APPENDIX C-1A

VTEQ Environmental Report

VOLUMETRIC TECHNIQUES LTD

317 Bernice Drive, Bayport, New York 11705
Ph. (631) 472-4848 — Fax (631) 472-4991
Email vteqe@msn.com
www.vteqeltd.com

Peter O'Hara
250 East Main Street, LLC
80 Orville Drive
Bohemia, New York 11716
Re: Environmental Report, 250 East Main Street, Bay Shore, New York

Reported by

Sander Sternig, Director

The following report will document the environmental activity to the present time. The subject property presently consists of a 7500 square foot concrete and block building formerly a Buick dealership and now a Laundromat is located at 250 East Main Street. A second structure, a former residence is situated on the southern side of the property at 10 Mowbray Ave. The western portion of the property is and has always been vacant.

Site History:

A. Buick dealership operated originally out of the present existing building from the late 1940s until the 1960s. The dealership was initially either a gasoline purveyor or a dealership which purveyed gasoline. Either way, several underground holding tanks (USTs) were present in 2012 when our initial Phase II was conducted. VTL identified tankage on the north and western side of the structure which were removed prior to the current owners purchase.

B. Persian carpet cleaner occupied the building after the dealership moved to larger quarters.

C. Dry cleaner later occupied the structure.

D. Present tenant has been present since 2000 as a Laundromat.

E. March 2012 a limited subsurface investigation was conducted resulting in a listed spill being filed with the State's Conservation Dept. (DEC). The listing was a result of the discovery of petroleum hydrocarbons in the area of the USTs, north/ west side of the structure.

F. Prior to October 2012 property transfer, the previous owner had the USTs removed from the western portion of the property.

G. Upon the removal of the USTs, the DEC delisted the site and issued a "No Further Action Letter" related to the petroleum discovery.

H. Buyer of the subject property entered into contract with Long Island Jewish Hospital System. (LIJ).

I. LIJ hired P.W. Grosser, an environmental consultant to conduct an Environmental Site Audit for the entire site.

J. P.W. Grosser suggested the septic system of the former residence which occupies the southern portion of the site (10 Mowbray Ave.) be tested along with the rear storm drain.

K. Samples were collected from the residence's septic pool, an abandoned leaching pool formerly connected to the septic system and a storm drain in the rear parking lot between the Laundromat and residence building.

L. Sample results revealed the presence of dry cleaning solvents at the bottom of the storm drain and septic tank.

M. Under auspices of Suffolk County Health Services, both the septic pool and storm drain were fully remediated yielding the removal of 71 tons of contaminated soil/ sand.

N. End point samples yielded results documented to be **within** the County's "Cleanup Objectives".

O. The project is transferred from Health Services t "Pollution Control Section" to their Hydrology.

P. Request for the installation of monitoring wells and the commencement of water monitoring on a quarterly basis by the County.

Q. 1st quarter monitoring of the five (5) recently installed monitoring wells. Transcribed report data in a table with Groundwater limitations.

R. Request for vertical groundwater testing, Groundwater +5, +10 & + 20 feet below grade.

S. Transcribed vertical sampling data.

T. Design and submittal to the project's architects of a subsurface ventilation system and impervious liner to prevent any possibility of stray soil vapor intrusion under the proposed structure.

The present structure has been connected to the municipal sewer district since 2000.

Initial Investigation:
During March of 2012 Volumetric Techniques Ltd. (VTL) conducted a limited subsurface investigation for the subject site which included the locations of the USTs. The subsurface project consisted of the collection of both soil and groundwater on the up gradient and down gradient side of the present site structure. VTL identified through the use of a magnetometer detector the presence of the expected underground storage tanks. VTL identified oil compounds at the northwestern portion of the site structure in the underlying soil. Two (2) groundwater samples were collected east and west of the centerline of the rear of the structure. Neither sample revealed any indication of petroleum or dry cleaning compounds. The original septic system for the main structure, later connected to the sewer district, previously existed on the eastern side of the property.

Under the auspices of Suffolk County Health Services, a sampling program was initiated. The rear storm drain, residence septic system, the previously abandoned overflow and a cleanout manhole up against the rear of the Laundromat were tested for County parameters. It was discovered the presence of dry cleaning solvents in the storm drain and septic tank above the County's "Action Levels". Also under the auspices of Health Services, the septic pool and the rear storm drain were excavated yielding a total of 70 tons of impacted soils/ sand being removed. End point testing of each structure documented that both pools were abated to be within Suffolk County Health Services' "Cleanup Objectives". (Test data results are in appendix) Documenting the success of reaching the County's abatement objectives, the Pollution Control Group has handed off the project to their in house hydrologist. Permanent surveillance monitoring wells were installed to study the decline of the impacted groundwater after the recent subsurface abatement. Basically, over a period of several quarters the underlying groundwater concentration remains the same or decreases, the County will issue a "No Further Action" letter. Please keep in mind; the areas of previous contamination were in the rear parking lot and behind the residence. Future plans for this property require the removal of the Laundromat structure and residence building. A new structure will be erected closer to the

frontal road, Montauk Highway in relationship to the current structure. The proposed structure will be constructed with a below grade soil vapor collection system and an impervious membrane to prevent any soil gas intrusion from entering the new building. A good percentage of the current structure and the rear residence are destined to become asphalt paved parking.

The monitoring wells yielded

Well Location	**Sample Number**	**Groundwater Depth**	**Transit Depth**
MW 1	183281404	3.46’	8.356’
MW 2	183291404	4.2’	9.26’
MW 3	183301404	4.45’	9.215’
MW 4	183311404	4.17’	9.226’
MW 5	183321404	4.31’	9.31’
QC Blank	183331404		

Groundwater
EPA 8260B

Bold print indicates above the MDLs

Enlarged bold indices above State limitations

Parameter EPA 8260B	**MW 1** **183281404**	**MW 2** **183291404**	**MW 3** **183301404**	**MW 4** **183311404**	**MW 5** **183321404**	**QC blank** **183331404**	**NYS Groundwater**
	µg/1	µg/1	µg/1	µg/1	µg/1	µg/1	µg/1
Benzene	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	**0.7**
Bromobenzene	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	
Bromochlororomethane	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	
Bromoform	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	
sec-Butylbenzene	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	**5.0**
n-Butylbenzene	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	**5.0**
tert-Butylbenzene	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	
Carbon Tetrachloride	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	**5.0**
Chlorobenzene	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	**5.0**
Chloroethane	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	**50.0**
Chloroform	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	**7.0**
2-Chlorotoluene	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	
4-Chlorotoluene	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	
1,2-Dibromo-3-chloropropane	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	
Dibromochloromethan	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	**50.0**
1,2-Dibromoethane	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	
Dibromoethane	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	
1,2-Diclorobenzene	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	**4.7**
1,3-Dichlorobenzene	**<10**	**<10**	**<10**	**<10**	**<10**	**<10**	**5.0**

1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10	5.0
Dichlorodifluoromethan	<10	<10	<10	<10	<10	<10	
1,1-Dichloroethane	<10	<10	<10	<10	<10	<10	5.0
1,2-Dichloroethane	<10	<10	<10	<10	<10	<10	5.0
1,1-Dichloroethene	<10	<10	<10	<10	<10	<10	5.0
cis-1,2-Dichloroethene	<10	110	210	<10	<10	<10	5.0
trans-1,2-Dichloroethene	<10	<10	<10	<10	<10	<10	5.0
1,3-Dichloropropane	<10	<10	<10	<10	<10	<10	5.0
2,2-Dichloropropane	<10	<10	<10	<10	<10	<10	
p-Diethylbenzene	<10	<10	<10	<10	<10	<10	

