Appendix A
Field Sampling Logs

Attachment A1
Surface Grab Forms

Table A1-1
Sampling Summary: Surface Sediment

Station ID	Subarea	Collection Date	Actual Coordinates (NAD83ORNH)		Centroid Coordinates		Mudline Elevation (feet NAVD88)	Distance from Centroid (feet)
			Easting (X)	Northing (Y)	Easting (X)	Northing (Y)		
Underpier Surface Sediment Grabs								
T4-PDI2019-SG21A	Slip 3	5/31/2019	7619688.88	713559.02	7619690.81	713564.79	-17.4	6.1
T4-PDI2019-SG21B	Slip 3	5/31/2019	7619694.76	713564.19			-16.4	4.0
T4-PDI2019-SG21C	Slip 3	5/31/2019	7619689.09	713573.15			-14.4	8.5
T4-PDI2019-SG22A	Slip 3	5/29/2019	7619837.94	713531.25	7619834.07	713525.77	-14.3	6.7
T4-PDI2019-SG22B	Slip 3	5/29/2019	7619841.74	713529.67			-15.3	8.6
T4-PDI2019-SG22C	Slip 3	5/29/2019	7619840.07	713531.94			-14.3	8.6
T4-PDI2019-SG23A	Slip 3	5/29/2019	7619985.08	713513.34	7619981.76	713515.87	-10.3	4.2
T4-PDI2019-SG23B	Slip 3	5/29/2019	7619980.74	713518.04			-8.3	2.4
T4-PDI2019-SG23C	Slip 3	5/29/2019	7619979.45	713516.22			-8.2	2.3
T4-PDI2019-SG24A	Slip 3	5/29/2019	7620146.13	713499.64	7620149.58	713495.74	-7.1	5.2
T4-PDI2019-SG24B	Slip 3	5/29/2019	7620151.76	713496.76			-7.1	2.4
T4-PDI2019-SG24C	Slip 3	5/29/2019	7620150.86	713490.83			-10.0	5.1
T4-PDI2019-SG25A	Slip 3	5/29/2019	7620290.87	713469.58	7620286.46	713467.21	-10.9	5.0
T4-PDI2019-SG25B	Slip 3	5/29/2019	7620282.66	713468.80			-12.9	4.1
T4-PDI2019-SG25C	Slip 3	5/29/2019	7620285.86	713463.26			-13.9	4.0
T4-PDI2019-SG26A	Slip 3	5/30/2019	7620424.55	713452.43	7620423.41	713451.59	-9.9	1.4
T4-PDI2019-SG26B	Slip 3	5/30/2019	7620416.94	713455.60			-9.9	7.6
T4-PDI2019-SG26C	Slip 3	5/30/2019	7620428.74	713446.73			-11.0	7.2
T4-PDI2019-SG38A	Slip 1	5/31/2019	7619717.06	714356.76	7619717.89	714360.73	-4.2	4.1
T4-PDI2019-SG38B	Slip 1	5/31/2019	7619714.30	714362.87			-7.2	4.2
T4-PDI2019-SG38C	Slip 1	5/31/2019	7619722.30	714362.55			-7.2	4.8
T4-PDI2019-SG40A	Slip 1	5/28/2019	7620027.42	714328.53	7620030.20	714331.42	-3.4	4.0
T4-PDI2019-SG40B	Slip 1	5/28/2019	7620028.61	714333.48			-2.3	2.6
T4-PDI2019-SG40C	Slip 1	5/28/2019	7620034.57	714332.24			-2.3	4.4
T4-PDI2019-SG41A	Slip 1	5/28/2019	7620172.63	714328.69	7620172.80	714333.02	-4.7	4.3
T4-PDI2019-SG41B	Slip 1	5/28/2019	7620172.79	714332.69			-7.6	0.3
T4-PDI2019-SG41C	Slip 1	5/28/2019	7620172.99	714337.68			-10.5	4.7
Open-Water Surface Sediment Grabs								
T4-PDI2019-SG01A	Berth 414	4/29/2019	7619700.58	712713.95	7619699.50	712705.55	-18.0	8.5
T4-PDI2019-SG01B	Berth 414	4/29/2019	7619691.01	712700.60			-17.1	9.8
T4-PDI2019-SG01C	Berth 414	4/29/2019	7619706.91	712702.11			-14.2	8.2
T4-PDI2019-SG02A	Berth 414	4/29/2019	7619622.93	712837.24	7619625.71	712830.54	-17.7	7.3
T4-PDI2019-SG02B	Berth 414	4/29/2019	7619622.75	712828.72			-21.5	3.5
T4-PDI2019-SG02C	Berth 414	4/29/2019	7619631.44	712825.66			-21.7	7.5
T4-PDI2019-SG04A	Slip 3	4/29/2019	7619832.60	713129.46	7619836.51	713134.80	-31.1	6.6
T4-PDI2019-SG04B	Slip 3	4/29/2019	7619840.41	713140.14			-31.8	6.6
T4-PDI2019-SG05A	Slip 3	4/17/2019	7619988.51	713148.68	7619990.23	713140.26	-37.1	8.6
T4-PDI2019-SG05B	Slip 3	4/17/2019	7619998.60	713137.04			-37.2	9.0
T4-PDI2019-SG05C	Slip 3	4/17/2019	7619983.59	713135.07			-36.3	8.4
T4-PDI2019-SG06A	Slip 3	4/17/2019	7620147.59	713132.61	7620144.61	713139.15	-34.5	7.2
T4-PDI2019-SG06B	Slip 3	4/17/2019	7620151.70	713142.76			-32.7	8.0
T4-PDI2019-SG06C	Slip 3	4/17/2019	7620134.53	713142.09			-31.7	10.5
T4-PDI2019-SG08A	Slip 3	4/15/2019	7620377.47	713108.24	7620378.39	713098.54	-28.6	9.7
T4-PDI2019-SG08B	Slip 3	4/15/2019	7620371.09	713092.86			-28.3	9.2
T4-PDI2019-SG08C	Slip 3	4/15/2019	7620386.60	713094.51			-27.5	9.1
T4-PDI2019-SG09A	Slip 3	4/30/2019	7619649.32	713269.64	7619649.11	713261.03	-35.9	8.6
T4-PDI2019-SG09B	Slip 3	4/30/2019	7619640.63	713253.24			-34.4	11.5
T4-PDI2019-SG09C	Slip 3	4/30/2019	7619657.38	713260.22			-34.3	8.3
T4-PDI2019-SG10A	Slip 3	4/30/2019	7619838.43	713230.38	7619837.31	713221.62	-29.8	8.8
T4-PDI2019-SG10B	Slip 3	4/30/2019	7619829.30	713219.45			-32.4	8.3
T4-PDI2019-SG10C	Slip 3	4/30/2019	7619844.21	713215.02			-33.3	9.5
T4-PDI2019-SG11A	Slip 3	4/15/2019	7620135.43	713205.83	7620135.15	713195.33	-30.5	10.5
T4-PDI2019-SG11B	Slip 3	4/15/2019	7620128.02	713190.02			-31.5	8.9
T4-PDI2019-SG11C	Slip 3	4/15/2019	7620142.01	713190.13			-31.4	8.6
T4-PDI2019-SG13A	Slip 3	4/15/2019	7620425.19	713200.30	7620426.74	713192.86	-26.1	7.6
T4-PDI2019-SG13B	Slip 3	4/15/2019	7620421.71	713188.32			-26.6	6.8
T4-PDI2019-SG13C	Slip 3	4/15/2019	7620433.33	713189.96			-23.7	7.2
T4-PDI2019-SG14A	Slip 3	4/30/2019	7619694.57	713376.45	7619693.85	713366.42	-45.3	10.1
T4-PDI2019-SG14B	Slip 3	4/30/2019	7619687.77	713362.82			-45.8	7.1
T4-PDI2019-SG14C	Slip 3	4/30/2019	7619699.21	713360.00			-45.8	8.4
T4-PDI2019-SG15A	Slip 3	4/16/2019	7619860.09	713417.70	7619861.51	713408.87	-44.6	8.9
T4-PDI2019-SG15B	Slip 3	4/16/2019	7619854.44	713401.41			-46.4	10.3
T4-PDI2019-SG15C	Slip 3	4/16/2019	7619870.00	713407.50			-46.3	8.6
T4-PDI2019-SG16A	Slip 3	4/16/2019	7619999.00	713340.48	7619999.16	713335.16	-39.5	5.3
T4-PDI2019-SG16B	Slip 3	4/16/2019	7619991.01	713332.78			-37.4	8.5
T4-PDI2019-SG16C	Slip 3	4/16/2019	7620007.47	713332.22			-37.6	8.8

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Sampling Summary: Surface Sediment

Station ID	Subarea	Collection Date	Actual Coordinates (NAD83ORNH)		Centroid Coordinates		Mudline Elevation (feet NAVD88)	Distance from Centroid (feet)
			Easting (X)	Northing (Y)	Easting (X)	Northing (Y)		
T4-PDI2019-SG17A	Slip 3	4/16/2019	7620136.50	713366.14	7620137.72	713356.86	-42.3	9.4
T4-PDI2019-SG17B	Slip 3	4/16/2019	7620131.53	713352.24			-45.1	7.7
T4-PDI2019-SG17C	Slip 3	4/16/2019	7620145.14	713352.20			-43.0	8.8
T4-PDI2019-SG18A	Slip 3	4/15/2019	7620287.07	713352.98	7620287.03	713343.12	-42.6	9.9
T4-PDI2019-SG18B	Slip 3	4/15/2019	7620279.67	713338.24			-40.9	8.8
T4-PDI2019-SG18C	Slip 3	4/15/2019	7620294.34	713338.13			-41.8	8.9
T4-PDI2019-SG20A	Slip 3	4/30/2019	7619637.65	713483.01	7619637.68	713475.07	-37.4	7.9
T4-PDI2019-SG20B	Slip 3	4/30/2019	7619630.09	713471.84			-37.8	8.3
T4-PDI2019-SG20C	Slip 3	4/30/2019	7619645.30	713470.37			-37.3	9.0
T4-PDI2019-SG27A	Wheeler Bay	4/29/2019	7619582.37	713689.60	7619581.29	713681.64	-3.0	8.0
T4-PDI2019-SG27B	Wheeler Bay	4/29/2019	7619572.84	713678.24			-3.2	9.1
T4-PDI2019-SG27C	Wheeler Bay	4/29/2019	7619588.67	713677.08			-3.1	8.7
T4-PDI2019-SG28A	Wheeler Bay	4/29/2019	7619658.54	713679.44	7619659.88	713670.43	-3.4	9.1
T4-PDI2019-SG28B	Wheeler Bay	4/29/2019	7619652.75	713668.36			-3.7	7.4
T4-PDI2019-SG28C	Wheeler Bay	4/29/2019	7619668.36	713663.50			-3.8	11.0
T4-PDI2019-SG29A	Wheeler Bay	4/29/2019	7619589.31	713765.12	7619590.30	713754.27	-2.7	10.9
T4-PDI2019-SG29B	Wheeler Bay	4/29/2019	7619584.62	713747.84			-2.8	8.6
T4-PDI2019-SG29C	Wheeler Bay	4/29/2019	7619596.98	713749.84			-2.8	8.0
T4-PDI2019-SG30A	Wheeler Bay	4/29/2019	7619664.59	713764.66	7619666.19	713757.21	-1.5	7.6
T4-PDI2019-SG30B	Wheeler Bay	4/29/2019	7619657.56	713752.82			-1.2	9.7
T4-PDI2019-SG30C	Wheeler Bay	4/29/2019	7619676.41	713754.15			-1.1	10.7
T4-PDI2019-SG31A	Wheeler Bay	5/1/2019	7619697.79	713838.57	7619697.12	713830.80	8.7	7.8
T4-PDI2019-SG31B	Wheeler Bay	5/1/2019	7619686.73	713827.50			5.5	10.9
T4-PDI2019-SG31C	Wheeler Bay	5/1/2019	7619706.85	713826.32			8.7	10.7
T4-PDI2019-SG32A	Wheeler Bay	5/2/2019	7619164.77	713884.25	7619162.44	713876.18	-17.2	8.4
T4-PDI2019-SG32B	Wheeler Bay	5/2/2019	7619151.71	713871.95			-19.1	11.5
T4-PDI2019-SG32C	Wheeler Bay	5/2/2019	7619170.83	713872.33			-17.3	9.2
T4-PDI2019-SG33A	Wheeler Bay	5/1/2019	7619337.93	713959.14	7619332.54	713952.58	3.1	8.5
T4-PDI2019-SG33B	Wheeler Bay	5/1/2019	7619327.44	713954.41			2.8	5.4
T4-PDI2019-SG33C	Wheeler Bay	5/1/2019	7619332.26	713944.19			2.6	8.4
T4-PDI2019-SG34A	Wheeler Bay	5/2/2019	7619034.02	714211.58	7619040.61	714214.49	-14.8	7.2
T4-PDI2019-SG34B	Wheeler Bay	5/2/2019	7619046.98	714207.35			-10.5	9.6
T4-PDI2019-SG34C	Wheeler Bay	5/2/2019	7619040.83	714224.54			-9.1	10.1
T4-PDI2019-SG35A	Slip 1	5/3/2019	7619116.48	714404.33	7619111.61	714411.12	-22.5	8.4
T4-PDI2019-SG35B	Slip 1	5/3/2019	7619102.40	714408.12			-19.9	9.7
T4-PDI2019-SG35C	Slip 1	5/3/2019	7619115.94	714420.92			-24.3	10.7
T4-PDI2019-SG36A	Slip 1	5/1/2019	7619280.95	714381.84	7619279.70	714386.71	-10.2	5.0
T4-PDI2019-SG36B	Slip 1	5/1/2019	7619287.20	714389.54			-13.9	8.0
T4-PDI2019-SG36C	Slip 1	5/1/2019	7619270.94	714388.74			-10.3	9.0
T4-PDI2019-SG37A	Slip 1	4/30/2019	7619574.74	714388.90	7619586.08	714348.14	3.8	42.3
T4-PDI2019-SG37B	Slip 1	4/30/2019	7619571.61	714323.72			4.9	28.4
T4-PDI2019-SG37C	Slip 1	4/30/2019	7619611.89	714331.81			4.3	30.5
T4-PDI2019-SG42A	Slip 1	5/1/2019	7619359.57	714380.92	7619356.99	714373.82	-10.0	7.6
T4-PDI2019-SG42B	Slip 1	5/1/2019	7619348.99	714370.89			-5.8	8.5
T4-PDI2019-SG42C	Slip 1	5/1/2019	7619362.41	714369.64			-4.3	6.8
T4-PDI2019-SG43A	Slip 1	5/1/2019	7619428.38	714380.02	7619430.16	714371.13	-8.5	9.1
T4-PDI2019-SG43B	Slip 1	5/1/2019	7619422.70	714367.12			-4.7	8.5
T4-PDI2019-SG43C	Slip 1	5/1/2019	7619439.41	714366.24			-7.1	10.5
T4-PDI2019-SG44A	Slip 1	5/1/2019	7619501.79	714378.08	7619502.91	714368.55	-13.9	9.6
T4-PDI2019-SG44B	Slip 1	5/1/2019	7619511.39	714362.62			-5.4	10.4
T4-PDI2019-SG44C	Slip 1	5/1/2019	7619495.54	714364.95			-6.7	8.2
T4-PDI2019-SG45A	Slip 1	5/3/2019	7619358.95	714440.68	7619358.15	714431.77	-25.7	8.9
T4-PDI2019-SG45B	Slip 1	5/3/2019	7619351.01	714427.17			-24.8	8.5
T4-PDI2019-SG45C	Slip 1	5/3/2019	7619364.49	714427.46			-23.6	7.7
T4-PDI2019-SG46A	Slip 1	5/3/2019	7619440.76	714429.21	7619440.11	714420.44	-25.4	8.8
T4-PDI2019-SG46B	Slip 1	5/3/2019	7619447.46	714416.65			-23.9	8.3
T4-PDI2019-SG46C	Slip 1	5/3/2019	7619432.12	714415.45			-22.1	9.4
T4-PDI2019-SG47A	Slip 1	5/3/2019	7619503.81	714434.08	7619504.69	714426.61	-22.7	7.5
T4-PDI2019-SG47B	Slip 1	5/3/2019	7619496.99	714421.91			-23.3	9.0
T4-PDI2019-SG47C	Slip 1	5/3/2019	7619513.27	714423.83			-24.6	9.0
T4-PDI2019-SG48A	Slip 1	5/3/2019	7619132.89	714517.84	7619134.01	714506.60	-28.5	11.3
T4-PDI2019-SG48B	Slip 1	5/3/2019	7619127.62	714503.07			-28.6	7.3
T4-PDI2019-SG48C	Slip 1	5/3/2019	7619141.53	714498.88			-28.6	10.8
T4-PDI2019-SG49A	Slip 1	5/3/2019	7619433.00	714493.37	7619434.26	714484.28	-28.3	9.2
T4-PDI2019-SG49B	Slip 1	5/3/2019	7619428.41	714478.45			-27.9	8.3
T4-PDI2019-SG49C	Slip 1	5/3/2019	7619441.38	714481.01			-28.3	7.8

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Station ID	Subarea	Collection Date	Actual Coordinates (NAD83ORNH)		Centroid Coordinates		Mudline Elevation (feet NAVD88)	Distance from Centroid (feet)
			Easting (X)	Northing (Y)	Easting (X)	Northing (Y)		
T4-PDI2019-SG50A	Slip 1	4/18/2019	7619572.24	714489.38	7619574.46	714481.13	-27.2	8.5
T4-PDI2019-SG50B	Slip 1	4/18/2019	7619567.99	714475.65			-27.9	8.5
T4-PDI2019-SG50C	Slip 1	4/18/2019	7619583.14	714478.36			-24.5	9.1
T4-PDI2019-SG51A	Slip 1	4/17/2019	7619696.63	714495.20	7619697.03	714486.49	-24.8	8.7
T4-PDI2019-SG51B	Slip 1	4/17/2019	7619690.27	714482.47			-26.2	7.9
T4-PDI2019-SG51C	Slip 1	4/17/2019	7619704.18	714481.79			-26.0	8.6
T4-PDI2019-SG52A	Slip 1	4/17/2019	7620024.50	714483.10	7620025.47	714474.54	-29.1	8.6
T4-PDI2019-SG52B	Slip 1	4/17/2019	7620018.31	714470.24			-25.1	8.4
T4-PDI2019-SG52C	Slip 1	4/17/2019	7620033.61	714470.28			-26.2	9.2
T4-PDI2019-SG53A	Slip 1	4/16/2019	7620315.54	714441.33	7620315.97	714434.45	-28.4	6.9
T4-PDI2019-SG53B	Slip 1	4/16/2019	7620303.56	714431.77			-29.0	12.7
T4-PDI2019-SG53C	Slip 1	4/16/2019	7620328.81	714430.25			-27.9	13.5
T4-PDI2019-SG54A	Slip 1	4/16/2019	7620401.78	714440.49	7620399.28	714449.04	-25.1	8.9
T4-PDI2019-SG54B	Slip 1	4/16/2019	7620403.88	714456.12			-24.9	8.4
T4-PDI2019-SG54C	Slip 1	4/16/2019	7620392.19	714450.52			-25.7	7.2
T4-PDI2019-SG55A	Slip 1	5/3/2019	7619286.35	714610.16	7619285.37	714600.54	-27.5	9.7
T4-PDI2019-SG55B	Slip 1	5/3/2019	7619277.57	714596.64			-27.9	8.7
T4-PDI2019-SG55C	Slip 1	5/3/2019	7619292.20	714594.83			-27.9	8.9
T4-PDI2019-SG56A	Slip 1	4/18/2019	7619538.23	714594.08	7619538.37	714587.53	-27.8	6.6
T4-PDI2019-SG56B	Slip 1	4/18/2019	7619531.12	714583.67			-27.7	8.2
T4-PDI2019-SG56C	Slip 1	4/18/2019	7619545.77	714584.83			-25.1	7.9
T4-PDI2019-SG57A	Slip 1	4/17/2019	7619722.92	714626.55	7619721.34	714619.01	-27.3	7.7
T4-PDI2019-SG57B	Slip 1	4/17/2019	7619712.20	714616.11			-28.4	9.6
T4-PDI2019-SG57C	Slip 1	4/17/2019	7619728.91	714614.37			-26.6	8.9
T4-PDI2019-SG58A	Slip 1	4/17/2019	7619882.43	714627.10	7619883.05	714619.00	-26.2	8.1
T4-PDI2019-SG58B	Slip 1	4/17/2019	7619876.94	714615.85			-29.0	6.9
T4-PDI2019-SG58C	Slip 1	4/17/2019	7619889.78	714614.04			-28.6	8.4
T4-PDI2019-SG59A	Slip 1	4/17/2019	7620029.84	714621.47	7620029.89	714612.27	-28.6	9.2
T4-PDI2019-SG59B	Slip 1	4/17/2019	7620022.43	714608.42			-30.6	8.4
T4-PDI2019-SG59C	Slip 1	4/17/2019	7620037.41	714606.93			-27.4	9.2
T4-PDI2019-SG60A	Slip 1	4/17/2019	7620176.81	714617.47	7620176.98	714610.24	-25.9	7.2
T4-PDI2019-SG60B	Slip 1	4/17/2019	7620168.26	714605.19			-26.4	10.1
T4-PDI2019-SG60C	Slip 1	4/17/2019	7620185.88	714608.07			-28.7	9.2
T4-PDI2019-SG61A	Slip 1	4/16/2019	7620324.51	714578.96	7620323.58	714570.52	-22.3	8.5
T4-PDI2019-SG61B	Slip 1	4/16/2019	7620316.29	714568.03			-22.9	7.7
T4-PDI2019-SG61C	Slip 1	4/16/2019	7620329.95	714564.56			-23.2	8.7
T4-PDI2019-SG62A	Slip 1	4/18/2019	7619284.88	714666.35	7619286.46	714659.32	-22.9	7.2
T4-PDI2019-SG62B	Slip 1	4/18/2019	7619295.04	714656.26			-25.6	9.1
T4-PDI2019-SG62C	Slip 1	4/18/2019	7619279.45	714655.36			-21.1	8.0
T4-PDI2019-SG63A	Slip 1	4/18/2019	7619434.09	714660.13	7619436.26	714651.74	-20.9	8.7
T4-PDI2019-SG63B	Slip 1	4/18/2019	7619445.34	714648.76			-24.2	9.6
T4-PDI2019-SG63C	Slip 1	4/18/2019	7619429.36	714646.32			-23.7	8.8
T4-PDI2019-SG64A	Slip 1	4/18/2019	7619591.18	714628.73	7619591.25	714621.07	-27.1	7.7
T4-PDI2019-SG64B	Slip 1	4/18/2019	7619598.36	714617.14			-26.8	8.1
T4-PDI2019-SG64C	Slip 1	4/18/2019	7619584.22	714617.33			-23.6	8.0
T4-PDI2019-SG66A	Slip 1	5/2/2019	7618718.44	715146.12	7618719.24	715139.08	7.6	7.1
T4-PDI2019-SG66B	Slip 1	5/2/2019	7618714.21	715135.88			8.0	6.0
T4-PDI2019-SG66C	Slip 1	5/2/2019	7618725.08	715135.23			6.2	7.0
T4-PDI2019-SG67A	Slip 1	5/2/2019	7618650.27	715278.28	7618643.46	715270.08	2.7	10.7
T4-PDI2019-SG67B	Slip 1	5/2/2019	7618640.07	715271.76			1.7	3.8
T4-PDI2019-SG67C	Slip 1	5/2/2019	7618640.05	715260.21			1.7	10.4
T4-PDI2019-SG68A	Slip 1	5/2/2019	7618551.77	715195.94	7618553.11	715187.80	-34.4	8.2
T4-PDI2019-SG68B	Slip 1	5/2/2019	7618544.92	715182.89			-35.5	9.5
T4-PDI2019-SG68C	Slip 1	5/2/2019	7618562.64	715184.57			-33.2	10.1

Note:
NAVD88: North American Vertical Datum of 1988

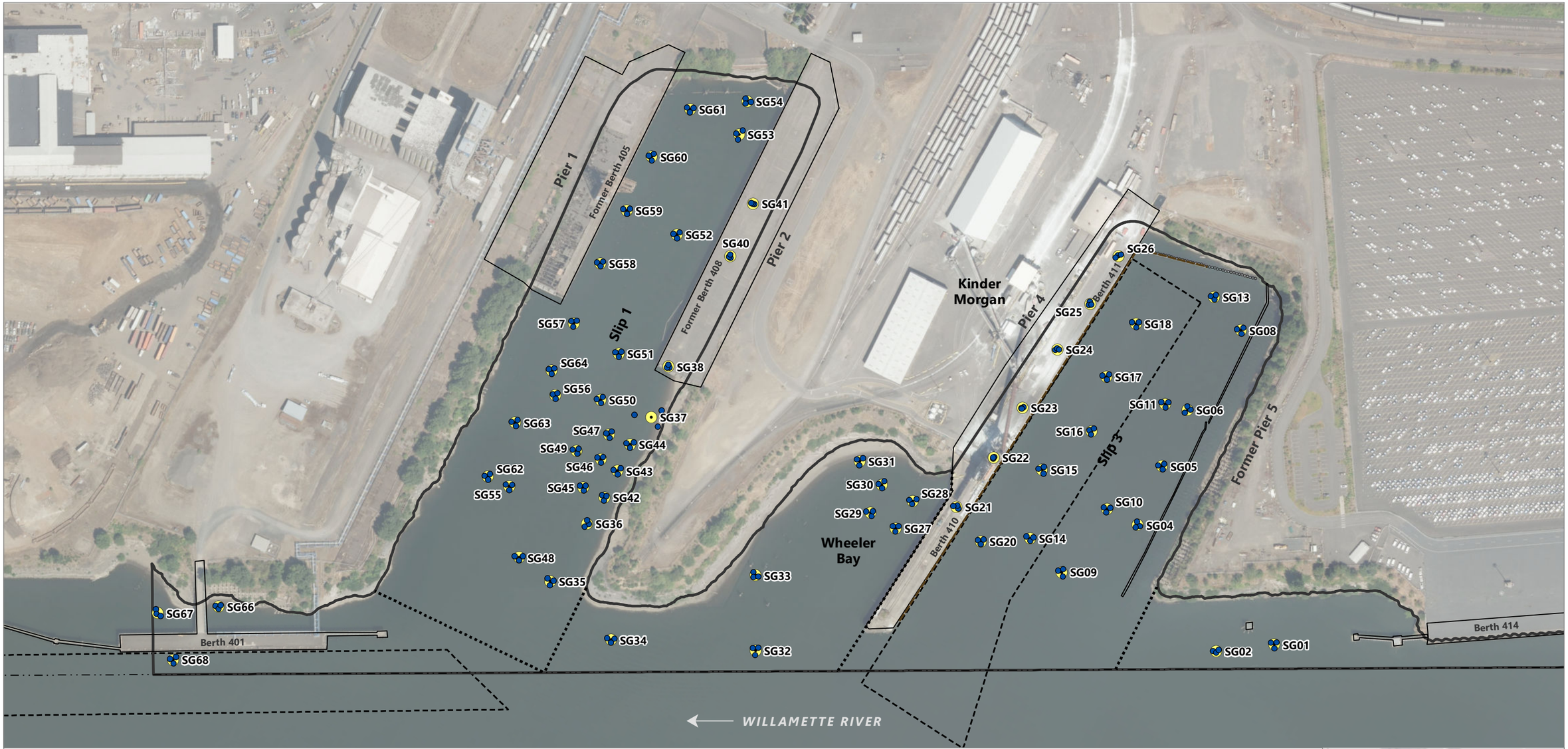
Table A1-2
Sheen and Hydrocarbon Odor Observations: Surface Sediment

