

architects + engineers

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November 10, 2014

Steven M. Scharf, P.E.
Project Engineer
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7015

Re: Brownfield Cleanup Program Remedial Investigation
Bethpage Community Park Ice Rink Area – NYSDEC Site No.: C130212
Progress Report – November 2014

Dear Mr. Scharf:

On behalf of the Town of Oyster Bay (Town), H2M architects + engineers (H2M) is pleased to provide herein a progress report on the remedial investigation activity at the Bethpage Community Park Ice Rink Area pursuant to Appendix A, Section XI of the New York State Brownfield Site Cleanup Agreement (Index # C130212-01-12).

Tasks Initiated or Completed

Tasks recently initiated or completed include the following:

- H2M received preliminary laboratory analytical report(s) for groundwater samples from the three newly installed monitoring wells (RI-MW-01, RI-MW-02 and RI-MW-03), four existing Northrop Grumman's 200-series wells (MW-200-1, MW-201-1, MW-202-1, and MW-203-1) and Northrop Grumman's monitoring well on Northrop Grumman Access Road (BCPMW 6-1), collected on September 30 and October 1, 2014. A copy of the laboratory analytical report(s) is not provided with this Progress Report due to the large volume. However, a copy of the laboratory analytical report(s) will be provided upon request. Tabulated groundwater sample results are provided as Table 1. Groundwater sampling locations are identified in Figure 1.
- The elevation of the top of casing (TOC) and top of manhole cover (ground surface) of the Northrop Grumman monitoring well on Northrop Grumman Access Road (BCPMW 6-1) was surveyed to the nearest reference datum to allow for the preparation of an accurate potentiometric surface map. Access to BCPMW 6-1 was provided by a representative from ARCADIS U.S., Inc. of Melville, New York (ARCADIS).
- AARCO Environmental Services Corp. of Lindenhurst, New York (AARCO) was at the Site on October 24, 2014 to remove and transport for off-site disposal a total of 17 investigation derived waste (IDW) drums (10 containing liquid IDW [development, purge and decontamination water] and 7 containing solid IDW [soil cuttings]) that were temporarily stored west of the skate park, in the central portion of Bethpage Park. One, New York State Department of Transportation (DOT)-approved 55-gallon drum containing liquid IDW was found to contain a hole and released a maximum volume of 25 gallons onto the ground surrounding the 55-gallon drum. The approximate extent of the impacted area was demarcated with orange safety flags.
- AARCO placed the damaged drum in an Overpack Salvage Drum prior to loading and transporting off-site. Based on waste characterization analytical data, the liquid IDW 55-gallon drums (including the Overpack Salvage Drum with the damaged 55-gallon drum) was transported to Advanced Waste & Water Technology in Farmingdale, New York for disposal and the solid IDW was transported to Triumvirate Environmental in Astoria, New York for disposal. A copy of the Non-Hazardous Waste Manifests is provided in Attachment B of this Progress Report.

Tasks to be Initiated or Completed during the Next Reporting Period

As of October 27, 2014 field related activities associated with the Remedial Investigation (RI) have been completed. Tasks expected to be initiated or completed during the next reporting period include the following:

- The liquid waste characterization sample analytical data for metals (total), mercury, metals via toxicity characteristic leaching procedure (TCLP), target compound list (TCL) volatile organic compounds (VOC), TCL semivolatile organic compounds (SVOC), pH, and flashpoint were compared to the available New York State Department of Environmental Conservation (NYSDEC) Division of Water Technical and Operational Guidance Series (1.1.1; TOGS) Groundwater Effluent Limitations (GFL). Based on the analytical data, the following metals were detected at a concentration greater than the corresponding NYSDEC TOGS GFLs: aluminum, arsenic, chromium, iron, manganese, and nickel. As such, H2M will collect one, discrete, surface soil sample from the area where the release occurred and submit the soil sample to Chemtech of Mountainside, New Jersey (Chemtech) for arsenic, chromium and nickel analysis via United States Environmental Protection Agency (EPA) Method 6010.
- Data validation associated with groundwater samples is anticipated to be completed.
- Compiling and tabulating the analytical data.
- Preparation of an RI Report (RIR).

Schedule

Schedule milestones related to the next reporting period are as follows:

- No milestones are expected to be reached in the next reporting period.

If you should you have any questions or concerns, please contact me at (631) 756-8000 extension 1623.

Very truly yours,

H2M architects + engineers

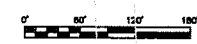
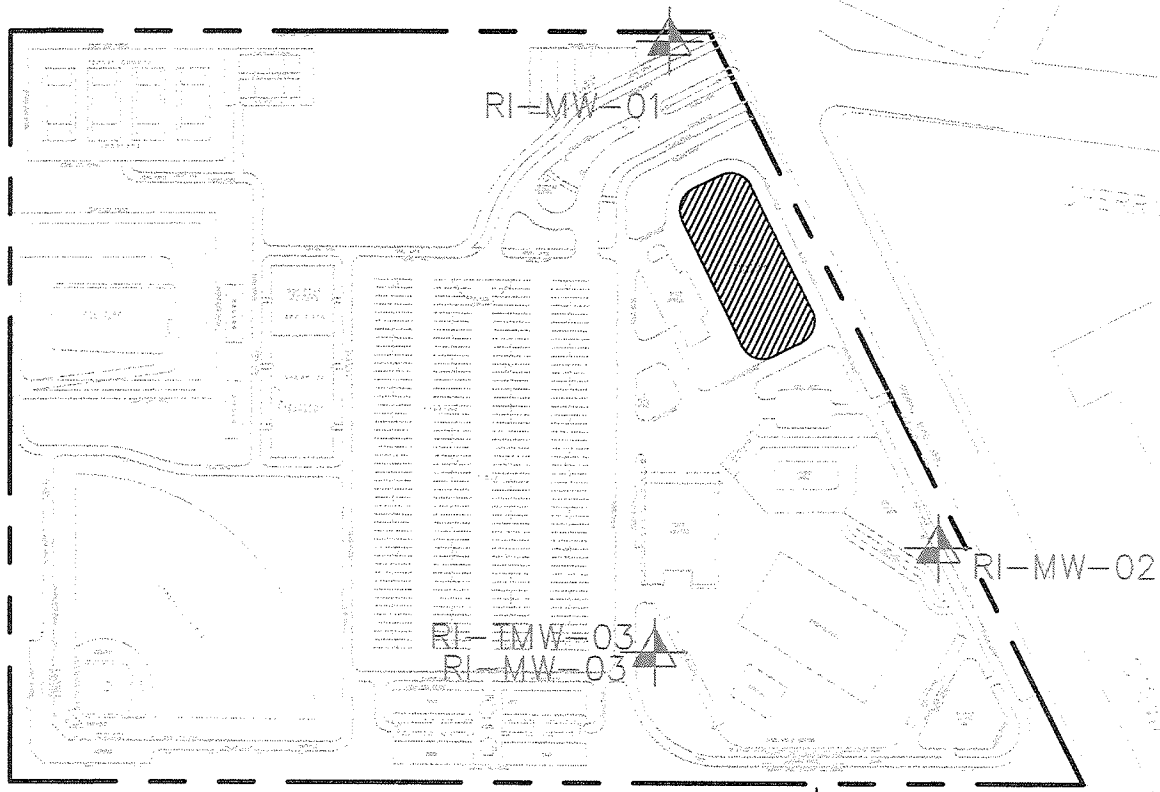


Philip J. Schade, P.E.
Vice President





Figure 1 – Groundwater Sample Locations
Table 1 – Groundwater Sample Analytical Results
Attachment A – Non-Hazardous Waste Manifest

cc: Richard Betz, Commissioner of Public Works/Town of Oyster Bay
Matt Russo, Town of Oyster Bay
John Ellsworth, Cashin Spinelli & Ferretti
Steve Karpinski, NYSDOH
Rosalie Rusinko, Esq., NYSDEC
Terry Clark, Superintendent of Schools, Bethpage School District
Smita Day, P.E., H2M

FIGURES



LEGEND:

	BCP PROJECT SITE		RI-MW-01	GROUNDWATER SAMPLING LOCATION (RI INSTALLATION).
	BETHPAGE COMMUNITY PARK BOUNDARY		MW-200-1	GROUNDWATER SAMPLING LOCATION (NORTHROP GRUMMAN).

- NOTES:**
1. BASED MAP OBTAINED FROM SIDNEY B. BOWNE & SON, LLP, PROJECT NO. 1D408802, DATED SEPTEMBER 2004 AND PLAN OF DISTRIBUTION SYSTEM PREPARED BY THE BETHPAGE WATER DISTRICT AND DATED FEBRUARY 5, 2009 (REVISION DATE).
 2. PARK FEATURES SHOWN WERE PRESENT PRIOR TO THE TOWN OF OYSTER BAY DEVELOPMENT IN 2005.
 3. BETHPAGE COMMUNITY PARK BOUNDARY BASED ON A SURVEY PERFORMED BY H2M GROUP AND DATED APRIL 22, 2005.
 4. GROUNDWATER SAMPLING LOCATIONS ARE APPROXIMATE.

PROJECT:
BROWNFIELD CLEANUP PROGRAM
 BETHPAGE COMMUNITY PARK ICE RINK AREA
 REMEDIAL INVESTIGATION WORK PLAN
 TOWN OF OYSTER BAY
 BETHPAGE, NEW YORK
 NYSDEC SITE NO.: C130212

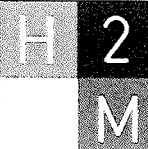
DRAWING:
FIGURE 1: GROUNDWATER SAMPLING LOCATIONS

SCALE:
 AS SHOWN

H2M PROJECT NO.:
 TOBY1203

DATE:
 NOVEMBER 2014

architects + engineers



Menville, NY Albany, NY
 New City, NY Parsippany, NJ

TABLES

Table 1
Groundwater Sample Results
Brentfield Cleanup Program
Bethpage Community Park Ice Rink Area
Remedial Investigation
Town of Oyster Bay, Bethpage, New York
NYSDEC Site No. C130212

Sample ID:		RL MW-01-020314	RL MW-02-020314	DLF-003014	RL MW-03-020314	BCF MW-1-020314	MW-203-1-100114	MW-202-1-100114	ELM-100114	MW-201-1-100114	MW-200-1-100114	TRERLANK
Sample Location:	NYSDEC	RL MW-01	RL MW-02	DLF-003014	RL MW-03	BCF MW-1	MW-203-1	MW-202-1	ELM-100114	MW-201-1	MW-200-1	QACQC Sample
Sample Depth (feet bgs):	TOGS	50 to 60	60 to 70	65 to 70	50 to 60	60 to 99.5	103 to 113	125 to 135	125 to 135	70 to 80	85 to 95	Not Applicable
Sampling Date:	AWQS	9/30/2014	9/30/2014	9/30/2014	9/30/2014	9/30/2014	10/1/2014	10/1/2014	10/1/2014	10/1/2014	10/1/2014	10/1/2014
Lab Sample ID:		F4133-01	F4133-04	F4133-07	F4133-05	F4133-06	F4133-08	F4133-11	F4133-14	F4133-12	F4133-13	F4133-15
Units:		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
TCL VOCs, Freon 12™, and Freon 22™ via EPA Method 8260												
Dichlorodifluoromethane (FREON-12)	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Chloromethane	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	3	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Vinyl Chloride	2	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Bromomethane	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Chloroethane	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Trichlorofluoromethane	5	1.00 U	1.00 U	1.50 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,1,2-Trichloroethane	5	1.00 U	1.00 U	1.50 U	1.00 U	1.00 U	0.670 J	1	1.1	1.00 U	1.00 U	1.00 U
1,1-Dichloroethane	5	1.00 U	1.00 U	1.50 U	1.00 U	1.00 U	1.00 U	0.900 J	0.930 J	1.00 U	1.00 U	1.00 U
Acetone	50	5.00 U	5.00 U	5.00 U	5.00 U	1.60 J	5.00 U	5.00 U	1.30 J	1.00 J	1.00 J	5.00 U
Carbon Disulfide	...	0.220 J	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Methyl tert-butyl Ether	...	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Methyl Acetate	...	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Methylene Chloride	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
trans-1,2-Dichloroethane	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,1-Dichloroethane	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.4	1.5	1.00 U	1.00 U	1.00 U
Cyclohexane	...	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
2-Butanone	50	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Carbon Tetrachloride	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
cis-1,2-Dichloroethane	5	1.00 U	1.00 U	1.00 U	1.00 U	3.7	1.00 U	0.640 J	0.750 J	2.1	1.00 U	1.00 U
Bromochloromethane	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Chloroform	7	1.00 U	0.330 J	0.290 J	1.00 U	1.00 U	0.320 J	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,1,1-Trichloroethane	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Methylcyclohexane	...	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Benzene	1	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,2-Dichloroethane	0.6	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Trichloroethane	5	1.00 U	1.00 U	1.00 U	1.00 U	1.8	1.1	1.5	1.6	3.1	0.620 J	1.00 U
1,2-Dichloropropane	1	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Bromodichloromethane	50	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
4-Methyl-2-Pentanone	...	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Toluene	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,3-Dichloropropene	0.4	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
cis-1,3-Dichloropropene	0.4	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,1,2-Trichloroethane	1	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
2-Hexanone	50	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Dibromochloromethane	50	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,2-Dibromoethane	0.0005	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Tetrachloroethane	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.600 J	1.1	1.2	1.00 U	1.00 U	1.00 U
Chlorobenzene	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Ethyl Benzene	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
m,p-Xylenes	5	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
o-Xylene	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Styrene	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Bromoform	50	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Isopropylbenzene	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,1,2,2-Tetrachloroethane	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,3-Dichlorobenzene	3	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,4-Dichlorobenzene	3	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,2-Dichlorobenzene	3	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,2-Dibromo-3-Chloropropane	0.04	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,2,4-Trichlorobenzene	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,2,3-Trichlorobenzene	5	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Chlorodifluoromethane (FREON-22)	5	1.00 U	1	43.3	3.6	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,4-Dioxane	...	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U

ABBREVIATIONS, ACRONYMS AND NOTES:

- NYSDEC - New York State Department of Environmental Conservation
- TOGS - Technical and Operational Guidance Series (1 1 1)
- AWQS - Ambient Water Quality Standards
- bgs - below ground surface
- ug/L - micrograms per liter
- QACQC - Quality Assurance / Quality Control
- TCL - Target Compound List
- VOC - Volatile Organic Compound
- MDL - Method Detection Limit
- EPA - United States Environmental Protection Agency

RL/HH - Value shaded and in red: bold typeface - Concentration of detected compounds is greater than the corresponding NYSDEC AWQS
 U - The compound was not detected at the indicated concentration.
 J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than the MDL. The concentration given is an approximate value.
 1 - Analytical results compared to NYSDEC Division of Water TOGS AWQS for Class GA Water (NYSDEC AWQS)

ATTACHMENT A

NON-HAZARDOUS WATER MANIFEST

1. Generator's US EPA ID No.

Manifest Doc. No.

2. Page 1 of

58783

3. Generator's Name and Mailing Address

Bethpage State Park

H2M as agent for
Town of Oyster Bay
Dept. of Public Works

4. Generator's Phone ()

5. Transporter 1 Company Name

AARCO ENVIRONMENTAL SERVICES CORP.

6. US EPA ID Number

N.Y.R. 0.0.0.1.0.7.3.2.6

A. Transporter's Phone

631-586-5900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

Amst
109 Route 109 Farmdale NY

10. US EPA ID Number

C. Facility's Phone

11. Waste Shipping Name and Description

a.

non hot pure water

12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
1	DM	550	gal
.	.	.	.
.	.	.	.
.	.	.	.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

EMERGENCY PHONE # 631-586-5900

Job # 14-21831
Truck B-470

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Lulu W. as agent for Town of Oyster Bay

Signature

[Signature]

Month Day Year

10 27 14

17. Transporter 1 Acknowledgment of Receipt of Materials

Printed/Typed Name

Rashad [Signature]

Signature

[Signature]

Month Day Year

10 27 14

18. Transporter 2 Acknowledgment of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

.

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name

Signature

Month Day Year

.

GENERATOR'S COPY

**NON-HAZARDOUS
WATER MANIFEST**

1. Generator's US EPA ID No.

Manifest Doc. No. **58806**

2. Page 1 of

3. Generator's Name and Mailing Address

*H2m as agent for
Town of Oyster Bay
DEPT OF PUBLIC WORKS*
Bethpage State park

4. Generator's Phone ()

5. Transporter 1 Company Name

AARCO ENVIRONMENTAL SERVICES CORP.

6. US EPA ID Number

N.Y.R. 0.0.0.1.0.7.3.2.6

A. Transporter's Phone

631-586-5900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

*Triunvirate
42 14 19th Ave Astoria NY*

10. US EPA ID Number

C. Facility's Phone

11. Waste Shipping Name and Description

a. *Non Haz drill cuttings*

12. Containers
No. Type

2 x 7 Dr

13. Total Quantity

3500

14. Unit Wt/Vol

165

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

EMERGENCY PHONE # 631-586-5900

*Job # 14-21831
Track B-470*

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Lily Wu as agent for Town of Oyster Bay

Signature

[Signature]

Month Day Year

10 27 14

17. Transporter 1 Acknowledgment of Receipt of Materials

Printed/Typed Name

Roshan...

Signature

[Signature]

Month Day Year

10 27 14

18. Transporter 2 Acknowledgment of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

. . .

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name

Signature

Month Day Year

. . .

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY