units)	7.32		7.34	< 7.0 or >7.84	7.37		7.34	< 7.0 or >7.84
Sal. (ppt)	26.7		26.01		26.84		26.01	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/22/2015
Time Period: 4:45 PM to 5:30 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Round 3. Final backfill placement by both the Aberdeen and the Skookum. Monitoring round cut short because of approaching dusk.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	17:10	17:18	17:04	17:18	16:47	17:18	16:52	17:18
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	7.2	6.8	6.1	6.8	5.8	6.8	5.7	6.8
Temp. (°C)	5.88	5.82	5.9	5.82	5.88	5.82	5.88	5.82
DO (mg/L)	11.93	12.06	12.08	12.06	12.17	12.06	11.92	12.06
pH (units)	7.8	7.8	7.53	7.8	7.4	7.8	7.7	7.8
Sal. (ppt)	0.22	0.13	0.4	0.13	0.21	0.13	0.15	0.13
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

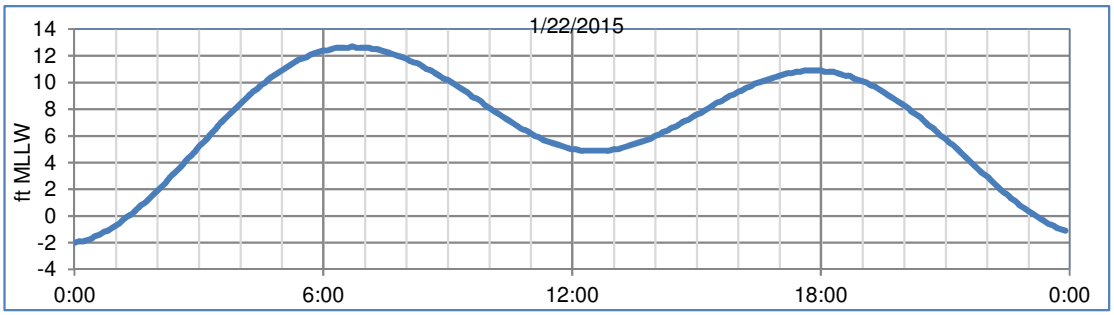
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	17:12	17:21	17:06	17:21	16:48	17:21	16:53	17:21
Depth (ft)	25.4	19.4	21.3	19.4	22.8	19.4	26.4	19.4
Turb. (NTU)	4.2	4.5	4.7	4.5	5.6	4.5	6	4.5
Temp. (°C)	9.89	9.84	9.88	9.84	9.87	9.84	9.88	9.84
DO (mg/L)	8.1	8.3	8.27	8.3	8.27	8.3	7.5	8.3
pH (units)	7.38	7.38	7.35	7.38	7.29	7.38	7.39	7.38
Sal. (ppt)	27.89	27.61	27.81	27.61	27.77	27.61	27.76	27.61
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

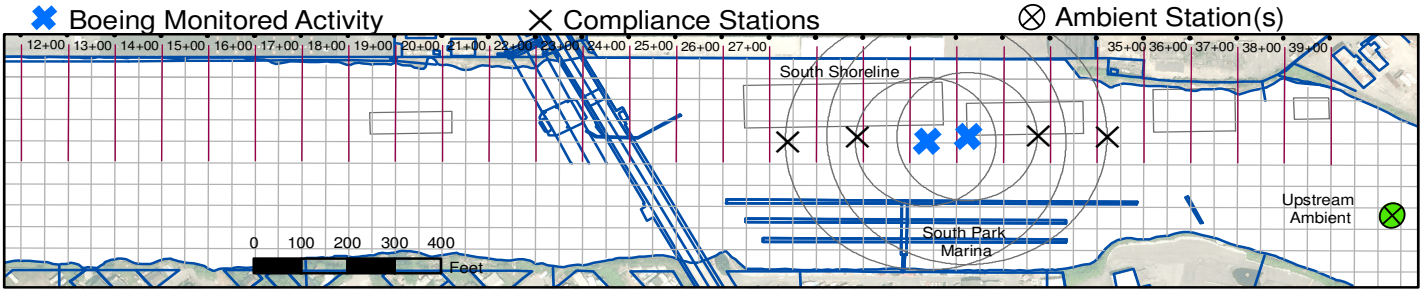
Daily Tides

6:42 AM	12.7 H
12:31 PM	4.9 L
5:49 PM	10.9 H
12:00 AM	
Sunrise	7:47 AM
Sunset	4:55 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/22/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 16:45

End Time: 17:30

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	17:10		17:18		17:04		17:18	
Depth (ft)	2		2		2		2	
Turb. (NTU)	7.2		6.8	11.8	6.1		6.8	11.8
Temp. (°C)	5.88		5.82	8.96	5.9		5.82	8.96
DO (mg/L)	11.93		12.06	≤ 6 mg/L	12.08		12.06	≤ 6 mg/L
pH (Units)	7.8		7.8	<7.3 and >8.3	7.53		7.8	<7.3 and >8.3
Sal. (ppt)	0.22		0.13		0.4		0.13	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:47		17:18		16:52		17:18	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.8		6.8	11.8	5.7		6.8	11.8
Temp. (°C)	5.88		5.82	8.96	5.88		5.82	8.96
DO (mg/L)	12.17		12.06	≤ 6 mg/L	11.92		12.06	≤ 6 mg/L
pH (Units)	7.4		7.8	<7.3 and >8.3	7.7		7.8	<7.3 and >8.3
Sal. (ppt)	0.21		0.13		0.15		0.13	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	17:12		17:21		17:06		17:21	
Depth (ft)	25.4		19.4		21.3		19.4	
Turb. (NTU)	4.2		4.5	9.5	4.7		4.5	9.5
Temp. (°C)	9.89		9.84	11.37	9.88		9.84	11.37
DO (mg/L)	8.1		8.3	≤ 6 mg/L	8.27		8.3	≤ 6 mg/L
pH (Units)	7.38		7.38	< 7.0 or >7.88	7.35		7.38	< 7.0 or >7.88
Sal. (ppt)	27.89		27.61		27.81		27.61	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:48		17:21		16:53		17:21	
Depth (ft)	22.8		19.4		26.4		19.4	
Turb. (NTU)	5.6		4.5	9.5	6		4.5	9.5
Temp. (°C)	9.87		9.84	11.37	9.88		9.84	11.37
DO (mg/L)	8.27		8.3	≤ 6 mg/L	7.5		8.3	≤ 6 mg/L
pH (Units)	7.29		7.38	< 7.0 or >7.88	7.39		7.38	< 7.0 or >7.88
Sal. (ppt)	27.77		27.61		27.76		27.61	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/23/2015
Time Period: 2:00 PM to 3:15 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Final backfill placement by both the Aberdeen and the Skookum. Upstream 150 ft station in shallow water, sampled at mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:45	15:11	14:52	15:11	14:06	14:17	14:11	14:17
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	7.4	6	7.3	6	6.8	6.6	6.3	6.6
Temp. (°C)	6.79	6.76	6.79	6.76	6.84	6.71	6.73	6.71
DO (mg/L)	11.68	11.7	11.56	11.7	11.61	11.77	11.75	11.77
pH (units)	7.18	7.51	7.4	7.51	7.15	7.34	7.29	7.34
Sal. (ppt)	0.99	0.21	1.02	0.21	1.35	0.28	0.45	0.28
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

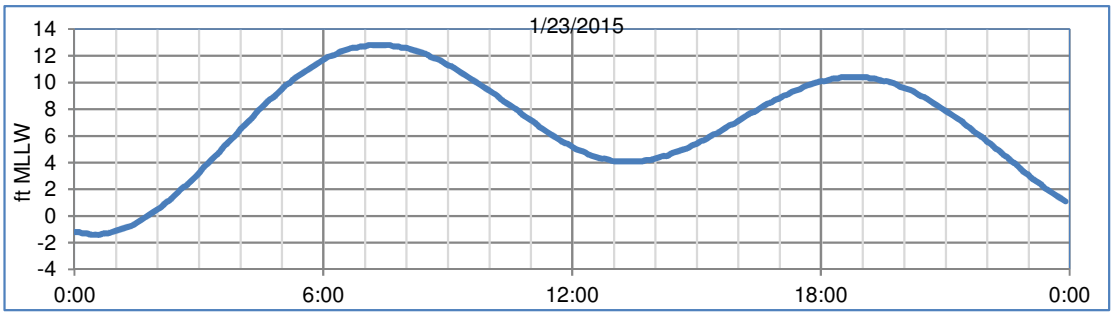
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:47	15:12	14:58	15:12	—	—	14:12	14:18
Depth (ft)	15.4	10.3	20.7	10.3	—	—	6.5	6.5
Turb. (NTU)	9.1	6.2	9.2	6.2	—	—	6.6	7.6
Temp. (°C)	9.04	7.07	9.43	7.07	—	—	6.83	6.7
DO (mg/L)	8.21	11.35	7.36	11.35	—	—	11.67	11.72
pH (units)	7.31	7.38	7.38	7.38	—	—	7.19	7.19
Sal. (ppt)	22.8	4.51	25.12	4.51	—	—	1.09	0.5
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

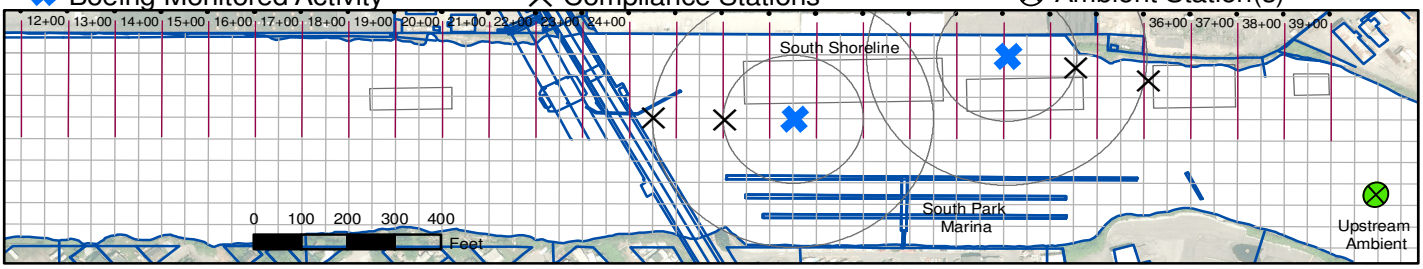
Daily Tides

12:29 AM	-1.4 L
7:20 AM	12.8 H
1:22 PM	4.1 L
6:48 PM	10.4 H
Sunrise	7:46 AM
Sunset	4:57 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/23/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:00

End Time: 15:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:45		15:11		14:52		15:11	
Depth (ft)	2		2		2		2	
Turb. (NTU)	7.4		6	11	7.3		6	11
Temp. (°C)	6.79		6.76	9.28	6.79		6.76	9.28
DO (mg/L)	11.68		11.7	≤ 6 mg/L	11.56		11.7	≤ 6 mg/L
pH (Units)	7.18		7.51	<7.01 and >8.01	7.4		7.51	<7.01 and >8.01
Sal. (ppt)	0.99		0.21		1.02		0.21	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:06		14:17		14:11		14:17	
2		2		2		2	
6.8		6.6	11.6	6.3		6.6	11.6
6.84		6.71	9.26	6.73		6.71	9.26
11.61		11.77	≤ 6 mg/L	11.75		11.77	≤ 6 mg/L
7.15		7.34	< 7.0 or >7.84	7.29		7.34	< 7.0 or >7.84
1.35		0.28		0.45		0.28	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:47		15:12		14:58		15:12	
Depth (ft)	15.4		10.3		20.7		10.3	
Turb. (NTU)	9.1		6.2	11.2	9.2		6.2	11.2
Temp. (°C)	9.04		7.07	9.44	9.43		7.07	9.44
DO (mg/L)	8.21		11.35	≤ 6 mg/L	7.36		11.35	≤ 6 mg/L
pH (Units)	7.31		7.38	< 7.0 or >7.88	7.38		7.38	< 7.0 or >7.88
Sal. (ppt)	22.8		4.51		25.12		4.51	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
				14:12		14:18	
				6.5		6.5	
			—	6.6		7.6	12.6
			—	6.83		6.7	9.25
			—	11.67		11.72	≤ 6 mg/L
			—	7.19		7.19	< 7.0 or >7.69
				1.09		0.5	
☐ Submitted				☐ Submitted			

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/24/2015
Time Period: 1:15 PM to 2:00 PM
Activity: Final Backfilling: Intensive Monitoring — During Tide Change
Comments: Incomplete round of monitoring. Downstream monitoring on the Skookum conducted mid-depth in shallow water. Barge movement and temporary suspension of backfill placement at upstream location delayed upstream monitoring to Round 2.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:55 *	13:47	13:39	13:48	—	—	—	—
Depth (ft)	2.3	2.3	3.6	3.6	—	—	—	—
Turb. (NTU)	34 *	7.9	8.5	8.2	—	—	—	—
Temp. (°C)	7.95	7.84	7.95	7.89	—	—	—	—
DO (mg/L)	10.91	11.13	10.88	11.12	—	—	—	—
pH (units)	7.13	7.23	7.13	7.17	—	—	—	—
Sal. (ppt)	2.52	0.62	2.64	0.8	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

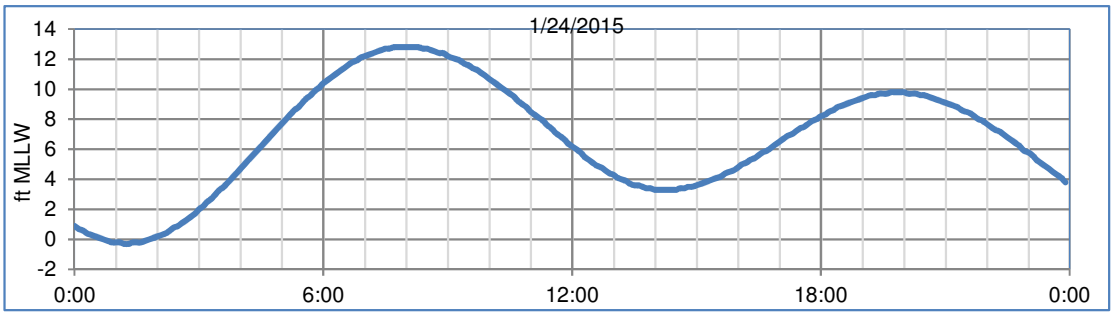
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	—	—	—	—	—	—	—	—
Depth (ft)	—	—	—	—	—	—	—	—
Turb. (NTU)	—	—	—	—	—	—	—	—
Temp. (°C)	—	—	—	—	—	—	—	—
DO (mg/L)	—	—	—	—	—	—	—	—
pH (units)	—	—	—	—	—	—	—	—
Sal. (ppt)	—	—	—	—	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

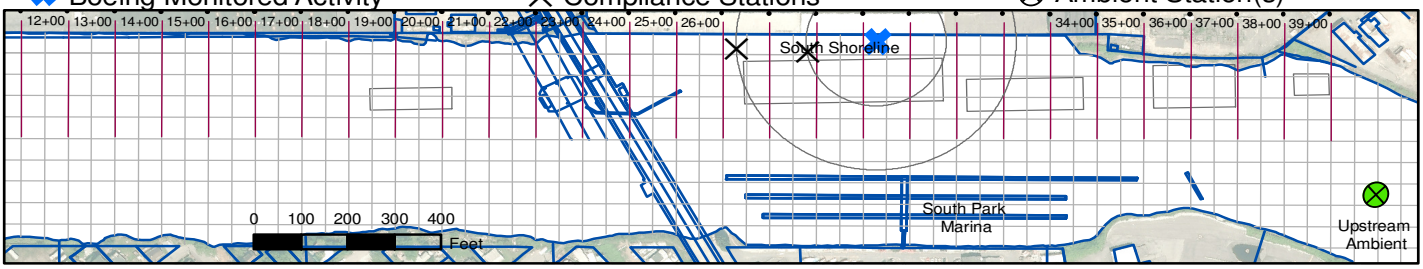
Daily Tides

1:15 AM	-0.3 L
8:00 AM	12.8 H
2:16 PM	3.3 L
7:52 PM	9.8 H
Sunrise	7:45 AM
Sunset	4:58 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/24/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:15

End Time: 14:00

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:29	13:55	13:47		13:39		13:48	
Depth (ft)	2.3		2.3		3.6		3.6	
Turb. (NTU)	16.2	34	7.9	12.9	8.5		8.2	13.2
Temp. (°C)	7.95		7.84	9.89	7.95		7.89	9.93
DO (mg/L)	10.91		11.13	≤ 6 mg/L	10.88		11.12	≤ 6 mg/L
pH (Units)	7.13		7.23	< 7.0 or >7.73	7.13		7.17	< 7.0 or >7.67
Sal. (ppt)	2.52		0.62		2.64		0.8	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/24/2015
Time Period: 3:00 PM to 4:00 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Round 2. Downstream 150 ft monitoring at mid-depth in shallow water. Upstream 300ft monitoring conducted at approximately 225 ft because crane barge placing sheeet pile is on station.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:02	15:14	15:08	15:15	15:21	15:40	15:30	15:40
Depth (ft)	2.87	2.9	4	4	2	2	2	2
Turb. (NTU)	36.6	7	19	6.7	7	6.5	6.6	6.5
Temp. (°C)	8.01	7.89	8.04	7.91	8.03	7.93	7.97	7.93
DO (mg/L)	11.05	11.15	11.06	11.15	11.12	11.14	11.16	11.14
pH (units)	7.21	7.26	7.21	7.22	7.28	7.48	7.27	7.48
Sal. (ppt)	1.09	0.4	1.16	0.45	0.8	0.3	0.48	0.3
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

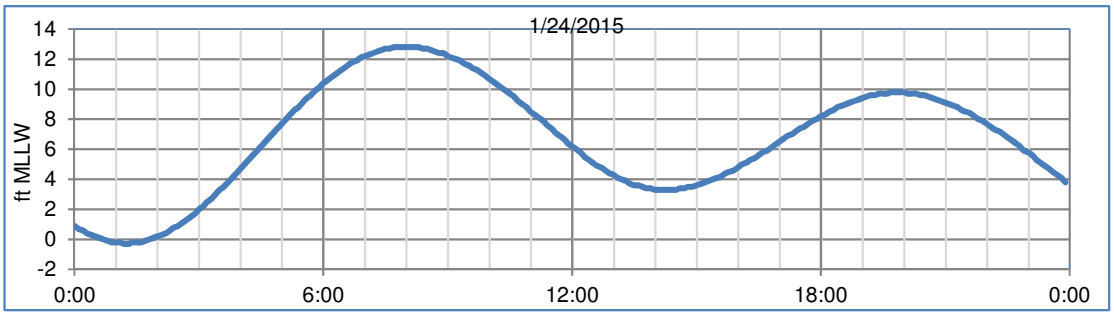
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	—	—	—	—	15:22	15:40	15:33	15:45
Depth (ft)	—	—	—	—	5.71	5.7	15.49	14.8
Turb. (NTU)	—	—	—	—	6.6	7.3	8	6
Temp. (°C)	—	—	—	—	8.01	7.85	9.3	9.43
DO (mg/L)	—	—	—	—	11.08	11.12	7.91	7.65
pH (units)	—	—	—	—	7.17	7.32	7.31	7.34
Sal. (ppt)	—	—	—	—	1.02	0.51	22.96	24.39
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

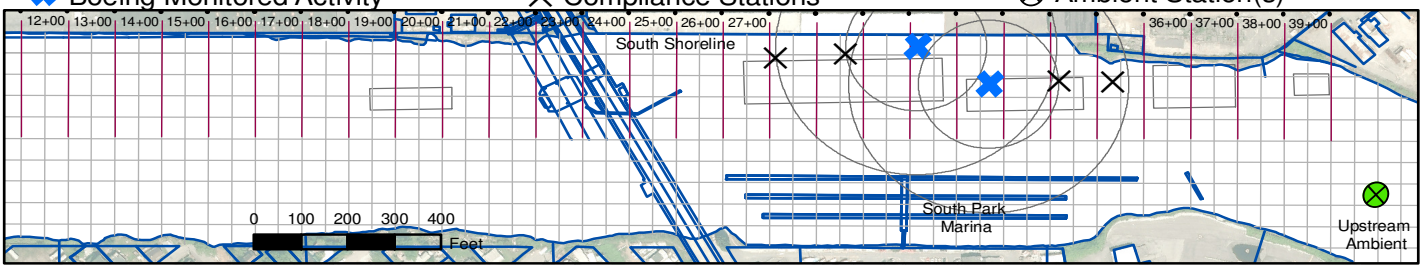
Daily Tides

1:15 AM	-0.3 L
8:00 AM	12.8 H
2:16 PM	3.3 L
7:52 PM	9.8 H
Sunrise	7:45 AM
Sunset	4:58 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/24/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 15:00

End Time: 16:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:02		15:14		15:08		15:15	
Depth (ft)	2.87		2.9		4		4	
Turb. (NTU)	36.6		7	12	19		6.7	11.7
Temp. (°C)	8.01		7.89	9.93	8.04		7.91	9.94
DO (mg/L)	11.05		11.15	≤ 6 mg/L	11.06		11.15	≤ 6 mg/L
pH (Units)	7.21		7.26	< 7.0 or >7.76	7.21		7.22	< 7.0 or >7.72
Sal. (ppt)	1.09		0.4		1.16		0.45	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:21		15:40		15:30		15:40	
2		2		2		2	
7		6.5	11.5	6.6		6.5	11.5
8.03		7.93	9.95	7.97		7.93	9.95
11.12		11.14	≤ 6 mg/L	11.16		11.14	≤ 6 mg/L
7.28		7.48	< 7.0 or >7.98	7.27		7.48	< 7.0 or >7.98
0.8		0.3		0.48		0.3	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:22		15:40		15:33		15:45	
5.71		5.7		15.49		14.8	
6.6		7.3	12.3	8		6	11
8.01		7.85	9.90	9.3		9.43	11.05
11.08		11.12	≤ 6 mg/L	7.91		7.65	≤ 6 mg/L
7.17		7.32	< 7.0 or >7.82	7.31		7.34	< 7.0 or >7.84
1.02		0.51		22.96		24.39	
☐ Submitted				☐ Submitted			

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/24/2015
Time Period: 3:45 PM to 5:15 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Round 3. Final backfilling at two locations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	16:17	16:34	16:09	16:34	15:52	17:00	16:45	17:00
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	6.5	6.8	13.7	6.8	6.7	6.3	6.8	6.3
Temp. (°C)	8.02	7.98	8.02	7.98	8.06	7.97	8.07	7.97
DO (mg/L)	11.08	11.16	11.11	11.16	11.05	11.15	11.01	11.15
pH (units)	7.29	7.53	7.28	7.53	7.56	7.53	7.4	7.53
Sal. (ppt)	1.06	0.27	0.72	0.27	0.63	0.26	0.98	0.26
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

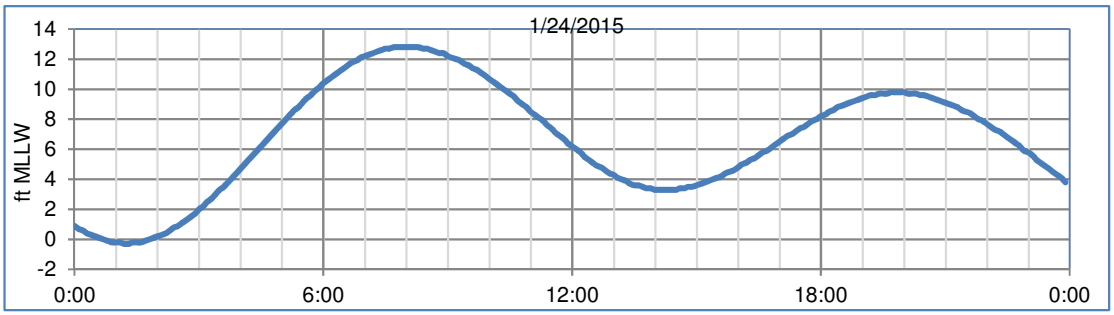
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	16:20	16:39	16:11	16:36	16:54	17:01	16:47	17:03
Depth (ft)	14.41	15	6.13	6.1	7.5	7.5	14.51	14.5
Turb. (NTU)	7.4	6.7	21.8	6.6	6.9	6.8	23.6	5.1
Temp. (°C)	9.46	9.46	8	7.93	8.06	7.89	9.52	9.53
DO (mg/L)	8.22	7.6	11.06	11.12	11.05	11.11	7.73	7.86
pH (units)	7.3	7.39	7.19	7.35	7.41	7.31	7.4	7.36
Sal. (ppt)	24.44	24.52	1.18	0.41	0.8	0.51	24.74	25.27
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

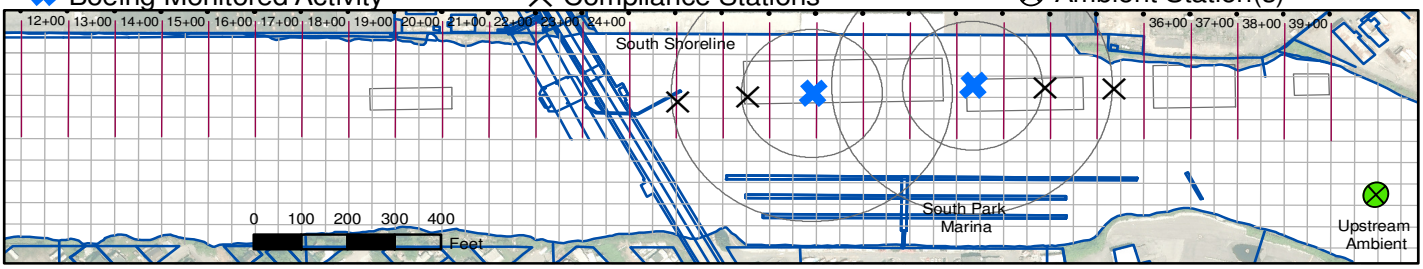
Daily Tides

1:15 AM	-0.3 L
8:00 AM	12.8 H
2:16 PM	3.3 L
7:52 PM	9.8 H
Sunrise	7:45 AM
Sunset	4:58 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/24/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 15:45

End Time: 17:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:17		16:34		16:09		16:34	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6.5		6.8	11.8	13.7		6.8	11.8
Temp. (°C)	8.02		7.98	9.99	8.02		7.98	9.99
DO (mg/L)	11.08		11.16	≤ 6 mg/L	11.11		11.16	≤ 6 mg/L
pH (Units)	7.29		7.53	<7.03 and >8.03	7.28		7.53	<7.03 and >8.03
Sal. (ppt)	1.06		0.27		0.72		0.27	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:52		17:00		16:45		17:00	
2		2		2		2	
6.7		6.3	11.3	6.8		6.3	11.3
8.06		7.97	9.98	8.07		7.97	9.98
11.05		11.15	≤ 6 mg/L	11.01		11.15	≤ 6 mg/L
7.56		7.53	<7.03 and >8.03	7.4		7.53	<7.03 and >8.03
0.63		0.26		0.98		0.26	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:20		16:39		16:11		16:36	
Depth (ft)	14.41		15		6.13		6.1	
Turb. (NTU)	7.4		6.7	11.7	21.8		6.6	11.6
Temp. (°C)	9.46		9.46	11.07	8		7.93	9.95
DO (mg/L)	8.22		7.6	≤ 6 mg/L	11.06		11.12	≤ 6 mg/L
pH (Units)	7.3		7.39	< 7.0 or >7.89	7.19		7.35	< 7.0 or >7.85
Sal. (ppt)	24.44		24.52		1.18		0.41	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
16:54		17:01		16:47		17:03	
7.5		7.5		14.51		14.5	
6.9		6.8	11.8	23.6		5.1	10.1
8.06		7.89	9.93	9.52		9.53	11.12
11.05		11.11	≤ 6 mg/L	7.73		7.86	≤ 6 mg/L
7.41		7.31	< 7.0 or >7.81	7.4		7.36	< 7.0 or >7.86
0.8		0.51		24.74		25.27	
☐ Submitted				☐ Submitted			

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/26/2015
Time Period: 2:30 PM to 3:30 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Final backfill placement by the Aberdeen and the Skookum at two locations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:33	14:48	14:39	14:48	15:19	15:25	15:12	15:25
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	12.8	14	12.5	14	11.3	11.5	11.5	11.5
Temp. (°C)	7.94	7.89	7.95	7.89	7.95	7.86	7.95	7.86
DO (mg/L)	11.38	11.36	11.34	11.36	11.37	11.42	11.36	11.42
pH (units)	7.3	7.43	7.31	7.43	7.42	7.46	7.46	7.46
Sal. (ppt)	0.74	0.37	0.79	0.37	0.49	0.3	0.45	0.3
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

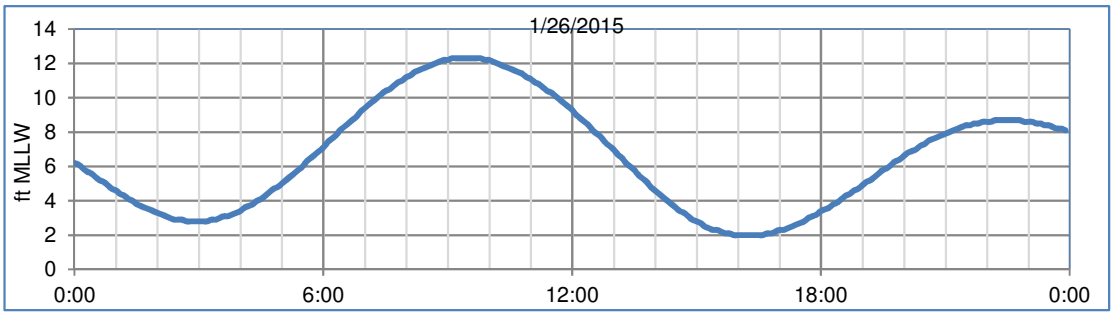
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:00 *	14:51	14:40	14:51	15:20	15:26	15:13	15:27
Depth (ft)	16.3 *	14	14	14	6.4	6.4	15.2	13.3
Turb. (NTU)	25.5 *	15.7	18	15.7	11.8	12.4	13.3	14.8
Temp. (°C)	8.21	7.98	8.06	7.98	7.97	7.91	8.05	7.95
DO (mg/L)	10.74	11.2	11.98	11.2	11.36	11.4	11.08	11.27
pH (units)	7.17	7.12	7.14	7.12	7.3	7.27	7.09	7.13
Sal. (ppt)	3.8	1.62	3	1.62	0.55	0.49	2.84	1.8
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

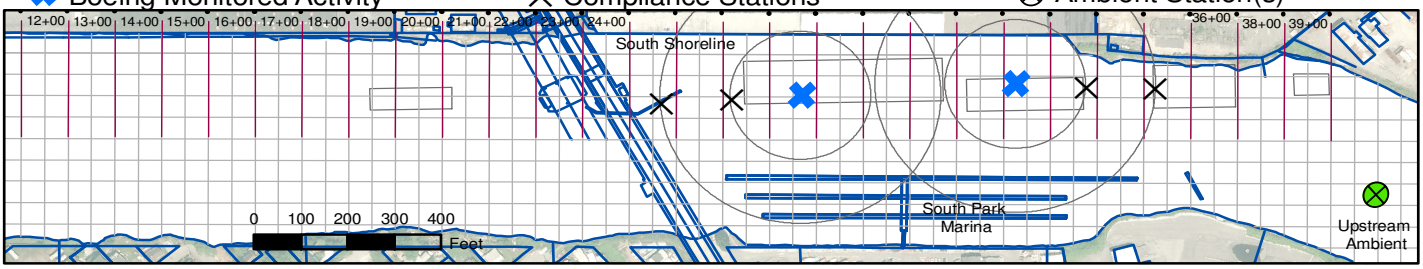
Daily Tides

2:55 AM	2.8 L
9:27 AM	12.3 H
4:14 PM	2 L
10:28 PM	8.7 H
Sunrise	7:43 AM
Sunset	5:01 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/26/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:30

End Time: 15:30

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:33		14:48		14:39		14:48	
Depth (ft)	2		2		2		2	
Turb. (NTU)	12.8		14	19	12.5		14	19
Temp. (°C)	7.94		7.89	9.93	7.95		7.89	9.93
DO (mg/L)	11.38		11.36	≤ 6 mg/L	11.34		11.36	≤ 6 mg/L
pH (Units)	7.3		7.43	< 7.0 or >7.93	7.31		7.43	< 7.0 or >7.93
Sal. (ppt)	0.74		0.37		0.79		0.37	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:19		15:25		15:12		15:25	
2		2		2		2	
11.3		11.5	16.5	11.5		11.5	16.5
7.95		7.86	9.91	7.95		7.86	9.91
11.37		11.42	≤ 6 mg/L	11.36		11.42	≤ 6 mg/L
7.42		7.46	< 7.0 or >7.96	7.46		7.46	< 7.0 or >7.96
0.49		0.3		0.45		0.3	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:35	15:00	14:51		14:40		14:51	
Depth (ft)	17	16.3	14		14		14	
Turb. (NTU)	21	25.5	15.7	20.7	18		15.7	20.7
Temp. (°C)	8.21		7.98	9.99	8.06		7.98	9.99
DO (mg/L)	10.74		11.2	≤ 6 mg/L	11.98		11.2	≤ 6 mg/L
pH (Units)	7.17		7.12	< 7.0 or >7.62	7.14		7.12	< 7.0 or >7.62
Sal. (ppt)	3.8		1.62		3		1.62	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:20		15:26		15:13		15:27	
6.4		6.4		15.2		13.3	
11.8		12.4	17.4	13.3		14.8	19.8
7.97		7.91	9.94	8.05		7.95	9.97
11.36		11.4	≤ 6 mg/L	11.08		11.27	≤ 6 mg/L
7.3		7.27	< 7.0 or >7.77	7.09		7.13	< 7.0 or >7.63
0.55		0.49		2.84		1.8	
☐ Submitted				☐ Submitted			

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/26/2015
Time Period: 3:45 PM to 4:15 PM
Activity: Final Backfilling: Intensive Monitoring — During Tide Change
Comments: Round 2. Partial Round. Aberdeen was being repositioned to place gravel at outfall. Access to the upstream sample locations blocked by barge and tug traffic. Skookum (downstream backfill placement) stopped working while waiting to be moved. Monitoring suspended.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	15:52	16:06	15:57	16:06	—	—	—	—
Depth (ft)	2	2	2	2	—	—	—	—
Turb. (NTU)	15.7	13	12.1	13	—	—	—	—
Temp. (°C)	7.93	7.78	7.89	7.78	—	—	—	—
DO (mg/L)	11.38	11.48	11.41	11.48	—	—	—	—
pH (units)	7.45	7.48	7.41	7.48	—	—	—	—
Sal. (ppt)	0.52	0.29	0.51	0.29	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

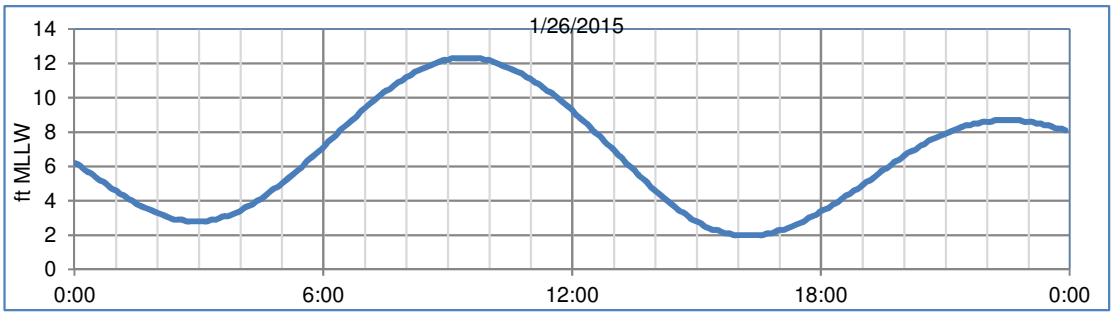
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	15:53	16:07	15:59	16:07	—	—	—	—
Depth (ft)	11.3	11.3	11.4	11.3	—	—	—	—
Turb. (NTU)	35.1	13.6	13.8	13.6	—	—	—	—
Temp. (°C)	7.98	7.84	7.95	7.84	—	—	—	—
DO (mg/L)	11.27	11.43	11.29	11.43	—	—	—	—
pH (units)	7.2	7.26	7.21	7.26	—	—	—	—
Sal. (ppt)	1.41	0.64	1.36	0.64	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

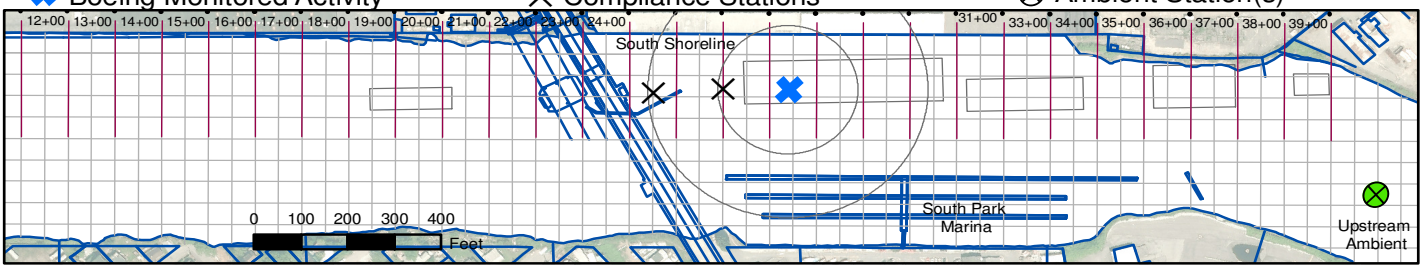
Daily Tides

2:55 AM	2.8 L
9:27 AM	12.3 H
4:14 PM	2 L
10:28 PM	8.7 H
Sunrise	7:43 AM
Sunset	5:01 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/26/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 15:45

End Time: 16:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:52		16:06		15:57		16:06	
Depth (ft)	2		2		2		2	
Turb. (NTU)	15.7		13	18	12.1		13	18
Temp. (°C)	7.93		7.78	9.86	7.89		7.78	9.86
DO (mg/L)	11.38		11.48	≤ 6 mg/L	11.41		11.48	≤ 6 mg/L
pH (Units)	7.45		7.48	< 7.0 or >7.98	7.41		7.48	< 7.0 or >7.98
Sal. (ppt)	0.52		0.29		0.51		0.29	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Parameter	Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:53		16:07		15:59		16:07	
Depth (ft)	11.3		11.3		11.4		11.3	
Turb. (NTU)	35.1		13.6	18.6	13.8		13.6	18.6
Temp. (°C)	7.98		7.84	9.89	7.95		7.84	9.89
DO (mg/L)	11.27		11.43	≤ 6 mg/L	11.29		11.43	≤ 6 mg/L
pH (Units)	7.2		7.26	< 7.0 or >7.76	7.21		7.26	< 7.0 or >7.76
Sal. (ppt)	1.41		0.64		1.36		0.64	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/27/2015
Time Period: 2:00 PM to 3:00 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Downstream monitoring conducted mid-depth in shallow water.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	14:07	14:20	14:12	14:20	14:20	14:46	14:37	14:46
Depth (ft)	3	3.5	4	3.5	2	2	2	2
Turb. (NTU)	11.8	7.9	10	7.9	7.2	8	7	8
Temp. (°C)	7.47	7.34	7.48	7.34	7.37	7.8	7.37	7.8
DO (mg/L)	11.32	11.45	11.31	11.45	11.42	11.49	11.4	11.49
pH (units)	7.24	7.27	7.21	7.27	7.23	7.4	7.29	7.4
Sal. (ppt)	1.74	1	1.8	1	1.22	0.55	1.05	0.55
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

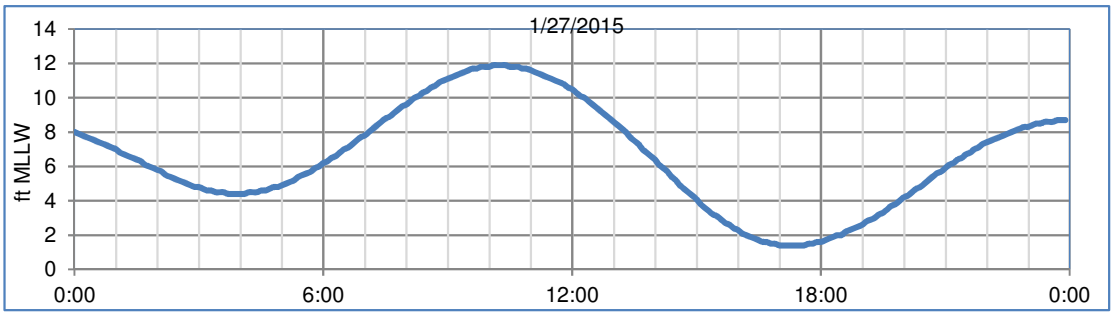
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	—	—	—	—	14:31	14:48	14:39	14:48
Depth (ft)	—	—	—	—	17.1	13.8	16.2	13.8
Turb. (NTU)	—	—	—	—	8.5	12.8	8.9	12.8
Temp. (°C)	—	—	—	—	8.18	7.52	8.13	7.52
DO (mg/L)	—	—	—	—	9.87	11.08	9.82	11.08
pH (units)	—	—	—	—	7.26	7.31	7.25	7.31
Sal. (ppt)	—	—	—	—	10.33	2.17	19.1	2.17
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

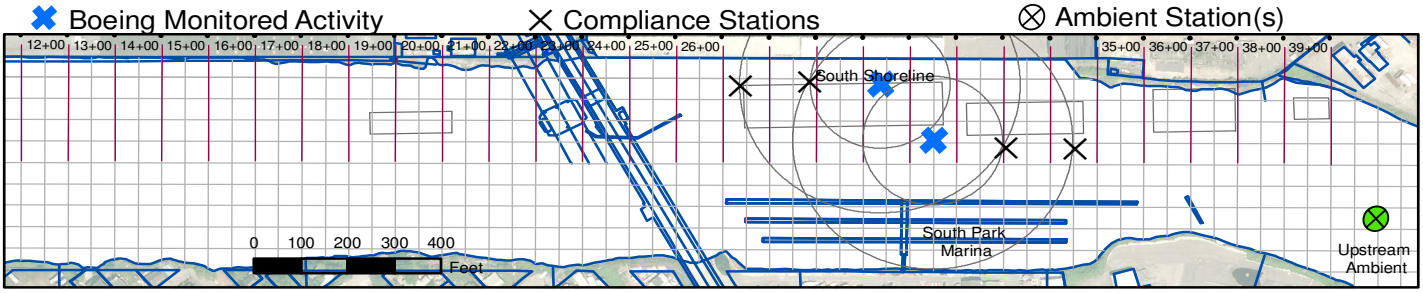
Daily Tides

3:54 AM	4.4 L
10:15 AM	11.9 H
5:18 PM	1.4 L
12:00 AM	
Sunrise	7:42 AM
Sunset	5:03 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/27/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:00

End Time: 15:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:07		14:20		14:12		14:20	
Depth (ft)	3		3.5		4		3.5	
Turb. (NTU)	11.8		7.9	12.9	10		7.9	12.9
Temp. (°C)	7.47		7.34	9.59	7.48		7.34	9.59
DO (mg/L)	11.32		11.45	≤ 6 mg/L	11.31		11.45	≤ 6 mg/L
pH (Units)	7.24		7.27	< 7.0 or >7.77	7.21		7.27	< 7.0 or >7.77
Sal. (ppt)	1.74		1		1.8		1	
Sample ID								

Analyze ☐ Submitted ☐ Submitted

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:20		14:46		14:37		14:46	
2		2		2		2	
7.2		8	13	7		8	13
7.37		7.8	9.87	7.37		7.8	9.87
11.42		11.49	≤ 6 mg/L	11.4		11.49	≤ 6 mg/L
7.23		7.4	< 7.0 or >7.9	7.29		7.4	< 7.0 or >7.9
1.22		0.55		1.05		0.55	

☐ Submitted ☐ Submitted

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								

Analyze ☐ Submitted ☐ Submitted

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:31		14:48		14:39		14:48	
17.1		13.8		16.2		13.8	
8.5		12.8	17.8	8.9		12.8	17.8
8.18		7.52	9.69	8.13		7.52	9.69
9.87		11.08	≤ 6 mg/L	9.82		11.08	≤ 6 mg/L
7.26		7.31	< 7.0 or >7.81	7.25		7.31	< 7.0 or >7.81
10.33		2.17		19.1		2.17	

☐ Submitted ☐ Submitted

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/28/2015
Time Period: 2:00 PM to 3:00 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Final backfill being placed at two locations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:04	14:20	14:12	14:20	14:38	14:49	14:43	14:49
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	8.4	5.9	7.6	5.9	6.4	6.7	6.9	6.7
Temp. (°C)	7.63	7.61	7.63	7.61	7.65	7.61	7.66	7.61
DO (mg/L)	11.36	11.35	11.34	11.35	11.34	11.42	11.37	11.42
pH (units)	7.25	7.28	7.28	7.28	7.28	7.3	7.29	7.3
Sal. (ppt)	1.64	1.46	1.51	1.46	1.49	1.2	1.49	1.2
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

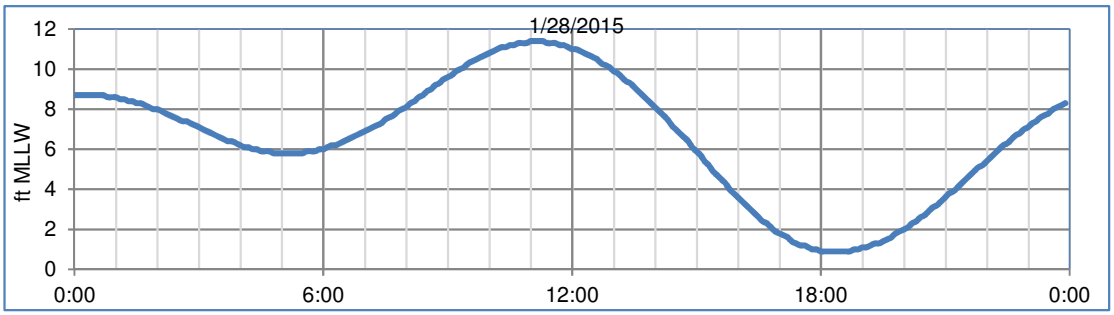
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:30 *	14:21	14:12	14:21	14:39	14:51	14:44	14:51
Depth (ft)	5.2	5.6	6.1	5.6	10.8	10.7	10.6	10.7
Turb. (NTU)	18.2 *	5.9	9	5.9	6.8	6.7	6.1	6.7
Temp. (°C)	7.65	7.62	7.64	7.62	7.63	7.65	7.69	7.65
DO (mg/L)	11.35	11.31	11.32	11.31	11.24	11.2	11.27	11.2
pH (units)	7.29	7.27	7.26	7.27	7.29	7.27	7.28	7.27
Sal. (ppt)	1.48	1.65	1.66	1.65	1.99	2.12	1.6	2.12
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

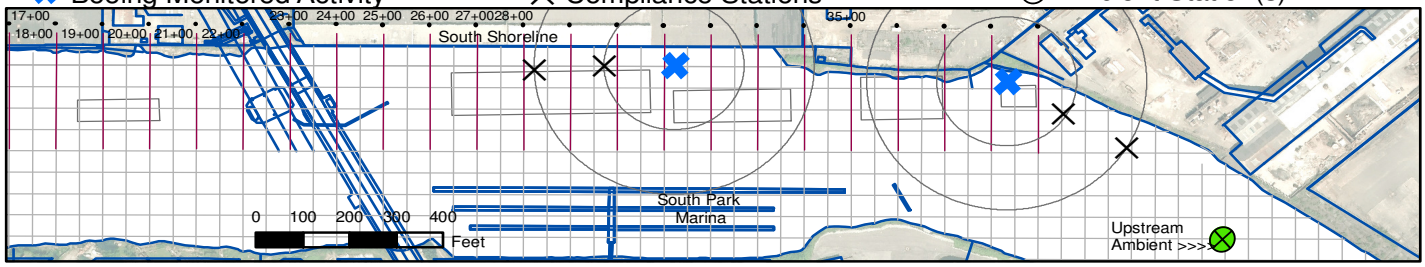
Daily Tides

12:12 AM	8.7 H
5:08 AM	5.8 L
11:09 AM	11.4 H
6:22 PM	0.9 L
Sunrise	7:41 AM
Sunset	5:04 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/28/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:00