Hexachlorobutadiene	<10	<10	<10	<10	<10	<10	
Isopropylbenzene	<10	<10	<10	<10	<10	<10	5.0
4-Isopropyltoluene	<10	<10	<10	<10	<10	<10	5.0
Methylene-tert-Butyl Ether	<10	<10	<10	<10	<10	<10	50.0
Methylene Chloride	<10	<10	<10	<10	<10	<10	5.0
n-Propylbenzene	<10	<10	<10	<10	<10	<10	
Styrene	<10	<10	<10	<10	<10	<10	
1,1,2,2-Tetrachloroethane	<10	<10	<10	<10	<10	<10	5.0
1,1,1,2-Tetrachloroethane	<10	<10	<10	<10	<10	<10	
Tetrachloroethene	<10	34	71	<10	<10	<10	5.0
Toluene	<10	<10	<10	<10	<10	<10	5.0
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10	<10	
1,2,3-Trichlorobenzene	<10	<10	<10	<10	<10	<10	
1,1,1-Trichloroethane	<10	<10	<10	<10	<10	<10	5.0
1,1,2- Trichloroethane	<10	<10	<10	<10	<10	<10	
Trichloroethane	<10	38	110	<10	<10	<10	5.0
Trichlorofluoromethan	<10	<10	<10	<10	<10	<10	
1,2,3-Trichloropropane	<10	<10	<10	<10	<10	<10	
1,1,2-Trichloro-1,2,2-trifluoroethane	<10	<10	<10	<10	<10	<10	
1,2,4-Trimethylbenzene	<10	<10	<10	<10	<10	<10	5.0
1,3,5-Trimethylbenzene	<10	<10	<10	<10	<10	<10	5.0
Vinyl chloride	<10	27	<10	<10	<10	<10	2.0
o-Xylene	<10	<10	<10	<10	<10	<10	5.0
m,p-Xylene	<10	<10	<10	<10	<10	<10	5.0
Ethylbenzene	<10	<10	<10	<10	<10	<10	5.0

The County Hydrologist next requested a vertical collection of groundwater by MW 3.

Field Data: May 29, 2014

Depth	Sample number	DO	pH	ohms	Temp C	Orp.
8-	183571405	5.05	6.23	0.158	14.17	-40
13	183581405	0.29	7.18	0.22	15.84	-43
23	183591405	0.3	6.92	0.309	14.54	-48.5

Groundwater
EPA 8260B
Bold print indicates above the MDLs
Enlarged bold indices above State limitations

Parameter EPA 8260B	MW 3 183571405 **8+**	MW 3 183581405 **13'**	MW 3 1833591405 23'	QC blank 183601405	NYS Groundwater Limitations
	µg/1	µg/1	µg/1	µg/1	µg/1
acetone	<10	**15**	<10	<10	
Benzene	<10	<10	<10	<10	**0.7**
Bromobenzene	<10	<10	<10	<10	
Bromochlororometh	<10	<10	<10	<10	
Bromoform	<10	<10	<10	<10	
sec-Butylbenzene	<10	<10	<10	<10	**5.0**
n-Butylbenzene	<10	<10	<10	<10	**5.0**
tert-Butylbenzene	<10	<10	<10	<10	
Carbon	<10	<10	<10	<10	**5.0**
Chlorobenzene	<10	<10	<10	<10	**5.0**
Chloroethane	<10	<10	<10	<10	**50.0**
Chloroform	<10	<10	<10	<10	**7.0**
2-Chlorotoluene	<10	<10	<10	<10	
4-Chlorotoluene	<10	<10	<10	<10	
1,2-Dibromo-3-chloropropane	<10	<10	<10	<10	
Dibromochlorome	<10	<10	<10	<10	**50.0**
1,2-Dibromoethane	<10	<10	<10	<10	
Dibromoethane	<10	<10	<10	<10	
1,2-Diclorobenzene	<10	<10	<10	<10	**4.7**
1,3-Dichlorobenzene	<10	<10	<10	<10	**5.0**
1,4-Dichlorobenzene	<10	<10	<10	<10	**5.0**
Dichlorodifluorome	<10	<10	<10	<10	
1,1-Dichloroethane	<10	<10	<10	<10	**5.0**
1,2-Dichloroethane	<10	<10	<10	<10	**5.0**
1,1-Dichloroethene	<10	<10	<10	<10	**5.0**
cis-1,2-Dichloroethen	**500**	**98**	**25**	<10	**5.0**

trans-1,2-Dichloroethene	<10	<10	<10	<10	**5.0**
1,3-Dichloropropane	<10	<10	<10	<10	**5.0**
2,2-Dichloropropane	<10	<10	<10	<10	
p-Diethylbenzene	<10	<10	<10	<10	
Ethylbenzene	<10	<10	<10	<10	**5.0**
Hexachlorobutadien	<10	<10	<10	<10	
Isopropylbenzene	<10	<10	<10	<10	**5.0**
4-Isopropyltoluene	<10	<10	<10	<10	**5.0**
Methylene-tert-Butyl	<10	<10	<10	<10	**50.0**
Methylene Chloride	<10	<10	<10	<10	**5.0**
n-Propylbenzene	<10	<10	<10	<10	
Styrene	<10	<10	<10	<10	
1,1,2,2-Tetrachloroethane	<10	<10	<10	<10	**5.0**
1,1,1,2-Tetrachloroethane	<10	<10	<10	<10	
Tetrachloroethe	<10	<10	<10	<10	**5.0**
Toluene	<10	<10	<10	<10	**5.0**
1,2,4-Trichlorobenzene	<10	<10	<10	<10	
1,2,3-Trichlorobenzene	<10	<10	<10	<10	
1,1,1-Trichloroethane	<10	<10	<10	<10	**5.0**
1,1,2-Trichloroethane	<10	<10	<10	<10	
Trichloroethane	**150**	<10	<10	<10	**5.0**
Trichlorofluorometh	<10	<10	<10	<10	
1,2,3-	<10	<10	<10	<10	
1,1,2-Trichloro-1,2,2-trifluoroethane	<10	<10	<10	<10	
1,2,4-Trimethylbenzene	<10	<10	<10	<10	**5.0**
1,3,5-Trimethylbenzene	<10	<10	<10	<10	**5.0**
Vinyl chloride	**59**	**400**	<10	<10	**2.0**
o-Xylene	<10	<10	<10	<10	**5.0**
m,p-Xylene	<10	<10	<10	<10	**5.0**

Subsurface Soil Vapor Gas prevention System

For construction of new buildings, there are five basic components to effective vapor intrusion resistant construction:

- Permeable sub-slab support material (e.g., gravel),
- Venting sub-slab areas below occupied spaces,
- Properly-sized sub-slab and riser piping,
- A sealed vapor barrier, and
- A properly-sized blower to maintain sufficient negative pressure beneath the slab.

The blower creates a negative pressure beneath the slab and actively vents vapors to above the structure. Placement will be at the eastern end of the building; air intakes should not be in the vicinity of the chimney's terminus.

The infrastructure:

The mitigation of soil vapor gases will consist of perforated 4" irrigation pipes as laid out in the plot plan of the subject structure attached with this letter. The placement of the vapor collection system will extend beyond the footprint of the original building to ensure if vapor gas migrates north and west of the rear storm drain it will be captured without penetrating into the new construction. Our documentation believes the source of the soil vapors originated from a storm drain mid Laundromat rear parking lot and so the systems placement.

Evacuation system:

Three (3) 100', four (4) inch PVC irrigation pipes are to be placed below the proposed plumbing systems prior to their installations. The actual depth will be determined based on the plumbing plans and the piping's installation. The three (3) legs of piping will be placed at ten (10), twenty (20 and thirty (30) feet distance and parallel to the southern footings for the structure beginning on the east end of the structure. The western ends of the piping are to be capped and the eastern ends attached to a manifold connection funneling air movement to an elbow and a riser external to the building. The external pipe/ chimney should be long enough to rise above the building. A 100 CFM fan will be incorporated into the riser to create a negative pressure in the evacuation system. The riser's terminus should be capped with a precipitation shield preventing precipitation from damaging the installed fan.

Horizontal piping should be installed below the infrastructure plumbing system and embedded in gravel/blue stone or some similar porous bedding to allow soil gases to enter the evacuation piping. Above the embedded horizontal piping, a vapor vinyl type barrier will be installed. All penetrations are to be sealed against the liner to prevent leakage and prevent vapor intrusion through the concrete slab. Numerous manufactures can provide

appropriate barrier liners. Pricing and ease of installation will vary from supplier to supplier. Over the next week I will seek out a supplier that will fit our needs and pricing. For now, we will accept the placement of the liner will be installed before the plumbing is installed but, after the footings and supports are erected.

Possible liner construction:
Cross laminate polyethylene or polyolefin; yielding a 3-ply material with woven scrim placed between two polyethylene sheets.

- Permanence WVTR is <0.1 perms (considered
  - A true vapor barrier; almost completely blocks vapors
- Puncture/tear resistance up to 50 times greater
  - then 6-mil polyethylene/polyolefin vapor retarder.
- Improved sealing at perimeter walls and utility
  - penetrations because manufacturer-supplied
  - tapes and cloth binders are generally used.
- Moderately expensive