Station ID	Underpier	Sheen Observation		HC Odor Observation	
T4-PDI2019-SG01			None		None
T4-PDI2019-SG02			None		None
T4-PDI2019-SG04			None		None
T4-PDI2019-SG05		X	Trace		None
T4-PDI2019-SG06			None		None
T4-PDI2019-SG08		X	Trace		None
T4-PDI2019-SG09			None		None
T4-PDI2019-SG10			None		None
T4-PDI2019-SG11		X	Trace		None
T4-PDI2019-SG13		X	Trace		None
T4-PDI2019-SG14			None		None
T4-PDI2019-SG15			None		None
T4-PDI2019-SG16		X	Trace		None
T4-PDI2019-SG17		X	Trace		None
T4-PDI2019-SG18		X	Trace		None
T4-PDI2019-SG20			None		None
T4-PDI2019-SG21	X		None		None
T4-PDI2019-SG22	X		None	X	Slight
T4-PDI2019-SG23	X		None		None
T4-PDI2019-SG24	X		None		None
T4-PDI2019-SG25	X		None		None
T4-PDI2019-SG26	X	X	Trace		None
T4-PDI2019-SG27			None		None
T4-PDI2019-SG28			None		None
T4-PDI2019-SG29			None		None
T4-PDI2019-SG30			None		None
T4-PDI2019-SG31			None		None
T4-PDI2019-SG32			None		None
T4-PDI2019-SG33			None		None
T4-PDI2019-SG34			None		None
T4-PDI2019-SG35			None		None
T4-PDI2019-SG36			None		None
T4-PDI2019-SG37			None		None
T4-PDI2019-SG38	X		None	X	Slight
T4-PDI2019-SG40	X		None	X	Slight
T4-PDI2019-SG41	X	X	Trace		None
T4-PDI2019-SG42			None		None
T4-PDI2019-SG43			None		None
T4-PDI2019-SG44			None		None
T4-PDI2019-SG45			None		None
T4-PDI2019-SG46			None		None
T4-PDI2019-SG47			None		None
T4-PDI2019-SG48			None		None
T4-PDI2019-SG49			None		None

Table A1-2
Sheen and Hydrocarbon Odor Observations: Surface Sediment

Station ID	Underpier	Sheen Observation		HC Odor Observation	
T4-PDI2019-SG50			None		None
T4-PDI2019-SG51			None		None
T4-PDI2019-SG52			None		None
T4-PDI2019-SG53			None		None
T4-PDI2019-SG54		X	Trace		None
T4-PDI2019-SG55			None		None
T4-PDI2019-SG56			None		None
T4-PDI2019-SG57			None		None
T4-PDI2019-SG58			None		None
T4-PDI2019-SG59			None		None
T4-PDI2019-SG60			None		None
T4-PDI2019-SG61			None		None
T4-PDI2019-SG62			None		None
T4-PDI2019-SG63			None		None
T4-PDI2019-SG64			None		None
T4-PDI2019-SG66			None		None
T4-PDI2019-SG67			None		None
T4-PDI2019-SG68			None		None

Notes:
Sheens and hydrocarbon-like odor observations represent those noted during sample collection and/or homogenization.
HC: hydrocarbon



LEGEND:

- Sediment Decision Unit RM 4.5E
- Navigation Channel
- Shoreline Structures
- Site Subarea Boundaries
- Sheet Pile Wall
- Timber Pinch Pile
- Potential Maintenance Dredging
- PDI Surface Sediment Sampling Locations
- PDI Discrete Surface Sediment Sampling Locations for Composite

NOTES:

1. Arrow indicates direction of flow of river.
2. Horizontal datum is NAD83 (HARN 1991) Oregon State Plane North, International Feet.
3. Aerial imagery from City of Portland 2018.
4. SDU boundary extends approximately 1,000 feet upstream from the extent shown.
5. Station IDs displayed in the figure are abbreviated. Full station IDs are included in the tables and take the form of "T4-PDI2019-SG-XX".

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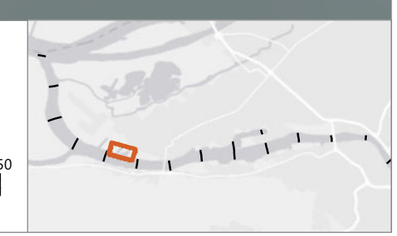
Feet



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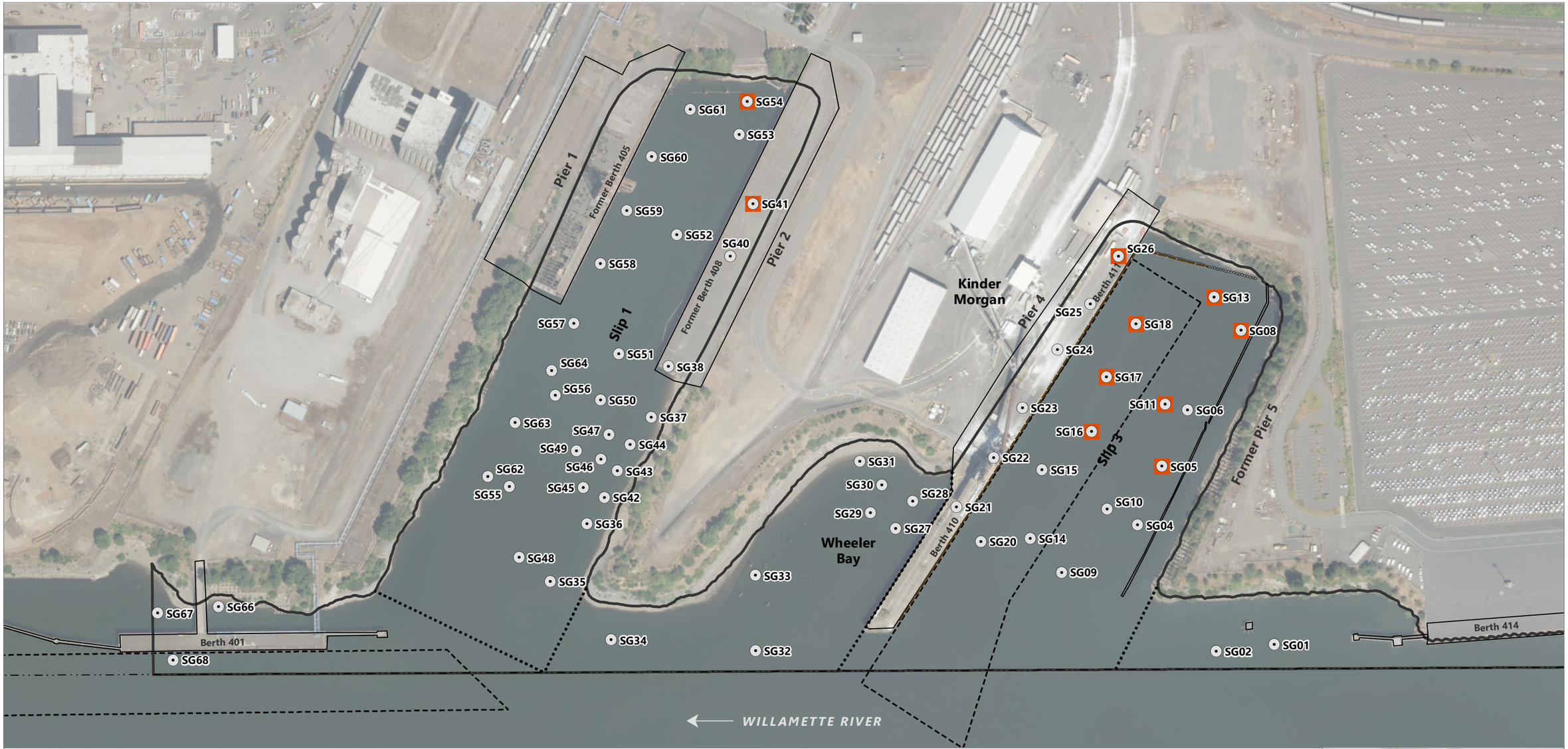
ANCHOR QEA

Figure A1-1
Discrete Surface Sediment Sampling Locations
Appendix A: Pre-Remedial Design Investigation Summary Report
Terminal 4 Remedy



LEGEND:

- Sediment Decision Unit RM 4.5E
- Navigation Channel
- Shoreline Structures
- Site Subarea Boundaries
- Sheet Pile Wall
- Timber Pinch Pile
- Potential Maintenance Dredging
- PDI Surface Sediment Sampling Locations
- Trace Sheen Observed During Sampling

NOTES:

1. Arrow indicates direction of flow of river.
2. Horizontal datum is NAD83 (HARN 1991) Oregon State Plane North, International Feet.
3. Aerial imagery from City of Portland 2018.
4. SDU boundary extends approximately 1,000 feet upstream from the extent shown.
5. Station IDs displayed in the figure are abbreviated. Full station IDs are included in the tables and take the form of "T4-PDI2019-SG-XX".

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Feet

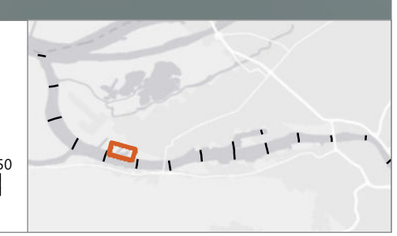

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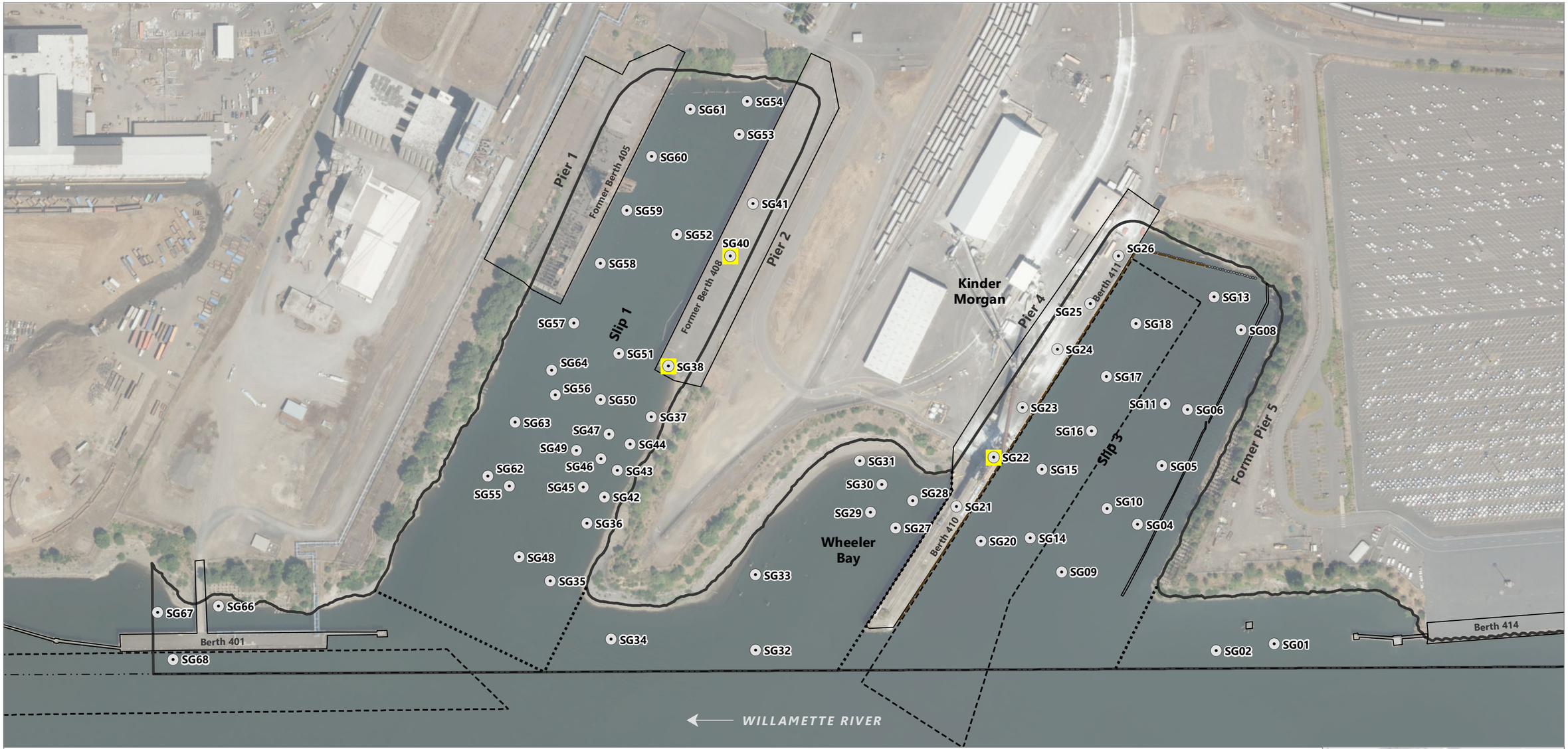
Figure A1-2
Surface Sediment Sampling: Sheen Observations
Appendix A: Pre-Remedial Design Investigation Summary Report
Terminal 4 Remedy



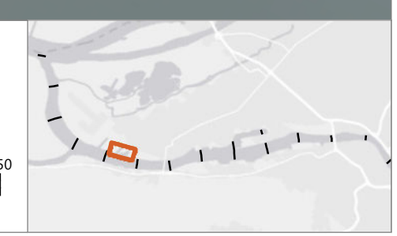
LEGEND:

- Sediment Decision Unit RM 4.5E
- Navigation Channel
- Shoreline Structures
- Site Subarea Boundaries
- Sheet Pile Wall
- Timber Pinch Pile
- Potential Maintenance Dredging
- PDI Surface Sediment Sampling Locations
- Hydrocarbon-like Odor Observed During Sampling

NOTES:

1. Arrow indicates direction of flow of river.
2. Horizontal datum is NAD83 (HARN 1991) Oregon State Plane North, International Feet.
3. Aerial imagery from City of Portland 2018.
4. SDU boundary extends approximately 1,000 feet upstream from the extent shown.
5. Station IDs displayed in the figure are abbreviated. Full station IDs are included in the tables and take the form of "T4-PDI2019-SG-XX".

0 250
Feet



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ANCHOR QEA

Figure A1-3
Surface Sediment Sampling: Hydrocarbon-Like Odor Observations
Appendix A: Pre-Remedial Design Investigation Summary Report
Terminal 4 Remedy

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-17

Sampling Crew: Ben [illegible], * Colin
Sample Date: 4/15/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Rain

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-17a Water Depth:____ft. Grab Recovery:____ft. Time: 1540
N / Lat. ____ Tide Level:____ft. @ Sample Interval:____ft.
E / Long. ____ ML Elevation: ____ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 ≈20cm recovery, added weight, #2 <10 cm recovery, added weight #3 21.5 retrieved

Grab Number: SG-17b Water Depth:____ft. Grab Recovery:____ft. Time: 1615
N / Lat. ____ Tide Level:____ft. @ Sample Interval:____ft.
E / Long. ____ ML Elevation: ____ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Attempt #4 21.5

Grab Number: ____ Water Depth:____ft. Grab Recovery:____ft. Time: ____
N / Lat. ____ Tide Level:____ft. @ Sample Interval:____ft.
E / Long. ____ ML Elevation: ____ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

* Didn't Complete

Recorded by: ____

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-13

Sampling Crew: Ben, Julia, & Colin
Sample Date: 4/15/14 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: light rain

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-13a Water Depth: ____ ft. Grab Recovery: 29.5 ft. cm Time: 1500
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: 0-30 ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 over penetrated. Surficial brown silt, silty sand/ sandy silt, trace organic debris, single spot of sheen. Small piece of brick.

Grab Number: SG-13b Water Depth: ____ ft. Grab Recovery: 29.5 ft. cm Time: 1510
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: 0-30 ft. cm
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt with sand, trace organics, trace spots of sheen.

Grab Number: SG-13c Water Depth: ____ ft. Grab Recovery: 29.5 ft. Time: 1520
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt with sand, trace organics, trace spots of sheen.

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-18

Sampling Crew: Ben, Julian, and Colin
Sample Date: 4/15/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-18a Water Depth: ____ ft. Grab Recovery: 24.5 ft. cm Time: 1420
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: 0-30 ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Sand with silt, surficial silt layer. Attempt #1 no recovery. Spots of Sheen

Grab Number: SG-18b Water Depth: ____ ft. Grab Recovery: 26.5 ft. cm Time: 1430
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: 0-30 ft. cm
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silty sand with silt, trace organics trace spots of sheen.

Grab Number: SG-18c Water Depth: ____ ft. Grab Recovery: 27 ft. Time: 1435
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Some surficial brown silt, silty sand, trace organics, trace spots of sheen.

* Field duplicate on Composite

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-07

Sampling Crew: Ben, Julia, and Colin
Sample Date: 4/15/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-07a Water Depth: ____ ft. Grab Recovery: ____ ft. Time: 1240
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: attempt #1 no recovery, slope?, #2 no recovery, #3 no recovery. OFFset ≈50' into slip 3 #4 no recovery. #5 no recovery rip rap. #6 debris, no recovery

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ ft. Time: ____
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ ft. Time: ____
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Didn't Complete

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-08

Sampling Crew: Ben, John and Colin
Sample Date: 4/15/14 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-08a Water Depth: ft. Grab Recovery: 26.5 ft. cm Time: 1200
N / Lat. Tide Level: ft. @ Sample Interval: 0-30 ft. cm
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Attempt #1 over penetrated, thin surficial silt (incomplete), sand with silt below, trace organics, trace spots of sheen

Grab Number: SG-08b Water Depth: ft. Grab Recovery: 27.5 ft. Time: 1210
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, sand with silt, trace organics, trace spots of sheen

Grab Number: SG-08c Water Depth: ft. Grab Recovery: 28 ft. Time: 1220
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silty sand, trace organics, trace spots of sheen

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-11

Sampling Crew: Ben, John, & Colin
Sample Date: 4/15/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-11a Water Depth: 48.6 ft. Grab Recovery: 27.5 ft. cm Time: 1100
N / Lat. Tide Level: ft. @ 1045 Sample Interval: 0-30 ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID: SG-11a

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: 1st attempt over penetrated, Surficial brown silt, Silty Sand below, Some organic debris, Spots of Sheen after homogenization

Grab Number: SG-11b Water Depth: ft. Grab Recovery: 28 ft. cm Time: 1115
N / Lat. Tide Level: ft. @ 1115 Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID: SG-11b

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown Silt, Silty Sand, Some organic debris, trace spots of Sheen

Grab Number: SG-11c Water Depth: ft. Grab Recovery: 29.5 ft. cm Time: 1125
N / Lat. Tide Level: ft. @ Sample Interval: 0-30 ft. cm
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID: SG-11c

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown Silt, Silty Sand, Some organic debris, trace spots of Sheen

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-16

Sampling Crew: Ben, Julian, & Colin
Sample Date: 4/16/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-16a Water Depth: ft. Grab Recovery: 27.5 ft. cm Time: 0948
N / Lat. Tide Level: ft. @ Sample Interval: 0-29.5 ft. cm
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Slight surficial brown silt, silty sand, trace organics, small oily black, trace spots of sheen
x0.25 cm

Grab Number: SG-16b Water Depth: ft. Grab Recovery: 29.5 ft. cm Time: 1000
N / Lat. Tide Level: ft. @ Sample Interval: 0-29.5 ft. cm
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Sloping grab, surficial brown silt, silty sand, trace organics, trace spots of sheen

Grab Number: SG-16c Water Depth: ft. Grab Recovery: 29.5 ft. Time: 1010
N / Lat. Tide Level: ft. @ Sample Interval: 0-29.5 ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt with sand, trace organics, trace spots of sheen

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-17

Sampling Crew: Ben, Julie, & Cole
Sample Date: 4/16/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-17a Water Depth: ft. Grab Recovery: 26 ft. Time: 1035
N / Lat. Tide Level: ft. @ Sample Interval: 0-30 ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: trace surficial brown silt, sand with trace silt and gravel, trace organic debris

Grab Number: SG-17b Water Depth: ft. Grab Recovery: 24.5 ft. Time: 1100
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: attempt #1 something in jaws, trace surficial brown silt, sand, trace organic debris, trace gravel, trace sheen

Grab Number: SG-17c Water Depth: ft. Grab Recovery: 25 ft. Time: 1110
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: trace surficial silt, sand, trace gravels, trace organics
• Two photos labelled SG-17b #2

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** S6-54

Sampling Crew: Ben, Julia, & Colin
Sample Date: 4/16/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly Cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: S6-54a Water Depth: ft. Grab Recovery: 28 ft. Time: 1230
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sand with silt, trace organics, trace spots of Sheen

Grab Number: S6-54b Water Depth: ft. Grab Recovery: 21.5 ft. Time: 1300
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 21.5cm recovery, #2 19 cm #3 Cobble in jaws trace surficial silt, Sand, silt layer ≈ 15cm, trace organics shell fragments

Grab Number: S6-54c Water Depth: ft. Grab Recovery: 22.5 ft. Time: 1325
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 19.5cm (wrong location), #1 22.5cm #2 22.5cm. trace surficial silt, Sand, silt layer ≈ 15cm, trace organics, Shell frags

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-15

Sampling Crew: Ben, Julie, and Colin
Sample Date: 4/16/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-15a Water Depth: ft. Grab Recovery: 22 ft/cm Time: 1400
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 no recovery debris, #2 ≈10cm recovery cobble #3 22cm surficial brown silt, sand with silt brown to black, some rounded gravels, trace organics, no sheen

Grab Number: SG-15b Water Depth: ft. Grab Recovery: 24.5 ft/cm Time: 1415
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 no recovery, #2 good surficial brown silt, sand with silt brown to black, some rounded gravels, trace orgs, no sheen

Grab Number: SG-15c Water Depth: ft. Grab Recovery: 18.5 ft/cm Time: 1425
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 trace surficial silt, sand with black to brown, rounded cobbles and gravels, trace organics, no sheen

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-6

Sampling Crew: Ben, Julian, and Colin
Sample Date: 4/16/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-6a Water Depth: ft. Grab Recovery: 24.5 ft. Time: 1455
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt sand with silt, trace organic debris, no sheen, trace plastic debris

Grab Number: SG-6b Water Depth: ft. Grab Recovery: 25 ft. Time: 1500
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt sand with silt, organic debris layer @ ≈ 5cm, trace plastic debris, no sheen

Grab Number: SG-6c Water Depth: ft. Grab Recovery: 24.5 ft. Time: 1505
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt sand with silt, trace small gravels, trace plastic debris, trace organic debris, no sheen shell fragments

* Spot of sheen after compositing

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** S6-53

Sampling Crew: Julian, Ben, & Colin
Sample Date: 4/16/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: S6-53a Water Depth: ft. Grab Recovery: 29.5 ft. cm Time: 1535
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 over penetrated, #2 overpenetrated, #3 29.5 cm Surficial brown silt, gray silt, no odor, no sheen, very soft.

Grab Number: S6-53b Water Depth: ft. Grab Recovery: 29.5 ft. cm Time: 1555
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, gray silt, no odor, no sheen, very soft

Grab Number: S6-53c Water Depth: ft. Grab Recovery: 29.5 ft. cm Time: 1600
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 No recovery, #2 No recovery, #3 No recovery Surficial brown silt, silt, very soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-06

Sampling Crew: Ben, Julian, and Colin
Sample Date: 4/17/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-06a Water Depth: ft. Grab Recovery: 23.5 ft. cm Time: 0930
N / Lat. Tide Level: ft. @ Sample Interval: 0-29.5 ft. cm
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt/clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: offset ~5m #1 no recovery cobble, #2 no recovery, #3 23.5cm, surficial brown silt, sand, no odor, no sheen, rounded gravels ≈20-29.5 cm

Grab Number: SG-06b Water Depth: ft. Grab Recovery: 23.5 ft. cm Time: 1000
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt/clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 ≈15cm, #2 23.5cm #3 over penetrated, surficial brown silt in places, sand with silt, some rounded gravels, silt layer @≈20cm, no odor, no sheen

Grab Number: SG-06c Water Depth: ft. Grab Recovery: 25.0 ft. cm Time:
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt/clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 ≈5cm, #2 25cm surficial brown silt, sand with silt, some rounded gravels, trace organics, no odor, no sheen

* Spot of sheen in homogenized composite

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-05

Sampling Crew: Ben, Julia, and Colin
Sample Date: 4/17/14 Sampling Method: Ponder Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-05a Water Depth: ____ ft. Grab Recovery: 25.0 ft. cm Time: 1115
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 ≈10 cm recovery Concrete, #2 bottle no recovery, #3 rip rap no recovery, Offset ≈25' #1 25.cm Surficial brown Silt, Sand with silt, flecks of iron, no odor, no sheen, trace rounded gravels.

Grab Number: SG-05b Water Depth: ____ ft. Grab Recovery: 25.0 ft. cm Time: 1125
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none BJ	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sand, trace gravels, silt layer ≈20cm no odor, ~~no sheen~~ ~~trace~~ Single spot of sheen

Grab Number: SG-05c Water Depth: ____ ft. Grab Recovery: 25.0 ft. cm Time: 1135
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, brown sand to ≈10cm, Sand black, trace organics, Some rounded gravels, no odor, no sheen

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-60

Sampling Crew: Ben, John, and Colin
Sample Date: 4/17/18 Sampling Method: Petite Ponar
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-60a Water Depth: ft. Grab Recovery: 29.5 ft.cm Time: 1240
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 overpenetrated, #2 over penetrated, #3 29.5cm Surficial brown silt, gray/black silt, no odor, no sheen.

Grab Number: SG-60b Water Depth: ft. Grab Recovery: 27.0 ft.cm Time: 1245
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, gray silt, top ≈10cm very sandy.