End Time: 15:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:04		14:20		14:12		14:20	
Depth (ft)	2		2		2		2	
Turb. (NTU)	8.4		5.9	10.9	7.6		5.9	10.9
Temp. (°C)	7.63		7.61	9.75	7.63		7.61	9.75
DO (mg/L)	11.36		11.35	≤ 6 mg/L	11.34		11.35	≤ 6 mg/L
pH (Units)	7.25		7.28	< 7.0 or >7.78	7.28		7.28	< 7.0 or >7.78
Sal. (ppt)	1.64		1.46		1.51		1.46	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:38		14:49		14:43		14:49	
2		2		2		2	
6.4		6.7	11.7	6.9		6.7	11.7
7.65		7.61	9.75	7.66		7.61	9.75
11.34		11.42	≤ 6 mg/L	11.37		11.42	≤ 6 mg/L
7.28		7.3	< 7.0 or >7.8	7.29		7.3	< 7.0 or >7.8
1.49		1.2		1.49		1.2	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:05	14:30	14:21		14:12		14:21	
Depth (ft)	5.2		5.6		6.1		5.6	
Turb. (NTU)	27.8	18.2	5.9	10.9	9		5.9	10.9
Temp. (°C)	7.65		7.62	9.76	7.64		7.62	9.76
DO (mg/L)	11.35		11.31	≤ 6 mg/L	11.32		11.31	≤ 6 mg/L
pH (Units)	7.29		7.27	< 7.0 or >7.77	7.26		7.27	< 7.0 or >7.77
Sal. (ppt)	1.48		1.65		1.66		1.65	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:39		14:51		14:44		14:51	
10.8		10.7		10.6		10.7	
6.8		6.7	11.7	6.1		6.7	11.7
7.63		7.65	9.77	7.69		7.65	9.77
11.24		11.2	≤ 6 mg/L	11.27		11.2	≤ 6 mg/L
7.29		7.27	< 7.0 or >7.77	7.28		7.27	< 7.0 or >7.77
1.99		2.12		1.6		2.12	
☐ Submitted				☐ Submitted			

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/28/2015
Time Period: 3:15 PM to 4:00 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Round 2. Downstream monitoring conducted mid-depth in shallow water.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	15:28	15:40	15:31	15:40	15:45	15:57	15:51	15:57
Depth (ft)	2.6	2.4	2.2	2.4	2	2	2	2
Turb. (NTU)	25	6.9	21	6.9	6.5	7.8	6.9	7.8
Temp. (°C)	7.7	7.55	7.7	7.55	7.57	7.49	7.54	7.49
DO (mg/L)	11.29	11.46	11.27	11.46	11.46	11.6	11.5	11.6
pH (units)	7.28	7.35	7.28	7.35	7.28	7.39	7.32	7.39
Sal. (ppt)	2	0.67	2.03	0.67	1.07	0.38	0.8	0.38
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

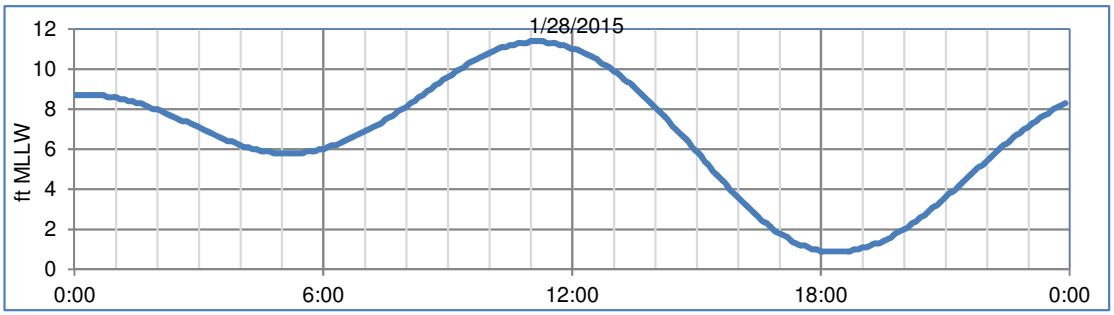
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	—	—	—	—	15:47	15:59	15:53	15:59
Depth (ft)	—	—	—	—	11.8	11.5	11.3	11.5
Turb. (NTU)	—	—	—	—	7.7	8.1	9	8.1
Temp. (°C)	—	—	—	—	7.63	7.63	7.6	7.63
DO (mg/L)	—	—	—	—	11.28	11.24	11.33	11.24
pH (units)	—	—	—	—	7.28	7.24	7.28	7.24
Sal. (ppt)	—	—	—	—	1.71	1.6	1.36	1.6
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

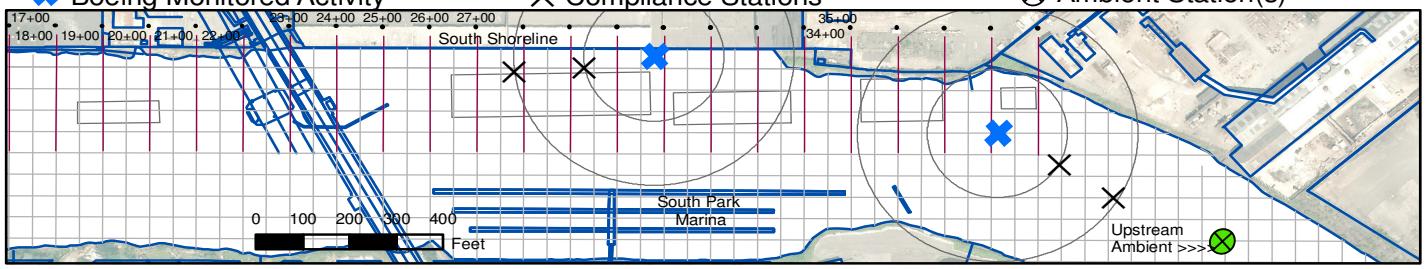
Daily Tides

12:12 AM	8.7 H
5:08 AM	5.8 L
11:09 AM	11.4 H
6:22 PM	0.9 L
Sunrise	7:41 AM
Sunset	5:04 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/28/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 15:15

End Time: 16:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:28		15:40		15:31		15:40	
Depth (ft)	2.6		2.4		2.2		2.4	
Turb. (NTU)	25		6.9	11.9	21		6.9	11.9
Temp. (°C)	7.7		7.55	9.71	7.7		7.55	9.71
DO (mg/L)	11.29		11.46	≤ 6 mg/L	11.27		11.46	≤ 6 mg/L
pH (Units)	7.28		7.35	< 7.0 or >7.85	7.28		7.35	< 7.0 or >7.85
Sal. (ppt)	2		0.67		2.03		0.67	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:45		15:57		15:51		15:57	
2		2		2		2	
6.5		7.8	12.8	6.9		7.8	12.8
7.57		7.49	9.68	7.54		7.49	9.68
11.46		11.6	≤ 6 mg/L	11.5		11.6	≤ 6 mg/L
7.28		7.39	< 7.0 or >7.89	7.32		7.39	< 7.0 or >7.89
1.07		0.38		0.8		0.38	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:47		15:59		15:53		15:59	
11.8		11.5		11.3		11.5	
7.7		8.1	13.1	9		8.1	13.1
7.63		7.63	9.76	7.6		7.63	9.76
11.28		11.24	≤ 6 mg/L	11.33		11.24	≤ 6 mg/L
7.28		7.24	< 7.0 or >7.74	7.28		7.24	< 7.0 or >7.74
1.71		1.6		1.36		1.6	
☐ Submitted				☐ Submitted			

Report Date 1/29/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/29/2015
Time Period: 2:00 PM to 3:00 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Aberdeen placing backfill.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:12	14:25	14:16	14:25	14:43	14:49	14:37	14:49
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4.9	4.7	5.3	4.7	5.5	5.1	4.9	5.1
Temp. (°C)	7.62	7.58	7.56	7.58	7.66	7.58	7.6	7.58
DO (mg/L)	11.41	11.44	11.24	11.44	11.36	11.32	11.42	11.32
pH (units)	7.22	7.36	7.32	7.36	7.37	7.36	7.35	7.36
Sal. (ppt)	1.09	0.54	1.82	0.54	0.56	0.93	0.45	0.93
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

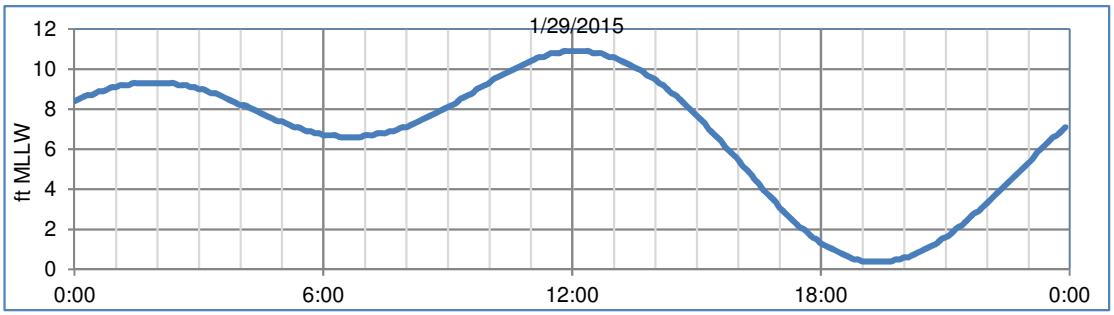
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:13	14:27	14:18	14:27	14:44	14:50	14:39	14:50
Depth (ft)	23.2	17.7	22.9	17.7	19.3	16.5	19.4	16.5
Turb. (NTU)	8.6	3.7	4.8	3.7	3.5	4.8	3.1	4.8
Temp. (°C)	9.8	9.78	9.78	9.78	9.74	9.74	9.47	9.74
DO (mg/L)	7.71	7.38	7.71	7.38	7.9	7.84	7.6	7.84
pH (units)	7.54	7.6	7.57	7.6	7.59	7.58	7.59	7.58
Sal. (ppt)	27.56	27.45	27.48	27.45	27.13	27	27.14	27
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

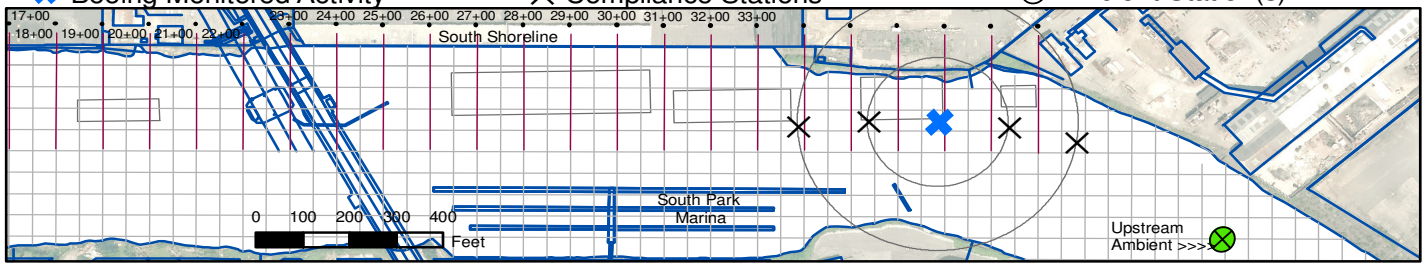
Daily Tides

1:56 AM	9.3 H
6:39 AM	6.6 L
12:06 PM	10.9 H
7:22 PM	0.4 L
Sunrise	7:40 AM
Sunset	5:06 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/29/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:00

End Time: 15:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:12		14:25		14:16		14:25	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.9		4.7	9.7	5.3		4.7	9.7
Temp. (°C)	7.62		7.58	9.73	7.56		7.58	9.73
DO (mg/L)	11.41		11.44	≤ 6 mg/L	11.24		11.44	≤ 6 mg/L
pH (Units)	7.22		7.36	< 7.0 or >7.86	7.32		7.36	< 7.0 or >7.86
Sal. (ppt)	1.09		0.54		1.82		0.54	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:43		14:49		14:37		14:49	
2		2		2		2	
5.5		5.1	10.1	4.9		5.1	10.1
7.66		7.58	9.73	7.6		7.58	9.73
11.36		11.32	≤ 6 mg/L	11.42		11.32	≤ 6 mg/L
7.37		7.36	< 7.0 or >7.86	7.35		7.36	< 7.0 or >7.86
0.56		0.93		0.45		0.93	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:13		14:27		14:18		14:27	
Depth (ft)	23.2		17.7		22.9		17.7	
Turb. (NTU)	8.6		3.7	8.7	4.8		3.7	8.7
Temp. (°C)	9.8		9.78	11.32	9.78		9.78	11.32
DO (mg/L)	7.71		7.38	≤ 6 mg/L	7.71		7.38	≤ 6 mg/L
pH (Units)	7.54		7.6	<7.1 and >8.1	7.57		7.6	<7.1 and >8.1
Sal. (ppt)	27.56		27.45		27.48		27.45	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:44		14:50		14:39		14:50	
19.3		16.5		19.4		16.5	
3.5		4.8	9.8	3.1		4.8	9.8
9.74		9.74	11.29	9.47		9.74	11.29
7.9		7.84	≤ 6 mg/L	7.6		7.84	≤ 6 mg/L
7.59		7.58	<7.08 and >8.08	7.59		7.58	<7.08 and >8.08
27.13		27		27.14		27	
☐ Submitted				☐ Submitted			

Report Date 2/2/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/30/2015
Time Period: 2:15 PM to 4:15 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Backfilling being conducted at one location. Sheetpile removal in progress.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	14:17	14:28	14:09	14:28	15:54	16:04	14:40	16:04
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.8	3.5	3.8	3.5	6.9	3.8	5.7	3.8
Temp. (°C)	7.19	6.96	7.19	6.96	7.15	6.95	7.3	6.95
DO (mg/L)	11.39	11.4	11.08	11.4	11.29	11.32	11.28	11.28
pH (units)	7.29	7.3	7.56	7.3	7.16	7.15	7.17	7.17
Sal. (ppt)	0.42	0.22	0.43	0.22	1.09	0.91	1.31	1.31
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

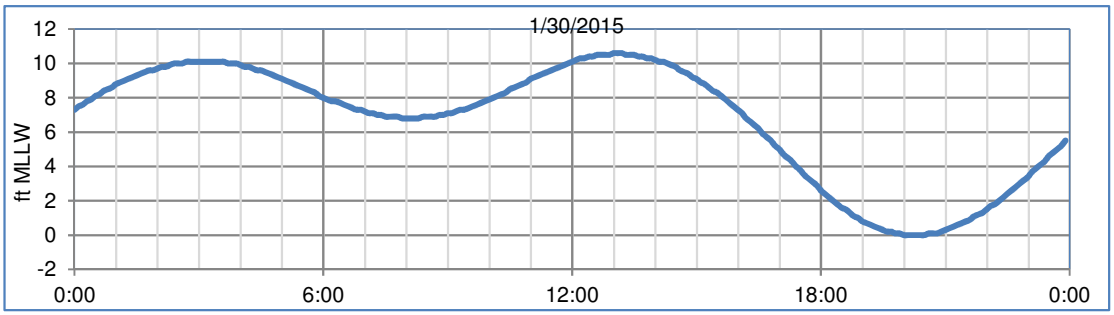
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	14:18	14:29	14:11	14:31	15:55	16:07	14:42	16:09
Depth (ft)	7.4	7.4	9.1	9.1	6.9	6.9	8.9	8.9
Turb. (NTU)	3.5	3.8	3.6	3.7	7	3.9	4.8	3.9
Temp. (°C)	7.12	6.98	7.14	7.36	7.13	6.99	7.89	7.02
DO (mg/L)	11.32	11.29	11.17	11.05	11.2	11.23	10.31	11.16
pH (units)	7.14	7.14	7.21	7	7.02	7.1	7.08	7.08
Sal. (ppt)	0.87	0.82	1.29	2.29	1.79	1.13	8.59	1.53
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

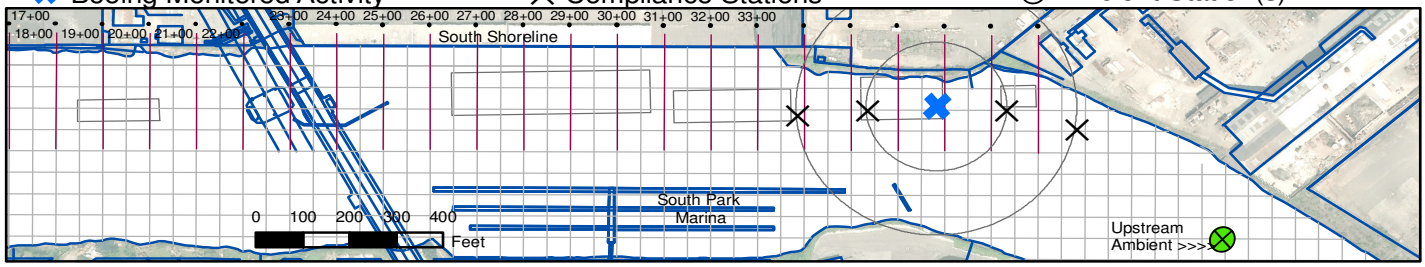
Daily Tides

3:10 AM	10.1 H
8:06 AM	6.8 L
1:04 PM	10.6 H
8:15 PM	0 L
Sunrise	7:38 AM
Sunset	5:07 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/30/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:15

End Time: 16:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:17		14:28		14:09		14:28	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.8		3.5	8.5	3.8		3.5	8.5
Temp. (°C)	7.19		6.96	9.38	7.19		6.96	9.38
DO (mg/L)	11.39		11.4	≤ 6 mg/L	11.08		11.4	≤ 6 mg/L
pH (Units)	7.29		7.3	< 7.0 or >7.8	7.56		7.3	< 7.0 or >7.8
Sal. (ppt)	0.42		0.22		0.43		0.22	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:54		16:04		14:40		16:04	
2		2		2		2	
6.9		3.8	8.8	5.7		3.8	8.8
7.15		6.95	9.37	7.3		6.95	9.37
11.29		11.32	≤ 6 mg/L	11.28		11.28	≤ 6 mg/L
7.16		7.15	< 7.0 or >7.65	7.17		7.17	< 7.0 or >7.67
1.09		0.91		1.31		1.31	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:18		14:29		14:11		14:31	
Depth (ft)	7.4		7.4		9.1		9.1	
Turb. (NTU)	3.5		3.8	8.8	3.6		3.7	8.7
Temp. (°C)	7.12		6.98	9.39	7.14		7.36	9.60
DO (mg/L)	11.32		11.29	≤ 6 mg/L	11.17		11.05	≤ 6 mg/L
pH (Units)	7.14		7.14	< 7.0 or >7.64	7.21		7	< 7.0 or >7.5
Sal. (ppt)	0.87		0.82		1.29		2.29	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:55		16:07		14:42		16:09	
6.9		6.9		8.9		8.9	
7		3.9	8.9	4.8		3.9	8.9
7.13		6.99	9.39	7.89		7.02	9.41
11.2		11.23	≤ 6 mg/L	10.31		11.16	≤ 6 mg/L
7.02		7.1	< 7.0 or >7.6	7.08		7.08	< 7.0 or >7.58
1.79		1.13		8.59		1.53	
☐ Submitted				☐ Submitted			

Report Date 2/2/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/31/2015
Time Period: 2:15 PM to 3:30 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Downstream monitored at 267 ft from backfill placement to avoid sampling too close to divers at bridge footer.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:00	15:16	15:07	15:16	14:23	14:48	14:28	14:48
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.7	2.7	3	2.7	2.7	2.5	2.8	2.5
Temp. (°C)	6.83	6.68	6.84	6.68	6.79	6.71	6.79	6.71
DO (mg/L)	11.3	11.42	11.23	11.42	11.39	11.38	11.26	11.38
pH (units)	7.24	7.5	7.32	7.5	7.22	7.54	7.24	7.54
Sal. (ppt)	2	0.46	1.5	0.46	0.95	0.5	1.3	0.5
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

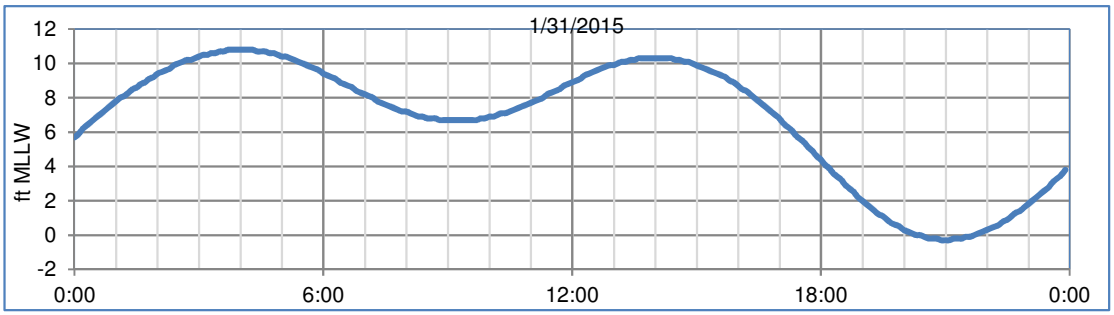
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:26 *	15:17	15:08	15:18	14:24	14:49	14:43	14:51
Depth (ft)	13.2	13.2	18.9	18.9	7.9	7.9	11.7	11.7
Turb. (NTU)	39.4 *	1.7	11.6	1.4	4.7	3.2	5.1	2.7
Temp. (°C)	9.76	9.71	9.86	9.85	7.7	7.7	9.55	9.57
DO (mg/L)	8.3	8.62	7.95	7.52	10.37	10.34	8.42	8.2
pH (units)	7.37	7.39	7.41	7.46	7.23	7.17	7.37	7.35
Sal. (ppt)	27.39	26.9	28.2	28.05	5.3	6.1	24.7	25.9
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

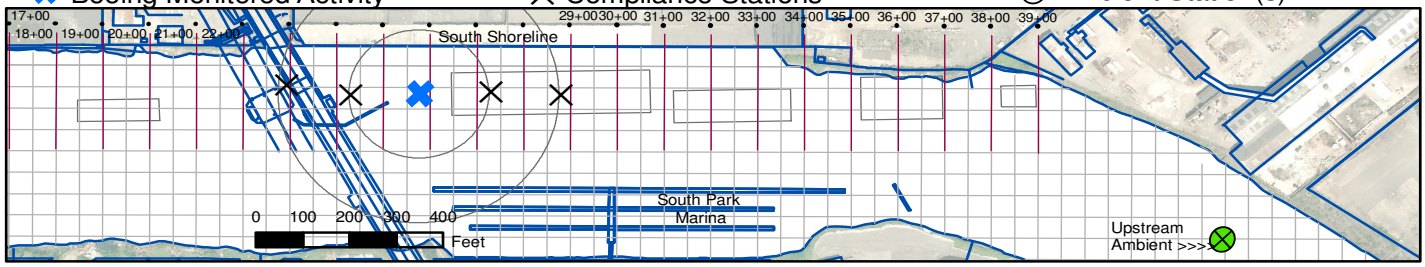
Daily Tides

4:03 AM	10.8 H
9:13 AM	6.7 L
2:00 PM	10.3 H
9:01 PM	-0.3 L
Sunrise	7:37 AM
Sunset	5:09 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/31/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:15

End Time: 15:30

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:00		15:16		15:07		15:16	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.7		2.7	7.7	3		2.7	7.7
Temp. (°C)	6.83		6.68	9.24	6.84		6.68	9.24
DO (mg/L)	11.3		11.42	≤ 6 mg/L	11.23		11.42	≤ 6 mg/L
pH (Units)	7.24		7.5	<7 and >8	7.32		7.5	<7 and >8
Sal. (ppt)	2		0.46		1.5		0.46	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:23		14:48		14:28		14:48	
2		2		2		2	
2.7		2.5	7.5	2.8		2.5	7.5
6.79		6.71	9.26	6.79		6.71	9.26
11.39		11.38	≤ 6 mg/L	11.26		11.38	≤ 6 mg/L
7.22		7.54	<7.04 and >8.04	7.24		7.54	<7.04 and >8.04
0.95		0.5		1.3		0.5	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:02	15:26	15:17		15:08		15:18	
Depth (ft)	13.2		13.2		18.9		18.9	
Turb. (NTU)	34	39.4	1.7	6.7	11.6		1.4	6.4
Temp. (°C)	9.76		9.71	11.27	9.86		9.85	11.38
DO (mg/L)	8.3		8.62	≤ 6 mg/L	7.95		7.52	≤ 6 mg/L
pH (Units)	7.37		7.39	< 7.0 or >7.89	7.41		7.46	< 7.0 or >7.96
Sal. (ppt)	27.39		26.9		28.2		28.05	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:24		14:49		14:43		14:51	
7.9		7.9		11.7		11.7	
4.7		3.2	8.2	5.1		2.7	7.7
7.7		7.7	9.81	9.55		9.57	11.16
10.37		10.34	≤ 6 mg/L	8.42		8.2	≤ 6 mg/L
7.23		7.17	< 7.0 or >7.67	7.37		7.35	< 7.0 or >7.85
5.3		6.1		24.7		25.9	
☐ Submitted				☐ Submitted			

Report Date 2/2/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 1/31/2015
Time Period: 3:15 PM to 4:45 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Downstream monitored at 242 ft from backfill placement to avoid sampling too close to divers at bridge footer.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	16:23	16:37	16:28	16:37	16:01	16:11	16:07	16:11
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.7	2.5	3.9	2.5	2.8	2.5	2.6	2.5
Temp. (°C)	6.77	6.73	6.8	6.73	6.7	6.7	6.72	6.7
DO (mg/L)	11.28	11.37	11.21	11.37	11.37	11.19	11.3	11.19
pH (units)	7.37	7.5	7.44	7.5	7.42	7.62	7.6	7.62
Sal. (ppt)	1.08	0.88	1.56	0.88	0.7	0.73	0.78	0.73
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

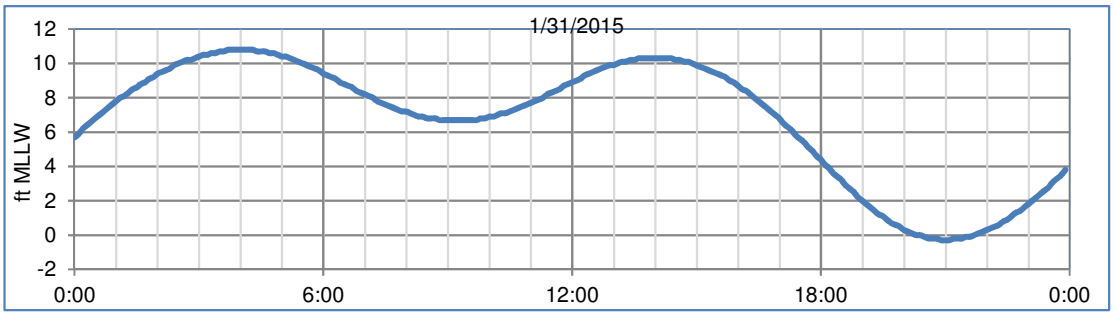
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	16:24	16:38	16:29	16:39	16:02	16:14	16:07	16:13
Depth (ft)	14.7	14.7	23.8	18	18.7	18.3	15.7	15.7
Turb. (NTU)	17.3	2	16.6	2.8	2.1	2	2.2	1.9
Temp. (°C)	9.76	9.73	9.81	9.83	9.79	9.83	9.67	9.8
DO (mg/L)	8.3	8.35	7.9	7.75	8.7	7.57	8	7.9
pH (units)	7.42	7.38	7.47	7.46	7.45	7.48	7.46	7.44
Sal. (ppt)	27.37	27.1	27.73	27.83	27.55	27.96	26.95	27.77
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

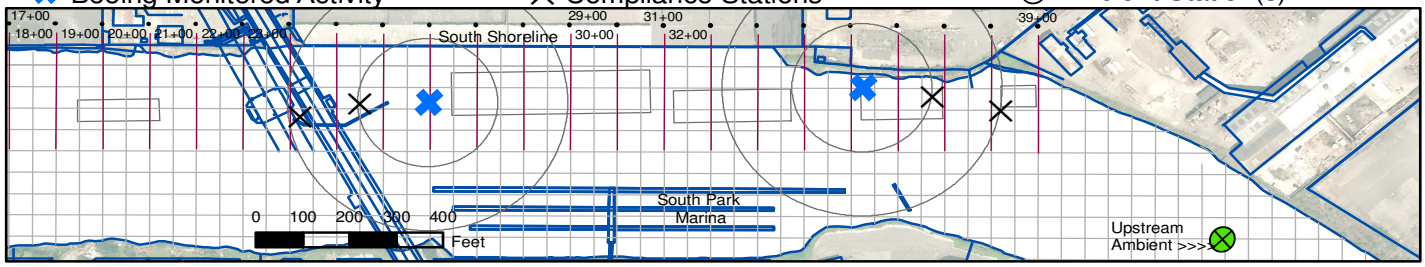
Daily Tides

4:03 AM	10.8 H
9:13 AM	6.7 L
2:00 PM	10.3 H
9:01 PM	-0.3 L
Sunrise	7:37 AM
Sunset	5:09 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 1/31/2015

Start Time: 15:15

Activity Final Backfilling

End Time: 16:45

ose to divers at bridge footer.

Monitoring Level Intensive Monitoring

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:23		16:37		16:28		16:37	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.7		2.5	7.5	3.9		2.5	7.5
Temp. (°C)	6.77		6.73	9.27	6.8		6.73	9.27
DO (mg/L)	11.28		11.37	≤ 6 mg/L	11.21		11.37	≤ 6 mg/L
pH (Units)	7.37		7.5	<7 and >8	7.44		7.5	<7 and >8
Sal. (ppt)	1.08		0.88		1.56		0.88	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
16:01		16:11		16:07		16:11	
2		2		2		2	
2.8		2.5	7.5	2.6		2.5	7.5
6.7		6.7	9.25	6.72		6.7	9.25
11.37		11.19	≤ 6 mg/L	11.3		11.19	≤ 6 mg/L
7.42		7.62	<7.12 and >8.12	7.6		7.62	<7.12 and >8.12
0.7		0.73		0.78		0.73	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:24		16:38		16:29		16:39	
Depth (ft)	14.7		14.7		23.8		18	
Turb. (NTU)	17.3		2	7	16.6		2.8	7.8
Temp. (°C)	9.76		9.73	11.28	9.81		9.83	11.36
DO (mg/L)	8.3		8.35	≤ 6 mg/L	7.9		7.75	≤ 6 mg/L
pH (Units)	7.42		7.38	< 7.0 or >7.88	7.47		7.46	< 7.0 or >7.96
Sal. (ppt)	27.37		27.1		27.73		27.83	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
16:02		16:14		16:07		16:13	
18.7		18.3		15.7		15.7	
2.1		2	7	2.2		1.9	6.9
9.79		9.83	11.36	9.67		9.8	11.34
8.7		7.57	≤ 6 mg/L	8		7.9	≤ 6 mg/L
7.45		7.48	< 7.0 or >7.98	7.46		7.44	< 7.0 or >7.94
27.55		27.96		26.95		27.77	
☐ Submitted				☐ Submitted			

Report Date 2/3/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/2/2015
Time Period: 1:30 PM to 3:00 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Backfilling being conducted at two locations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:11 *	14:01	13:53	14:01	14:27	14:45	14:33	14:45
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	10 *	8.5	6	8.5	8	6	3.1	6
Temp. (°C)	7.42	7.31	7.37	7.31	7.35	7.45	7.37	7.45
DO (mg/L)	10.71	10.8	10.83	10.8	11.04	10.9	10.96	10.9
pH (units)	7.13	7.1	7.11	7.1	7.19	7.21	7.4	7.21
Sal. (ppt)	3.8	3.32	2.49	3.32	1.46	2.83	1.44	2.83
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

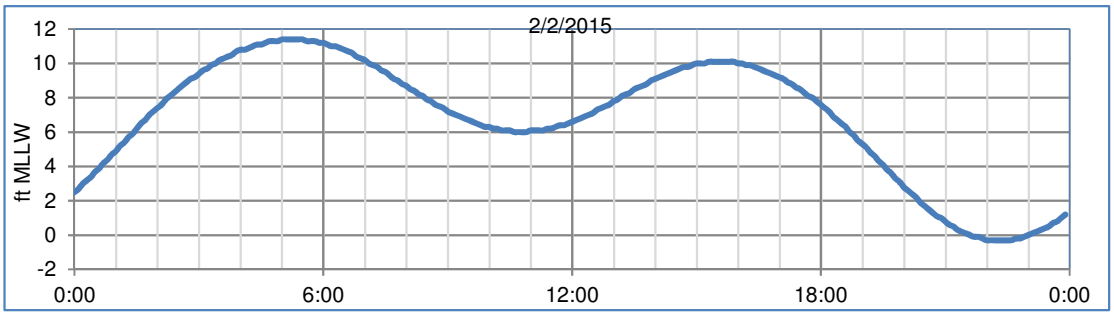
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:13 *	14:03	13:56	14:03	14:29	14:47	14:35	14:47
Depth (ft)	6.9	6.7	6.5	6.7	11.7	11.2	10.8	11.2
Turb. (NTU)	24.6 *	5.7	9.7	5.7	9.6	0.9	8	0.9
Temp. (°C)	7.55	7.64	7.42	7.64	9.31	9.26	9.32	9.26
DO (mg/L)	10.32	10.06	10.47	10.06	8.04	8.07	8.29	8.07
pH (units)	7.1	7.07	7.07	7.07	7.37	7.46	7.38	7.46
Sal. (ppt)	6.28	9.3	5.71	9.3	24.34	24.4	24.31	24.4
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

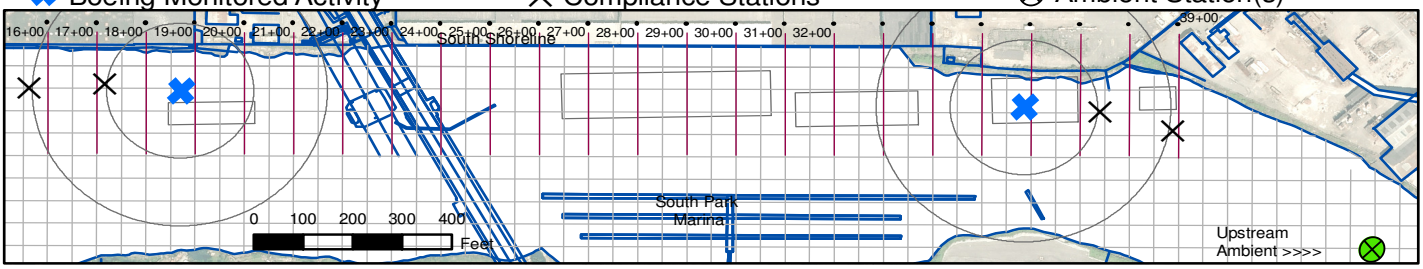
Daily Tides

5:17 AM	11.4 H
10:46 AM	6 L
3:34 PM	10.1 H
10:19 PM	-0.3 L
Sunrise	7:34 AM
Sunset	5:12 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/2/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:30

End Time: 15:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:46	14:11	14:01		13:53		14:01	
Depth (ft)	2		2		2		2	
Turb. (NTU)	19.1	10	8.5	13.5	6		8.5	13.5
Temp. (°C)	7.42		7.31	9.57	7.37		7.31	9.57
DO (mg/L)	10.71		10.8	≤ 6 mg/L	10.83		10.8	≤ 6 mg/L
pH (Units)	7.13		7.1	< 7.0 or >7.6	7.11		7.1	< 7.0 or >7.6
Sal. (ppt)	3.8		3.32		2.49		3.32	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:27		14:45		14:33		14:45	
Depth (ft)	2		2		2		2	
Turb. (NTU)	8		6	11	3.1		6	11
Temp. (°C)	7.35		7.45	9.65	7.37		7.45	9.65
DO (mg/L)	11.04		10.9	≤ 6 mg/L	10.96		10.9	≤ 6 mg/L
pH (Units)	7.19		7.21	< 7.0 or >7.71	7.4		7.21	< 7.0 or >7.71
Sal. (ppt)	1.46		2.83		1.44		2.83	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:50	14:13	14:03		13:56		14:03	
Depth (ft)	6.9		6.7		6.5		6.7	
Turb. (NTU)	18.2	24.6	5.7	10.7	9.7		5.7	10.7
Temp. (°C)	7.55		7.64	9.77	7.42		7.64	9.77
DO (mg/L)	10.32		10.06	≤ 6 mg/L	10.47		10.06	≤ 6 mg/L
pH (Units)	7.1		7.07	< 7.0 or >7.57	7.07		7.07	< 7.0 or >7.57
Sal. (ppt)	6.28		9.3		5.71		9.3	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:29		14:47		14:35		14:47	
Depth (ft)	11.7		11.2		10.8		11.2	
Turb. (NTU)	9.6		0.9	5.9	8		0.9	5.9
Temp. (°C)	9.31		9.26	10.91	9.32		9.26	10.91
DO (mg/L)	8.04		8.07	≤ 6 mg/L	8.29		8.07	≤ 6 mg/L
pH (Units)	7.37		7.46	< 7.0 or >7.96	7.38		7.46	< 7.0 or >7.96
Sal. (ppt)	24.34		24.4		24.31		24.4	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 2/4/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/3/2015
Time Period: 1:15 PM to 2:45 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: All monitoring conducted inshore in shallow water during placement of backfill.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:49	14:19	14:36 *	14:19	13:20	13:32	13:25	13:41
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	24.4	2.7	19.5 *	2.7	2.6	4.9	2.6	2.9
Temp. (°C)	7.49	7.36	7.48	7.36	7.49	7.47	7.45	7.42
DO (mg/L)	10.99	11.08	10.94	11.08	10.96	10.75	10.95	11
pH (units)	7.19	7.28	7.18	7.28	7.18	7.14	7.16	7.18
Sal. (ppt)	2.32	1.31	2.58	1.31	2.2	3.25	2.54	1.84
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

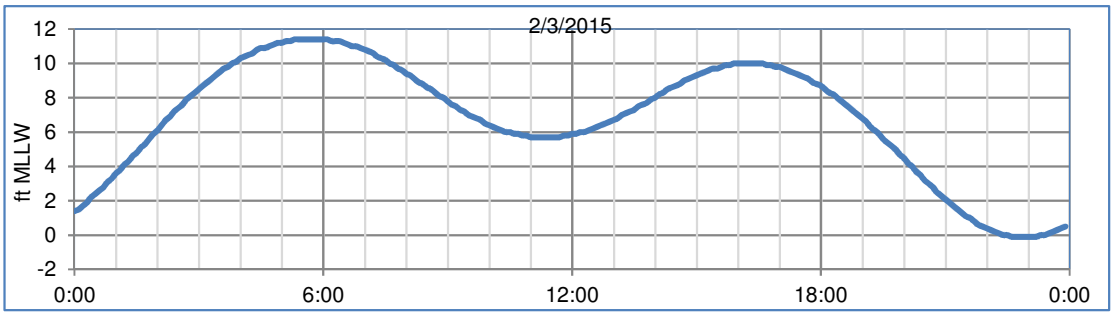
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	—	—	—	—	—	—	—	—
Depth (ft)	—	—	—	—	—	—	—	—
Turb. (NTU)	—	—	—	—	—	—	—	—
Temp. (°C)	—	—	—	—	—	—	—	—
DO (mg/L)	—	—	—	—	—	—	—	—
pH (units)	—	—	—	—	—	—	—	—
Sal. (ppt)	—	—	—	—	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

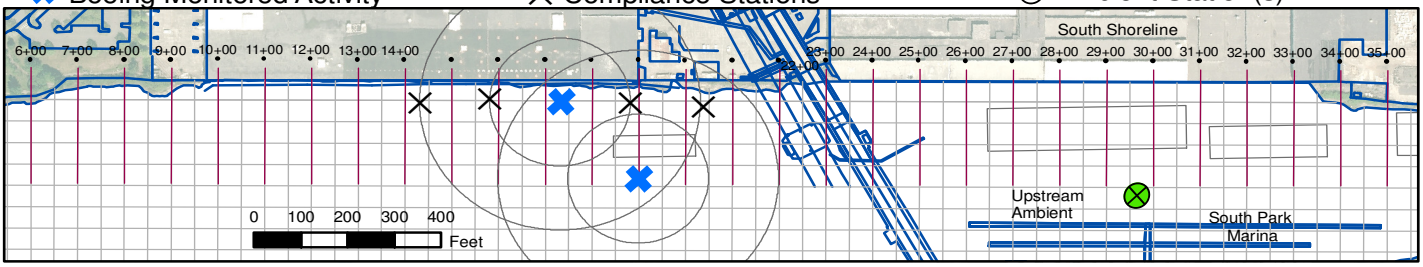
Daily Tides

5:43 AM	11.4 H
11:20 AM	5.7 L
4:16 PM	10 H
10:54 PM	-0.1 L
Sunrise	7:33 AM
Sunset	5:14 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/3/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:15

End Time: 14:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:49		14:19		13:54	14:36	14:19	
Depth (ft)	2		2		2		2	
Turb. (NTU)	24.4		2.7	7.7	28.2	19.5	2.7	7.7
Temp. (°C)	7.49		7.36	9.60	7.48		7.36	9.60
DO (mg/L)	10.99		11.08	≤ 6 mg/L	10.94		11.08	≤ 6 mg/L
pH (Units)	7.19		7.28	< 7.0 or >7.78	7.18		7.28	< 7.0 or >7.78
Sal. (ppt)	2.32		1.31		2.58		1.31	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:20		13:32		13:25		13:41	
2		2		2		2	
2.6		4.9	9.9	2.6		2.9	7.9
7.49		7.47	9.66	7.45		7.42	9.63
10.96		10.75	≤ 6 mg/L	10.95		11	≤ 6 mg/L
7.18		7.14	< 7.0 or >7.64	7.16		7.18	< 7.0 or >7.68
2.2		3.25		2.54		1.84	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 2/4/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/3/2015
Time Period: 2:45 PM to 4:00 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Backfilling being conducted at two locations. Monitoring being conducted at offshore location near channel edge.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:43	15:03	14:53	15:03	15:32	15:41	15:21	15:41
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.4	2.5	4.4	2.5	2.3	2.6	2.4	2.6
Temp. (°C)	7.49	7.39	7.5	7.39	7.5	7.42	7.5	7.42
DO (mg/L)	10.44	11.11	10.96	11.11	11.13	11.12	11.14	11.12
pH (units)	7.58	7.42	7.33	7.42	7.51	7.54	7.38	7.54
Sal. (ppt)	2.05	1.32	2.48	1.32	1.29	0.88	1.47	0.88
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

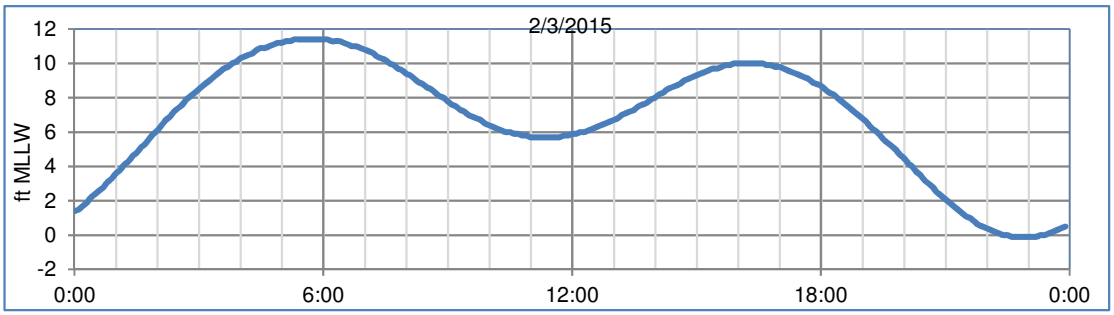
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:45	15:05	14:55	15:05	16:00 *	15:44	15:52 *	15:43
Depth (ft)	20.3	13.4	21.3	13.4	29.8 *	22.3	20 *	20.8
Turb. (NTU)	2.7	4.3	2	4.3	40.9 *	4.4	29.5 *	6
Temp. (°C)	9.69	9.52	9.7	9.52	9.68	9.7	9.68	9.69
DO (mg/L)	7.79	7.96	7.93	7.96	7.8	7.5	7.73	7.67
pH (units)	7.43	7.45	7.47	7.45	7.5	7.52	7.49	7.51
Sal. (ppt)	27.64	26.02	27.67	26.02	27.46	27.65	27.44	27.57
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

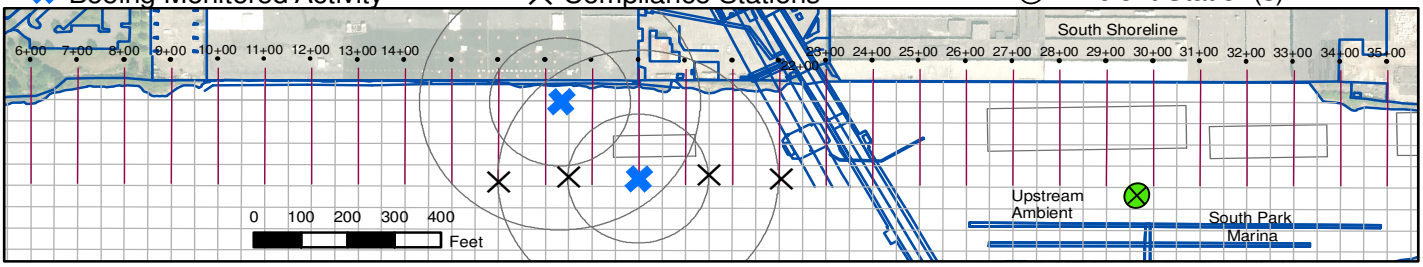
Daily Tides

5:43 AM	11.4 H
11:20 AM	5.7 L
4:16 PM	10 H
10:54 PM	-0.1 L
Sunrise	7:33 AM
Sunset	5:14 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/3/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:45

End Time: 16:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:43		15:03		14:53		15:03	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.4		2.5	7.5	4.4		2.5	7.5
Temp. (°C)	7.49		7.39	9.62	7.5		7.39	9.62
DO (mg/L)	10.44		11.11	≤ 6 mg/L	10.96		11.11	≤ 6 mg/L
pH (Units)	7.58		7.42	< 7.0 or >7.92	7.33		7.42	< 7.0 or >7.92
Sal. (ppt)	2.05		1.32		2.48		1.32	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:32		15:41		15:21		15:41	
2		2		2		2	
2.3		2.6	7.6	2.4		2.6	7.6
7.5		7.42	9.63	7.5		7.42	9.63
11.13		11.12	≤ 6 mg/L	11.14		11.12	≤ 6 mg/L
7.51		7.54	<7.04 and >8.04	7.38		7.54	<7.04 and >8.04
1.29		0.88		1.47		0.88	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:45		15:05		14:55		15:05	
Depth (ft)	20.3		13.4		21.3		13.4	
Turb. (NTU)	2.7		4.3	9.3	2		4.3	9.3
Temp. (°C)	9.69		9.52	11.12	9.7		9.52	11.12
DO (mg/L)	7.79		7.96	≤ 6 mg/L	7.93		7.96	≤ 6 mg/L
pH (Units)	7.43		7.45	< 7.0 or >7.95	7.47		7.45	< 7.0 or >7.95
Sal. (ppt)	27.64		26.02		27.67		26.02	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:34	16:00	15:44		15:23	15:52	15:43	
24	29.8	22.3		20.2	20	20.8	
10.1	40.9	4.4	9.4	19.8	29.5	6	11
9.68		9.7	11.26	9.68		9.69	11.25
7.8		7.5	≤ 6 mg/L	7.73		7.67	≤ 6 mg/L
7.5		7.52	<7.02 and >8.02	7.49		7.51	<7.01 and >8.01
27.46		27.65		27.44		27.57	
☐ Submitted				☐ Submitted			

Report Date 2/4/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/3/2015
Time Period: 4:00 PM to 5:15 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Round 3, monitoring conducted on inshore backfilling operation.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	16:56	17:10	17:02	17:10	16:33	16:41	16:28	16:41
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	2.6	2.5	5.1	2.5	2.2	2.3	2.3	2.3
Temp. (°C)	7.47	7.41	7.52	7.41	7.47	7.43	7.48	7.43
DO (mg/L)	11.3	11.29	11.08	11.29	11.14	11.27	11.09	11.27
pH (units)	7.4	7.45	7.3	7.45	7.44	7.47	7.53	7.47
Sal. (ppt)	1.12	0.64	2.16	0.64	1.25	0.72	1.17	0.72
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

