

Dieter, Gail A (DEC)

From: Brian.Carling@CH2M.com
Sent: Wednesday, June 10, 2015 1:02 PM
To: Dieter, Gail A (DEC)
Cc: William.Andrae@CH2M.com; Kurt.Mehigh@CH2M.com; cibrikje@dow.com
Subject: HCC - Waterloo - North Shore Tech Memo
Attachments: Final_Dow WAT_Post Dredge_Verification Tech Memo_NSD_6-10-15.pdf; Figure 1 - NS - Sediment Core Verification Samples.pdf; Figure 2 - NS - Sediment Thickness Map.pdf; Figure 3 - NS - Post-Dredge Sediment Remaining.pdf; Figure 4 - NS - Redredge Area.pdf; Figure 5 - NS - Final Dredge Completion Surface.pdf; NSD QA-QC Redredge Visual Verification Assessment Log WAT AOC A.PDF

Hi Gail:

Attached are the files that comprise the North Shore Tech Memo for our call at 2:00 this afternoon. High level summary:

- 1) Rock was present throughout the deposit and surgical removal with a smaller bucket was performed and overseen/documentated by NYSDEC (see Attachment)
- 2) Design estimated volume was 1000 cu yds and we removed approximately 1596 cu yds despite the area that we couldn't be address along the Evans tanks
- 3) Removal of recoverable sediment is complete, anything that remains is between rocks or in crevices that we can't get into

Thanks

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PTO: 7/6(PM), 7/7(AM), 7/27 – 8/7

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Sediment Post-Removal Verification Report, Former Hampshire Chemical Corp. Facility Area of Concern A — Sediment Removal Project – North Shore Area Report, Waterloo, New York

PREPARED FOR: Hampshire Chemical Corp. New York State Department of Environmental Conservation

PREPARED BY: CH2M HILL

DATE: June 10 , 2015

PROJECT NUMBER: 482750

This memorandum summarizes the dredging and post-removal verification process that was performed in the North Shore Deposit at the Former Hampshire Chemical Corp. (HCC) site, Area of Concern (AOC) A – Cayuga-Seneca Canal sediment removal project in Waterloo, New York. AOC A is a portion of Cayuga-Seneca Canal (canal), which also is known as the Seneca River and is part of the New York State canal system. The portion of AOC A where corrective measures are being performed is separated into three sediment depositional areas referred to as the North Shore Deposit, the Gorham Street Deposit, and the Downstream Deposit (Figure 1). This Technical Memorandum is focused solely on the dredging and verification process used in the North Shore Deposit.

Dredging Summary

CH2M HILL contracted OpTech (now NRC) of Great River, New York to conduct the AOC A sediment removal project. OpTech contracted with the Faust Corporation of St Clair Shores, Michigan to conduct the water side dredging operations while NRC focused its resources on the land side sediment dewatering and waste management operations.

Dredging within the North Shore deposit was initiated on October 20, 2014 and continued through October 29, 2014 resulting in the removal, dewatering and disposal of approximately 1287 cubic yards (in-situ measurement) of sediment. This total includes removal of 208 cubic yards of material (accounted for in the above removal estimate) at the transition between the bank and sediment bottom which was removed during gabion placement preparation in the spring of 2014, this effort was abandoned due to canal flooding. As anticipated, dredging at the North Shore deposit was challenging due to the rocky nature of the subsurface. Refusal on rock was a common occurrence and substantial effort was made to manipulate the environmental clam bucket between the rocks that were known to exist in this deposit. The dredger documented the areas of rock refusal to the degree possible using bucket refusal locations to further define the areas where removal was not possible.

In late October 2015, HCC identified potential canal bank instability adjacent to the North Shore deposit near the Evans Tank Area. This steeply sloped area consists of fill material that is covered with randomly oriented, cut limestone blocks, which extend from the canal bank slope to the canal bottom and cover a small portion of the sediment proposed for removal. An engineer's evaluation of the Evans Tank Area determined that sediment removal at the toe of the canal bank decreases slope stability and increases the risk to the Evans tank and secondary containment system. Due to the risk of destabilizing the bank, secondary containment system, and overlying tanks, HCC is requested permission to exclude dredging within 10 feet of the canal bank over this 200-foot stretch of the canal between stations 23+00 and 25+00 which was subsequently approved by NYSDEC on March 11, 2015.

On November 4, 2014 through November 5, 2014, Affiliated Researchers (AR), a subcontractor to CH2M, conducted an interim post-removal, multi-beam bathymetric and poling survey to estimate the remaining sediment within the North Shore deposit. The post-dredge bathymetric and poling data were compared to the pre-removal data to determine the thickness of soft sediment remaining in the area. Figure 2 presents the pre-removal bathymetric surface and Figure 3 presents the initial post-removal surface. The bathymetric and poling data found several small areas of remaining sediment identified as Area A through F (Figure 4). These areas were estimated to include approximately 906 cubic yards of sediment over a total area of 7945 square feet.

During the winter shutdown (January and February 2015), the water level in the canal was lowered to support gabion basket installation as part of the site restoration and stabilization efforts. As anticipated, this provided an opportunity to remove additional sediment in the area of Outfall 8, which is referred to as the "horseshoe area". Excavation within this area began on January 29, 2015 and proceeded through February 6, 2015. The sediment was thicker than anticipated in this area and resulted in removal of approximately 133 cubic yards of sediment. The excavation proceeded to refusal where clay was encountered; the removal area was conventionally surveyed to determine the depth and extent. During this time, the opportunity to perform a dry removal on Area F was presented and approximately 56 cubic yards of sediment was removed. As was the case for the horseshoe area, removal proceeded to refusal and was documented using standard surveying technology.

From April 22, 2015 to April 29, 2015, an additional surgical sediment removal was initiated in an effort to remove recoverable sediment present between the rocks within the North Shore Deposit. The dredger installed a smaller (3' wide) bucket equipped with a lid to support this effort. The contents of each bucket were documented and described by on-site staff as were areas where recovery was not possible (Attachment A). Kris Keenan of NYSDEC was on-site to oversee the majority of the effort. This effort recovered approximately 120 cubic yards of sediment from Areas A through E and also confirmed that all recoverable sediment had been removed.

Verification Summary

On May 1, 2015, Affiliated Researchers (AR) of East Tawas, Michigan, a subcontractor to CH2M, conducted a final post-removal, multibeam bathymetric survey to estimate the remaining sediment within the North Shore Deposit (Figure 5). The post-dredge bathymetric data were compared to the pre-removal data collected prior to the start of removal activities and determined that the combination of bulk sediment removal and surgical removal at Area A through E was effective in removing the recoverable sediment within the North Shore.

Conclusion

The post-verification bathymetric survey indicates that the goals of the North Shore Deposit soft sediment removal have been achieved to the degree achievable. The surgical removal effort was the final step of the process within this deposit and completed removal of the last portion of recoverable sediment, thus the removal objectives of the DMU have been achieved.

