Appendix G Groundwater Sampling Report to Support the NYSDEC SPDES Permit for Construction Activity at the South Brooklyn Marine Terminal, August 14, 2007

GROUNDWATER SAMPLING REPORT TO SUPPORT THE NYSDEC SPDES PERMIT FOR CONSTRUCTION ACTIVITY AT THE SOUTH BROOKLYN MARINE TERMINAL BROOKLYN, NEW YORK

August 14, 2007

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1.0 INTRODUCTION

This Groundwater Sampling Report (Report), prepared by Henningson, Durham & Richardson Architecture and Engineering, P.C. (HDR), summarizes the groundwater sampling activities that were conducted on behalf of the New York City Economic Development Corporation (NYCEDC) at the South Brooklyn Marine Terminal (SBMT) located in Brooklyn, New York (site). Figure 1 shows a plan view of the site.

1.1 Purpose

Infrastructure improvements will be made to the SBMT to accommodate lessees. The infrastructure improvements will likely require for the contractor to come in contact with groundwater and have to dewater. The New York State Department of Environmental Conservation (NYSDEC) is requiring the submission of analytical sampling results of water from the site from a certified laboratory using United States Environmental Protection Agency (USEPA) approved methods. The analytical sampling results provided in this Report will be reviewed by the NYSDEC to determine if groundwater removed from the site can be pumped from excavation trenches into a nearby storm sewer for disposal. The storm drain system available during dewatering is depicted in Figure 2.

1.2 Work Plan

HDR submitted a Work Plan (Work Plan) for the groundwater sampling activities to the NYSDEC for review on May 8, 2007. The Work Plan outlined the proposed sampling plan (including temporary groundwater monitoring well locations and field sampling procedures) to be followed during the field sampling activities. The NYSDEC provided HDR with comments on the Work Plan on June 11, 2007. HDR provided the NYSDEC with a final Work Plan, on June 19, 2007, revised to address NYSDEC comments.

2.0 SITE INFORMATION

2.1 Site Description

The site is located from the 29th Street to 39th Street piers, adjacent to the Gowanus Bay and the Bay Ridge Federal Navigation Channel, Upper New York Bay, New York Harbor and extends to 2nd Avenue.

NYCEDC is leasing the majority of SBMT to the Axis Corporation. Axis will be operating an auto terminal on site, and will sublet space to a general stevedore. The SBMT facility was once a container terminal and was closed during the 1980's.

TRC Environmental Corporation performed a Phase I Environmental Site Assessment of the SBMT in 2002. The following information related to the site and its history is based on the Phase I Environmental Site Assessment Report, dated August 2002, prepared for the NYCEDC by TRC Environmental Corporation:

- The site is used mostly for storage of new automobiles and automobile impounding for the New York City Police Department (NYPD).
- The site is on Block 662 Lot 1 and is designated as an M3-1: Heavy Manufacturing District
- Structures on the site include: street sheds on 39th street and 35th street consisting of 1-2-story warehouse buildings, a 2-4 tower building occupied by the NYPD and a 1-2 story "N" warehouse building.
- The site is surrounded by Consolidated Edison – Gowanus Generating Station to the north, warehouse, industrial and manufacturing buildings to the south, U.S. Federal Bureau Prison, warehouse, industrial and manufacturing buildings and Costco to the East and New York Bay to the west.
- The site has been used in the past for residential dwellings, commercial buildings (stores) and offices, lumber and coal storage, warehouse buildings, a paper pulp mill shredding plant, parking garages, machine shops, sheds, railroad tracks, a fire station, a ferry terminal, paint shops, the New York City Transit System, bus garages, gasoline and oil storage, and cargo storage.
- Historical Sanborn Maps depict that four 160,000 gallon oil/diesel oil aboveground storage tanks (ASTs), a diesel oil filling station with associated underground storage tanks (USTs), and numerous UST gasoline tanks were located on the site since 1951. The NYCEDC is looking into the status of these tanks.

In order to identify known locations of reported spills in the area of the SBMT, Environmental Data Resources, Inc. (EDR), a commercial environmental data retrieval service, conducted a database search for HDR. The databases include various Federal and State records regarding USTs, leaking tanks, spills, hazardous waste generators, etc. Databases are searched based on prescribed ASTM E 1527-00 radii typically used for Phase I Environmental Site Assessments. The report produced by EDR was examined and relevant spills and leaking UST (LTanks) sites are within a quarter mile of the site are provided in Table 1 below. A complete electronic copy of the report will be provided upon request.

2.2 Geology

A geotechnical investigation was performed in 2002 by Site Blauvelt Engineers for the NYCEDC. Per the August 2002 Geotechnical Report, the subsurface soils at the site mainly consist of manmade fill, hydraulic fill, sand, silt and silty sand/sandy silt. The manmade fill, encountered at depths from 5 to 40 feet below ground surface (bgs) consists of silt and/or sand mixed with cinder ash, brick fragments, concrete fragments and wood. The hydraulic fill primarily consists of sand and silt, with some fine to coarse gravel and was encountered at approximated depths of 20 to 38.5 feet bgs. Sand was encountered at varying depths between 3 to 29 feet bgs and was characterized as "loose" to "medium dense". Silt was encountered at varying depths ranging from 28 to 40 feet bgs and was characterized as "very soft" to "firm". Silty sand/sandy silt was encountered at varying depths from 5 to 40 bgs and was characterized as "very loose/very soft" to "medium dense/stiff". The Geotechnical Report states that "well-defined soil strata could not be identified across the project site. Especially in shallower borings it was difficult to distinguish between hydraulic fill and natural soil deposits." Bedrock was not encountered.

Table 1

Reported Spills and LTanks Sites within ¼ mile

Site Name	Address	Database	Spill No.	Spill Date	Spill Closed Date	Source	Affected Resource
33rd & 2nd Avenue	33rd St. & 2nd Ave.	NY Spills	9606591	8/22/96	11/21/96	Pier collapsed with car into Gowanus Canal	Surface Water
New York City Transit	36th St. & 2nd Ave.	NY Spills	0103012	6/18/01	12/23/02	Equipment Failure	Soil
Vault 5745	36th St. & 2nd Ave.	NY Spills	9808387	10/7/98	10/23/02	Unknown	Soil
TM #2125	32nd St. & 2nd Ave.	NY Spills	0010041	12/6/00	1/18/01	Unknown	Soil
12-15 37th Street	12-15 37th Street	NY Spills	9313215	2/7/93	2/7/94	Unknown	Soil
MC 88802	39th St. & 1st Ave	NY Spills	0103110	6/20/01	7/20/01	Unknown	Soil
BS 3181	39th St. & 1st Ave	NY Spills	9905186	7/30/99	4/4/02	Unknown	Soil
Interdynamics, Inc.	80 39th Street	NY Spills	9402614	5/23/94	5/24/94	Abandoned Drums	Soil
116 39th St./ Magnolia Ind.	116 39th St./ Magnolia Ind.	LTanks	9201695	5/12/92	5/12/92	Tank Overfill	Soil
FGP Bush Terminals	148 39th Street	LTanks	9514887	2/21/96	2/24/03	Tank Overfill	Soil
116 39th Street	116 39th Street	LTanks	9411889	12/6/94	12/6/94	Tank Overfill	Soil

3.0 SAMPLING ACTIVITIES

HDR and its subconsultant, Aquifer Drilling and Testing, Inc. (ADT), performed a groundwater investigation in July 2007. Field sampling activities were conducted over three days from July 16, 2007 through July 18, 2007. Six (6) groundwater samples (one per installed well) were obtained from the six temporary wells installed in the general areas where dewatering will occur to characterize the groundwater condition. Figure 3 depicts the final sampling locations and includes some modifications due to field conditions that did not allow access to the originally proposed sampling locations. Prior to installation of the temporary monitoring wells, HDR's subconsultant, Naeva Geophysics, Inc., performed a geophysical investigation to search and mark out detectable subsurface utilities within a 10-foot radius of the temporary well locations.

In accordance with the final Work Plan, the groundwater samples were analyzed for the parameters included in Attachment A to this Report.

Results of the investigation are included in Section 4.0.

3.1 Groundwater Sampling

A total of six (6) shallow temporary groundwater monitoring wells (TMW-1 through TMW-6) were installed on July 16, 2007 through July 18, 2007 to a depth of 11 feet to 15 feet below the ground surface with the lower 10 feet screened, and then developed. The groundwater monitoring wells were purged and a single sample was obtained from each well. Prior to purging the monitoring wells, the depth to groundwater was measured using an oil/water interface probe. During purging, but before the collection of groundwater samples, salinity, pH, conductivity, turbidity, and temperature measurements were collected. Free product was not encountered in the groundwater monitoring wells. Once sampled, the monitoring wells were removed and the site was restored to conditions prior to well construction.

Field notes obtained during the groundwater sampling activities can be found in Attachment B of this Report.

4.0 ANALYTICAL RESULTS

Groundwater samples were shipped to HDR's Laboratory Subcontractor, Hampton Clarke-Veritech, for analysis. The groundwater samples were analyzed for the parameters listed on the "NYSDEC Region 2 Dewatering Projects Sampling Information" sheet for discharge to a storm sewer, as well as the parameters required by the New York City Department of Environmental Protection (NYCDEP) for discharge to a sanitary sewer. The lists of these parameters are provided in Attachment A of this Report.

The analytical results are provided in Table 2 below.

Per the NYSDEC's guidance, the groundwater analytical results were compared to the NYSDEC Surface Water Quality Standards provided in Part 703.5 based on a surface water classification of I (Secondary Contact, Fishing) for the Upper New York Harbor. Exceedance of the Part 703.5 Standard for mercury was detected in one (TMW-3) of the six groundwater samples. Exceedances of the Part 703.5 Standards for lead and nickel were detected in all six groundwater samples obtained. Exceedance of the Part 703.5 Standard for copper were detected in five (TMW-2 through TMW-6) of the six groundwater samples obtained. Exceedance of the Part 703.5 Standard for zinc was detected in four (TMW-2 through TMW-4 and TMW-6) of the six groundwater samples.

The groundwater analytical results were compared also compared to the NYCDEP's limitations for effluent to sanitary or combined sewers. Exceedance of the NYCDEP's limitations for effluent for mercury was detected in two (TMW-3 and TMW-4) of the six groundwater samples. Exceedance of the NYCDEP's limitations for effluent for cadmium was detected in two (TMW-2 and TMW-3) of the six groundwater samples. Exceedances of the NYCDEP's limitations for effluent for lead and nickel were detected in all six groundwater samples obtained. Exceedance of the NYCDEP's limitations for effluent for copper were detected in five (TMW-2 through TMW-6) of the six groundwater samples obtained. Exceedance of the NYCDEP's limitations for effluent for zinc was detected in four (TMW-2 through TMW-4 and TMW-6) of the six groundwater samples. Slight exceedance of the NYCDEP's limitiations for effluent for

Table 2
Analytical Results
July 2007 Groundwater Sampling
South Brooklyn Marine Terminal

PARAMETER	NYSDEC Surface Water Quality Standards Part 703.5	NYCDEP Limitations for Effluent to Sanitary or Combined Sewers	TMW-1				TMW-2				TMW-3				TMW-4				TMW-5				TMW-6			
			Result	Flg	RL	Units	Result	Flg	RL	Units	Result	Flg	RL	Units	Result	Flg	RL	Units	Result	Flg	RL	Units	Result	Flg	RL	Units
Volatile Organics																										
1,1,1-Trichloroethane			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
1,1,2,2-Tetrachloroethane			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
1,1,2-Trichloroethane			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
1,1-Dichloroethane			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	130		1	ug/L	ND		1	ug/L	ND		1	ug/L
1,1-Dichloroethene			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	50		1	ug/L	ND		1	ug/L	ND		1	ug/L
1,2-Dichlorobenzene			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
1,2-Dichloroethane			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	3.5		1	ug/L	ND		1	ug/L	ND		1	ug/L
1,2-Dichloropropane			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
1,3-Dichlorobenzene			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
1,4-Dichlorobenzene			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
2-Butanone			ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L
2-Chloroethylvinylether			ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L
2-Hexanone			ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L
4-Methyl-2-Pentanone			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
Acetone			ND		10	ug/L	ND		10	ug/L	ND		10	ug/L	ND		10	ug/L	ND		10	ug/L	29		10	ug/L
Acrolein			ND		5	ug/L	ND		5	ug/L	ND		5	ug/L	ND		5	ug/L	ND		5	ug/L	ND		5	ug/L
Acrylonitrile			ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L
Benzene		134	ND		0.5	ug/L	ND		0.5	ug/L	2.6		0.5	ug/L	0.53		0.5	ug/L	8.2		0.5	ug/L	4.5		0.5	ug/L
Bromodichloromethane			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
Bromoform			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
Bromomethane			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
Carbon disulfide			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	3		1	ug/L
Carbon tetrachloride			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
Chlorobenzene	400		ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
Chloroethane			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	21		1	ug/L	ND		1	ug/L	ND		1	ug/L
Chloroform			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
Chloromethane			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
cis-1,2-Dichloroethene			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
cis-1,3-Dichloropropene			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
Dibromochloromethane			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
Ethylbenzene		380	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	1.3		1	ug/L	ND		1	ug/L
m&p-Xylenes		74	ND		1.5	ug/L	ND		1.5	ug/L	ND		1.5	ug/L	ND		1.5	ug/L	8.6		1.5	ug/L	ND		1.5	ug/L
Methylene chloride			ND		2.5	ug/L	ND		2.5	ug/L	ND		2.5	ug/L	ND		2.5	ug/L	ND		2.5	ug/L	ND		2.5	ug/L
Methyl-t-butyl ether		50	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
o-Xylene		74	ND		1	ug/L	ND		1	ug/L	1.1		1	ug/L	ND		1	ug/L	4.8		1	ug/L	1.5		1	ug/L
Styrene			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
t-Butyl Alcohol			ND		10	ug/L	ND		10	ug/L	ND		10	ug/L	ND		10	ug/L	ND		10	ug/L	ND		10	ug/L
Tetrachloroethene		20	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	1.4		1	ug/L	ND		1	ug/L	ND		1	ug/L
Toluene		74	ND		1	ug/L	ND		1	ug/L	1.8		1	ug/L	ND		1	ug/L	1.9		1	ug/L	1.4		1	ug/L
trans-1,2-Dichloroethene			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
trans-1,3-dichloropropene			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	ND		1	ug/L
Trichloroethene	40		ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	1.2		1	ug/L	ND		1	ug/L	2		1	ug/L
Vinyl chloride			ND		1	ug/L	ND		1	ug/L	ND		1	ug/L	18		1	ug/L	ND		1	ug/L	ND		1	ug/L

Table 2
Analytical Results
July 2007 Groundwater Sampling
South Brooklyn Marine Terminal