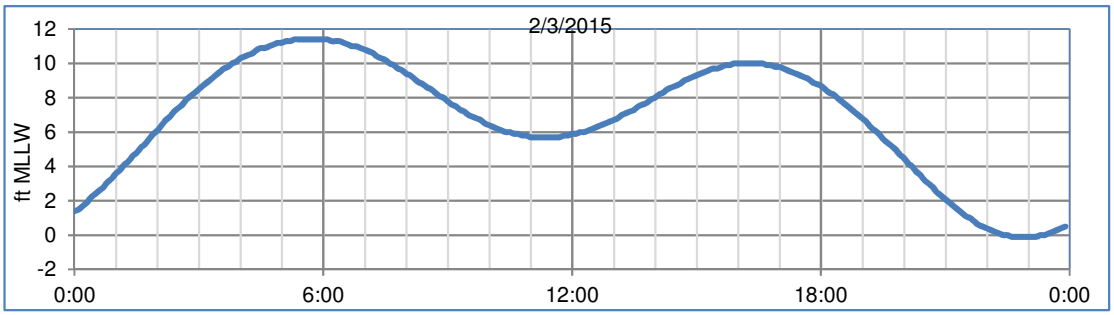
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	16:58	17:13	17:03	17:13	16:35	16:43	16:29	16:43
Depth (ft)	5.1	5	4.9	5	4.8	5.5	6.5	5.5
Turb. (NTU)	4.3	2.7	6.5	2.7	2.3	2.7	3.3	2.7
Temp. (°C)	7.52	7.38	7.55	7.38	7.46	7.37	7.6	7.37
DO (mg/L)	10.95	10.99	10.97	10.99	11.06	11.01	10.59	11.01
pH (units)	7.23	7.26	7.27	7.26	7.38	7.28	7.38	7.28
Sal. (ppt)	2.77	1.85	2.63	1.85	1.22	2.04	3.47	2.04
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

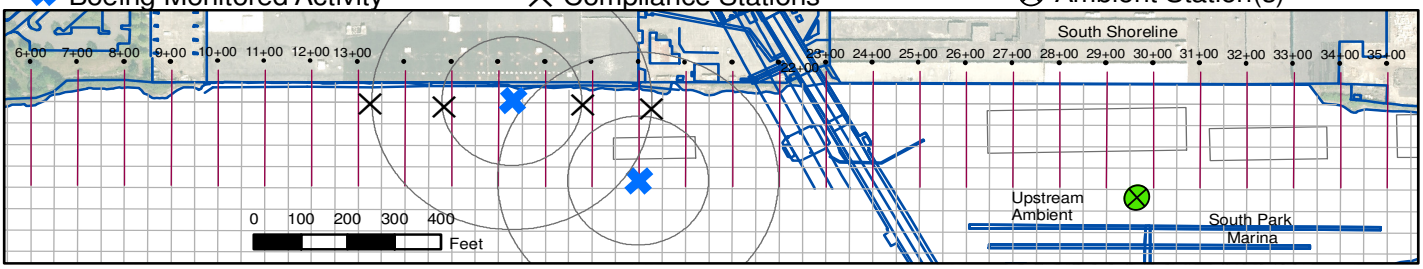
Daily Tides

5:43 AM	11.4 H
11:20 AM	5.7 L
4:16 PM	10 H
10:54 PM	-0.1 L
Sunrise	7:33 AM
Sunset	5:14 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/3/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 16:00

End Time: 17:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:56		17:10		17:02		17:10	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.6		2.5	7.5	5.1		2.5	7.5
Temp. (°C)	7.47		7.41	9.63	7.52		7.41	9.63
DO (mg/L)	11.3		11.29	≤ 6 mg/L	11.08		11.29	≤ 6 mg/L
pH (Units)	7.4		7.45	< 7.0 or >7.95	7.3		7.45	< 7.0 or >7.95
Sal. (ppt)	1.12		0.64		2.16		0.64	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Surface Samples — Near Surface/Mid-depth (2)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:33		16:41		16:28		16:41	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.2		2.3	7.3	2.3		2.3	7.3
Temp. (°C)	7.47		7.43	9.64	7.48		7.43	9.64
DO (mg/L)	11.14		11.27	≤ 6 mg/L	11.09		11.27	≤ 6 mg/L
pH (Units)	7.44		7.47	< 7.0 or >7.97	7.53		7.47	< 7.0 or >7.97
Sal. (ppt)	1.25		0.72		1.17		0.72	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:58		17:13		17:03		17:13	
Depth (ft)	5.1		5		4.9		5	
Turb. (NTU)	4.3		2.7	7.7	6.5		2.7	7.7
Temp. (°C)	7.52		7.38	9.61	7.55		7.38	9.61
DO (mg/L)	10.95		10.99	≤ 6 mg/L	10.97		10.99	≤ 6 mg/L
pH (Units)	7.23		7.26	< 7.0 or >7.76	7.27		7.26	< 7.0 or >7.76
Sal. (ppt)	2.77		1.85		2.63		1.85	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:35		16:43		16:29		16:43	
Depth (ft)	4.8		5.5		6.5		5.5	
Turb. (NTU)	2.3		2.7	7.7	3.3		2.7	7.7
Temp. (°C)	7.46		7.37	9.60	7.6		7.37	9.60
DO (mg/L)	11.06		11.01	≤ 6 mg/L	10.59		11.01	≤ 6 mg/L
pH (Units)	7.38		7.28	< 7.0 or >7.78	7.38		7.28	< 7.0 or >7.78
Sal. (ppt)	1.22		2.04		3.47		2.04	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 4/21/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/4/2015
Time Period: 1:00 PM to 2:00 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: All sampling conducted at mid-depth in shallow water. pH value for 300 ft upstream recorded incorrectly. See data page.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:39 *	13:20	13:35 *	13:20	13:51	13:56	13:46	13:55
Depth (ft)	2	2	2	2	3.9	3.9	2	2
Turb. (NTU)	24.6 *	3	13.5 *	3	3	3.1	3.6	3
Temp. (°C)	7.57	7.49	7.56	7.49	7.57	7.5	7.61	7.5
DO (mg/L)	10.81	10.93	10.86	10.93	10.94	10.93	11.06	11.06
pH (units)	7.11	7.15	7.12	7.15	7.13	7.14	—	7.17
Sal. (ppt)	3.73	2.49	3.45	2.49	2.95	2.54	2.13	1.98
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

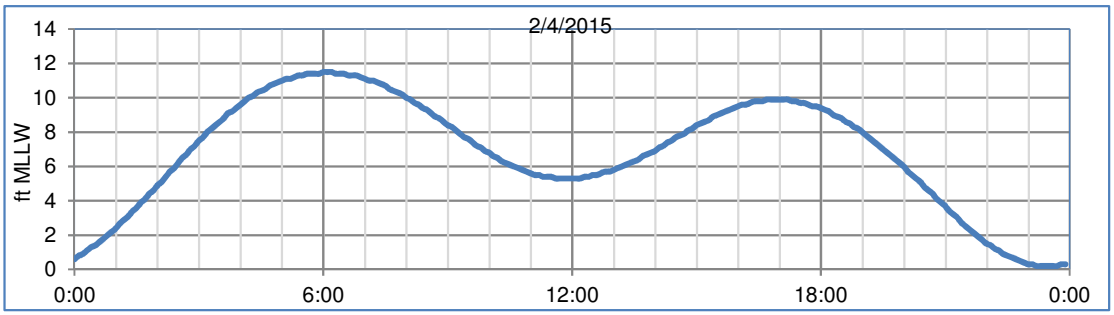
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	—	—	—	—	—	—	—	—
Depth (ft)	—	—	—	—	—	—	—	—
Turb. (NTU)	—	—	—	—	—	—	—	—
Temp. (°C)	—	—	—	—	—	—	—	—
DO (mg/L)	—	—	—	—	—	—	—	—
pH (units)	—	—	—	—	—	—	—	—
Sal. (ppt)	—	—	—	—	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

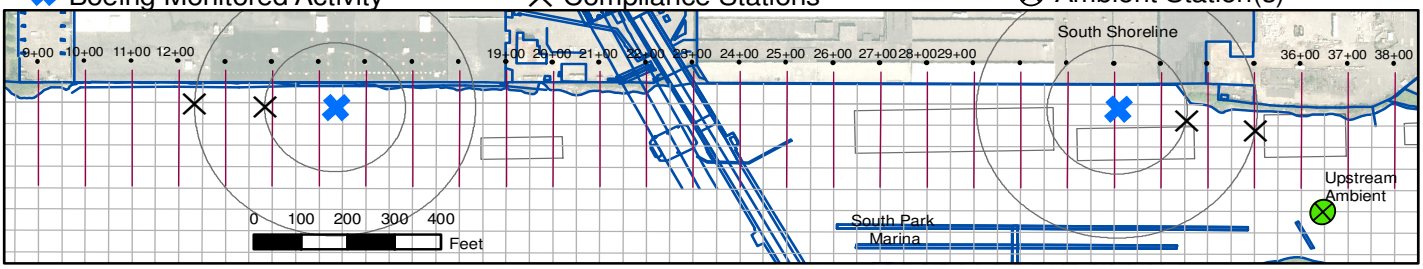
Daily Tides

6:05 AM	11.5 H
11:52 AM	5.3 L
4:56 PM	9.9 H
11:27 PM	0.2 L
Sunrise	7:32 AM
Sunset	5:15 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/4/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:00

End Time: 14:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:06	13:39	13:20		13:11	13:35	13:20	
Depth (ft)	2		2		2		2	
Turb. (NTU)	15.5	24.6	3	8	12.3	13.5	3	8
Temp. (°C)	7.57		7.49	9.68	7.56		7.49	9.68
DO (mg/L)	10.81		10.93	≤ 6 mg/L	10.86		10.93	≤ 6 mg/L
pH (Units)	7.11		7.15	< 7.0 or >7.65	7.12		7.15	< 7.0 or >7.65
Sal. (ppt)	3.73		2.49		3.45		2.49	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:51		13:56		13:46		13:55	
Depth (ft)	3.9		3.9		2		2	
Turb. (NTU)	3		3.1	8.1	3.6		3	8
Temp. (°C)	7.57		7.5	9.68	7.61		7.5	9.68
DO (mg/L)	10.94		10.93	≤ 6 mg/L	11.06		11.06	≤ 6 mg/L
pH (Units)	7.13		7.14	< 7.0 or >7.64	11.19		7.17	< 7.0 or >7.67
Sal. (ppt)	2.95		2.54		2.13		1.98	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 2/5/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/4/2015
Time Period: 2:00 PM to 3:00 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Round 2. Monitoring triggered at at 800 ft to verify compliance with USFW requirements. Turbidity less than 18 NTUs over ambient at 800 ft..

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

	800ft	Ambient
USFW Monitoring	12.2 NTU	3.2 NTU

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:16	14:27	14:11	14:27	14:41	14:46	14:36	14:47
Depth (ft)	2	2	2	2	2	2	3.8	3.8
Turb. (NTU)	74	2.8	47	2.8	3	2.9	2.9	3.2
Temp. (°C)	7.62	7.48	7.6	7.48	7.59	7.48	7.6	7.5
DO (mg/L)	10.91	11.14	10.85	11.14	10.96	11.13	10.85	10.98
pH (units)	7.15	7.2	7.14	7.2	7.13	7.21	7.13	7.16
Sal. (ppt)	3.19	1.78	3.13	1.78	2.7	1.48	3.56	2.1
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

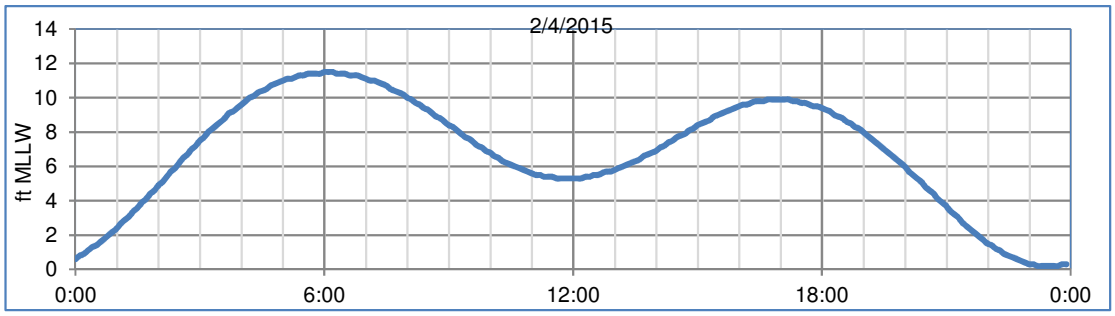
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:18	14:28	14:13	14:28	—	—	—	—
Depth (ft)	4.7	5	5.3	5	—	—	—	—
Turb. (NTU)	83	3.3	17.4	3.3	—	—	—	—
Temp. (°C)	7.64	7.5	7.61	7.5	—	—	—	—
DO (mg/L)	10.73	10.95	10.68	10.95	—	—	—	—
pH (units)	7.11	7.13	7.12	7.13	—	—	—	—
Sal. (ppt)	3.99	2.27	4.09	2.27	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

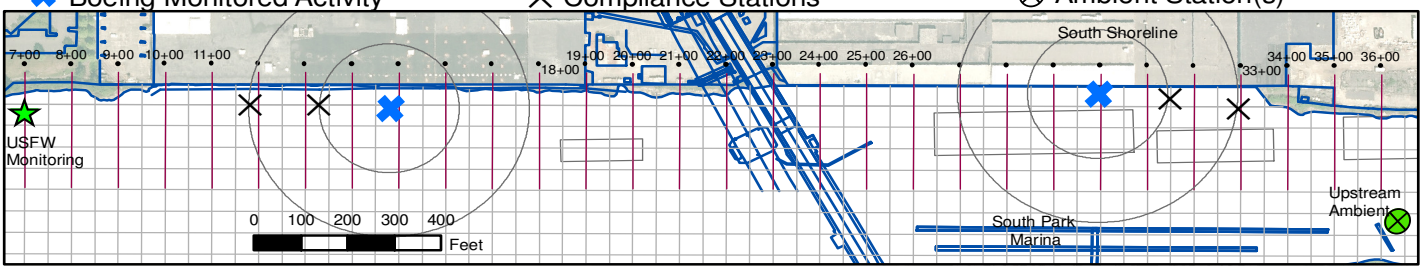
Daily Tides

6:05 AM	11.5 H
11:52 AM	5.3 L
4:56 PM	9.9 H
11:27 PM	0.2 L
Sunrise	7:32 AM
Sunset	5:15 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/4/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:00

End Time: 15:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient
15:18	12.2	3.2

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:16		14:27		14:11		14:27	
Depth (ft)	2		2		2		2	
Turb. (NTU)	74		2.8	7.8	47		2.8	7.8
Temp. (°C)	7.62		7.48	9.67	7.6		7.48	9.67
DO (mg/L)	10.91		11.14	≤ 6 mg/L	10.85		11.14	≤ 6 mg/L
pH (Units)	7.15		7.2	< 7.0 or >7.7	7.14		7.2	< 7.0 or >7.7
Sal. (ppt)	3.19		1.78		3.13		1.78	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:41		14:46		14:36		14:47	
2		2		3.8		3.8	
3		2.9	7.9	2.9		3.2	8.2
7.59		7.48	9.67	7.6		7.5	9.68
10.96		11.13	≤ 6 mg/L	10.85		10.98	≤ 6 mg/L
7.13		7.21	< 7.0 or >7.71	7.13		7.16	< 7.0 or >7.66
2.7		1.48		3.56		2.1	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:18		14:28		14:13		14:28	
Depth (ft)	4.7		5		5.3		5	
Turb. (NTU)	83		3.3	8.3	17.4		3.3	8.3
Temp. (°C)	7.64		7.5	9.68	7.61		7.5	9.68
DO (mg/L)	10.73		10.95	≤ 6 mg/L	10.68		10.95	≤ 6 mg/L
pH (Units)	7.11		7.13	< 7.0 or >7.63	7.12		7.13	< 7.0 or >7.63
Sal. (ppt)	3.99		2.27		4.09		2.27	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 5/8/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/4/2015
Time Period: 4:00 PM to 4:30 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Round 3. Upstream monitoring not conducted, chasing plume.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	16:36 *	16:34	16:40 *	16:24	—	—	—	—
Depth (ft)	2	2	2	2	—	—	—	—
Turb. (NTU)	11 *	2.8	7 *	2.8	—	—	—	—
Temp. (°C)	7.83	7.48	7.79	7.48	—	—	—	—
DO (mg/L)	10.2	11.26	10.72	11.26	—	—	—	—
pH (units)	7.21	7.32	7.21	7.32	—	—	—	—
Sal. (ppt)	5.65	1.35	5.07	1.35	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

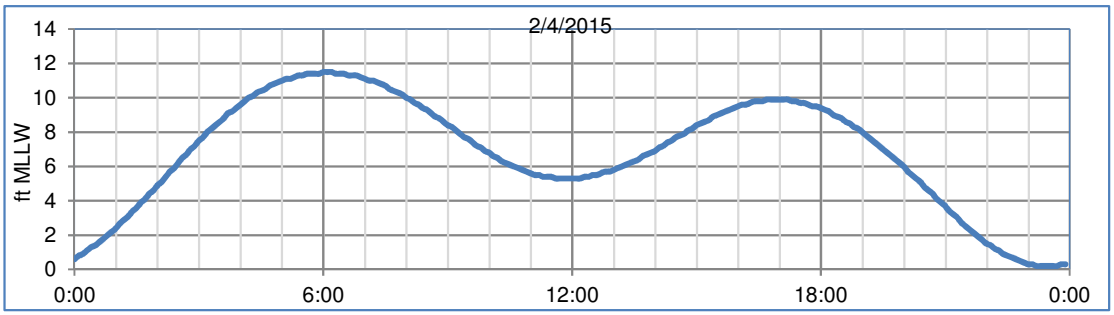
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	16:14	16:25	16:07	16:25	—	—	—	—
Depth (ft)	8.4	8.6	8.8	8.6	—	—	—	—
Turb. (NTU)	10.5	6.3	7	6.3	—	—	—	—
Temp. (°C)	8.48	8.63	8.7	8.63	—	—	—	—
DO (mg/L)	9.55	9.56	9.28	9.56	—	—	—	—
pH (units)	7.26	7.28	7.3	7.28	—	—	—	—
Sal. (ppt)	18.56	14.85	16.65	14.85	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

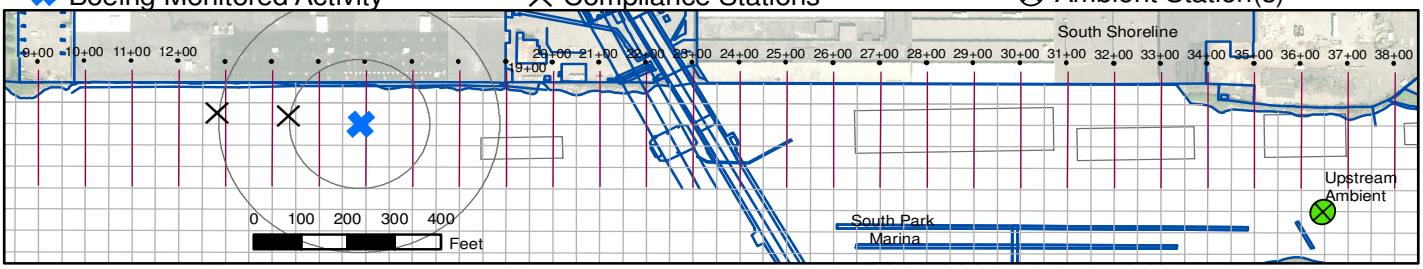
Daily Tides

6:05 AM	11.5 H
11:52 AM	5.3 L
4:56 PM	9.9 H
11:27 PM	0.2 L
Sunrise	7:32 AM
Sunset	5:15 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



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Report Date 2/6/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/5/2015
Time Period: 12:00 PM to 1:00 PM
Activity: Final Backfilling: Intensive Monitoring — During Tide Change
Comments: Upstream backfilling operation position estimated. Backfilling in shallow water. Less than 4 ft water depth. Downstream backfill placement monitored mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	12:39 *	12:29	12:19	12:29	11:55	12:04	11:50	12:04
Depth (ft)	3.5	3.5	3.6	3.5	2	2	2	2
Turb. (NTU)	26 *	7.9	12.2	7.9	8.2	9.4	7.3	9.4
Temp. (°C)	7.91	7.98	7.92	7.98	7.94	7.94	7.87	7.94
DO (mg/L)	10.43	10.58	10.48	10.58	10.51	10.58	10.52	10.58
pH (units)	7.12	7.17	7.13	7.17	7.13	7.16	7.13	7.16
Sal. (ppt)	4.14	2.77	3.69	2.77	3.48	2.92	3.85	2.92
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

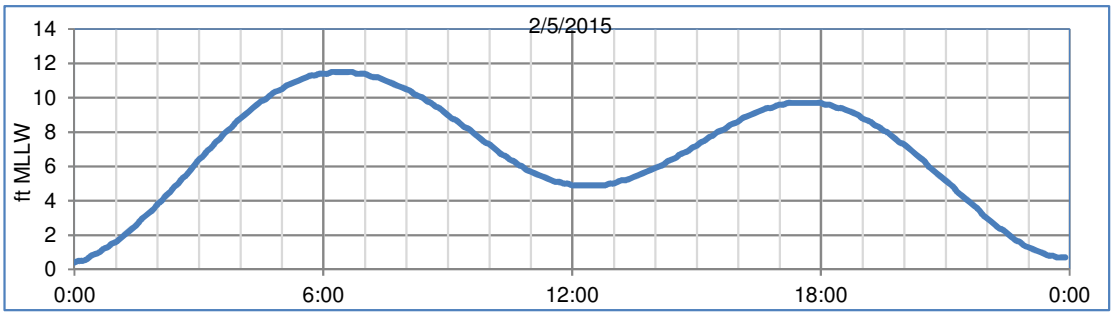
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	—	—	—	—	—	—	—	—
Depth (ft)	—	—	—	—	—	—	—	—
Turb. (NTU)	—	—	—	—	—	—	—	—
Temp. (°C)	—	—	—	—	—	—	—	—
DO (mg/L)	—	—	—	—	—	—	—	—
pH (units)	—	—	—	—	—	—	—	—
Sal. (ppt)	—	—	—	—	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

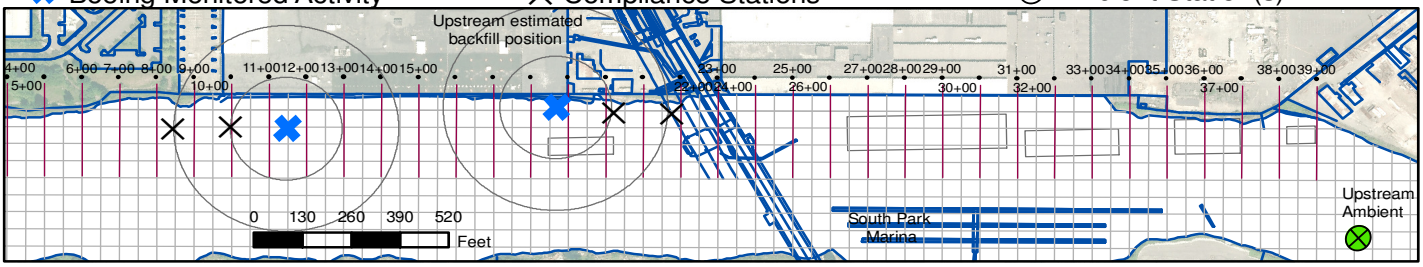
Daily Tides

6:26 AM	11.5 H
12:22 PM	4.9 L
5:36 PM	9.7 H
12:00 AM	
Sunrise	7:30 AM
Sunset	5:17 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/5/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 12:00

End Time: 13:00

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:15	12:39	12:29		12:19		12:29	
Depth (ft)	3.5		3.5		3.6		3.5	
Turb. (NTU)	19.5	26	7.9	12.9	12.2		7.9	12.9
Temp. (°C)	7.91		7.98	9.99	7.92		7.98	9.99
DO (mg/L)	10.43		10.58	≤ 6 mg/L	10.48		10.58	≤ 6 mg/L
pH (Units)	7.12		7.17	< 7.0 or >7.67	7.13		7.17	< 7.0 or >7.67
Sal. (ppt)	4.14		2.77		3.69		2.77	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:55		12:04		11:50		12:04	
2		2		2		2	
8.2		9.4	14.4	7.3		9.4	14.4
7.94		7.94	9.96	7.87		7.94	9.96
10.51		10.58	≤ 6 mg/L	10.52		10.58	≤ 6 mg/L
7.13		7.16	< 7.0 or >7.66	7.13		7.16	< 7.0 or >7.66
3.48		2.92		3.85		2.92	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 2/6/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/5/2015
Time Period: 2:30 PM to 4:00 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Backfill placement started at upstream location at 15:15.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:41	15:01	14:48	15:01	15:44	15:51	15:33	15:51
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	7.9	6.5	8.1	6.5	6.4	6.7	6.4	6.7
Temp. (°C)	8.11	8	8.11	8	8.02	8.01	8	8.01
DO (mg/L)	10.52	10.86	10.57	10.86	10.83	10.76	10.94	10.76
pH (units)	7.22	7.39	7.25	7.39	7.39	7.53	7.47	7.53
Sal. (ppt)	3.93	1.06	3.98	1.06	1.48	0.99	0.84	0.99
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

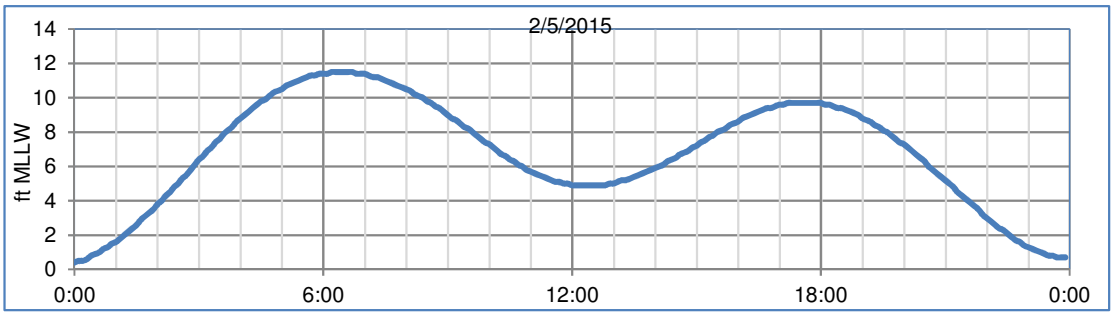
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:43	15:03	14:50	15:03	15:46	15:52	15:35	15:52
Depth (ft)	7.4	7.3	7.1	7.3	21.2	21	22.1	21
Turb. (NTU)	8.6	6.4	10.3	6.4	3.9	4.4	5.2	4.4
Temp. (°C)	8.13	7.98	8.54	7.98	9.73	9.72	9.72	9.72
DO (mg/L)	10.24	10.4	9.68	10.4	7.76	7.85	7.71	7.85
pH (units)	7.29	7.06	7.25	7.06	7.49	7.49	7.5	7.49
Sal. (ppt)	4.33	4.96	10.12	4.96	28.02	27.94	27.97	27.94
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

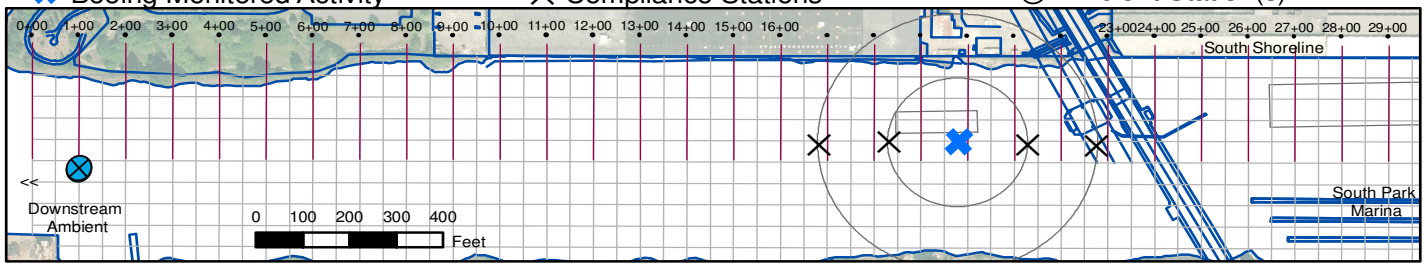
Daily Tides

6:26 AM	11.5 H
12:22 PM	4.9 L
5:36 PM	9.7 H
12:00 AM	
Sunrise	7:30 AM
Sunset	5:17 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/5/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:30

End Time: 16:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:41		15:01		14:48		15:01	
Depth (ft)	2		2		2		2	
Turb. (NTU)	7.9		6.5	11.5	8.1		6.5	11.5
Temp. (°C)	8.11		8	10.00	8.11		8	10.00
DO (mg/L)	10.52		10.86	≤ 6 mg/L	10.57		10.86	≤ 6 mg/L
pH (Units)	7.22		7.39	< 7.0 or >7.89	7.25		7.39	< 7.0 or >7.89
Sal. (ppt)	3.93		1.06		3.98		1.06	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:44		15:51		15:33		15:51	
2		2		2		2	
6.4		6.7	11.7	6.4		6.7	11.7
8.02		8.01	10.01	8		8.01	10.01
10.83		10.76	≤ 6 mg/L	10.94		10.76	≤ 6 mg/L
7.39		7.53	<7.03 and >8.03	7.47		7.53	<7.03 and >8.03
1.48		0.99		0.84		0.99	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:43		15:03		14:50		15:03	
Depth (ft)	7.4		7.3		7.1		7.3	
Turb. (NTU)	8.6		6.4	11.4	10.3		6.4	11.4
Temp. (°C)	8.13		7.98	9.99	8.54		7.98	9.99
DO (mg/L)	10.24		10.4	≤ 6 mg/L	9.68		10.4	≤ 6 mg/L
pH (Units)	7.29		7.06	< 7.0 or >7.56	7.25		7.06	< 7.0 or >7.56
Sal. (ppt)	4.33		4.96		10.12		4.96	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:46		15:52		15:35		15:52	
21.2		21		22.1		21	
3.9		4.4	9.4	5.2		4.4	9.4
9.73		9.72	11.27	9.72		9.72	11.27
7.76		7.85	≤ 6 mg/L	7.71		7.85	≤ 6 mg/L
7.49		7.49	< 7.0 or >7.99	7.5		7.49	< 7.0 or >7.99
28.02		27.94		27.97		27.94	
☐ Submitted				☐ Submitted			

Report Date 2/7/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/6/2015
Time Period: 10:30 AM to 11:15 AM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Round 1: Upstream and downstream compliance stations monitored at mid-depth. Single piece of equipment placing backfill during monitoring round.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	11:03	11:15	11:06	11:15	10:43	10:50	10:39	10:50
Depth (ft)	2	2	2.1	2	2	2	2.2	2
Turb. (NTU)	8.4	8.5	8.2	8.5	8.1	8.5	7.9	8.5
Temp. (°C)	8.6	8.62	8.59	8.62	8.58	8.59	8.56	8.59
DO (mg/L)	10.31	10.44	10.37	10.44	10.29	10.47	10.42	10.47
pH (units)	7.09	7.13	7.11	7.13	7.05	7.16	7.15	7.16
Sal. (ppt)	4.27	3.14	3.86	3.14	4.85	2.78	3.16	2.78
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

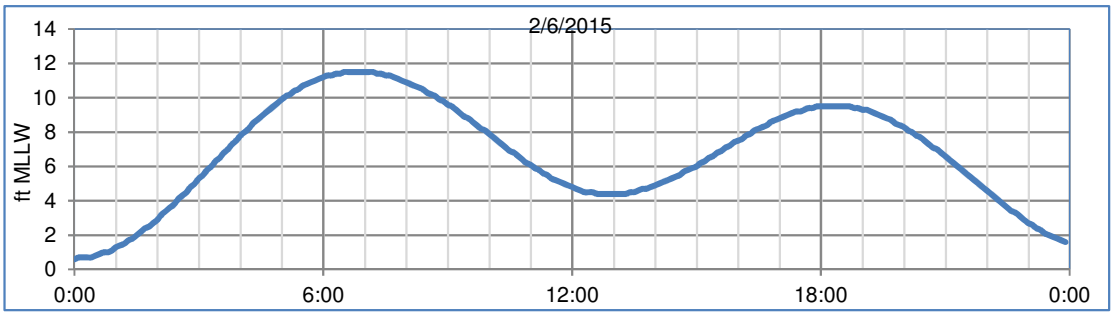
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	—	—	—	—	—	—	—	—
Depth (ft)	—	—	—	—	—	—	—	—
Turb. (NTU)	—	—	—	—	—	—	—	—
Temp. (°C)	—	—	—	—	—	—	—	—
DO (mg/L)	—	—	—	—	—	—	—	—
pH (units)	—	—	—	—	—	—	—	—
Sal. (ppt)	—	—	—	—	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

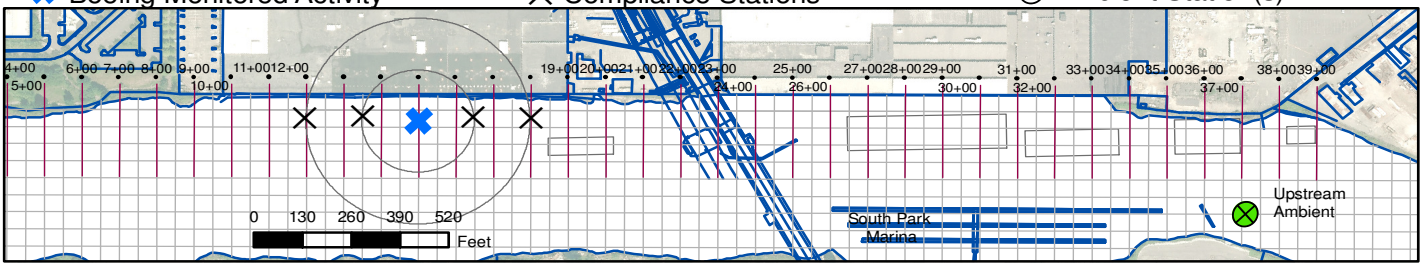
Daily Tides

12:01 AM	0.6 L
6:50 AM	11.5 H
12:54 PM	4.4 L
6:18 PM	9.5 H
Sunrise	7:29 AM
Sunset	5:18 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/6/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 10:30

End Time: 11:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:03		11:15		11:06		11:15	
Depth (ft)	2		2		2.1		2	
Turb. (NTU)	8.4		8.5	13.5	8.2		8.5	13.5
Temp. (°C)	8.6		8.62	10.43	8.59		8.62	10.43
DO (mg/L)	10.31		10.44	≤ 6 mg/L	10.37		10.44	≤ 6 mg/L
pH (Units)	7.09		7.13	< 7.0 or >7.63	7.11		7.13	< 7.0 or >7.63
Sal. (ppt)	4.27		3.14		3.86		3.14	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
10:43		10:50		10:39		10:50	
2		2		2.2		2	
8.1		8.5	13.5	7.9		8.5	13.5
8.58		8.59	10.41	8.56		8.59	10.41
10.29		10.47	≤ 6 mg/L	10.42		10.47	≤ 6 mg/L
7.05		7.16	< 7.0 or >7.66	7.15		7.16	< 7.0 or >7.66
4.85		2.78		3.16		2.78	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 2/7/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/6/2015
Time Period: 11:15 AM to 12:15 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Round 2: Equipment moving frequently as it steps down river.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:51	12:01	11:55	12:01	11:25	11:36	11:29	11:36
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	8.2	8.3	8.4	8.3	8.1	8.8	7.8	8.8
Temp. (°C)	8.7	8.63	8.69	8.63	8.63	8.65	8.91	8.65
DO (mg/L)	10.56	10.51	10.36	10.51	10.42	10.38	10.35	10.38
pH (units)	7.21	7.29	7.26	7.29	7.17	7.29	7.27	7.29
Sal. (ppt)	3.23	2.4	3.16	3.4	2.93	3.06	2.72	3.06
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

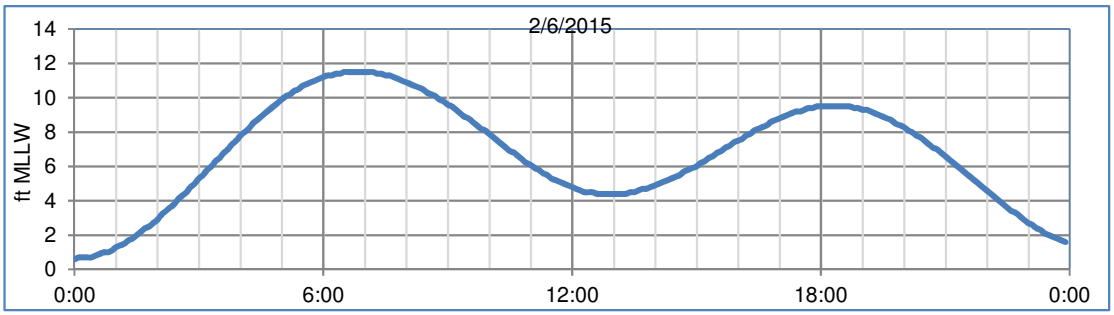
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:52	12:03	12:11 *	12:03	11:26	11:37	11:31	11:37
Depth (ft)	16.1	15.3	15	15.3	15.8	16.1	16.8	16.1
Turb. (NTU)	8.2	5.3	9.6 *	5.3	6.6	6.7	8	6.7
Temp. (°C)	9.39	9.43	9.33	9.43	9.66	9.67	9.68	9.67
DO (mg/L)	8.89	7.74	8.56	7.74	8.03	7.78	7.89	7.78
pH (units)	7.26	7.38	7.37	7.38	7.35	7.42	7.41	7.42
Sal. (ppt)	22.8	23.25	16	23.25	27.21	27.31	27.39	27.31
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

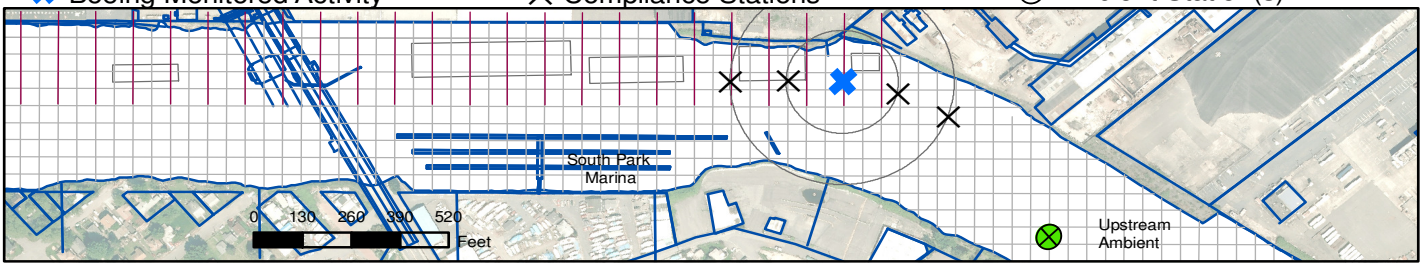
Daily Tides

12:01 AM	0.6 L
6:50 AM	11.5 H
12:54 PM	4.4 L
6:18 PM	9.5 H
Sunrise	7:29 AM
Sunset	5:18 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/6/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 12:15

End Time: 12:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:51		12:01		11:55		12:01	
Depth (ft)	2		2		2		2	
Turb. (NTU)	8.2		8.3	13.3	8.4		8.3	13.3
Temp. (°C)	8.7		8.63	10.44	8.69		8.63	10.44
DO (mg/L)	10.56		10.51	≤ 6 mg/L	10.36		10.51	≤ 6 mg/L
pH (Units)	7.21		7.29	< 7.0 or >7.79	7.26		7.29	< 7.0 or >7.79
Sal. (ppt)	3.23		2.4		3.16		3.4	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:25		11:36		11:29		11:36	
2		2		2		2	
8.1		8.8	13.8	7.8		8.8	13.8
8.63		8.65	10.45	8.91		8.65	10.45
10.42		10.38	≤ 6 mg/L	10.35		10.38	≤ 6 mg/L
7.17		7.29	< 7.0 or >7.79	7.27		7.29	< 7.0 or >7.79
2.93		3.06		2.72		3.06	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:52		12:03		11:56	12:11	12:03	
Depth (ft)	16.1		15.3		15		15.3	
Turb. (NTU)	8.2		5.3	10.3	10.8	9.6	5.3	10.3
Temp. (°C)	9.39		9.43	11.05	9.33		9.43	11.05
DO (mg/L)	8.89		7.74	≤ 6 mg/L	8.56		7.74	≤ 6 mg/L
pH (Units)	7.26		7.38	< 7.0 or >7.88	7.37		7.38	< 7.0 or >7.88
Sal. (ppt)	22.8		23.25		16		23.25	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:26		11:37		11:31		11:37	
15.8		16.1		16.8		16.1	
6.6		6.7	11.7	8		6.7	11.7
9.66		9.67	11.23	9.68		9.67	11.23
8.03		7.78	≤ 6 mg/L	7.89		7.78	≤ 6 mg/L
7.35		7.42	< 7.0 or >7.92	7.41		7.42	< 7.0 or >7.92
27.21		27.31		27.39		27.31	
☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/7/2015
Time Period: 10:45 AM to 11:45 AM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Backfilling occurring at two locations. Upstream monitoring conducted at mid-depth in shallow water.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	11:23	11:31	11:15	11:31	10:49	10:59	10:54	10:59
Depth (ft)	2	2	2	2	2.5	2.3	2	2.3
Turb. (NTU)	17.4	13.3	14.6	13.3	11.9	13.6	11.9	13.6
Temp. (°C)	8.94	8.92	8.94	8.92	8.9	8.8	8.91	8.8
DO (mg/L)	10.51	10.68	10.63	10.68	10.51	10.68	10.63	10.68
pH (units)	7.3	7.3	7.23	7.3	7.23	7.25	7.25	7.25
Sal. (ppt)	2.83	2.38	2.52	2.38	2.35	1.93	2.22	1.93
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

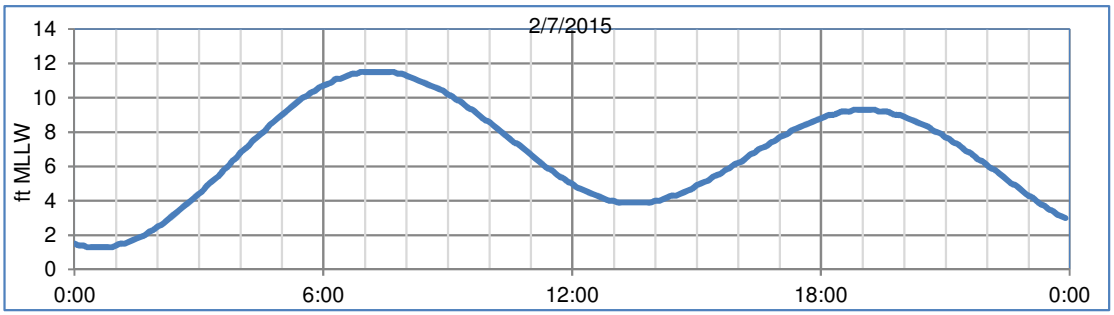
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	11:24	11:33	11:19	11:33	—	—	—	—
Depth (ft)	14.5	14.4	14.4	14.4	—	—	—	—
Turb. (NTU)	10.9	12.9	12.2	12.9	—	—	—	—
Temp. (°C)	9.22	9	9.05	9	—	—	—	—
DO (mg/L)	9.33	9.85	9.5	9.85	—	—	—	—
pH (units)	7.2	7.15	7.3	7.15	—	—	—	—
Sal. (ppt)	15	8.65	8.3	8.65	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

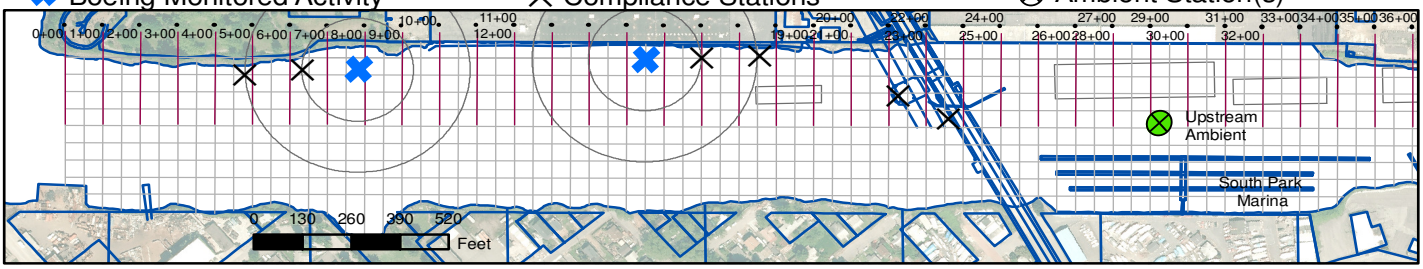
Daily Tides

12:35 AM	1.3 L
7:16 AM	11.5 H
1:29 PM	3.9 L
7:03 PM	9.3 H
Sunrise	7:27 AM
Sunset	5:20 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/7/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 10:45

End Time: 11:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:23		11:31		11:15		11:31	
Depth (ft)	2		2		2		2	
Turb. (NTU)	17.4		13.3	18.3	14.6		13.3	18.3
Temp. (°C)	8.94		8.92	10.65	8.94		8.92	10.65
DO (mg/L)	10.51		10.68	≤ 6 mg/L	10.63		10.68	≤ 6 mg/L
pH (Units)	7.3		7.3	< 7.0 or >7.8	7.23		7.3	< 7.0 or >7.8
Sal. (ppt)	2.83		2.38		2.52		2.38	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
10:49		10:59		10:54		10:59	
2.5		2.3		2		2.3	
11.9		13.6	18.6	11.9		13.6	18.6
8.9		8.8	10.56	8.91		8.8	10.56
10.51		10.68	≤ 6 mg/L	10.63		10.68	≤ 6 mg/L
7.23		7.25	< 7.0 or >7.75	7.25		7.25	< 7.0 or >7.75
2.35		1.93		2.22		1.93	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:24		11:33		11:19		11:33	
Depth (ft)	14.5		14.4		14.4		14.4	
Turb. (NTU)	10.9		12.9	17.9	12.2		12.9	17.9
Temp. (°C)	9.22		9	10.71	9.05		9	10.71
DO (mg/L)	9.33		9.85	≤ 6 mg/L	9.5		9.85	≤ 6 mg/L
pH (Units)	7.2		7.15	< 7.0 or >7.65	7.3		7.15	< 7.0 or >7.65
Sal. (ppt)	15		8.65		8.3		8.65	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/9/2015
Time Period: 11:00 AM to 12:45 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Backfilling occurring at two locations. Upstream monitoring conducted as close to directly upstream of the backfill placement as posible with the limitations imposed by the bridge wingwall and diving operations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	11:51	12:01	11:45	12:01	11:09	11:26	11:17	11:26
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	12.8	8.9	11.1	8.9	7.7	7.6	7.9	7.6
Temp. (°C)	8.64	8.61	8.64	8.61	8.6	8.62	8.61	8.62
DO (mg/L)	7.73	10.84	10.73	10.84	10.85	10.8	10.74	10.8
pH (units)	7.24	7.19	7.25	7.19	7.19	7.34	7.37	7.34
Sal. (ppt)	2.06	1.9	2.09	1.9	1.26	1.47	1.34	1.47
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

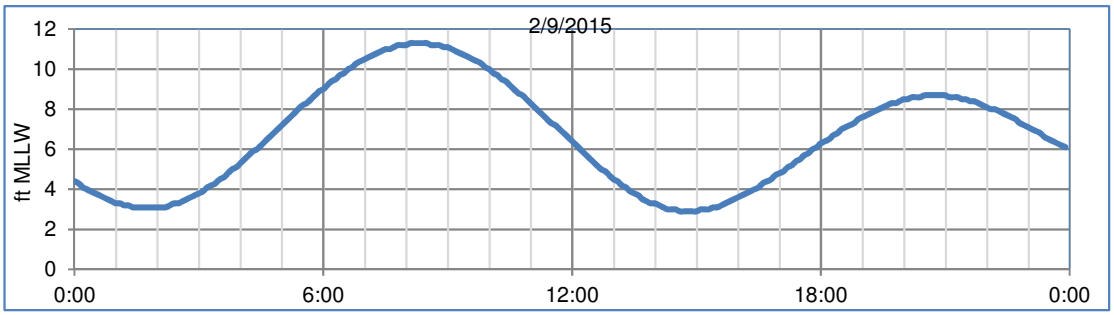
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	12:41 *	12:02	12:37 *	12:04	11:11	11:28	11:19	11:28
Depth (ft)	6.4 *	6.5	10.1 *	10.1	24.2	21	21	21
Turb. (NTU)	12.2 *	9.3	9.6 *	8.3	4.5	4.3	4.9	4.3
Temp. (°C)	8.65	8.6	8.65	8.61	9.7	9.73	9.71	9.73
DO (mg/L)	10.65	10.71	10.6	10.63	7.87	8.27	7.75	8.27
pH (units)	7.24	7.23	7.22	7.23	7.39	7.42	7.45	7.42
Sal. (ppt)	2.26	1.99	2.35	2.51	27.73	27.99	27.54	27.99
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

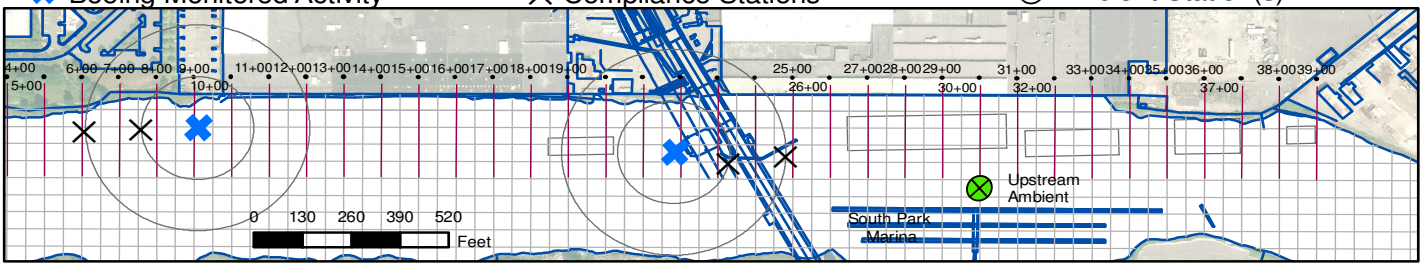
Daily Tides

1:46 AM	3.1 L
8:18 AM	11.3 H
2:49 PM	2.9 L
8:45 PM	8.7 H
Sunrise	7:25 AM
Sunset	5:23 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/9/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 11:00

End Time: 12:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:51		12:01		11:45		12:01	
Depth (ft)	2		2		2		2	
Turb. (NTU)	12.8		8.9	13.9	11.1		8.9	13.9
Temp. (°C)	8.64		8.61	10.43	8.64		8.61	10.43
DO (mg/L)	7.73		10.84	≤ 6 mg/L	10.73		10.84	≤ 6 mg/L
pH (Units)	7.24		7.19	< 7.0 or >7.69	7.25		7.19	< 7.0 or >7.69
Sal. (ppt)	2.06		1.9		2.09		1.9	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:09		11:26		11:17		11:26	
2		2		2		2	
7.7		7.6	12.6	7.9		7.6	12.6
8.6		8.62	10.43	8.61		8.62	10.43
10.85		10.8	≤ 6 mg/L	10.74		10.8	≤ 6 mg/L
7.19		7.34	< 7.0 or >7.84	7.37		7.34	< 7.0 or >7.84
1.26		1.47		1.34		1.47	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:53	12:41	12:02		11:47	12:37	12:04	
Depth (ft)	6.5	6.4	6.5		10.06	10.1	10.1	
Turb. (NTU)	43.4	12.2	9.3	14.3	16.5	9.6	8.3	13.3
Temp. (°C)	8.65		8.6	10.42	8.65		8.61	10.43
DO (mg/L)	10.65		10.71	≤ 6 mg/L	10.6		10.63	≤ 6 mg/L
pH (Units)	7.24		7.23	< 7.0 or >7.73	7.22		7.23	< 7.0 or >7.73
Sal. (ppt)	2.26		1.99		2.35		2.51	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:11		11:28		11:19		11:28	
24.2		21		21		21	
4.5		4.3	9.3	4.9		4.3	9.3
9.7		9.73	11.28	9.71		9.73	11.28
7.87		8.27	≤ 6 mg/L	7.75		8.27	≤ 6 mg/L
7.39		7.42	< 7.0 or >7.92	7.45		7.42	< 7.0 or >7.92
27.73		27.99		27.54		27.99	
☐ Submitted				☐ Submitted			

Report Date 2/10/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/10/2015
Time Period: 11:00 AM to 12:45 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Backfilling being conducted at 2 locations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	11:04	11:22	11:10	11:22	12:29	12:38	12:20	12:38
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	7.2	6.6	7	6.6	7.8	7.4	7.4	7.4
Temp. (°C)	8.82	8.81	8.82	8.81	8.85	8.83	8.86	8.83
DO (mg/L)	11.09	11.1	11.06	11.1	11.08	11.13	11.09	11.13
pH (units)	7.19	7.23	7.26	7.23	7.29	7.32	7.15	7.32
Sal. (ppt)	0.97	0.95	1.02	0.95	2.01	1.34	2.23	1.34
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

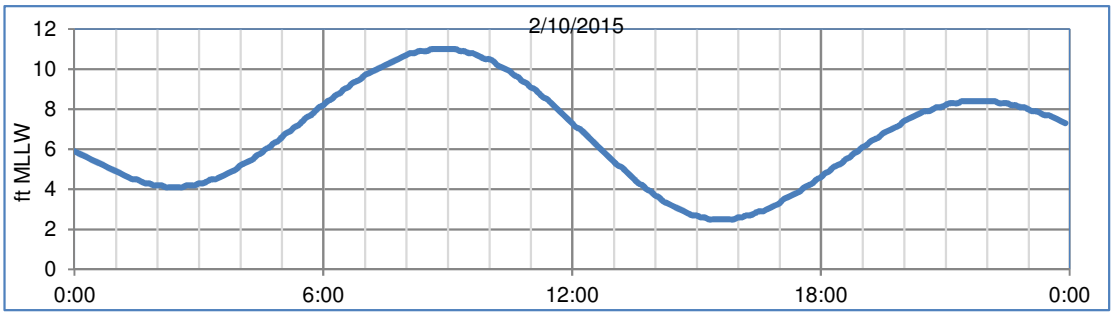
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	11:06	11:24	11:12	11:25	12:31	12:42	12:22	12:41
Depth (ft)	9.3	9.3	11.2	11.2	14.8	14.8	16.9	16.9
Turb. (NTU)	8	7.3	10.8	7.7	7.1	9.4	6.1	8.6
Temp. (°C)	8.82	8.74	8.81	8.74	8.97	8.79	9.52	8.84
DO (mg/L)	10.87	10.9	10.91	10.79	9.86	10.49	8.4	10.25
pH (units)	7.26	7.22	7.23	7.23	7.39	7.27	7.33	7.28
Sal. (ppt)	1.88	1.83	1.66	2.34	3.92	3.63	21.48	4.76
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

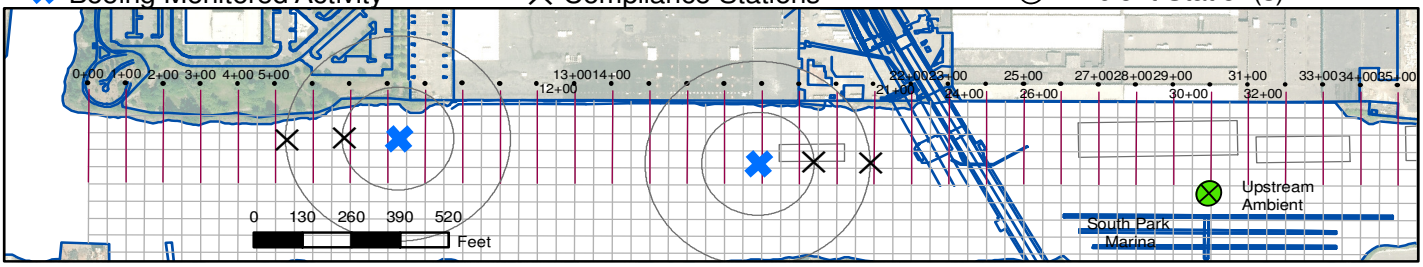
Daily Tides

2:25 AM	4.1 L
8:53 AM	11 H
3:36 PM	2.5 L
9:49 PM	8.4 H
Sunrise	7:23 AM
Sunset	5:25 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/10/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 11:00

End Time: 12:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:04		11:22		11:10		11:22	
Depth (ft)	2		2		2		2	
Turb. (NTU)	7.2		6.6	11.6	7		6.6	11.6
Temp. (°C)	8.82		8.81	10.57	8.82		8.81	10.57
DO (mg/L)	11.09		11.1	≤ 6 mg/L	11.06		11.1	≤ 6 mg/L
pH (Units)	7.19		7.23	< 7.0 or >7.73	7.26		7.23	< 7.0 or >7.73
Sal. (ppt)	0.97		0.95		1.02		0.95	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:29		12:38		12:20		12:38	
2		2		2		2	
7.8		7.4	12.4	7.4		7.4	12.4
8.85		8.83	10.59	8.86		8.83	10.59
11.08		11.13	≤ 6 mg/L	11.09		11.13	≤ 6 mg/L
7.29		7.32	< 7.0 or >7.82	7.15		7.32	< 7.0 or >7.82
2.01		1.34		2.23		1.34	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:06		11:24		11:12		11:25	
Depth (ft)	9.3		9.3		11.2		11.2	
Turb. (NTU)	8		7.3	12.3	10.8		7.7	12.7
Temp. (°C)	8.82		8.74	10.52	8.81		8.74	10.52
DO (mg/L)	10.87		10.9	≤ 6 mg/L	10.91		10.79	≤ 6 mg/L
pH (Units)	7.26		7.22	< 7.0 or >7.72	7.23		7.23	< 7.0 or >7.73
Sal. (ppt)	1.88		1.83		1.66		2.34	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:31		12:42		12:22		12:41	
14.8		14.8		16.9		16.9	
7.1		9.4	14.4	6.1		8.6	13.6
8.97		8.79	10.56	9.52		8.84	10.59
9.86		10.49	≤ 6 mg/L	8.4		10.25	≤ 6 mg/L
7.39		7.27	< 7.0 or >7.77	7.33		7.28	< 7.0 or >7.78
3.92		3.63		21.48		4.76	
☐ Submitted				☐ Submitted			

Report Date 2/12/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/11/2015
Time Period: 11:00 AM to 12:45 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Backfilling occurring at two locations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:07	11:26	11:15	11:26	12:15	12:36	12:29	12:36
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	8.2	8	10.5	8	9	11.7	9.9	11.7
Temp. (°C)	8.56	8.52	8.57	8.52	8.5	8.35	8.49	8.35
DO (mg/L)	11.28	11.32	11.15	11.32	11.28	11.3	11.37	11.3
pH (units)	7.17	7.42	7.38	7.42	7.27	7.27	7.26	7.27
Sal. (ppt)	1.27	0.53	1.27	0.53	0.99	0.93	1.01	0.93
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

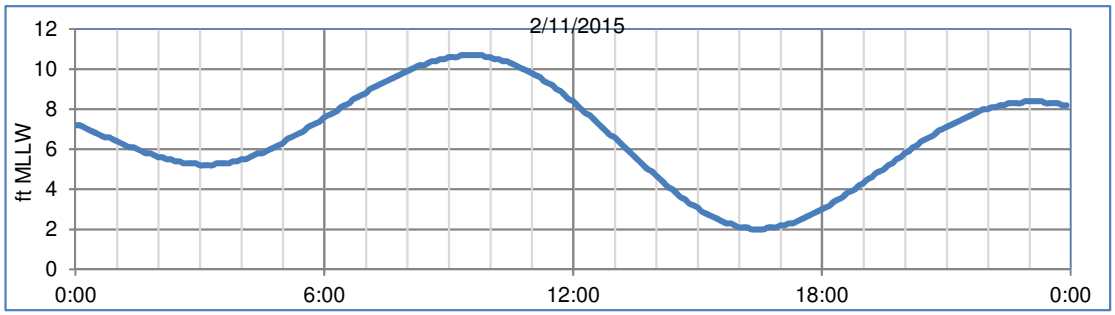
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:10	11:29	11:42 *	11:29	12:18	12:39	12:31	12:37
Depth (ft)	21.9	21.3	19.1 *	21.3	8.7	8.7	5.1	5.2
Turb. (NTU)	2	3.1	2.8 *	3.1	11	12.4	9.2	12.1
Temp. (°C)	9.77	9.73	9.76	9.73	8.49	8.35	8.3	8.36
DO (mg/L)	7.92	7.72	7.95	7.72	11.14	11.16	11.22	11.23
pH (units)	7.41	7.44	7.43	7.44	7.43	7.25	7.26	7.25
Sal. (ppt)	28.25	27.63	28.08	27.63	11.05	1.12	1.03	1.01
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

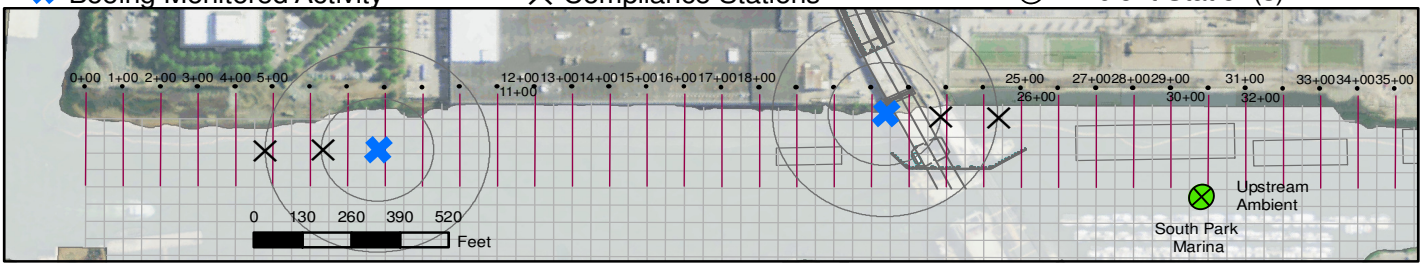
Daily Tides

3:09 AM	5.2 L
9:31 AM	10.7 H
4:28 PM	2 L
11:05 PM	8.4 H
Sunrise	7:21 AM
Sunset	5:26 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/11/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 11:00

End Time: 12:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:07		11:26		11:15		11:26	
Depth (ft)	2		2		2		2	
Turb. (NTU)	8.2		8	13	10.5		8	13
Temp. (°C)	8.56		8.52	10.36	8.57		8.52	10.36
DO (mg/L)	11.28		11.32	≤ 6 mg/L	11.15		11.32	≤ 6 mg/L
pH (Units)	7.17		7.42	< 7.0 or >7.92	7.38		7.42	< 7.0 or >7.92
Sal. (ppt)	1.27		0.53		1.27		0.53	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:15		12:36		12:29		12:36	
2		2		2		2	
9		11.7	16.7	9.9		11.7	16.7
8.5		8.35	10.24	8.49		8.35	10.24
11.28		11.3	≤ 6 mg/L	11.37		11.3	≤ 6 mg/L
7.27		7.27	< 7.0 or >7.77	7.26		7.27	< 7.0 or >7.77
0.99		0.93		1.01		0.93	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:10		11:29		11:15	11:42	11:29	
Depth (ft)	21.9		21.3		19.9	19.1	21.3	
Turb. (NTU)	2		3.1	8.1	12.2	2.8	3.1	8.1
Temp. (°C)	9.77		9.73	11.28	9.76		9.73	11.28
DO (mg/L)	7.92		7.72	≤ 6 mg/L	7.95		7.72	≤ 6 mg/L
pH (Units)	7.41		7.44	< 7.0 or >7.94	7.43		7.44	< 7.0 or >7.94
Sal. (ppt)	28.25		27.63		28.08		27.63	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:18		12:39		12:31		12:37	
8.7		8.7		5.1		5.2	
11		12.4	17.4	9.2		12.1	17.1
8.49		8.35	10.24	8.3		8.36	10.25
11.14		11.16	≤ 6 mg/L	11.22		11.23	≤ 6 mg/L
7.43		7.25	< 7.0 or >7.75	7.26		7.25	< 7.0 or >7.75
11.05		1.12		1.03		1.01	
☐ Submitted				☐ Submitted			

Report Date 4/21/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/12/2015
Time Period: 10:45 AM to 11:45 AM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Downstream 150 and 300 ft compliance stations monitored in shallow water at mid-depth. Backfill placement occurring at two locations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	10:54	11:07	10:58	11:07	11:15	11:32	11:23	11:32
Depth (ft)	2.5	2	2	2	2	2	2	2
Turb. (NTU)	15.4	10.9	15.6	10.9	10.1	9.9	10	9.9
Temp. (°C)	8.12	8.06	8.13	8.06	8.11	8.3	8.15	8.3
DO (mg/L)	11.4	11.46	11.38	11.46	11.44	11.47	11.37	11.47
pH (units)	7.17	7.23	7.14	7.23	7.2	7.45	7.44	7.45
Sal. (ppt)	0.79	0.18	0.83	0.18	0.25	0.22	0.26	0.22
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

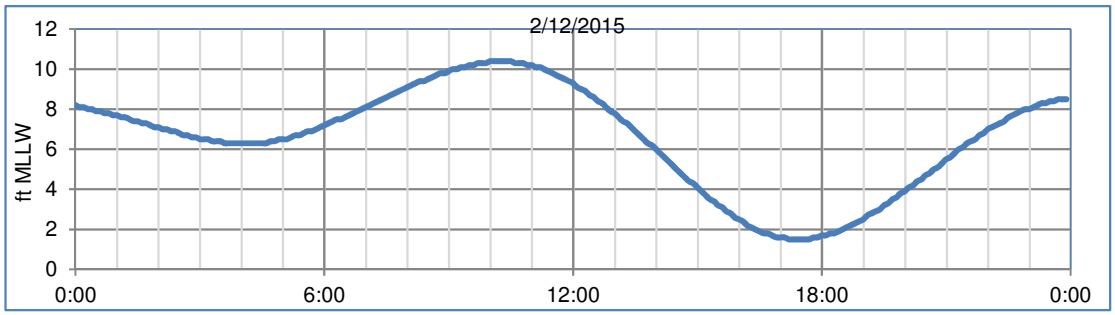
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	—	—	—	—	11:18	11:35	11:26	11:33
Depth (ft)	—	—	—	—	17.5	17.5	12.9	12.9
Turb. (NTU)	—	—	—	—	0.3	3.3	6.5	6
Temp. (°C)	—	—	—	—	9.76	9.71	8.74	8.81
DO (mg/L)	—	—	—	—	8.07	7.91	9.62	9.39
pH (units)	—	—	—	—	7.29	7.39	7.2	7.14
Sal. (ppt)	—	—	—	—	28.03	27.54	13.58	14.86
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

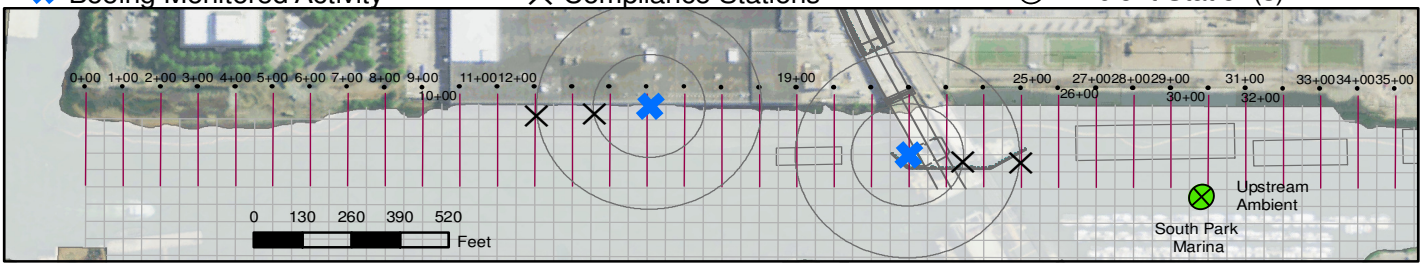
Daily Tides

4:05 AM	6.3 L
10:15 AM	10.4 H
5:26 PM	1.5 L
12:00 AM	
Sunrise	7:20 AM
Sunset	5:28 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/12/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 10:45

End Time: 11:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:54		11:07		10:58		11:07	
Depth (ft)	2.5		2		2		2	
Turb. (NTU)	15.4		10.9	15.9	15.6		10.9	15.9
Temp. (°C)	8.12		8.06	10.04	8.13		8.06	10.04
DO (mg/L)	11.4		11.46	≤ 6 mg/L	11.38		11.46	≤ 6 mg/L
pH (Units)	7.17		7.23	< 7.0 or >7.73	7.14		7.23	< 7.0 or >7.73
Sal. (ppt)	0.79		0.18		0.83		0.18	
Sample ID								

Analyze ☐ Submitted ☐ Submitted

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:15		11:32		11:23		11:32	
2		2		2		2	
10.1		9.9	14.9	10		9.9	14.9
8.11		8.3	10.20	8.15		8.3	10.20
11.44		11.47	≤ 6 mg/L	11.37		11.47	≤ 6 mg/L
7.2		7.45	< 7.0 or >7.95	7.44		7.45	< 7.0 or >7.95
0.25		0.22		0.26		0.22	

☐ Submitted ☐ Submitted

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								

Analyze ☐ Submitted ☐ Submitted

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:18		11:35		11:26		11:33	
17.5		17.5		12.9		12.9	
0.3		3.3	8.3	6.5		6	11
9.76		9.71	11.27	8.74		8.81	10.57
8.07		7.91	≤ 6 mg/L	9.62		9.39	≤ 6 mg/L
7.29		7.39	< 7.0 or >7.89	7.2		7.14	< 7.0 or >7.64
28.03		27.54		13.58		14.86	

☐ Submitted ☐ Submitted

Report Date 2/16/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/13/2015
Time Period: 1:00 PM to 2:15 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Backfill being placed at one location.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:10	13:30	13:18	13:30	13:46	14:03	13:51	14:03
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.2	4.8	4.6	4.8	4.1	4.8	4.8	4.8
Temp. (°C)	9.03	9.02	9.01	9.02	9.12	9.11	9.01	9.11
DO (mg/L)	11.05	11.26	11.05	11.26	11.17	11.32	11.19	11.32
pH (units)	7.19	7.46	7.4	7.46	7.31	7.45	7.43	7.45
Sal. (ppt)	1.48	0.87	1.45	0.87	1.23	0.87	1.73	0.87
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

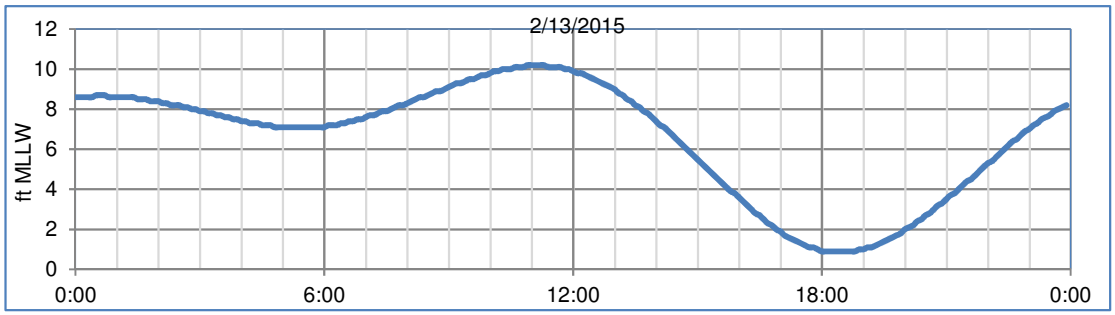
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:13	13:32	13:20	13:32	13:47	14:05	13:53	14:05
Depth (ft)	17.3	17.5	19.6	17.5	18.8	19	19.2	19
Turb. (NTU)	0.4	0.4	0.3	0.4	0.3	0.9	0.3	0.9
Temp. (°C)	9.8	9.71	9.82	9.71	9.8	9.77	9.79	9.77
DO (mg/L)	7.92	8.04	8.03	8.04	8.45	8.03	8.23	8.03
pH (units)	7.5	7.47	7.49	7.47	7.46	7.49	7.5	7.49
Sal. (ppt)	28.18	27.32	28.39	27.32	28.24	28.02	28.12	28.02
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

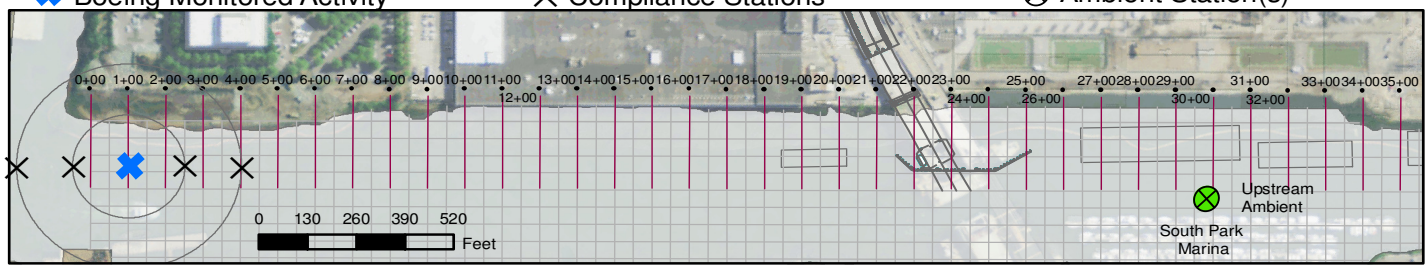
Daily Tides

12:37 AM	8.7 H
5:23 AM	7.1 L
11:08 AM	10.2 H
6:25 PM	0.9 L
Sunrise	7:18 AM
Sunset	5:29 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/13/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:00

End Time: 14:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:10		13:30		13:18		13:30	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.2		4.8	9.8	4.6		4.8	9.8
Temp. (°C)	9.03		9.02	10.73	9.01		9.02	10.73
DO (mg/L)	11.05		11.26	≤ 6 mg/L	11.05		11.26	≤ 6 mg/L
pH (Units)	7.19		7.46	< 7.0 or >7.96	7.4		7.46	< 7.0 or >7.96
Sal. (ppt)	1.48		0.87		1.45		0.87	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:46		14:03		13:51		14:03	
2		2		2		2	
4.1		4.8	9.8	4.8		4.8	9.8
9.12		9.11	10.80	9.01		9.11	10.80
11.17		11.32	≤ 6 mg/L	11.19		11.32	≤ 6 mg/L
7.31		7.45	< 7.0 or >7.95	7.43		7.45	< 7.0 or >7.95
1.23		0.87		1.73		0.87	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:13		13:32		13:20		13:32	
Depth (ft)	17.3		17.5		19.6		17.5	
Turb. (NTU)	0.4		0.4	5.4	0.3		0.4	5.4
Temp. (°C)	9.8		9.71	11.27	9.82		9.71	11.27
DO (mg/L)	7.92		8.04	≤ 6 mg/L	8.03		8.04	≤ 6 mg/L
pH (Units)	7.5		7.47	< 7.0 or >7.97	7.49		7.47	< 7.0 or >7.97
Sal. (ppt)	28.18		27.32		28.39		27.32	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:47		14:05		13:53		14:05	
18.8		19		19.2		19	
0.3		0.9	5.9	0.3		0.9	5.9
9.8		9.77	11.31	9.79		9.77	11.31
8.45		8.03	≤ 6 mg/L	8.23		8.03	≤ 6 mg/L
7.46		7.49	< 7.0 or >7.99	7.5		7.49	< 7.0 or >7.99
28.24		28.02		28.12		28.02	
☐ Submitted				☐ Submitted			

Report Date 2/16/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/13/2015
Time Period: 2:15 PM to 3:00 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Round 2 Backfill monitoring. Upstream monitoring not conducted. Plume tracking started at direction of L. Inouye downstream of backfill placement.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:21	14:41	14:28	14:41	—	—	—	—
Depth (ft)	2	2	2	2	—	—	—	—
Turb. (NTU)	6	4.4	6.3	4.4	—	—	—	—
Temp. (°C)	9.05	9.05	9.07	9.05	—	—	—	—
DO (mg/L)	11.15	11.4	11.2	11.4	—	—	—	—
pH (units)	7.36	7.43	7.53	7.43	—	—	—	—
Sal. (ppt)	2.14	1.35	1.85	1.35	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

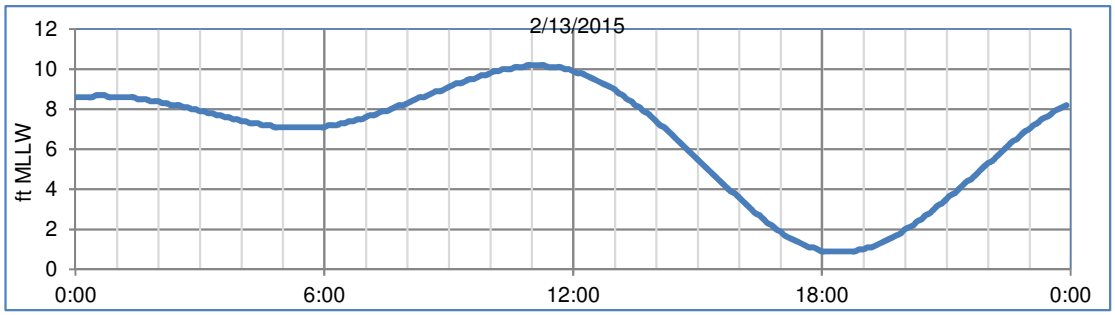
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:53 *	14:43	14:58 *	14:43	—	—	—	—
Depth (ft)	19.7 *	18.5	17.2 *	18.5	—	—	—	—
Turb. (NTU)	42.3 *	3.9	17 *	3.9	—	—	—	—
Temp. (°C)	9.78	9.73	9.76	9.73	—	—	—	—
DO (mg/L)	7.74	8.24	8.05	8.24	—	—	—	—
pH (units)	7.49	7.48	7.5	7.48	—	—	—	—
Sal. (ppt)	28	27.6	27.83	27.6	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

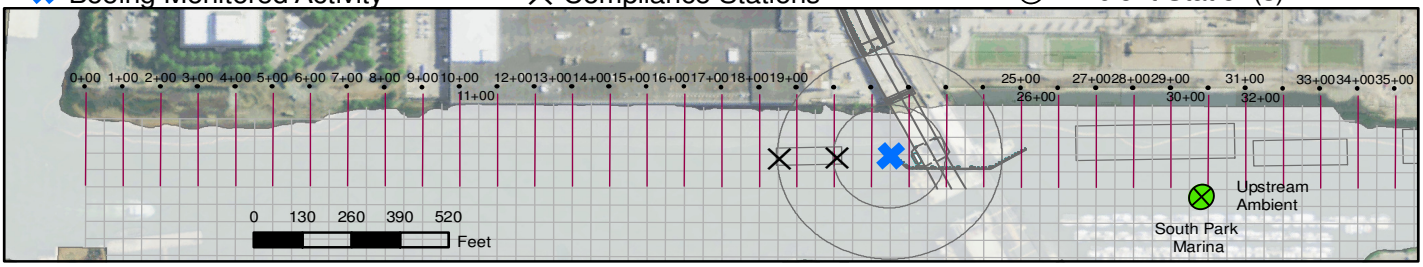
Daily Tides

12:37 AM	8.7 H
5:23 AM	7.1 L
11:08 AM	10.2 H
6:25 PM	0.9 L
Sunrise	7:18 AM
Sunset	5:29 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/13/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:15

End Time: 15:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:21		14:41		14:28		14:41	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6		4.4	9.4	6.3		4.4	9.4
Temp. (°C)	9.05		9.05	10.75	9.07		9.05	10.75
DO (mg/L)	11.15		11.4	≤ 6 mg/L	11.2		11.4	≤ 6 mg/L
pH (Units)	7.36		7.43	< 7.0 or >7.93	7.53		7.43	< 7.0 or >7.93
Sal. (ppt)	2.14		1.35		1.85		1.35	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:25	14:53	14:43		14:30	14:58	14:43	
Depth (ft)	20.4	19.7	18.5		17	17.2	18.5	
Turb. (NTU)	15.8	42.3	3.9	8.9	9.8	17	3.9	8.9
Temp. (°C)	9.78		9.73	11.28	9.76		9.73	11.28
DO (mg/L)	7.74		8.24	≤ 6 mg/L	8.05		8.24	≤ 6 mg/L
pH (Units)	7.49		7.48	< 7.0 or >7.98	7.5		7.48	< 7.0 or >7.98
Sal. (ppt)	28		27.6		27.83		27.6	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 2/16/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/13/2015
Time Period: 4:00 PM to 4:45 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Round 3 Backfill monitoring conducted downstream only on ebb tide.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	16:09	16:24	16:15	16:24	—	—	—	—
Depth (ft)	2	2	2	2	—	—	—	—
Turb. (NTU)	6.2	7.1	6.1	7.1	—	—	—	—
Temp. (°C)	9.02	8.95	9.03	8.95	—	—	—	—
DO (mg/L)	11.46	11.48	11.2	11.48	—	—	—	—
pH (units)	7.45	7.58	7.53	7.58	—	—	—	—
Sal. (ppt)	1.56	0.56	1.21	0.56	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

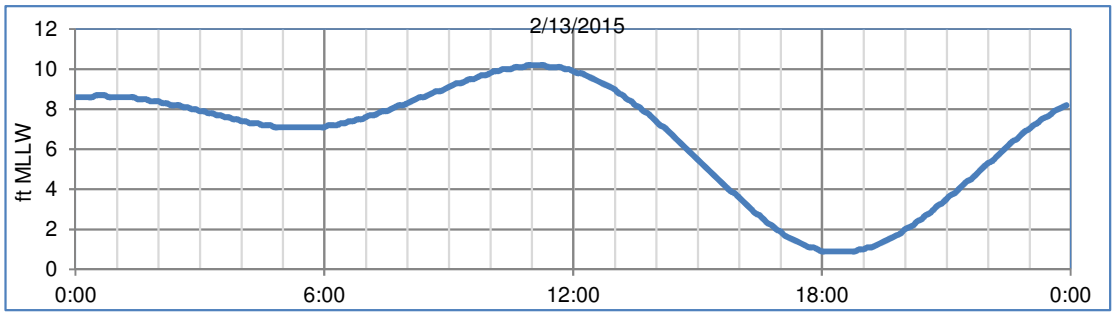
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	16:11	16:26	16:18	16:26	—	—	—	—
Depth (ft)	16.6	15	14	15	—	—	—	—
Turb. (NTU)	5.6	9	8	9	—	—	—	—
Temp. (°C)	9.65	9.02	9.25	9.02	—	—	—	—
DO (mg/L)	8.44	10.73	9.71	10.73	—	—	—	—
pH (units)	7.44	7.27	7.38	7.27	—	—	—	—
Sal. (ppt)	25.22	3.43	10.88	3.43	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

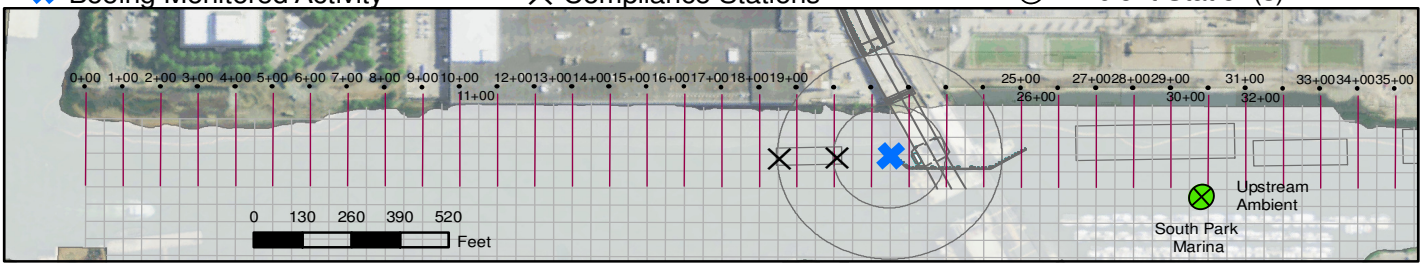
Daily Tides

12:37 AM	8.7 H
5:23 AM	7.1 L
11:08 AM	10.2 H
6:25 PM	0.9 L
Sunrise	7:18 AM
Sunset	5:29 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/13/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 16:00

End Time: 16:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:09		16:24		16:15		16:24	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6.2		7.1	12.1	6.1		7.1	12.1
Temp. (°C)	9.02		8.95	10.68	9.03		8.95	10.68
DO (mg/L)	11.46		11.48	≤ 6 mg/L	11.2		11.48	≤ 6 mg/L
pH (Units)	7.45		7.58	<7.08 and >8.08	7.53		7.58	<7.08 and >8.08
Sal. (ppt)	1.56		0.56		1.21		0.56	
Sample ID								

Analyze ☐ Submitted ☐ Submitted

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—

☐ Submitted ☐ Submitted

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:11		16:26		16:18		16:26	
Depth (ft)	16.6		15		14		15	
Turb. (NTU)	5.6		9	14	8		9	14
Temp. (°C)	9.65		9.02	10.73	9.25		9.02	10.73
DO (mg/L)	8.44		10.73	≤ 6 mg/L	9.71		10.73	≤ 6 mg/L
pH (Units)	7.44		7.27	< 7.0 or >7.77	7.38		7.27	< 7.0 or >7.77
Sal. (ppt)	25.22		3.43		10.88		3.43	
Sample ID								

Analyze ☐ Submitted ☐ Submitted

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—

☐ Submitted ☐ Submitted

Report Date 2/16/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/14/2015
Time Period: 10:30 AM to 11:45 AM
Activity: Final Backfilling: Intensive Monitoring — During Tide Change
Comments: Backfill being placed at one location. Near surface ambient upriver near South Park Marina, near bottom ambient downriver near in-situ WQ instrument.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:18	11:30	11:23	11:30	10:37	10:55	10:46	10:55
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4.5	3	4	3	2.8	2.9	3	2.9
Temp. (°C)	9.06	9.02	9.05	9.02	9.01	9.02	9.02	9.02
DO (mg/L)	11.37	11.6	11.18	11.6	11.42	11.41	11.09	11.41
pH (units)	7.75	7.82	7.52	7.82	7.49	7.59	7.53	7.59
Sal. (ppt)	1.37	1.12	1.45	1.12	0.75	1.21	0.68	1.21
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

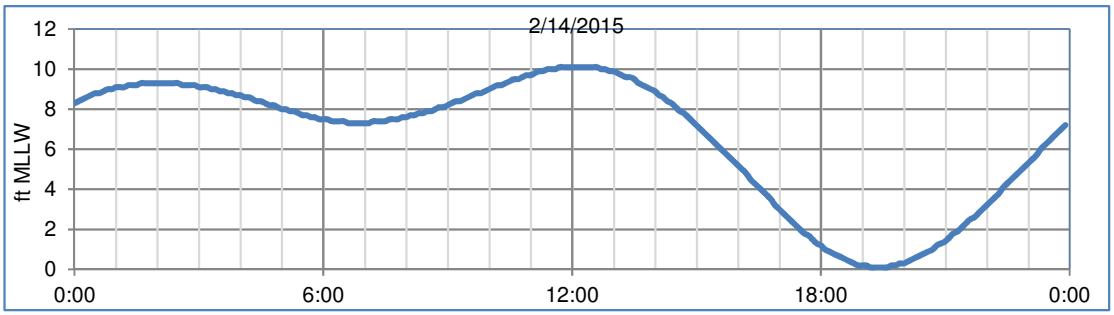
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:19	11:32	11:25	11:32	11:08 *	10:58	11:12 *	10:58
Depth (ft)	22.8	21.4	14.3	14.3	20.7 *	21.3	26.5 *	21.3
Turb. (NTU)	0.5	0.1	0.3	0	47.5 *	0.2	1.2 *	0.2
Temp. (°C)	9.84	9.85	9.83	9.84	9.84	9.85	9.84	9.85
DO (mg/L)	8.52	8.1	8.46	8.49	7.95	8.1	8	8.1
pH (units)	7.52	7.56	7.48	7.54	7.44	7.51	7.46	7.51
Sal. (ppt)	28.13	28.25	27.83	22.95	27.91	28.22	28.06	28.22
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

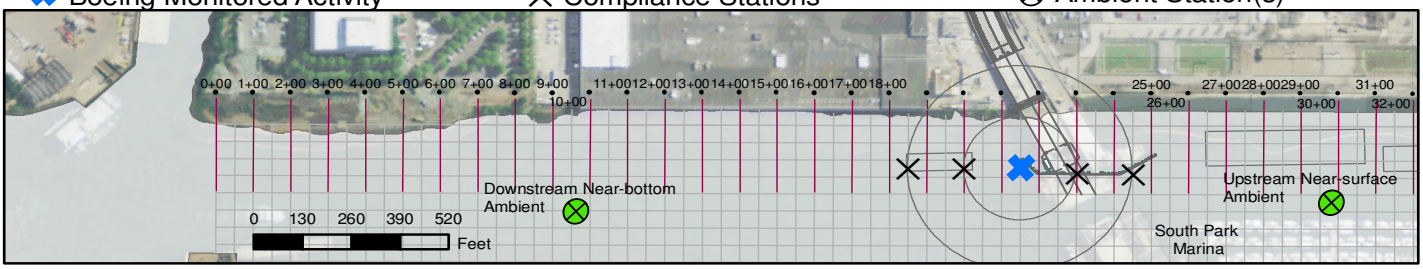
Daily Tides

2:04 AM	9.3 H
6:51 AM	7.3 L
12:08 PM	10.1 H
7:23 PM	0.1 L
Sunrise	7:17 AM
Sunset	5:31 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/14/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 10:30

End Time: 11:45

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:18		11:30		11:23		11:30	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.5		3	8	4		3	8
Temp. (°C)	9.06		9.02	10.73	9.05		9.02	10.73
DO (mg/L)	11.37		11.6	≤ 6 mg/L	11.18		11.6	≤ 6 mg/L
pH (Units)	7.75		7.82	<7.32 and >8.32	7.52		7.82	<7.32 and >8.32
Sal. (ppt)	1.37		1.12		1.45		1.12	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Surface Samples — Near Surface/Mid-depth (2)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	10:37		10:55		10:46		10:55	
Depth (ft)	2		2		2		2	
Turb. (NTU)	2.8		2.9	7.9	3		2.9	7.9
Temp. (°C)	9.01		9.02	10.73	9.02		9.02	10.73
DO (mg/L)	11.42		11.41	≤ 6 mg/L	11.09		11.41	≤ 6 mg/L
pH (Units)	7.49		7.59	<7.09 and >8.09	7.53		7.59	<7.09 and >8.09
Sal. (ppt)	0.75		1.21		0.68		1.21	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:19		11:32		11:25		11:32	
Depth (ft)	22.8		21.4		14.3		14.3	
Turb. (NTU)	0.5		0.1	5.1	0.3		0	5
Temp. (°C)	9.84		9.85	11.38	9.83		9.84	11.37
DO (mg/L)	8.52		8.1	≤ 6 mg/L	8.46		8.49	≤ 6 mg/L
pH (Units)	7.52		7.56	<7.06 and >8.06	7.48		7.54	<7.04 and >8.04
Sal. (ppt)	28.13		28.25		27.83		22.95	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
10:40	11:08	10:58		10:49	11:12	10:58	
21.3	20.7	21.3		30.1	26.5	21.3	
36.8	47.5	0.2	5.2	10.8	1.2	0.2	5.2
9.84		9.85	11.38	9.84		9.85	11.38
7.95		8.1	≤ 6 mg/L	8		8.1	≤ 6 mg/L
7.44		7.51	<7.01 and >8.01	7.46		7.51	<7.01 and >8.01
27.91		28.22		28.06		28.22	
☐ Submitted				☐ Submitted			

Report Date 2/16/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/14/2015
Time Period: 12:30 PM to 1:00 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Round 2 of backfill monitoring. Placement of backfill stopped before downstream stations could be monitored. Operations suspended.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	—	—	—	—	12:43	12:49	12:37	12:49
Depth (ft)	—	—	—	—	2	2	2	2
Turb. (NTU)	—	—	—	—	3.4	3.4	3	3.4
Temp. (°C)	—	—	—	—	9.03	9.01	9.07	9.01
DO (mg/L)	—	—	—	—	11.64	11.7	11.8	11.7
pH (units)	—	—	—	—	7.93	7.93	7.94	7.93
Sal. (ppt)	—	—	—	—	0.63	0.31	0.3	0.31
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

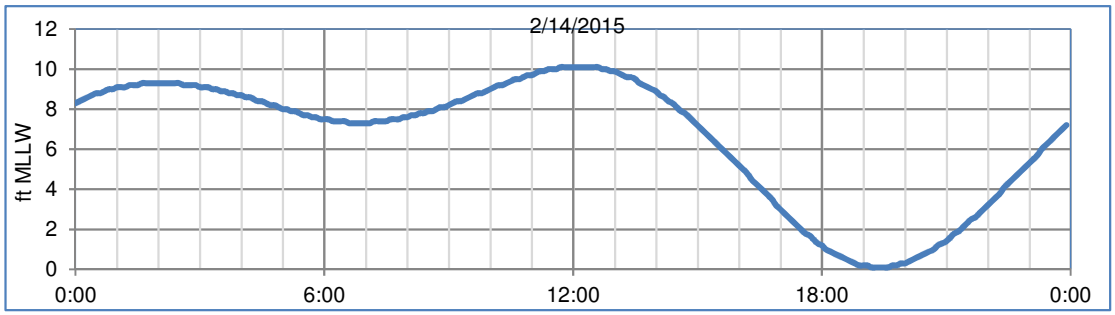
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	—	—	—	—	13:00 *	12:51	12:39	12:52
Depth (ft)	—	—	—	—	19.7	19.7	23.8	20.6
Turb. (NTU)	—	—	—	—	6.9 *	1.3	2.1	2.3
Temp. (°C)	—	—	—	—	9.84	9.84	9.85	9.84
DO (mg/L)	—	—	—	—	8.86	8.6	8.47	8.22
pH (units)	—	—	—	—	7.53	7.54	7.54	7.55
Sal. (ppt)	—	—	—	—	28.1	28	28.16	28.1
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

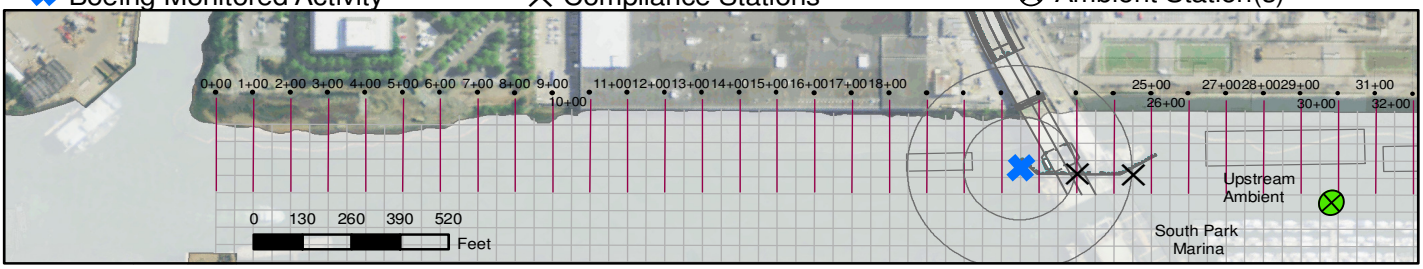
Daily Tides

2:04 AM	9.3 H
6:51 AM	7.3 L
12:08 PM	10.1 H
7:23 PM	0.1 L
Sunrise	7:17 AM
Sunset	5:31 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/14/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 12:30

End Time: 13:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				5				—
Temp. (°C)				-6.00				—
DO (mg/L)				≤ 6 mg/L				—
pH (Units)				< 7.0 or >0.5				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:43		12:49		12:37		12:49	
2		2		2		2	
3.4		3.4	8.4	3		3.4	8.4
9.03		9.01	10.72	9.07		9.01	10.72
11.64		11.7	≤ 6 mg/L	11.8		11.7	≤ 6 mg/L
7.93		7.93	<7.43 and >8.43	7.94		7.93	<7.43 and >8.43
0.63		0.31		0.3		0.31	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:44	13:00	12:51		12:39		12:52	
19.7		19.7		23.8		20.6	
6.3	6.9	1.3	6.3	2.1		2.3	7.3
9.84		9.84	11.37	9.85		9.84	11.37
8.86		8.6	≤ 6 mg/L	8.47		8.22	≤ 6 mg/L
7.53		7.54	<7.04 and >8.04	7.54		7.55	<7.05 and >8.05
28.1		28		28.16		28.1	
☐ Submitted				☐ Submitted			

Report Date 2/16/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/14/2015
Time Period: 2:30 PM to 3:15 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Round 3 of backfill monitoring.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:50	15:02	14:55	15:02	14:30	14:40	14:34	14:40
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3	3.1	3	3.1	3	3.2	3.1	3.2
Temp. (°C)	9.17	9.13	9.14	9.13	9.14	9.13	9.15	9.13
DO (mg/L)	11.27	11.82	11.36	11.82	12.01	11.53	11.77	11.53
pH (units)	7.63	7.75	7.7	7.75	7.5	7.74	7.86	7.74
Sal. (ppt)	2.05	0.87	1.54	0.87	0.86	0.69	0.81	0.69
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

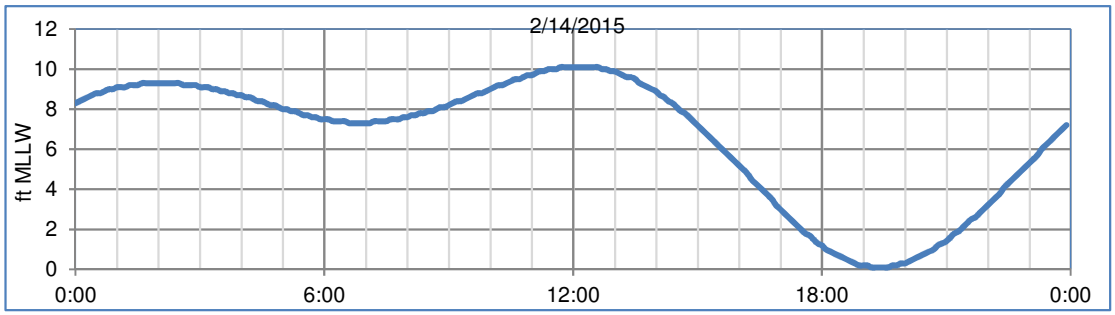
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:50	15:03	14:56	15:03	14:31	14:42	14:35	14:43
Depth (ft)	21.1	18.5	18.6	18.5	17.3	17.3	22.7	19.5
Turb. (NTU)	1.8	1.6	1.9	1.6	1.1	0.6	1.8	0.7
Temp. (°C)	9.83	9.79	9.83	9.79	9.78	9.77	9.83	9.82
DO (mg/L)	8.65	8.85	8.8	8.85	9.01	8.12	8.57	7.98
pH (units)	7.51	7.5	7.5	7.5	7.49	7.5	7.51	7.51
Sal. (ppt)	27.84	27.45	27.87	27.45	26.68	27.02	27.82	27.67
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

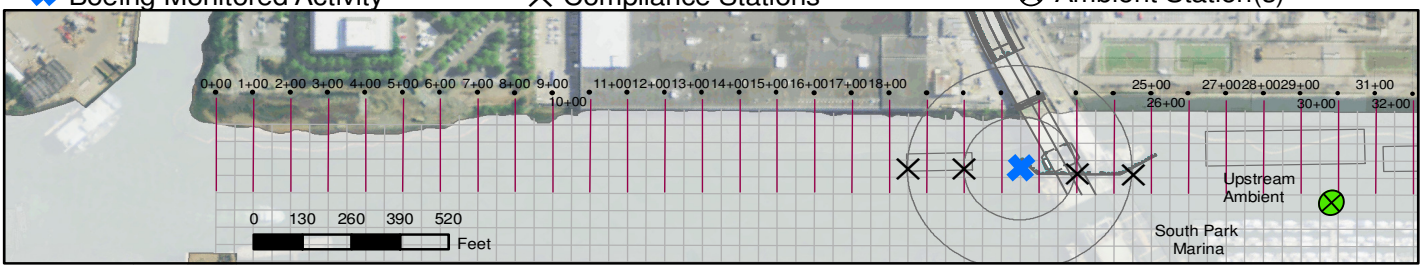
Daily Tides

2:04 AM	9.3 H
6:51 AM	7.3 L
12:08 PM	10.1 H
7:23 PM	0.1 L
Sunrise	7:17 AM
Sunset	5:31 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/14/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:30

End Time: 15:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:50		15:02		14:55		15:02	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3		3.1	8.1	3		3.1	8.1
Temp. (°C)	9.17		9.13	10.81	9.14		9.13	10.81
DO (mg/L)	11.27		11.82	≤ 6 mg/L	11.36		11.82	≤ 6 mg/L
pH (Units)	7.63		7.75	<7.25 and >8.25	7.7		7.75	<7.25 and >8.25
Sal. (ppt)	2.05		0.87		1.54		0.87	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:30		14:40		14:34		14:40	
2		2		2		2	
3		3.2	8.2	3.1		3.2	8.2
9.14		9.13	10.81	9.15		9.13	10.81
12.01		11.53	≤ 6 mg/L	11.77		11.53	≤ 6 mg/L
7.5		7.74	<7.24 and >8.24	7.86		7.74	<7.24 and >8.24
0.86		0.69		0.81		0.69	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:50		15:03		14:56		15:03	
Depth (ft)	21.1		18.5		18.6		18.5	
Turb. (NTU)	1.8		1.6	6.6	1.9		1.6	6.6
Temp. (°C)	9.83		9.79	11.33	9.83		9.79	11.33
DO (mg/L)	8.65		8.85	≤ 6 mg/L	8.8		8.85	≤ 6 mg/L
pH (Units)	7.51		7.5	<7 and >8	7.5		7.5	<7 and >8
Sal. (ppt)	27.84		27.45		27.87		27.45	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:31		14:42		14:35		14:43	
17.3		17.3		22.7		19.5	
1.1		0.6	5.6	1.8		0.7	5.7
9.78		9.77	11.31	9.83		9.82	11.35
9.01		8.12	≤ 6 mg/L	8.57		7.98	≤ 6 mg/L
7.49		7.5	<7 and >8	7.51		7.51	<7.01 and >8.01
26.68		27.02		27.82		27.67	
☐ Submitted				☐ Submitted			

Report Date 2/17/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/16/2015
Time Period: 11:15 AM to 1:45 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Backfilling barge changed position between monitoring at upstream stations and monitoring at downstream locations. 300 ft downstream monitoring conducted at mid-depth. Ambient station downstream of backfill operations on far side of river during flood tide.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	13:43 *	13:00	13:37 *	13:01	11:22	11:44	11:34	11:44
Depth (ft)	2	2	3.7 *	3.7	2	2	2	2
Turb. (NTU)	2.9 *	2	5.6 *	2.2	2.2	2.3	2.1	2.3
Temp. (°C)	8.26	8.5	8.3	8.47	8.17	8.27	8.2	8.27
DO (mg/L)	11.1	11.18	11.17	11.05	11.02	11.08	11.16	11.08
pH (units)	7.23	7.31	7.37	7.24	7.19	7.28	7.38	7.28
Sal. (ppt)	2.19	1.76	1.88	2.42	1.75	2.36	1.58	2.36
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

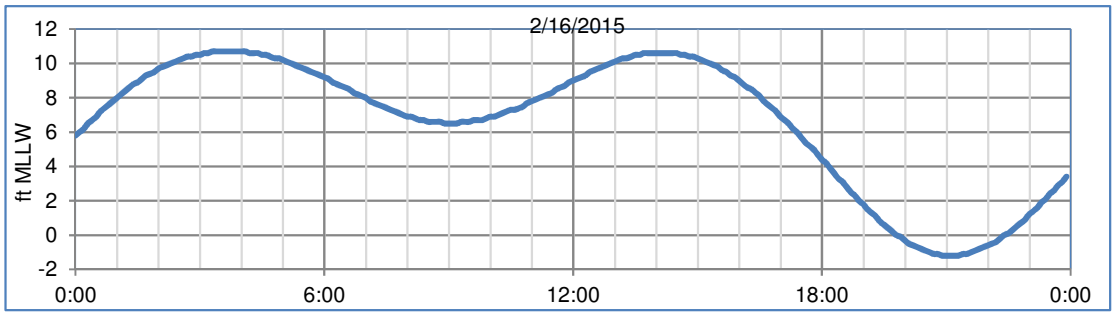
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	13:42 *	13:02	—	—	11:57 *	11:46	12:04 *	11:46
Depth (ft)	6.3	6.2	—	—	18.8 *	20.56	23.9	20.5
Turb. (NTU)	4.8 *	2.4	—	—	1.3 *	0.3	2.9 *	0.3
Temp. (°C)	8.32	8.27	—	—	9.8	9.84	9.82	9.84
DO (mg/L)	10.79	10.86	—	—	8.17	8.18	8.34	8.18
pH (units)	7.22	7.18	—	—	7.39	7.5	7.43	7.5
Sal. (ppt)	3.3	3.4	—	—	27.01	27.72	27.35	27.72
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

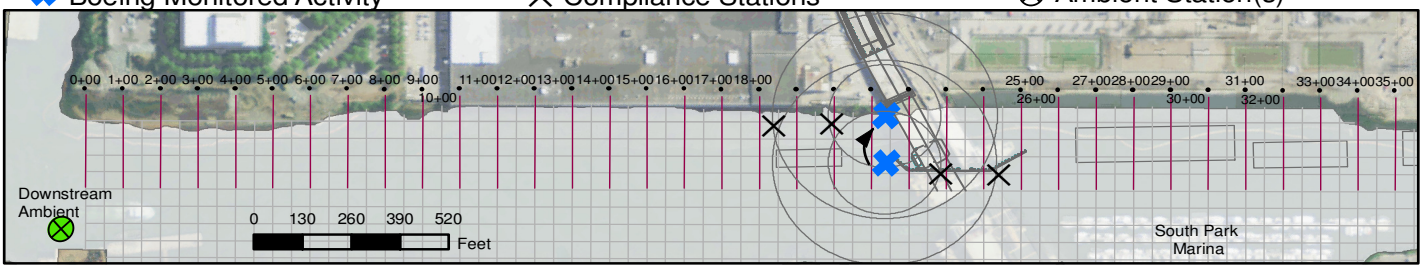
Daily Tides

3:42 AM	10.7 H
9:02 AM	6.5 L
2:08 PM	10.6 H
9:06 PM	-1.2 L
Sunrise	7:13 AM
Sunset	5:34 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/16/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 12:15

End Time: 13:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:43	13:43	13:00		12:50	13:37	13:01	
Depth (ft)	2		2		3.7	3.7	3.7	
Turb. (NTU)	24.6	2.9	2	7	16.3	5.6	2.2	7.2
Temp. (°C)	8.26		8.5	10.35	8.3		8.47	10.32
DO (mg/L)	11.1		11.18	≤ 6 mg/L	11.17		11.05	≤ 6 mg/L
pH (Units)	7.23		7.31	< 7.0 or >7.81	7.37		7.24	< 7.0 or >7.74
Sal. (ppt)	2.19		1.76		1.88		2.42	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:22		11:44		11:34		11:44	
2		2		2		2	
2.2		2.3	7.3	2.1		2.3	7.3
8.17		8.27	10.18	8.2		8.27	10.18
11.02		11.08	≤ 6 mg/L	11.16		11.08	≤ 6 mg/L
7.19		7.28	< 7.0 or >7.78	7.38		7.28	< 7.0 or >7.78
1.75		2.36		1.58		2.36	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:45	13:42	13:02					
Depth (ft)	6.3		6.2					
Turb. (NTU)	32.6	4.8	2.4	7.4				—
Temp. (°C)	8.32		8.27	10.18				—
DO (mg/L)	10.79		10.86	≤ 6 mg/L				—
pH (Units)	7.22		7.18	< 7.0 or >7.68				—
Sal. (ppt)	3.3		3.4					
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:24	11:57	11:46		11:36	12:04	11:46	
19.3	18.8	20.56		23.9		20.5	
39.9	1.3	0.3	5.3	7	2.9	0.3	5.3
9.8		9.84	11.37	9.82		9.84	11.37
8.17		8.18	≤ 6 mg/L	8.34		8.18	≤ 6 mg/L
7.39		7.5	<7 and >8	7.43		7.5	<7 and >8
27.01		27.72		27.35		27.72	
☐ Submitted				☐ Submitted			

Report Date 2/20/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/19/2015
Time Period: 1:30 PM to 2:30 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Upstream monitoring at mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	13:53	14:24	13:59	14:24	13:30	13:42	13:34	13:42
Depth (ft)	2	2	2	2	4	3.7	3.4	3.7
Turb. (NTU)	4.6	2.8	5.9	2.8	3	2.9	2.8	2.9
Temp. (°C)	8	7.96	8.07	7.96	7.95	7.95	7.96	7.95
DO (mg/L)	11.06	11.19	11	11.19	11.04	11.14	11.09	11.14
pH (units)	7.27	7.6	7.35	7.6	7.33	7.42	7.31	7.42
Sal. (ppt)	3.01	0.88	2.11	0.88	1.81	1.02	1.68	1.02
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

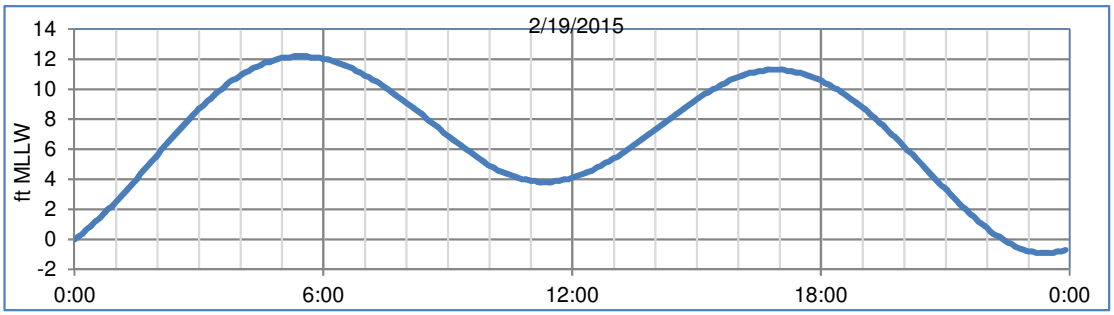
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	13:54	14:25	14:03	14:25	—	—	—	—
Depth (ft)	10.7	11	12.5	11	—	—	—	—
Turb. (NTU)	6.7	6.7	5.7	6.7	—	—	—	—
Temp. (°C)	8.94	8.89	9.25	8.89	—	—	—	—
DO (mg/L)	9.58	9.49	9.15	9.49	—	—	—	—
pH (units)	7.26	7.34	7.29	7.34	—	—	—	—
Sal. (ppt)	17.78	17.7	21.56	17.7	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

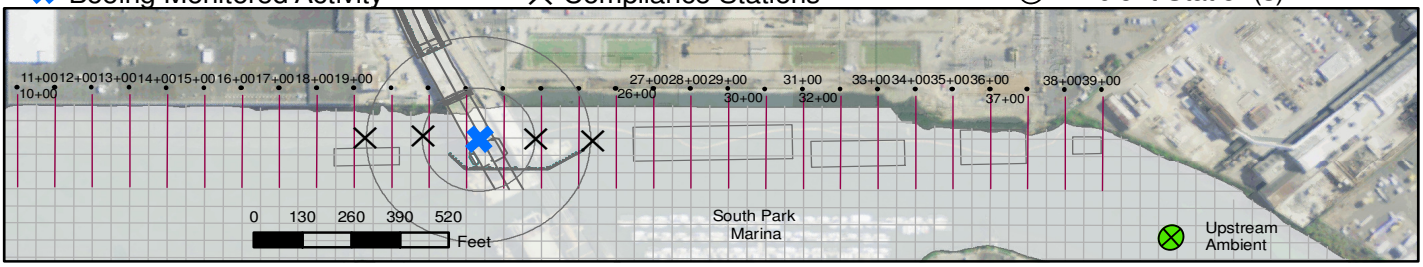
Daily Tides

5:27 AM	12.2 H
11:20 AM	3.8 L
4:54 PM	11.3 H
11:26 PM	-0.9 L
Sunrise	7:08 AM
Sunset	5:39 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/19/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:30

End Time: 14:30

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:53		14:24		13:59		14:24	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4.6		2.8	7.8	5.9		2.8	7.8
Temp. (°C)	8		7.96	9.97	8.07		7.96	9.97
DO (mg/L)	11.06		11.19	≤ 6 mg/L	11		11.19	≤ 6 mg/L
pH (Units)	7.27		7.6	<7.1 and >8.1	7.35		7.6	<7.1 and >8.1
Sal. (ppt)	3.01		0.88		2.11		0.88	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:30		13:42		13:34		13:42	
4		3.7		3.4		3.7	
3		2.9	7.9	2.8		2.9	7.9
7.95		7.95	9.97	7.96		7.95	9.97
11.04		11.14	≤ 6 mg/L	11.09		11.14	≤ 6 mg/L
7.33		7.42	< 7.0 or >7.92	7.31		7.42	< 7.0 or >7.92
1.81		1.02		1.68		1.02	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:54		14:25		14:03		14:25	
Depth (ft)	10.7		11		12.5		11	
Turb. (NTU)	6.7		6.7	11.7	5.7		6.7	11.7
Temp. (°C)	8.94		8.89	10.63	9.25		8.89	10.63
DO (mg/L)	9.58		9.49	≤ 6 mg/L	9.15		9.49	≤ 6 mg/L
pH (Units)	7.26		7.34	< 7.0 or >7.84	7.29		7.34	< 7.0 or >7.84
Sal. (ppt)	17.78		17.7		21.56		17.7	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 2/20/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/20/2015
Time Period: 11:00 AM to 12:00 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Upstream monitoring at mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:06	11:14	11:00	11:14	11:26	11:38	11:31	11:38
Depth (ft)	2	2	2	2	2.9	3.4	3.9	3.4
Turb. (NTU)	6.5	5.9	4.8	5.9	5.8	5.7	4.5	5.7
Temp. (°C)	8.53	8.5	8.53	8.5	8.56	8.51	8.56	8.51
DO (mg/L)	10.19	10.41	10.2	10.41	10.33	10.5	10.4	10.5
pH (units)	7.18	7.17	7.11	7.17	7.15	7.16	7.16	7.16
Sal. (ppt)	4.75	2.62	4.66	2.62	3.69	2.97	3.4	2.97
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

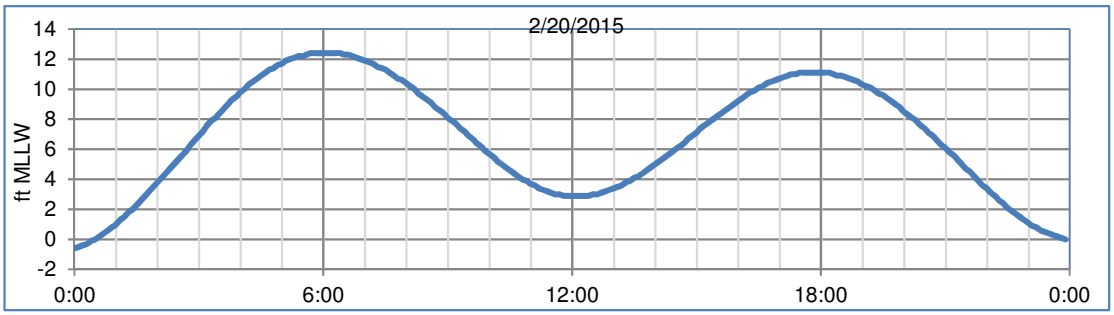
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:06	11:15	11:01	11:16	—	—	—	—
Depth (ft)	11.5	11.5	15.2	14.4	—	—	—	—
Turb. (NTU)	6.5	5.2	9	4.9	—	—	—	—
Temp. (°C)	8.89	8.64	9.38	9.57	—	—	—	—
DO (mg/L)	9.53	9.96	8.67	8.5	—	—	—	—
pH (units)	7.14	7.08	7.35	7.4	—	—	—	—
Sal. (ppt)	12.3	7.12	21.8	25.3	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

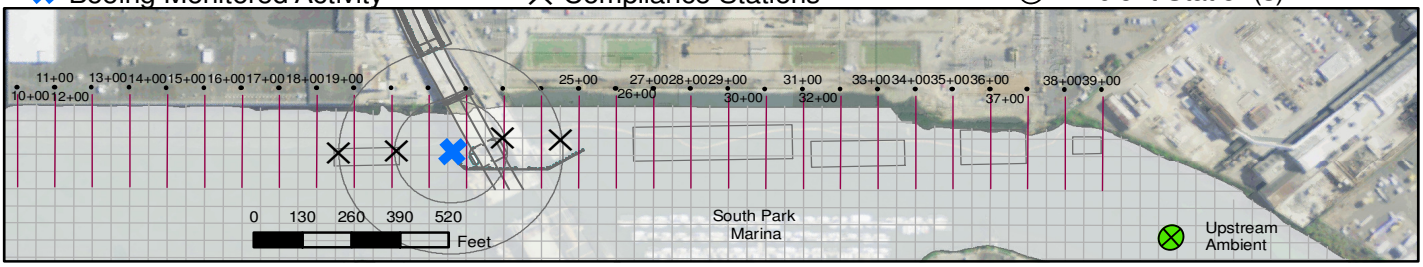
Daily Tides

6:03 AM	12.4 H
12:07 PM	2.9 L
5:50 PM	11.1 H
12:00 AM	
Sunrise	7:06 AM
Sunset	5:40 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/20/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 11:00

End Time: 12:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:06		11:14		11:00		11:14	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6.5		5.9	10.9	4.8		5.9	10.9
Temp. (°C)	8.53		8.5	10.35	8.53		8.5	10.35
DO (mg/L)	10.19		10.41	≤ 6 mg/L	10.2		10.41	≤ 6 mg/L
pH (Units)	7.18		7.17	< 7.0 or >7.67	7.11		7.17	< 7.0 or >7.67
Sal. (ppt)	4.75		2.62		4.66		2.62	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:26		11:38		11:31		11:38	
2.9		3.4		3.9		3.4	
5.8		5.7	10.7	4.5		5.7	10.7
8.56		8.51	10.35	8.56		8.51	10.35
10.33		10.5	≤ 6 mg/L	10.4		10.5	≤ 6 mg/L
7.15		7.16	< 7.0 or >7.66	7.16		7.16	< 7.0 or >7.66
3.69		2.97		3.4		2.97	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:06		11:15		11:01		11:16	
Depth (ft)	11.5		11.5		15.2		14.4	
Turb. (NTU)	6.5		5.2	10.2	9		4.9	9.9
Temp. (°C)	8.89		8.64	10.45	9.38		9.57	11.16
DO (mg/L)	9.53		9.96	≤ 6 mg/L	8.67		8.5	≤ 6 mg/L
pH (Units)	7.14		7.08	< 7.0 or >7.58	7.35		7.4	< 7.0 or >7.9
Sal. (ppt)	12.3		7.12		21.8		25.3	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 2/24/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/23/2015
Time Period: 2:30 PM to 4:00 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Backfilling at two locations.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:06 *	14:47	15:01 *	14:47	15:19	15:05	15:23	15:35
Depth (ft)	2 *	2	2 *	2	2	2	2	2
Turb. (NTU)	36.5 *	3.1	24.3 *	3.1	2.9	3.1	3	3.1
Temp. (°C)	8.26	8	8.31	8	8.08	8.01	8.09	8.01
DO (mg/L)	10.6	10.9	10.65	10.9	10.77	10.95	10.84	10.95
pH (units)	7.17	7.35	7.2	7.35	7.21	7.36	7.3	7.36
Sal. (ppt)	2.69	0.77	2.4	0.77	1.54	0.59	1.13	0.59
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

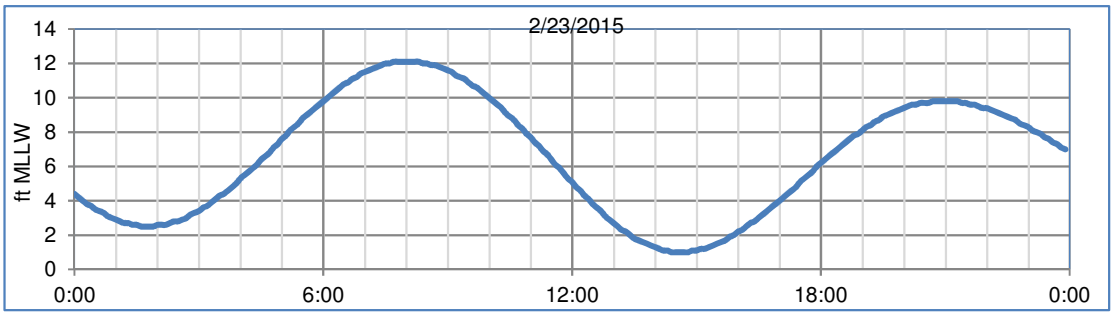
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:07 *	14:49	15:02 *	14:48	15:49 *	15:37	15:30	15:37
Depth (ft)	9.7 *	9.7	7.3 *	7.3	8.9 *	9	8.4	9
Turb. (NTU)	10.7 *	4.4	14.8 *	4	4.7	3.6	3.1	3.6
Temp. (°C)	8.58	8.01	8.45	7.9	8.23	7.94	8.06	7.94
DO (mg/L)	9.62	10.4	10.36	10.68	10.26	10.6	10.55	10.6
pH (units)	7.07	7.06	7.1	7.05	7.01 *	7.01	7.09	7.01
Sal. (ppt)	11.41	5.11	3.56	2.82	6.77	3.29	2.85	3.29
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

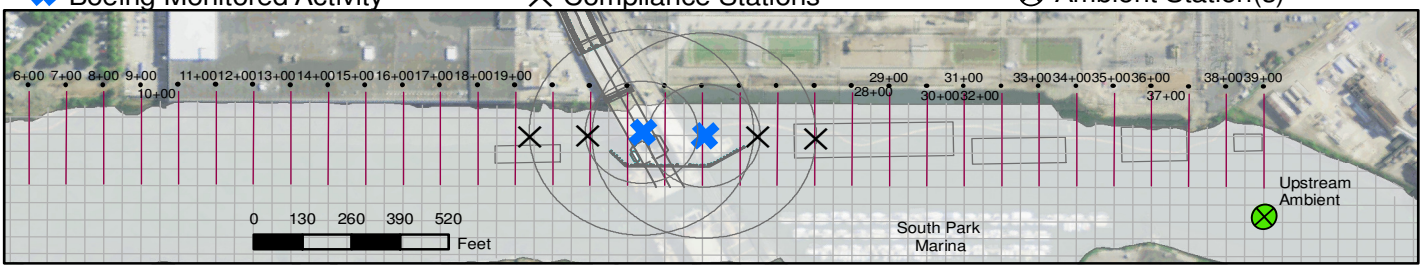
Daily Tides

1:47 AM	2.5 L
8:02 AM	12.1 H
2:36 PM	1 L
8:57 PM	9.8 H
Sunrise	7:01 AM
Sunset	5:45 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/23/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:30

End Time: 16:00

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:32	15:06	14:47		14:37	15:01	14:47	
Depth (ft)	2	2	2		2	2	2	
Turb. (NTU)	13.6	36.5	3.1	8.1	10.7	24.3	3.1	8.1
Temp. (°C)	8.26		8	10.00	8.31		8	10.00
DO (mg/L)	10.6		10.9	≤ 6 mg/L	10.65		10.9	≤ 6 mg/L
pH (Units)	7.17		7.35	< 7.0 or >7.85	7.2		7.35	< 7.0 or >7.85
Sal. (ppt)	2.69		0.77		2.4		0.77	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:19		15:05		15:23		15:35	
2		2		2		2	
2.9		3.1	8.1	3		3.1	8.1
8.08		8.01	10.01	8.09		8.01	10.01
10.77		10.95	≤ 6 mg/L	10.84		10.95	≤ 6 mg/L
7.21		7.36	< 7.0 or >7.86	7.3		7.36	< 7.0 or >7.86
1.54		0.59		1.13		0.59	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:33	15:07	14:49		14:38	15:02	14:48	
Depth (ft)	9.7	9.7	9.7		7.3	7.3	7.3	
Turb. (NTU)	9.6	10.7	4.4	9.4	16.2	14.8	4	9
Temp. (°C)	8.58		8.01	10.01	8.45		7.9	9.93
DO (mg/L)	9.62		10.4	≤ 6 mg/L	10.36		10.68	≤ 6 mg/L
pH (Units)	7.07		7.06	< 7.0 or >7.56	7.1		7.05	< 7.0 or >7.55
Sal. (ppt)	11.41		5.11		3.56		2.82	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:19	15:49	15:37		15:30		15:37	
9.7	8.9	9		8.4		9	
4.7		3.6	8.6	3.1		3.6	8.6
8.23		7.94	9.96	8.06		7.94	9.96
10.26		10.6	≤ 6 mg/L	10.55		10.6	≤ 6 mg/L
6.89	7.01	7.01	< 7.0 or >7.51	7.09		7.01	< 7.0 or >7.51
6.77		3.29		2.85		3.29	
☐ Submitted				☐ Submitted			

Report Date 2/25/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/24/2015
Time Period: 11:15 AM to 12:30 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Backfilling by Aberdeen under the South Park Bridge.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	11:29	11:44	11:22	11:44	12:04	12:17	11:55	12:17
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.5	2.1	4.1	2.1	2.3	2.3	2.1	2.3
Temp. (°C)	7.48	7.45	7.55	7.45	7.62	7.61	7.51	7.61
DO (mg/L)	10.49	10.71	10.47	10.71	10.72	10.71	10.77	10.71
pH (units)	7.17	7.16	7.15	7.16	7.13	7.11	7.13	7.11
Sal. (ppt)	3.14	3	4.61	3	3.05	4.04	3.28	4.04
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

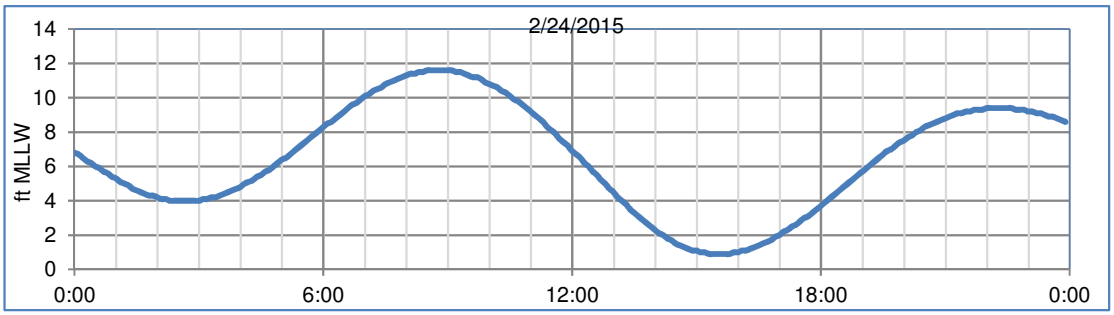
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	11:31	11:47	11:24	11:47	12:06	12:18	11:56	12:18
Depth (ft)	5	5.5	6	5.5	5.5	5.3	5	5.3
Turb. (NTU)	6.1	2.4	5.8	2.4	6.2	2.5	2.2	2.5
Temp. (°C)	8.02	7.54	8.17	7.54	7.62	7.61	7.52	7.61
DO (mg/L)	9.83	10.38	9.7	10.38	10.57	10.4	10.54	10.4
pH (units)	7.1	7.1	7.12	7.1	7.14	7.09	7.1	7.09
Sal. (ppt)	10.62	4.83	6.72	4.83	3.45	5.23	4.17	5.23
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

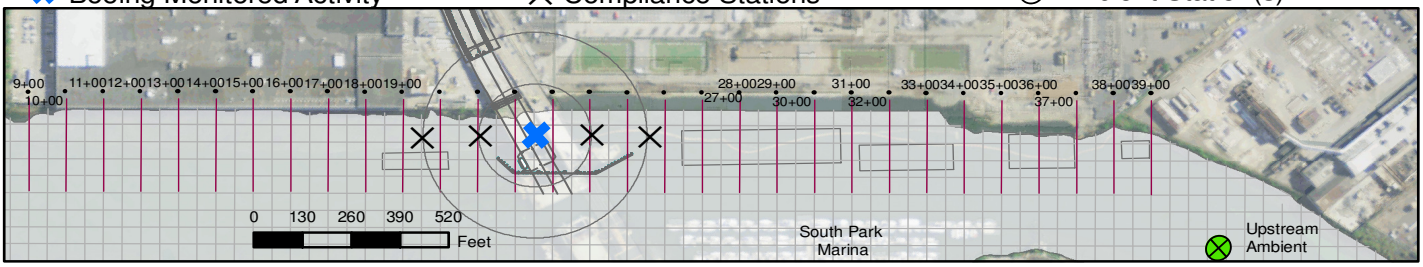
Daily Tides

2:40 AM	4 L
8:47 AM	11.6 H
3:32 PM	0.9 L
10:16 PM	9.4 H
Sunrise	6:59 AM
Sunset	5:46 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/24/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 12:15

End Time: 12:30

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:29		11:44		11:22		11:44	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.5		2.1	7.1	4.1		2.1	7.1
Temp. (°C)	7.48		7.45	9.65	7.55		7.45	9.65
DO (mg/L)	10.49		10.71	≤ 6 mg/L	10.47		10.71	≤ 6 mg/L
pH (Units)	7.17		7.16	< 7.0 or >7.66	7.15		7.16	< 7.0 or >7.66
Sal. (ppt)	3.14		3		4.61		3	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:04		12:17		11:55		12:17	
2		2		2		2	
2.3		2.3	7.3	2.1		2.3	7.3
7.62		7.61	9.75	7.51		7.61	9.75
10.72		10.71	≤ 6 mg/L	10.77		10.71	≤ 6 mg/L
7.13		7.11	< 7.0 or >7.61	7.13		7.11	< 7.0 or >7.61
3.05		4.04		3.28		4.04	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:31		11:47		11:24		11:47	
Depth (ft)	5		5.5		6		5.5	
Turb. (NTU)	6.1		2.4	7.4	5.8		2.4	7.4
Temp. (°C)	8.02		7.54	9.71	8.17		7.54	9.71
DO (mg/L)	9.83		10.38	≤ 6 mg/L	9.7		10.38	≤ 6 mg/L
pH (Units)	7.1		7.1	< 7.0 or >7.6	7.12		7.1	< 7.0 or >7.6
Sal. (ppt)	10.62		4.83		6.72		4.83	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:06		12:18		11:56		12:18	
5.5		5.3		5		5.3	
6.2		2.5	7.5	2.2		2.5	7.5
7.62		7.61	9.75	7.52		7.61	9.75
10.57		10.4	≤ 6 mg/L	10.54		10.4	≤ 6 mg/L
7.14		7.09	< 7.0 or >7.59	7.1		7.09	< 7.0 or >7.59
3.45		5.23		4.17		5.23	
☐ Submitted				☐ Submitted			

Report Date 2/25/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/24/2015
Time Period: 1:00 PM to 3:00 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Round 2. Skookum placing gravel sand backfill. Upstream 300 ft station monitored at mid-depth. Monitoring not conducted at 800 ft. Monitoring at 300 ft below compliance criteria.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

	Near Surface Downstream				Near Surface Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:46 *	14:17	14:51 *	14:17	13:04	13:35	12:54	13:35
Depth (ft)	2	2	2	2	2	2	2.2	2
Turb. (NTU)	10.4 *	3.7	14.9 *	3.7	5.7	3.2	3.2	3.2
Temp. (°C)	8.05	7.64	8.02	7.64	8.01	7.74	7.83	7.74
DO (mg/L)	10.83	11.12	10.53	11.12	10.52	10.83	10.66	10.83
pH (units)	7.15	7.2	7.15	7.2	7.13	7.12	7.13	7.12
Sal. (ppt)	4.79	2.97	5.35	2.97	5.28	4.51	4.71	4.51
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

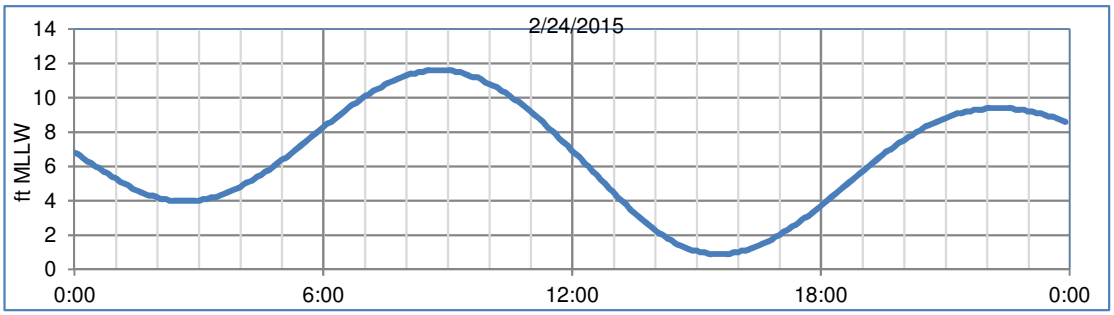
	Near Bottom Downstream				Near Bottom Upstream			
Parameter	**150 ft**	**Ambient**	**300 ft**	**Ambient**	**150 ft**	**Ambient**	**300 ft**	**Ambient**
Time	14:46 *	14:31	13:55	14:26	13:06	13:37	—	—
Depth (ft)	13.5	13.5	6.6	6.6	7.9	7.9	—	—
Turb. (NTU)	94.7 *	4.5	7.4	4	8.4	5.4	—	—
Temp. (°C)	9.09	9.28	7.96	7.73	8.13	7.87	—	—
DO (mg/L)	9.07	7.87	10.24	10.78	10.06	10.16	—	—
pH (units)	7.16	7.37	7.13	7.13	7.12	7.1	—	—
Sal. (ppt)	20.23	23.44	5.79	4.69	7.09	7.74	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

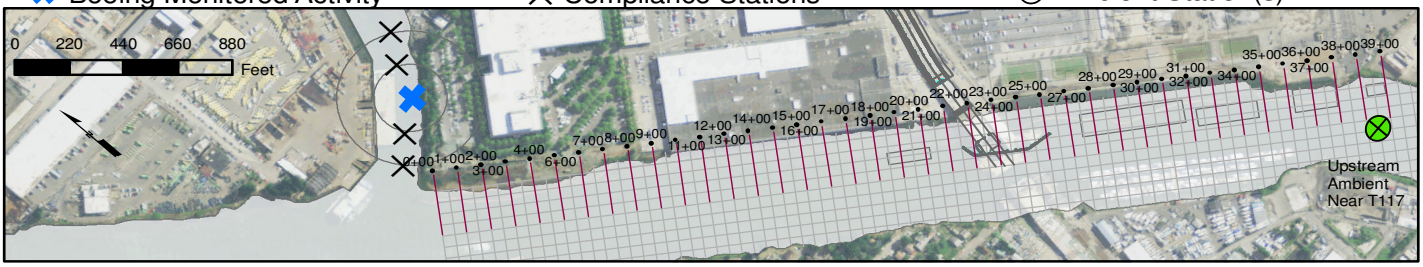
Daily Tides

2:40 AM	4 L
8:47 AM	11.6 H
3:32 PM	0.9 L
10:16 PM	9.4 H
Sunrise	6:59 AM
Sunset	5:46 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/24/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:00

End Time: 15:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:04	14:46	14:17		13:52	14:51	14:17	
Depth (ft)	2		2		2		2	
Turb. (NTU)	14.5	10.4	3.7	8.7	11.8	14.9	3.7	8.7
Temp. (°C)	8.05		7.64	9.77	8.02		7.64	9.77
DO (mg/L)	10.83		11.12	≤ 6 mg/L	10.53		11.12	≤ 6 mg/L
pH (Units)	7.15		7.2	< 7.0 or >7.7	7.15		7.2	< 7.0 or >7.7
Sal. (ppt)	4.79		2.97		5.35		2.97	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:04		13:35		12:54		13:35	
2		2		2.2		2	
5.7		3.2	8.2	3.2		3.2	8.2
8.01		7.74	9.83	7.83		7.74	9.83
10.52		10.83	≤ 6 mg/L	10.66		10.83	≤ 6 mg/L
7.13		7.12	< 7.0 or >7.62	7.13		7.12	< 7.0 or >7.62
5.28		4.51		4.71		4.51	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:05	14:46	14:31		13:55		14:26	
Depth (ft)	13.5		13.5		6.6		6.6	
Turb. (NTU)	15.4	94.7	4.5	9.5	7.4		4	9
Temp. (°C)	9.09		9.28	10.93	7.96		7.73	9.82
DO (mg/L)	9.07		7.87	≤ 6 mg/L	10.24		10.78	≤ 6 mg/L
pH (Units)	7.16		7.37	< 7.0 or >7.87	7.13		7.13	< 7.0 or >7.63
Sal. (ppt)	20.23		23.44		5.79		4.69	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:06		13:37					
7.9		7.9					
8.4		5.4	10.4				—
8.13		7.87	9.91				—
10.06		10.16	≤ 6 mg/L				—
7.12		7.1	< 7.0 or >7.6				—
7.09		7.74					
☐ Submitted				☐ Submitted			

Report Date 2/25/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/24/2015
Time Period: 3:00 PM to 4:15 PM
Activity: Final Backfilling: Intensive Monitoring — During Tide Change
Comments: Round 3 Upstream 300 ft station monitored at mid-depth. Monitoring conducted at 800 downstream of the backfill placement. Turbidity < 18 NTUs over ambient at 800 ft at 10.1 ft water depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

	800ft	Ambient
USFW Monitoring	20.5 NTU	4.4 NTU

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	16:07 *	15:43	16:11 *	15:43	15:10	15:43	15:16	15:43
Depth (ft)	2 *	2	2	2	2	2	2.7	2
Turb. (NTU)	12.6 *	3.1	16.9 *	3.1	5.9	3.1	8.4	3.1
Temp. (°C)	8.23	7.55	8.25	7.55	8.23	7.55	8.21	7.55
DO (mg/L)	10.43	11.45	10.68	11.45	10.76	11.45	10.29	11.45
pH (units)	7.2	7.48	7.18	7.48	7.19	7.48	7.14	7.48
Sal. (ppt)	7.07	0.73	6.57	0.73	5.38	0.73	6.31	0.73
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

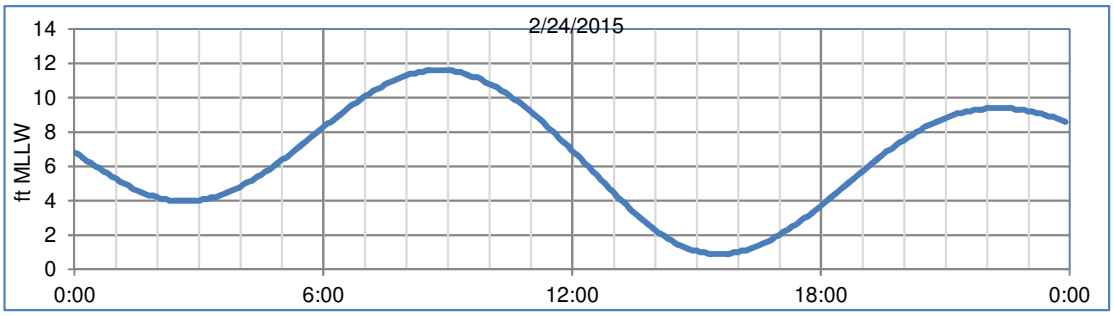
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	16:08 *	15:47	16:12 *	15:47	15:12	15:46	—	—
Depth (ft)	9.1 *	10.1	11.1	10.1	5	5	—	—
Turb. (NTU)	87 *	4.4	71.5 *	4.4	8.4	3.4	—	—
Temp. (°C)	8.36	7.9	8.27	7.9	8.17	7.61	—	—
DO (mg/L)	10.04	10.2	10	10.2	10.11	10.95	—	—
pH (units)	7.18	7.07	7.17	7.07	7.12	7.21	—	—
Sal. (ppt)	8.39	6.78	9.22	6.78	6.67	1.78	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

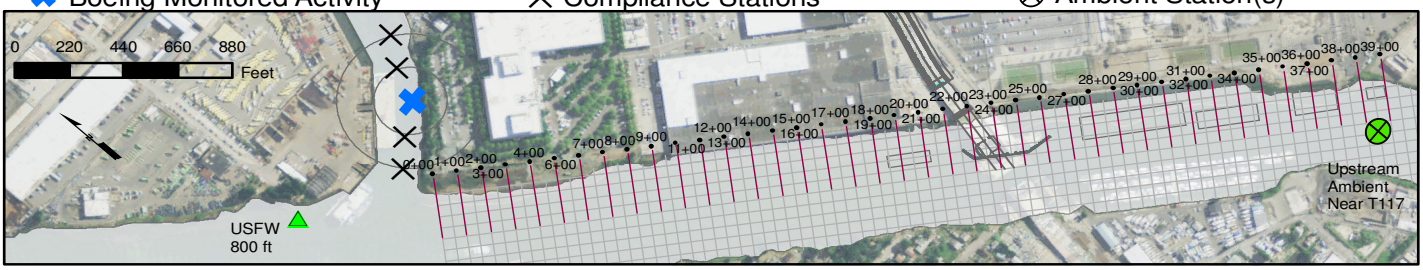
Daily Tides

2:40 AM	4 L
8:47 AM	11.6 H
3:32 PM	0.9 L
10:16 PM	9.4 H
Sunrise	6:59 AM
Sunset	5:46 PM

Tide Curve



✖ Boeing Monitored Activity ⨯ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/24/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 15:00

End Time: 16:15

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient
16:28	20.5	4.4

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:31	16:07	15:43		15:26	16:11	15:43	
Depth (ft)	2	2	2		2		2	
Turb. (NTU)	72.4	12.6	3.1	8.1	68.2	16.9	3.1	8.1
Temp. (°C)	8.23		7.55	9.71	8.25		7.55	9.71
DO (mg/L)	10.43		11.45	≤ 6 mg/L	10.68		11.45	≤ 6 mg/L
pH (Units)	7.2		7.48	< 7.0 or >7.98	7.18		7.48	< 7.0 or >7.98
Sal. (ppt)	7.07		0.73		6.57		0.73	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:10		15:43		15:16		15:43	
2		2		2.7		2	
5.9		3.1	8.1	8.4		3.1	8.1
8.23		7.55	9.71	8.21		7.55	9.71
10.76		11.45	≤ 6 mg/L	10.29		11.45	≤ 6 mg/L
7.19		7.48	< 7.0 or >7.98	7.14		7.48	< 7.0 or >7.98
5.38		0.73		6.31		0.73	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:32	16:08	15:47		15:29	16:12	15:47	
Depth (ft)	9.1	9.1	10.1		11.1		10.1	
Turb. (NTU)	123.6	87	4.4	9.4	126.8	71.5	4.4	9.4
Temp. (°C)	8.36		7.9	9.93	8.27		7.9	9.93
DO (mg/L)	10.04		10.2	≤ 6 mg/L	10		10.2	≤ 6 mg/L
pH (Units)	7.18		7.07	< 7.0 or >7.57	7.17		7.07	< 7.0 or >7.57
Sal. (ppt)	8.39		6.78		9.22		6.78	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:12		15:46					
5		5					
8.4		3.4	8.4				—
8.17		7.61	9.75				—
10.11		10.95	≤ 6 mg/L				—
7.12		7.21	< 7.0 or >7.71				—
6.67		1.78					
☐ Submitted				☐ Submitted			

Report Date 4/21/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/24/2015
Time Period: 4:30 PM to 5:15 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Round 4. Skookum suspended placing backfill. Partial round only. Upstream stations could not be accessed.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	16:36	16:56	16:39	16:56	—	—	—	—
Depth (ft)	2	2	2	2	—	—	—	—
Turb. (NTU)	7.1	2.4	7.2	2.4	—	—	—	—
Temp. (°C)	7.99	7.74	7.99	7.74	—	—	—	—
DO (mg/L)	10.93	10.68	10.23	10.68	—	—	—	—
pH (units)	7.23	7.64	7.23	7.64	—	—	—	—
Sal. (ppt)	4.2	0.61	4.4	0.61	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

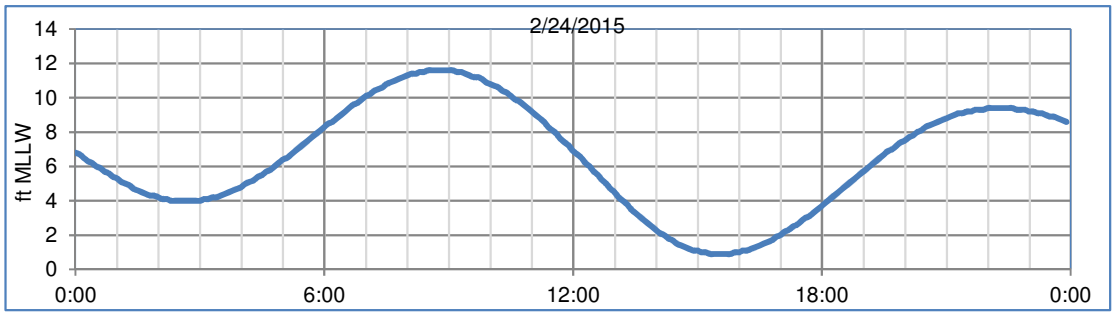
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	16:37	16:54	17:06 *	16:54	—	—	—	—
Depth (ft)	12.8	12	11.2	12	—	—	—	—
Turb. (NTU)	7.8	4.3	21.4 *	4.3	—	—	—	—
Temp. (°C)	9.1	8.47	8.95	8.47	—	—	—	—
DO (mg/L)	9.08	9.44	8.39	9.44	—	—	—	—
pH (units)	7.21	7.2	7.3	7.2	—	—	—	—
Sal. (ppt)	20.73	15.49	18.67	15.49	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

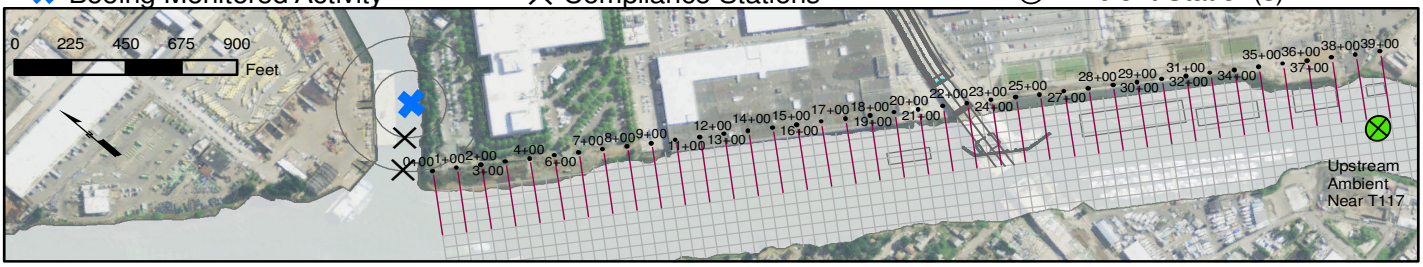
Daily Tides

2:40 AM	4 L
8:47 AM	11.6 H
3:32 PM	0.9 L
10:16 PM	9.4 H
Sunrise	6:59 AM
Sunset	5:46 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/24/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 16:30

End Time: 17:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:36		16:56		16:39		16:56	
Depth (ft)	2		2		2		2	
Turb. (NTU)	7.1		2.4	7.4	7.2		2.4	7.4
Temp. (°C)	7.99		7.74	9.83	7.99		7.74	9.83
DO (mg/L)	10.93		10.68	≤ 6 mg/L	10.23		10.68	≤ 6 mg/L
pH (Units)	7.23		7.64	<7.14 and >8.14	7.23		7.64	<7.14 and >8.14
Sal. (ppt)	4.2		0.61		4.4		0.61	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1) Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:37		16:54		16:41	17:06	16:54	
Depth (ft)	12.8		12		11.2		12	
Turb. (NTU)	7.8		4.3	9.3	18.3	21.4	4.3	9.3
Temp. (°C)	9.1		8.47	10.32	8.95		8.47	10.32
DO (mg/L)	9.08		9.44	≤ 6 mg/L	8.39		9.44	≤ 6 mg/L
pH (Units)	7.21		7.2	< 7.0 or >7.7	7.3		7.2	< 7.0 or >7.7
Sal. (ppt)	20.73		15.49		18.67		15.49	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2) Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 2/26/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/25/2015
Time Period: 11:00 AM to 11:45 AM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Backfilling by Aberdeen near South Park Bridge.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	11:05	11:15	10:58	11:15	11:32	11:40	11:24	11:40
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.7	1.4	5.7	1.4	1.3	1.3	1.2	1.3
Temp. (°C)	7.48	7.29	7.54	7.29	7.28	7.24	7.27	7.24
DO (mg/L)	10.43	10.72	10.39	10.72	10.81	10.8	10.8	10.8
pH (units)	7.15	7.22	7.07	7.22	7.3	7.26	7.27	7.26
Sal. (ppt)	3.93	1.83	4.39	1.83	1.4	1.41	1.38	1.41
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

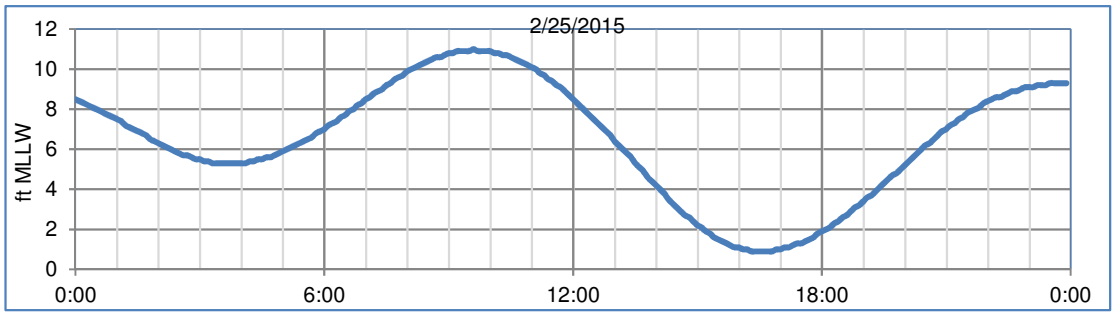
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	11:06	11:16	11:00	11:16	11:33	11:42	11:25	11:42
Depth (ft)	7.9	7.2	6.6	7.2	7.8	7.3	6.8	7.3
Turb. (NTU)	2.7	2.4	4.1	2.4	2.5	2.4	2.8	2.4
Temp. (°C)	9.06	8.94	8.85	8.94	9.13	8.73	8.59	8.73
DO (mg/L)	8.86	9.06	8.84	7.06	8.9	9.13	9.5	9.13
pH (units)	7.21	7.09	7.2	7.09	7.13	7.14	7.1	7.14
Sal. (ppt)	22.3	18.9	18.8	18.9	22.15	16.77	14.39	16.77
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

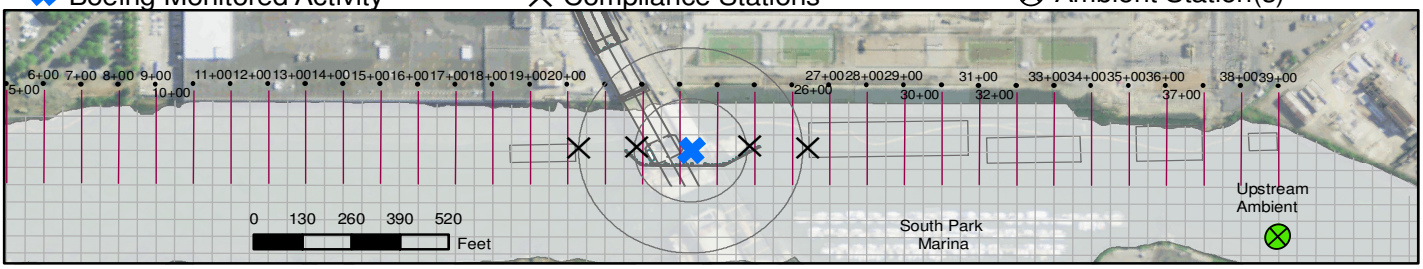
Daily Tides

3:42 AM	5.3 L
9:37 AM	11 H
4:33 PM	0.9 L
11:53 PM	9.3 H
Sunrise	6:57 AM
Sunset	5:48 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/25/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 11:00

End Time: 11:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:05		11:15		10:58		11:15	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.7		1.4	6.4	5.7		1.4	6.4
Temp. (°C)	7.48		7.29	9.56	7.54		7.29	9.56
DO (mg/L)	10.43		10.72	≤ 6 mg/L	10.39		10.72	≤ 6 mg/L
pH (Units)	7.15		7.22	< 7.0 or >7.72	7.07		7.22	< 7.0 or >7.72
Sal. (ppt)	3.93		1.83		4.39		1.83	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:32		11:40		11:24		11:40	
2		2		2		2	
1.3		1.3	6.3	1.2		1.3	6.3
7.28		7.24	9.53	7.27		7.24	9.53
10.81		10.8	≤ 6 mg/L	10.8		10.8	≤ 6 mg/L
7.3		7.26	< 7.0 or >7.76	7.27		7.26	< 7.0 or >7.76
1.4		1.41		1.38		1.41	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:06		11:16		11:00		11:16	
Depth (ft)	7.9		7.2		6.6		7.2	
Turb. (NTU)	2.7		2.4	7.4	4.1		2.4	7.4
Temp. (°C)	9.06		8.94	10.67	8.85		8.94	10.67
DO (mg/L)	8.86		9.06	≤ 6 mg/L	8.84		7.06	≤ 6 mg/L
pH (Units)	7.21		7.09	< 7.0 or >7.59	7.2		7.09	< 7.0 or >7.59
Sal. (ppt)	22.3		18.9		18.8		18.9	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:33		11:42		11:25		11:42	
7.8		7.3		6.8		7.3	
2.5		2.4	7.4	2.8		2.4	7.4
9.13		8.73	10.51	8.59		8.73	10.51
8.9		9.13	≤ 6 mg/L	9.5		9.13	≤ 6 mg/L
7.13		7.14	< 7.0 or >7.64	7.1		7.14	< 7.0 or >7.64
22.15		16.77		14.39		16.77	
☐ Submitted				☐ Submitted			

Report Date 4/21/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/25/2015
Time Period: 11:45 AM to 1:00 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Backfill placement in Slip 4

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	12:05	12:21	11:56	12:21	12:42	12:55	12:37	12:55
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.6	1.4	3	1.4	4.3	1.7	4	1.4
Temp. (°C)	8.05	7.32	7.82	7.32	7.85	7.46	7.97	7.46
DO (mg/L)	9.94	10.8	10.08	10.8	10.39	10.79	10.5	10.19
pH (units)	7.15	7.24	7.11	7.27	7.13	7.22	7.14	7.22
Sal. (ppt)	9.1	1.72	6.9	1.72	5.55	2.25	4.98	2.25
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

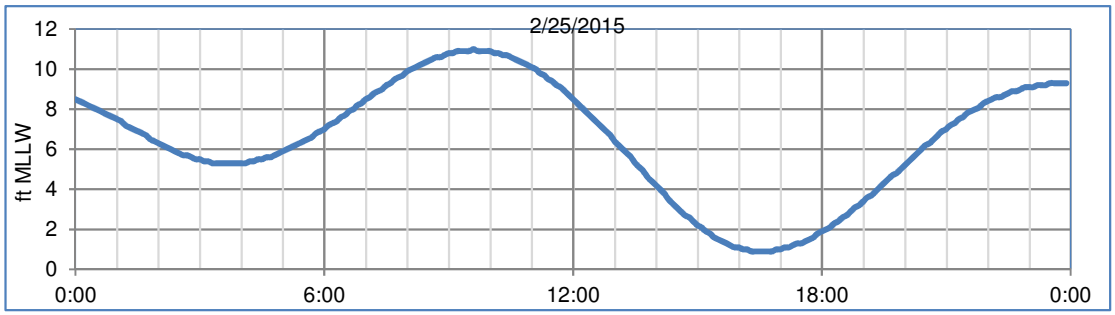
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	12:06	12:22	11:57	12:22	12:43	12:58	12:38	12:57
Depth (ft)	16.1	17.6	19.1	17.6	9.8	9.8	4.6	4.6
Turb. (NTU)	6.4	2.6	5.4	2.6	6.3	2	4.9	1.8
Temp. (°C)	9.24	9.61	9.52	9.61	8.68	9.09	8.17	7.48
DO (mg/L)	8.52	7.94	8.05	7.94	9.3	8.54	9.97	10.53
pH (units)	7.35	7.48	7.43	7.48	7.17	7.32	7.12	7.14
Sal. (ppt)	23.45	27.75	26.98	27.25	15.42	22.24	8.43	3.06
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

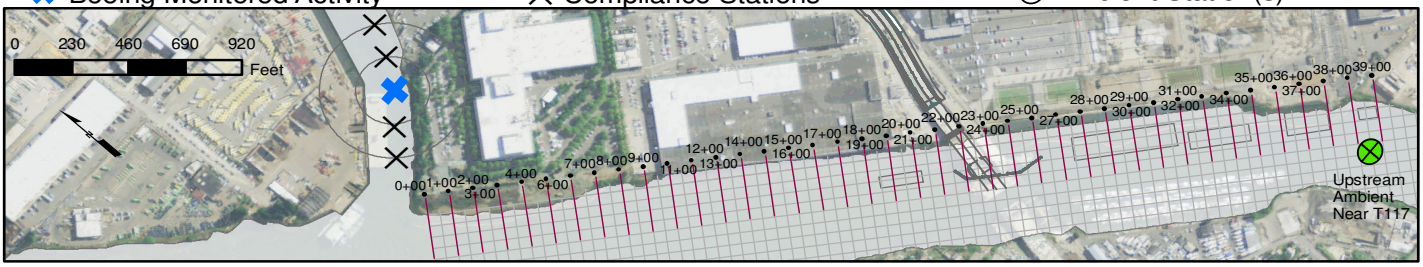
Daily Tides

3:42 AM	5.3 L
9:37 AM	11 H
4:33 PM	0.9 L
11:53 PM	9.3 H
Sunrise	6:57 AM
Sunset	5:48 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/25/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 11:45

End Time: 13:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:05		12:21		11:56		12:21	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.6		1.4	6.4	3		1.4	6.4
Temp. (°C)	8.05		7.32	9.58	7.82		7.32	9.58
DO (mg/L)	9.94		10.8	≤ 6 mg/L	10.08		10.8	≤ 6 mg/L
pH (Units)	7.15		7.24	< 7.0 or >7.74	7.11		7.27	< 7.0 or >7.77
Sal. (ppt)	9.1		1.72		6.9		1.72	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:42		12:55		12:37		12:55	
2		2		2		2	
4.3		1.7	6.7	4		1.4	6.4
7.85		7.46	9.66	7.97		7.46	9.66
10.39		10.79	≤ 6 mg/L	10.5		10.19	≤ 6 mg/L
7.13		7.22	< 7.0 or >7.72	7.14		7.22	< 7.0 or >7.72
5.55		2.25		4.98		2.25	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:06		12:22		11:57		12:22	
Depth (ft)	16.1		17.6		19.1		17.6	
Turb. (NTU)	6.4		2.6	7.6	5.4		2.6	7.6
Temp. (°C)	9.24		9.61	11.19	9.52		9.61	11.19
DO (mg/L)	8.52		7.94	≤ 6 mg/L	8.05		7.94	≤ 6 mg/L
pH (Units)	7.35		7.48	< 7.0 or >7.98	7.43		7.48	< 7.0 or >7.98
Sal. (ppt)	23.45		27.75		26.98		27.25	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:43		12:58		12:38		12:57	
9.8		9.8		4.6		4.6	
6.3		2	7	4.9		1.8	6.8
8.68		9.09	10.78	8.17		7.48	9.67
9.3		8.54	≤ 6 mg/L	9.97		10.53	≤ 6 mg/L
7.17		7.32	< 7.0 or >7.82	7.12		7.14	< 7.0 or >7.64
15.42		22.24		8.43		3.06	
☐ Submitted				☐ Submitted			

Report Date 4/21/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/26/2015
Time Period: 11:45 AM to 2:45 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Downstream 150 ft and upstream 150 and 300 ft stations monitored at mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:17 *	12:49	11:57	12:47	14:24	14:35	14:28	14:35
Depth (ft)	3.5	3.5	2	2	3	3	3	3
Turb. (NTU)	5.6 *	2	5.2	1.9	3	2.5	3	2.5
Temp. (°C)	8.39	8.08	8.25	8.13	8.38	8.46	8.37	8.46
DO (mg/L)	9.82	10.63	10.57	11.32	10.59	10.9	11.02	10.9
pH (units)	7.16	7.26	7.22	7.4	7.18	7.19	7.17	7.19
Sal. (ppt)	7.25	1.25	5.57	1.03	3.25	2.56	3.34	2.56
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

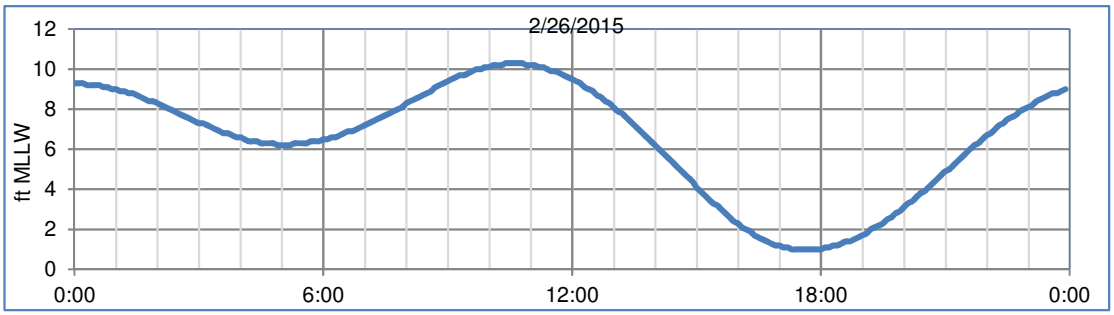
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	—	—	11:58	12:51	—	—	—	—
Depth (ft)	—	—	5.6	5.6	—	—	—	—
Turb. (NTU)	—	—	7.6	3.3	—	—	—	—
Temp. (°C)	—	—	8.53	8.04	—	—	—	—
DO (mg/L)	—	—	9.66	10.29	—	—	—	—
pH (units)	—	—	7.14	7.08	—	—	—	—
Sal. (ppt)	—	—	10.98	3.56	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

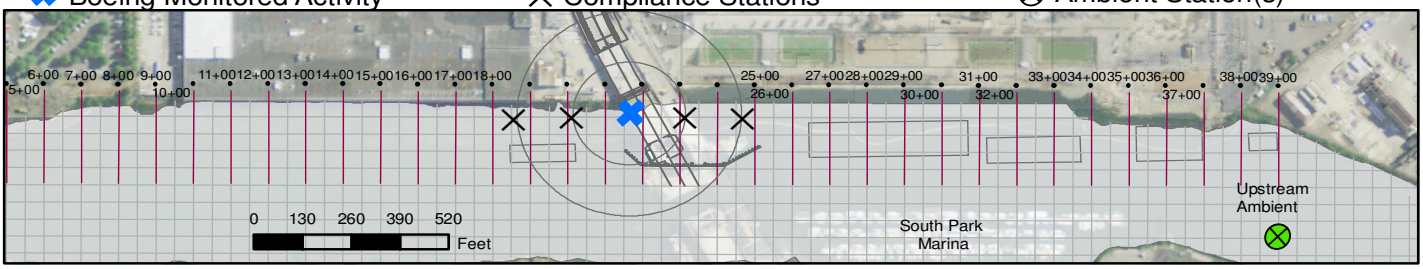
Daily Tides

5:03 AM	6.2 L
10:35 AM	10.3 H
5:40 PM	1 L
12:00 AM	
Sunrise	6:56 AM
Sunset	5:50 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/26/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 11:45

End Time: 14:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:39	13:17	12:49		11:57		12:47	
Depth (ft)	3.5		3.5		2		2	
Turb. (NTU)	14.6	5.6	2	7	5.2		1.9	6.9
Temp. (°C)	8.39		8.08	10.05	8.25		8.13	10.09
DO (mg/L)	9.82		10.63	≤ 6 mg/L	10.57		11.32	≤ 6 mg/L
pH (Units)	7.16		7.26	< 7.0 or >7.76	7.22		7.4	< 7.0 or >7.9
Sal. (ppt)	7.25		1.25		5.57		1.03	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:24		14:35		14:28		14:35	
3		3		3		3	
3		2.5	7.5	3		2.5	7.5
8.38		8.46	10.32	8.37		8.46	10.32
10.59		10.9	≤ 6 mg/L	11.02		10.9	≤ 6 mg/L
7.18		7.19	< 7.0 or >7.69	7.17		7.19	< 7.0 or >7.69
3.25		2.56		3.34		2.56	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time					11:58		12:51	
Depth (ft)					5.6		5.6	
Turb. (NTU)				—	7.6		3.3	8.3
Temp. (°C)				—	8.53		8.04	10.03
DO (mg/L)				—	9.66		10.29	≤ 6 mg/L
pH (Units)				—	7.14		7.08	< 7.0 or >7.58
Sal. (ppt)					10.98		3.56	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
			—				—
			—				—
			—				—
			—				—
☐ Submitted				☐ Submitted			

Report Date 2/27/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/26/2015
Time Period: 1:45 PM to 3:45 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Backfill monitoring in Slip 4

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:58	14:34	13:50	14:34	15:06	15:30	15:13	15:30
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.6	2.4	5.8	2.4	10.6	3	5.3	3
Temp. (°C)	8.42	8.45	8.38	8.45	8.62	8.6	8.59	8.6
DO (mg/L)	10.43	11.39	10.93	11.39	10.88	10.99	10.97	10.99
pH (units)	7.17	7.25	7.16	7.25	7.19	7.21	7.21	7.21
Sal. (ppt)	5.6	2.49	5.64	2.49	5.53	3.74	5.46	3.74
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

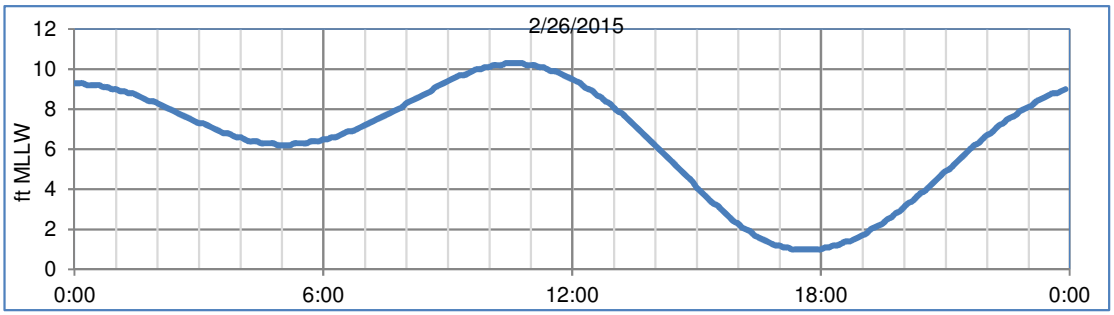
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	14:00	14:36	14:51 *	14:36	15:08	15:32	15:14	15:31
Depth (ft)	7	7.9	8.7	7.9	5	5	3.9	3.9
Turb. (NTU)	9.3	2.8	28.6 *	2.8	9.8	4.2	6	3.5
Temp. (°C)	8.61	8.44	8.75	8.44	8.56	8.59	8.64	8.59
DO (mg/L)	9.73	10.19	9.6	10.19	10.07	10.24	10.54	10.6
pH (units)	7.12	7.1	7.16	7.1	7.13	7.16	7.16	7.18
Sal. (ppt)	10.02	5.33	12.63	5.33	6.87	4.29	5.87	4.08
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

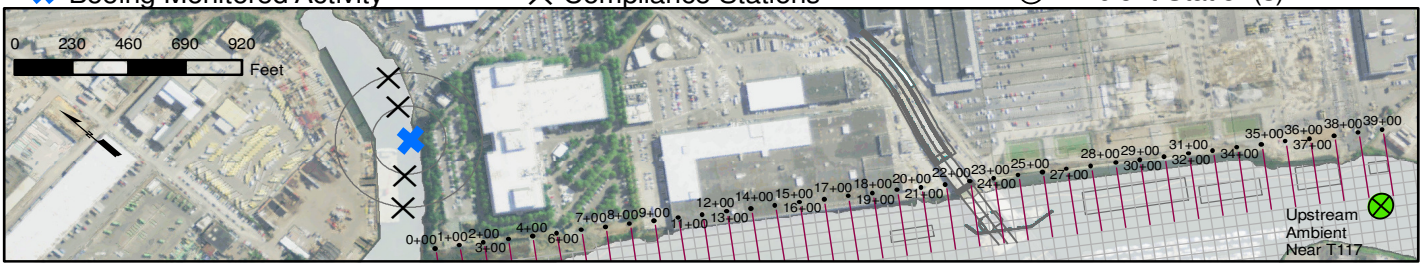
Daily Tides

5:03 AM	6.2 L
10:35 AM	10.3 H
5:40 PM	1 L
12:00 AM	
Sunrise	6:56 AM
Sunset	5:50 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/26/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:45

End Time: 15:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:58		14:34		13:50		14:34	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.6		2.4	7.4	5.8		2.4	7.4
Temp. (°C)	8.42		8.45	10.31	8.38		8.45	10.31
DO (mg/L)	10.43		11.39	≤ 6 mg/L	10.93		11.39	≤ 6 mg/L
pH (Units)	7.17		7.25	< 7.0 or >7.75	7.16		7.25	< 7.0 or >7.75
Sal. (ppt)	5.6		2.49		5.64		2.49	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:06		15:30		15:13		15:30	
2		2		2		2	
10.6		3	8	5.3		3	8
8.62		8.6	10.42	8.59		8.6	10.42
10.88		10.99	≤ 6 mg/L	10.97		10.99	≤ 6 mg/L
7.19		7.21	< 7.0 or >7.71	7.21		7.21	< 7.0 or >7.71
5.53		3.74		5.46		3.74	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:00		14:36		13:52	14:51	14:36	
Depth (ft)	7		7.9		8.7		7.9	
Turb. (NTU)	9.3		2.8	7.8	15.8	28.6	2.8	7.8
Temp. (°C)	8.61		8.44	10.30	8.75		8.44	10.30
DO (mg/L)	9.73		10.19	≤ 6 mg/L	9.6		10.19	≤ 6 mg/L
pH (Units)	7.12		7.1	< 7.0 or >7.6	7.16		7.1	< 7.0 or >7.6
Sal. (ppt)	10.02		5.33		12.63		5.33	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:08		15:32		15:14		15:31	
5		5		3.9		3.9	
9.8		4.2	9.2	6		3.5	8.5
8.56		8.59	10.41	8.64		8.59	10.41
10.07		10.24	≤ 6 mg/L	10.54		10.6	≤ 6 mg/L
7.13		7.16	< 7.0 or >7.66	7.16		7.18	< 7.0 or >7.68
6.87		4.29		5.87		4.08	
☐ Submitted				☐ Submitted			

Report Date 2/27/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/26/2015
Time Period: 3:45 PM to 5:00 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: Round 3 Monitoring of backfill in Slip 4. Monitoring at 300 ft upstream conducted at mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:58	16:29	15:50	16:29	16:09	16:29	16:14	16:31
Depth (ft)	2	2	2	3	2	2	3	4
Turb. (NTU)	6.6	3.6	5.8	3.6	5	3.6	5.4	3.6
Temp. (°C)	8.63	8.57	8.58	8.57	8.66	8.57	8.7	8.56
DO (mg/L)	10.66	11.24	11.68	11.24	11.2	11.24	10.35	10.37
pH (units)	7.23	7.25	7.27	7.25	7.27	7.25	7.17	7.17
Sal. (ppt)	4.38	3.26	4.53	3.26	4.85	3.26	5.11	3.79
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

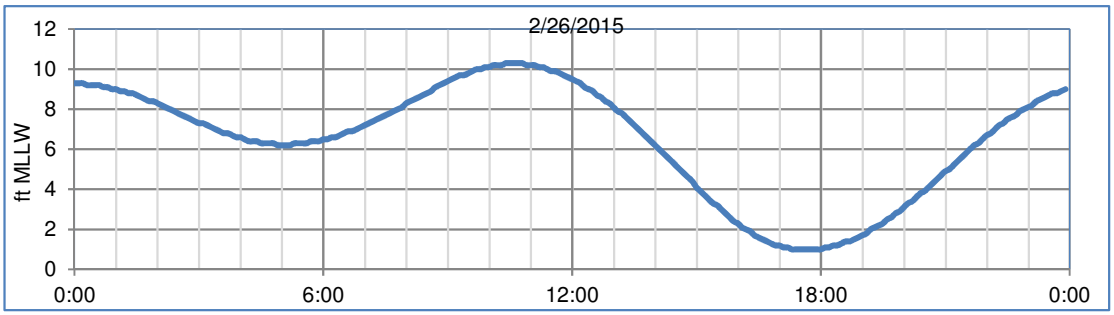
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	16:00	16:31	16:49 *	16:32	16:10	16:31	—	—
Depth (ft)	5.3	4	10.4	10.4	4.2	4	—	—
Turb. (NTU)	33.4	3.6	40 *	4.3	5	3.6	—	—
Temp. (°C)	8.71	8.56	8.9	8.73	8.73	8.56	—	—
DO (mg/L)	10.18	10.37	9.23	9.61	10.46	10.37	—	—
pH (units)	7.16	7.17	7.2	7.12	7.18	7.17	—	—
Sal. (ppt)	5.2	3.79	13.84	8.94	5.61	3.79	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

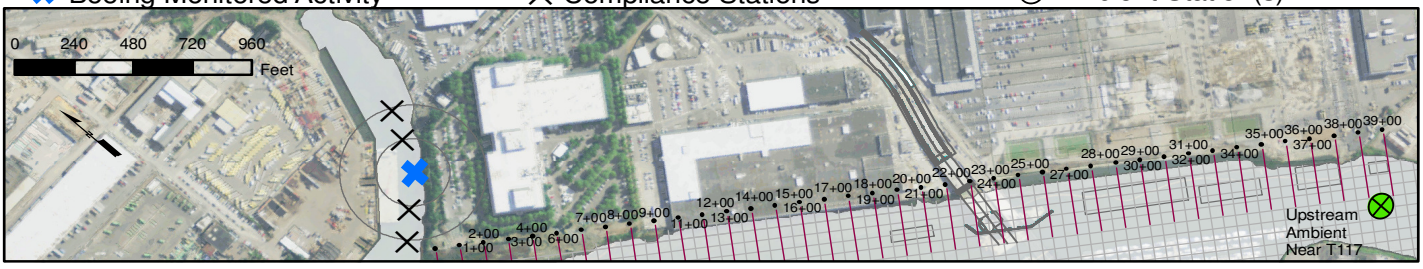
Daily Tides

5:03 AM	6.2 L
10:35 AM	10.3 H
5:40 PM	1 L
12:00 AM	
Sunrise	6:56 AM
Sunset	5:50 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/26/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 15:45

End Time: 17:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:58		16:29		15:50		16:29	
Depth (ft)	2		2		2		3	
Turb. (NTU)	6.6		3.6	8.6	5.8		3.6	8.6
Temp. (°C)	8.63		8.57	10.40	8.58		8.57	10.40
DO (mg/L)	10.66		11.24	≤ 6 mg/L	11.68		11.24	≤ 6 mg/L
pH (Units)	7.23		7.25	< 7.0 or >7.75	7.27		7.25	< 7.0 or >7.75
Sal. (ppt)	4.38		3.26		4.53		3.26	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
16:09		16:29		16:14		16:31	
2		2		3		4	
5		3.6	8.6	5.4		3.6	8.6
8.66		8.57	10.40	8.7		8.56	10.39
11.2		11.24	≤ 6 mg/L	10.35		10.37	≤ 6 mg/L
7.27		7.25	< 7.0 or >7.75	7.17		7.17	< 7.0 or >7.67
4.85		3.26		5.11		3.79	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	16:00		16:31		15:53	16:49	16:32	
Depth (ft)	5.3		4		10.4		10.4	
Turb. (NTU)	33.4		3.6	8.6	45.8	40	4.3	9.3
Temp. (°C)	8.71		8.56	10.39	8.9		8.73	10.51
DO (mg/L)	10.18		10.37	≤ 6 mg/L	9.23		9.61	≤ 6 mg/L
pH (Units)	7.16		7.17	< 7.0 or >7.67	7.2		7.12	< 7.0 or >7.62
Sal. (ppt)	5.2		3.79		13.84		8.94	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
16:10		16:31					
4.2		4					
5		3.6	8.6				—
8.73		8.56	10.39				—
10.46		10.37	≤ 6 mg/L				—
7.18		7.17	< 7.0 or >7.67				—
5.61		3.79					
☐ Submitted				☐ Submitted			

Report Date 3/2/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/27/2015
Time Period: 2:15 PM to 3:15 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: 150 ft downstream monitoring conducted at mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	14:23	14:39	14:18	14:39	14:58	15:06	14:51	15:06
Depth (ft)	2.5	2	2	2	2	2	2	2
Turb. (NTU)	5.1	5.8	5.4	5.8	5.1	5.9	4.7	5.9
Temp. (°C)	9	9.18	9.06	9.18	9.07	9.18	9.15	9.18
DO (mg/L)	10.48	10.82	10.65	10.82	10.29	10.83	10.57	10.83
pH (units)	7.31	7.41	7.35	7.41	7.14	7.32	7.39	7.32
Sal. (ppt)	2.43	0.87	2.36	0.87	2.7	1.25	1.32	1.25
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

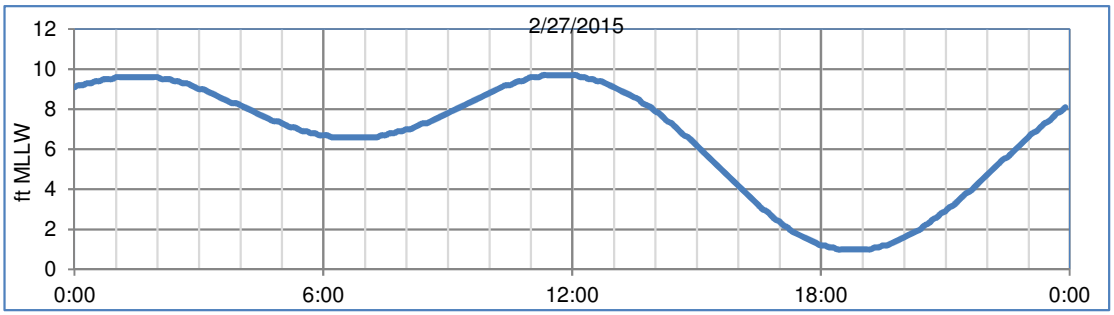
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	—	—	14:20	14:36	14:59	15:07	14:52	15:07
Depth (ft)	—	—	7	7	5	5	5	5
Turb. (NTU)	—	—	5.7	4.7	5	6	4.8	6
Temp. (°C)	—	—	9.09	8.91	9.07	9.21	9.04	9.21
DO (mg/L)	—	—	9.85	10.23	9.94	10.6	10.13	10.6
pH (units)	—	—	7.27	7.13	7.09	7.2	7.06	7.2
Sal. (ppt)	—	—	7.72	3.21	6.52	2.32	6.11	2.32
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

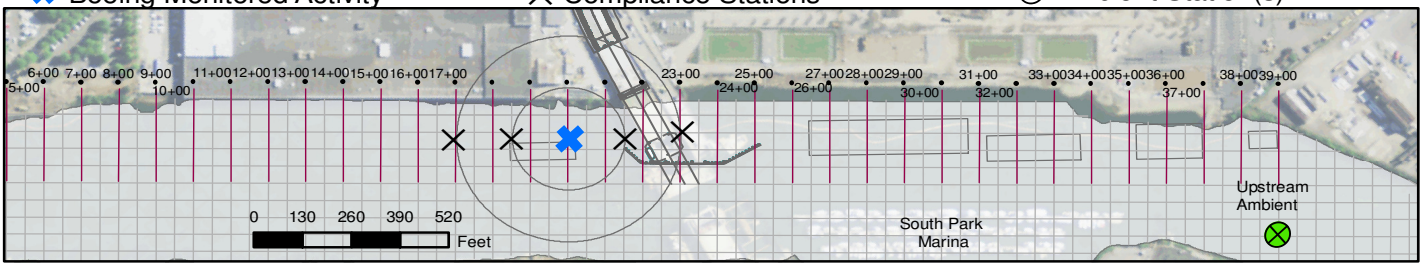
Daily Tides

1:30 AM	9.6 H
6:43 AM	6.6 L
11:41 AM	9.7 H
6:46 PM	1 L
Sunrise	6:54 AM
Sunset	5:51 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/27/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 14:15

End Time: 15:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:23		14:39		14:18		14:39	
Depth (ft)	2.5		2		2		2	
Turb. (NTU)	5.1		5.8	10.8	5.4		5.8	10.8
Temp. (°C)	9		9.18	10.85	9.06		9.18	10.85
DO (mg/L)	10.48		10.82	≤ 6 mg/L	10.65		10.82	≤ 6 mg/L
pH (Units)	7.31		7.41	< 7.0 or >7.91	7.35		7.41	< 7.0 or >7.91
Sal. (ppt)	2.43		0.87		2.36		0.87	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:58		15:06		14:51		15:06	
2		2		2		2	
5.1		5.9	10.9	4.7		5.9	10.9
9.07		9.18	10.85	9.15		9.18	10.85
10.29		10.83	≤ 6 mg/L	10.57		10.83	≤ 6 mg/L
7.14		7.32	< 7.0 or >7.82	7.39		7.32	< 7.0 or >7.82
2.7		1.25		1.32		1.25	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time					14:20		14:36	
Depth (ft)					7		7	
Turb. (NTU)				—	5.7		4.7	9.7
Temp. (°C)				—	9.09		8.91	10.65
DO (mg/L)				—	9.85		10.23	≤ 6 mg/L
pH (Units)				—	7.27		7.13	< 7.0 or >7.63
Sal. (ppt)					7.72		3.21	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
14:59		15:07		14:52		15:07	
5		5		5		5	
5		6	11	4.8		6	11
9.07		9.21	10.87	9.04		9.21	10.87
9.94		10.6	≤ 6 mg/L	10.13		10.6	≤ 6 mg/L
7.09		7.2	< 7.0 or >7.7	7.06		7.2	< 7.0 or >7.7
6.52		2.32		6.11		2.32	
☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/28/2015
Time Period: 12:45 PM to 1:45 PM
Activity: Final Backfilling: Intensive Monitoring — During Tide Change
Comments: 150 ft and 300 ft downstream stations and 150 ft upstream station monitored at mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:40 *	13:30	13:22	13:30	12:58	13:06	12:52	13:05
Depth (ft)	3.5	4	4	4	4	4	2	2
Turb. (NTU)	22.6 *	5.4	8.8	5.4	4.9	5.3	5.4	5.1
Temp. (°C)	8.92	9	8.97	9	8.9	8.96	8.96	9
DO (mg/L)	10.4	10.78	10.54	10.78	10.63	10.66	10.56	10.77
pH (units)	7.23	7.36	7.29	7.36	7.32	7.33	7.34	7.36
Sal. (ppt)	4.16	1.6	2.74	1.6	2.14	1.62	2.03	1.61
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

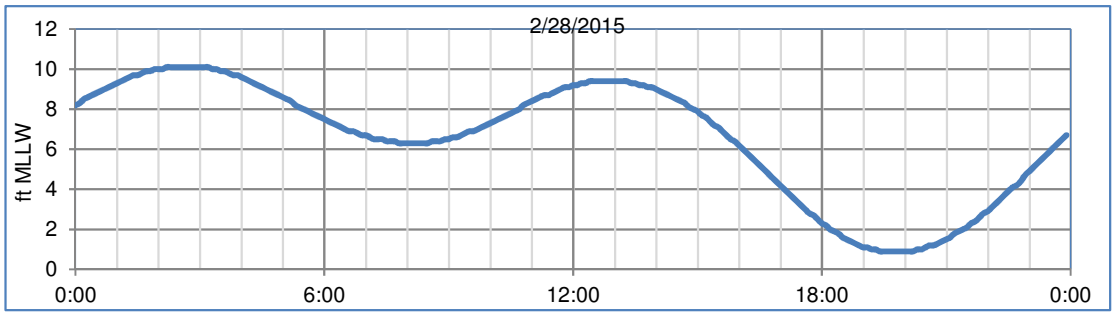
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	—	—	—	—	—	—	12:53	13:06
Depth (ft)	—	—	—	—	—	—	6.9	7
Turb. (NTU)	—	—	—	—	—	—	5.2	5.1
Temp. (°C)	—	—	—	—	—	—	8.82	8.74
DO (mg/L)	—	—	—	—	—	—	10.27	10.31
pH (units)	—	—	—	—	—	—	7.18	7.16
Sal. (ppt)	—	—	—	—	—	—	4.25	3.82
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

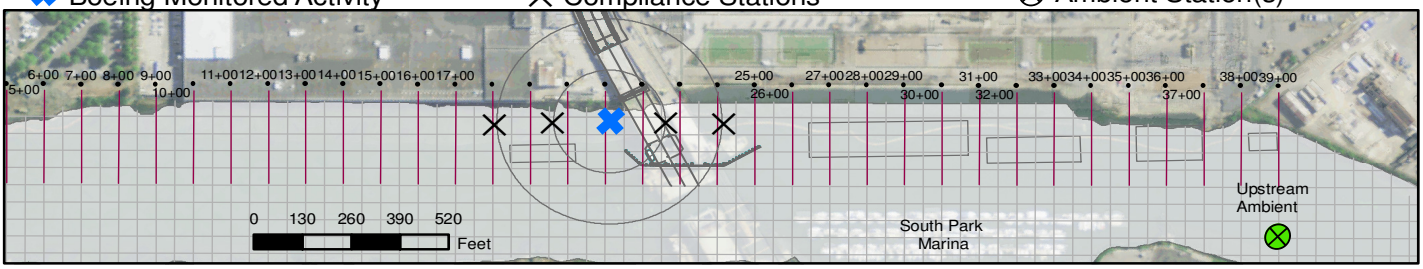
Daily Tides

2:41 AM	10.1 H
8:08 AM	6.3 L
12:51 PM	9.4 H
7:47 PM	0.9 L
Sunrise	6:52 AM
Sunset	5:53 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/28/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 12:45

End Time: 13:45

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:18	13:40	13:30		13:22		13:30	
Depth (ft)	3.5		4		4		4	
Turb. (NTU)	12.7	22.6	5.4	10.4	8.8		5.4	10.4
Temp. (°C)	8.92		9	10.71	8.97		9	10.71
DO (mg/L)	10.4		10.78	≤ 6 mg/L	10.54		10.78	≤ 6 mg/L
pH (Units)	7.23		7.36	< 7.0 or >7.86	7.29		7.36	< 7.0 or >7.86
Sal. (ppt)	4.16		1.6		2.74		1.6	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:58		13:06		12:52		13:05	
Depth (ft)	4		4		2		2	
Turb. (NTU)	4.9		5.3	10.3	5.4		5.1	10.1
Temp. (°C)	8.9		8.96	10.68	8.96		9	10.71
DO (mg/L)	10.63		10.66	≤ 6 mg/L	10.56		10.77	≤ 6 mg/L
pH (Units)	7.32		7.33	< 7.0 or >7.83	7.34		7.36	< 7.0 or >7.86
Sal. (ppt)	2.14		1.62		2.03		1.61	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time					12:53		13:06	
Depth (ft)					6.9		7	
Turb. (NTU)				—	5.2		5.1	10.1
Temp. (°C)				—	8.82		8.74	10.52
DO (mg/L)				—	10.27		10.31	≤ 6 mg/L
pH (Units)				—	7.18		7.16	< 7.0 or >7.66
Sal. (ppt)					4.25		3.82	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/28/2015
Time Period: 3:00 PM to 4:00 PM
Activity: Final Backfilling: Intensive Monitoring — Ebb Tide
Comments: 300 ft upstream monitoring conducted at mid-depth. 15:15 Aberdeen stops placing backfill @ bridge, Downstream monitoring not conducted.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	—	—	—	—	15:03	15:12	15:08	15:13
Depth (ft)	—	—	—	—	2	2	4	4
Turb. (NTU)	—	—	—	—	5	4.9	5.1	4.9
Temp. (°C)	—	—	—	—	9.2	9.13	9.3	9.17
DO (mg/L)	—	—	—	—	10.91	11.15	10.85	10.92
pH (units)	—	—	—	—	7.51	7.6	7.45	7.42
Sal. (ppt)	—	—	—	—	1.23	0.79	1.22	0.88
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

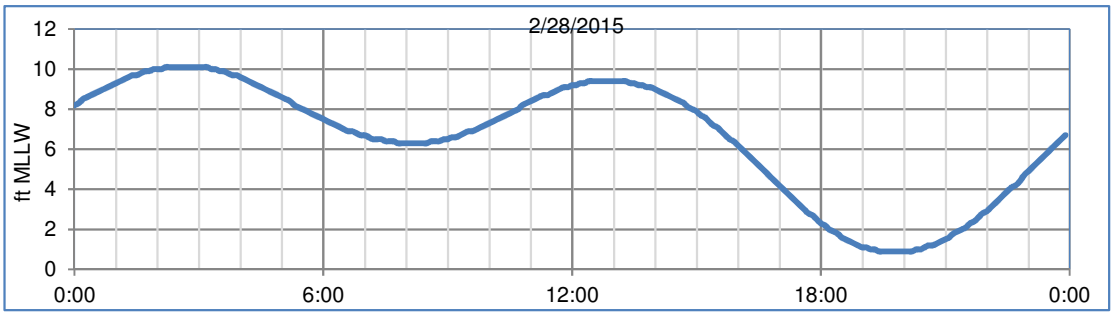
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	—	—	—	—	15:04	15:14	—	—
Depth (ft)	—	—	—	—	7.5	7.5	—	—
Turb. (NTU)	—	—	—	—	5	4.6	—	—
Temp. (°C)	—	—	—	—	9.07	8.87	—	—
DO (mg/L)	—	—	—	—	10.64	10.35	—	—
pH (units)	—	—	—	—	7.33	7.14	—	—
Sal. (ppt)	—	—	—	—	2.36	4.23	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

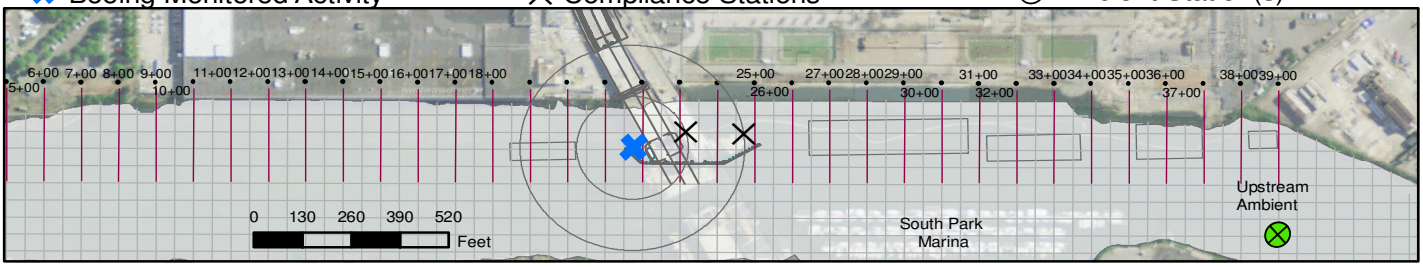
Daily Tides

2:41 AM	10.1 H
8:08 AM	6.3 L
12:51 PM	9.4 H
7:47 PM	0.9 L
Sunrise	6:52 AM
Sunset	5:53 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/28/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 15:00

End Time: 16:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				5				—
Temp. (°C)				-6.00				—
DO (mg/L)				≤ 6 mg/L				—
pH (Units)				< 7.0 or >0.5				—
Sal. (ppt)								
Sample ID								

Analyze ☐ Submitted ☐ Submitted

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:03		15:12		15:08		15:13	
2		2		4		4	
5		4.9	9.9	5.1		4.9	9.9
9.2		9.13	10.81	9.3		9.17	10.84
10.91		11.15	≤ 6 mg/L	10.85		10.92	≤ 6 mg/L
7.51		7.6	<7.1 and >8.1	7.45		7.42	< 7.0 or >7.92
1.23		0.79		1.22		0.88	

☐ Submitted ☐ Submitted

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								

Analyze ☐ Submitted ☐ Submitted

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:04		15:14					
7.5		7.5					
5		4.6	9.6				—
9.07		8.87	10.62				—
10.64		10.35	≤ 6 mg/L				—
7.33		7.14	< 7.0 or >7.64				—
2.36		4.23					

☐ Submitted ☐ Submitted

Report Date 4/21/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 3/2/2015
Time Period: 1:15 PM to 2:45 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Aberdeen backfilling under the bridge.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	14:07	14:28	14:20	14:28	14:48 *	13:32	13:24	13:32
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	4	3.1	3.5	3.1	3.9 *	2.9	3.5	2.9
Temp. (°C)	8.07	8.22	8.18	8.22	7.98	8.11	8	8.11
DO (mg/L)	10.31	10.7	10.41	10.7	10.39	10.67	10.55	10.67
pH (units)	7.22	7.29	7.28	7.29	7.22	7.27	7.24	7.27
Sal. (ppt)	4.5	4.16	4.06	4.16	4.32	4.09	3.95	4.09
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

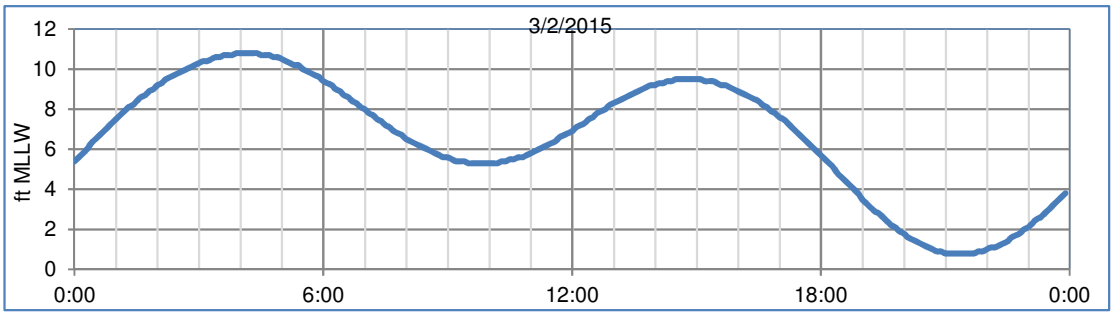
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	14:11	14:37	14:23	14:34	13:56 *	13:34	13:26	13:36
Depth (ft)	13	12.4	4.3	4.3	7	7	10.1	10.1
Turb. (NTU)	2.9	3.4	7.4	4.5	5.9 *	4.2	5.2	3.7
Temp. (°C)	9.42	9.43	8.14	8.14	8.19	8.61	9.01	9.04
DO (mg/L)	7.65	7.75	10.12	9.75	9.71	9.25	8.7	8.44
pH (units)	7.43	7.43	7.22	7.23	7.16	7.23	7.26	7.37
Sal. (ppt)	24.56	24.07	5.52	7.57	8.33	14.41	19.12	19.06
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

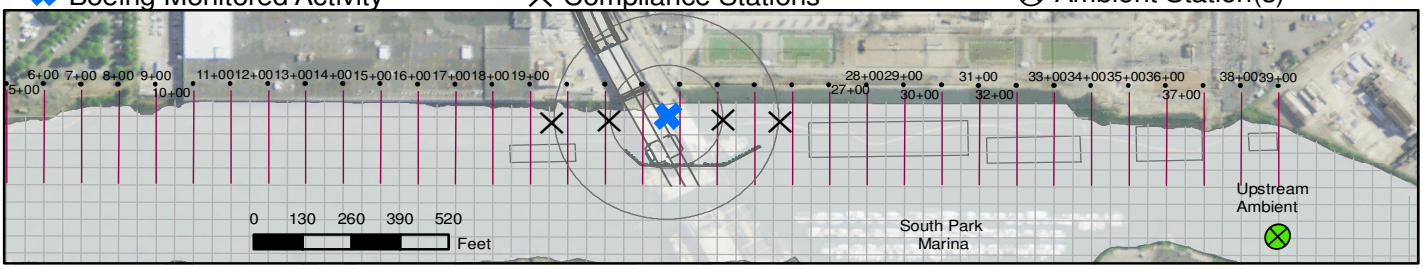
Daily Tides

4:09 AM	10.8 H
9:50 AM	5.3 L
2:48 PM	9.5 H
9:21 PM	0.8 L
Sunrise	6:48 AM
Sunset	5:56 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 3/2/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:15

End Time: 14:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:07		14:28		14:20		14:28	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4		3.1	8.1	3.5		3.1	8.1
Temp. (°C)	8.07		8.22	10.15	8.18		8.22	10.15
DO (mg/L)	10.31		10.7	≤ 6 mg/L	10.41		10.7	≤ 6 mg/L
pH (Units)	7.22		7.29	< 7.0 or >7.79	7.28		7.29	< 7.0 or >7.79
Sal. (ppt)	4.5		4.16		4.06		4.16	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:17	14:48	13:32		13:24		13:32	
2		2		2		2	
12.7	3.9	2.9	7.9	3.5		2.9	7.9
7.98		8.11	10.07	8		8.11	10.07
10.39		10.67	≤ 6 mg/L	10.55		10.67	≤ 6 mg/L
7.22		7.27	< 7.0 or >7.77	7.24		7.27	< 7.0 or >7.77
4.32		4.09		3.95		4.09	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:11		14:37		14:23		14:34	
Depth (ft)	13		12.4		4.3		4.3	
Turb. (NTU)	2.9		3.4	8.4	7.4		4.5	9.5
Temp. (°C)	9.42		9.43	11.05	8.14		8.14	10.09
DO (mg/L)	7.65		7.75	≤ 6 mg/L	10.12		9.75	≤ 6 mg/L
pH (Units)	7.43		7.43	< 7.0 or >7.93	7.22		7.23	< 7.0 or >7.73
Sal. (ppt)	24.56		24.07		5.52		7.57	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:19	13:56	13:34		13:26		13:36	
7		7		10.1		10.1	
70	5.9	4.2	9.2	5.2		3.7	8.7
8.19		8.61	10.43	9.01		9.04	10.74
9.71		9.25	≤ 6 mg/L	8.7		8.44	≤ 6 mg/L
7.16		7.23	< 7.0 or >7.73	7.26		7.37	< 7.0 or >7.87
8.33		14.41		19.12		19.06	
☐ Submitted				☐ Submitted			

Report Date 3/4/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 3/3/2015
Time Period: 12:30 PM to 1:30 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Upstream 150 ft and 300 ft stations monitored at mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:13	13:19	13:06	13:19	12:39	12:53	12:43	12:53
Depth (ft)	2	2	2	2	3.5	3.5	3.5	3.5
Turb. (NTU)	4	4.4	4.4	4.4	2	1.7	1.8	1.7
Temp. (°C)	8.8	8.49	10.3	8.49	8.41	8.33	8.28	8.33
DO (mg/L)	10.47	10.5	8.59	10.5	10.28	10.41	10.28	10.41
pH (units)	7.26	7.28	7.32	7.28	7.27	7.23	7.22	7.23
Sal. (ppt)	3.69	4.18	4.12	4.18	3.51	3.05	3.61	3.05
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

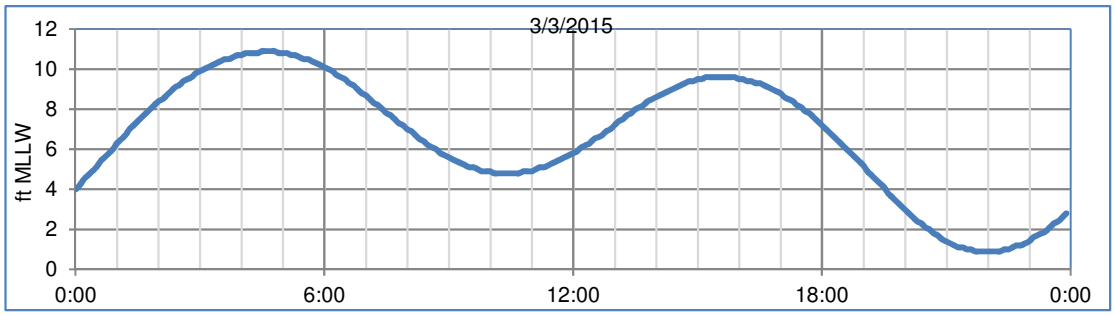
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:14	13:21	13:07	13:21	—	—	—	—
Depth (ft)	6.4	6	5.5	6	—	—	—	—
Turb. (NTU)	4.7	3.1	4.7	3.1	—	—	—	—
Temp. (°C)	9.53	8.48	8.62	8.48	—	—	—	—
DO (mg/L)	8.66	9.52	9.75	9.52	—	—	—	—
pH (units)	7.19	7.17	7.18	7.17	—	—	—	—
Sal. (ppt)	10.78	11.74	8.3	11.74	—	—	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

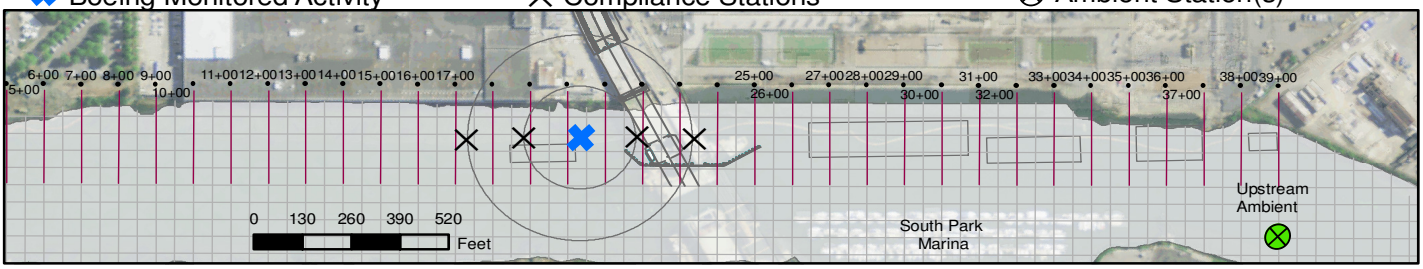
Daily Tides

4:37 AM	10.9 H
10:24 AM	4.8 L
3:34 PM	9.6 H
9:59 PM	0.9 L
Sunrise	6:46 AM
Sunset	5:57 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 3/3/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 12:30

End Time: 13:30

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:13		13:19		13:06		13:19	
Depth (ft)	2		2		2		2	
Turb. (NTU)	4		4.4	9.4	4.4		4.4	9.4
Temp. (°C)	8.8		8.49	10.34	10.3		8.49	10.34
DO (mg/L)	10.47		10.5	≤ 6 mg/L	8.59		10.5	≤ 6 mg/L
pH (Units)	7.26		7.28	< 7.0 or >7.78	7.32		7.28	< 7.0 or >7.78
Sal. (ppt)	3.69		4.18		4.12		4.18	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:39		12:53		12:43		12:53	
Depth (ft)	3.5		3.5		3.5		3.5	
Turb. (NTU)	2		1.7	6.7	1.8		1.7	6.7
Temp. (°C)	8.41		8.33	10.23	8.28		8.33	10.23
DO (mg/L)	10.28		10.41	≤ 6 mg/L	10.28		10.41	≤ 6 mg/L
pH (Units)	7.27		7.23	< 7.0 or >7.73	7.22		7.23	< 7.0 or >7.73
Sal. (ppt)	3.51		3.05		3.61		3.05	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:14		13:21		13:07		13:21	
Depth (ft)	6.4		6		5.5		6	
Turb. (NTU)	4.7		3.1	8.1	4.7		3.1	8.1
Temp. (°C)	9.53		8.48	10.33	8.62		8.48	10.33
DO (mg/L)	8.66		9.52	≤ 6 mg/L	9.75		9.52	≤ 6 mg/L
pH (Units)	7.19		7.17	< 7.0 or >7.67	7.18		7.17	< 7.0 or >7.67
Sal. (ppt)	10.78		11.74		8.3		11.74	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 3/5/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 3/4/2015
Time Period: 1:00 PM to 2:15 PM
Activity: Final Backfilling: Intensive Monitoring — Flood Tide
Comments: Final backfill in the vicinity of the bridge.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:11	13:30	13:18	13:30	13:44	14:00	13:51	14:00
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.3	3.1	2.9	3.1	1.9	3.1	3	3.1
Temp. (°C)	8.1	8.13	8.12	8.13	8.22	8.28	8.32	8.28
DO (mg/L)	10.63	10.21	10.43	10.21	10.85	10.52	10.63	10.52
pH (units)	7.23	7.23	7.29	7.23	7.38	7.26	7.35	7.26
Sal. (ppt)	4.24	5.33	4.37	5.33	2.84	5.64	3.59	5.64
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

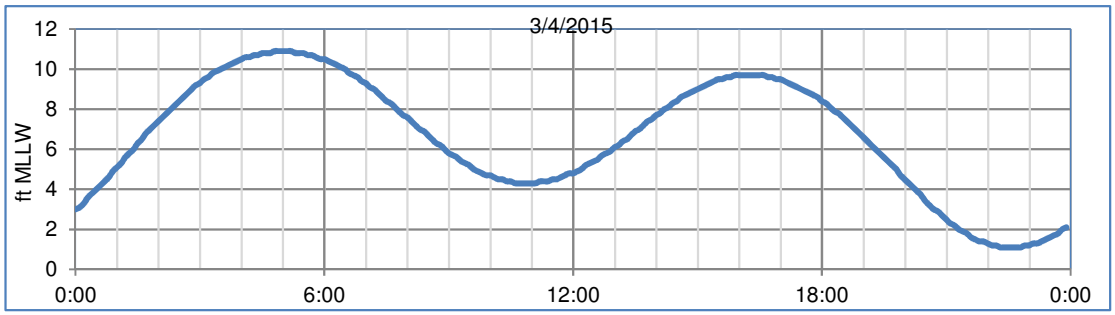
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:13	13:32	13:20	13:32	14:12 *	14:02	13:52	14:02
Depth (ft)	19.3	18	17.5	18	11	10	8.9	10
Turb. (NTU)	5	2	5	2	6.9 *	2.2	4.9	2.2
Temp. (°C)	9.55	9.58	9.55	9.58	9.12	9.32	8.97	9.32
DO (mg/L)	8.02	7.87	8.24	7.87	8.51	8.71	9.1	8.71
pH (units)	7.47	7.52	7.48	7.52	7.34	7.35	7.27	7.35
Sal. (ppt)	26.97	27.79	27.08	27.79	21.27	23	18.11	23
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

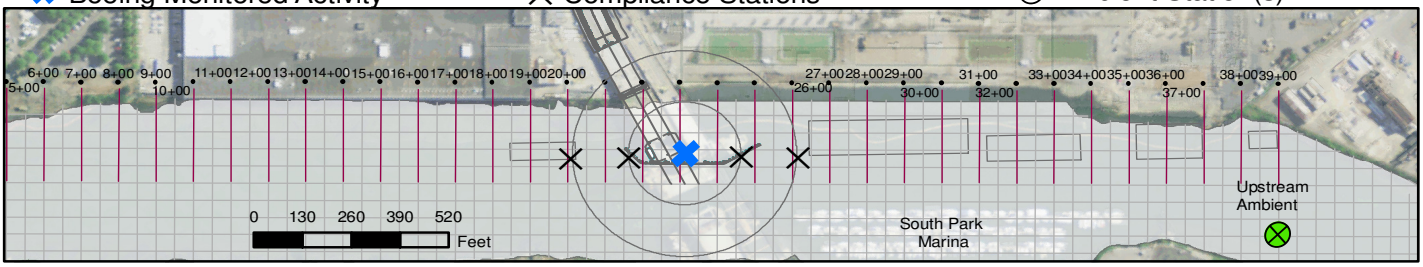
Daily Tides

4:59 AM	10.9 H
10:53 AM	4.3 L
4:15 PM	9.7 H
10:33 PM	1.1 L
Sunrise	6:44 AM
Sunset	5:59 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 3/4/2015

Activity Final Backfilling

Monitoring Level Intensive Monitoring

Start Time: 13:00

End Time: 14:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:11		13:30		13:18		13:30	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.3		3.1	8.1	2.9		3.1	8.1
Temp. (°C)	8.1		8.13	10.09	8.12		8.13	10.09
DO (mg/L)	10.63		10.21	≤ 6 mg/L	10.43		10.21	≤ 6 mg/L
pH (Units)	7.23		7.23	< 7.0 or >7.73	7.29		7.23	< 7.0 or >7.73
Sal. (ppt)	4.24		5.33		4.37		5.33	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:44		14:00		13:51		14:00	
2		2		2		2	
1.9		3.1	8.1	3		3.1	8.1
8.22		8.28	10.19	8.32		8.28	10.19
10.85		10.52	≤ 6 mg/L	10.63		10.52	≤ 6 mg/L
7.38		7.26	< 7.0 or >7.76	7.35		7.26	< 7.0 or >7.76
2.84		5.64		3.59		5.64	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:13		13:32		13:20		13:32	
Depth (ft)	19.3		18		17.5		18	
Turb. (NTU)	5		2	7	5		2	7
Temp. (°C)	9.55		9.58	11.16	9.55		9.58	11.16
DO (mg/L)	8.02		7.87	≤ 6 mg/L	8.24		7.87	≤ 6 mg/L
pH (Units)	7.47		7.52	<7.02 and >8.02	7.48		7.52	<7.02 and >8.02
Sal. (ppt)	26.97		27.79		27.08		27.79	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:45	14:12	14:02		13:52		14:02	
11		10		8.9		10	
7.9	6.9	2.2	7.2	4.9		2.2	7.2
9.12		9.32	10.96	8.97		9.32	10.96
8.51		8.71	≤ 6 mg/L	9.1		8.71	≤ 6 mg/L
7.34		7.35	< 7.0 or >7.85	7.27		7.35	< 7.0 or >7.85
21.27		23		18.11		23	
☐ Submitted				☐ Submitted			

SLIP 4 SHEETPILE REMOVAL
WATER QUALITY MONITORING

Report Date 4/21/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/27/2015
Time Period: 1:00 PM to 2:45 PM
Activity: Sheet Pile Removal: Intensive Monitoring — Ebb Tide
Comments: Sheetpile removal in Slip 4

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	13:14	13:30	12:57	13:30	13:52	14:39	13:46	14:39
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	5.9	5	5	5	6	5.8	4.9	5.8
Temp. (°C)	8.98	9.02	8.98	9.02	9.1	9.18	9.1	9.18
DO (mg/L)	9.88	10.69	10.02	10.69	10.06	10.82	10.02	10.82
pH (units)	7.14	7.4	7.09	7.4	7.15	7.41	7.15	7.41
Sal. (ppt)	6.42	0.8	6.86	0.8	6.57	0.87	6.09	0.87
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

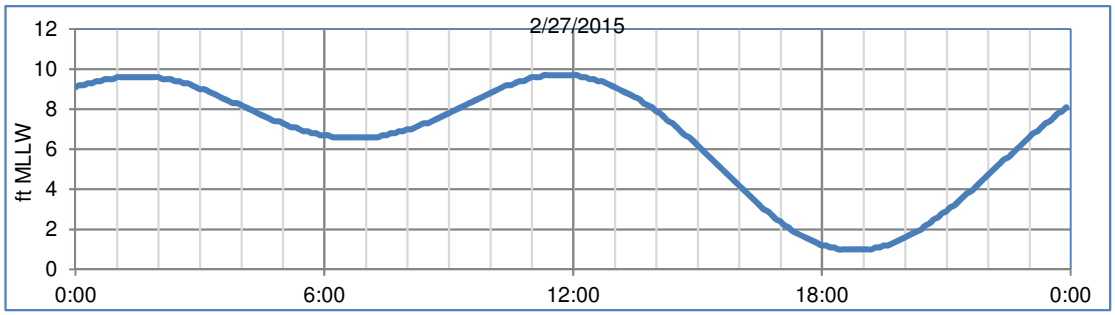
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	13:17	13:32	12:58	13:32	13:53	14:39	13:48	14:35
Depth (ft)	13.8	14.6	15.5	14.6	8.2	8.2	6.4	6.4
Turb. (NTU)	5.7	3.9	5.9	3.9	4.5	5.2	5	4.8
Temp. (°C)	9.51	9.54	9.6	9.54	9.21	9.18	9.08	8.93
DO (mg/L)	7.83	7.94	7.74	7.94	9.01	9.62	9.22	10.4
pH (units)	7.33	7.38	7.39	7.38	7.19	7.18	7.18	7.22
Sal. (ppt)	25.05	26.52	27.23	26.52	17.25	5.83	11.8	1.56
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

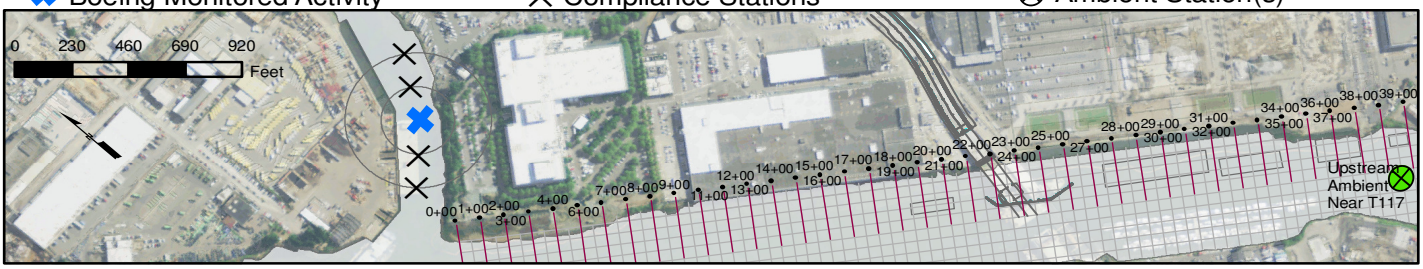
Daily Tides

1:30 AM	9.6 H
6:43 AM	6.6 L
11:41 AM	9.7 H
6:46 PM	1 L
Sunrise	6:54 AM
Sunset	5:51 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/27/2015

Activity Sheet Pile Removal

Monitoring Level Intensive Monitoring

Start Time: 13:00

End Time: 14:45

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:14		13:30		12:57		13:30	
Depth (ft)	2		2		2		2	
Turb. (NTU)	5.9		5	10	5		5	10
Temp. (°C)	8.98		9.02	10.73	8.98		9.02	10.73
DO (mg/L)	9.88		10.69	≤ 6 mg/L	10.02		10.69	≤ 6 mg/L
pH (Units)	7.14		7.4	< 7.0 or >7.9	7.09		7.4	< 7.0 or >7.9
Sal. (ppt)	6.42		0.8		6.86		0.8	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Surface Samples — Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:52		14:39		13:46		14:39	
2		2		2		2	
6		5.8	10.8	4.9		5.8	10.8
9.1		9.18	10.85	9.1		9.18	10.85
10.06		10.82	≤ 6 mg/L	10.02		10.82	≤ 6 mg/L
7.15		7.41	< 7.0 or >7.91	7.15		7.41	< 7.0 or >7.91
6.57		0.87		6.09		0.87	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:17		13:32		12:58		13:32	
Depth (ft)	13.8		14.6		15.5		14.6	
Turb. (NTU)	5.7		3.9	8.9	5.9		3.9	8.9
Temp. (°C)	9.51		9.54	11.13	9.6		9.54	11.13
DO (mg/L)	7.83		7.94	≤ 6 mg/L	7.74		7.94	≤ 6 mg/L
pH (Units)	7.33		7.38	< 7.0 or >7.88	7.39		7.38	< 7.0 or >7.88
Sal. (ppt)	25.05		26.52		27.23		26.52	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:53		14:39		13:48		14:35	
8.2		8.2		6.4		6.4	
4.5		5.2	10.2	5		4.8	9.8
9.21		9.18	10.85	9.08		8.93	10.66
9.01		9.62	≤ 6 mg/L	9.22		10.4	≤ 6 mg/L
7.19		7.18	< 7.0 or >7.68	7.18		7.22	< 7.0 or >7.72
17.25		5.83		11.8		1.56	
☐ Submitted				☐ Submitted			

Report Date 3/2/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/27/2015
Time Period: 2:00 PM to 4:00 PM
Activity: Sheetpile Removal: Intensive Monitoring — Ebb Tide
Comments: Sheetpile removal in Slip 4

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	14:08	14:39	14:01	14:39	15:31	15:48	15:27	15:48
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	6.7	5.8	6.4	5.8	7.7	5.8	5.8	5.8
Temp. (°C)	9.34	9.18	9.23	9.18	9.32	9.29	9.39	9.29
DO (mg/L)	10.12	10.82	10.31	10.82	10.32	10.77	10.24	10.77
pH (units)	7.2	7.41	7.19	7.41	7.19	7.33	7.21	7.33
Sal. (ppt)	5.43	0.87	5.1	0.87	4.82	1.76	4.35	1.76
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

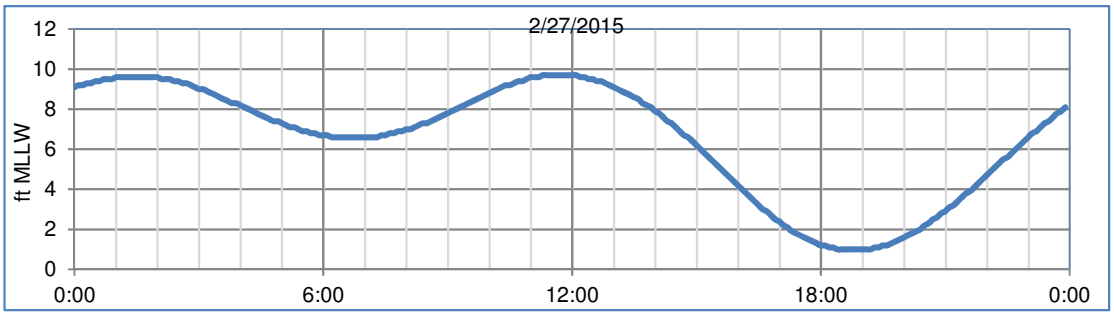
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	14:09	14:37	14:03	14:37	15:33	15:49	15:27	15:49
Depth (ft)	14.4	14.6	14.8	14.6	6.4	5.7	5	5.7
Turb. (NTU)	3.3	2.8	2.6	2.8	6.8	6.3	6.5	6.3
Temp. (°C)	9.64	9.58	9.65	9.58	9.15	9.26	9.26	9.26
DO (mg/L)	8.24	7.68	7.87	7.68	9.93	10.43	10.08	10.43
pH (units)	7.37	7.41	7.44	7.41	7.11	7.24	7.15	7.24
Sal. (ppt)	27.9	27.17	28.08	27.17	7.7	1.89	5.53	1.89
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

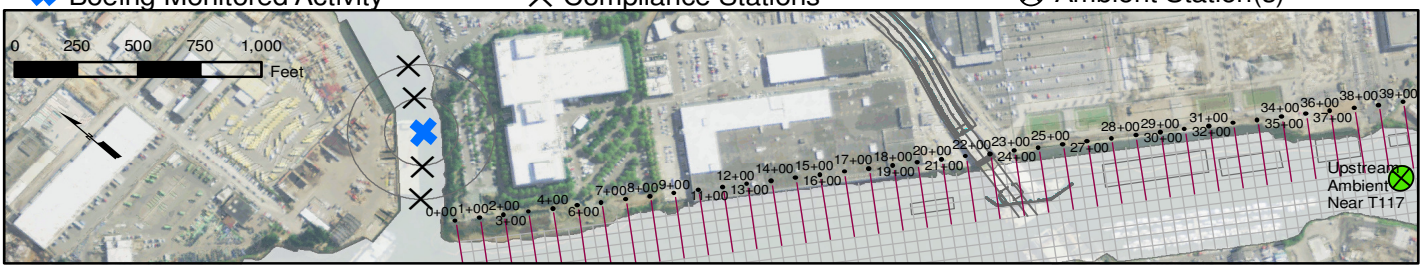
Daily Tides

1:30 AM	9.6 H
6:43 AM	6.6 L
11:41 AM	9.7 H
6:46 PM	1 L
Sunrise	6:54 AM
Sunset	5:51 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/27/2015

Activity Sheetpile Removal

Monitoring Level Intensive Monitoring

Start Time: 14:00

End Time: 16:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:08		14:39		14:01		14:39	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6.7		5.8	10.8	6.4		5.8	10.8
Temp. (°C)	9.34		9.18	10.85	9.23		9.18	10.85
DO (mg/L)	10.12		10.82	≤ 6 mg/L	10.31		10.82	≤ 6 mg/L
pH (Units)	7.2		7.41	< 7.0 or >7.91	7.19		7.41	< 7.0 or >7.91
Sal. (ppt)	5.43		0.87		5.1		0.87	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Parameter	Near Surface/Mid-depth (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:31		15:48		15:27		15:48	
Depth (ft)	2		2		2		2	
Turb. (NTU)	7.7		5.8	10.8	5.8		5.8	10.8
Temp. (°C)	9.32		9.29	10.94	9.39		9.29	10.94
DO (mg/L)	10.32		10.77	≤ 6 mg/L	10.24		10.77	≤ 6 mg/L
pH (Units)	7.19		7.33	< 7.0 or >7.83	7.21		7.33	< 7.0 or >7.83
Sal. (ppt)	4.82		1.76		4.35		1.76	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:09		14:37		14:03		14:37	
Depth (ft)	14.4		14.6		14.8		14.6	
Turb. (NTU)	3.3		2.8	7.8	2.6		2.8	7.8
Temp. (°C)	9.64		9.58	11.16	9.65		9.58	11.16
DO (mg/L)	8.24		7.68	≤ 6 mg/L	7.87		7.68	≤ 6 mg/L
pH (Units)	7.37		7.41	< 7.0 or >7.91	7.44		7.41	< 7.0 or >7.91
Sal. (ppt)	27.9		27.17		28.08		27.17	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Parameter	Near Bottom (2)							
	Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:33		15:49		15:27		15:49	
Depth (ft)	6.4		5.7		5		5.7	
Turb. (NTU)	6.8		6.3	11.3	6.5		6.3	11.3
Temp. (°C)	9.15		9.26	10.91	9.26		9.26	10.91
DO (mg/L)	9.93		10.43	≤ 6 mg/L	10.08		10.43	≤ 6 mg/L
pH (Units)	7.11		7.24	< 7.0 or >7.74	7.15		7.24	< 7.0 or >7.74
Sal. (ppt)	7.7		1.89		5.53		1.89	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Report Date 3/2/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/28/2015
Time Period: 10:45 AM to 12:15 PM
Activity: Sheetpile Removal: Intensive Monitoring — Flood Tide
Comments: Sheetpile removal in Slip 4

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:43	12:01	11:37	12:01	10:57	11:18	11:05	11:18
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	7.1	5.7	5.8	5.7	7	5	6.7	5
Temp. (°C)	9.08	8.95	8.9	8.95	8.8	8.88	8.81	8.88
DO (mg/L)	10.3	10.63	10.5	10.63	10.25	10.53	10.24	10.53
pH (units)	7.32	7.35	7.25	7.35	7.16	7.31	7.25	7.31
Sal. (ppt)	3.72	1.69	3.16	1.69	3.31	1.65	3.3	1.65
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

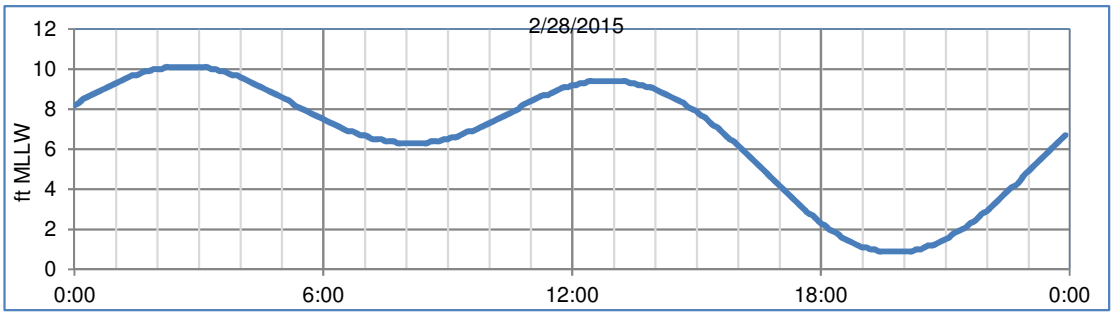
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:45	12:02	11:39	12:02	10:59	11:19	11:06	11:19
Depth (ft)	18.9	18.4	21.9	18.4	16.1	15	14	15
Turb. (NTU)	3.9	3.2	1.1	3.2	3.3	3.9	4.5	3.9
Temp. (°C)	9.64	9.64	9.66	9.64	9.63	9.63	9.54	9.63
DO (mg/L)	8.05	8.17	7.9	8.17	7.89	8.25	8.3	8.25
pH (units)	7.42	7.41	7.45	7.41	7.37	7.36	7.33	7.36
Sal. (ppt)	27.55	27.58	28.07	27.58	27.32	27.2	24.58	27.2
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

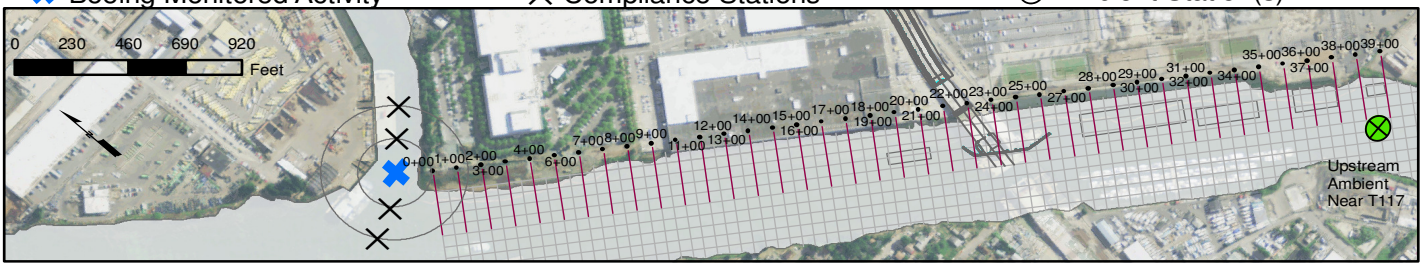
Daily Tides

2:41 AM	10.1 H
8:08 AM	6.3 L
12:51 PM	9.4 H
7:47 PM	0.9 L
Sunrise	6:52 AM
Sunset	5:53 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/28/2015

Activity Sheetpile Removal

Monitoring Level Intensive Monitoring

Start Time: 10:45

End Time: 12:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:43		12:01		11:37		12:01	
Depth (ft)	2		2		2		2	
Turb. (NTU)	7.1		5.7	10.7	5.8		5.7	10.7
Temp. (°C)	9.08		8.95	10.68	8.9		8.95	10.68
DO (mg/L)	10.3		10.63	≤ 6 mg/L	10.5		10.63	≤ 6 mg/L
pH (Units)	7.32		7.35	< 7.0 or >7.85	7.25		7.35	< 7.0 or >7.85
Sal. (ppt)	3.72		1.69		3.16		1.69	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
10:57		11:18		11:05		11:18	
2		2		2		2	
7		5	10	6.7		5	10
8.8		8.88	10.62	8.81		8.88	10.62
10.25		10.53	≤ 6 mg/L	10.24		10.53	≤ 6 mg/L
7.16		7.31	< 7.0 or >7.81	7.25		7.31	< 7.0 or >7.81
3.31		1.65		3.3		1.65	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:45		12:02		11:39		12:02	
Depth (ft)	18.9		18.4		21.9		18.4	
Turb. (NTU)	3.9		3.2	8.2	1.1		3.2	8.2
Temp. (°C)	9.64		9.64	11.21	9.66		9.64	11.21
DO (mg/L)	8.05		8.17	≤ 6 mg/L	7.9		8.17	≤ 6 mg/L
pH (Units)	7.42		7.41	< 7.0 or >7.91	7.45		7.41	< 7.0 or >7.91
Sal. (ppt)	27.55		27.58		28.07		27.58	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
10:59		11:19		11:06		11:19	
16.1		15		14		15	
3.3		3.9	8.9	4.5		3.9	8.9
9.63		9.63	11.20	9.54		9.63	11.20
7.89		8.25	≤ 6 mg/L	8.3		8.25	≤ 6 mg/L
7.37		7.36	< 7.0 or >7.86	7.33		7.36	< 7.0 or >7.86
27.32		27.2		24.58		27.2	
☐ Submitted				☐ Submitted			

Report Date 3/2/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 2/28/2015
Time Period: 1:45 PM to 3:00 PM
Activity: Sheetpile Removal: Intensive Monitoring — Ebb Tide
Comments: Sheetpile removal in Slip 4

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	14:26	14:48	14:36	14:48	13:51	14:11	13:58	14:11
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	6.6	4.9	5.4	4.9	8	5	8.4	5
Temp. (°C)	9.19	9.14	9.21	9.14	9.25	9.09	9.34	9.09
DO (mg/L)	10.8	10.91	10.78	10.91	10.41	10.87	10.4	10.87
pH (units)	7.39	7.53	7.39	7.53	7.24	7.48	7.29	7.48
Sal. (ppt)	2.23	1.06	2.16	1.06	6.06	1.39	4.54	1.39
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

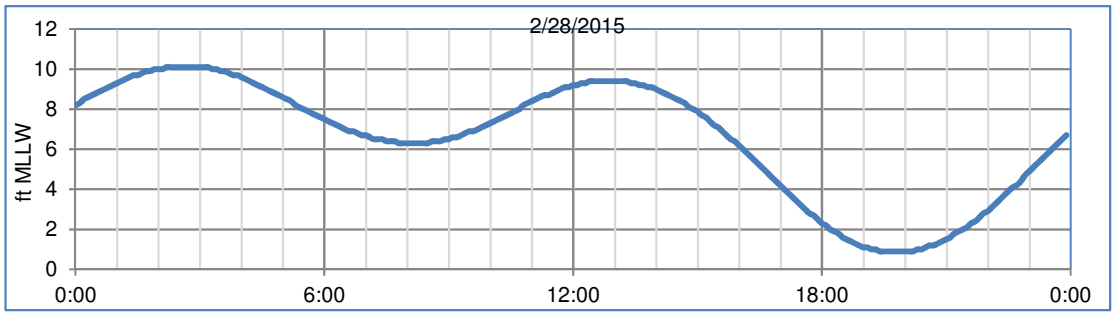
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	14:27	14:49	14:38	14:49	13:52	14:12	13:59	14:12
Depth (ft)	19.1	20	21	20	14.7	14	13.3	14
Turb. (NTU)	1.8	2.7	1.8	2.7	3.6	2.1	3.7	2.1
Temp. (°C)	9.65	9.64	9.65	9.64	9.55	9.56	9.53	9.56
DO (mg/L)	8.29	8.12	7.83	8.12	8.56	8.2	8.6	8.2
pH (units)	7.41	7.43	7.47	7.43	7.3	7.37	7.32	7.37
Sal. (ppt)	27.86	27.55	27.94	27.55	24.73	25.15	24.56	25.15
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

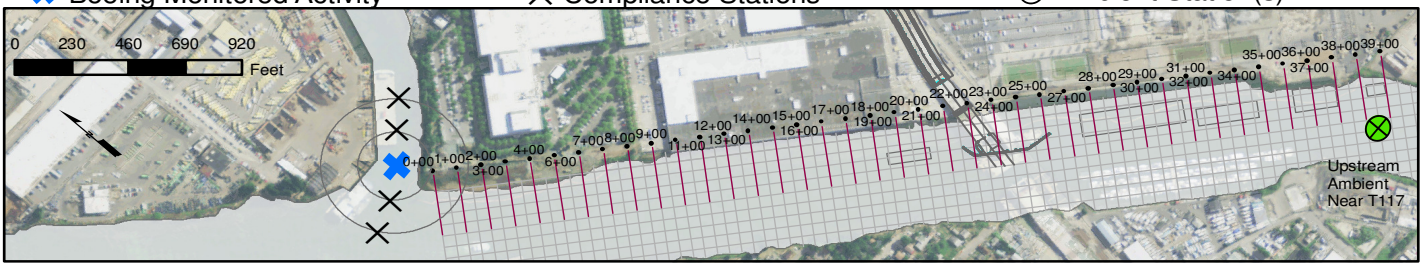
Daily Tides

2:41 AM	10.1 H
8:08 AM	6.3 L
12:51 PM	9.4 H
7:47 PM	0.9 L
Sunrise	6:52 AM
Sunset	5:53 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 2/28/2015

Activity Sheetpile Removal

Monitoring Level Intensive Monitoring

Start Time: 13:45

End Time: 15:00

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:26		14:48		14:36		14:48	
Depth (ft)	2		2		2		2	
Turb. (NTU)	6.6		4.9	9.9	5.4		4.9	9.9
Temp. (°C)	9.19		9.14	10.82	9.21		9.14	10.82
DO (mg/L)	10.8		10.91	≤ 6 mg/L	10.78		10.91	≤ 6 mg/L
pH (Units)	7.39		7.53	<7.03 and >8.03	7.39		7.53	<7.03 and >8.03
Sal. (ppt)	2.23		1.06		2.16		1.06	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:51		14:11		13:58		14:11	
2		2		2		2	
8		5	10	8.4		5	10
9.25		9.09	10.78	9.34		9.09	10.78
10.41		10.87	≤ 6 mg/L	10.4		10.87	≤ 6 mg/L
7.24		7.48	< 7.0 or >7.98	7.29		7.48	< 7.0 or >7.98
6.06		1.39		4.54		1.39	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	14:27		14:49		14:38		14:49	
Depth (ft)	19.1		20		21		20	
Turb. (NTU)	1.8		2.7	7.7	1.8		2.7	7.7
Temp. (°C)	9.65		9.64	11.21	9.65		9.64	11.21
DO (mg/L)	8.29		8.12	≤ 6 mg/L	7.83		8.12	≤ 6 mg/L
pH (Units)	7.41		7.43	< 7.0 or >7.93	7.47		7.43	< 7.0 or >7.93
Sal. (ppt)	27.86		27.55		27.94		27.55	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:52		14:12		13:59		14:12	
14.7		14		13.3		14	
3.6		2.1	7.1	3.7		2.1	7.1
9.55		9.56	11.15	9.53		9.56	11.15
8.56		8.2	≤ 6 mg/L	8.6		8.2	≤ 6 mg/L
7.3		7.37	< 7.0 or >7.87	7.32		7.37	< 7.0 or >7.87
24.73		25.15		24.56		25.15	
☐ Submitted				☐ Submitted			

Report Date 3/3/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 3/2/2015
Time Period: 3:00 PM to 4:15 PM
Activity: Sheetpile Removal: Intensive Monitoring — Ebb Tide
Comments: Sheetpile removal in Slip 4. Position approximate, no GPS position available.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:03	15:20	15:12	15:20	15:28	15:47	15:36	15:47
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	8.1	3.4	4.1	3.4	7.9	3.8	7.4	3.8
Temp. (°C)	8.42	8.59	8.26	8.59	8.41	8.47	8.53	8.47
DO (mg/L)	10.13	10.28	10.23	10.28	10.17	10.31	10.13	10.31
pH (units)	7.2	7.33	7.26	7.33	7.28	7.31	7.31	7.31
Sal. (ppt)	6.22	5.35	5.98	5.35	6.23	4.95	6.12	4.95
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

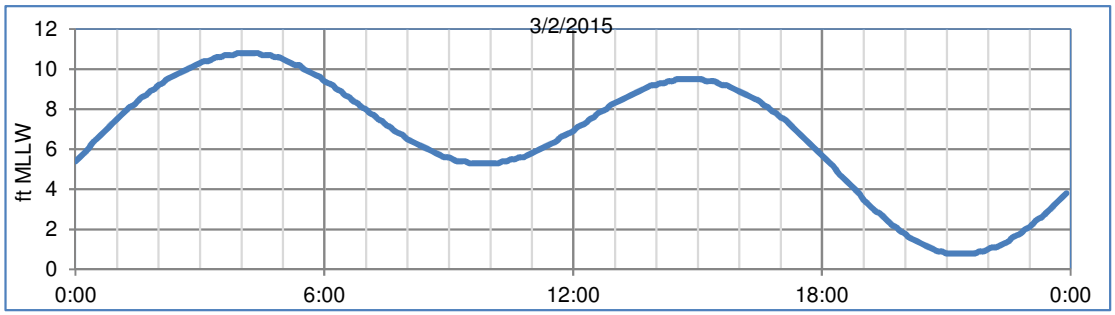
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	15:05	15:21	15:14	15:21	15:31	15:53	16:04 *	15:53
Depth (ft)	12.1	13	15	13	9.9	9.5	9	9.5
Turb. (NTU)	3.1	2.1	1.6	2.1	12.1	8.4	12.3 *	8.4
Temp. (°C)	9.35	9.52	9.57	9.52	9.22	9.21	9.18	9.21
DO (mg/L)	8.15	8.01	7.68	8.01	8.2	8.06	8.14	8.06
pH (units)	7.41	7.47	7.5	7.47	7.4	7.45	7.37	7.45
Sal. (ppt)	23.14	25.53	26.68	25.53	21.24	20.84	19.75	20.84
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

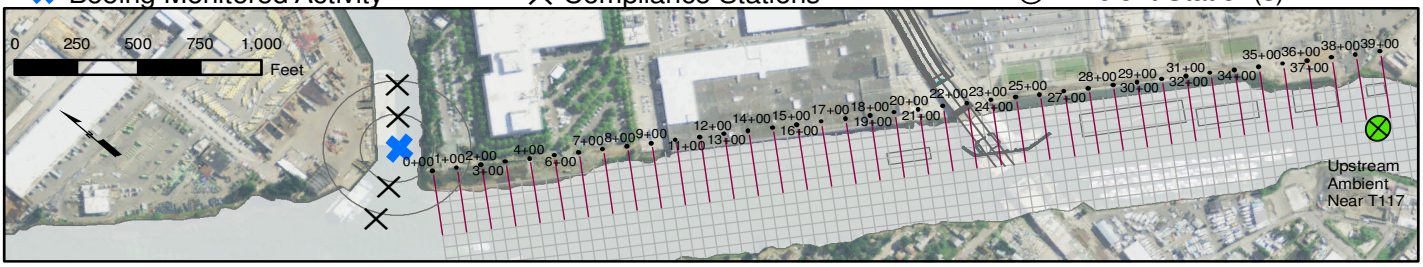
Daily Tides

4:09 AM	10.8 H
9:50 AM	5.3 L
2:48 PM	9.5 H
9:21 PM	0.8 L
Sunrise	6:48 AM
Sunset	5:56 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 3/2/2015

Activity Sheetpile Removal

Monitoring Level Intensive Monitoring

Start Time: 15:00

End Time: 16:15

Tide Cycle: Ebb Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples — Near Surface/Mid-depth (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:03		15:20		15:12		15:20	
Depth (ft)	2		2		2		2	
Turb. (NTU)	8.1		3.4	8.4	4.1		3.4	8.4
Temp. (°C)	8.42		8.59	10.41	8.26		8.59	10.41
DO (mg/L)	10.13		10.28	≤ 6 mg/L	10.23		10.28	≤ 6 mg/L
pH (Units)	7.2		7.33	< 7.0 or >7.83	7.26		7.33	< 7.0 or >7.83
Sal. (ppt)	6.22		5.35		5.98		5.35	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)

Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:28		15:47		15:36		15:47	
2		2		2		2	
7.9		3.8	8.8	7.4		3.8	8.8
8.41		8.47	10.32	8.53		8.47	10.32
10.17		10.31	≤ 6 mg/L	10.13		10.31	≤ 6 mg/L
7.28		7.31	< 7.0 or >7.81	7.31		7.31	< 7.0 or >7.81
6.23		4.95		6.12		4.95	
☐ Submitted				☐ Submitted			

Subsurface Samples — Near Bottom (1)

Parameter	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	15:05		15:21		15:14		15:21	
Depth (ft)	12.1		13		15		13	
Turb. (NTU)	3.1		2.1	7.1	1.6		2.1	7.1
Temp. (°C)	9.35		9.52	11.12	9.57		9.52	11.12
DO (mg/L)	8.15		8.01	≤ 6 mg/L	7.68		8.01	≤ 6 mg/L
pH (Units)	7.41		7.47	< 7.0 or >7.97	7.5		7.47	< 7.0 or >7.97
Sal. (ppt)	23.14		25.53		26.68		25.53	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)

Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
15:31		15:53		15:39	16:04	15:53	
9.9		9.5		9		9.5	
12.1		8.4	13.4	17.2	12.3	8.4	13.4
9.22		9.21	10.87	9.18		9.21	10.87
8.2		8.06	≤ 6 mg/L	8.14		8.06	≤ 6 mg/L
7.4		7.45	< 7.0 or >7.95	7.37		7.45	< 7.0 or >7.95
21.24		20.84		19.75		20.84	
☐ Submitted				☐ Submitted			

Report Date 3/4/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 3/3/2015
Time Period: 11:30 AM to 12:30 PM
Activity: Sheetpile Removal: Intensive Monitoring — Flood Tide
Comments: Sheetpile removal in Slip 4

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:10	12:25	12:17	12:25	11:38	11:53	11:44	11:53
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.4	4.3	3.5	4.3	3.4	4.6	3.3	4.6
Temp. (°C)	8.11	8.37	8.23	8.37	7.85	8.12	7.87	8.12
DO (mg/L)	10.27	10.26	10.24	10.26	10.4	10.23	10.26	10.23
pH (units)	7.27	7.26	7.31	7.26	7.2	7.21	7.27	7.21
Sal. (ppt)	3.75	3.78	3.8	3.78	3.53	4.05	3.55	4.05
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

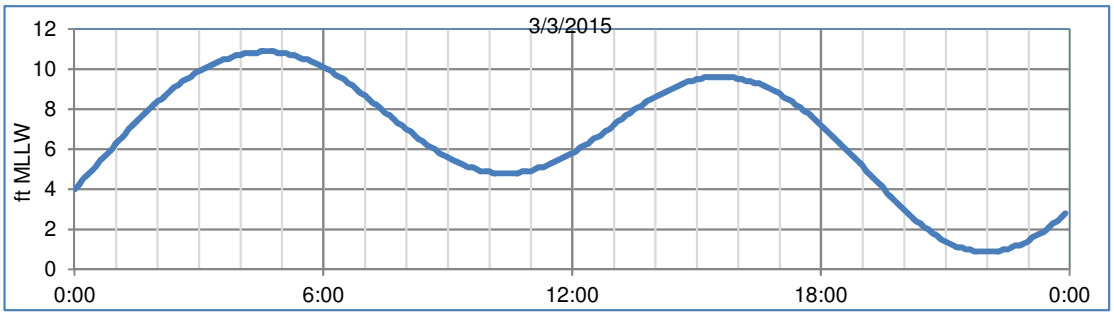
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	12:12	12:27	12:18	12:27	11:40	12:02	11:45	11:57
Depth (ft)	15	15.5	16.1	15.5	14.6	14.6	11.7	11.6
Turb. (NTU)	2.3	2.3	2	2.3	2.9	2.8	2.5	2.9
Temp. (°C)	9.55	7.72	9.57	7.72	9.5	9.54	9.42	9.44
DO (mg/L)	7.64	9.56	7.36	9.56	7.86	7.72	7.9	7.58
pH (units)	7.43	7.48	7.45	7.48	7.31	7.45	7.27	7.42
Sal. (ppt)	26.72	26.65	26.99	26.65	26.02	26.46	24.65	25
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

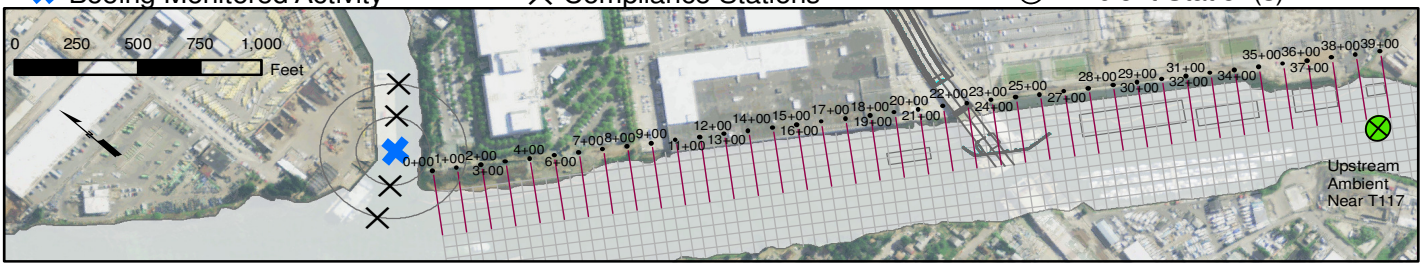
Daily Tides

4:37 AM	10.9 H
10:24 AM	4.8 L
3:34 PM	9.6 H
9:59 PM	0.9 L
Sunrise	6:46 AM
Sunset	5:57 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 3/3/2015

Activity Sheetpile Removal

Monitoring Level Intensive Monitoring

Start Time: 11:30

End Time: 12:30

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:10		12:25		12:17		12:25	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.4		4.3	9.3	3.5		4.3	9.3
Temp. (°C)	8.11		8.37	10.25	8.23		8.37	10.25
DO (mg/L)	10.27		10.26	≤ 6 mg/L	10.24		10.26	≤ 6 mg/L
pH (Units)	7.27		7.26	< 7.0 or >7.76	7.31		7.26	< 7.0 or >7.76
Sal. (ppt)	3.75		3.78		3.8		3.78	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:38		11:53		11:44		11:53	
2		2		2		2	
3.4		4.6	9.6	3.3		4.6	9.6
7.85		8.12	10.08	7.87		8.12	10.08
10.4		10.23	≤ 6 mg/L	10.26		10.23	≤ 6 mg/L
7.2		7.21	< 7.0 or >7.71	7.27		7.21	< 7.0 or >7.71
3.53		4.05		3.55		4.05	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:12		12:27		12:18		12:27	
Depth (ft)	15		15.5		16.1		15.5	
Turb. (NTU)	2.3		2.3	7.3	2		2.3	7.3
Temp. (°C)	9.55		7.72	9.82	9.57		7.72	9.82
DO (mg/L)	7.64		9.56	≤ 6 mg/L	7.36		9.56	≤ 6 mg/L
pH (Units)	7.43		7.48	< 7.0 or >7.98	7.45		7.48	< 7.0 or >7.98
Sal. (ppt)	26.72		26.65		26.99		26.65	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
11:40		12:02		11:45		11:57	
14.6		14.6		11.7		11.6	
2.9		2.8	7.8	2.5		2.9	7.9
9.5		9.54	11.13	9.42		9.44	11.05
7.86		7.72	≤ 6 mg/L	7.9		7.58	≤ 6 mg/L
7.31		7.45	< 7.0 or >7.95	7.27		7.42	< 7.0 or >7.92
26.02		26.46		24.65		25	
☐ Submitted				☐ Submitted			

Report Date 3/4/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 3/3/2015
Time Period: 1:30 PM to 2:15 PM
Activity: Sheetpile Removal: Intensive Monitoring — Flood Tide
Comments: Sheetpile removal in Slip 4

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:58	14:11	14:04	14:11	13:38	13:49	13:32	13:49
Depth (ft)	2	2	2	2	2	2	2	2
Turb. (NTU)	3.1	4.9	3.7	4.9	3.7	3.6	3.6	3.6
Temp. (°C)	8.62	8.59	8.65	8.59	8.42	8.77	8.28	8.77
DO (mg/L)	10.56	10.21	10.42	10.21	10.4	10.46	10.47	10.46
pH (units)	7.36	7.27	7.4	7.27	7.32	7.32	7.26	7.32
Sal. (ppt)	4.21	6.01	4.31	6.01	4.8	3.94	4.99	3.94
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

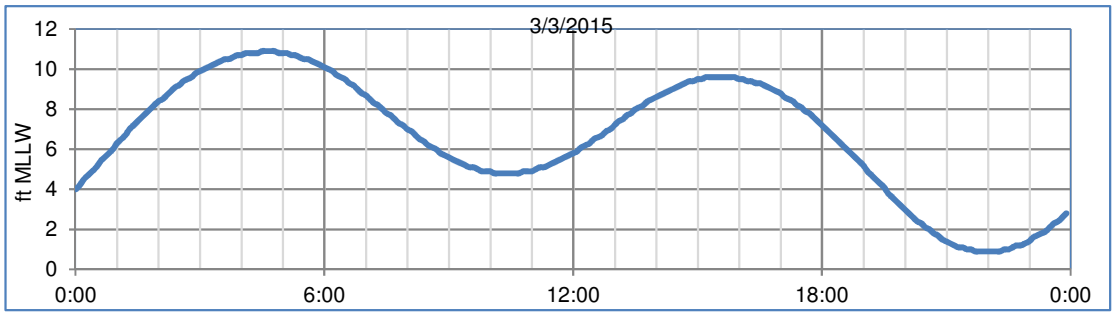
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	13:59	14:13	14:06	14:13	13:39	13:51	13:34	13:51
Depth (ft)	18.9	17.6	16.3	17.6	16.4	15.2	14	15.2
Turb. (NTU)	2.8	1.7	2.3	1.7	5.1	2	6.7	2
Temp. (°C)	9.57	9.59	9.6	9.59	9.56	9.57	9.56	9.57
DO (mg/L)	8.37	7.94	7.97	7.94	8.26	8.05	7.96	8.05
pH (units)	7.44	7.52	7.51	7.52	7.4	7.5	7.39	7.5
Sal. (ppt)	27.19	27.37	27.72	27.37	26.98	27.04	26.75	27.04
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

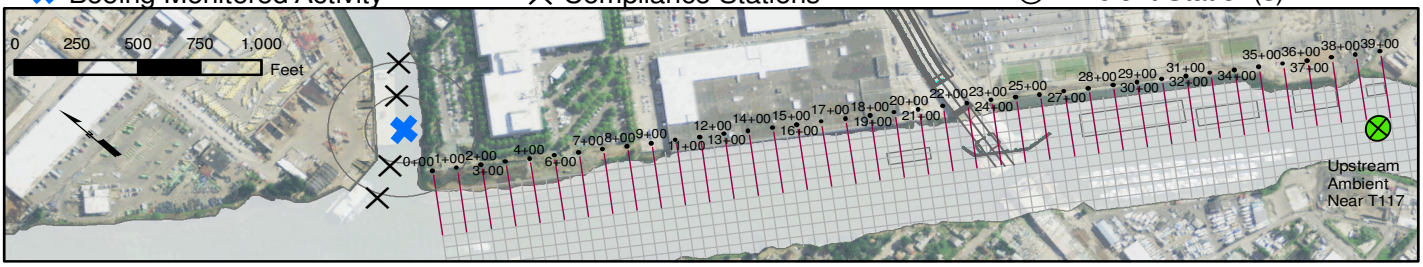
Daily Tides

4:37 AM	10.9 H
10:24 AM	4.8 L
3:34 PM	9.6 H
9:59 PM	0.9 L
Sunrise	6:46 AM
Sunset	5:57 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 3/3/2015

Activity Sheetpile Removal

Monitoring Level Intensive Monitoring

Start Time: 13:30

End Time: 14:15

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:58		14:11		14:04		14:11	
Depth (ft)	2		2		2		2	
Turb. (NTU)	3.1		4.9	9.9	3.7		4.9	9.9
Temp. (°C)	8.62		8.59	10.41	8.65		8.59	10.41
DO (mg/L)	10.56		10.21	≤ 6 mg/L	10.42		10.21	≤ 6 mg/L
pH (Units)	7.36		7.27	< 7.0 or >7.77	7.4		7.27	< 7.0 or >7.77
Sal. (ppt)	4.21		6.01		4.31		6.01	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:38		13:49		13:32		13:49	
2		2		2		2	
3.7		3.6	8.6	3.6		3.6	8.6
8.42		8.77	10.54	8.28		8.77	10.54
10.4		10.46	≤ 6 mg/L	10.47		10.46	≤ 6 mg/L
7.32		7.32	< 7.0 or >7.82	7.26		7.32	< 7.0 or >7.82
4.8		3.94		4.99		3.94	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	13:59		14:13		14:06		14:13	
Depth (ft)	18.9		17.6		16.3		17.6	
Turb. (NTU)	2.8		1.7	6.7	2.3		1.7	6.7
Temp. (°C)	9.57		9.59	11.17	9.6		9.59	11.17
DO (mg/L)	8.37		7.94	≤ 6 mg/L	7.97		7.94	≤ 6 mg/L
pH (Units)	7.44		7.52	<7.02 and >8.02	7.51		7.52	<7.02 and >8.02
Sal. (ppt)	27.19		27.37		27.72		27.37	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
13:39		13:51		13:34		13:51	
16.4		15.2		14		15.2	
5.1		2	7	6.7		2	7
9.56		9.57	11.16	9.56		9.57	11.16
8.26		8.05	≤ 6 mg/L	7.96		8.05	≤ 6 mg/L
7.4		7.5	<7 and >8	7.39		7.5	<7 and >8
26.98		27.04		26.75		27.04	
☐ Submitted				☐ Submitted			

Report Date 3/5/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 3/4/2015
Time Period: 10:45 AM to 11:30 AM
Activity: Sheetpile Removal: Intensive Monitoring — During Tide Change
Comments: Sheetpile removal in Slip 4. Downstream 150 ft and upstream 300 ft monitored at mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Ambient	300 ft	Ambient	Near Surface Upstream 150 ft	Ambient	300 ft	Ambient
Time	11:12	11:23	11:15	11:22	10:51	11:04	10:56	11:05
Depth (ft)	3	3	2	2	2	2	3.5	3.5
Turb. (NTU)	4.8	2.5	4.6	2.3	3.4	2.6	3.4	2.4
Temp. (°C)	7.81	7.78	7.79	7.78	7.71	7.77	7.94	7.81
DO (mg/L)	10.27	10.12	10.25	10.2	10.21	10.27	10.01	10.15
pH (units)	7.2	7.19	7.2	7.2	7.19	7.18	7.18	7.17
Sal. (ppt)	5.16	5.38	5.15	5.28	4.82	5	5.88	5.31
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

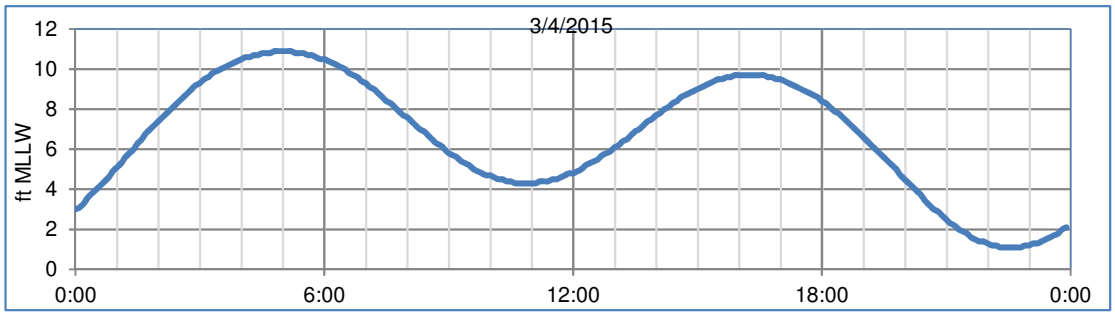
Parameter	Near Bottom Downstream 150 ft	Ambient	300 ft	Ambient	Near Bottom Upstream 150 ft	Ambient	300 ft	Ambient
Time	—	—	11:16	11:24	10:52	11:06	—	—
Depth (ft)	—	—	10.3	10.3	9.5	9.5	—	—
Turb. (NTU)	—	—	6.3	2.7	6.6	3	—	—
Temp. (°C)	—	—	9.09	9.17	8.58	8.98	—	—
DO (mg/L)	—	—	8.75	8.31	9.37	8.89	—	—
pH (units)	—	—	7.19	7.3	7.02	7.2	—	—
Sal. (ppt)	—	—	20.68	21.21	13.56	18.86	—	—
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

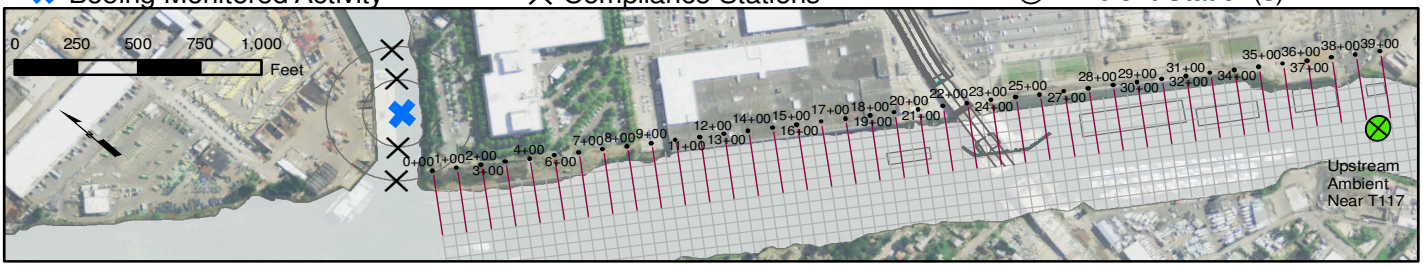
Daily Tides

4:59 AM	10.9 H
10:53 AM	4.3 L
4:15 PM	9.7 H
10:33 PM	1.1 L
Sunrise	6:44 AM
Sunset	5:59 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 3/4/2015

Activity Sheetpile Removal

Monitoring Level Intensive Monitoring

Start Time: 10:45

End Time: 11:30

Tide Cycle: During Tide Cha

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	11:12		11:23		11:15		11:22	
Depth (ft)	3		3		2		2	
Turb. (NTU)	4.8		2.5	7.5	4.6		2.3	7.3
Temp. (°C)	7.81		7.78	9.86	7.79		7.78	9.86
DO (mg/L)	10.27		10.12	≤ 6 mg/L	10.25		10.2	≤ 6 mg/L
pH (Units)	7.2		7.19	< 7.0 or >7.69	7.2		7.2	< 7.0 or >7.7
Sal. (ppt)	5.16		5.38		5.15		5.28	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
10:51		11:04		10:56		11:05	
2		2		3.5		3.5	
3.4		2.6	7.6	3.4		2.4	7.4
7.71		7.77	9.85	7.94		7.81	9.88
10.21		10.27	≤ 6 mg/L	10.01		10.15	≤ 6 mg/L
7.19		7.18	< 7.0 or >7.68	7.18		7.17	< 7.0 or >7.67
4.82		5		5.88		5.31	
☐ Submitted				☐ Submitted			

Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time					11:16		11:24	
Depth (ft)					10.3		10.3	
Turb. (NTU)				—	6.3		2.7	7.7
Temp. (°C)				—	9.09		9.17	10.84
DO (mg/L)				—	8.75		8.31	≤ 6 mg/L
pH (Units)				—	7.19		7.3	< 7.0 or >7.8
Sal. (ppt)					20.68		21.21	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
10:52		11:06					
9.5		9.5					
6.6		3	8				—
8.58		8.98	10.70				—
9.37		8.89	≤ 6 mg/L				—
7.02		7.2	< 7.0 or >7.7				—
13.56		18.86					
☐ Submitted				☐ Submitted			

Report Date 3/5/2015

Boeing Plant 2 Water Quality Monitoring

Sampling Date: 3/4/2015
Time Period: 12:00 PM to 12:45 PM
Activity: Sheetpile Removal: Intensive Monitoring — Flood Tide
Comments: Sheetpile removal in Slip 4 along the shoreline. Downstream 150 ft and 300 ft and upstream 150 ft monitoring conducted at mid-depth.

Notes: WQ Monitoring conducted under Order #9623. Corps Reference # NWS-2011-0384-SO.

Near-Surface Samples

Parameter	Near Surface Downstream 150 ft	Near Surface Downstream Ambient	Near Surface Downstream 300 ft	Near Surface Downstream Ambient	Near Surface Upstream 150 ft	Near Surface Upstream Ambient	Near Surface Upstream 300 ft	Near Surface Upstream Ambient
Time	12:29	12:40	12:33	12:40	12:01	12:20	12:06	12:19
Depth (ft)	3.9	3.9	2.2	2.2	4	4	2	2
Turb. (NTU)	6.7	3	6.8	2.9	4.5	3	5.1	2.5
Temp. (°C)	8.31	7.88	8.18	8.02	7.98	7.96	7.99	8.02
DO (mg/L)	9.65	10.19	10.06	10.43	10.25	9.94	9.85	10.16
pH (units)	7.15	7.18	7.2	7.22	7.22	7.16	7.3	7.2
Sal. (ppt)	9.5	5.95	6.63	5.11	5.46	7.05	5.8	5.08
Sample ID	—	—	—	—	—	—	—	—

Near-Bottom Samples

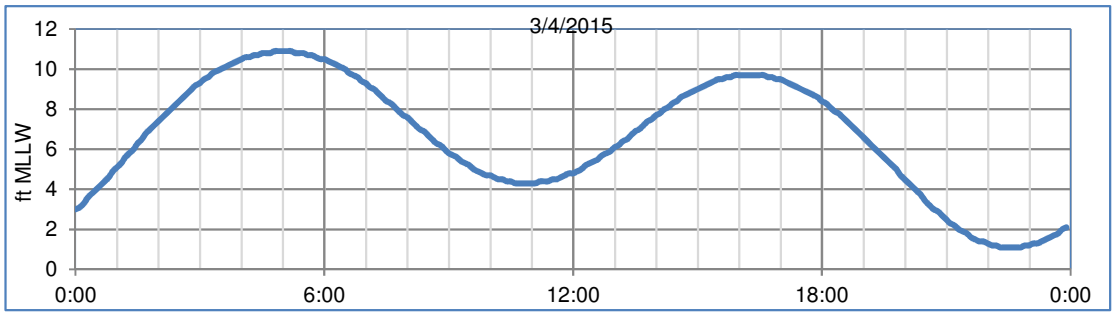
Parameter	Near Bottom Downstream 150 ft	Near Bottom Downstream Ambient	Near Bottom Downstream 300 ft	Near Bottom Downstream Ambient	Near Bottom Upstream 150 ft	Near Bottom Upstream Ambient	Near Bottom Upstream 300 ft	Near Bottom Upstream Ambient
Time	—	—	—	—	—	—	12:05	12:21
Depth (ft)	—	—	—	—	—	—	7.3	7.3
Turb. (NTU)	—	—	—	—	—	—	5.2	3.2
Temp. (°C)	—	—	—	—	—	—	8.51	8.43
DO (mg/L)	—	—	—	—	—	—	9.38	9.3
pH (units)	—	—	—	—	—	—	7.16	7.1
Sal. (ppt)	—	—	—	—	—	—	14.3	12.43
Sample ID	—	—	—	—	—	—	—	—

* = Value reflects confirmed result or parameters measured during water sample collection

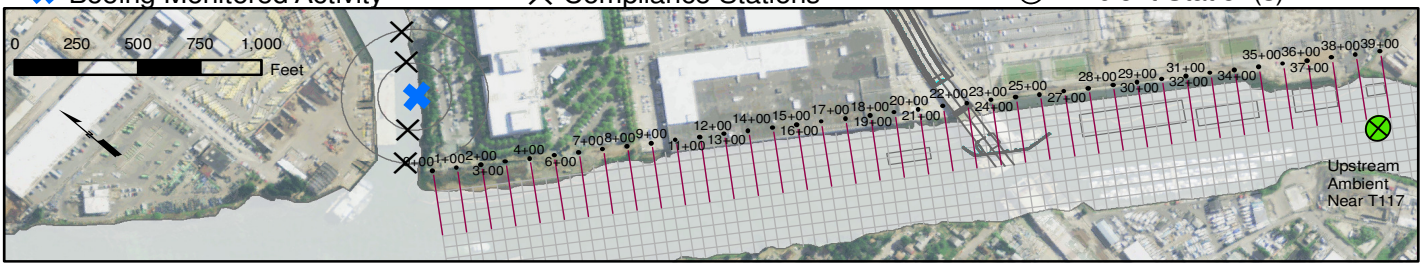
Daily Tides

4:59 AM	10.9 H
10:53 AM	4.3 L
4:15 PM	9.7 H
10:33 PM	1.1 L
Sunrise	6:44 AM
Sunset	5:59 PM

Tide Curve



✖ Boeing Monitored Activity ✕ Compliance Stations ⊗ Ambient Station(s)



Data Entry

Date 3/4/2015

Activity Sheetpile Removal

Monitoring Level Intensive Monitoring

Start Time: 12:00

End Time: 12:45

Tide Cycle: Flood Tide

USFW Monitoring

Time	800 ft	Ambient

Downstream

Surface Samples

Parameter	Near Surface/Mid-depth (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time	12:29		12:40		12:33		12:40	
Depth (ft)	3.9		3.9		2.2		2.2	
Turb. (NTU)	6.7		3	8	6.8		2.9	7.9
Temp. (°C)	8.31		7.88	9.92	8.18		8.02	10.01
DO (mg/L)	9.65		10.19	≤ 6 mg/L	10.06		10.43	≤ 6 mg/L
pH (Units)	7.15		7.18	< 7.0 or >7.68	7.2		7.22	< 7.0 or >7.72
Sal. (ppt)	9.5		5.95		6.63		5.11	
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Upstream

Near Surface/Mid-depth (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
12:01		12:20		12:06		12:19	
4		4		2		2	
4.5		3	8	5.1		2.5	7.5
7.98		7.96	9.97	7.99		8.02	10.01
10.25		9.94	≤ 6 mg/L	9.85		10.16	≤ 6 mg/L
7.22		7.16	< 7.0 or >7.66	7.3		7.2	< 7.0 or >7.7
5.46		7.05		5.8		5.08	
☐ Submitted				☐ Submitted			

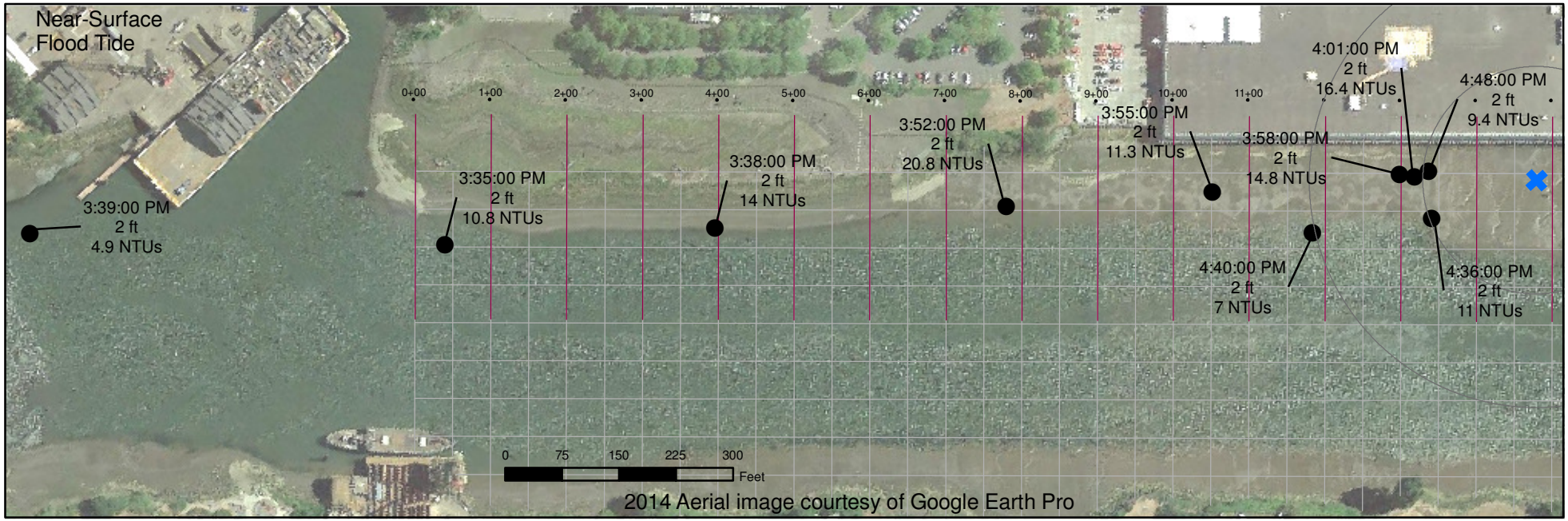
Subsurface Samples

Parameter	Near Bottom (1)							
	Initial 150 ft	Confirm 150 ft	Ambient	Exceeds Trigger Value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
Time								
Depth (ft)								
Turb. (NTU)				—				—
Temp. (°C)				—				—
DO (mg/L)				—				—
pH (Units)				—				—
Sal. (ppt)								
Sample ID								
Analyze	☐ Submitted				☐ Submitted			

Near Bottom (2)							
Initial 150 ft	Confirm 150 ft	Ambient	Trigger value	Initial 300 ft	Confirm 300 ft	Ambient	Exceeds Trigger Value
				12:05		12:21	
				7.3		7.3	
			—	5.2		3.2	8.2
			—	8.51		8.43	10.30
			—	9.38		9.3	≤ 6 mg/L
			—	7.16		7.1	< 7.0 or >7.6
				14.3		12.43	
☐ Submitted				☐ Submitted			

RESULTS OF PLUME TRACKING

Plume Tracking 2/4/2015 Boeing Backfill Operations ✖ Ambient @ 2 ft 2.9 NTUs ; @5 ft 3.3 NTUs; @8.6 ft 6.3 NTUs



Positions logged using GPS

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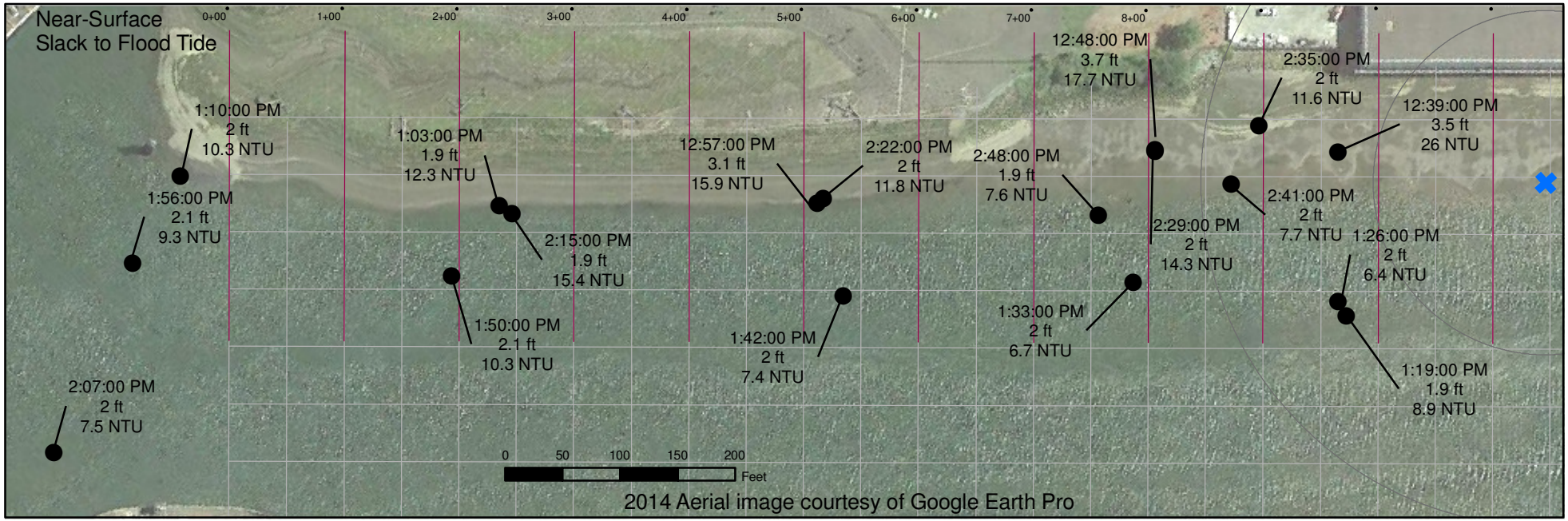
Plume Tracking 2/5/2015

Boeing Backfill Operations ✖

Ambient @ 2 ft 7 to 9 NTUs; @ 7 ft 4-6 NTUs



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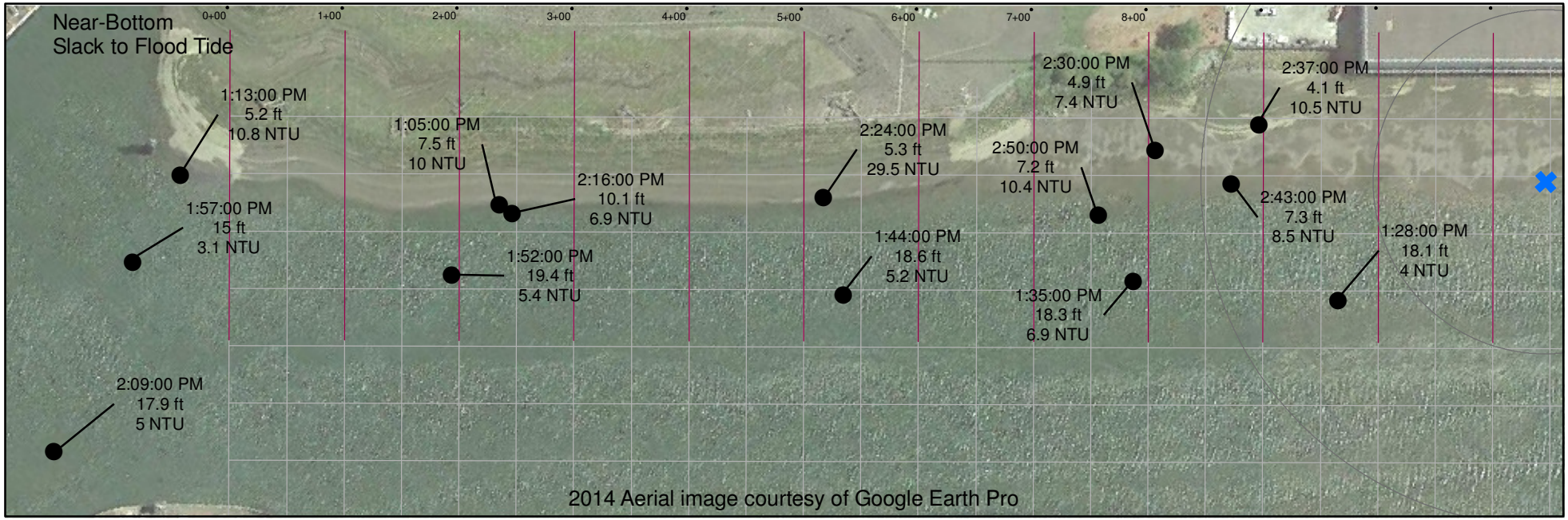

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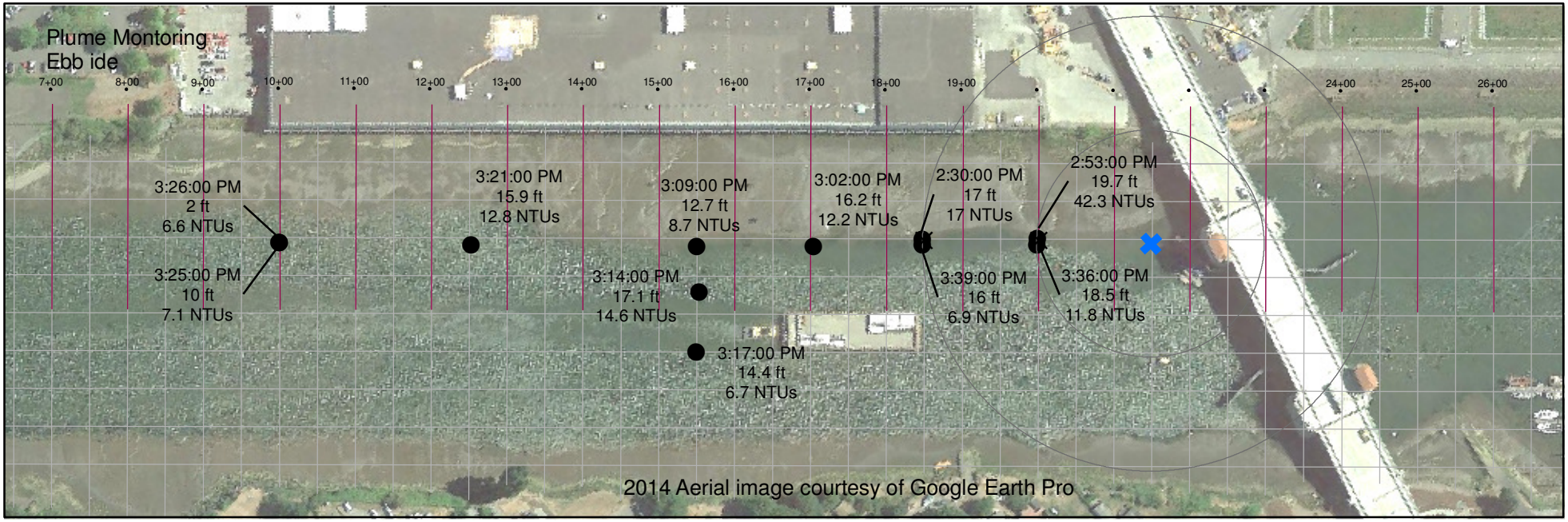
Plume Tracking 2/13/2015 Boeing Backfill Operations ✖ Compliance Stations × Ambient @ at 18.5 ft; 3.9 NTUs at start increasing to 6.4 NTUs



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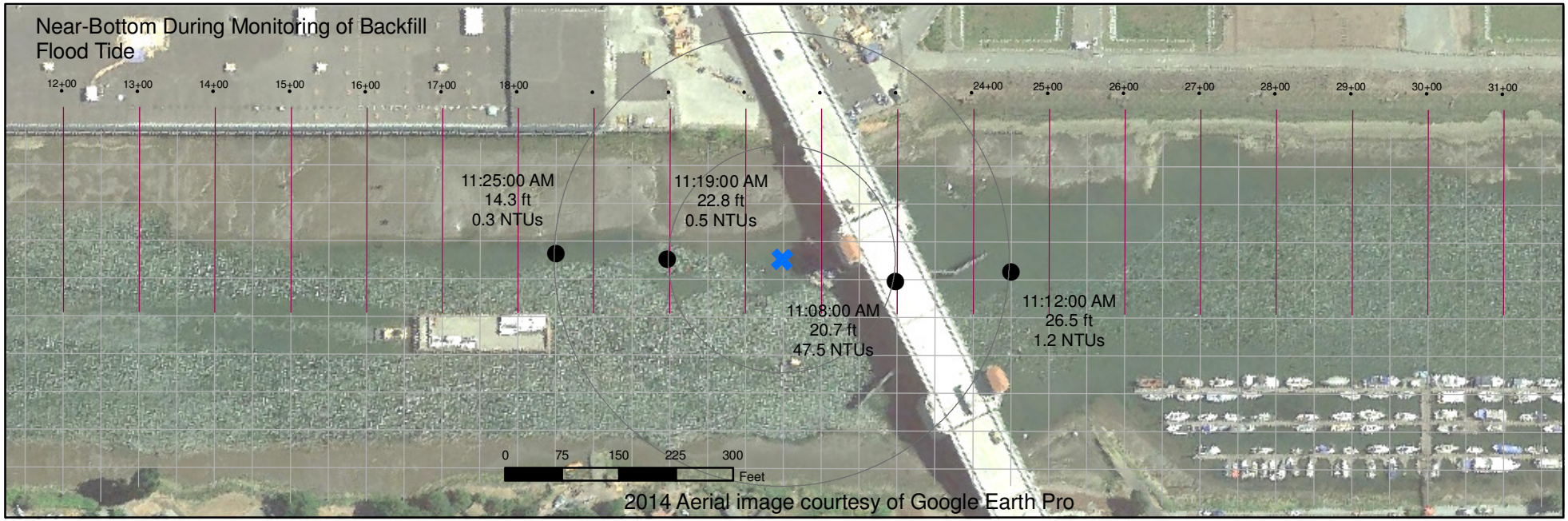
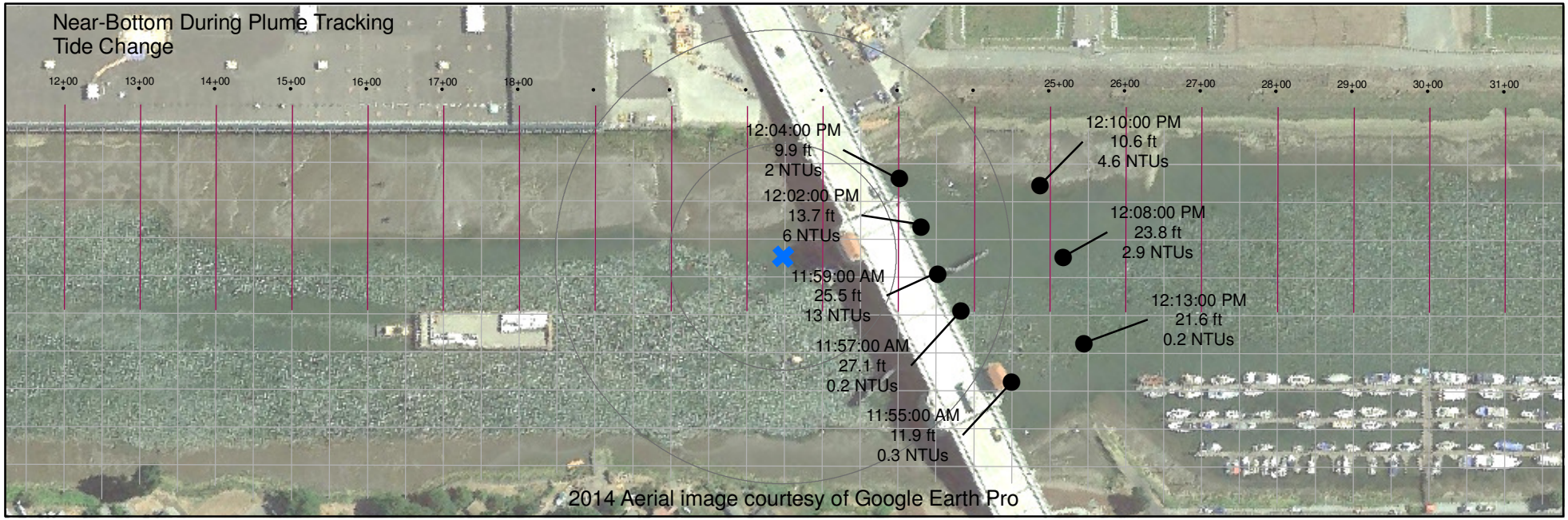
Positions estimated using range to dredge and range offshore

Backfilling suspended midway through plume tracking

Plume Tracking 2/14/2015 Boeing Backfill Operations ✖ Ambient @ deeper than 14.3 ft; < 1 NTUs



Positions logged using GPS



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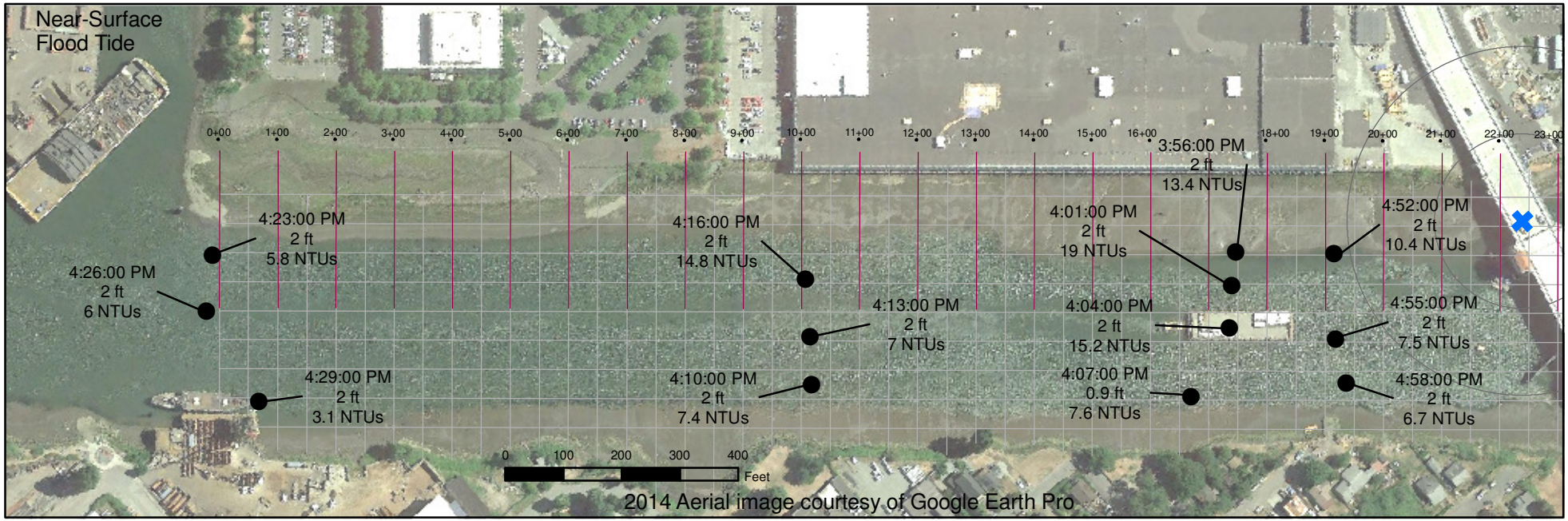
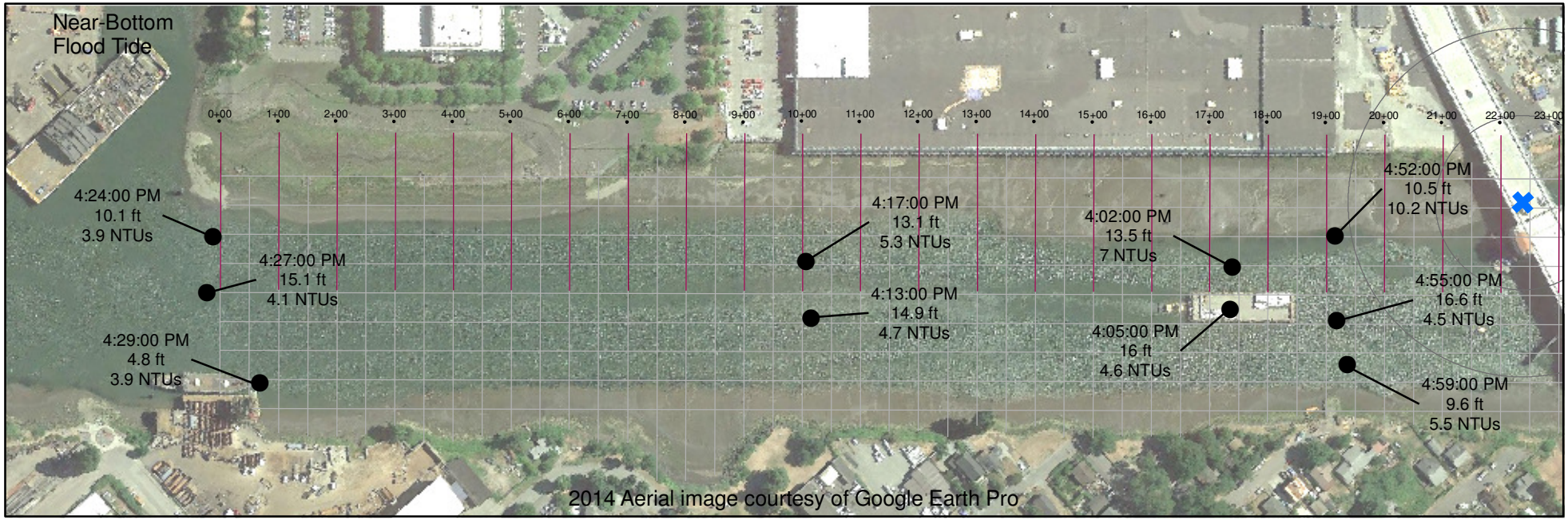
Plume Tracking 2/23/2015

Boeing Backfill Operations ✖

Ambient @ 2 ft 3 to 3.1 NTUs ; @ 11 ft 5.1 NTUs



Positions logged using GPS



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