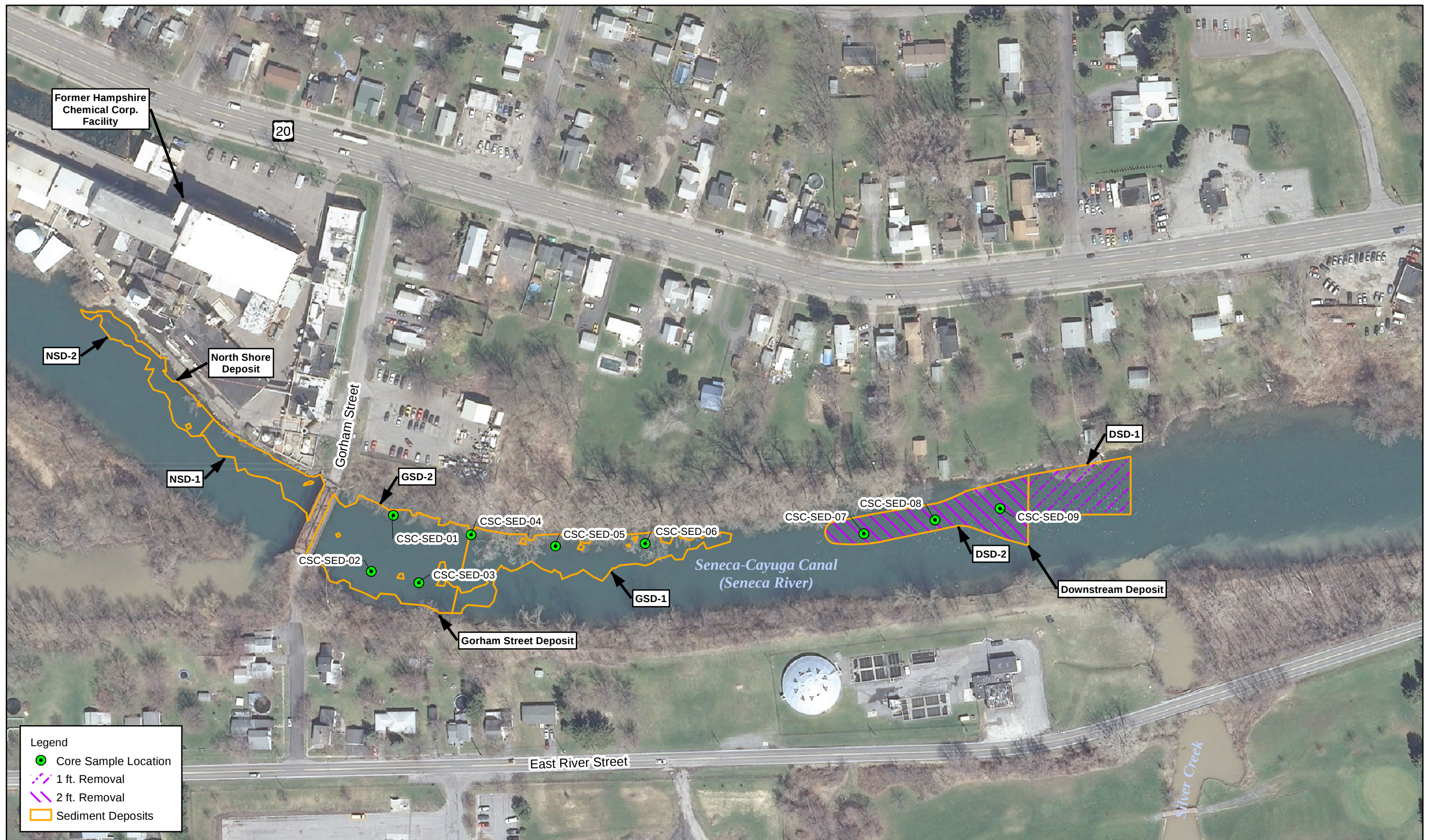


Figure 1
 Sediment Core Verification Samples
 AOC A Sediment Removal Verification Technical Memorandum
 North Shore Deposit
 Former Hampshire Chemical Corp. Facility
 Waterloo, New York

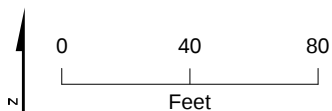
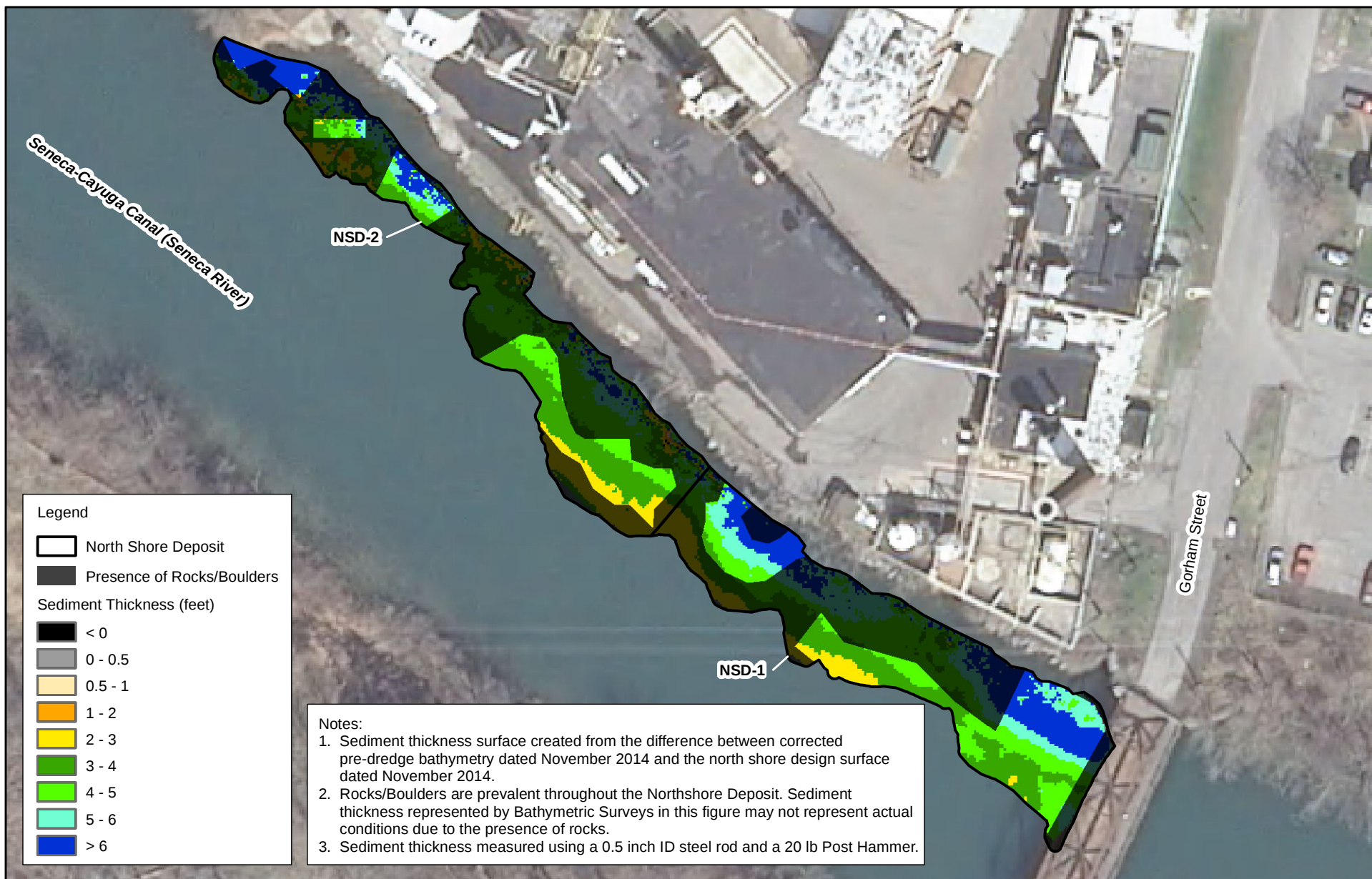


Figure 2
Sediment Thickness Map
AOC A Sediment Removal Verification
North Shore Deposit
Former Hampshire Chemical Corp. Facility
Waterloo, New York

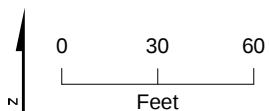
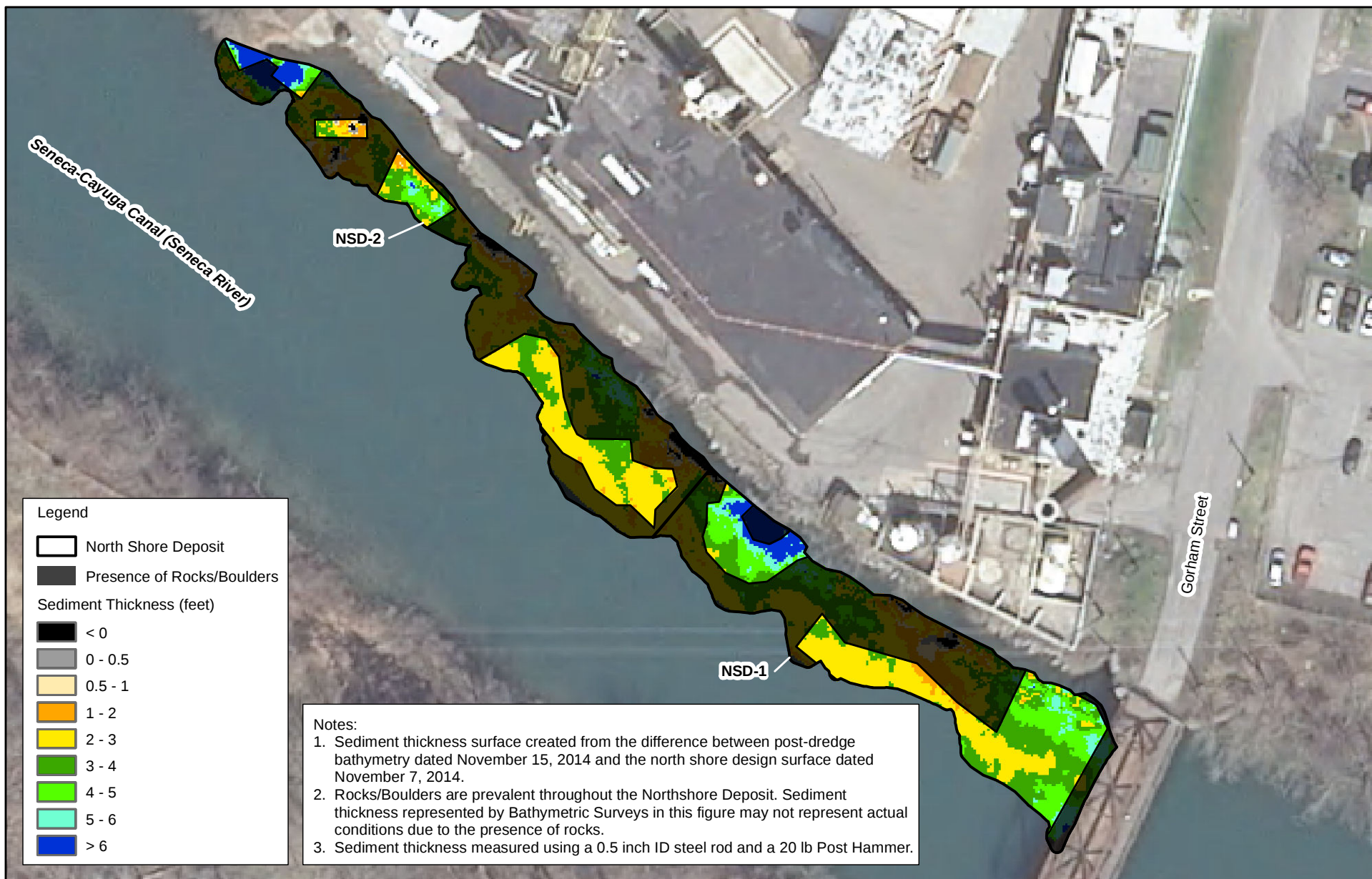


Figure 3
 Post-Dredge Sediment Remaining
 AOC A Sediment Removal Verification
 North Shore Deposit
 Former Hampshire Chemical Corp. Facility
 Waterloo, New York

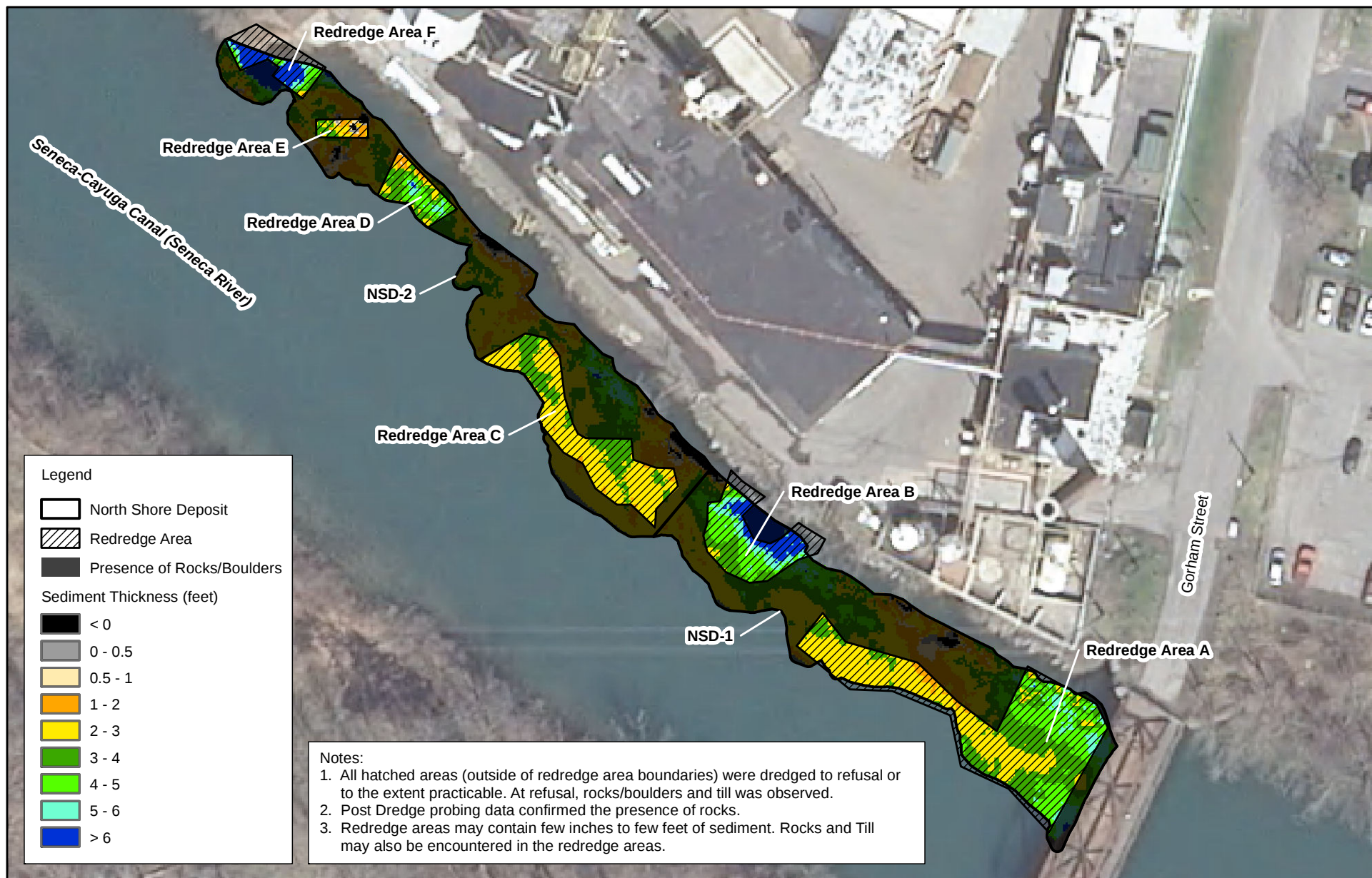


Figure 4
 Redredge Area
 AOC A Sediment Removal Verification
 North Shore Deposit
 Former Hampshire Chemical Corp. Facility
 Waterloo, New York

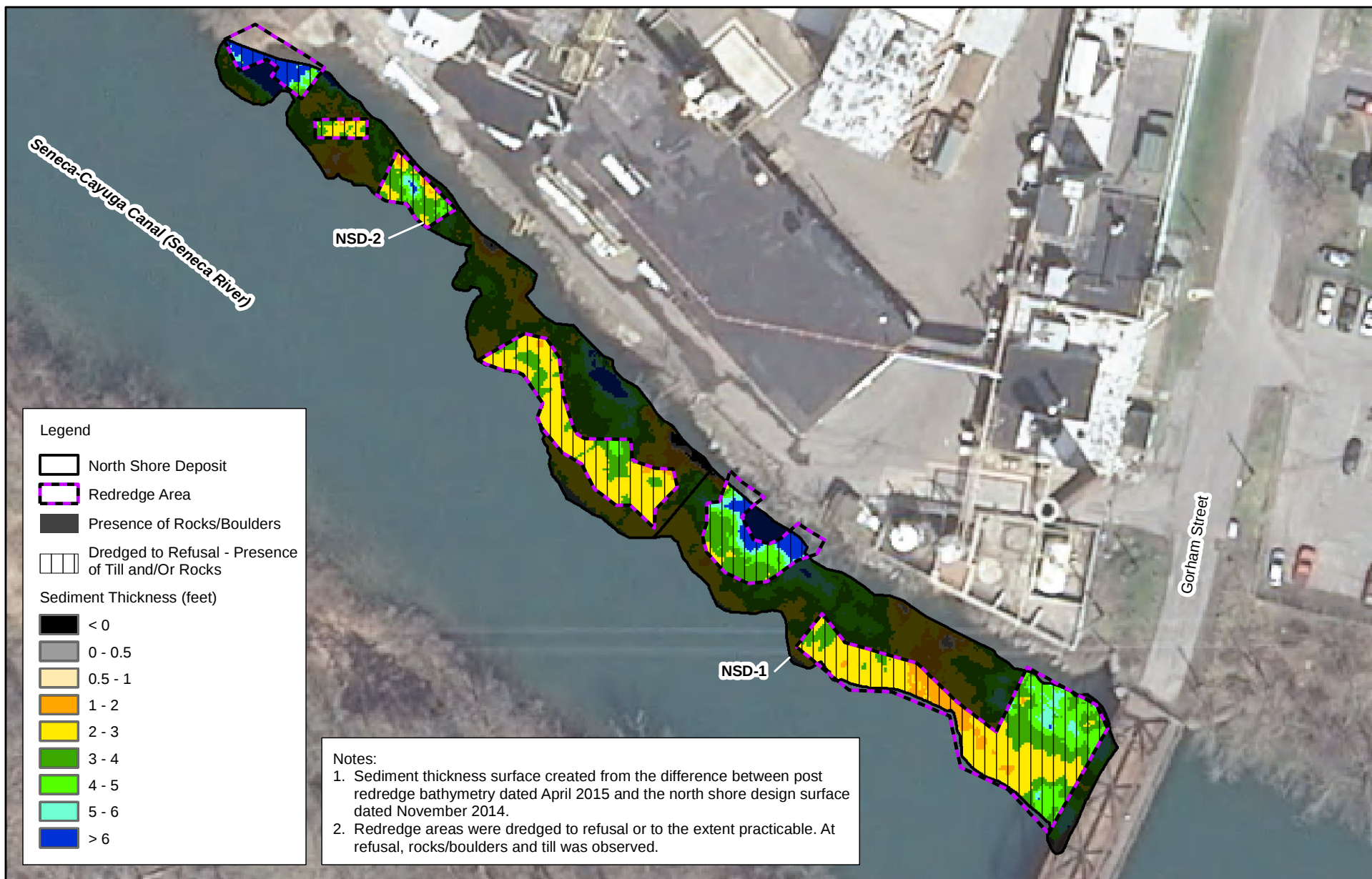


Figure 5
 Final Dredge Completion Surface
 AOC A Sediment Removal Verification
 North Shore Deposit
 Former Hampshire Chemical Corp. Facility
 Waterloo, New York

North Shore Dredging Observations Area A

Date	Bucket No.	Material (Quantified Material Based on Fraction of the Dredge Bucket)				Hard Scrapping by Excavator (Y/N)	Additional Notes
		Bucket Filled With Water (Y/N)	Rock/Gravel Observed (Y/N)	Clay Observed (Y/N)	Sediment Observed (Y/N)		
4/27/2015	1	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	2	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	3	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	4	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	5	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Debris
4/27/2015	6	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Debris
4/27/2015	7	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	8	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	9	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	Debris
4/27/2015	10	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	11	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	12	Yes	-	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	13	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Debris
4/27/2015	14	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	15	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	16	Yes	Yes - Few Rocks	Yes	Yes - Very Thin Layer on Clay on Tooth	Yes - On Rocks/Refusal	-
4/27/2015	17	Yes	Yes - Boulders	-	-	Yes - On Rocks/Refusal	-
4/27/2015	18	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	19	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	20	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	21	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	22	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	23	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	24	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	25	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/27/2015	26	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	27	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	28	Yes	Yes - Boulders	Yes	Yes - Very Thin Layer on Clay on Tooth	Yes - On Rocks/Refusal	-
4/27/2015	29	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Debris
4/27/2015	30	Yes	Yes - Boulders	Yes	Yes - Very Thin Layer on Clay on Tooth	Yes - On Rocks/Refusal	-

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4/27/2015	31	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	32	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	33	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	34	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	35	Yes	-	Yes	Yes - Very Thin Layer on Clay on Tooth	Yes - On Rocks/Refusal	-
4/27/2015	36	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	37	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	38	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	39	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	40	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	41	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	42	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	43	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	44	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	45	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Debris
4/27/2015	46	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay on Tooth	Yes - On Rocks/Refusal	-
4/27/2015	47	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	48	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	49	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer	Yes - On Rocks/Refusal	-
4/27/2015	50	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	51	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Debris, Stained Rocks & Gravel
4/27/2015	52	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	53	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	Debris
4/27/2015	54	Yes	Yes - Boulders	-	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/27/2015	55	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	56	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/27/2015	57	Yes	-	Yes	Yes - 1/8 to 1/4 Sediment	Yes - On Rocks/Refusal	-
4/27/2015	58	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay on Tooth	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	59	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	60	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	61	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris
4/27/2015	62	Yes	-	Yes	Yes - 1/8 Sediment	-	-
4/27/2015	63	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	64	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel

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4/27/2015	65	yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris
4/27/2015	66	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/2 Sediment	Yes - On Rocks/Refusal	Area dug in a row N to S, then re-dug
4/27/2015	67	Yes	-	Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	Area dug in a row N to S, then re-dug
4/27/2015	68	Yes	-	Yes	Yes - 1/2 Sediment	Yes - On Rocks/Refusal	Area dug in a row N to S, then re-dug
4/27/2015	69	Yes	-	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	70	Yes	-	Yes	Yes - Layer on Clay	Yes - On Rocks/Refusal	Area dug in a row N to S, then re-dug
4/27/2015	71	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	72	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	Area dug in a row N to S, then re-dug
4/27/2015	73	Yes	-	Yes	-	Yes - On Rocks/Refusal	Debris
4/27/2015	74	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/8 to 1/4 Sediment	Yes - On Rocks/Refusal	Area dug in a row N to S, then re-dug
4/27/2015	75	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	Area dug in a row N to S, then re-dug
4/27/2015	76	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	Area dug in a row N to S, then re-dug
4/27/2015	77	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	78	Yes	Yes - Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	79	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	80	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	81	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	82	Yes	Yes - Boulders	-	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	Debris
4/27/2015	83	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/4 to 1/2 Sediment on top of Clay	Yes - On Rocks/Refusal	-
4/27/2015	84	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer of Sediment on Clay	Yes - On Rocks/Refusal	-
4/27/2015	85	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer of Sediment on Rock	Yes - On Rocks/Refusal	Re-dig of #66
4/27/2015	86	Yes	Yes - Boulders	-	Yes - 1/4 on top of Boulders	Yes - On Rocks/Refusal	Re-dig of #67
4/27/2015	87	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	Re-dig of #68
4/27/2015	88	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Re-dig of #72
4/27/2015	89	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer of Sediment on Tooth	Yes - On Rocks/Refusal	Re-dig of #74
4/27/2015	90	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Re-dig of #75/76
4/27/2015	91	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	92	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	93	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-

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4/27/2015	94	Yes	Yes - Boulders	-	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/27/2015	95	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	96	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	97	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Debris, Stained Rocks & Gravel
4/27/2015	98	Yes	Yes - Rocks & Gravel	-	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/27/2015	99	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	100	Yes	-	Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/27/2015	101	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	102	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	103	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Debris
4/27/2015	104	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	105	Yes	Yes - Boulders	Yes	Yes - 1/8 to 1/4 Sediment	Yes - On Rocks/Refusal	Debris
4/27/2015	106	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	107	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	108	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	109	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	110	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	111	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	112	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/27/2015	113	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/27/2015	114	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/27/2015	115	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	116	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	117	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	118	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Debris
4/27/2015	119	yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	120	yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	121	Yes	-	Yes	Yes - 1/2 Sediment	Yes - On Rocks/Refusal	-
4/27/2015	122	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	123	Yes	Yes - Gravel	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/27/2015	124	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	125	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	126	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-

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4/27/2015	127	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	128	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	129	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	130	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	Hard scraping on possible rock ledge.
4/27/2015	131	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	Hard scraping on possible rock ledge.
4/27/2015	132	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	Hard scraping on possible rock ledge.
4/27/2015	133	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	Hard scraping on possible rock ledge.
4/27/2015	134	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	135	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Debris
4/27/2015	136	Yes	Yes - 1/3 Rocks	Yes - 1/3 Clay	Yes - 1/3 Sediment	Yes - On Rocks/Refusal	Debris; Additional bucket dug at previous location.
4/27/2015	137	Yes	Yes - Rocks & Gravel	-	Yes - Thin Layer on Rocks	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	138	Yes	Yes - Gravel	Yes	Yes - 1/4 to 1/3 Sediment	Yes - On Rocks/Refusal	-
4/27/2015	139	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	140	Yes	Yes - Boulders	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	141	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/27/2015	142	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/27/2015	143	Yes	Yes - Rocks & Gravel	Y	-	Yes - On Rocks/Refusal	-
4/27/2015	144	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	145	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	146	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	147	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/27/2015	148	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/27/2015	149	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	Similar Location as 130-133
4/27/2015	150	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	Similar Location as 130-133
4/27/2015	151	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	Similar Location as 130-133
4/28/2015	152	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	Similar Location as 130-133
4/28/2015	153	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	Similar Location as 130-133
4/28/2015	154	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/28/2015	155	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/28/2015	156	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-

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4/28/2015	157	Yes	Yes - Rocks & Gravel	-	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	Debris
4/28/2015	158	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/28/2015	159	Yes	Yes - Boulders	Yes	Yes - Very Thin Layer	Yes - On Rocks/Refusal	-
4/28/2015	160	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/28/2015	161	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/28/2015	162	Yes	-	Yes	Yes - Very Thin Layer	Yes - On Rocks/Refusal	-
4/28/2015	163	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer	Yes - On Rocks/Refusal	-
4/28/2015	164	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer	Yes - On Rocks/Refusal	-
4/28/2015	165	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/28/2015	166	Yes	Yes - Few Rocks	-	-	-	-
4/28/2015	167	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/28/2015	168	Yes	Yes - Few Rocks	-	-	-	-
4/28/2015	169	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/28/2015	170	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/28/2015	171	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/28/2015	172	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/28/2015	173	Yes	Yes - Rocks & Gravel	-	Yes - 1/3 Sediment	Yes - On Rocks/Refusal	-
4/28/2015	174	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/28/2015	175	Yes	-	-	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/28/2015	176	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Debris; Additional bucket dug at previous location.
4/28/2015	177	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	178	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/28/2015	179	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	180	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/28/2015	181	Yes	Yes - Rocks & Gravel	-	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/28/2015	182	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/28/2015	183	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris
4/28/2015	184	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	185	Yes	Yes - Rocks & Gravel	-	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/28/2015	186	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris
4/28/2015	187	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/28/2015	188	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	189	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-

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4/28/2015	190	Yes	Yes - Rocks & Gravel	-		Yes - On Rocks/Refusal	-
4/28/2015	191	Yes	Yes - Rocks & Gravel	-	Yes - 1/2 Sediment	Yes - On Rocks/Refusal	-
4/28/2015	192	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/28/2015	193	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay on Tooth	Yes - On Rocks/Refusal	-
4/28/2015	194	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer of Sediment	Yes - On Rocks/Refusal	-
4/28/2015	195	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Debris
4/28/2015	196	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer of Sediment	Yes - On Rocks/Refusal	-
4/28/2015	197	Yes	Yes - Boulders	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/28/2015	198	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	199	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	200	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	201	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	202	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/28/2015	203	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/28/2015	204	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/28/2015	205	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Debris, Stained Rocks & Gravel
4/28/2015	206	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	207	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	208	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	209	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer of Sediment	Yes - On Rocks/Refusal	-
4/28/2015	210	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris, Stained Rocks & Gravel
4/28/2015	211	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer of Sediment	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/28/2015	212	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	Debris
4/28/2015	213	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	214	Yes	Yes - Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	215	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	216	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/28/2015	217	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	218	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	219	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	220	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/28/2015	221	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Debris
4/28/2015	222	Yes	Yes - Rocks & Gravel	-	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	Debris
4/28/2015	223	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.

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4/28/2015	224	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer on Clay on Tooth	Yes - On Rocks/Refusal	-
4/28/2015	225	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris
4/28/2015	226	Yes	Yes - Boulders	-	-	Yes - On Rocks/Refusal	-
4/28/2015	227	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer on Clay on Tooth	Yes - On Rocks/Refusal	Debris
4/28/2015	228	Yes	Yes - Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	229	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/28/2015	230	Yes	-	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	231	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	232	Yes	Yes - Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	233	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	234	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	235	Yes	-	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	236	Yes	Yes - Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	237	Yes	Yes - Boulders	-	-	Yes - On Rocks/Refusal	-
4/28/2015	238	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	239	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	240	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer of Sediment	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/28/2015	241	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	242	Yes	Yes - Boulders	-	-	Yes - On Rocks/Refusal	-
4/28/2015	243	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	244	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/28/2015	245	Yes	Yes - Gravel	Yes	-	Yes - On Rocks/Refusal	Debris
4/28/2015	246	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/28/2015	247	yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	248	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/28/2015	249	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/28/2015	250	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/28/2015	251	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/28/2015	252	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	253	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/28/2015	254	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	255	Yes	Yes - Boulders	-	-	Yes - On Rocks/Refusal	-
4/28/2015	256	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	257	Yes	Yes - Boulders	Yes	Yes - Thin Layer of Sediment on Tooth	Yes - On Rocks/Refusal	-
4/28/2015	258	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-

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4/28/2015	259	Yes	-	Yes	-	Yes - On Rocks/Refusal	-
4/28/2015	260	Yes	-	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	261	Yes - Only Water	-	-	-	-	-
4/29/2015	262	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	263	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	264	Yes	-	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	265	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel; Additional bucket dug at previous location.
4/29/2015	266	Yes	Yes - Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	267	Yes	Yes - Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	268	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	269	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	270	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	271	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	272	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	273	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	274	Yes	-	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	275	Yes	-	Yes	Yes - 1/2 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	276	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	277	Yes	-	Yes	Yes - Layer of Sediment	Yes - On Rocks/Refusal	-
4/29/2015	278	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	279	Yes	Yes - Boulders	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	280	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	281	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris, Stained Rocks & Gravel
4/29/2015	282	Yes	Yes - Few Rocks	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	283	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/29/2015	284	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	285	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	286	Yes	-	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	Debris
4/29/2015	287	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel; Additional bucket dug at previous location.
4/29/2015	288	Yes	Yes - Boulders	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	289	Yes	-	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	290	Yes	-	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-

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4/29/2015	291	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel; Additional bucket dug at previous location.
4/29/2015	292	Yes	-	Yes	-	Yes - On Rocks/Refusal	Debris
4/29/2015	293	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	294	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/29/2015	295	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	296	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	Debris
4/29/2015	297	Yes	Yes - Boulders	-	Yes - 1/8 to 1/4 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	298	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel; Additional bucket dug at previous location.
4/29/2015	299	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris, Stained Rocks & Gravel
4/29/2015	300	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	301	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Debris
4/29/2015	302	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	303	Yes	Yes - Few Rocks	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	304	Yes	Yes - Rocks & Gravel	Yes	Yes - Layer of Sediment	Yes - On Rocks/Refusal	-
4/29/2015	305	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	306	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	307	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	Debris
4/29/2015	308	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	309	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	310	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	311	Yes	-	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	312	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	313	Yes	Yes - Boulders	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	314	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	315	Yes	-	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	316	Yes	-	Yes	Yes - Layer on Clay	Yes - On Rocks/Refusal	Debris
4/29/2015	317	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	318	Yes	-	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	319	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	320	Yes	-	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	321	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel; Additional bucket dug at previous location.
4/29/2015	322	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	Debris

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4/29/2015	323	Yes	-	Yes	Yes - Very Thin Layer on Clay on Tooth	Yes - On Rocks/Refusal	-
4/29/2015	324	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	325	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	326	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	327	Yes	Yes - Boulders	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	328	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	329	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	330	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris
4/29/2015	331	Yes	-	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	332	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	333	Yes	Yes - Boulders	Yes	Yes - Very Thin layer	Yes - On Rocks/Refusal	-
4/29/2015	334	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	335	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	336	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	337	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/29/2015	338	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	339	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	340	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/29/2015	341	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	342	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	343	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	344	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/29/2015	345	Yes	Yes - Boulders	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	346	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer	Yes - On Rocks/Refusal	-
4/29/2015	347	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer	Yes - On Rocks/Refusal	Debris
4/29/2015	348	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	349	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/29/2015	350	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	Debris
4/29/2015	351	Yes	Yes - Few Rocks	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	352	Yes	-	Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	353	Yes	Yes - Few Rocks	-	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	354	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	355	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	356	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	357	Yes	Yes - Boulders	Yes	Yes - Layer on Clay on Tooth	Yes - On Rocks/Refusal	-
4/29/2015	358	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer on Tooth	Yes - On Rocks/Refusal	Stained Rocks & Gravel

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4/29/2015	359	Yes	Yes - Few Rocks	Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	360	Yes	Yes - Rocks & Gravel	-	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	Debris: Additional bucket dug at previous location.
4/29/2015	361	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	362	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/29/2015	363	Yes	Yes - Rocks & Gravel	-	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	364	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	365	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	366	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer of Sediment	Yes - On Rocks/Refusal	-
4/29/2015	367	Yes	-	-	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	368	Yes	Yes - Boulders	-	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	369	Yes	Yes - Rocks & Gravel	-	Yes - 1/3 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	370	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	371	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	Debris
4/29/2015	372	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	373	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/29/2015	374	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	375	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris
4/29/2015	376	Yes	-	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	377	Yes	-	Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	378	Yes	-	Yes	-	Yes - On Rocks/Refusal	Debris: Additional bucket dug at previous location.
4/29/2015	379	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	380	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	381	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	382	Yes	-	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	383	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	384	Yes	-	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/29/2015	385	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/29/2015	386	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	387	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/29/2015	388	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Debris
4/29/2015	389	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/29/2015	390	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-

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North Shore Dredging Observations Area B

Date	Bucket No.	Material (Quantified Material Based on Fraction of the Dredge Bucket)				Hard Scrapping by Excavator (Y/N)	Additional Notes
		Bucket Filled With Water (Y/N)	Rock/Gravel Observed (Y/N)	Clay Observed (Y/N)	Sediment Observed (Y/N)		
4/25/2015	1	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	
4/25/2015	2	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	
4/25/2015	3	Yes - Only Water				Yes - On Rocks/Refusal	
4/25/2015	4	Yes - Only Water				Yes - On Rocks/Refusal	
4/25/2015	5	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	
4/25/2015	6	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	
4/25/2015	7	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	Debris
4/25/2015	8	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	
4/25/2015	9	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	
4/25/2015	10	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	Debris; Additional bucket dug at previous location.
4/25/2015	11	Yes	Yes - Rocks & Gravel	Yes		Yes - On Rocks/Refusal	Debris
4/25/2015	12	Yes	Yes - Rocks & Gravel	Yes	Yes - Layer of Sediment	Yes - On Rocks/Refusal	Debris
4/25/2015	13	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/2 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	14	Yes	Yes - Rocks & Gravel	Yes		Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	15	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/4 to 1/2 Sediment	Yes - On Rocks/Refusal	
4/25/2015	16	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	17	Yes	Yes - Rocks & Gravel	Yes		Yes - On Rocks/Refusal	
4/25/2015	18	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/8 to 1/4 Sediment	Yes - On Rocks/Refusal	
4/25/2015	19	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/2 Sediment	Yes - On Rocks/Refusal	Debris; Additional bucket dug at previous location.
4/25/2015	20	Yes	Yes - Rocks & Gravel	Yes		Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	21	Yes	Yes - Rocks & Gravel	Yes		Yes - On Rocks/Refusal	
4/25/2015	22	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	
4/25/2015	23	Yes - Only Water				Yes - On Rocks/Refusal	Impeded by a slab of concrete.
4/25/2015	24	Yes - Only Water				Yes - On Rocks/Refusal	Impeded by a slab of concrete.
4/25/2015	25	Yes - Only Water				Yes - On Rocks/Refusal	Impeded by a slab of concrete.
4/25/2015	26	Yes	Yes - Rocks & Gravel	Clay on Tooth		Yes - On Rocks/Refusal	
4/25/2015	27	Yes	Yes - Rocks & Gravel		Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	
4/25/2015	28	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	29	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	
4/25/2015	30	Yes	Yes - Boulders	Yes	Yes - Very thin layer on Clay on Tooth	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	31	Yes		Yes		Yes - On Rocks/Refusal	
4/25/2015	32	Yes	Yes - Boulders	Yes		Yes - On Rocks/Refusal	
4/25/2015	33	Yes	Yes - Rocks & Gravel		Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	
4/25/2015	34	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	

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4/25/2015	35	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	36	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	
4/25/2015	37	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	
4/25/2015	38	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	Debris
4/25/2015	39	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	40	Yes	Yes - Boulders	Yes	Yes	Yes - Very Thin Layer	Yes - On Rocks/Refusal	
4/25/2015	41	Yes	Yes - Boulders	Yes	Yes	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	
4/25/2015	42	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - Very Thin Layer	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	43	Yes	Yes - Boulders	Yes	Yes	Yes - 1/4 to 1/2 Sediment	Yes - On Rocks/Refusal	
4/25/2015	44	Yes	Yes - Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	45	Yes	Yes - Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	46	Yes	Yes - Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	47	Yes	Yes - Gravel	Yes	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	
4/25/2015	48	Yes	Yes - Boulders	Yes	Yes	Yes - 1/4 to 1/2 Sediment	Yes - On Rocks/Refusal	
4/25/2015	49	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	
4/25/2015	50	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	51	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	Debris
4/25/2015	52	Yes	Yes - Gravel	Yes	Yes	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	53	Yes	Yes - Gravel	Yes	Yes	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	
4/25/2015	54	Yes	Yes - Gravel	Yes	Yes	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	
4/25/2015	55	Yes	Yes - Gravel	Yes	Yes	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	
4/25/2015	56	Yes	Yes - Gravel	Yes	Yes	Yes - Thin Layer of Sediment	Yes - On Rocks/Refusal	
4/25/2015	57	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	58	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	59	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	60	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	61	Yes	Yes - Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	62	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	63	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	64	Yes	Yes - Boulders	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	65	Yes	Yes - Boulders	Yes	Yes	Yes - Thin Layer of Sediment on Clay	Yes - On Rocks/Refusal	
4/25/2015	66	Yes	Yes - Boulders	Yes	Yes	Yes - Thin Layer of Sediment on Clay	Yes - On Rocks/Refusal	
4/25/2015	67	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	68	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	69	Yes - Only Water	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	Debris
4/25/2015	70	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - 1/2 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	71	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	72	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	73	Yes	Yes - Boulders	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	
4/25/2015	74	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/25/2015	75	Yes	Yes - Rocks & Gravel	Yes	Yes	Yes - On Rocks/Refusal	Yes - On Rocks/Refusal	

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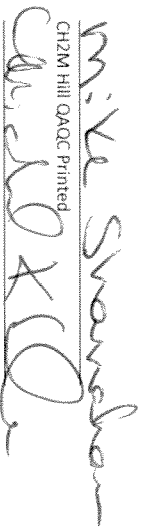
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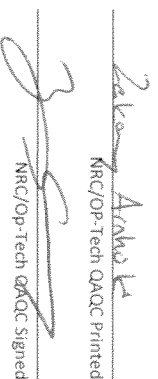
4/25/2015	76	Yes	Yes - Rocks & Gravel	Yes		Yes - On Rocks/Refusal	
4/25/2015	77	Yes		Yes	Yes - 1/4 to 1/2 Sediment	Yes - On Rocks/Refusal	
4/25/2015	78	Yes	Yes - Rocks & Gravel	Yes		Yes - On Rocks/Refusal	Stained Rocks & Gravel; Additional bucket dug at previous location.
4/25/2015	79	Yes	Yes - Few Rocks			Yes - On Rocks/Refusal	
4/25/2015	80	Yes	Yes - Boulders		Yes - Layer of Sediment	Yes - On Rocks/Refusal	
4/25/2015	81	Yes	Yes - Boulders			Yes - On Rocks/Refusal	Debris; Additional bucket dug at previous location.
4/25/2015	82	Yes	Yes - Boulders		Yes - 1/2 to 3/4 Sediment	Yes - On Rocks/Refusal	
4/27/2015	83	Yes	Yes - Rocks & Gravel		Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	84	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	Stained Rocks & Gravel; Additional bucket dug at previous location.
4/27/2015	85	Yes	Yes - Boulders		Yes - 1/8 to 1/4 Sediment	Yes - On Rocks/Refusal	Debris
4/27/2015	86	Yes	Yes - Boulders		Yes - 1/8 to 1/4 Sediment	Yes - On Rocks/Refusal	Debris; Additional bucket dug at previous location.
4/27/2015	87	Yes	Yes - Rocks & Gravel		Yes - 1/2 to 3/4 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	88	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/4 to 1/2 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	89	Yes		Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	90	Yes		Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	91	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	92	Yes		Yes	Yes - Layer of Sediment on Clay	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	93	Yes	Yes - Gravel			Yes - On Rocks/Refusal	
4/27/2015	94	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	Debris
4/27/2015	95	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	Debris
4/27/2015	96	Yes	Yes - Rocks & Gravel		Yes - Thin Layer on Rocks	Yes - On Rocks/Refusal	
4/27/2015	97	Yes	Yes - Gravel	Yes	Yes - Thin Layer on Rocks	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	98	Yes		Yes	Yes - Layer of Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	99	Yes		Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	
4/27/2015	100	Yes		Yes		Yes - On Rocks/Refusal	
4/27/2015	101	Yes	Yes - Gravel	Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	
4/27/2015	102	Yes		Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	
4/27/2015	103	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	Debris; Additional bucket dug at previous location.
4/27/2015	104	Yes	Yes - Few Rocks	Yes		Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	105	Yes		Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	Debris
4/27/2015	106	Yes	Yes - Gravel			Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	107	Yes	Yes - Gravel			Yes - On Rocks/Refusal	
4/27/2015	108	Yes			Yes - 1/4 Sediment	Yes - On Rocks/Refusal	
4/27/2015	109	Yes	Yes - Gravel		Yes - 1/4 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.

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4/27/2015	110	Yes	Yes - Rocks & Gravel		Yes - 1/4 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	111	Yes	Yes - Rocks & Gravel		Yes - 1/4 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	112	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/27/2015	113	Yes	Yes - Rocks & Gravel		Yes - 1/4 Sediment	Yes - On Rocks/Refusal	Debris: Additional bucket dug at previous location.
4/27/2015	114	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/27/2015	115	Yes	Yes - Rocks & Gravel	Yes		Yes - On Rocks/Refusal	Debris: Large Concrete Blocks
4/27/2015	116	Yes	Yes - Rocks & Gravel			Yes - On Rocks/Refusal	Debris
4/27/2015	117	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	
4/27/2015	118	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	
4/27/2015	119	Yes	Yes - Rocks & Gravel		Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	Additional bucket dug at previous location.


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North Shore Dredging Observations Area C

Date	Bucket No.	Material (Quantified Material Based on Fraction of the Dredge Bucket)				Hard Scrapping by Excavator (Y/N)	Additional Notes
		Bucket Filled With Water (Y/N)	Rock/Gravel Observed (Y/N)	Clay Observed (Y/N)	Sediment Observed (Y/N)		
4/23/2015	1	Yes	Yes - Few Rocks	-	-	-	-
4/23/2015	2	Yes	Yes - Few Rocks	-	-	-	-
4/23/2015	3	Yes	Yes - Few Rocks	Yes - On Tooth	-	Yes - On Rocks/Refusal	-
4/23/2015	4	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/23/2015	5	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/23/2015	6	Yes	Yes - Few Rocks	Yes	Yes - Thin Layer	-	-
4/23/2015	7	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/23/2015	8	Yes	-	-	Yes - 1/3 to 1/2 Sediment	-	Debris
4/23/2015	9	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/23/2015	10	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/23/2015	11	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/23/2015	12	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/23/2015	13	Yes	Yes - Few Rocks	-	Yes - Thin Layer on Rocks	-	-
4/23/2015	14	Yes	Yes - Few Rocks	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/23/2015	15	Yes	Yes - Few Rocks	Yes	Yes - Very Thin Layer on Rocks	-	-
4/23/2015	16	Yes	-	-	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/23/2015	17	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/23/2015	18	Yes	-	-	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/23/2015	19	Yes	Yes - Rocks & Gravel	-	-	-	Additional bucket dug at previous location.
4/23/2015	20	Yes	-	-	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/23/2015	21	Yes	Yes - Rocks & Gravel	-	-	-	Additional bucket dug at previous location.
4/23/2015	22	Yes	Yes - Rocks & Gravel	-	Yes - Thin Layer	Yes - On Rocks/Refusal	-
4/23/2015	23	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/23/2015	24	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/23/2015	25	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/23/2015	26	Yes	Yes - 1/3 Rocks	Yes - 1/3 Clay	Yes - 1/3 Sediment	Yes - On Rocks/Refusal	Bucket only 3/4 filled with material
4/23/2015	27	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/23/2015	28	Yes	Yes - Rocks & Gravel	Yes	-	-	-
4/23/2015	29	Yes	Yes - Rocks & Gravel	-	-	-	-

4/23/2015	30	Yes	Yes - Rocks & Gravel	-	-	-	Yes - On Rocks/Refusal	-
4/23/2015	31	Yes	-	-	Yes - 1/8 Sediment	-	Yes - On Rocks/Refusal	Debris
4/23/2015	32	Yes	Yes - Rocks & Gravel	-	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/23/2015	33	Yes	Yes - Few Rocks	-	-	-	-	-
4/23/2015	34	Yes	Yes - Few Rocks	-	-	-	-	-
4/23/2015	35	Yes	Yes - Rocks & Gravel	-	Yes - Thin Layer on Rocks	-	Yes - On Rocks/Refusal	Debris
4/23/2015	36	Yes	-	Yes - 1/2 Clay	Yes - 1/2 Sediment	-	Yes - On Rocks/Refusal	Bucket 3/4 full of material.
4/23/2015	37	Yes	Yes - Rocks & Gravel	Yes	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/23/2015	38	Yes	Yes - Rocks & Gravel	Yes	-	-	-	-
4/23/2015	39	Yes	Yes - Rocks & Gravel	-	Yes - 1/8 Sediment	-	Yes - On Rocks/Refusal	-
4/23/2015	40	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/23/2015	41	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	-	-	-
4/23/2015	42	Yes - Only Water	-	-	-	-	Yes - On Rocks/Refusal	-
4/23/2015	43	Yes	Yes - Rocks & Gravel	-	-	-	-	-
4/24/2015	44	Yes	Yes - Few Rocks	Yes	-	-	Yes - On Rocks/Refusal	-
4/24/2015	45	Yes - Only Water	-	-	-	-	-	-
4/24/2015	46	Yes	-	Yes	-	-	Yes - On Rocks/Refusal	-
4/24/2015	47	Yes	Yes - Few Rocks	-	Yes - Very Thin Layer on Rocks	-	Yes - On Rocks/Refusal	-
4/24/2015	48	Yes	Yes - Rocks & Gravel	-	-	-	-	Additional bucket dug at previous location.
4/24/2015	49	Yes	Yes - Rocks & Gravel	-	-	-	Yes - On Rocks/Refusal	-
4/24/2015	50	Yes	Yes - Rocks & Gravel	-	Yes - Thin Layer on Rocks	-	Yes - On Rocks/Refusal	-
4/24/2015	51	Yes	Yes - Few Rocks	-	-	-	-	Additional bucket dug at previous location.
4/24/2015	52	Yes	Yes - Rocks & Gravel	-	-	-	Yes - On Rocks/Refusal	-
4/24/2015	53	Yes	-	Yes	-	-	-	-
4/24/2015	54	Yes	Yes - Few Rocks	-	-	-	Yes - On Rocks/Refusal	-
4/24/2015	55	Yes	Yes - Few Rocks	-	-	-	Yes - On Rocks/Refusal	-
4/24/2015	56	Yes	Yes - Rocks & Gravel	-	Yes - Layer of Sediment	-	Yes - On Rocks/Refusal	-
4/24/2015	57	Yes	Yes - Few Rocks	-	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	58	Yes	Yes - Rocks & Gravel	-	-	-	Yes - On Rocks/Refusal	Debris
4/24/2015	59	Yes	Yes - Boulders	Yes	-	-	Yes - On Rocks/Refusal	-
4/24/2015	60	Yes	-	Yes	-	-	Yes - On Rocks/Refusal	-
4/24/2015	61	Yes	Yes - Rocks & Gravel	Yes	-	-	Yes - On Rocks/Refusal	-
4/24/2015	62	Yes	Yes - Rocks & Gravel	Yes	-	-	Yes - On Rocks/Refusal	-
4/24/2015	63	Yes	Yes - Rocks & Gravel	-	Yes - Thin Layer on Rocks	-	Yes - On Rocks/Refusal	-
4/24/2015	64	Yes	Yes - Few Rocks	-	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.

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4/24/2015	65	Yes	Yes - Rocks & Gravel	Yes - On Tooth	Yes - Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/24/2015	66	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	67	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	68	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	69	Yes	Yes - Rocks & Gravel	Yes - On Tooth	-	Yes - On Rocks/Refusal	-
4/24/2015	70	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/24/2015	71	Yes	Yes - Boulders	Yes - On Tooth	-	Yes - On Rocks/Refusal	-
4/24/2015	72	Yes	-	-	Yes - 1/8 to 1/4 Sediment	Yes - On Rocks/Refusal	-
4/24/2015	73	Yes	-	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	74	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	75	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	76	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	77	Yes	Yes - Boulders	-	-	Yes - On Rocks/Refusal	-
4/24/2015	78	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	79	Yes	-	-	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-
4/24/2015	80	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	81	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/24/2015	82	Yes	-	-	Yes - 1/4 to 1/3 Sediment	Yes - On Rocks/Refusal	-
4/24/2015	83	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	84	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	85	Yes	-	Yes	Yes - Layer of Sediment	Yes - On Rocks/Refusal	-
4/24/2015	86	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	87	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/24/2015	88	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	89	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	90	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	91	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/24/2015	92	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/24/2015	93	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	94	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	95	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	96	Yes	-	-	Yes - 1/8 to 1/4 Sediment	Yes - On Rocks/Refusal	-
4/24/2015	97	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	98	Yes	Yes - Boulders	-	-	Yes - On Rocks/Refusal	-
4/24/2015	99	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-

4/24/2015	100	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	101	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	102	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	103	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/24/2015	104	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	Debris
4/24/2015	105	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	106	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	107	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/24/2015	108	Yes	Yes - Boulders	-	-	Yes - On Rocks/Refusal	-
4/24/2015	109	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	110	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	111	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	112	Yes	Yes - Rocks & Gravel	-	Yes - Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/24/2015	113	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	114	Yes	Yes - 1/3 Boulders	Yes - 1/3 Clay	Yes - 1/3 Sediment	Yes - On Rocks/Refusal	-
4/24/2015	115	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	116	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/24/2015	117	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	118	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	119	Yes	-	Yes	Yes - Layer of Sediment	Yes - On Rocks/Refusal	-
4/24/2015	120	Yes	-	Yes	Yes - Layer of Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	121	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	122	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/24/2015	123	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	124	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	125	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/24/2015	126	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	127	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	128	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Sheen Observed
4/24/2015	129	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/24/2015	130	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/24/2015	131	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/24/2015	132	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	133	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/24/2015	134	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/24/2015	135	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.

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4/24/2015	136	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/24/2015	137	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	138	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	Debris
4/24/2015	139	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/24/2015	140	Yes	Yes - Rocks & Gravel	-	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/24/2015	141	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	142	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	143	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	144	Yes	-	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/24/2015	145	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	146	Yes	-	Yes	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/24/2015	147	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	148	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	149	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/24/2015	150	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	151	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	152	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	153	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/24/2015	154	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/24/2015	155	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/24/2015	156	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	157	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	158	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	159	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Debris
4/24/2015	160	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/24/2015	161	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/24/2015	162	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/24/2015	163	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	164	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	165	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	-
4/24/2015	166	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	167	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/24/2015	168	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/24/2015	169	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/24/2015	170	Yes	Yes - Rocks & Gravel	Yes	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	-

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4/24/2015	171	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	172	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	173	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/24/2015	174	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/24/2015	175	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/24/2015	176	Yes	-	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	Debris
4/24/2015	177	Yes	-	Yes	Yes - 1/8 to 1/4 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/24/2015	178	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	179	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/25/2015	180	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/25/2015	181	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	182	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/25/2015	183	Yes	-	Yes	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/25/2015	184	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	185	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/25/2015	186	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/25/2015	187	Yes	-	Yes	Yes - Layer of Sediment	Yes - On Rocks/Refusal	-
4/25/2015	188	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	189	Yes	Yes - Rocks & Gravel	-	Yes - 1/8 Sediment	Yes - On Rocks/Refusal	-
4/25/2015	190	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location.
4/25/2015	191	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/25/2015	192	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/25/2015	193	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	On Rock Ridge
4/25/2015	194	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	On Rock Ridge
4/25/2015	195	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	On Rock Ridge
4/25/2015	196	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	On Rock Ridge
4/25/2015	197	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	On Rock Ridge
4/25/2015	198	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/25/2015	199	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/25/2015	200	Yes	Yes - Few Rocks	Yes	-	Yes - On Rocks/Refusal	Debris
4/25/2015	201	Yes	Yes - Boulders	-	-	Yes - On Rocks/Refusal	Debris
4/25/2015	202	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/25/2015	203	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-
4/25/2015	204	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/25/2015	205	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/25/2015	206	Yes	Yes - Few Rocks	-	-	Yes - On Rocks/Refusal	-

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4/25/2015	207	Yes	Yes - Rocks & Gravel	Yes - On Tooth	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/25/2015	208	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel; Additional bucket dug at previous location.
4/25/2015	209	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Stained Rocks & Gravel
4/25/2015	210	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/25/2015	211	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris
4/25/2015	212	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/25/2015	213	Yes	-	Yes	Yes - Layer of Sediment	Yes - On Rocks/Refusal	-
4/25/2015	214	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris; Additional bucket dug at previous location.
4/25/2015	215	Yes	Yes - Boulders	-	-	Yes - On Rocks/Refusal	-
4/25/2015	216	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	Debris
4/25/2015	217	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Debris
4/25/2015	218	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/25/2015	219	Yes	Yes - Boulders	Yes	-	Yes - On Rocks/Refusal	-
4/25/2015	220	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/25/2015	221	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/25/2015	222	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-

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North Shore Dredging Observations Area D

Date	Bucket No.	Material (Quantified Material Based on Fraction of the Dredge Bucket)				Hard Scrapping by Excavator (Y/N)	Additional Notes
		Bucket Filled With Water (Y/N)	Rock/Gravel Observed (Y/N)	Clay Observed (Y/N)	Sediment Observed (Y/N)		
4/23/2015	1	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/23/2015	2	Yes	Yes - Vary Few	-	-	Yes - On Rocks/Refusal	-
4/23/2015	3	Yes	Yes - Rocks & Gravel	Yes - On Tooth	Yes - Very Thin Layer on Clay	-	Additional bucket dug at previous location
4/23/2015	4	Yes	Yes - Rocks & Gravel	Yes - On Tooth	Yes - Very Thin Layer on Clay	-	-
4/23/2015	5	Yes	Yes - Rocks & Gravel	Yes - On Tooth	Yes - Very Thin Layer on Clay	-	-
4/23/2015	6	Yes	Yes - Rocks & Gravel	-	Yes - 1/8 to 1/4 Sediment	Yes - On Rocks/Refusal	-
4/23/2015	7	Yes	Yes - Rocks & Gravel	-	-	-	-
4/23/2015	8	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/23/2015	9	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer of Sediment on Rocks	Yes - On Rocks/Refusal	-
4/23/2015	10	Yes	Yes - Few Rocks	Yes	Yes - Very Thin Layer on Clay	-	-
4/23/2015	11	Yes	-	Yes	Yes - Very Thin Layer on Clay	-	Additional bucket dug at previous location
4/23/2015	12	Yes	Yes - Rocks & Gravel	-	-	Yes - On Rocks/Refusal	-
4/23/2015	13	Yes	Yes - Rocks & Gravel	Yes	Yes - Very Thin Layer on Clay	-	-
4/23/2015	14	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location
4/23/2015	15	Yes	Yes - Rocks & Gravel	Yes - On Tooth	-	Yes - On Rocks/Refusal	-
4/23/2015	16	Yes	Yes - Rocks & Gravel	-	-	-	-
4/23/2015	17	Yes	Yes - Rocks & Gravel	-	-	-	-
4/23/2015	18	Yes	Yes - Rocks & Gravel	Yes	Yes - Layer on Rocks & Clay	Yes - On Rocks/Refusal	-
4/23/2015	19	Yes	Yes - 1/3 Rocks	Yes - 1/3 Clay	1/3 of material sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location
4/23/2015	20	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location
4/23/2015	21	Yes	Yes - Rocks & Gravel	-	Yes - Layer on Rocks	-	Additional bucket dug at previous location
4/23/2015	22	Yes	Yes - Rocks & Gravel	-	-	-	-
4/23/2015	23	Yes	Yes - Rocks & Gravel	-	Yes - Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/23/2015	24	Yes	Yes - Few Rocks	-	-	-	-
4/23/2015	25	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/23/2015	26	Yes - Only Water	-	-	-	-	-
4/23/2015	27	Yes - Only Water	-	-	-	-	-
4/23/2015	28	Yes - Only Water	-	-	-	Yes - On Rocks/Refusal	-
4/23/2015	29	Yes	Yes - Few Rocks	-	-	-	-
4/23/2015	30	Yes	Yes - Rocks & Gravel	Yes - On Tooth	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/23/2015	31	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location
4/23/2015	32	Yes	Yes - Rocks & Gravel	Yes	-	-	-
4/23/2015	33	Yes	Yes - 1/3 Rocks	Yes - 1/3 Clay	Yes - 1/3 Sediment	Yes - On Rocks/Refusal	1/4 - 1/3 bucket filled with material
4/23/2015	34	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	Additional bucket dug at previous location

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4/23/2015	35	Yes	Yes - Rocks & Gravel	-	-	-	-
4/23/2015	36	Yes	Yes - Rocks & Gravel	-	-	-	-
4/23/2015	37	Yes	Yes - Rocks & Gravel	-	-	-	-
4/23/2015	38	Yes	Yes - Rocks & Gravel	Yes	-	-	-
4/23/2015	39	Yes	Yes - Rocks & Gravel	Yes - On Tooth	Yes - Thin Layer on Clay	Yes - On Rocks/Refusal	-
4/23/2015	40	Yes	Yes - Rocks & Gravel	-	-	-	-
4/23/2015	41	Yes	Yes - Rocks & Gravel	-	Yes - 1/4 to 1/3 Sediment	Yes - On Rocks/Refusal	-
4/23/2015	42	Yes	Yes - Rocks & Gravel	-	Yes - 1/4 Sediment	Yes - On Rocks/Refusal	Additional bucket dug at previous location
4/23/2015	43	Yes	Yes - Rocks & Gravel	-	-	-	-
4/23/2015	44	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/23/2015	45	Yes	Yes - Rocks & Gravel	-	Yes - Thin Layer on Rocks	Yes - On Rocks/Refusal	Additional bucket dug at previous location
4/23/2015	46	Yes	Yes - Rocks & Gravel	-	Yes - Thin Layer on Rocks	Yes - On Rocks/Refusal	Additional bucket dug at previous location
4/23/2015	47	Yes	Yes - Rocks & Gravel	-	Yes - Very Thin Layer on Rocks	Yes - On Rocks/Refusal	-
4/23/2015	48	Yes	Yes - Rocks & Gravel	-	-	-	-
4/23/2015	49	Yes	Yes - Few Rocks	-	-	-	-
4/23/2015	50	Yes	Yes - Few Rocks	-	-	-	-

Mike Shanahan
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North Shore Dredging Observations Area F

Date	Bucket No.	Material (Quantified Material Based on Fraction of the Dredge Bucket)				Hard Scraping by Excavator (Y/N)	Additional Notes
		Bucket Filled With Water (Y/N)	Rock/Gravel Observed (Y/N)	Clay Observed (Y/N)	Sediment Observed (Y/N)		
4/23/2015	1	Yes	-	Yes - On Tooth	-	Yes - On Rocks/Refusal	-
4/23/2015	2	Yes - Only Water	-	-	-	-	-
4/23/2015	3	Yes	Yes - Rocks & Gravel	Yes	-	Yes - On Rocks/Refusal	-
4/23/2015	4	Yes	Yes - Rocks & Gravel	Yes	-	-	-
4/23/2015	5	Yes	-	Yes - On Tooth	-	Yes - On Rocks/Refusal	-
4/23/2015	6	Yes	Yes - Rocks & Gravel	Yes	Yes - Thin Layer on Clay	-	Debris
4/23/2015	7	Yes - Only Water	-	-	-	-	-

Mike Swanson
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Lacey Anderson
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