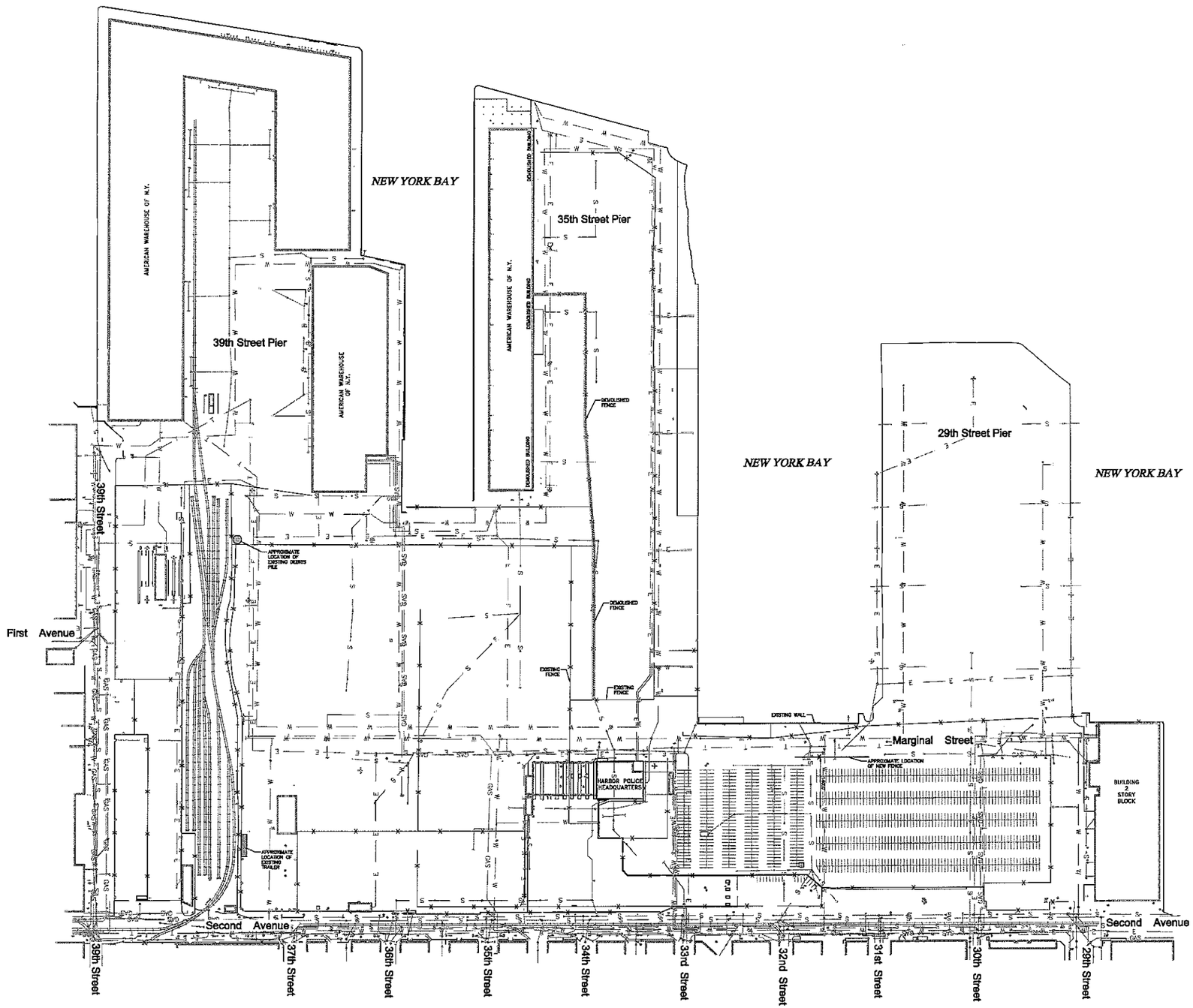
PARAMETER	NYSDEC Surface Water Quality Standards Part 703.5	NYCDEP Limitations for Effluent to Sanitary or Combined Sewers	TMW-1				TMW-2				TMW-3				TMW-4				TMW-5				TMW-6			
			Result	Flg	RL	Units	Result	Flg	RL	Units	Result	Flg	RL	Units	Result	Flg	RL	Units	Result	Flg	RL	Units	Result	Flg	RL	Units
Metals																										
Mercury	0.77	0.05	ND		0.2	ug/L	ND		0.2	ug/L	***5.5***		0.2	ug/L	*0.26*		0.2	ug/L	ND		0.2	ug/L	ND		0.2	ug/L
Antimony			ND		7.5	ug/L	ND		15	ug/L	ND		7.5	ug/L	ND		7.5	ug/L	ND		7.5	ug/L	9.7		7.5	ug/L
Arsenic			11		4	ug/L	69		8	ug/L	51		4	ug/L	27		4	ug/L	9.1		4	ug/L	23		4	ug/L
Barium			77		25	ug/L	1200		50	ug/L	1300		25	ug/L	320		25	ug/L	220		25	ug/L	370		25	ug/L
Beryllium			ND		4	ug/L	8.1		8	ug/L	ND		4	ug/L	ND		4	ug/L	ND		4	ug/L	ND		4	ug/L
Cadmium	21	2	ND		2	ug/L	*7.4*		4	ug/L	*2.1*		2	ug/L	ND		2	ug/L	ND		2	ug/L	ND		2	ug/L
Chromium			32		25	ug/L	270		50	ug/L	52		25	ug/L	58		25	ug/L	35		25	ug/L	ND		25	ug/L
Copper	5.6	5	ND		25	ug/L	***390***		50	ug/L	***640***		25	ug/L	***110***		25	ug/L	***42***		25	ug/L	***74***		25	ug/L
Lead	8/204	2	***13***		5	ug/L	***1600***		10	ug/L	***1200***		5	ug/L	***200***		5	ug/L	***46***		5	ug/L	***330***		5	ug/L
Nickel	8.2/ 74	3	***27***		10	ug/L	***430***		20	ug/L	***110***		10	ug/L	***68***		10	ug/L	***22***		10	ug/L	***38***		10	ug/L
Selenium			ND		25	ug/L	ND		50	ug/L	ND		25	ug/L	ND		25	ug/L	ND		25	ug/L	ND		25	ug/L
Silver			ND		10	ug/L	ND		20	ug/L	ND		10	ug/L	ND		10	ug/L	ND		10	ug/L	ND		10	ug/L
Thallium			ND		5	ug/L	ND		10	ug/L	ND		5	ug/L	ND		5	ug/L	ND		5	ug/L	ND		5	ug/L
Zinc	66	5	ND		25	ug/L	***1700***		50	ug/L	***1100***		25	ug/L	***420***		25	ug/L	ND		25	ug/L	***280***		25	ug/L
PCBS																										
Aroclor-1016		1	ND		0.26	ug/L	ND		0.25	ug/L	ND		0.26	ug/L	ND		0.26	ug/L	ND		0.28	ug/L	ND		0.25	ug/L
Aroclor-1221		1	ND		0.26	ug/L	ND		0.25	ug/L	ND		0.26	ug/L	ND		0.26	ug/L	ND		0.28	ug/L	ND		0.25	ug/L
Aroclor-1232		1	ND		0.26	ug/L	ND		0.25	ug/L	ND		0.26	ug/L	ND		0.26	ug/L	ND		0.28	ug/L	ND		0.25	ug/L
Aroclor-1242		1	ND		0.26	ug/L	ND		0.25	ug/L	ND		0.26	ug/L	ND		0.26	ug/L	ND		0.28	ug/L	ND		0.25	ug/L
Aroclor-1248		1	ND		0.26	ug/L	ND		0.25	ug/L	ND		0.26	ug/L	ND		0.26	ug/L	ND		0.28	ug/L	ND		0.25	ug/L
Aroclor-1254		1	ND		0.26	ug/L	ND		0.25	ug/L	ND		0.26	ug/L	ND		0.26	ug/L	ND		0.28	ug/L	ND		0.25	ug/L
Aroclor-1260		1	ND		0.26	ug/L	ND		0.25	ug/L	ND		0.26	ug/L	ND		0.26	ug/L	ND		0.28	ug/L	ND		0.25	ug/L
Aroclor-1262		1	ND		0.26	ug/L	ND		0.25	ug/L	ND		0.26	ug/L	ND		0.26	ug/L	ND		0.28	ug/L	ND		0.25	ug/L
Other Parameters																										
Carbonaceous Bod, 5 Day			ND		2	MG/L	ND		2	MG/L	25		12	MG/L	ND		2	MG/L	>4.8		2	MG/L	32		2	MG/L
Chloride			100		1.5	mg/L	100		1.5	mg/L	7300		75	mg/L	9.2		1.5	mg/L	4500		75	mg/L	170		7.5	mg/L
Cr (Hexavalent)		5	ND		0.025	mg/l	ND		0.025	mg/l	ND		0.025	mg/l	ND		0.025	mg/l	ND		0.025	mg/l	ND		0.025	mg/l
Flash Point		>140	>141			Deg. F	>141			Deg. F	>141			Deg. F	>141			Deg. F	>141			Deg. F	>141			Deg. F
SGT-HEM (Non-Polar Material)			ND		1.4	mg/L	ND		1.4	mg/L	4.7		1.5	mg/L	2.1		1.6	mg/L	1.7		1.6	mg/L	6.5		1.4	mg/L
Nitrite			ND		0.8	mg/L	ND		0.8	mg/L	ND		0.8	mg/L	ND		0.8	mg/L	ND		0.8	mg/L	ND		0.8	mg/L
Nitrate			ND		0.27	mg/L	0.28		0.27	mg/L	ND		0.27	mg/L	ND		0.27	mg/L	ND		0.27	mg/L	ND		0.27	mg/L
Total Phenolics			ND		0.05	mg/l	ND		0.05	mg/l	0.31		0.05	mg/l	ND		0.05	mg/l	0.057		0.05	mg/l	0.3		0.05	mg/l
pH		5-11	8.1			Ph	6.9			Ph	*12*			Ph	7.1			Ph	9.8			Ph	*12*			Ph
Settleable Solids			7		0.1	ml/l	19		0.1	ml/l	13		0.1	ml/l	6.5		0.1	ml/l	0.1		0.1	ml/l	2		0.1	ml/l
Total Solids @ 103-105 C			560		10	mg/l	6200		33	mg/l	13000		100	mg/l	360		10	mg/l	470		10	mg/l	1400		33	mg/l
Total Suspended Solids @ 103-105 C		350	*470*		4	mg/l	*5400*		25	mg/l	*2300*		20	mg/l	*1300*		6.7	mg/l	53		4	mg/l	140		4	mg/l

pH was detected in two (IMW-3 and IMW-6) of the six groundwater samples. Exceedance of the NYCDEP's limitations for effluent for Total Suspended Solids (TSS) was detected in four (IMW-1 through IMW-4) of the six groundwater samples

5.0 CONCLUSION

The elevated metals concentrations detected in the groundwater samples are suspected to be primarily due to the high turbidity in the groundwater samples. Therefore, since the groundwater to be removed from the site during construction will be allowed to settle in settling tanks prior to discharging into the storm system, the turbidity, and therefore the concentration of TSS and metals in the groundwater, can be expected to be significantly lower to the concentrations reported in Table 2 and to be incompliance with the Part 703.5 Standards and the NYCDEP's limitations for effluent to sanitary or combined sewers.

FIGURES



NOTES:

1. NORTHING AND EASTINGS SHOWN ARE REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM (NAD 83) NEW YORK--LI ZONE.

0 150 300
SCALE IN FEET

NOTE:
IT IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, OTHER THAN THOSE WHOSE SEAL APPEARS ON THIS DRAWING, TO ALTER IN ANY WAY AN ITEM ON THIS DRAWING. IF AN ITEM IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

HDR
Henningson, Durham & Richardson Architecture and Engineering, P.C. in association with HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
0	08/14/07	GROUNDWATER SAMPLING REPORT

PROJECT NUMBER 0000000000028739

SOUTH BROOKLYN MARINE TERMINAL

NEW YORK CITY ECONOMIC DEVELOPMENT CORPORATION

BROOKLYN, NEW YORK

Site Plan

FILENAME	00C-01.dwg
SCALE	AS SHOWN

SHEET **00C-01**

NOTE: STORM DRAIN SYSTEM SHOWN WILL BE AVAILABLE FOR DEWATERING

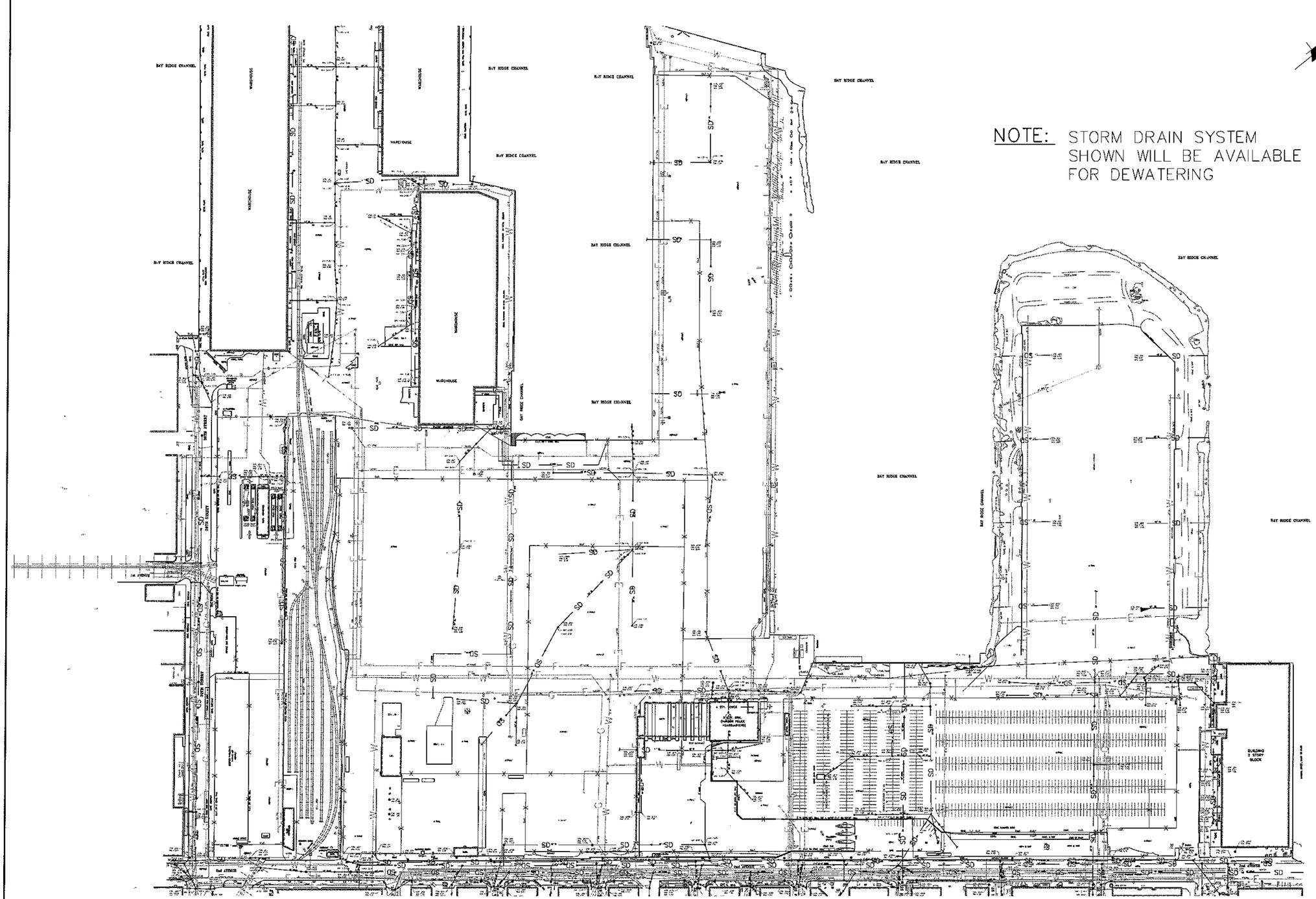


FIGURE 2

REVISION	DESCRIPTION	BY	DATE

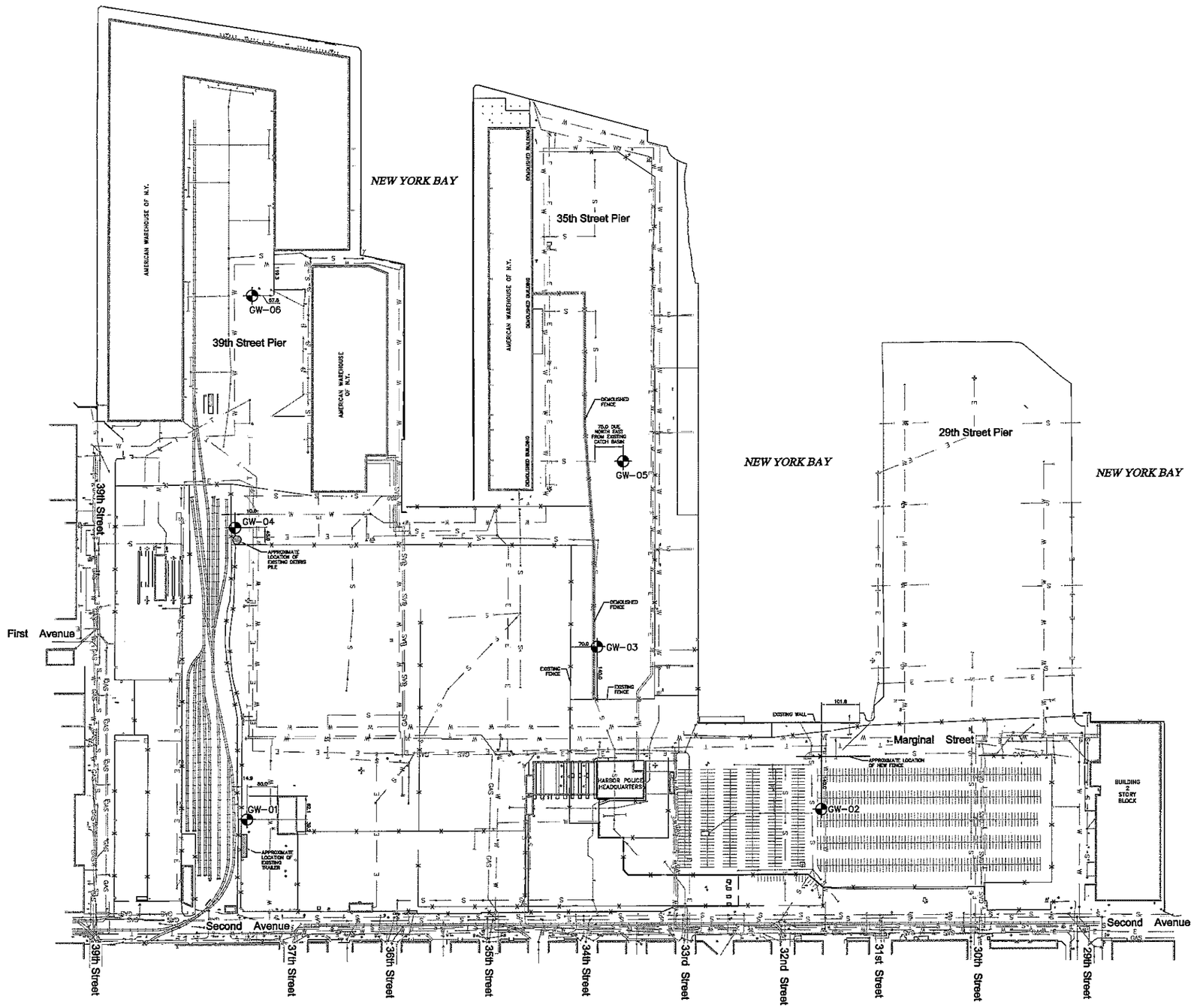
SOUTH BROOKLYN MARINE TERMINAL
STORM DRAINING SYSTEM
BROOKLYN BOROUGH
NEW YORK CITY EDC

M&N ENGINEERING, P.C.
104 WEST 40TH STREET, 14TH FLOOR
NEW YORK, NEW YORK, 10018
212-768-7454

DSGN | DR | CHK | SUBMITTED BY | TITLE
JOB NO. 5630-01

DATE JUN 15, 2007

SHEET OF



NOTES:

1. NORTHING AND EASTINGS SHOWN ARE REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM (NAD 83) NEW YORK–LI ZONE

0 150 300
SCALE IN FEET

NOTE:
IT IS A VIOLATION OF SECTION 7209 SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, OTHER THAN THOSE WHOSE SEAL APPEARS ON THIS DRAWING, TO ALTER IN ANY WAY AN ITEM ON THIS DRAWING. IF AN ITEM IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION

HDR
Henningson, Durham & Richardson Architecture and Engineering, P.C. in association with HDR Engineering, Inc.

ISSUE	DATE	DESCRIPTION
0	08/14/07	GROUNDWATER SAMPLING REPORT

PROJECT NUMBER 000000000028739

SOUTH BROOKLYN MARINE TERMINAL

NEW YORK CITY ECONOMIC DEVELOPMENT CORPORATION

BROOKLYN, NEW YORK

Final Temporary Groundwater Monitoring Well Locations

FILENAME	00C-01.dwg
SCALE	AS SHOWN

SHEET 00C-03

ATTACHMENT A

Parameters to be Analyzed

NYSDEC Region 2 - Dewatering Projects Sampling Information				
PROJECT NAME / ID #:				
#	PARAMETER	TYPE	EPA METHOD	DETECTION
1	pH	Grab	150 1	
2	Temperature	°F	After Pumping	
3	Oil & Grease	Grab	1664A	
4	Total Suspended Solids	Grab	160 2	
5	Settleable Solids	Grab	160 5	
6	Benzene	Grab	602	EPA MDL
7	Toluene	Grab	602	EPA MDL
8	Xylenes	Grab	602	EPA MDL
9	Ethelbenzene	Grab	602	EPA MDL
10	MTBE	Grab		
11	Halogenated Volatiles	Grab	601 -GC	EPA MDL
12	Nitrate/Nitrite	Grab	300 or 353 3	EPA MDL
13	Aromatic Volatiles	Grab	602 -GC	EPA MDL
14	13 Priority Metals	Grab	200 series	EPA MDL

NOTES

- Samples are to be collected after development of the well by a licensed well driller duly registered in accordance with Section 15-1525 of the Environmental Conservation Law of the State of New York
- Samples must be analyzed using the EPA method listed above for each parameter. If another method is used, the Department will not accept the results
- All analysis must be performed by a NYS Department of Health certified laboratory
- The Method Detection Limit (MDL) is the level at which the analytical procedure referenced is capable of determining with a 99% probability that the substance is present. This value is determined in distilled water with no interfering substances present
- **When collecting samples, it is expected that the temporary discharge will be contained on site and will not cause or contribute to a contravention of water quality standards.**
- **The department may require sampling of additional parameters if the proposed dewatering site is suspected of being contaminated**

06/07/2007

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTEWATER TREATMENT

LIMITATIONS FOR EFFLUENT TO *SANITARY OR COMBINED* SEWERS

Parameter[1]	Daily Limit	Units	Sample Type	Monthly Limit
Non-polar material[2]	50	mg/l	Instantaneous	---
pH	5-11	SU's	Instantaneous	---
Temperature	< 150	Degree F	Instantaneous	---
Flash Point	> 140	Degree F	Instantaneous	---
Cadmium	2 0.69	mg/l mg/l	Instantaneous Composite	--- ---
Chromium (VI)	5	mg/l	Instantaneous	---
Copper	5	mg/l	Instantaneous	---
Lead	2	mg/l	Instantaneous	---
Mercury	0.05	mg/l	Instantaneous	---
Nickel	3	mg/l	Instantaneous	---
Zinc	5	mg/l	Instantaneous	---
Benzene	134	ppb	Instantaneous	57
Carbontetrachloride	---	---	Composite	---
Chloroform	---	---	Composite	---
1,4 Dichlorobenzene	---	---	Composite	---
Ethylbenzene	380	ppb	Instantaneous	142
MTBE (Methyl-Tert-Butyl-Ether)	50	ppb	Instantaneous	---
Naphthalene	47	ppb	Composite	19
Phenol	---	---	Composite	---
Tetrachloroethylene (Perc)	20	ppb	Instantaneous	---
Toluene	74	ppb	Instantaneous	28
1,2,4 Trichlorobenzene	---	---	Composite	---
1,1,1 Trichloroethane	---	---	Composite	---
Xylenes (Total)	74	ppb	Instantaneous	28
PCB's (Total)[3]	1	ppb	Composite	---
Total Suspended Solids (TSS)	350[4]	mg/l	Instantaneous	---
CBOD[5]	---	---	Composite	---
Chloride[5]	---	---	Instantaneous	---
Total Nitrogen[5]	---	---	Composite	---
Total Solids[5]	---	---	Instantaneous	---
Other				

1 All handling and preservation of collected samples and laboratory analyses of samples shall be performed in accordance with 40 C F R pt 136. If 40 C.F R pt 136 does not cover the pollutant in question, the handling, preservation, and analysis must be performed in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater" All analyses shall be performed using a detection level less than the lowest applicable regulatory discharge limit If a parameter does not have a limit, then the detection level is defined as the least of the Practical Quantitation Limits identified in NYSDEC's Analytical Detectability and Quantitation Guidelines for Selected Environmental Parameters, December 1988

2 Analysis for ***non-polar materials*** must be done by EPA method 1664 Rev A. Non-Polar Material shall mean that portion of the oil and grease that is not eliminated from a solution containing N-Hexane, or any other extraction solvent the EPA shall prescribe, by silica gel absorption

3 Analysis for PCB=s is required if ***both*** conditions listed below are met:
1) if proposed discharge ≥ 10,000 gpd;
2) if duration of a discharge > 10 days.
Analysis for PCB=s must be done by EPA method 608 with MDL =<65 ppt PCB's (total) is the sum of PCB-1242 (Arochlor 1242), PCB-1254 (Arochlor 1254), PCB-1221 (Arochlor 1221), PCB-1232 (Arochlor 1232), PCB-1248 (Arochlor 1248), PCB-1260 (Arochlor 1260) and PCB-1016 (Arochlor 1016).

4 For discharge ≥ 10,000 gpd, the ISS limit is 350 mg/l For discharge < 10,000gpd, the limit is determined on a case by case basis

5 Analysis for Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Solids and Total Nitrogen are required if proposed discharge ≥ 10,000 gpd

ATTACHMENT B

Sampling Field Notes

South Brooklyn Marine Terminal Job 7/16 - 7/18 07

Sean Quarry, Barbara Gedach, Stephanie Nakai

Contacts:

NS Noemi 917-887-3670 John M. 914-774-0790

BG Barbara 845-742-3633 Steph N. 845-641-3242

JF John Freeman EDC - 917-731-6986 guard

Ganeck EDC - 347-739-5819 security

Carmine Grodan - 917-416-8580 - EDC

Michael - OEM - 917-416-4096 - NYDS

ADT - Jermy/Bernie - J-631-721-7536

Capt Klimoski - 646-610-5705 NYPD

TMW - 1 - Richie Plaza Depot (used cars)

TMW - 2 - NYPD Depot

TMW - 3,5 - Stewie - New Car Lot

TMW - 4,6 - OEM/FEMA site - Michael (OEM)

given site plan/map

Monday 7/16/07

830 JM on site

915 BG/SQ/ADT company on site (JM/SQ site walks) 1-6

1000 Drilling commences @ TMW-1 (fill/sand)

1100 Location @ 10-11' - mobilize to NYPD (TMW-2)

1145 - waiting for the approval @ TMW-2

1230 Lunch for drillers approval pending @ NYPD

1430 TMW-3 0-5' >100 ppm on PID (fill/sand)

drilled 5-10 >100 ppm

1500 10-14 <10 ppm

1515 TMW-3 - whale pump, Super turbid/dark >500

- light screen seen?, water @ 9'

- turbid dark, 12 gallons developed

- SWL ~14' - start to clean up and shop, turn dark

- SWL - 65' @ 1535 sediment again, NO petroleum odor

1545 - TMW-5 drilled

1550	TMW-5	0-5'	>100 ppm	water @ 5'
	develop, purge	5-10	>50 ppm	13' rock bit
	Sample	10-15'	750 ppm	well 11'5"

1700 HDR offsite

Tuesday 7/17/07

725 onsite spoke w/ NYPO, NO approval

840 drillers onsite, spoke with JF, NS

940 TMW-5 develop, purge, sample, on to TMW-1

1040 TMW-1, moved cars, develop, purged, sampled SW2 - 7.64, slow sampling water intermittent

1320 completed sampling @ TMW-1, drillers eating rem grout/close hole, tried NYPD again

1350 @ TMW-4 develop, purge 1400 sampling also SWL 9.96'

... See next sheet SN notes

Stephanie Nak.

7/17/07

900 ADT (Jeremy and Bernie) arrive on site.

920 Begin setting up @ TMW-4

Night Tide 7/18
11-noon

observed soils (through drill cuttings)

0-5' : Asphalt; 3/4" gravel (binder), br. dry sandy silt, chlorine odor w/PID 5-125 ppm oxidized quickly.

5-10' : Some sandy silt w/ little gravel, dk. br., damp, low PID 0-5 ppm, slight chlorine odor

10-15' : Silty clay, br.-reddy br., wet, trace gravel and organics, no observed odor, PID 0-2 ppm

950 TMW-4 complete. GW @ 10' bgs. Screen 5-15' bgs

Begin @ TMW-6

Observed Soils (through drill cuttings)

0-5 : Asphalt, 3/4" gravel, sandy silt., reddy br., dry, mild chlorine odor, PID 0-9 ppm
→ Trace fill and organics, some pebbles

5-10 : Silty sand, blk., mild odor, PID up to 72 ppm
→ Trace fill (brick, glass, etc), organics and pebbles

10-15': Refusal @ 11' bgs

@ both TMW-4 and TMW-6, hit some hardened material 2-3' bgs w/ minor auger refusal. Able to continue boring thru @ both locations.

GW @ TMW-6 @ 8.2' bgs, set well screen 1-11' bgs.

1130 Begin removing well and grouting hole @ TMW-3? (near Infinity cars) GW comes out of hole w/ some soil left. Leave hole to "settle"

1145 Begin removing well and grouting hole @ TMW-5? (near Nissan cars). Cuttings do not fill hole, GW still visible. Drillers attempt to bridge w/ dry portland cement. Bridging successful and apply blacktop.

1200 Return to TMW @ Infinity cars saturated soils (toothpaste consistency) settled ~3" bgs. Drillers mix in dry Portland Cement. Will leave overnight and return to tomorrow for asphalt patching.

1215 Went to NYPD Impound Lot. Told no authorization to drill has arrived, therefore cannot enter site.

1300 Drillers take lunch break.

1330 Backfill and asphalt patch TMW-1 (@ used car lot)

1430 Check w/ NYPD impound lot. Still no access

1445 Meet S. Quarry @ TMW-4 to assist w/ sampling. Then pull well and backfill.

1539 Go to used car lot, speak to owner regarding drum

1600 Go to NYPD lot, speak to officers regarding site access.

1605 Call Hampton Clark to schedule pick up of cuttings. Franz confirms Nyack pick up for 930 am. Leave for day.

Wednesday 7/18/07

515 left Goshen Heavy Rain 75°F

630 left Nyack – Flooding / Traffic / Accidents, etc.

1100 Arrive onsite, @ TMW-6 to Sample
– hired NYPD

1115 developing, purging, Sampling, and then drying up

1215 over to TMW-3

1230 Portland / Concrete hard, lay asphalt

1245 lasered down @ TMW-1, left for Transport

1315 NS called verbal for NYPD

1345 @ TMW-2 NYPD approved, IO Check

1400 on TMW-2 location

	0-5	> 50 ppm	fill
SWL = 9.47	5-10	> 50 ppm	sand silty material
	10-15	> 50 ppm	muddy silty / clay trace clay

1500 developed, purged, sampling @ location

1545 Completed Sampling

1600 drillers close hole

1615 – Soil Samples from drum (left @ Nyack Rig)
– called JF (EDC), NS – drum @ TMW-1
– told Richie (owner) near TMW-1

1620 – Samples picked up by Vantech Barbara CoC

1630 – Signed off for drillers
– letting all owners know done work (left cards)

1645 HDR offsite

TMW-1 well 14', water 10.5' – SWL 7.64 7/17/07

	1045 gallon	Temp	Cond	TDS	SAL	DO%	pH	ORP	E
1130	0	18.80	1.042	.675	.57	58.0	9.18	54.1	320
1140	1.5	18.50	1.054	.676	.51	37.5	9.27	57.9	305
1150	3.0	18.46	1.302	.873	.67	25.8	9.40	50.1	82
1200	5.0	18.20	1.224	.788	.60	38.0	9.39	33.9	77

TMW-2 well 14.5', 8' water – SWL ~~9.65~~ 9.47 7/18/07

Purge	Temp	Cond	TDS	Sal	DO	pH	ORP	E – none
0	20.49	1.976	.634	.48	3.09	8.04	55.57	
2.5	20.04	.990	.648	.49	2.21	7.83	-34.4	
5.0	20.71	1.940	.618	.47	3.38	8.32	-18.2	
7.5	19.67	1.005	.653	.50	2.91	8.07	-81.5	

TMW-3 14' well, water 9' SWL 6.5' @1000 7/16/07

	Purge	Temp	Cond	TDS	SAL	DO	pH	ORP	E
	0	22.57	18.59		11.06		9.32	-42.1	440
	1.5	23.26	18.96	(12.106)	10.62	1.99(0)	9.87	-67.5	157
	3.0	22.91	18.15	11.68(0.5)	10.75	.57(0.5)	9.89	-57.0	337
@1603	5.0	22.33	18.33	11.80(3.0)	10.87	.93(3)	9.90	-50.4	471
@1620	Sample	21.27	18.76	11.92(5.0) 12.29(5)	11.17	1.00(5) 1.04(5)	9.42	-57.4	195

TMW-4 10.5' well water 8' SWL = 7.96'

	1350 Purge	Temp	Cond	TDS	SAL	DO%	pH	ORP	E
1358	0	17.41	.625	.406	.31	24.7	8.55	-135.0	670
1402	1.5	17.15	.622	.405	.30	18.8	7.89	-107.5	564
1426	3.0	16.8	.648	.421	.32	20.0	7.76	-105.2	354
1210	5.0	16.73	.649	.422	.32	22.5	7.75	-112.2	119

TMW-5 Well 11.5' water 9' ~ 940 SWL - 8.82

	Purge	Temp	Cond	TDS	SAL	DO%	pH	ORP	←
945	0	26.25	11.71	7.646	6.70	22.5	9.73	-20.3	180
950	1.5	25.29	11.45	7.251	6.33	15.10	9.63	-15.4	162
953	3.0	25.57	11.33	7.363	6.43	17.0	9.64	-20.0	92
955	5.0	24.98	11.32	7.352	6.42	16.1	9.64	-22.6	84

TMW-6 well 11', 9' water 1300 SWL - 8.54

Purge	Temp	Cond	TDS	Sal	DO	pH	ORP	←
0	21.25	1.872	1.220	0.96	3.14	9.23	-20.1	
1.5	21.01	1.604	1.042	0.81	2.26	9.10	7.5	none
3.0	22.42	1.785	1.160	0.91	5.95	9.85	27.6	
5.0	21.80	1.766	1.146	0.89	6.20	9.94	28.2	

7/16/07 Calibration Log

YSI 556-01

1535 4.0 = 4.9
7.0 = 7.11
10.0 = 9.56

Turbidity ORT-ISCE Std. for ORT

0.02	-.3
10	16.0
100	112.0
1000	984.0

Aquifer Drilling & Testing, Inc.

ADT JOB NO: 071-07-6231

NYC OFFICE
(800) 238-3745
(516) 616-6194 Fax

TROY OFFICE
(518) 274-3949
(518) 274-3989 Fax

CONNECTICUT OFFICE
(860) 243-0352
(860) 243-8570 Fax

DAILY JOB & SITE INVESTIGATION REPORT

DATE: 7/16/07 CLIENT: HDR DRILLER: Jeremy

HELPER(S): Bernie

JOB LOCATION: South BK Marina RIG NO.: CC55

DESCRIPTION OF WORK: SUPPORT TRK: 26

Load at shop. Mobe. Set 3 Temp. wells.
Standby waiting to get into pole yard.

TEST BORING DATA & SITE GEOLOGY

BORING NO.	TOTAL DEPTH	SAMPLES SOIL	SAMPLES H2O	SAMPLES BL CT	DTW	GRAVL/CBLE/BLDER SAND/SILT/CLAY
1	15'					
2	15'					
3	13'					

DRILLING METHOD

HSA / AIR / MUD / ODEX

Footage	Size
43'	4¼

CORING

Footage	Size

MISCELLANEOUS

Steam Clean (hr)	
Standby (hr)	2.5
Stage Soils (hr)	
Well Develop (hr)	
Borehole Grout (ft)	
Poly Tubing (ft)	
Concrete Cores (no.)	
Expend. Points (no.)	
Drums (no.)	1
Sidewalk Permits (no.)	

TEMPORARY TEST POINTS

WELL NO.	SIZE	SCRN	RISER	DEPTH	SAND	CHIPS	CMT	BENT	SURF(M/S)
1	2"	10'	5'	15'					
2	2"	10'	5'	15'					
3	2"	10'	3'	13'					

Arrive Shop @ 6:00 Leave Shop @ 6:30 Arrive Site @ 8:30 Leave Site @ 4:30 Arrive Shop @ 6:30

PERSONNEL	SIGNATURE	AM SHOP	MOBE*	ON SITE	DEMOBE**	PM SHOP	TOTAL
Jeremy		.5	2.5	8	2		12.5
Bernie		.5	2.5	8	2		12.5

APPROVED: Sean Quarry
CLIENT REPRESENTATIVE

DATE: 7/18/07

PRINT NAME: Sean Quarry

Client's signature approves crews ON SITE hours.

* Indicate if Initial Mobilization

** Indicate if Final Demobilization

White (Client) Yellow (Accounting) Pink (Admin)

Aquifer Drilling & Testing, Inc.

ADT JOB NO.: 07-07-023A

NYC OFFICE
(800) 238-3745
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TROY OFFICE
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(518) 274-3989 Fax

CONNECTICUT OFFICE
(860) 243-0352
(860) 243-8570 Fax

DAILY JOB & SITE INVESTIGATION REPORT

DATE: 7/17/07 CLIENT: HDR DRILLER: Jeremy

HELPER(S): Bernie

JOB LOCATION: South BK Marina RIG NO.: CC55

DESCRIPTION OF WORK: SUPPORT TRK: 26

Rental at Type Make. Set 2 temp wells.
Pulled 2 wells, and backfilled hole

TEST BORING DATA & SITE GEOLOGY

BORING NO.	TOTAL DEPTH	SAMPLES SOIL	SAMPLES H2O	BL CT	DTW	GRAVL/CBLE/BLDER SAND/SILT/CLAY
1	15'					
2	11'					

DRILLING METHOD

(HSA) / AIR / MUD / ODEX

Footage	Size
26'	4¼

CORING

Footage	Size

MISCELLANEOUS

Steam Clean (hr)	
Standby (hr)	
Stage Soils (hr)	
Well Develop (hr)	
Borehole Grout (ft)	
Poly Tubing (ft)	
Concrete Cores (no.)	
Expend. Points (no.)	
Drums (no.)	
Sidewalk Permits (no.)	

TEMPORARY TEST POINTS

WELL NO.	SIZE	SCRN	RISER	DEPTH	SAND	CHIPS	CMT	BENT	SURF(M/S)
1	2"	10'	5'	15'					
2	2"	10'	1'	11'					

Arrive Shop @ 5:30 Leave Shop @ 6:30 Arrive Site @ 8:30 Leave Site @ 4:30 Arrive Shop @ 6:00

PERSONNEL	SIGNATURE	AM SHOP	MOBE*	ON SITE	DEMOBE**	PM SHOP	TOTAL
Jeremy		1	2	8			11
Bernie		1	2	8			11

APPROVED: Sean Deary
CLIENT REPRESENTATIVE

DATE: 7/18/07

PRINT NAME: Sean Deary

Client's signature approves crews ON SITE hours.

* Indicate if Initial Mobilization

** Indicate if Final Demobilization

White (Client) Yellow (Accounting) Pink (Admin)

Aquifer Drilling & Testing, Inc.

ADT JOB NO.: 071-07-023

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(518) 274-3989 Fax

CONNECTICUT OFFICE
(860) 243-0352
(860) 243-8570 Fax

DAILY JOB & SITE INVESTIGATION REPORT

DATE: 7/18/07 CLIENT: HDR DRILLER: Jerry

JOB LOCATION: South BK Marina HELPER(S): Bernie

DESCRIPTION OF WORK: load at shop. 527 Mobe RU @ temp wells and Patch surface drill temp well clean up & Demobe RIG NO.: DF 527 SUPPORT TRK: R6

☆ Mobe time 1 IE closed

TEST BORING DATA & SITE GEOLOGY

BORING NO.	TOTAL DEPTH	SAMPLES SOIL	SAMPLES H2O	BL CT	DTW	GRAVL/CBLE/BLDER SAND/SILT/CLAY
1	15'					

DRILLING METHOD

HSA / AIR / MUD / ODEX

Footage: 15' Size: 4 1/4"

CORING

Footage: Size:

MISCELLANEOUS

Steam Clean (hr)	
Standby (hr)	
Stage Soils (hr)	
Well Develop (hr)	
Borehole Grout (ft)	
Poly Tubing (ft)	
Concrete Cores (no.)	
Expend. Points (no.)	
Drums (no.)	
Sidewalk Permits (no.)	

TEMPORARY TEST POINTS

WELL NO.	SIZE	SCRN	RISER	DEPTH	SAND	CHIPS	CMT	BENT	SURF(M/S)
1	2"	10'	5'	15'					

Arrive Shop @ 6:00 Leave Shop @ 7:00 Arrive Site @ 11:30 Leave Site @ 4:30 Arrive Shop @

PERSONNEL	SIGNATURE	AM SHOP	MOBE*	ON SITE	DEMOBE**	PM SHOP	TOTAL
Jeremy			5	5			
Bernie			5	5			

APPROVED: _____ DATE: 7/18/07

CLIENT REPRESENTATIVE

PRINT NAME: Sean Quarry

Client's signature approves crews ON SITE hours.

* Indicate if Initial Mobilization

** Indicate if Final Demobilization

White (Client) Yellow (Accounting) Pink (Admin)

Project Specifications/ Bottle Order Form

Project:
SBMT GW

Drop Date:	Drop Time:
Thu 07/12	Any
Pickup Date	Pickup Time

Bottle Order: 10297
Contact: Noemi Santiago
Client: **HDR/LMS**

Phone: 845-735-8300 Ext:
Cell:
Beeper:

Ship To: Nyack,NY

Pickup From:

Created By: MG
Bottles Prep'd By:

Syringes ☐ Ice ☐ COC,Lbls,Seals ☐ Complete ☐ Scale? ☐ Return? ☐

Comments: ***TKN WILL BE SUBCONTRACTED***

# of Sams	Analysis	# of Bottls	Bottle Type	Preservative	Matrix	Complete	Comment
10	O&G (1664)	20	1L Amber	HCL	9AQ+1FB	☐	
10	pH/Flashpoint	10	500 ml pl plastic	none	9AQ+1FB	☐	
10	Hexavalent Cr (24HR)	10	500 ml plastic	none	9AQ+1FB	☐	
10	PP Metals	10	1L Plastic	HNO3	9AQ+1FB	☐	
10	Phenol	10	500 ml amber	H2SO4	9AQ+1FB	☐	
10	PCB	20	1L Amber	none	9AQ+1FB	☐	
10	TSS	10	1L Plastic	none	9AQ+1FB	☐	
10	CBOD (48HR)	10	1L plastic	none	9AQ+1FB	☐	
10	TKN (SUB)	10	500ml Plastic	H2SO4	9AQ+1FB	☐	
10	NO2(48HR),NO3(48HR),Chloride	10	500ml Plastic	none	9AQ+1FB	☐	
10	VO	20	40 ml vial	HCL	9AQ+1FB	☐	
10	Total Solids/Settable Solids(24hr)	10	500 ml Plastic	None	9AQ+1FB	☐	

Veritech/Division of Hampton-Clarke
175 US Hwy 46 West, Fairfield, New Jersey 07004 Ph: 800-426-9992 fax:973-439-1458

CHAIN OF CUSTODY RECORD

Project#(Lab Use Only)

Page 1 of 1

Customer Information

1a) Customer: HDR
Address: White Plains, NY
1b) Email/Cell/Fax/Ph: 917-887-3670
1c) Send Invoice To: HDR White Plains
1d) Send Report To: Naomi Santiago

Project Information

2a) Project: SBMT
2b) Project Manager: Naomi Santiago
2c) Location (City/State): Brooklyn, NY
2d) Quote#/PO# (If Applicable):

3) Reporting Requirements(please circle)

Turnaround Time	Report type	Electronic Deliv
*24-Hour(100%)	✓ Data Sum	Hazsite/Csv
●48-Hour(75%)	Waste	Equis
72-Hour(50%)	Red-NJ/NY/PA	Excel-NJCC
1-Week(25%)	CLP	Excel-Nytagm
10 Days(10%)	Full/Cat-B	Excel-PAActII
Standard	Cat-A	PDF
Other:	Other:	Other:

Expedited TAT Not always available (Please check with lab)!

FOR LAB USE ONLY
Batch#

Matrix Codes: DW-Drinking Water, GW-Ground Water, WW-Waste Water, S-Soil, SL-Sludge, O-Oil, A-Air, Ot-Other

7) Analysis Request — Check if Contingent===> / <===Check if Contingent

Lab Sample#	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Composite(C)	Grab(G)	O-G (1664)	pH/Flashpoint	*Hex Chrom (24hr)	pp Metals	phenol	PCB	TSS (Total Solids Samples 5-10 days)	CBOD (48 hrs)	TKN (5wk)	pp + NO3 (48hrs)	VO	8) # Of Bottles: None	MeOH	Encore	NaOH	HCl	H2SO4	HNO3	Other:	9) Methanol Bottle Numbers (If applicable) / Comments
	TMW-3	W	7/16/07	16:20		✓	2	1	1	1	1	2	2	1	1	1	2	3				4	2	1		
	Trip Blank	W	7/16/07	16:30		✓											1	1								

10) Relinquished By:	Accepted By	Date	Time

Comments, Notes, Special Requirements, HAZARDS

Cooler Tmp

11) Sampler: [signature] Date: 7/16/07

Please note NUMBERED items. If not completed your analytical work may be delayed.
A fee of $5/sample will be assessed for storage should sample not be activated for any analysis

Veritech/Division of Hampton-Clarke

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CHAIN OF CUSTODY RECORD

Project#(Lab Use Only)

Customer Information

1a) Customer: HDR
Address: White Plains, NY
1b) Email/Cell/Fax/Ph: 917-887-3670
1c) Send Invoice To: HDR White Plains
1d) Send Report To: Noemi Santiago

Project Information

2a) Project: SBMT
2b) Project Manager: Noemi Santiago
2c) Location (City/State): Brooklyn, NY
2d) Quote#/PO# (If Applicable):

3) Reporting Requirements (please circle)

Turnaround Time	Report type	Electronic Deliv
24-Hour(100%)	Data Sum	Hazsite/Csv
48-Hour(75%)	Waste	Equis
72-Hour(50%)	Red-NJ/NY/PA	Excel-NJCC
1-Week(25%)	CLP	Excel-Nytagm
10 Days(10%)	Full/Cat-B	Excel-PAActll
Standard	Cat-A	PDF
Other:	Other:	Other:

Expedited TAT Not always available (Please check with lab)!

7) Analysis Request

FOR LAB USE ONLY — Batch#

Check if Contingent===> / <===Check if Contingent

Matrix Codes: DW-Drinking Water, GW-Ground Water, WW-Waste Water, S-Soil, SL-Sludge, O-Oil, A-Air, Ot-Other

Lab Sample#	4) Customer Sample ID	5) Matrix	6) Sample Date	Time	Composite(C)	Grab(G)	VFG (Veg?)	pH/Flash pt	Hex Chrome	Pl metal	Phenols	PCB	TSS	CBOD	TKN	NO2/NO3 Chloride	VO	None	MeOH	Encore	NaOH	HCl	H2SO4	HNO3	Other	9) Methanol Bottle Numbers (If applicable) Comments
	TMW-4 MS	W	7/17/07	1450		✓	[illegible]	1	1	1	1	2*	1*	1		1	2*	7				4	1	1		
	TMW-4 MSD	W	7/17/07	1450		✓	1	1	1		1	1*	1*	1	1	1	2					3	2			
	TMW-4	W	7/17/07	1450		✓											2*					2				
	Trip-Blank	W	7/17/07	1740		✓											1	1								

8) # Of Bottles

10) Relinquished By:	Accepted By	Date	Time
Sean [signature]			

Comments, Notes, Special Requirements, HAZARDS

11) Sampler: [signature] Date: 7/18/07

Cooler Tmp

Please note NUMBERED items. If not completed your analytical work may be delayed.
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Veritech/Division of Hampton-Clarke

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CHAIN OF CUSTODY RECORD

Project#(Lab Use Only)

Page 2 of 3

Customer Information

1a) Customer: HDR
Address: White Plains
1b) Email/(Cell)/Fax/Ph: 917-887-3670
1c) Send Invoice To: HDR White Plains
1d) Send Report To: Noemi Santiago

Project Information

2a) Project: SBMT
2b) Project Manager: Noemi Santiago
2c) Location (City/State): Brooklyn, NY
2d) Quote#/PO# (If Applicable):

3) Reporting Requirements(please circle)

Turnaround Time	Report type	Electronic Deliv
24-Hour(100%)	Data Sum	Hazsite/Csv
48-Hour(75%)	Waste	Equis
72-Hour(50%)	Red-NJ/NY/PA	Excel-NJCC
1-Week(25%)	CLP	Excel-Nytagm
10 Days(10%)	Full/Cat-B	Excel-PAActl
Standard	Cat-A	PDF
Other:	Other:	Other:

Expedited TAT Not always available (Please check with lab)!

7) Analysis Request

FOR LAB USE ONLY — Batch#

Check if Contingent===> <===Check if Contingent

Matrix Codes: DW-Drinking Water, GW-Ground Water, WW-Waste Water, S-Soil, SL-Sludge, O-Oil, A-Air, Ot-Other

Lab Sample#	4) Customer Sample ID	5) Matrix	6) Sample Date	Time	Composite(C)	Grab(G)	O&G 1664	Ph Flash pt	Hex Chrom	Alum	PCB	TSS	CBOD (28hr)	TKN (Eh)	nonfrac...	Co	PP Metals	None	MeOH	Encore	NaOH	HCl	H2SO4	HNO3	Other	9) Methanol Bottle Numbers (If applicable) Comments
	TMW-4	W	7/17/07	1450		✓	2	1	1	1	2	2	1	1	1		1	8	.			2	2	1		
	TMW-4 MS	W	7/17/07	1450		✓					1	1		1				2					1			
	TMW-4 MSD	W	7/17	1450		✓	1					1					1	1				1		1		

8) # Of Bottles

10) Relinquished By:	Accepted By	Date	Time
[signature]			

Comments, Notes, Special Requirements, HAZARDS

Cooler Tmp

11) Sampler: [signature] Date: 7/17/07

Please note NUMBERED Items. If not completed your analytical work may be delayed.
A fee of $5/sample will be assessed for storage should sample not be activated for any analysis

Veritech/Division of Hampton-Clarke
175 US Hwy 46 West, Fairfield, New Jersey 07004
Ph: 800-426-9992 Fax: 973-439-1458

HC-V HAMPTON-CLARKE/VERITECH

CHAIN OF CUSTODY RECORD

Project# (Lab Use Only)

Customer Information

1a) Customer: HDR
Address: White Plains
1b) Email/Cell/Fax/Ph: 917 - 887 - 3670
1c) Send Invoice to: HDR - White Plains
1d) Send Report to: Noemi Santiago

Project Information

2a) Project: SBMT
2b) Project Mgr: Noemi Santiago
2c) Project Location (City/State): Brooklyn, NY
2d) Quote/PO # (If Applicable):

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Deliv.
24 Hours (100%)	Data Summary	Hazsite/CSV
48 Hours (75%)	Waste	EQuIS
72 Hours (50%)	Red - NJ / NY / PA	Excel - NJCC
1 Week (25%)	CLP	Excel - NY TAGM
10 Days (10%)	Full / Category B	Excel - PA Act 2
Standard	Category A	PDF
Other:	Other:	Other:

Expedited TAT Not Always Available (Please Check with Lab)!

FOR LAB USE ONLY

Batch #

Check If Contingent ===>

Matrix Codes
DW - Drinking Water S - Soil A - Air
GW - Ground Water SL - Sludge OT - Other
WW - Waste Water OL - Oil

Lab Sample #	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Sample Type: Composite (C)	Sample Type: Grab (G)	7) Analysis Request: OTG (1664)	pH Flash pt	THX Chrom (24hr)	PP methyls	Phenol	PCB	TSS	CBOD (48hr)	TKN (SM)	NO2 NO3 Nitrate	VO
	TMW-5	W	7/17/07	1000		✓	2*	1	1	1	1	2*	2*	1	1	1	2
	TMW-1	W	7/17/07	1205		✓	2*	1	1	1	1	2*	2*	1	1	1*	2

<=== Check If Contingent

8) # of Bottles

None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other:
8				4	2	1	
8				4	2	1	

9a) Methanol Bottle Numbers (If Applicable)

9b) Comments

10) Relinquished by:	Accepted by:	Date	Time

Comments, Notes, Special Requirements, HAZARDS

Cooler Temperature

11) Sampler: Date: 7/17/07

Please note NUMBERED items. If not completed your analytical work may be delayed.

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Veritech/Division of Hampton-Clarke

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CHAIN OF CUSTODY RECORD

Project#(Lab Use Only)

Page 1 of 1

Customer Information

1a) Customer: HDR

Address: White Plains NY

1b) Email/Cell/Fax/Ph: 917-887-3670

1c) Send Invoice To:

1d) Send Report To: Abreu Santiago

Project Information

2a) Project: SBMT

2b) Project Manager:

2c) Location (City/State): Abreu Santiago Brooklyn, NY

2d) Quote#/PO# (If Applicable):

3) Reporting Requirements(please circle)

Turnaround Time	Report type	Electronic Deliv
* 24-Hour(100%)	Data Sum	Hazsite/Csv
48-Hour(75%)	Waste	Equis
72-Hour(50%)	Red-NJ/NY/PA	Excel-NJCC
1-Week(25%)	CLP	Excel-Nytagm
10 Days(10%)	Full/Cat-B	Excel-PAActl
Standard	Cat-A	PDF
Other:	Other:	Other:

Expedited TAT Not always available (Please check with lab)!

FOR LAB USE ONLY

Batch#

Check if Contingent===>

Matrix Codes:
DW-Drinking Water, GW-Ground Water, WW-Waste Water, S-Soil, SL-Sludge, O-Oil, A-Air, Ot-Other

7) Analysis Request <===Check if Contingent

Lab Sample#	4) Customer Sample ID	5) Matrix	6) Sample Date	Sample Time	Composite(C)	Grab(G)	O+G (1664)	MTBE/alk	Hex Chrom 24	PP Metal	Phenol	PCB	TSS/Nitrate (SM)	CBOD (5 day)	TKN (SM)	NO3+NO2 (SM)	VOC (624)	None	MeOH	Encore	NaOH	HCl	H2SO4	HNO3	Other	9) Methanol Bottle Numbers (If applicable) Comments
	TMW-6	W	7/18/07	1300		✓	2	1	2	1	1	2	2	1	1	1	2	8				4	2	1		
	TMW-6D	W	7/18/07	1300		✓	2	1	[illegible]	1	1	2	2	1	1	1	2	8				4	2	1		
	TMW-2	W	7/18/07	1500		✓	2	1	1	1	1	2	2	1	1	1	2	8				4	2	1		
	Trip Blank	W	7/18/07			✓												1								

8) # Of Bottles

10) Relinquished By:	Accepted By	Date	Time
B. Garland	[illegible]	7/18/07	16:15

Comments, Notes, Special Requirements, HAZARDS

Cooler Tmp

11) Sampler: B. Garland Date: 7/18/07

Please note NUMBERED items. If not completed your analytical work may be delayed.
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