Grab Number: SG-60c Water Depth: ft. Grab Recovery: 27.0 ft.cm Time: 1300
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, gray silt, top ≈10cm very sandy

*Field duplicate

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-59

Sampling Crew: Ben, Julia, and Colin
Sample Date: 4/17/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-59a Water Depth: ____ ft. Grab Recovery: 29.5 ~~ft.~~ cm Time: 1335
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Silt, Very Sampy in the top 5 cm

Grab Number: SG-59b Water Depth: ____ ft. Grab Recovery: 29.5 ~~ft.~~ cm Time: 1340
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Silt, Very Sampy in the top 5cm

Grab Number: SG-59c Water Depth: ____ ft. Grab Recovery: 29.5 ft. Time: 1345
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Silt, leaf on surface, Sampy top 5cm

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-52

Sampling Crew: Ben, Jim, & Colin
Sample Date: 4/17/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather:

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-52a Water Depth: ft. Grab Recovery: 29.5 ft/cm Time: 1405
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt, soupy to ≈5cm

Grab Number: SG-52b Water Depth: ft. Grab Recovery: 29.5 ft. Time: 1415
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt, soupy to ≈5cm

Grab Number: SG-52c Water Depth: ft. Grab Recovery: 29.5 ft/cm Time: 1423
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt, soupy top 5cm

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-58

Sampling Crew: Ben, Julia, and Colin
Sample Date: 4/17/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly Cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-58a Water Depth: ft. Grab Recovery: 29.5 ft. Time: 1435
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt, sampy in top 5cm

Grab Number: SG-58b Water Depth: ft. Grab Recovery: 28.5 ft. Time: 1445
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt, sampy to ≈5cm

Grab Number: SG-58c Water Depth: ft. Grab Recovery: 28.0 ft. Time: 1455
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt, leaf on surface, sampy to ≈5cm

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-51

Sampling Crew: Ben, Jim, + Colin
Sample Date: 4/17/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-51a Water Depth: ft. Grab Recovery: 29.5 ft/cm Time: 1505
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Silt, Sampy to ≈ 5cm

Grab Number: SG-51b Water Depth: ft. Grab Recovery: 29.5 ft. Time: 1515
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Silt, Sampy to ≈ 5cm

Grab Number: SG-51c Water Depth: ft. Grab Recovery: 29.5 ft. Time: 1525
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Silt, Sampy to ≈ 5cm

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-57

Sampling Crew: Ben, Julia, & Colin
Sample Date: 4/17/10 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-57a Water Depth: ft. Grab Recovery: 29.5 cm Time: 1535
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: surficial brown silt, silt, slightly sorpy in top 2cm

Grab Number: SG-57b Water Depth: ft. Grab Recovery: 29.5 cm Time: 1545
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: surficial brown silt, silt, slightly sorpy in top 1cm

Grab Number: SG-57c Water Depth: ft. Grab Recovery: 29.5 ft. Time: 1550
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: surficial silt, silt, slightly sorpy in top 1cm

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-64 offset, ≈115'

Sampling Crew: Ben + Colin
Sample Date: 4/18/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-64a Water Depth: ft. Grab Recovery: 25.5 ft. Time: 1510
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, silt with trace fine sand, very soft

Grab Number: SG-64b Water Depth: ft. Grab Recovery: 25.0 ft. Time: 1515
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt, very soft trace sand

Grab Number: SG-64c Water Depth: ft. Grab Recovery: 25.0 ft. Time: 1530
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt, very soft, trace sand

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-63 offset ≈ 75'

Sampling Crew: Ben + Colin
Sample Date: Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-63a Water Depth: ft. Grab Recovery: 24.5 ft/cm Time: 1440
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with a lot, silt with trace fine sand, very soft / sample throughout.

Grab Number: SG-63b Water Depth: ft. Grab Recovery: 25.0 ft/cm Time: 1445
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organic debris, silt, very soft

Grab Number: SG-63c Water Depth: ft. Grab Recovery: 25.5 ft/cm Time: 1455
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, silt, very soft.

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-62 offset ≈80'

Sampling Crew: Ben & Colin
Sample Date: 4/18/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-62a Water Depth: ft. Grab Recovery: 25.0 ft/cm Time: 1405
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 over penetration, removed weight, #2 25.0 cm surficial brown silt with trace organic debris, silt, sandy in top ≈2-3 cm

Grab Number: SG-62b Water Depth: ft. Grab Recovery: 25.5 ft/cm Time: 1415
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F ?	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with leaf, silt with trace fine sand(?), sandy on top ≈2-3 cm

Grab Number: SG-62c Water Depth: ft. Grab Recovery: 24.5 ft/cm Time: 1420
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organic debris, silt with fine sand, sandy top

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-50

Sampling Crew: Ben + Colin
Sample Date: 4/18/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-50a Water Depth: ____ ft. Grab Recovery: 25.0 ft/cm Time: 1135
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt, sandy top ≈5cm

Grab Number: SG-50b Water Depth: ____ ft. Grab Recovery: 26.0 ft/cm Time: 1140
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, gray silt with oxidized (brown) pockets ≈3mm, sandy top ≈5cm

Grab Number: SG-50c Water Depth: ____ ft. Grab Recovery: 26.5 ft/cm Time: 1150
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt, sandy top ≈5cm

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-56

Sampling Crew: Ben + Colin
Sample Date: 4/18/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-56a Water Depth: ft. Grab Recovery: 23.5 ~~29.5~~ ft. cm Time: 1010
N / Lat. Tide Level: ft. @ Sample Interval: ft. 1055
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Very full, surface in that, surficial brown silt, silt, sandy in top ≈ 5cm, #2 offsets placed ≈29cm 22cm, #3 23.5cm

Grab Number: SG-56b Water Depth: ft. Grab Recovery: 26.5 ft. cm Time: 1110
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 29.5, adding stand offs to fall, #2 22cm, #3 26.5cm, surficial brown silt, silt, sandy top ≈ 5cm

Grab Number: SG-56c Water Depth: ft. Grab Recovery: 24.5 ft. cm Time: 1120
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt, sandy top ≈ 5cm

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-65

Sampling Crew: Ben & Colin
Sample Date: 4/18/14 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly Cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-65a Water Depth: ____ ft. Grab Recovery: ____ ft. Time: ____
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 didn't trigger, offset ≈25' toward center of slip, #2 didn't trigger #3 ≈10 cm, added weight, #4 no recovery, #5 no recovery, #6 no recovery, used debris

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ ft. Time: ____
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ ft. Time: ____
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

* Didn't Complete

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-30

Sampling Crew: Ben & Colin
Sample Date: 4/29/19 Sampling Method: Ponar grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-30a Water Depth: ft. Grab Recovery: 24.0 ft/cm Time: 1525
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: 11-20cm, removed sp-cars, surficial brown silt, sandy silt, organic debris (wood pieces and fibers), soft

Grab Number: SG-30b Water Depth: ft. Grab Recovery: 28.5 ft/cm Time: 1545
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, sandy silt, organic debris (wood fiber), soft

Grab Number: SG-30c Water Depth: ft. Grab Recovery: 27.5 ft/cm Time: 1555
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, sandy silt with lots of organic debris (wood fiber, roots, etc), soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-29

Sampling Crew: Ben & Colin
Sample Date: 11/19/17 Sampling Method: Double Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-29a Water Depth: ____ ft. Grab Recovery: 26.0 ft. cm Time: 1450
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter RS	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sandy Silt, not much organic debris, very, very soft

Grab Number: SG-29b Water Depth: ____ ft. Grab Recovery: 26.5 ft. cm Time: 1500
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sandy Silt, Very Soft

Grab Number: SG-29c Water Depth: ____ ft. Grab Recovery: 26.5 ft. cm Time: 1505
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sandy Silt, Very Soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** S6-28

Sampling Crew: Ben + Colin
Sample Date: 7/29/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: (TS / TOC / Grain Size / PAHs / PCBs / D/Fs) (Circle Appropriate Analyses)

Grab Number: S6-28a Water Depth: ft. Grab Recovery: 24.5 ft. Time: 1415
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sandy silt, trace organics, Worm in sample.

Grab Number: S6-28b Water Depth: ft. Grab Recovery: 25.0 ft. Time: 1420
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sandy silt, trace organics

Grab Number: S6-28c Water Depth: ft. Grab Recovery: 24.5 ft. Time: 1430
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sandy silt, trace organics

MS/MSD

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-27

Sampling Crew: Ben & Colin
Sample Date: 4/29/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-27a Water Depth: ft. Grab Recovery: 25.0 ft/cm Time: 1345
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 overpenetrated, removed weight, #2 Surficial brown silt, silt with fine sand trace organic debris

Grab Number: SG-27b Water Depth: ft. Grab Recovery: 26.5 ft/cm Time: 1355
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt with sand, trace organic debris

Grab Number: SG-27c Water Depth: ft. Grab Recovery: 25.0 ft/cm Time: 1400
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt with sand, trace organic debris

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-04 offset 275'

Sampling Crew: Ben + Colin
Sample Date: 4/29/14 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-04a Water Depth: ft. Grab Recovery: 24.0 ft/cm Time: 1200
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 21cm rolling weight, #2 24cm slopping some winnowing #3 24 cm, Some surficial brown silt, Sand Coarse to medium grained, white and black grains.

Grab Number: SG-04b Water Depth: ft. Grab Recovery: 26.0 ft/cm Time: 1220
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 Rock, #2 Rock, #3 26.0 cm, Some surficial brown silt, Sand, Coarse to medium grains, white grains and black grains.

Grab Number: SG-04c Water Depth: ft. Grab Recovery: 28.0 ft/cm Time: 1240
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 21 cm, #2 28cm Some surficial brown silt, Sand, Coarse to medium white and black grains.

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-02

Sampling Crew: Ben & Colin
Sample Date: 4/29/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-02a Water Depth: ft. Grab Recovery: 26.0 ~~ft.~~ Time: 1055
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sandy silt, Very Soft trace organic debris

Grab Number: SG-02b Water Depth: ft. Grab Recovery: 24.5 ~~ft.~~ cm Time: 1105
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 23cm didn't keep #2 Surficial brown silt, Sandy silt, trace organic debris

Grab Number: SG-02c Water Depth: ft. Grab Recovery: 26.5 ~~ft.~~ cm Time: 1120
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 19cm, added weight Surficial brown silt, Sandy silt, trace organic debris, soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-01

Sampling Crew: Ben + Colin
Sample Date: 4/29/16 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-01a Water Depth: ft. Grab Recovery: 26.0 ft/cm Time: 1020
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 over penetrated, removed weight. Surficial brown silt, gray silt with sand, sand organic debris, very soft top ~ 5cm

Grab Number: SG-01b Water Depth: ft. Grab Recovery: 26.0 ft/cm Time: 1032
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt with sand, trace organic debris, very soft,

Grab Number: SG-01c Water Depth: ft. Grab Recovery: 26.5 ft/cm Time: 1040
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt with sand, trace organics. Very soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-37

Sampling Crew: Ben, Julia, + Colin
Sample Date: 4/30/19 Sampling Method: Ponder Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID: _____
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-37a Water Depth: ____ ft. Grab Recovery: 22cm ft. Time: 1445
N / Lat. _____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. _____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: _____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 Poor Recovery, #2 - debris in ~~[illegible]~~, #3 debris/gravel in jaws, Shifted ≈ 1' #4 - 19.5cm #5 - 22cm #6 - 18cm trace surficial brown Silt, Sand with gravel, Rounded Fine to medium gravel, Some organic debris, Small pieces of bricks

Grab Number: SG-37b Water Depth: ____ ft. Grab Recovery: 19.5 ~~ft~~ cm Time: 1500
N / Lat. _____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. _____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: _____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 19.5cm, #2 - 45cm, #3 - No Recovery
Trace Surficial brown Silt, Sand with gravel rounded Fine to medium, Some organic debris

Grab Number: SG-37c Water Depth: ____ ft. Grab Recovery: 22.0 ~~ft~~ cm Time: _____
N / Lat. _____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. _____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: _____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 No Recovery rocks, #2 - 22cm, #3 - No Recovery rip rap, Trace Surficial brown Silt, Sand with rounded gravel rounded to Fine, Some organic debris, green Fiber matting.

• offset targets shore ≈ 5'

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** S6-10

Sampling Crew: Ben, Colin, and Julie
Sample Date: 4/30/14 Sampling Method: Dodge Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: S6-10a Water Depth: ____ ft. Grab Recovery: 29.0 ft/cm Time: 1330
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, sandy silt, trace organic debris, dry silt top 5cm.

Grab Number: S6-10b Water Depth: ____ ft. Grab Recovery: 26.5 ft/cm Time: 1350
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 overpenetrated, removed slight, #2 overpenetrated, #3-26.5 cm Surficial brown silt, sandy silt, layer of coarse sand with white grains @ ≈ 20cm, soft, trace organic debris

Grab Number: S6-10c Water Depth: ____ ft. Grab Recovery: 28.0 ft/cm Time: 1400
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, some slicks, trace organic debris, Sandy silt, layer of coarse sand @ ≈ 20cm.

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** S6-09

Sampling Crew: Ben, Valie, and Colin
Sample Date: 4/30/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: S6-09a Water Depth: ft. Grab Recovery: 29.5 ft/cm Time: 1145
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 only penetrated. Removed weights. Surficial brown silt, sandy silt, soft, trace organic debris

Grab Number: S6-09b Water Depth: ft. Grab Recovery: 29.5 ft/cm Time: 1155
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown soft, sandy silt → ≈25cm, sand 25-29 cm, loose,

Grab Number: S6-09c Water Depth: ft. Grab Recovery: 29.5 ft/cm Time: 1200
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with sand. Sandy silt, sand layer @ ≈20cm, loose/soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-14

Sampling Crew: Ben, Julie, and Colin
Sample Date: 4/30/11 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-14a Water Depth: ft. Grab Recovery: 23.0 ft/cm Time: 1010
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 Winnowed #2 23 cm #3 Debris S. a. Jaws
≈ 5-10cm Surficial brown silt, Sand with silt,
loose

Grab Number: SG-14b Water Depth: ft. Grab Recovery: 22.5 ft/cm Time: 1035
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 -21.5cm, #2 -22.5cm, #3 - 20.5cm
Surficial brown silt, Sand with silt, loose, trace organic
debris

Grab Number: SG-14c Water Depth: ft. Grab Recovery: 23.0 ft/cm Time: 1110
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 -21cm, #2 -21cm Winnowed, #3 -23cm
Surficial brown silt, Sand with silt, loose

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-20

Sampling Crew: Ben, Julie, and Colin
Sample Date: 4/30/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-20a Water Depth: ____ ft. Grab Recovery: 27.5 ft/cm Time: 0935
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sand with silt, trace organic debris,

Grab Number: SG-20b Water Depth: ____ ft. Grab Recovery: 26.5 ft/cm Time: 0945
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sand with silt, loose.

Grab Number: SG-20c Water Depth: ____ ft. Grab Recovery: 25.0 ft/cm Time: 0955
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sand with a brown band at depth, loose.

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** S6-31

Sampling Crew: Ben & Sarlin
Sample Date: 5/1/14 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: S6-31c Water Depth: ft. Grab Recovery: 25.5 ft/cm Time: 1545
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sand, trace fine gravels trace organic debris.

Grab Number: S6-31a Water Depth: ft. Grab Recovery: 25.0 ft. Time: 1555
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Some organic debris, pieces of red plastic on surface, Sand, trace organic debris

Grab Number: S6-31b Water Depth: ft. Grab Recovery: 22.5 ft/cm Time: 1615
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 22 cm, #2 - 21 cm, #3 - 22.5 Surficial brown silt, Sand coarse to fine, slightly gray from 20 cm down, trace organics

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-33 offset ≈30'

Sampling Crew: Ben & Colin
Sample Date: 5/1/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-33a Water Depth: ft. Grab Recovery: 28.0 ft/cm Time: 1500
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - overpenetrated, but ≈ 1/2 grab missing. #2 - 28cm surficial brown silt, Sand to ≈ 15cm gray fine/medium silt with sand 15-28cm, trace organics, trace gravels

Grab Number: SG-33b Water Depth: ft. Grab Recovery: 28.0 ft/cm Time: 1310
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sand to ≈20 cm gray fine/med, silt with sand 20-29.5cm, trace organics, trace gravels

Grab Number: SG-33c Water Depth: ft. Grab Recovery: 29.0 ft/cm Time: 1525
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - Wood debris no recovery, Sanded bottom pilings - shifting location. #2 - 29cm surficial brown silt very very soft, Sand to ≈ 25cm. Sandy silt 25-29.5cm, trace organics trace gravels

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-35 offset

Sampling Crew: Ben & Colin
Sample Date: 5/1/19 Sampling Method: Ponar bucket
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-35a Water Depth: ____ ft. Grab Recovery: ____ ft. Time: ____
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 No recovery rip rap, #2 - No recovery, #3 - No recovery rip rap

Grab Number: SG-35b Water Depth: ____ ft. Grab Recovery: ____ ft. Time: ____
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 29.5cm recovery Something stuck in jaws

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ ft. Time: ____
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Recorded by: ____

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-36

Sampling Crew: Ben & Colin
Sample Date: 5/1/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-36a Water Depth: ft. Grab Recovery: 26.5 ft/cm Time: 1245
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sand fine to medium, Sand → gray @ 20 cm, trace gravels towards bottom of grab

Grab Number: SG-36b Water Depth: ft. Grab Recovery: 19.0 ft/cm Time: 1300
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 5cm, #2 - 16cm, #3 - 19cm Surficial brown silt, Sand fine to medium, trace fine rounded gravel, trace organic debris

Grab Number: SG-36c Water Depth: ft. Grab Recovery: 23.5 ft/cm Time: 1345
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 1.1 F of grab dropped out no recovery, #2 23.5cm #3 - 20cm Surficial brown silt, Sand fine to ~~coarse~~ medium, gravel from 5-30cm, trace organic debris

MS/MSD

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-42

Sampling Crew: Ben & Colin
Sample Date: 5/1/19 Sampling Method: Ponder Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-42a Water Depth: ____ ft. Grab Recovery: 25.5 ft/cm Time: 1155
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 22cm, #2 - No Recovery, #3 - 25.5cm
Surficial brown silt, Sand Fine to Coarse, trace Fine rounded gravels, trace organic debris, Sand → gray at ≈ 20cm

Grab Number: SG-42b Water Depth: ____ ft. Grab Recovery: 24.5 ft/cm Time: 1205
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sand Fine to Coarse, Wood debris @ ≈ 5cm, trace organics on surface

Grab Number: SG-42c Water Depth: ____ ft. Grab Recovery: 25.5 ft/cm Time: 1215
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Trace Surficial brown silt, Sand Fine to medium, Sand → gray @ ≈ 20cm, trace organic debris

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-43

Sampling Crew: Ben & Colin
Sample Date: 5/1/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: (TS) / (TOC) / (Grain Size) / (PAHs) / (PCBs) / (D/Fs) (Circle Appropriate Analyses)

Grab Number: SG-43a Water Depth: ft. Grab Recovery: 23.5 ft. Time: 1045
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 15cm washed out, #2 - ≈15cm washed out. #3 - 23.5cm washed out in Center. Sampled side. Surficial brown silt, Sand fine to coarse gray below 20cm, trace organic debris

Grab Number: SG-43b Water Depth: ft. Grab Recovery: 24.5 ft. Time: 1115
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with leaves, Sand Fine to coarse, loose, trace organic debris

Grab Number: SG-43c Water Depth: ft. Grab Recovery: 26.5 ft. Time: 1130
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 22cm, #2 - 26.5cm trace surficial brown silt, Sand fine to coarse, trace organic debris

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-44

Sampling Crew: Ben & Colin
Sample Date: 5/1/19 Sampling Method: Ponar GS-6
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-44a Water Depth: ft. Grab Recovery: 25.5 ft/cm Time: 0955
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 22cm Some winnowing. #2 - 25.5 on low end
Some surficial brown silt, Sand fine to coarse, clam?, trace organic debris

Grab Number: SG-44b Water Depth: ft. Grab Recovery: 26.5 ft/cm Time: 1000
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, Sand fine to coarse, clam?, trace organics

Grab Number: SG-44c Water Depth: ft. Grab Recovery: 26.0 ft/cm Time: 1015
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 20cm Some winnowing, #2 - 26cm
Surficial brown silt, Sand fine to coarse, trace fine gravel
trace organic debris

Duplicate

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-66

Sampling Crew: Ben & Colin
Sample Date: 5/2/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-66a Water Depth: ft. Grab Recovery: 25.0 ft/cm Time: 0925
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organic debris, Sand Fine to medium grain, Some rounded Fine to medium gravel.

Grab Number: SG-66b Water Depth: ft. Grab Recovery: 24.0 ft/cm Time: 0945
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 22cm Some winnowing #2 - Noticeably Fairly, #3 - 24cm Surficial brown silt with trace organic debris, Sand Fine to medium, trace rounded gravels, Some anthropogenic material particles?

Grab Number: SG-66c Water Depth: ft. Grab Recovery: 24.5 ft/cm Time: 1000
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 22cm Significant winnowing #2 - 24.5cm Surficial brown silt with trace organic debris, Sand fine to medium grained, trace fine to medium rounded gravels

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** S6-68

Sampling Crew: Ben & Colin
Sample Date: 5/2/19 Sampling Method: Dodge Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: S6-68a Water Depth: ft. Grab Recovery: 25.5 ft/cm Time: 1155
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - over penetrated, removed weight @ 2-25.5cm surficial brown silt, gray silt, very soft, some fine sand

Grab Number: S6-68b Water Depth: ft. Grab Recovery: 25.0 ft/cm Time: 1205
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, very soft, silt gray, trace fine sand

Grab Number: S6-68c Water Depth: ft. Grab Recovery: 26.0 ft/cm Time: 1210
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt very soft, silt, trace organic debris on surface, trace fine sand

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** S6-32

Sampling Crew: Ben Jackson
Sample Date: 5/2/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: S6-32a Water Depth: ____ ft. Grab Recovery: 27.5 ft/cm Time: 1235
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organic debris, silt with sand very soft

Grab Number: S6-32b Water Depth: ____ ft. Grab Recovery: 26.5 ft/cm Time: 1240
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organic debris, silt, very soft with sand

Grab Number: S6-32c Water Depth: ____ ft. Grab Recovery: 27.5 ft/cm Time: 1250
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organic debris, silt with trace sand, very soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-02 offset ≈40'

Sampling Crew: Bin + Colin
Sample Date: 5/2/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: Water Depth: ft. Grab Recovery: ft. Time: 1025
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - No recovery, #2 - 19 cm lots of wiggling mostly wood debris, #3 - No recovery

Grab Number: Water Depth: ft. Grab Recovery: ft. Time:
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: ft. Time:
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

* Dup Sample

Recorded by:

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-67 New station

Sampling Crew: Ben & Carlin
Sample Date: 5/2/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-67a Water Depth: ____ ft. Grab Recovery: 21.0 ft. Time: 1335
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 21cm lots of winnowing, #2 No Recovery Rock, #3 debris in jaws no recovery. Surfacial brown silt, Sand fine to medium, trace organic debris, gray below ≈15cm

Grab Number: SG-67b Water Depth: ____ ft. Grab Recovery: 20.0 ft. Time: 1425
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - No recovery rock #2 rock No Recovery, #3 - 20cm partial grab Surfacial brown silt, Sand fine to medium, Some organic debris, Shell, gray below ≈15cm

Grab Number: SG-67c Water Depth: ____ ft. Grab Recovery: 21.5 ft. Time: 1440
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 21cm, minimal, #2 - 21.5cm, minimal #3 - 1cm displacement debris Surficial brown silt, Sand fine to medium, Some organic debris, gray below ≈15cm

Archived individuals

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-34 offset ≈70'

Sampling Crew: Ben & Colin
Sample Date: 5/2/19 Sampling Method: Ponar grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / ~~DFs~~ (Circle Appropriate Analyses) BJ no D/Fs

Grab Number: SG-34a Water Depth: ft. Grab Recovery: 25.0 ft/cm Time: 1520
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, silt with fine sand, very soft, warm.

Grab Number: SG-34b Water Depth: ft. Grab Recovery: 24.5 ft/cm Time: 1530
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, silt with fine sand, very soft

Grab Number: SG-34c Water Depth: ft. Grab Recovery: 25.5 ft/cm Time: 1535
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, silt with fine sand, very soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** S6-35 offset ≈ 100'

Sampling Crew: Ben & Colin
Sample Date: 5/21/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: S6-35a Water Depth:____ft. Grab Recovery:____ft. Time:____
N / Lat. ____ Tide Level:____ft. @ Sample Interval:____ft.
E / Long. ____ ML Elevation:____ft. USGS Morrison Discrete Sample ID:____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - <10cm No recovery, #2- Debris no recovery #3-10cm, #4 No recovery metal debris, #5- Debris No recovery

Grab Number: ____ Water Depth:____ft. Grab Recovery:____ft. Time:____
N / Lat. ____ Tide Level:____ft. @ Sample Interval:____ft.
E / Long. ____ ML Elevation:____ft. USGS Morrison Discrete Sample ID:____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ____ Water Depth:____ft. Grab Recovery:____ft. Time:____
N / Lat. ____ Tide Level:____ft. @ Sample Interval:____ft.
E / Long. ____ ML Elevation:____ft. USGS Morrison Discrete Sample ID:____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-47

Sampling Crew: Ben & Colin
Sample Date: 5/3/19 Sampling Method: Power grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Partly cloudy

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-47a Water Depth: ft. Grab Recovery: 28.0 ft/cm Time: 0940
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - over penetrator #-28, Surficial brown silt with trace organic debris, Silt with fine sand, Very soft

Grab Number: SG-47b Water Depth: ft. Grab Recovery: 27.0 ft/cm Time: 0945
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt, silt with fine sand, trace organic debris, Very soft

Grab Number: SG-47c Water Depth: ft. Grab Recovery: 29.0 ft/cm Time: 1000
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - over penetrated #-29 Surficial brown silt trace organic debris, silt with fine sand, Very soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-49

Sampling Crew: Ben & Colin
Sample Date: 5/3/14 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-49a Water Depth: ft. Grab Recovery: 29.0 ft/cm Time: 1010
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, silt with fine sand, very soft

Grab Number: SG-49b Water Depth: ft. Grab Recovery: 24.5 ft/cm Time: 1030
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - over penetrated, added sand offs #2 - 24.5cm
Surficial brown silt trace organics, silt with fine sand, very soft.

Grab Number: SG-49c Water Depth: ft. Grab Recovery: 25.5 ft/cm Time: 1040
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, silt with fine sand, very soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-45

Sampling Crew: Ben + Colin
Sample Date: 5/3/19 Sampling Method: Power Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-45a Water Depth: ft. Grab Recovery: 26.5 cm Time: 1230
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics. Silt with trace fine sand, very soft to soft

Grab Number: SG-45b Water Depth: ft. Grab Recovery: 29.0 cm Time: 1245
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 -22.5cm, slight odor #2-29.0cm surficial brown silt, silt with sand (fine), very soft

Grab Number: SG-45c Water Depth: ft. Grab Recovery: 25.0 cm Time: 1300
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with some sand, ~~[illegible]~~ silt with fine, very soft to soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** S6-55

Sampling Crew: Ben & Salon
Sample Date: 5/3/19 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: S6-55a Water Depth: ____ ft. Grab Recovery: 29.0 ft/cm Time: 1310
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace ~~silt~~ organic debris, Silt with trace Sand, Soft, Very Soft

Grab Number: S6-55b Water Depth: ____ ft. Grab Recovery: 27.5 ft/cm Time: 1325
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, Silt with Sand, Very Soft → Soft

Grab Number: S6-55c Water Depth: ____ ft. Grab Recovery: 27.0 ft/cm Time: 1330
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, Silt with fine Sand, Very Soft → Soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-48

Sampling Crew: Ben & Colin
Sample Date: 5/3/19 Sampling Method: Power Grabs
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-48a Water Depth: ft. Grab Recovery: 27.5 cm Time: 1345
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, silt with fine sand, very soft to soft

Grab Number: SG-48b Water Depth: ft. Grab Recovery: 28.0 cm Time: 1355
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt + trace fine sand, very soft → soft

Grab Number: SG-48c Water Depth: ft. Grab Recovery: 28.0 cm Time: 1400
N / Lat. Tide Level: ft. @ Sample Interval: ft.
E / Long. ML Elevation: ft. USGS Morrison Discrete Sample ID:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt with trace organics, silt with fine sand, very soft → soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Port of Portland T-4 PDI **Project No:** 050332-01.32 **Station ID:** SG-35 offset

Sampling Crew: Ben & Colin
Sample Date: 5/2/14 Sampling Method: Ponar Grab
Sampling Vessel: Carolyn Dow
Subcontractor(s): RSS Weather: Sunny

Composite Sample ID:
Analysis: TS / TOC / Grain Size / PAHs / PCBs / D/Fs (Circle Appropriate Analyses)

Grab Number: SG-35a Water Depth: ____ ft. Grab Recovery: 29.5 ft/cm Time: 1500
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - 10cm, #2 - 23cm sloping, #3 29.5 sloping
Some surficial brown silt, sand fine to medium gray, trace organics, loose

Grab Number: SG-35b Water Depth: ____ ft. Grab Recovery: 27.5 ft/cm Time: 1515
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - overpenetrated, removed height, #2 - Wood debris Manoco off it
No recovery, #3 - 27.5cm, some surficial brown silt, sand surface
fine to medium gray, trace organics loose

Grab Number: SG-35c Water Depth: ____ ft. Grab Recovery: ____ ft. Time: 1545
N / Lat. ____ Tide Level: ____ ft. @ Sample Interval: ____ ft.
E / Long. ____ ML Elevation: ____ ft. USGS Morrison Discrete Sample ID: ____

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: #1 - overpenetrated, #2 - No recovery slope?
#3 - 25.5cm slight slope, surficial brown silt with trace
organic, silt with trace sand, very soft

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: **Project No:** **Station ID:** Now SG-65

Sampling Crew: Ben & Colin

Sample Date: Sampling Method: Ponar Grab

Sampling Vessel:

Subcontractor(s): Weather: Sunny

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID:

Analysis: ~~Metals / TBT~~ / ~~SVOCs~~ / VOCs / PCBs / Pest / DMTs Other:

TS / TVS / Grain Size / TOC / ~~Ammonia~~ / ~~Sulfides~~ Other:

(Circle Appropriate Analyses)

Grab Number: SG-65a Water Depth: ft. Grab Recovery: 26.0 cm Time: 1620

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt trace organics
Sand fine to medium, warm, loose

Grab Number: SG-65b Water Depth: ft. Grab Recovery: 26.5 cm Time: 1630

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt trace organics, piece of fiberglass, clam, sand fine to medium grains, loose

Grab Number: SG-65c Water Depth: ft. Grab Recovery: 25.0 cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Surficial brown silt angular gravel pieces, sand medium to fine grains, loose

Now SG-46

Date/Time Lab Drop Off:

Recorded by: Ben Johnson

ANCHOR QEA

Surface Sediment Field Log

Job: PnP T4 PDI
Station: SG-41
Job No:
Date: 5/28/19
Field Staff: Ben & Colin
Sample Method: Diver grab
Contractor: RSS
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 OR N Lt Ft
Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes: ≈45' from bank Face / doorway tracked N.J channel from doorway with slurry to platform

Grab #	Time	Confirmed Coordinates (datum) WGS 84 (N)	WGS 84 (E)	Sample Accept (Y/N)	Recovery Depth (in) cm	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc.
A	1145	≈41' from boat or slope depth		Y	22.5	Closed, Sand with trace silt,
B #2	1225	237' from boat. 20' depth		Y	17.0	Closed, Sand, gravel, debris (metal), wood ect, silt layer, spot of sheen
C #1	1245	≈32' from boat or left side of doorway		Y	22.0	Closed, Sand, silt, debris, gravel, spot of sheen

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

A - Sand, fine to med, dry/black, loose, trace silt
B - Sand with gravel, loose, dry/black, wood debris, metal, spot of sheen, silt, light odor at bottom
C - Sand, fine to med down, gray black, over silt, light gray, spot of sheen.

Sample Containers: 1 Field duplicate

Analyses:

ANCHOR QEA

Surface Sediment Field Log

Job: PoP T4 PDI
Station: SG-40
Job No:
Date: 5/28/19
Field Staff: Bac & Colin
Sample Method: Dive grab
Contractor: RSS
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SPCS N
Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Confirmed Coordinates (datum) WGS 84 (N)	WGS 84 (E)	Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc.
A	1615	4' right	of 47'	Y	25.5	closed, overlying water. Sandy silt / silty sand
B	1630	3' right	of 43'	Y	25.0	closed, overlying water sandy silt
C	1700	3' left of	44'	Y	27.5	closed, water, sandy silt

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

A - Sandy silt / silty sand, gray, loose, wet, slight HC odor, no sheen, trace shell debris
B - Sandy silt, gray, moderately firm, damp, trace organic debris, no odor no sheen, surficial shell
C - Sandy silt, fine sand, gray, moderate density surficial gravels

Sample Containers:

Analyses:

ANCHOR QEA

Surface Sediment Field Log

Job: PoP TH PDI
Station: SG-22
Job No:
Date: 5/29/19
Field Staff: Ben & Colin
Sample Method: Diver Grab
Contractor: RSS
Proposed Coordinates: Lat.
Horizontal Datum:
Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes: In Slip 3 water South ash loading structure. piling #52 on right. #51 on the left

Grab #	Time	Confirmed Coordinates (datum) WGS 84 (N)	WGS 84 (E)	Sample Accept (Y/N)	Recovery Depth (in) cm	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc.
A	1045	25' on tape, 26' deep		Y	26.0	Closed, water,
B	1110	24' on tape 27' depth	4' right,	Y	26.5	Closed, water,
C	11125	26' on tape 26' depth	2' right	Y	27.0	Closed, water

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

A- Silty Sand, grey, trace organic debris, no sheen, slight HC odor
B- Sand with Silt, grey, trace organic debris, no odor no sheen.
C- Sandy with Silt, grey, trace organic debris, no odor, no sheen

Sample Containers: No DIFS

Analyses:

ANCHOR QEA

Surface Sediment Field Log

Job: PoP TM PDI
Station: SG-23
Job No:
Date: 5/29/19
Field Staff: Ben & Colin
Sample Method: Dwarf Grab
Contractor: BSS
Proposed Coordinates: Lat.
Horizontal Datum:
Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes: Slightly offset on pier face between pilings 71 and 72

Grab #	Time	Confirmed Coordinates (datum) WGS 84 (N)	WGS 84 (E)	Sample Accept (Y/N)	Recovery Depth (in) /cm	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc.
A	1245	33' on tape depth 22'	≈1' right,	Y	26.5	Closed, water
B	1300	37' on tape,	4' left,	Y	27.0	closed, water
C	1315	35' on tape,	5' left	Y	25.5	closed, water

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

A- Sand with silt, gray, loose, wet, no odor, no sheen trace organic debris
B- Surficial brown (Sand) Sand with silt, gray, loose, wet, no odor, no sheen. Trace organic debris
C- Sand with silt, dry, loose, wet, trace organic debris, no odor, no sheen

Sample Containers: Yes DMS

Analyses:

ANCHOR QEA

Surface Sediment Field Log

Job: PAP 74 PDI
Station: SG-24
Job No:
Date: 5/29/19
Field Staff: Ben & Colin
Sample Method: Diver Grab
Contractor: RSS
Proposed Coordinates: Lat.
Horizontal Datum:
Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes: Between pilings 91 and 92

Grab #	Time	Confirmed Coordinates (datum) WGS 84 (N)	WGS 84 (E)	Sample Accept (Y/N)	Recovery Depth (in) cm	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc.
A	1400	40' on tape,	2' right	Y	25.5	closed, water
B	1415	38' on tape,	8' right	Y	24.5	Closed, water
	1430	32' on tape,	8' right	Y	25.0	Closed, water

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

A - Sand, gray/brown, trace silt, some rounded gravels, trace organic debris, wet, loose, no odor, no sheen

B - Sand, gray/brown, trace silt, trace organic debris, wet loose, no odor, no sheen

C - Sand with gravel, gray/brown, fine to medium grained, loose, wet, pencil pitch (rounded pea size pebbles), no odor, no sheen

Sample Containers:

* pencil pitch in C one or two pebble size pieces

Analyses:

ANCHOR QEA

Surface Sediment Field Log

Job: PoPT14 PDI
Station: SG-25
Job No:
Date: 5/29/19
Field Staff: Ben & Colin
Sample Method: Diver Grab
Contractor: RSS
Proposed Coordinates: Lat.
Horizontal Datum:
Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes: Between pilings 111 and 112

Grab #	Time	Confirmed Coordinates (datum) WGS 84 (N)	WGS 84 (E)	Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc.
A	1520	32' on tape	4' right	Y	28.0	closed, water
B	1535	30' on tape	4' left	Y	27.0	closed, water
C	1550	25' on tape just to the right		Y	26.5	closed, water

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

A - Sand with silt and gravel, fine to med grains, white fine gravels, med density, wet, no odor, no sheen, trace organic debris & pencil pitch
B - Sand with silt and gravel, fine to med grains, white fine gravels, med density, wet, no odor, no sheen, & pencil pitch pieces.
C - Sand with silt and gravel, similar to above, silt with sand at base

Sample Containers:
* pencil pitch in A, B, & C

Analyses:

ANCHOR QEA

Surface Sediment Field Log

Job: PoP T4 PDI
Station: SE-26
Job No:
Date: 5/30/19
Field Staff: Ben & Colin
Sample Method: Dewey grab
Contractor: RSS
Proposed Coordinates: Lat.
Horizontal Datum:
Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes: Between pilings 127 and 128 slightly offset to the left due to a row of pilings.

Grab #	Time	Confirmed Coordinates (datum) WGS 84 (N)	WGS 84 (E)	Sample Accept (Y/N)	Recovery Depth (~~in~~) cm	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc.
A	1030	35' on tape, 1' right		Y	27.0	closed, water
B	1050	37' on tape 7' left		Y	25.0	Closed, water
C	1110	30' on tape, 6' right		Y	26.5	closed, water

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

A- Silty Sand, gray, fine to med grains, loose, wet, trace organic debris (0-35cm). Sandy gravel, fine to medium white gravels, wet, loose, some pencil pitch (large cylinder) no odor, no sheen (0-20 cm).

B - Silty Sand with gravel, fine to med sand, fine gravel, large wood pieces, loose, wet, some pencil pitch below 20cm, no odor, no sheen.

Sample Containers:

C- Silt with Sand, fine to med sand, some organic debris, loose, wet, some pencil pitch, some fine white gravels below 20cm, spot of sheen on surface, no odor.

Analyses:

ANCHOR QEA

Surface Sediment Field Log

Job: PoPT4 PDI | Station: SG-38
Job No: | Date: 5/30/19
Field Staff: Ben & Colin | Sample Method: Diver Grab
Contractor: RSS | Proposed Coordinates: Lat.
Horizontal Datum: | Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes: Collecting in Step 1 at 2nd ~~[illegible]~~ from East Jetty berth

Grab #	Time	Confirmed Coordinates (datum) WGS 84 (N)	WGS 84 (E)	Sample Accept (Y/N)	Recovery Depth (in) ~~cm~~	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc.
A	1000	34' on tape, 1' right		Y	27.5	Closed, water
B	1015	28' on tape, 4' left		Y	27.0	closed, water
C	1025	28' on tape, 4' right		Y	24.5	Closed, water

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

A - Sand, fine to medium grained, gray/black brackish near surface, trace organic debris, no odor, no sheen

B - Same as A with less organic debris

C - Same as A with less organic debris and a slight HC odor

Sample Containers:

Analyses:

ANCHOR QEA

Surface Sediment Field Log

Job: PoP T4 PDI
Station: SG-21
Job No:
Date: 5/21/14
Field Staff: Ben & Colin
Sample Method: Diver Grab
Contractor: RSS
Proposed Coordinates: Lat.
Horizontal Datum:
Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes: Between pilings 33 & 34 in Slip 3. Approached from wheelhouse Bay due to Slip.

Grab #	Time	Confirmed Coordinates (datum) WGS 84 (N)	WGS 84 (E)	Sample Accept (Y/N)	Recovery Depth (in) cm	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc.
A	1230	36' on tape,	1' Fright	Y	28.5	closed, water, clear surface
B	1240	30' on tape,	4' left.	Y	28.5	closed, water, clear surface
C	1255	22' on tape,	3' right	Y	26.5	closed, water.

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

A- Sandy silt or silty sand, black/grey, fine sand, loose, wet, trace organic debris, no odor, rainbow grey silt surface.

B- Same as "A" but a bit sandier, some pieces of plastic.

Sample Containers: C- Same as "A"

Analyses:

Daily Log

ANCHOR QEA

Surface Sediment Program Field Audit

Anchor QEA, LLC
6720 SW Macadam Ave, Suite125
Portland, OR 97219
Phone 503.670.1108

PROJECT NAME: Port of Portland T-4 Pre-Design Investigation
DATE: 4/17/2019
SITE ADDRESS: 11040 N Lombard St, Portland, OR 97203
PERSONNEL: Julia Fitts

WEATHER: **WIND FROM:** N | NE | E | SE | S | SW | W | NW
LIGHT | MEDIUM | HEAVY
SUNNY | CLOUDY | RAIN
TEMPERATURE: °F 62. °C [Circle appropriate units]

TIME	COMMENTS
1622	Site audit of Surface Sediment PDI sampling program and IDW management by Field Manager:
	• Reviewed team procedures, documentation, maintenance of equipment, QC protocols, contingency protocols, logging and filing procedures.
	• QC samples (Field Duplicates) are being collected at the appropriate frequency (1 per 20 composite samples) - MS/MSD and Rinsate Blank collected in accordance w/ the SQAPP
	• Field forms are being completed in accordance w/ the SQAPP
	• Sampling procedures, including acceptance criteria, sample descriptions, & homogenization and decontamination of equipment are being conducted in accordance with the SQAPP
	• Equipment is functioning properly and was calibrated appropriately. PID only used where odors are observed.
	• H&S protocols are consistent with the HASP and are evaluated each morning with the vessel operator and Port tenant, Kinder Morgan.
	• Contingency protocols are being implemented in accordance with the SQAPP. Number of attempt protocols additionally verified as compliant per discussions with CDM Smith (on 4/16) and EPA (on 4/17).
	IDW is being managed in accordance with the SQAPP. - NO Corrective Actions.

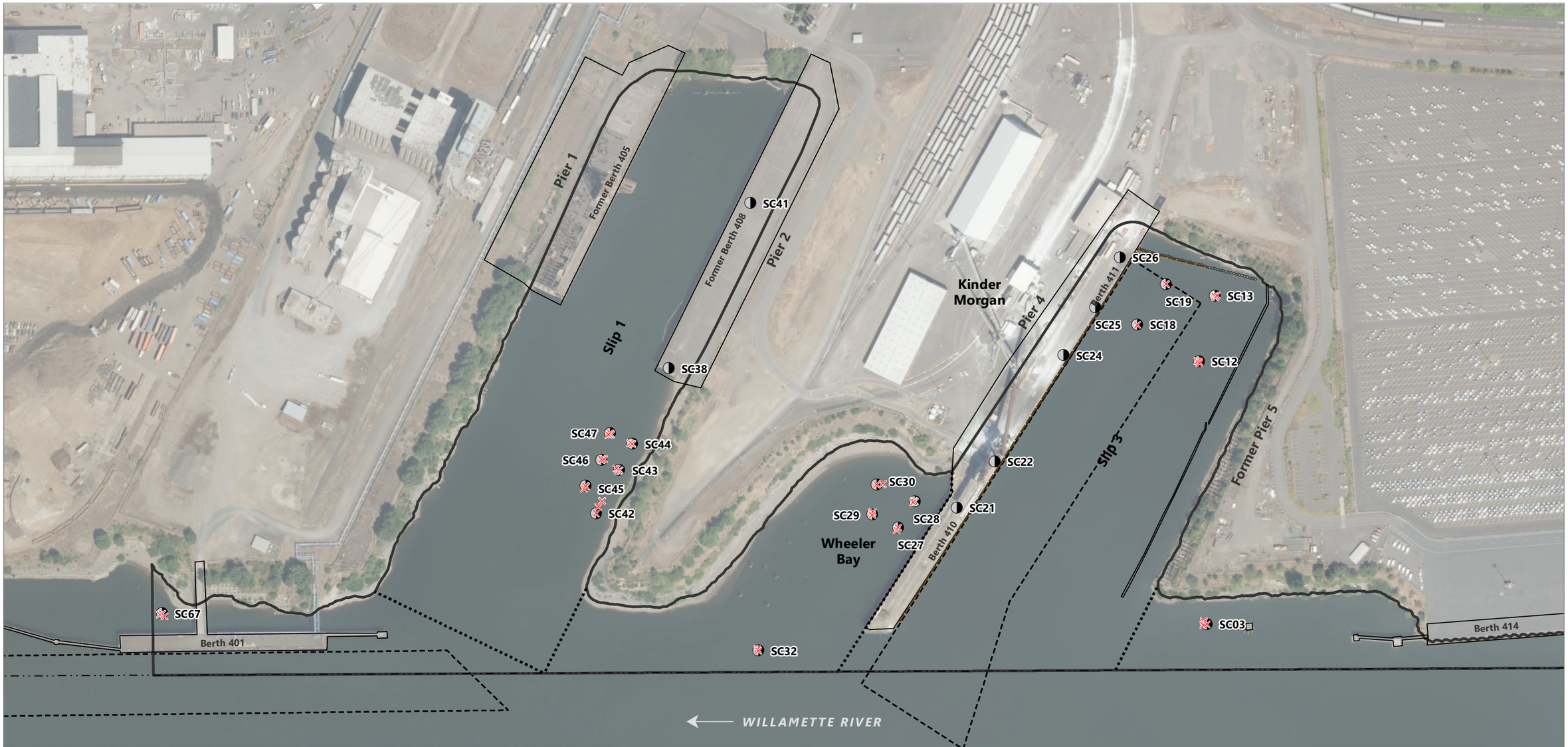
Signature: [signature]

Attachment A2
Subsurface Core Collection Forms

Table A2-1
Sheen and Hydrocarbon Odor Observations: Subsurface Sediment

Station ID	Underpier	Sheen Observation[1]		HC Odor Observation[2]	
T4-PDI2019-SC03		X	Trace*	X	Moderate
T4-PDI2019-SC12			None		None
T4-PDI2019-SC13		X	Trace*		None
T4-PDI2019-SC18			None		None
T4-PDI2019-SC19			None		None
T4-PDI2019-SC21	X		None		None
T4-PDI2019-SC22	X		None		None
T4-PDI2019-SC24	X		None		None
T4-PDI2019-SC25	X		None		None
T4-PDI2019-SC26	X		None		None
T4-PDI2019-SC27			None	X	Slight
T4-PDI2019-SC28		X	Trace*	X	Trace
T4-PDI2019-SC29			None		None
T4-PDI2019-SC30			None		None
T4-PDI2019-SC32			None		None
T4-PDI2019-SC38	X		None		None
T4-PDI2019-SC41	X		None	X	Slight
T4-PDI2019-SC42			None		None
T4-PDI2019-SC43			None		None
T4-PDI2019-SC44			None		None
T4-PDI2019-SC45			None	X	Trace
T4-PDI2019-SC46			None		None
T4-PDI2019-SC47			None	X	Trace
T4-PDI2019-SC67		X	Trace	X	Slight

Notes:
* Sheen noted in rejected attempt(s) only.
1. No sheens were observed during processing; sheens were observed during core collection only.
2. Hydrocarbon-like odor observations are from the core collection or processing log.
HC: hydrocarbon



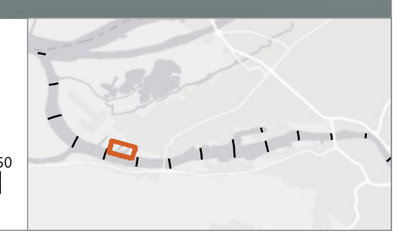
LEGEND:

- Sediment Decision Unit RM 4.5E
- Navigation Channel
- Shoreline Structures
- Site Subarea Boundaries
- Sheet Pile Wall
- Timber Pinch Pile
- Potential Maintenance Dredging
- PDI Subsurface Sediment Sampling Locations
- Rejected Subsurface Sediment Sampling Attempt

NOTES:

1. Arrow indicates direction of flow of river.
2. Horizontal datum is NAD83 (HARN 1991) Oregon State Plane North, International Feet.
3. Aerial imagery from City of Portland 2018.
4. SDU boundary extends approximately 1,000 feet upstream from the extent shown.
5. Station IDs displayed in the figure are abbreviated. Full station IDs are included in the tables and take the form of "T4-PDI2019-SC-XX".

0 250
Feet



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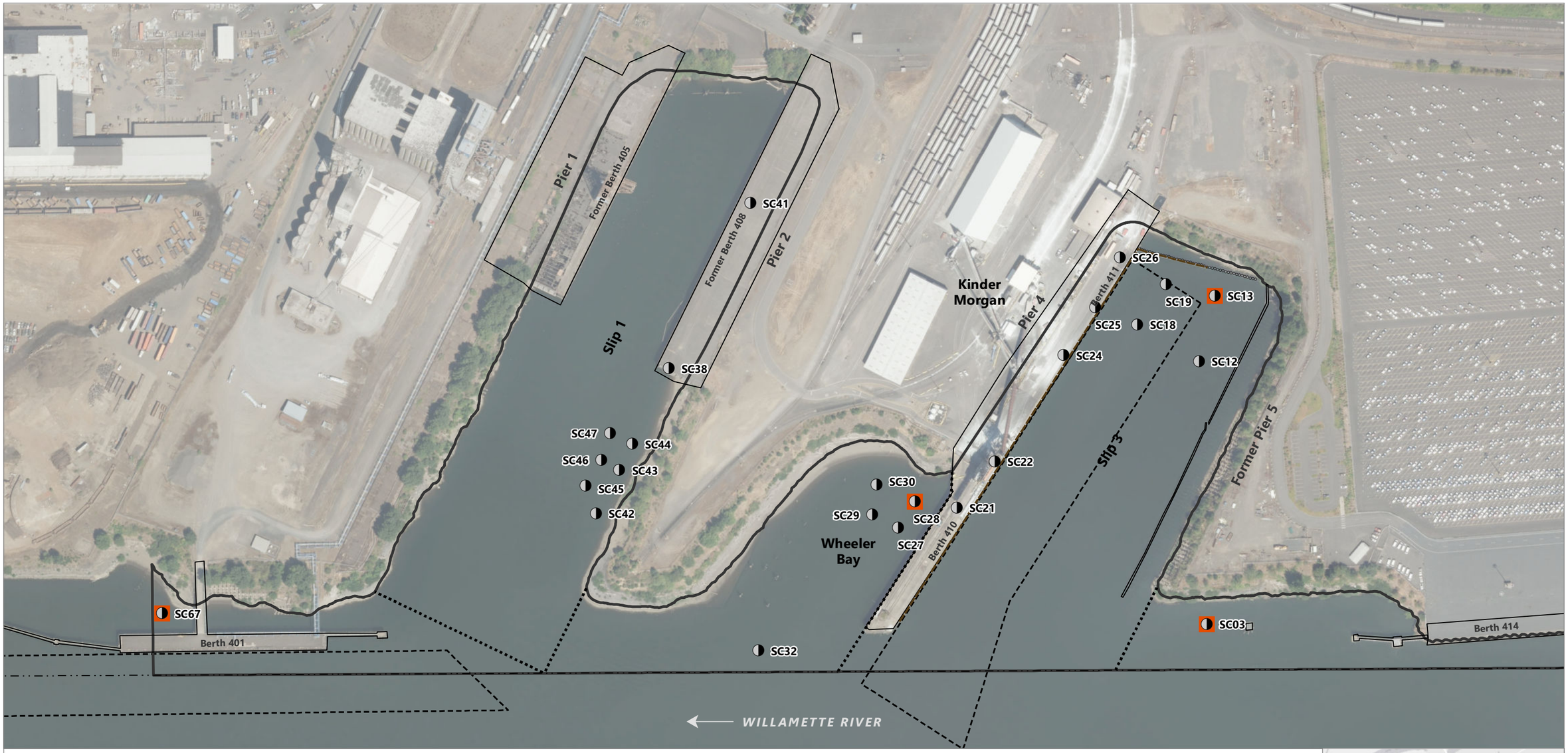
Filepath: \\orcas\GIS\Jobs\PortOfPortland_0332\PortlandHarborFS\Maps\Reports\PDISamplingReport\AppendixA\AQ_PDI2019_FigA2-1_SubsurfaceRejectedAttempts.mxd

ANCHOR QEA

Figure A2-1
Subsurface Sediment Sampling Locations: Rejected Attempts
Appendix A: Pre-Remedial Design Investigation Summary Report
Terminal 4 Remedy



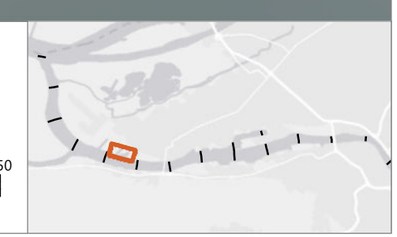
LEGEND:

- Sediment Decision Unit RM 4.5E
- Navigation Channel
- Shoreline Structures
- Site Subarea Boundaries
- Sheet Pile Wall
- Timber Pinch Pile
- Potential Maintenance Dredging
- PDI Subsurface Sediment Sampling Locations
- Trace Sheen Observed During Sampling

NOTES:

1. Arrow indicates direction of flow of river.
2. Horizontal datum is NAD83 (HARN 1991) Oregon State Plane North, International Feet.
3. Aerial imagery from City of Portland 2018.
4. SDU boundary extends approximately 1,000 feet upstream from the extent shown.
5. Station IDs displayed in the figure are abbreviated. Full station IDs are included in the tables and take the form of "T4-PDI2019-SC-XX".

0 250
Feet



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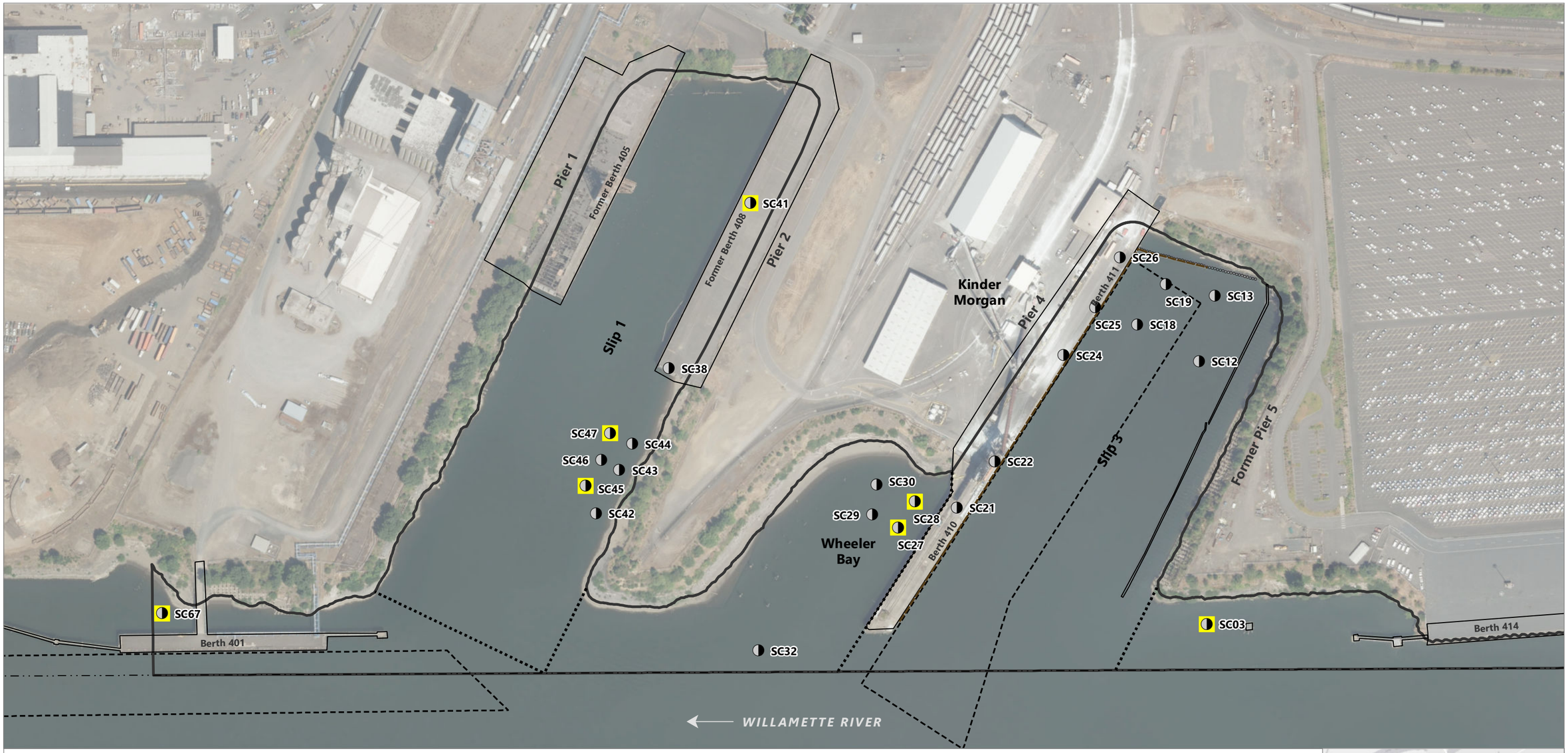
ANCHOR QEA

Figure A2-2
Subsurface Sediment Sampling: Sheen Observations
Appendix A: Pre-Remedial Design Investigation Summary Report
Terminal 4 Remedy



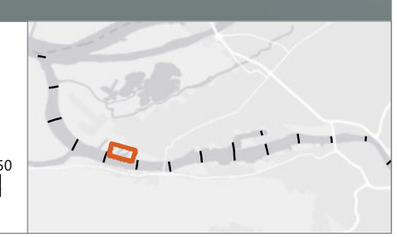
LEGEND:

- Sediment Decision Unit RM 4.5E
- Navigation Channel
- Shoreline Structures
- Site Subarea Boundaries
- Sheet Pile Wall
- Timber Pinch Pile
- Potential Maintenance Dredging
- PDI Subsurface Sediment Sampling Locations
- Hydrocarbon-like Odor Observed During Sampling

NOTES:

1. Arrow indicates direction of flow of river.
2. Horizontal datum is NAD83 (HARN 1991) Oregon State Plane North, International Feet.
3. Aerial imagery from City of Portland 2018.
4. SDU boundary extends approximately 1,000 feet upstream from the extent shown.
5. Station IDs displayed in the figure are abbreviated. Full station IDs are included in the tables and take the form of "T4-PDI2019-SC-XX".

0 250
Feet



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ANCHOR QEA

Figure A2-3
Subsurface Sediment Sampling: Hydrocarbon-Like Odor Observations
Appendix A: Pre-Remedial Design Investigation Summary Report
Terminal 4 Remedy

ANCHOR QEA

Sediment Core Collection Log

Job: Pop TH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-44
Attempt No. 2
Date: 5/23/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.603593
Long/Easting: 122.776654

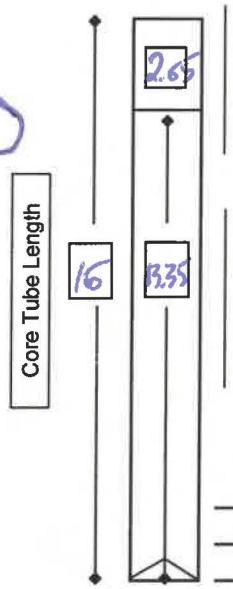
A. Water Depth
DTM Depth Sounder: 23.1'
DTM Lead Line: 23.5'

B. Water Level Measurements
Time: 1015
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 15.0'
Drive Penetration: 13.0' (Electric), 13.5' (Manual)
Headspace Measurement: 2.65'
Recovery Measurement: 13.35'
Recovery Percentage: 98.0%
Total Length of Core To Process: 13.35 - 0.35' = 13.00'

Recovery Measurements (prior to cuts)



Drive Notes: No Free Fall. Full throttle to 13.0'
Easy retrieval

Sections To Process:
A: 0 - 4
B: 4 - 8
C: 8 - 13
D: Shoe 0.35' not submitted

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sand fine to med, black/gray, loose
Silt, gray, cohesive at the A/B cut.
Sand and some gravels above shoe figure

Notes:
2' shape

ANCHOR QEA

Sediment Core Collection Log

Job: PoP TH PDI
Station ID: SC-44
Job No:
Attempt No. 1
Field Staff: Ben & Colin
Date: 5/23/19
Contractor: SEE/MSS
Logged By: Ben J
Vertical Datum: USGS Morrison
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.6036046
Long/Easting: 122.7766654

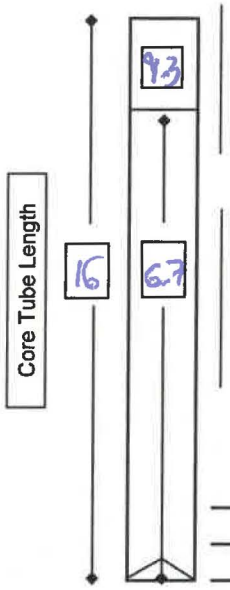
A. Water Depth
DTM Depth Sounder: 26.4'
DTM Lead Line: 26.3'

B. Water Level Measurements
Time: 0940
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 9.5' (electric), 9.9' (manual)
Headspace Measurement: 9.3'
Recovery Measurement: 6.7'
Recovery Percentage: 67.6%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: No free fall, full throttle from at surface. Easy to 6' hard from 6' - 9.5'.
Easy retrieval

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sand with silt in the shoe.

Sand fine to medium grained, black/gray, loose. Into there was a 1-2' silt layer, gray, soft.

Notes:
2' slope

ANCHOR QEA

Sediment Core Collection Log

Job: PoP T4 PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE / MSS
Vertical Datum: USGS Morrison

Station ID: SC-43
Attempt No. 1
Date: 5/23/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.603597
Long/Easting: 122.776935

A. Water Depth
DTM Depth Sounder: 20.85'
DTM Lead Line: 21.0'

B. Water Level Measurements
Time: 1145
Height:
Source: USGS Morrison

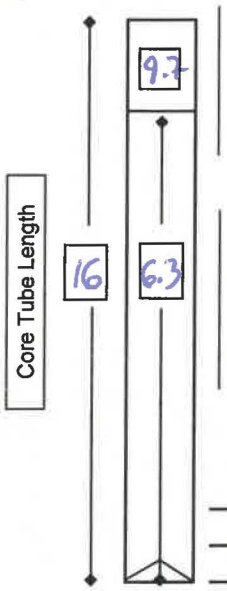
C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0
Drive Penetration: 10' (Electric), 9.7 (Manual)
Headspace Measurement: 9.7'
Recovery Measurement: 6.3
Recovery Percentage: 64.9%
Total Length of Core To Process: 6.3 - 0.6 = 5.7'

Drive Notes: No free fall, 3/4 throttle to 10', full throttle no movement.

Busy retrieval.

Recovery Measurements (prior to cuts)



Sections To Process:
A: 0-4
B: 4 - 5.7
C: Shoe 0.6 not submitted
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

No material in shoe.

Sand fine to medium grains, black/gray, loose

Notes:
3' slope

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEF/WSS
Vertical Datum: USGS Morrison

Station ID: SC-~~44~~ 43
Attempt No. 2
Date: 5/23/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.603600
Long/Easting: 122.776950

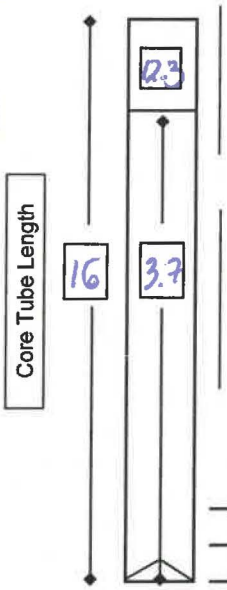
A. Water Depth
DTM Depth Sounder: 22.1'
DTM Lead Line: 22.5'

B. Water Level Measurements
Time: 1200
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 10' (electric), (10.5' (manual))
Headspace Measurement: 12.3
Recovery Measurement: 3.7
Recovery Percentage: ~~0.3~~ 35.2%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: No free fall, 1/2 throttle to 10', Full throttle No Movement

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Shoe hard Fine Sand

Fine to medium Sand, trace angular gravels in dumped core.

Notes:
3' slope

ANCHOR QEA

Sediment Core Collection Log

Job: PoP TM PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-43
Attempt No. 3
Date: 5/23/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.603621
Long/Easting: 122.776934

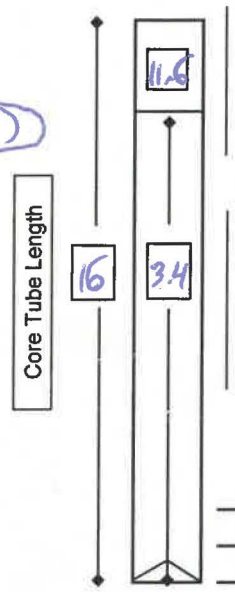
A. Water Depth
DTM Depth Sounder: 25.1'
DTM Lead Line: 25.6'

B. Water Level Measurements
Time: 1310
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0
Drive Penetration: 8.5' (Electric), 9.0' (manual)
Headspace Measurement: 11.6
Recovery Measurement: 3.4
Recovery Percentage: 37.7%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: No Free Fall. Slight hang up at ≈3'. Full throttle to 8.5'.

Easy retrieval, with some resistance at ≈3'.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sand fine to medium grained, black/gray, loose

Notes:
3' slope. offset 9' equal mag

ANCHOR QEA

Sediment Core Collection Log

Job: P&P T4 PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-03
Attempt No. 4
Date: 5/20/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 46.599536
Long/Easting: 122.775818

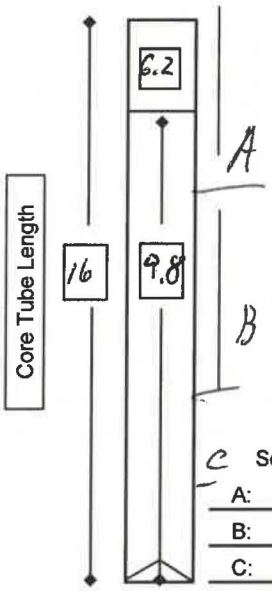
A. Water Depth
DTM Depth Sounder: 28.5'
DTM Lead Line: 29.9'

B. Water Level Measurements
Time: 1730
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: (Yes) / No
Core Tube Length: 16.0'
Drive Penetration: 15.0' (Electric), 14.4' (Manual)
Headspace Measurement: 6.2'
Recovery Measurement: 9.8'
Recovery Percentage: 68%
Total Length of Core To Process:

Recovery Measurements (prior to cuts)



Drive Notes: No free fall. Easy driving until to ~14' of penetration. Some resistance during removal.

Sections To Process:
A: 4.25'
B: 5.60'
C: 0.50'
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sandy silt, in shoe and cuts, black/gray, no odor, no sheen

Notes:
Adjusted to 1' of slope, offset 18' @ 213° magnetic

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MJS
Vertical Datum: USGS Morrison

Station ID: SC-03
Attempt No. 1
Date: 5/20/14
Logged By: Ben J.
Horizontal Datum: NAD83 OR N

Field Collection Coordinates:
Lat/Northing: 45.599564
Long/Easting: 122.775799

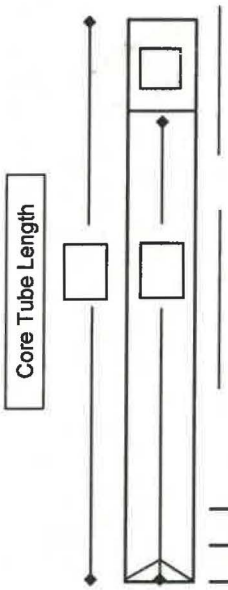
A. Water Depth
DTM Depth Sounder: ~~17.~~ BS ~~14.55~~ BT 26.8'
DTM Lead Line: ~~18'0"~~ BS 27.3'

B. Water Level Measurements
Time: 15:00
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 3.0
Headspace Measurement: 14.0
Recovery Measurement: 2.0
Recovery Percentage: 0.66
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Sections To Process:
A: NA
B:
C:
D:

Drive Notes: 0.5' Free Fall, 3.0' refusal

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sand, black medium to coarse, variegated grains. Some gravels up top.

Notes:
original location on steep rip rap slope. shifted ≈ 10' to avoid channel. Try 2' slope over 8' length. Coring at 1455

ANCHOR QEA

Sediment Core Collection Log

Job: PoP T4 PDI
Station ID: SC-03
Job No:
Attempt No. 2
Field Staff: Ben + Colin
Date: 5/20/19
Contractor: SEE/MSS
Logged By: Ben J.
Vertical Datum: USGS Morrison
Horizontal Datum: NAD83 OR N

Field Collection Coordinates:
Lat/Northing: 45.599559
Long/Easting: 122.775810

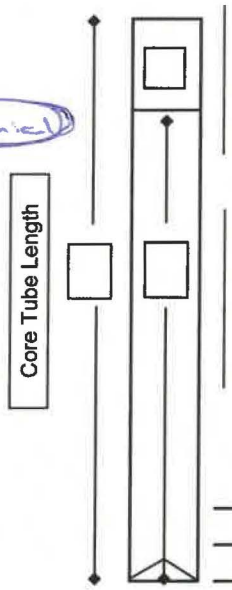
A. Water Depth
DTM Depth Sounder: 27.8'
DTM Lead Line: 28.3'

B. Water Level Measurements
Time: 1545
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0
Drive Penetration: 14.5' (electronic) 13.2' (mechanical)
Headspace Measurement: 9.5'
Recovery Measurement: 6.5'
Recovery Percentage: 49%
Total Length of Core To Process:

Recovery Measurements (prior to cuts)



Drive Notes: 2.5' Free Fall, easy
Vibration 1.25', dropped ≈
3.0', 11.0' hard vibration,

Sections To Process:
A:
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Wood debris, sand, and gravels in shoe.

Notes:
12' offset at 237°.

ANCHOR QEA

Sediment Core Collection Log

Job: PoP T4 PDI
Job No:
Field Staff: Ben & Colin
Contractor: SET/MSS
Vertical Datum: USGS Morrison

Station ID: SC-03
Attempt No. 3
Date: 5/20/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.599553
Long/Easting: 122.775840

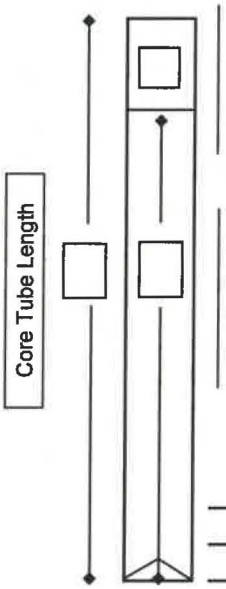
A. Water Depth
DTM Depth Sounder: 29.8'
DTM Lead Line: 30.1'

B. Water Level Measurements
Time: 1620
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 15.0'
Drive Penetration: 10.0' (electric), 11.4' (manual)
Headspace Measurement: 12.1'
Recovery Measurement: 3.9'
Recovery Percentage: 34%
Total Length of Core To Process:

Recovery Measurements (prior to cuts)



Drive Notes: 1.5' Free Fall, 1/2 throttle to 8', Full throttle slow advancement to 10'.

Pulling core is fairly easy.

Sections To Process:
A:
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sand with silt/ silty sand in shoe. Spots of sheen when we emptied core. HC odor. Contained material.

Notes:
20' offset @ 238.2°

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben + Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-45
Attempt No. 3
Date: 5/22/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Fl

Field Collection Coordinates:
Lat/Northing: 45.603757
Long/Easting: 122.777213

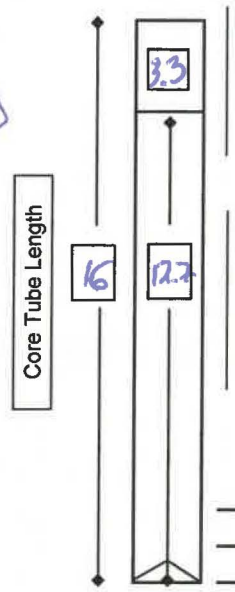
A. Water Depth
DTM Depth Sounder: 37.5'
DTM Lead Line: 37.9'

B. Water Level Measurements
Time: 1530
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 12.0' (Electric), 8.4' (Manual)
Headspace Measurement: 3.3
Recovery Measurement: 12.7
Recovery Percentage: ~~100%~~ 94.8%
Total Length of Core To Process: 12.7 - 0.45 = 12.25'

Recovery Measurements (prior to cuts)



Drive Notes: No free fall. 1/2 throttle to 8'. Full throttle to 12'

Easy retrieval.

Sections To Process:
A: 0-4
B: 4-8
C: 8-12.25
D: Shoe 0.45'

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Very soft material at the top may have not slid collar or may have stacked on bottom during measurement.

Silt with Sand not Sand, gray, loose, Sheen at the top.

Notes:
Flat base. offset 5' @ 083° mag

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-45
Attempt No. 1
Date: 5/22/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.603750
Long/Easting: 122.777218

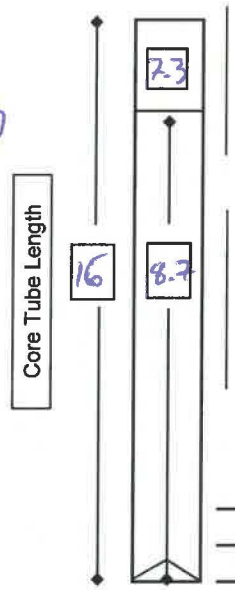
A. Water Depth
DTM Depth Sounder: 38.6'
DTM Lead Line: 38.3'

B. Water Level Measurements
Time: 1355
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0
Drive Penetration: 13.0' (Electric), ~~12.4'~~ (manual)
Headspace Measurement: 7.3
Recovery Measurement: 8.7
Recovery Percentage: ~~54.3%~~ 70.2%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: Full throttle to 10'
Some resistance refusal
at 12'.

Easy retrieval.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sand in Shoe.

Notes:
slight slope offset 5' @121° mag

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SFE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-45
Attempt No. 2
Date: 5/22/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N 1/4 Ft

Field Collection Coordinates:
Lat/Northing: 45.603757
Long/Easting: 122.777244

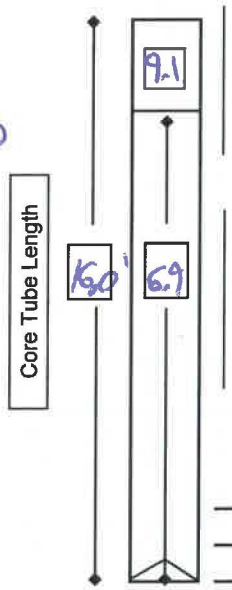
A. Water Depth
DTM Depth Sounder: 37.8'
DTM Lead Line: 38.0'

B. Water Level Measurements
Time: 1425
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 14.5' (Electric), 13.5' (Manual)
Headspace Measurement: 9.1
Recovery Measurement: 6.9
Recovery Percentage: ~~51.1%~~ 47.6%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: No Free Fall. Full throttle to 14.5'

Easy retrieval.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Silt with Sand and Sand with Silt, Fine grained Sand, gray,

Notes:
Added ring offset 3' @ 244° Mag

ANCHOR QEA

Sediment Core Collection Log

Job: P.P TH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: USGS Mattison

Station ID: SC-32
Attempt No. ~~1~~ of 2
Date: 5/22/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.602210
Long/Easting: 122.777931

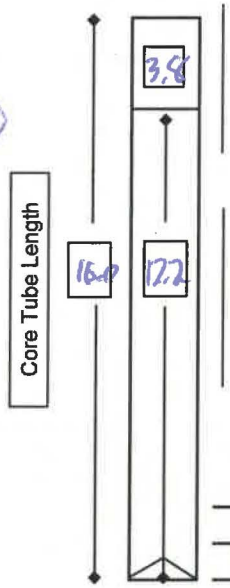
A. Water Depth
DTM Depth Sounder: 31.0'
DTM Lead Line: 31.3'

B. Water Level Measurements
Time: 1710
Height:
Source: USGS Mattison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: (Yes) / No
Core Tube Length: 16.0'
Drive Penetration: 15' (Electric), (15' (Manual))
Headspace Measurement: 3.8'
Recovery Measurement: 12.2'
Recovery Percentage: 81.3%
Total Length of Core To Process: 12.2 - 0.45 = 11.75'

Recovery Measurements (prior to cuts)



Drive Notes: 10.5' of free fall. 1/2 throttle to 15'.

Sections To Process:
A: 0-4
B: 4-8
C: 8-11.75
D: Shoe 0.45' not submitted

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Silt with Sand, Sand with Silt, gray, Shoe has mixed Sand and Silt

Notes:
Added ring, base is on 1' slope. OFFSET 4' @ 154° M

ANCHOR QEA

Sediment Core Collection Log

Job: PoP T4 PDI
Station ID: SC-32
Job No:
Attempt No. 1
Field Staff: Ben + Colin
Date: 5/22/19
Contractor: SEE/MSS
Logged By: Ben J
Vertical Datum: USGS Morrison
Horizontal Datum: NAD 83 OR N Int Ft

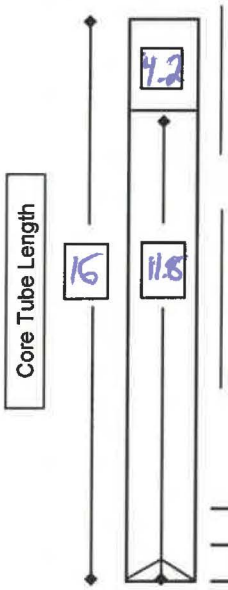
Field Collection Coordinates:
Lat/Northing: 45.602222
Long/Easting: 122.777925

A. Water Depth
DTM Depth Sounder: 30.7'
DTM Lead Line: 31.2'

B. Water Level Measurements
Time: 1640
Height:
Source: USGS Morrison

C. Mudline Elevation

Recovery Measurements (prior to cuts)



Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: ≈15' (Electric), 15' (manual)
Headspace Measurement: 4.2
Recovery Measurement: 11.8'
Recovery Percentage: 78.6%
Total Length of Core To Process: NA

Drive Notes: 11' of Free fall. 1/2 throttle to ≈15' electronic Sounder not functioning well Easy retrieval

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Very soft up top likely silt.

Notes:
1' slope on base. offset 2' @060° mag

ANCHOR QEA

Sediment Core Collection Log

Job: PoP T4 PDI
Station ID: SC-46
Job No:
Attempt No. 2
Field Staff: Ben & Colin
Date: 5/22/19
Contractor: SFEE/MSS
Logged By: Ben J
Vertical Datum: USGS Morrison
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.603737
Long/Easting: 122.776922

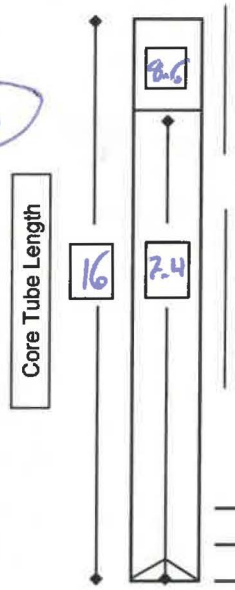
A. Water Depth
DTM Depth Sounder: 37.4'
DTM Lead Line: 37.7'

B. Water Level Measurements
Time: 1150
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 14.5' (Electric), 15' (manual)
Headspace Measurement: 0.55
Recovery Measurement: 7.4
Recovery Percentage: 49.3%
Total Length of Core To Process: 7.4 - 0.55 = 6.85'

Recovery Measurements (prior to cuts)



Drive Notes: 2' of Free Fall, 1/4 throttle to 9.5', Full throttle resistance at 12'.

Easy retrieval.

Sections To Process:
A: 0-4
B: 4-6.85'
C: 0.55' Shoe not submitted
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Surf in Shoe Fine to medium grained grey.

* Don't submit analytical Archive only per SQAPP <50% recovery.

Notes:
Added ring, 1' slope. offset 3' @274° mag. Ring did not move.

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-46
Attempt No. 1
Date: 5/22/19
Logged By: Ben J
Horizontal Datum: NAD 83 ORN Int Ft

Field Collection Coordinates:
Lat/Northing: 45.603737
Long/Easting: 122.776909

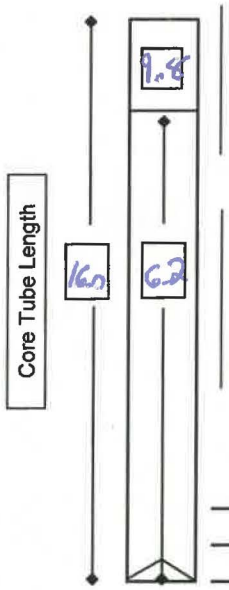
A. Water Depth
DTM Depth Sounder: 38.2'
DTM Lead Line: 38.1'

B. Water Level Measurements
Time: 1120
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / (No)
Core Tube Length: 16.0'
Drive Penetration: 15' (Electric), 15' (manual)
Headspace Measurement: 9.8
Recovery Measurement: 6.2
Recovery Percentage: 41.3%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: 2' of Free Fall. 1/4 throttle easy to 8'. 3/4 throttle to 11'. Full throttle

Easy retrieval.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sand with silt, fine to medium sand, gray.

Notes:
Slope 1' on the base.

ANCHOR QEA

Sediment Core Collection Log

Job: PoPT4 PDI
Job No:
Field Staff: Ben & Colin
Contractor: STEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-46
Attempt No. 3
Date: 5/22/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N 1+ Ft

Field Collection Coordinates:
Lat/Northing: 45.603721
Long/Easting: 122.776904

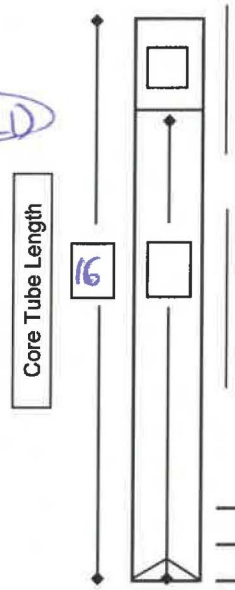
A. Water Depth
DTM Depth Sounder: 34.9'
DTM Lead Line: 34.7'

B. Water Level Measurements
Time: 1240
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 12.5' (Electric), 16.1' (manual)
Headspace Measurement: 13.1'
Recovery Measurement: 2.9'
Recovery Percentage: 28.7%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: No Free Fall, Easy vibe to 4', Resistance at 10', Refusal at 12.5'

Easy retrieval.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Fine Sand in Shoe.

Notes:
Added ring, offset 5' @146° mg

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEEI
Vertical Datum: USGS Morrison

Station ID: SC-47
Attempt No. 2
Date: 5/22/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.603761
Long/Easting: 122.776651

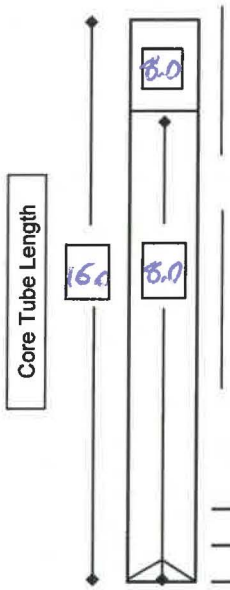
A. Water Depth
DTM Depth Sounder: 39.5'
DTM Lead Line: 40.1'

B. Water Level Measurements
Time: 1000
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: (Yes) / No
Core Tube Length: 16.0
Drive Penetration: 15' (Electric), 15' (manual)
Headspace Measurement: 8.0
Recovery Measurement: 8.0
Recovery Percentage: 53.3%
Total Length of Core To Process: 8.0 - 0.45 = 7.55'

Recovery Measurements (prior to cuts)



Drive Notes: 2' Free Fall, 1/2 throttle to 11', slightly more resistance to 15'.

Easy retrieval.

Sections To Process:
A: 0-4
B: 4 - 7.55
C: Shoe = 0.45 Not Submitted
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Shoe was empty. Silt at first cut, gray. Fine to medium grained sand in top of shoe/sand catcher.

Notes:
Slight slope. offset 3' @ 027° mag

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTL PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MGS
Vertical Datum: USGS Morrison

Station ID: SC-47
Attempt No. 3
Date: 5/22/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

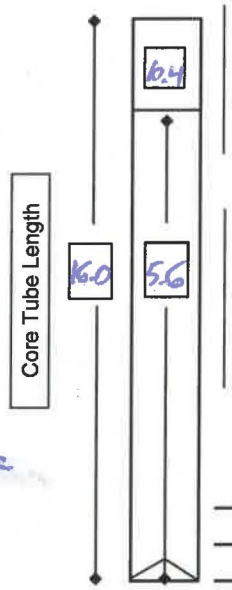
Field Collection Coordinates:
Lat/Northing: 45.603769
Long/Easting: 122.776673

A. Water Depth
DTM Depth Sounder: 39.8'
DTM Lead Line: 39.7'

B. Water Level Measurements
Time: 1020
Height:
Source: USGS Morrison

C. Mudline Elevation

Recovery Measurements (prior to cuts)



Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0
Drive Penetration: 15' (Electric), 15' (Manual)
Headspace Measurement: 10.4
Recovery Measurement: 5.6
Recovery Percentage: 37.3%
Total Length of Core To Process: NA

Drive Notes: 2.5' Free Fall. 1/2 throttle easy to 5', full throttle to 15'.

Easy retrieval. A little resistance at ≈ 2.5'.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sand with silt, gray/black,

Notes:
Put ring on shoe. Slight slope, offset 6' @306° mag

ANCHOR QEA

Sediment Core Collection Log

Job: PoPT4 PDI
Station ID: SC-47
Job No:
Attempt No. 1
Field Staff: Ben & Colin
Date: 5/22/19
Contractor: SEE / MSS
Logged By: Ben
Vertical Datum: USGS Morrison
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.603752
Long/Easting: 122.776660

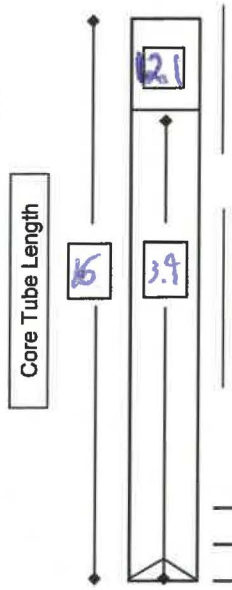
A. Water Depth
DTM Depth Sounder: 39.7'
DTM Lead Line: 40.2'

B. Water Level Measurements
Time: 0930
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 4.6 (Electronic) / 3.9' (Manual)
Headspace Measurement: 12.1'
Recovery Measurement: 3.9'
Recovery Percentage: 100%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: 2.5' Free Fall, Full vibration
Refusal at 4.6'

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Fine Sand in Shoes. Fine Sand wood debris and Silt, gray.

Notes:
Slight slope.

Accepted

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SFEE / MSS
Vertical Datum: USGS Mattison

Station ID: SC-18
Attempt No. 1
Date: 5/21/19
Logged By: Ben J
Horizontal Datum: NAD83 OR N Intl Ft

Field Collection Coordinates:
Lat/Northing: 45.600844
Long/Easting: 122.773490

A. Water Depth
DTM Depth Sounder: 55.8'
DTM Lead Line: 56.0'

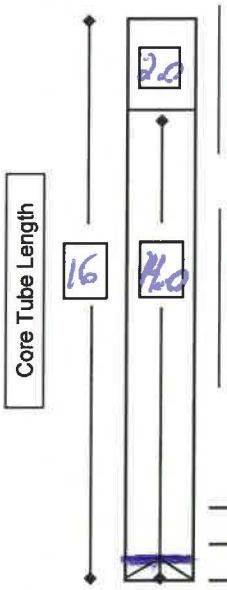
B. Water Level Measurements
Time: 1515
Height:
Source: USGS Mattison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: (Yes) / No
Core Tube Length: 16.0'
Drive Penetration: 15' (electric), 15' (manual)
Headspace Measurement: 2.0
Recovery Measurement: 14.0
Recovery Percentage: 93.3%
Total Length of Core To Process: 14.0' − 0.63' = 13.37'

Drive Notes: 2.3' Free Fall, Full throttle easy to 15'.
Easy retrieval.

Recovery Measurements (prior to cuts)



Sections To Process:
A: 4.30' (0.25' head space)
B: 4.04'
C: 4.00'
D: 1.63'

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Silty Sand in shoe. Sandy silt, gray, cohesive, fine sand.

Approximate ~

A: 0-4'
B: 4-8'
C: 8-12'
D: 12-13.37

Est. 0.63 shoe not submit

Notes:
Slight slope.

Acceptek

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-67
Attempt No. 2
Date: 5/21/14
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.605984
Long/Easting: 122.780100

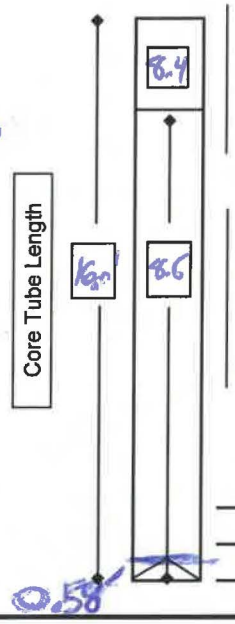
A. Water Depth
DTM Depth Sounder: NA
DTM Lead Line: 11.41'

B. Water Level Measurements
Time: 1730
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 15' (electronic), 14.9' (manual)
Headspace Measurement: 7.4
Recovery Measurement: 8.6
Recovery Percentage: 57.7%
Total Length of Core To Process: 8.6 - 0.58 = 8.02'

Recovery Measurements (prior to cuts)



Drive Notes: 1.5' free fall. Full throttle to 15'.
Easy retrieval.

Sections To Process:
A: 0-4
B: 4-8.02
C: 8.02-8.60 (shoe) Not Sampled
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

material fell out of shoe during retrieval. Sand medium grained, grey/black, sheen, slight HC odor.

Notes:
Slight slope. 7' offset @ 150° mag.

Keyed

ANCHOR QEA

Sediment Core Collection Log

Job: PaPT4 PDI
Job No:
Field Staff: Ben + Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-67
Attempt No. ~~5/21/19~~ BJ 1
Date: 5/21/19
Logged By: Ben J
Horizontal Datum: NAD83 OR N Int Ft.

Field Collection Coordinates:
Lat/Northing: 45.605996
Long/Easting: 122.780124

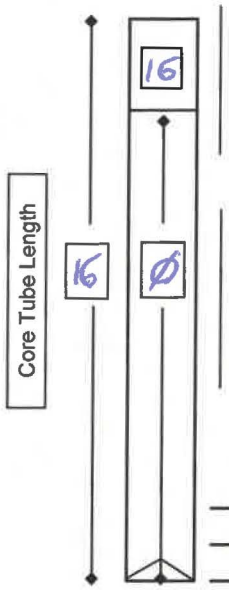
A. Water Depth
DTM Depth Sounder: —
DTM Lead Line: 12.2'

B. Water Level Measurements
Time: 1700
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 6.4' (Electric) / 6.1' (Manual)
Headspace Measurement: 16.0'
Recovery Measurement: Ø
Recovery Percentage: Ø
Total Length of Core To Process: Ø

Recovery Measurements (prior to cuts)



Drive Notes: Ø Free Fall. Full throttle 6.4' to refusal

Easy retrieval.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Notes:
offset 4' @200° mag

Rejected

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE / MSS
Vertical Datum: USGS Morrison

Station ID: SC-67
Attempt No. 3
Date: 5/21/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.605960
Long/Easting: 122.780120

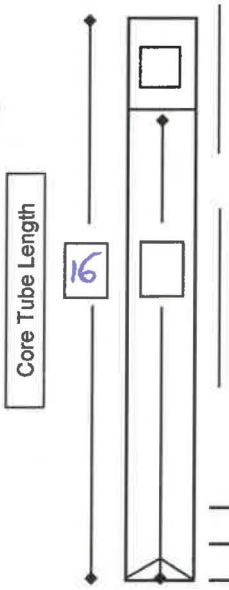
A. Water Depth
DTM Depth Sounder: NA
DTM Lead Line: 12.21'

B. Water Level Measurements
Time: 1800
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0
Drive Penetration: 14' (electronic), 13.8' (Manual)
Headspace Measurement: 12.4
Recovery Measurement: 3.6'
Recovery Percentage: 26.0%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes:
No Free Fall. Full throttle to 14'.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sheen in decant water

Notes:
Slight slope. 16' offset @ 171° mag. Seems like there are voids in the core tube. Sheen in decanted water.

ANCHOR QEA

Sediment Core Collection Log

Job: PoP 14 PDI
Job No:
Field Staff: Ben + Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-12
Attempt No. 1
Date: 5/21/19
Logged By: Ben J
Horizontal Datum: NAD83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.600356
Long/Easting: 122.773555

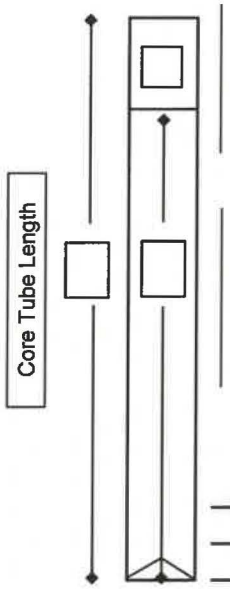
A. Water Depth
DTM Depth Sounder: 45.3'
DTM Lead Line: 45.6'

B. Water Level Measurements
Time: 0900
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 15' (electronic), 15' (manual)
Headspace Measurement: 6.8'
Recovery Measurement: 9.2'
Recovery Percentage: 61%
Total Length of Core To Process: 9.5'

Recovery Measurements (prior to cuts)



Sections To Process:
A: 4.29
B: 4.96
C: 0.40 No material in Shoe
D:

Drive Notes:
8' of Free Fall. 1/2 throttle to 10', Full throttle slow progress to 13', quicker after 13'

Easy retrieval

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Shoe was empty * piece of wood in Fingers.
Silty Sand / Sandy silt black.

* empty Fingers may have left ≈0.2' void at the bottom of Section B

Notes:
Slopey since silty material on core after removal.

ANCHOR QEA

Sediment Core Collection Log

Job: RP T4 PDI
Job No:
Field Staff: Ben & Colr
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-12
Attempt No. 2
Date: 5/21/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

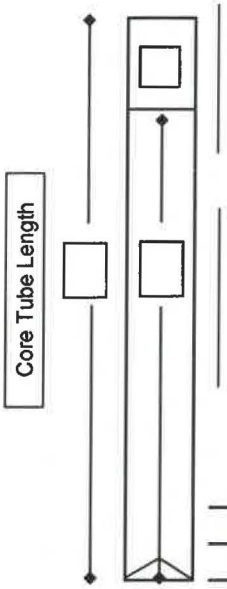
Field Collection Coordinates:
Lat/Northing: 45.600367
Long/Easting: 122.773557

A. Water Depth
DTM Depth Sounder: 45.3'
DTM Lead Line: 45.5'

B. Water Level Measurements
Time: 0925
Height:
Source: USGS Morrison

C. Mudline Elevation

Recovery Measurements (prior to cuts)



Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 11' (electric), 13.1' (manual)
Headspace Measurement: 9.0'
Recovery Measurement: 7.0'
Recovery Percentage: ~~59.8%~~ 53.4%
Total Length of Core To Process:

Drive Notes: 7' of free fall, full throttle to 10' meeting resistance. Vibed for ~5 min to 11' refusal.

Easy retrieval.

Sections To Process:
A:
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sand with silt in shoe, black, no odor, no sheen. Sand with silt in dumped material, some wood debris, a few silt layers.

Notes:
Ø slope, 4' offset @ 330° magnetic

ANCHOR QEA

Sediment Core Collection Log

Job: PoP PDI T4
Station ID: SC-12
Job No:
Attempt No. 3
Field Staff: Ben & Colin
Date: 5/21/19
Contractor: SEFE/MSS
Logged By: Ben J
Vertical Datum: USGS Morrison
Horizontal Datum: NAD 83 OR N Lt Ft

Field Collection Coordinates:
Lat/Northing: 45.600350
Long/Easting: 122.773566

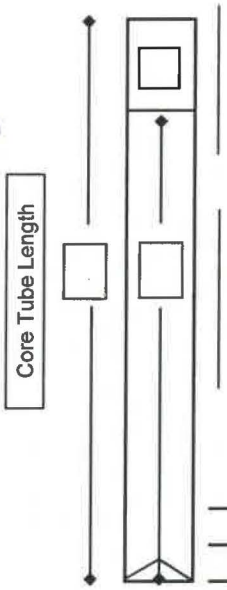
A. Water Depth
DTM Depth Sounder: 46.0'
DTM Lead Line: 46.4'

B. Water Level Measurements
Time: 1010
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 19.5' (Electric), 19.7' (Manual)
Headspace Measurement: 7.9'
Recovery Measurement: 8.1
Recovery Percentage: ~~57.6%~~ 55.1%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: 7' of Free Fall, 1/2 throttle to 10', Full throttle slow progress to 13.5'

Easy refusal.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Sandy Silt/Silty Sand at bottom of core, black/gray. Sand fine to medium grains at top of core

Notes:
Ø slope, offset 4' @ 243° mag

Accepted

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SFEE / MSS
Vertical Datum: USGS Morrison

Station ID: SC-13
Attempt No. 2
Date: 5/21/19
Logged By: Ben J
Horizontal Datum: NAD83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.600452
Long/Easting: 122.772914

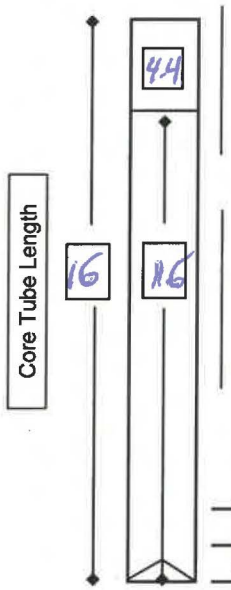
A. Water Depth
DTM Depth Sounder: 40.9'
DTM Lead Line: 41.2'

B. Water Level Measurements
Time: 1210
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: (Yes) / No
Core Tube Length: 16.0'
Drive Penetration: 15' (electric), 15' (hand)
Headspace Measurement: 4.4'
Recovery Measurement: 11.6'
Recovery Percentage: 72.3%
Total Length of Core To Process: 11.6'

Recovery Measurements (prior to cuts)



Drive Notes: 5.5' of free fall, full throttle to 15' little resistance
Easy retrieval

Sections To Process:
A: 4.0'
B: 4.08'
C: 3.43'
D: shoe material 0.45'

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Shoe is empty. Silty Sand / Sandy Silt gray/black.

Notes:
Slight slope. offset 3' @ 022° mag, used finger ring

Rejected

ANCHOR QEA

Sediment Core Collection Log

Job: PoP 74 PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-13
Attempt No. 1
Date: 5/21/19
Logged By: Ben J
Horizontal Datum: NAD 83

Field Collection Coordinates:
Lat/Northing: 45.600447
Long/Easting: 122.772925

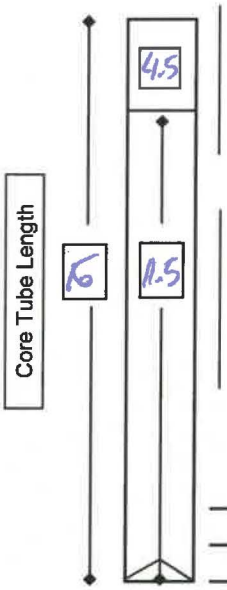
A. Water Depth
DTM Depth Sounder: 41.6'
DTM Lead Line: 41.8'

B. Water Level Measurements
Time: 1140
Height:
Source: USGS Morrison

C. Mudline Elevation
~~17~~

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 15' (Electric), 15' (manual)
Headspace Measurement: 4.5'
Recovery Measurement: 11.5'
Recovery Percentage: 76.6%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: 4' of Free Fall. Full throttle to 15'

Stiff pull out initially easy after.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sandy silt, cohesive, black/grey in shoe.

Sandy silt gray, cohesive, wet, fine grained sand, spots of sheen in bucket. Some wood debris.

Notes:
Slight slope

Rejected

ANCHOR QEA

Sediment Core Collection Log

Job: PoP TH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SFE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-13
Attempt No. 3
Date: 5/21/19
Logged By: Ben O
Horizontal Datum: NAD83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.600442
Long/Easting: 122.772903

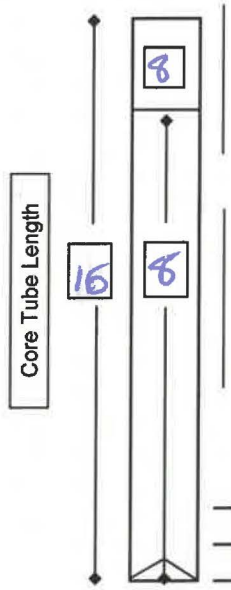
A. Water Depth
DTM Depth Sounder: 39.5'
DTM Lead Line: 39.8'

B. Water Level Measurements
Time: 1305
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 15' (electric), 15' (manual)
Headspace Measurement: 4.0'
Recovery Measurement: 8.0'
Recovery Percentage: ~~46.6%~~ 53.3%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: 6.75' Free Fall, Full throttle to 15'.
Easy retrieval

Sections To Process:
A: ~~4.0~~ NA
B:
C:
D:

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Shoe was empty. Silt with fine Sand, gray/black, Spots of Sheen, Some silt layers, trace organic debris

Notes:
Slight slope. OFFSET 5' @ 090° MAG

freeptek

ANCHOR QEA

Sediment Core Collection Log

Job: PaP T4 PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE / MSS
Vertical Datum: USGS Morrison

Station ID: SC-19
Attempt No. 1
Date: 5/21/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Inl Ft

Field Collection Coordinates:
Lat/Northing: 45.600787
Long/Easting: 122.773017

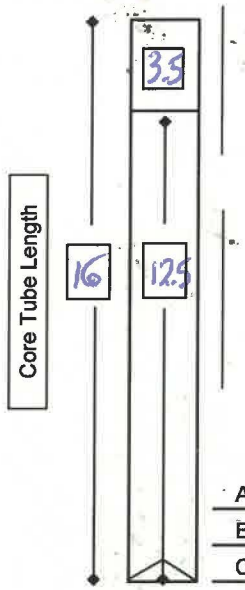
A. Water Depth
DTM Depth Sounder: 52.1'
DTM Lead Line: 52.5'

B. Water Level Measurements
Time: 1415
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 15' (Electric), 15' (manual)
Headspace Measurement: 3.5'
Recovery Measurement: 12.5'
Recovery Percentage: 83.3%
Total Length of Core To Process: 12.5'

Recovery Measurements (prior to cuts)



Drive Notes: 2.5' free fall, full throttle meeting resistance at ≈ 8.5'.

Easy retrieval, a little binding at ≈ 2.5'.

Sections To Process:
A: 4.29
B: 4.07
C: 4.08
D: 0.73 Shoe

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sandy silt, gray, fine to medium sand

Notes:
Flat bottom

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Job: PoPT4 PDI
Job No:
Field Staff: Ben + Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-42
Attempt No. 3
Date: 5/23/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.603611
Long/Easting: 122.777411

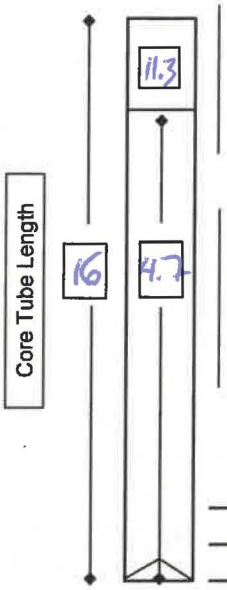
A. Water Depth
DTM Depth Sounder: 19.6'
DTM Lead Line: 19.8'

B. Water Level Measurements
Time: 1555
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: (Yes) / No
Core Tube Length: 16.0
Drive Penetration: 9' (Electric), 9.3' (manual)
Headspace Measurement: 11.3
Recovery Measurement: 4.7
Recovery Percentage: 50.5%
Total Length of Core To Process: 4.7 - 0.45 = 4.25'

Recovery Measurements (prior to cuts)



Drive Notes: No free fall, 3/4 throttle to 9', Full throttle no movement.

Easy retrieval.

Sections To Process:
A: 0-4.25
B: Shoe 0.45 Not submit
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sand with Silt, Some organic debris, black/grey, loose.

Notes:
5' slope. offset 47' @ 257° mag

ANCHOR QEA

Sediment Core Collection Log

Job: PaPT-4 PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-42
Attempt No. 1
Date: 5/23/19
Logged By: BJ
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.603612
Long/Easting: 122.777278

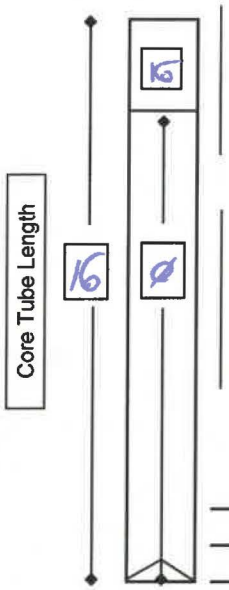
A. Water Depth
DTM Depth Sounder: 19.8'
DTM Lead Line: 19.7'

B. Water Level Measurements
Time: 1500
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0
Drive Penetration: 6' (Electric), 6' (Manual)
Headspace Measurement: 16.0'
Recovery Measurement: Ø
Recovery Percentage: 0%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: No freefall, full throttle. Some resistance at 2', ~~[illegible]~~ grove to 6'.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

NA

Notes:
4-5' Slope steep offset 13' @ 274° mag

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: NSGS Morrison

Station ID: SC-42
Attempt No. 2
Date: 5/23/19
Logged By: Ben J
Horizontal Datum:

Field Collection Coordinates:
Lat/Northing: 45.603617
Long/Easting: 122.777344

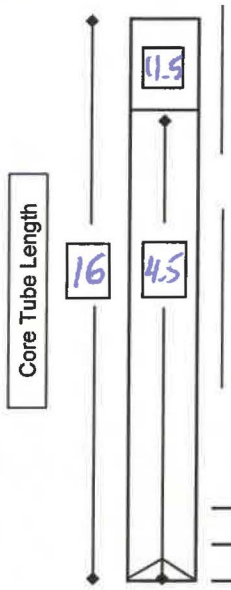
A. Water Depth
DTM Depth Sounder: 20.2'
DTM Lead Line: 20.6'

B. Water Level Measurements
Time: 1530
Height:
Source: NSGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16
Drive Penetration: 9' (electric), 9.2' (manual)
Headspace Measurement: 11.5
Recovery Measurement: 4.5
Recovery Percentage: ~~[illegible]~~ 48.9%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: No Free Fall, Easy drive to 6', Full throttle to 9'.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sand, fine to medium grained, some silt, large

Notes:
≈4' slope offset 30' @267° m-s

ANCHOR QEA

Sediment Core Collection Log

Job: DoPTL PDI
Station ID: SC-28
Job No:
Attempt No. 2
Field Staff: Ben & Colin
Date: 5/23/19
Contractor: SEE/MSS
Logged By: Ben J
Vertical Datum: USGS Morrison
Horizontal Datum: NAD83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.6016856
Long/Easting: 122.775974

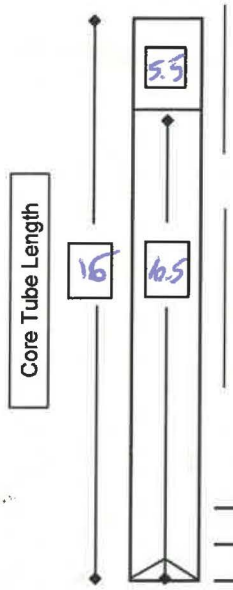
A. Water Depth
DTM Depth Sounder: 16.4'
DTM Lead Line: 16.4'

B. Water Level Measurements
Time: 1730
Height:
Source:

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 15' (electric), 15' (manual)
Headspace Measurement: 5.5'
Recovery Measurement: 10.5
Recovery Percentage: 70.0%
Total Length of Core To Process: 10.5 - 0.4 = 10.1

Recovery Measurements (prior to cuts)



Drive Notes: 3.5' Free Fall. Very Soft at ≈ 5', 1/2 throttle to ≈ 7'. Full throttle Soft ≈ 13'.
Easy retrieval.

Sections To Process:
A: 0-4
B: 4-8
C: 8-10.1
D: Shoe 0.4 Not submi

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Silt with Sand, black/grey, Soft, fine to Medium grained Sand

Notes:
No Slope. OFFSET 3 FT @ 190° MAG

ANCHOR QEA

Sediment Core Collection Log

Job: PPTH PDI
Station ID: SC-28
Job No:
Attempt No. 3
Field Staff: Ben & Colin
Date: 5/23/19
Contractor: SEE/MSS
Logged By: Ben J
Vertical Datum: USGS Morrison
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.601698
Long/Easting: 122.775984

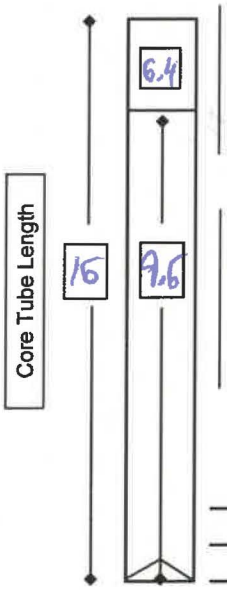
A. Water Depth
DTM Depth Sounder: 15.7'
DTM Lead Line: 15.9'

B. Water Level Measurements
Time: 1815
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0
Drive Penetration: 11.5' (electric) / 12.2 (manual)
Headspace Measurement: 6.4
Recovery Measurement: 9.6
Recovery Percentage: 78.6%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: 7' of free fall. 1/2 throttle to 9', 3/4 throttle to 11', full throttle to 11.5'.

Easy retrieval.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Silt and Sand, grey/black, soft/loose

Notes:
No slope. 4' offset 268° mag

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTL PDI
Station ID: SC-28
Job No:
Attempt No. 1
Field Staff: Ben & Colin
Date: 5/23/19
Contractor: SEE/WSS
Logged By: BJ
Vertical Datum: WSGS Morrison
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.601696
Long/Easting: 122.775968

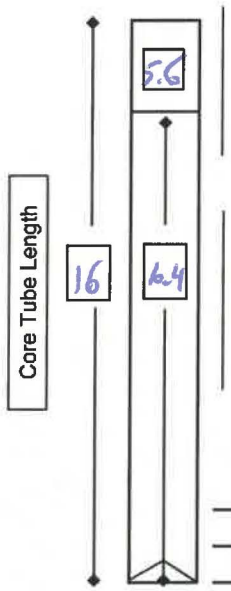
A. Water Depth
DTM Depth Sounder: 16.3'
DTM Lead Line: 16.4'

B. Water Level Measurements
Time: 1700
Height:
Source: WSGS-Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes (No)
Core Tube Length: 16.0'
Drive Penetration: 15' (Electric), 15' (Manual)
Headspace Measurement: 5.6'
Recovery Measurement: 10.4
Recovery Percentage: 69.3%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: 2.5' Free Fall. Fast 2.5'-6'. 1/2 throttle to 11'. 3/4 throttle to 12'. Full throttle to 15'

Easy retrieval

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

layers of Sand with Silt and Silt, black/grey, soft/loose. Spots of sheen in the shoe with silt.

Notes:
No slope.

ANCHOR QEA

Sediment Core Collection Log

Job: PoP T4 PDI
Job No: 050332-01.36
Field Staff: CT, CB
Contractor: SEE
Vertical Datum:

Station ID: SC-30
Attempt No. 3
Date: 05/24/19
Logged By: CT
Horizontal Datum:

Field Collection Coordinates:
Lat/Northing: 45.601975
Long/Easting: -122.775982

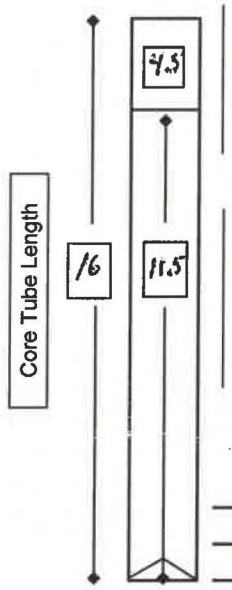
A. Water Depth
DTM Depth Sounder: 15.0
DTM Lead Line: 15.1

B. Water Level Measurements
Time: 0920
Height: —
Source: —

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: (Yes) / No
Core Tube Length: 16
Drive Penetration: 15.0
Headspace Measurement: 4.5
Recovery Measurement: 11.5
Recovery Percentage: 77%
Total Length of Core To Process: 11.1

Recovery Measurements (prior to cuts)



Drive Notes:
Free fall 1'
3/4 throttle to 7'
1/2 throttle to 15'
Easy driving.
Easy retrieval

Sections To Process:
A: 4.0 (HS=0.3)
B: 4-8
C: 8-11.1
D: 0.4 ft cutterhead.

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Offset 17.0 ft @ 320° magnetic

Notes:
W/ Leadline, feel riprap on bottom.

ANCHOR QEA

Sediment Core Collection Log

Job: T4 PDI
Job No: 050332-01.36
Field Staff: SEE CJ, CB
Contractor: SEE
Vertical Datum:

Station ID: SC-30
Attempt No. 1
Date: 05/24/19
Logged By: CJ
Horizontal Datum:

Field Collection Coordinates:
Lat/Northing: 45.60140
Long/Easting: -122.77595 CJ

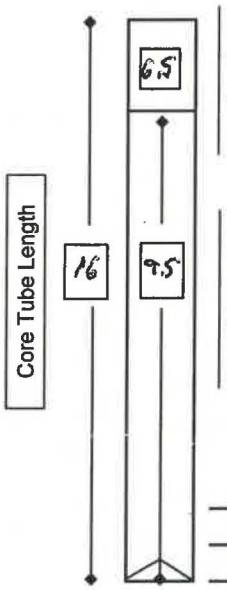
A. Water Depth
DTM Depth Sounder: 14.5
DTM Lead Line: 14.8

B. Water Level Measurements
Time: 817
Height:
Source:

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / (No)
Core Tube Length: 16
Drive Penetration: 15.0
Headspace Measurement: 6.5
Recovery Measurement: 9.5 ft
Recovery Percentage: 63 %
Total Length of Core To Process:

Recovery Measurements (prior to cuts)



Sections To Process:
A:
B:
C:
D:

Drive Notes:
Free fall 1 ft
Full stroke, 8'

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Offset 2' @ 340° magnetic

Notes:

ANCHOR QEA

Sediment Core Collection Log

Job: T4 PDI
Job No: 050332-01.36
Field Staff: CT CB
Contractor: SEE
Vertical Datum:

Station ID: SC-30
Attempt No. 2
Date: 5/24/19
Logged By: CT
Horizontal Datum:

Field Collection Coordinates:
Lat/Northing: 45.601938
Long/Easting: -122.775947

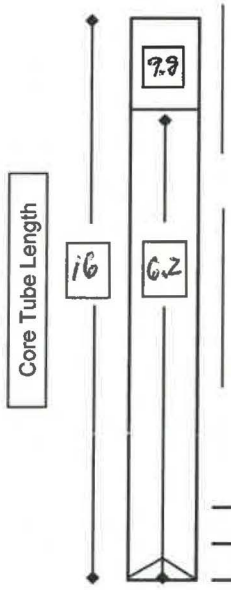
A. Water Depth
DTM Depth Sounder: 14.6
DTM Lead Line: 15.0

B. Water Level Measurements
Time: 0845
Height:
Source:

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0
Drive Penetration: 15.0
Headspace Measurement: 9.8
Recovery Measurement: 6.2
Recovery Percentage: 41%
Total Length of Core To Process:

Recovery Measurements (prior to cuts)



Drive Notes:
1 ft free fall
Smooth, easy drive, full power

No resistance pull-up

Sections To Process:
A:
B:
C:
D:

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

2 ft @ 033° Offset

Cutting shoe: silty fine sand, dk gray

Notes:

ANCHOR QEA

Sediment Core Collection Log

Job: PoP TH PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE / MSS
Vertical Datum: MSLLW Morrison

Station ID: SC-27
Attempt No. 2
Date: 5/24/14
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.601717
Long/Easting: 122.776269

A. Water Depth
DTM Depth Sounder: 16.0'
DTM Lead Line: 16.1'

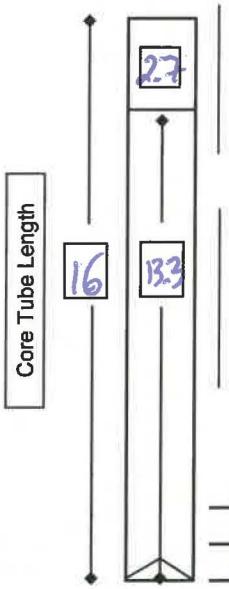
B. Water Level Measurements
Time: 1120
Height:
Source: MSLLW Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: (Yes) / No
Core Tube Length: 16.0'
Drive Penetration: 15' (Electric), 15' (Manual)
Headspace Measurement: 2.7
Recovery Measurement: 13.3
Recovery Percentage: 88.6%
Total Length of Core To Process: 13.3 − 0.4 = 12.9'

Drive Notes: 5' Free Fall, 1/2 throttle to 9'. 3/4 throttle to 15'.

Recovery Measurements (prior to cuts)



Sections To Process:
A: 0-4
B: 4-8
C: 8-12.9
D: Shoe 0.4'

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Silt, grey, medium plasticity, no sheen, slight HC odors, soft.

Notes:
Added ring. No slope offset 2' @ 093° mag.

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Job No:
Field Staff: Ben + Colin
Contractor: SEE/MGS
Vertical Datum: MGS Matrison

Station ID: SC-27
Attempt No. 1
Date: 5/24/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.601717
Long/Easting: 122.776296

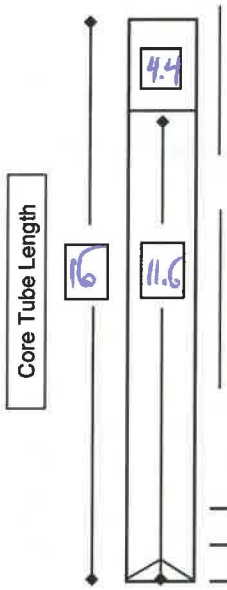
A. Water Depth
DTM Depth Sounder: 16.0'
DTM Lead Line: 16.1'

B. Water Level Measurements
Time: 1045
Height:
Source: MGS Matrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 15' (electric), 11.5' (manual)
Headspace Measurement: 4.4
Recovery Measurement: 11.6
Recovery Percentage: 77.3%
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: 6' of Free Fall, Full throttle steady drive to 13.5' Some resistance. Full penetration

Easy retrieval

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Silt, grey, soft

Notes:
No slope. offset 5' @ 245° mag

ANCHOR QEA

Sediment Core Collection Log

Job: P&P 74 PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: NGVD Morrison

Station ID: SC-29
Attempt No. 1
Date: 5/24/19
Logged By: Ben J
Horizontal Datum: NAD 83 OR N Int Ft

Field Collection Coordinates:
Lat/Northing: 45.601922
Long/Easting: 122.776253

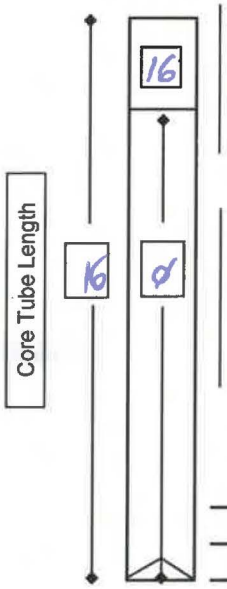
A. Water Depth
DTM Depth Sounder: 15.6'
DTM Lead Line: 15.5'

B. Water Level Measurements
Time: 1240
Height:
Source: NGVD Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 7.5' (Electric), 7.9' (Manual)
Headspace Measurement: 16.0
Recovery Measurement: Ø
Recovery Percentage: Ø
Total Length of Core To Process: NA

Recovery Measurements (prior to cuts)



Drive Notes: 6.5' free fall, Full throttle
lots of resistance. Refusal
at 7.5'

Easy retrieval.

Sections To Process:
A: NA
B:
C:
D:

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Notes:
No slope. Hard surface

ANCHOR QEA

Sediment Core Collection Log

Job: PoPTH PDI
Station ID: SC-24
Job No:
Attempt No. 2
Field Staff: Ben + Colin
Date: 5/24/14
Contractor: SFE/MSS
Logged By: Ben J
Vertical Datum: MSLGS Morrison
Horizontal Datum: NAD83 OR N Int Ft

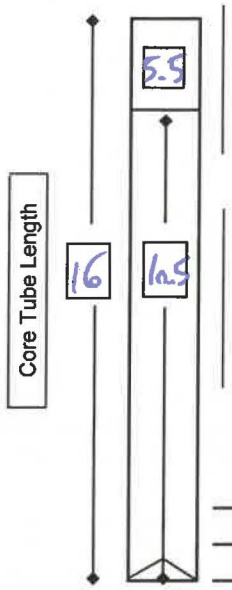
Field Collection Coordinates:
Lat/Northing: 45.5n1918
Long/Easting: 122.776237

A. Water Depth
DTM Depth Sounder: 15.2'
DTM Lead Line: 16.5'

B. Water Level Measurements
Time: 1300
Height:
Source: MSLGS Morrison

C. Mudline Elevation

Recovery Measurements (prior to cuts)



Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 16.0'
Drive Penetration: 15' (Electric), 15' (manual)
Headspace Measurement: 5.5
Recovery Measurement: 10.5
Recovery Percentage: 70.0%
Total Length of Core To Process:

Sections To Process:
A:
B:
C:
D:

Drive Notes: 6.5' Free Fall, 1/2 throttle to 9', 3/4 throttle to 15'.

Easy retrieval

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Silt, gray, soft, moderate plasticity.

Notes:
No slope offset 3' @ 086° mag

ANCHOR QEA

Sediment Core Collection Log

Job: PaPT4 PDI
Job No:
Field Staff: Ben & Colin
Contractor: SEE/MSS
Vertical Datum: USGS Morrison

Station ID: SC-29
Attempt No. 3
Date: 5/24/19
Logged By: Ben J
Horizontal Datum: NAD 83 ORN Int Ft

Field Collection Coordinates:
Lat/Northing: 45.601912
Long/Easting: 122.776267

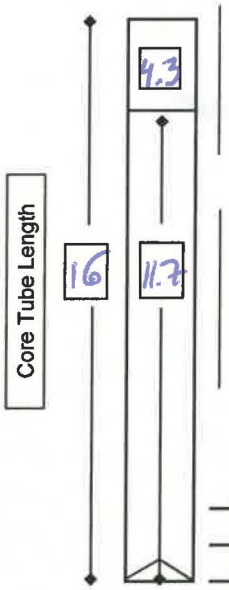
A. Water Depth
DTM Depth Sounder: 15.6'
DTM Lead Line: 16.6' *

B. Water Level Measurements
Time: 1320
Height:
Source: USGS Morrison

C. Mudline Elevation

Core Collection Recovery Details:
Core Accepted: (Yes) / No
Core Tube Length: 16.0'
Drive Penetration: 15' (Electric), ~~14.5'~~ (Manual)
Headspace Measurement: 4.3
Recovery Measurement: 11.7
Recovery Percentage: 80.6%
Total Length of Core To Process: 11.7 - 0.45 = 11.25'

Recovery Measurements (prior to cuts)



Drive Notes: 7.5' Free Fall, 3/4 throttle to 13', Full throttle to 15'.
Easy retrieval.

Sections To Process:
A: 0-4
B: 4-8
C: 8-11.25
D: Shoe: 0.45'

Core Field Observations and Description:
Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Silt, gray, soft, moderate plasticity.
Silt with sand in the shoe. Some organic debris, large pieces of angular gravel.

Notes:
No slope. offset 5' @ 223° mag

Attachment A3
Subsurface Core Logs

Sediment Core Log

SC03

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC03**	Attempt: **4 of 4**
Project #: **050332-01.36**	Northing: **712880.62** Easting: **7619679.82**	Subarea: **Berth 414**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **14.4 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **9.8 feet**	Core Quality: **Good**
Date/Time: **05/21/2019 0900**	Percent Recovery: **68 %**	Mudline Elevation (ft NAVD88): **-15.46 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0					0.0-0.4 ft: No material.	0
	-16				0.4-1.1 ft: Moist, medium stiff, dark gray, sandy SILT (ML). @0.8 ft: wood debris 0.3 by 0.05 ft. @0.8-0.9 ft: Lens of moist, dense, slightly stiff, silty, fine SAND (SM).	
1						1
	-17				1.1-1.5 ft: Moist, dense, dark gray, gravelly SAND (SW); gravel up to 0.1 by 0.1 ft.	
2			T4-PDI2019-SC03-190521-01-03	TS, TOC, PAHs, DDx, GS	1.5-2.9 ft: Moist, medium stiff, dark olive gray, low plasticity SILT (ML).	2
	-18					
3					2.9-3.8 ft: Moist, dense, dark gray, fine to medium SAND (SP). @3.6 ft: Wood debris 0.3 by 0.1 ft.	3
	-19					
4			T4-PDI2019-SC03-190521-03-05	TS, TOC, PAHs, DDx, GS	3.8-5.1 ft: Moist, stiff, dark olive gray, low plasticity SILT (ML).	4
	-20					
5					@4.7-4.9 ft: Occasional pockets of shiny black sand-sized aggregate with moderate hydrocarbon-like odor.	5
	-21				5.1-5.7 ft: Moist, dense, dark gray, very silty, slightly gravelly, SAND (SM). Moderate wood debris up to 0.3 by 0.15 ft.	
6					5.7-9.8 ft: Moist to damp, stiff, dark olive gray, low plasticity SILT (ML).	6
	-22					
7						7
	-23					
8						8
	-24				@8.2 ft: Wood debris, 0.1 by 0.15 ft. @8.6 ft: Glass debris 0.2 by 0.1 ft.	
9						9
	-25				@9.7 ft: Anthropogenic debris, slag-like, 0.2 by 0.1 ft.	
10					End of core @ 9.8 feet.	10
	-26					
11						11

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC12

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC12**	Attempt: **1 of 3**
Project #: **050332-01.36**	Northing: **713163.17** Easting: **7620267.29**	Subarea: **Slip 3**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **15 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **9.2 feet**	Core Quality: **Good**
Date/Time: **05/21/2019 1300**	Percent Recovery: **61 %**	Mudline Elevation (ft NAVD88): **-30.4 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0	-31				0.0-3.3 ft: Wet, very soft to soft, olive gray, non plastic sandy, SILT (ML). Occasional sand lenses (<0.1 ft). @0.0-0.4 ft: Occasional trace wood debris.	0
1	-32		T4-PDI2019-SC12-190521-01-03	TS, TOC, PCB Aroclors, PAHs, D/F, GS	@1.8 ft: Wood debris 0.2 by 0.1 ft.	1
2	-33				@2.8 ft: Grades to moist.	2
3	-34		T4-PDI2019-SC12-190521-03-05	TS, TOC, PCB Aroclors, PAHs, D/F, GS	3.3-6.0 ft: Moist, medium stiff to stiff, olive gray, low plasticity, low dilatancy SILT (ML). Trace sand lenses.	3
4	-35					4
5	-36		T4-PDI2019-SC12-190521-05-07	TS, TOC, PCB Aroclors, PAHs, D/F, GS	@5.9 ft: Wood debris 0.1 by 0.05 feet.	5
6	-37				6.0-8.3 ft: Damp, dense, dark gray, fine SAND (SP).	6
7	-38		T4-PDI2019-SC12-190521-07-8.3	TS, TOC, PCB Aroclors, PAHs, D/F, GS	@7.9 ft: Wood debris 0.2 by 0.1 ft.	7
8	-39				@8.3-9.2 ft: No recovery. Piece of wood blocking cutter shoe.	8
9	-40				End of core @ 9.2 feet.	9
10						10

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC13

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC13**	Attempt: **2 of 3**
Project #: **050332-01.36**	Northing: **713193.19** Easting: **7620432.01**	Subarea: **Slip 3**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **15 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **11.6 feet**	Core Quality: **Good**
Date/Time: **05/21/2019 1520**	Percent Recovery: **77 %**	Mudline Elevation (ft NAVD88): **-26.5 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0	-27				0.0-0.9 ft: Wet, very soft, dark olive gray, very sandy SILT (ML). Trace wood-like fibers.	0
1					0.9-1.1 ft: Moist, loose, dark gray, silty fine SAND (SP-SM).	1
	-28		T4-PDI2019-SC13-190521-01-03	TS, TOC, PCB Aroclors, PAHs, D/F, GS	1.1-3.6 ft: Moist, medium stiff, dark olive gray, sandy SILT (ML).	
2	-29				@2.3-2.6 ft: Lens of moist, medium dense, silty, fine SAND (SM). Substantial wood debris up to 0.3 by 0.5 ft.	2
3	-30		T4-PDI2019-SC13-190521-03-05	TS, TOC, PCB Aroclors, PAHs, D/F, GS	3.6-4.5 ft: Moist, medium dense, dark olive gray, silty SAND (SM). Slight sulfur-like odor, substantial wood debris.	3
4	-31				4.5-8.7 ft: Moist, dense, dark gray to dark olive gray, silty fine SAND (SM).	4
5	-32		T4-PDI2019-SC13-190521-05-07	TS, TOC, PCB Aroclors, PAHs, D/F, GS		5
6	-33					6
7	-34		T4-PDI2019-SC13-190521-07-09	TS, TOC, PCB Aroclors, PAHs, D/F, GS		7
8	-35				@7.9-8.1 ft: Lens of moist, stiff, dark olive gray SILT (ML).	8
9	-36				8.7-10.8 ft: Moist, very stiff, dark olive gray SILT (ML).	9
10	-37		T4-PDI2019-SC13-190521-09-11.1	TS, TOC, PCB Aroclors, PAHs, D/F, GS		10
11					10.8-11.1 ft: Moist, dense, dark olive gray, silty fine SAND (SP-SM).	11
12	-38				End of core @ 11.1 feet.	12

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC18

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC18**	Attempt: **1 of 1**
Project #: **050332-01.36**	Northing: **713340.06** Easting: **7620288.92**	Subarea: **Slip 3**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **15 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **14 feet**	Core Quality: **Good**
Date/Time: **05/22/2019**	Percent Recovery: **93 %**	Mudline Elevation (ft NAVD88): **-38.2 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0–1	-39				0.0-0.5 ft: Wet, loose, dark olive gray, non plastic silty SAND (SM). @0.5 ft: Grades to moist, medium dense, olive gray.	0–1
1–2	-40		T4-PDI2019-SC18-190522-01-03	TS, TOC, PCB Aroclors, PAHs, GS		1–2
2–3	-41					2–3
3–4	-42		T4-PDI2019-SC18-190522-03-05	TS, TOC, PCB Aroclors, PAHs, GS		3–4
4–5	-43					4–5
5–6	-44		T4-PDI2019-SC18-190522-05-07	TS, TOC, PCB Aroclors, PAHs, GS	5.0-7.0 ft: Moist, dense, olive gray SAND with silt (SM).	5–6
6–7	-45					6–7
7–8	-46		T4-PDI2019-SC18-190522-07-09	TS, TOC, PCB Aroclors, PAHs, GS	7.0-12.6 ft: Moist, medium stiff, olive gray, non plastic, sandy SILT (ML).	7–8
8–9	-47					8–9
9–10	-48		T4-PDI2019-SC18-190522-09-11	TS, TOC, PCB Aroclors, PAHs, GS	@9.0-11.0 ft: Trace hydrogen sulfide-like odor.	9–10
10–11	-49					10–11
11–12	-50		T4-PDI2019-SC18-190522-11-13	TS, TOC, PCB Aroclors, PAHs, GS		11–12
12–13	-51				12.6-13.6 ft: Moist, dense, olive gray, non plastic SAND with silt (SM).	12–13
13–14	-52				End of core @ 13.6 feet.	13–14
14–15	-53					14–15

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC19

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC19**	Attempt: **1 of 1**
Project #: **050332-01.36**	Northing: **713316.02** Easting: **7620409.43**	Subarea: **Slip 3**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **15 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **12.5 feet**	Core Quality: **Good**
Date/Time: **05/21/2019 1730**	Percent Recovery: **83 %**	Mudline Elevation (ft NAVD88): **-41.8 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0	-42				0.0-1.5 ft: Wet, soft, dark olive gray, very sandy, non plastic SILT (ML). Fine sand.	0
1	-43		T4-PDI2019-SC19-190521-01-03	TS, TOC, PCB Aroclors, PAHs,D/F, GS	1.5-2.0 ft: Moist, dense, dark gray to black, very gravelly SAND (SW). Fine to medium sand, fine to coarse gravel (sub rounded). Trace organic fibers.	1
2	-44				2.0-11.8 ft: Moist, stiff, olive gray, slightly sandy SILT (ML). (NATIVE).	2
3	-45		T4-PDI2019-SC19-190521-03-05	TS, TOC, PCB Aroclors, PAHs,D/F, GS		3
4	-46				@4.5-5.0 ft: Lens of wet, medium stiff, olive gray, slightly sandy SILT (ML).	4
5	-47		T4-PDI2019-SC19-190521-05-07	TS, TOC, PCB Aroclors, PAHs,D/F, GS		5
6	-48					6
7	-49		T4-PDI2019-SC19-190521-07-09	TS, TOC, PCB Aroclors, PAHs,D/F, GS		7
8	-50					8
9	-51		T4-PDI2019-SC19-190521-09-11	TS, TOC, PCB Aroclors, PAHs,D/F, GS		9
10	-52					10
11	-53		T4-PDI2019-SC19-190521-11-13	TS, TOC, PCB Aroclors, PAHs,D/F, GS		11
12	-54				End of core @ 11.8 feet.	12
13						13

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Collection Notes:

Sediment Core Log

SC27

Project: **Port of Portland T4 PDI**	Station ID: **T3-PDI2019-SC27**	Attempt: **2 of 2**
Project #: **050332-01.36**	Northing: **713678.42** Easting: **7619586.64**	Subarea: **Wheeler Bay**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **15 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **13.3 feet**	Core Quality: **Good**
Date/Time: **05/24/2019 1510**	Percent Recovery: **89 %**	Mudline Elevation (ft NAVD88): **-9.9 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0–9.7	-10 to -19				0.0-9.7 ft: Wet, soft, olive gray SILT (ML).	0–9.7
1–3	-11 to -13		T4-PDI2019-SC27-190524-01-03	TS, TOC, PCB Aroclors, PAHs, D/F, GS	@1.9 ft: Grades to moist, medium stiff.	1–3
3–5	-13 to -15		T4-PDI2019-SC27-190524-03-05	TS, TOC, PCB Aroclors, PAHs, D/F, GS	@4.3 ft: Grades to stiff. @4.4-7.9 ft: Occasional wood debris up to 1 inch by 0.1 ft.	3–5
5–7	-15 to -17		T4-PDI2019-SC27-190524-05-07	TS, TOC, PCB Aroclors, PAHs, D/F, GS		5–7
7–9.7	-17 to -19					7–9.7
9.7–11.9	-19 to -21				9.7-11.9 ft: Moist, medium dense, dark gray, silty fine SAND (SM). Trace organic debris. Trace biota (shell hash), trace pockets of light brown clay, trace hydrocarbon-like odor. @9.7-10.2 ft: Lens of soft, wet, dark olive gray, slightly sandy SILT (ML).	9.7–11.9
11.9–12.9	-21 to -22				11.9-12.9 ft: Moist, medium stiff, olive gray, low plasticity SILT (ML). @12.2 ft: Bed of fine sand.	11.9–12.9
12.9–14	-22 to -23				End of core @ 12.9 feet.	12.9–14

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log
SC28

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC28**	Attempt: **2 of 3**
Project #: **050332-01.36**	Northing: **713665.93** Easting: **7619662.26**	Subarea: **Wheeler Bay**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **15 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **10.5 feet**	Core Quality: **Good**
Date/Time: **05/24/2019 1030**	Percent Recovery: **70 %**	Mudline Elevation (ft NAVD88): **-7.6 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0–4.5	-8 to -12				0.0-4.5 ft: Moist, soft to medium stiff, moist, dark olive gray, non plastic, moderately dilative SILT (ML). @3.1-4.5 ft: Occasional wood-like debris, 0.1 by 0.15 ft.	
4.5–8.0	-12 to -15				4.5-8.0 ft: Damp, medium dense, dark gray, fine SAND (SP). Trace hydrocarbon-like odor. @5.2 ft: Trace wood debris, 0.01 by 0.1 ft. @7.5 ft: Trace wood debris, 0.15 by 0.02 ft.	
7.5–8.0	-15		T4-PDI2019-SC28-190524-07-09	D/F		
8.0–10.1	-15 to -17		T4-PDI2019-SC28-190524-09-10.1	D/F	8.0-10.1 ft: Damp, stiff, dark olive gray, moderate plasticity, non dilative SILT (ML).	
10.1	-18				End of core @ 10.1 feet.	

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC29

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC29**	Attempt: **3 of 3**
Project #: **050332-01.36**	Northing: **713749.47** Easting: **7619589.49**	Subarea: **Wheeler Bay**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **14.5 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **11.7 feet**	Core Quality: **Good**
Date/Time: **05/24/2019 1645**	Percent Recovery: **81 %**	Mudline Elevation (ft NAVD88): **-7.0 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0	-7				0.0-9.6 ft: Wet, soft, olive gray SILT (ML). @0.8 ft: Grades to moist.	0
1	-8					1
2	-9		T4-PDI2019-SC29-190524-01-03	TS, TOC, PCB Aroclors, PAHs, D/F, GS	@2.7 ft: Grades to medium stiff.	2
3	-10					3
4	-11		T4-PDI2019-SC29-190524-03-05	TS, TOC, PCB Aroclors, PAHs, D/F, GS		4
5	-12					5
6	-13		T4-PDI2019-SC29-190524-05-07	TS, TOC, PCB Aroclors, PAHs, D/F, GS	@5.9 ft: Trace wood debris, 0.075 by 0.03 ft.	6
7	-14				@7.7 ft: Grades to stiff.	7
8	-15					8
9	-16					9
10	-17				9.6-11.3 ft: Damp, stiff, dark olive gray, sandy SILT (ML). Very fine sand, coarse silt. @9.6 ft: One piece of wood debris, 0.1 by 0.05 ft.	10
11	-18					11
12					End of core @ 11.3 feet.	12

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log
SC30

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDPI2019-SC30**	Attempt: **3 of 3**
Project #: **050332-01.36**	Northing: **713770.48** Easting: **7619663.05**	Subarea: **Wheeler Bay**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **15 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **11.5 feet**	Core Quality: **Good**
Date/Time: **05/24/2019 1300**	Percent Recovery: **77 %**	Mudline Elevation (ft NAVD88): **-3.8 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0–1	-4				0.0-5.4 ft: Moist, soft, olive gray, non plastic, low dilatancy SILT (ML). @0.9 ft: Grades to stiff.	0–1
1–2	-5		T4-PDI2019-SC30-190524-01-03	TS, TOC, PCB Aroclors, PAHs, D/F, GS	@1.5 ft: Grades to medium stiff.	1–2
2–3	-6					2–3
3–4	-7		T4-PDI2019-SC30-190524-03-05	TS, TOC, PCB Aroclors, PAHs, D/F, GS	@3.6 ft: Trace wood debris, up to 0.1 by 0.1 feet.	3–4
4–5	-8					4–5
5–6	-9		T4-PDI2019-SC30-190524-05-07	TS, TOC, PCB Aroclors, PAHs, D/F, GS	5.4-8.2 ft: Wet, medium dense, dark gray, very silty fine SAND (SM). @6.2 ft: Grades to moist. Trace wood debris.	5–6
6–7	-10				@7.0-7.2 ft: Lens of moist, medium dense, dark gray, fine SAND (SP).	6–7
7–8	-11					7–8
8–9	-12				8.2-11.1 ft: Damp, medium dense, dark gray, fine SAND (SP).	8–9
9–10	-13				@9.2-10.5 ft: Trace beds of moist, medium stiff, olive gray SILT (ML). @9.3 ft: Trace anthropogenic material, slag-like and pumice-like.	9–10
10–11	-14					10–11
11–12	-15				@11.0 ft: Pocket of damp, stiff, greenish gray, high plasticity, non dilative CLAY (CH). End of core @ 11.1 feet.	11–12

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log
SC32

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC32**	Attempt: **2 of 2**
Project #: **050332-01.36**	Northing: **713870.2** Easting: **7619166.58**	Subarea: **Wheeler Bay**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **15 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **12.2 feet**	Core Quality: **Good**
Date/Time: **05/23/2019 1255**	Percent Recovery: **81 %**	Mudline Elevation (ft NAVD88): **-2.2 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0–12.2	-3 to -14				0.0-11.8 ft: Wet, soft, olive gray, slightly sandy, low plasticity, low dilatancy, SILT (ML). Fine sand. Trace organic fibers throughout.	
			T4-PDI2019-SC32-190523-01-03	TS, TOC, PCB Aroclors, D/F, DDx, GS	@1.1 ft: Grades to moist. @2.3 ft: Grades to medium stiff.	
					@7.4 ft: Grades to damp, stiff. @7.6 ft: One piece of wood debris, 0.2 by 0.03 ft.	
					@10.9 ft: Bed of light brown, slightly sandy SILT (ML). @11.0-11.4 ft: Spots of soft, whitish, fine material.	
12.2–13	-14 to -15				End of core @11.8 feet.	

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC42

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC42**	Attempt: **3 of 3**
Project #: **050332-01.36**	Northing: **714377.33** Easting: **7619314.02**	Subarea: **Slip 1**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **9.3 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **4.7 feet**	Core Quality: **Good**
Date/Time: **05/24/2019**	Percent Recovery: **51 %**	Mudline Elevation (ft NAVD88): **-9.3 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0						0
	-10				0.0-3.2 ft: Damp, medium dense, dark gray to brown, SAND with silt (SP).	
1						1
					@1.4-1.7 ft: Wood debris, 0.2 by 0.3 ft.	
	-11					
2			No Samples Analyzed.	No Samples Analyzed	@1.9 ft: Gravel piece, 0.1 by 0.2 ft. @2.0 ft: Anthropogenic debris, 0.1 by 0.2 ft.	2
					@2.2 ft: Wood debris, 0.1 by 0.2 ft.	
	-12					
3					@3.1 ft: Wood debris, 0.05 by 0.35 ft.	3
					3.2-3.7 ft: Moist, dense, gray, low plasticity SILT with silt (ML).	
	-13					
4					3.7-4.3 ft: Damp, medium dense, dark gray brown SAND with silt (SP).	4
					End of core @ 4.3 feet.	
	-14					
5						5

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC43

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC43**	Attempt: **1 of 3**
Project #: **050332-01.36**	Northing: **714368.42** Easting: **7619435.82**	Subarea: **Slip 1**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **9.7 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **6.3 feet**	Core Quality: **Good**
Date/Time: **05/23/2019 1650**	Percent Recovery: **65 %**	Mudline Elevation (ft NAVD88): **-16.9 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0	-17				0.0-5.7 ft: Damp, medium dense, dark gray fine SAND (SP).	0
1	-18		T4-PDI2019-SC43-190523-01-03	TS, TOC, PCB Aroclors, GS	@1.1-1.4 ft: Occasional beds of moist, medium stiff, olive gray, low plasticity SILT (ML). @1.4-1.8 ft: Substantial wood debris up to 0.3 by 0.2 ft; substantial anthropogenic debris (black, dense).	1
2	-19				@2.5-2.9 ft: Substantial wood debris, flat, up to 0.4 by 0.4 ft.	2
3	-20		T4-PDI2019-SC43-190523-03-05	TS, TOC, PCB Aroclors, GS		3
4	-21					4
5	-22				@5.5 ft: 0.04 foot bed of moist, medium stiff, olive gray, low plasticity SILT (ML).	5
					End of core @ 5.7 feet.	
6						6

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC44

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC44**	Attempt: **2 of 2**
Project #: **050332-01.36**	Northing: **714365.15** Easting: **7619507.85**	Subarea: **Slip 1**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **13.5 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **13.4 feet**	Core Quality: **Good**
Date/Time: **05/23/2019 1530**	Percent Recovery: **99 %**	Mudline Elevation (ft NAVD88): **-16.9 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0–7.7	-17 to -24		No Samples Analyzed.	No Samples Analyzed	0.0-7.7 ft: Damp, medium stiff, dark gray, fine SAND (SP). @2.1 ft: Occasional brown staining. @2.1-2.6 ft: Brown staining pockets, oxidation like.	0–7
7.7–8.6	-24 to -25				7.7-8.6 ft: Moist, stiff, olive gray, high plasticity, non SILT (MH). Moderate laminations of fine sand.	7–8
8.6–13.3	-25 to -30				8.6-13.3 ft: Damp, medium dense, damp, dark gray, fine SAND (SP). @12.4 ft: Trace wood debris, twig, 0.05 ft.	8–13
13.3	-30				End of core @ 13.3 feet.	13

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC45

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC45**	Attempt: **3 of 3**
Project #: **050332-01.36**	Northing: **714428.74** Easting: **7619366.27**	Subarea: **Slip 1**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **13.4 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **12.7 feet**	Core Quality: **Good**
Date/Time: **05/23/2019**	Percent Recovery: **95 %**	Mudline Elevation (ft NAVD88): **-11.0 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0	-11				0.0-7.0 ft: Moist, soft, olive gray, slightly sandy, low plasticity SILT (ML).	0
1	-12					1
2	-13					2
3	-14				@3.0 ft: Bed of wet, loose, dark gray, silty, fine sand (SP). @3.4 ft: Anthropogenic debris (pumice-like rock, 0.1 by 0.05 ft and black, brittle material 0.1 by 0.5 ft. Wood debris up to 0.2 by 0.03 ft).	3
4	-15					4
5	-16					5
6	-17		No Samples Analyzed.	No Samples Analyzed	@5.4-5.6 ft: Lens of wet, loose, dark gray, silty fine SAND (SP). @6.1 ft: Moderate lenses and laminations of moist, loose, dark gray, slightly silty, fine SAND (SM).	6
7	-18				7.0-12.3 ft: Moist, loose to medium dense, dark gray, fine SAND (SP).	7
8	-19					8
9	-20					9
10	-21				@10.2-10.8 Occasional pockets of medium dense, damp, light brown with black staining, sandy SILT (ML). Trace hydrocarbon-like odor. @10.7-11.4 ft: Wood debris, twigs up to 0.25 ft.	10
11	-22					11
12	-23					12
13					End of core @ 12.3 feet.	13

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC46

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC46**	Attempt: **2 of 3**
Project #: **050332-01.36**	Northing: **714419.35** Easting: **7619440.66**	Subarea: **Slip 1**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **15 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **7.4 feet**	Core Quality: **Good**
Date/Time: **05/22/2019 1610**	Percent Recovery: **49 %**	Mudline Elevation (ft NAVD88): **-17.0 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0	-17				0.0-0.6 ft: Wet, soft, olive gray, non plastic SILT (ML).	0
1	-18				0.6-2.6 ft: Damp to moist, medium dense, dark gray, fine SAND (SP). @1.5 ft: Bed of SILT (ML).	1
2	-19				@1.9-2.4 ft: Occasional debris (concrete) up to 0.4 by 0.2 ft. @2.1 ft: Bed of CLAY (CL).	2
3	-20		No Samples Analyzed.	No Samples Analyzed	2.6-4.8 ft: Moist, medium stiff, olive gray, low plasticity SILT (ML). @2.6-3.1 ft: Occasional wood debris up to 0.3 by 0.05 ft.	3
4	-21				@4.6 ft: Wood debris, 0.1 by 0.1 ft.	4
5	-22				4.8-6.9 ft: Damp, medium dense, dark gray, fine SAND (SP).	5
6	-23					6
7	-24				End of core @ 6.9 feet.	7
8						8

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC47

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC47**	Attempt: **2 of 3**
Project #: **050332-01.36**	Northing: **714426.52** Easting: **7619509.99**	Subarea: **Slip 1**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **15 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **8 feet**	Core Quality: **Good**
Date/Time: **05/22/2019 1430**	Percent Recovery: **53 %**	Mudline Elevation (ft NAVD88): **-4.3 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0					0.0-0.4 ft: Wet, very soft, olive gray, non plastic SILT (ML). Occasional, wood-like debris, 0.3 by 0.5 ft.	0
	-5				0.4-0.9 ft: Moist, medium dense, dark gray, silty fine SAND (SP-SM). @0.6 ft: wood debris, 0.2 by 0.1 ft.	
1					0.9-4.1 ft: Moist, soft to medium stiff, moist, olive gray SILT (ML). Trace hydrocarbon-like odor. @1.3 ft: Wood debris up to 0.2 by 0.1 ft.	1
	-6		T4-PDI2019SC47-190522-01-03	D/F		
2						2
	-7					
3						3
	-8				@3.7 ft: Wood debris, 0.3 by 0.1 ft.	
4			T4-PDI2019SC47-190522-03-05	D/F		4
	-9				4.1-4.9 ft: Dense, moist, dark gray, silty SAND (SP-SM). Occasional beds of SILT (ML) as above. Trace wood debris 0.2 by 0.05 ft.	
5					4.9-7.6 ft: Medium dense, damp SAND (SP).	5
	-10					
6						6
	-11					
7						7
	-12				End of core @ 7.6 feet.	
8						8

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC67

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC67**	Attempt: **2 of 3**
Project #: **050332-01.36**	Northing: **715261.17** Easting: **7618648.55**	Subarea: **Berth 401**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Vibracore**
Location: **Portland, Oregon**	Penetration Depth : **14.9 feet**	Core Diameter: **4 inches**
Logged By: **C. Janisch**	Recovery Depth: **8.6 feet**	Core Quality: **Good**
Date/Time: **05/22/2019 1300**	Percent Recovery: **58 %**	Mudline Elevation (ft NAVD88): **-14.4 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in in-situ depths. Classification Scheme: USCS	Recovered Depth (feet)
0	-15				0.0-8.0 ft: Moist, medium dense, dark gray, fine SAND (SP). @0.0-0.2 ft: Substantial wood debris up to 0.2 by 0.1 feet.	0
1	-16		T4-PDI2019-SC67-190522-01-03	TS, TOC, PCB Aroclors, GS	@1.1 ft: One piece of wood debris, 0.1 by 0.05 ft. @1.7-2.8 ft: Trace fine gravel. @1.7 ft: Concrete debris, 0.1 by 0.1 ft. @1.9 ft: Rubber-like debris, flat up to 0.2 by 0.1 ft. Trace hydrocarbon-like odor. @2.9 ft: One cobble, 0.3 by 0.2 feet.	1
2	-17					2
3	-18					3
4	-19					4
5	-20					5
6	-21					6
7	-22					7
8	-23				End of core @ 8.0 feet.	8
9						9

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Collection Notes: 1. Field recovery length measured at time of collection on vessel and may differ from end of core measurement during processing.

Sediment Core Log

SC21

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC21**	Attempt: **1**
Project #: **050332-01.36**	Northing: **713564.79** Easting: **7619690.81**	Subarea: **Slip 3 Underpier**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Diver Core**
Location: **Portland, Oregon**	Penetration Depth (feet): **3.3 feet**	Core Diameter (in.): **4 inches**
Logged By: **B. Johnson**	Recovery Depth (feet): **2.72 feet**	Core Quality: **Good**
Date/Time: **05/31/2019**	Percent Recovery: **82 %**	Mudline Elevation (ft NAVD88): **2.5 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in recovered depths. Classification Scheme: USCS	Recovered Depth (feet)
0	2		No Samples Analyzed.	No Samples Analyzed.	0.0-0.55 ft: Wet, very soft, brownish gray, SILT (ML).	0
1	1				0.55-1.65 ft: Wet, loose, gray to black, fine to medium, silty SAND (SM). Trace organic debris. Trace anthropogenic debris (plastic).	1
2	0				1.65-2.72 ft: Wet, very soft, gray, non plastic SILT with fine sand (ML). Trace organic debris.	2
3					End of core @ 2.72 feet.	3

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Notes:

Sediment Core Log

SC22

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC22**	Attempt: **1**
Project #: **050332-01.36**	Northing: **713525.77** Easting: **7619834.07**	Subarea: **Slip 3 Underpier**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Diver Core**
Location: **Portland, Oregon**	Penetration Depth (feet): **2.92 feet**	Core Diameter (in.): **4 inches**
Logged By: **B. Johnson**	Recovery Depth (feet): **2.52 feet**	Core Quality: **Good**
Date/Time: **05/30/2019**	Percent Recovery: **86 %**	Mudline Elevation (ft NAVD88): **-25.7 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in recovered depths. Classification Scheme: USCS	Recovered Depth (feet)
0						0
	-26		No Samples Analyzed.	No Samples Analyzed.	0-0.05 ft: Wet, very soft, brown, SILT (ML). 0.05-1.51 ft: Wet, loose, gray to black, fine to medium silty, SAND (SM). Trace organic fibers.	
1						1
	-27				1.51-2.52 ft: Wet, soft, gray, SILT with fine sand (ML). Trace organic debris.	
2					@2.0 ft: Grades to occassional organic debris.	2
	-28					
					End of core @ 2.52 feet.	
3						3

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Notes:

Sediment Core Log

SC24

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC24**	Attempt: **1**
Project #: **050332-01.36**	Northing: **713476.6** Easting: **7620144.65**	Subarea: **Slip 3 Underpier**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Diver Core**
Location: **Portland, Oregon**	Penetration Depth (feet): **2.93 feet**	Core Diameter (in.): **4 inches**
Logged By: **B. Johnson**	Recovery Depth (feet): **2.2 feet**	Core Quality: **Good**
Date/Time: **5/29/2019**	Percent Recovery: **75 %**	Mudline Elevation (ft NAVD88): **-23.6 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in recovered depths. Classification Scheme: USCS	Recovered Depth (feet)
0	-24				0.0-1.4 ft: Wet, loose, gray to black, fine to medium SAND with silt (SP-SM). Trace organic debris.	0
1	-25		T4-PDI2019-SC24-190524-01-02	PAHs	1.4-1.9 ft: Wet, soft, gray to black, non plastic SILT with gravel (ML). Trace organic debris.	1
2			T4-PDI2019-SC24-190524-02-2.2	PAHs	1.8-2.2 ft: Wet, loose, gray to black, fine to medium GRAVEL with SILT (GP-GM). Trace organic debris and pencil pitch.	2
3	-26				End of core @ 2.2 feet.	3

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Notes:

Sediment Core Log

SC25

Project: **Port of Portland T4 PDI**	Station ID: **T4-PSI2019-SC25**	Attempt: **1**
Project #: **050332-01.36**	Northing: **713452.23** Easting: **7620285.2**	Subarea: **Slip 3 Underpier**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Diver Core**
Location: **Portland, Oregon**	Penetration Depth (feet): **2.82 feet**	Core Diameter (in.): **4 inches**
Logged By: **B. Johnson**	Recovery Depth (feet): **2.21 feet**	Core Quality: **Good**
Date/Time: **05/29/2019 1700**	Percent Recovery: **78 %**	Mudline Elevation (ft NAVD88): **-24.4 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in recovered depths. Classification Scheme: USCS	Recovered Depth (feet)
0					0.0-0.23 ft: Wet, very soft, gray to brown, sandy SILT (ML). Trace organic debris, trace gravel.	0
					0.23-0.61 ft: Wet, loose, gray to black, fine to medium SAND (SP-SM).	
	-25				0.61-1.6 ft: Wet, very soft, gray, non plastic, sandy SILT (ML).	
1			T4-PDI2019-SC25-190529-01-02	PAHs		1
	-26				1.6-1.95 ft: Wet, loose, gray to black, fine to medium SAND with SILT (SP-SM). Trace white gravel.	
2			T4-PDI2019-SC25-190529-02-2.21	PAHs	1.95-2.21 ft: Wet, very soft, gray, non plastic, sandy SILT (ML).	2
	-27				End of core @ 2.22 feet.	
3						3

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Notes:

Sediment Core Log

SC26

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC26**	Attempt: **1**
Project #: **050332-01.36**	Northing: **713447.63** Easting: **7620422.81**	Subarea: **Slip 3 Underpier**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Diver Core**
Location: **Portland, Oregon**	Penetration Depth (feet): **3.18 feet**	Core Diameter (in.): **4 inches**
Logged By: **B. Johnson**	Recovery Depth (feet): **2.27 feet**	Core Quality: **Good**
Date/Time: **05/30/2019**	Percent Recovery: **71 %**	Mudline Elevation (ft NAVD88): **-18.1 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in recovered depths. Classification Scheme: USCS	Recovered Depth (feet)
0					0.0-0.7 ft: Wet, very soft, gray, SILT (ML).	0
	-19				0.7-1.1 ft: Gray, fine to medium SAND with gravel (SP). Rounded gravel. Trace organic debris. Small pieces of pencil pitch.	
1			T4-PDI2019-SC26-190530-01-02	PAHs, PCB Aroclors	1.1-2.27 ft: Wet, very sofy, gray, SILT (ML). Trace sand, trace gravel (rounded). @1.7 ft: Large piece of wood.	1
	-20				@2.0 ft: Large cobble.	
2			T4-PDI2019-SC26-190530-02-2.27	PAHs, PCB Aroclors		2
					End of core @ 2.27 feet.	
	-21					
3						3

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Notes:

Sediment Core Log

SC38

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC38**	Attempt: **1**
Project #: **050332-01.36**	Northing: **714358.79** Easting: **7619716.14**	Subarea: **Slip 1 Underpier**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Diver Core**
Location: **Portland, Oregon**	Penetration Depth (feet): **3.12 feet**	Core Diameter (in.): **4 inches**
Logged By: **B. Johnson**	Recovery Depth (feet): **2.4 feet**	Core Quality: **Good**
Date/Time: **05/30/2019**	Percent Recovery: **77 %**	Mudline Elevation (ft NAVD88): **-3.2 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in recovered depths. Classification Scheme: USCS	Recovered Depth (feet)
0						0
			No Samples Analyzed.	No Samples Analyzed.	0.0-0.05 ft: Wet, very soft, brownish gray SILT (ML). Trace organic debris. 0.05-2.4 ft: Wet, loose, gray to black, fine to medium SAND (SP). Trace organic debris. @0.05-0.4 ft: Some brown coloring.	
	-4					
1						1
	-5					
2						2
	-6				End of core @ 2.4 feet.	
3						3

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Notes: Collected near sandy slope.

Sediment Core Log

SC41

Project: **Port of Portland T4 PDI**	Station ID: **T4-PDI2019-SC41**	Attempt: **2**
Project #: **050332-01.36**	Northing: **714340.68** Easting: **7620173.11**	Subarea: **Slip 1 Underpier**
Client: **Port of Portland**	Horizontal Datum: **NAD83 ORNH, International Feet**	Type of Core: **Diver Core**
Location: **Portland, Oregon**	Penetration Depth (feet): **1.77 feet**	Core Diameter (in.): **4 inches**
Logged By: **B. Johnson**	Recovery Depth (feet): **1.14 feet**	Core Quality: **Good**
Date/Time: **05/28/2019 1410**	Percent Recovery: **67%**	Mudline Elevation (ft NAVD88): **-4.0 feet**

Recovered Depth (feet)	Elevation (feet NAVD88)	Recovered Interval	Sample	Chemical Analysis	Sediment Description Samples and Descriptions are in recovered depths. Classification Scheme: USCS	Recovered Depth (feet)
0	-4					0
			No Samples Analyzed.	No Samples Analyzed.	0.0-0.5 ft: Wet, loose, gray to black, SAND (SP). Slight hydrocarbon-like odor.	
1	-5				0.5-1.19 ft: Damp, soft, gray, low plasticity SILT (ML).	1
2	-6				End of core @ 1.19 feet.	2
3						3

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Notes: Difficult Coring Conditions

Daily Log

ANCHOR QEA

Subsurface Coring Program Field Audit

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PROJECT NAME: T4 PDI **DATE:** 5/22/2019

SITE ADDRESS: **PERSONNEL:** JF, CJ, CO, SN, SG

WEATHER: **WIND FROM:** N | NE | E | SE | (S) | SW | W | NW

SUNNY | (CLOUDY) | RAIN | ?

(LIGHT) | MEDIUM | HEAVY

TEMPERATURE: (°F) 55. °C [Circle appropriate units]

TIME	COMMENTS
1040	Site audit of subsurface sediment PDI sampling program by Field Manager.
	- Reviewed field core processing, core collection and sampling procedures, equipment SOPs & calibration logs, QC protocols, IDW management procedures, logging and documentation.
	At Processing Facility:
	• QC samples (field duplicates, MS/MSDs) are being collected at an appropriate frequency (1 per 20 samples) in accordance with the SQAPP
	• Field equipment (PID) has been calibrated appropriately for use.
	• Field logs contain sufficient documentation of observations per the SQAPP
	• Health + Safety equipment is accessible and is consistent with site hazards and the HASP
	• Adjustments to sample jar counts have been made where needed based on sample volume limitations.
	• Core segments are being stored upright and on ice overnight, consistent w/ the SQAPP
	• IDW is being managed appropriately - all 55-gal drums are labeled and area is tidy.
	• Hot/cold zones labeled appropriately
	▷ Corrective Action: Change boot wash water more frequently to minimize contam residues outside hot zone.
	▷ Corrective action: Ensure all staff have hearing protection on before cutting cores with saw.

Signature: