March 7, 2012

NYSDEC, Region 2
Division of Environmental Remediation
47-40 21st Street
Long Island City, NY 1101

Attn: Mandy Yau

Re: **Quarterly Monitoring Report**
4th Quarter 2011 Groundwater Sampling
Via Verde
700-730 Brook Avenue, Bronx, NY
BCP Site ID: C203043

Dear Ms. Yau:

CA RICH Consultants, Inc. is pleased to provide you with the following Quarterly Monitoring Report (QMR) for the above-referenced Site in accordance with the NYSDEC-approved Site Management Plan (SMP) dated December, 2011.

The fourth quarter 2011 sampling event represents the second of eight scheduled rounds of quarterly post remedial groundwater monitoring required in the SMP and was completed on November 29-30, 2011. Sampling was performed by CA RICH Environmental Scientists, Michael Yager and Jason Cooper and included the four on-site post remedial groundwater monitoring wells designated MW-6, MW-7, MW-8 and MW-9. The locations of the four wells and direction of groundwater flow are illustrated on Figure 1.

The four monitoring wells were purged and sampled in accordance with EPA's Low-Flow (minimal drawdown) Groundwater Sampling Procedures. Copies of the requisite field forms and Chain-of-Custody are attached as Appendix A. Quality Assurance/Quality Control (QA/QC) samples were also collected and analyzed in connection with the testing as set forth in the SMP and included one trip blank, one field blank per day of field work, one duplicate, one matrix spike, and one matrix spike duplicate. In addition, the data was validated by a qualified third-party and a DUSR was prepared (Appendix B).

Groundwater samples were collected from the wells, submitted to an ELAP and CLP certified laboratory, and analyzed for Volatile Organic Compounds (VOCs) via EPA Method 8260, Semi-Volatile Organic Compounds (SVOCs) via EPA Method 8270, PCBs and dissolved TAL metals (plus hexavalent chromium) with NYSDEC ASP Category B deliverables. The validated analytical results are summarized on Tables 1 through 4. Comparison of key parameter concentrations over time for MW-8 is illustrated on Figure 2. All post-remedial groundwater sampling results have been provided to NYSDEC in the appropriate Electronic Data Deliverable format.

As illustrated on Table 1, fuel-related VOCs in excess of NYSDEC TOGS continue to be detected in on-site well MW-8. The most elevated fuel-related compound concentration is 99 ug/L of ethylbenzene (MW-8 duplicate sample MW-XX). In addition, 39 ug/L of chloroform was detected in MW-6, and 201 ug/L of 2-butanone was detected in MW-9. Chloroform was also detected in MW-6 during the previous sampling round at a concentration of 39 ug/L. MW-9 however, exhibited no prior detections of 2-butanone. No other VOCs were detected in any other well in excess of TOGS Standards.

As shown on Figure 2, comparison of concentrations for ethylbenzene, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and total xylenes in MW-8 between the 3rd quarter 2011 sampling event and the 4th quarter 2011 sampling event indicates a significant reduction in concentration for these selected compounds. The other VOCs detected also exhibit a decrease in concentration between the two sampling events.

Semi-volatile organic analysis (Table 2) detected the presence of only two targeted compounds: naphthalene and bis (2ethylhexyl) phthalate detected in sample MW-8. It is noted that bis (2ethylhexyl) phthalate is a common sampling / laboratory artifact and was also detected in the field blank. Naphthalene was the only semi-volatile compound detected in the prior sampling round (3rd quarter 2011).

Analysis for PCBs (Table 3) did not detect any of these compounds in any of the samples. These compounds were also not detected in the previous sampling round.

Analysis for metals (Table 4) detected only iron, manganese and sodium at levels in excess of TOGS Standards. Lead was detected in sample MW-XX (duplicate of MW-8) at a concentration of 11.3 ug/L which is below the TOGS standard of 25 ug/L. Lead was detected in MW-8 during the previous sampling round at a concentration of 25.4 ug/L.

Based upon our review of the analytical results from the 4th quarter 2011 sampling event and comparison of the results to those generated during the previous (3rd quarter 2011) event, it appears that, with the exception of the isolated detection of 2-butanone in MW-9, the detected levels of VOCs have declined significantly between the 3rd quarter and 4th quarter 2011 sampling rounds. The concentration of naphthalene (as reported in both the VOC and SVOC scans) has also decreased. The levels of targeted metals have also generally decreased, most notably lead which decreased to below TOGS Standards. PCBs remain undetected in all wells.

As of the date of this report, the 1st quarter 2012 groundwater sampling and analysis round is currently underway with targeted laboratory analysis for the full suite of parameters included to date. However, based upon the results of the first two sampling rounds, CA RICH recommends that the analytical parameters targeted for future post remedial monitoring be reduced to VOCs and lead.

If there are any questions regarding this letter, please do not hesitate to call our office.

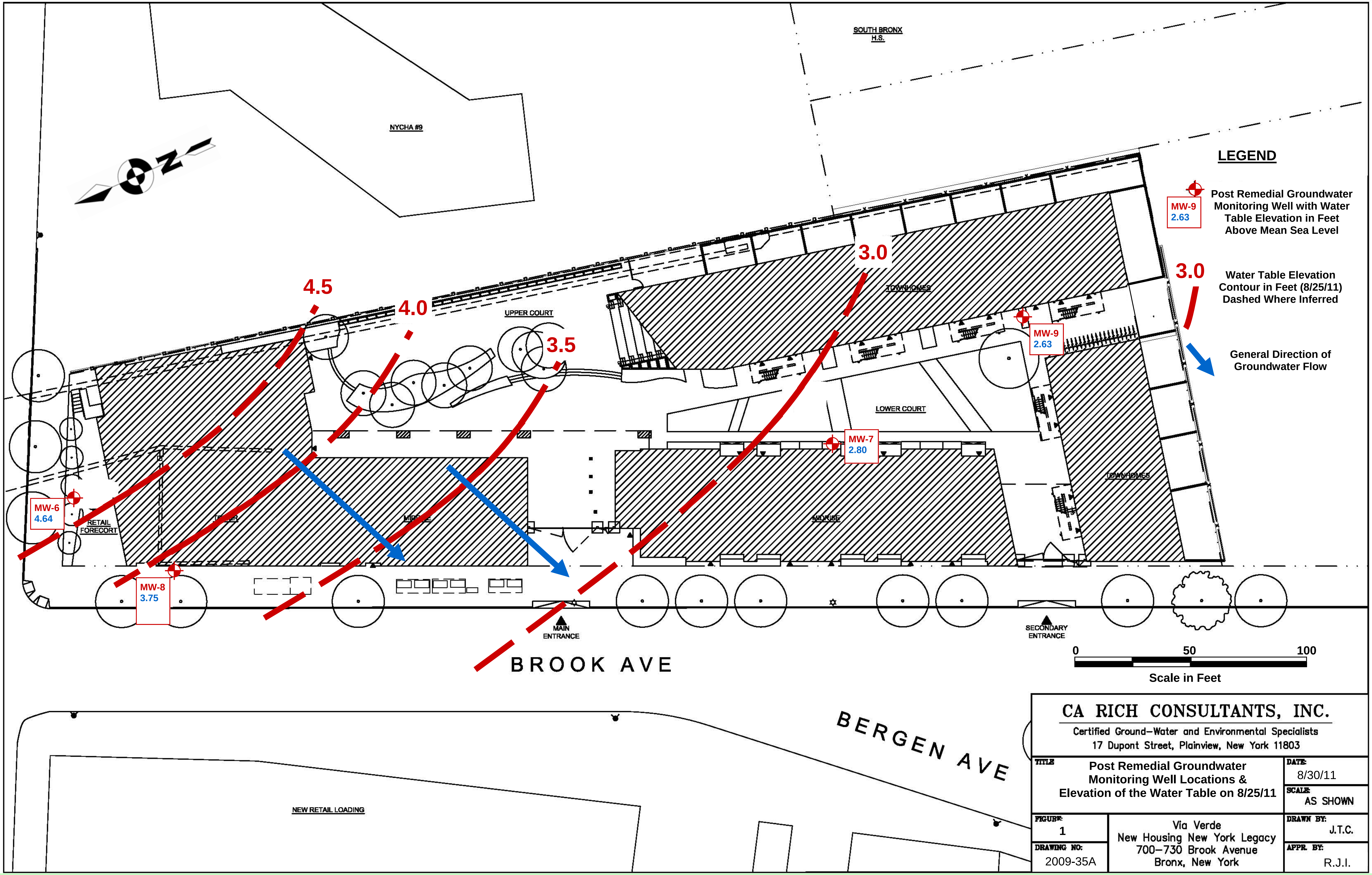
Sincerely,

CA RICH CONSULTANTS, INC.

Richard J. Izzo, CPG
Senior Associate

cc: Chris Doroski, NYSDOH (email only)
Ari Goldstein (email only)
Michael Wadman (email only)
Repository

FIGURES



CA RICH CONSULTANTS, INC.

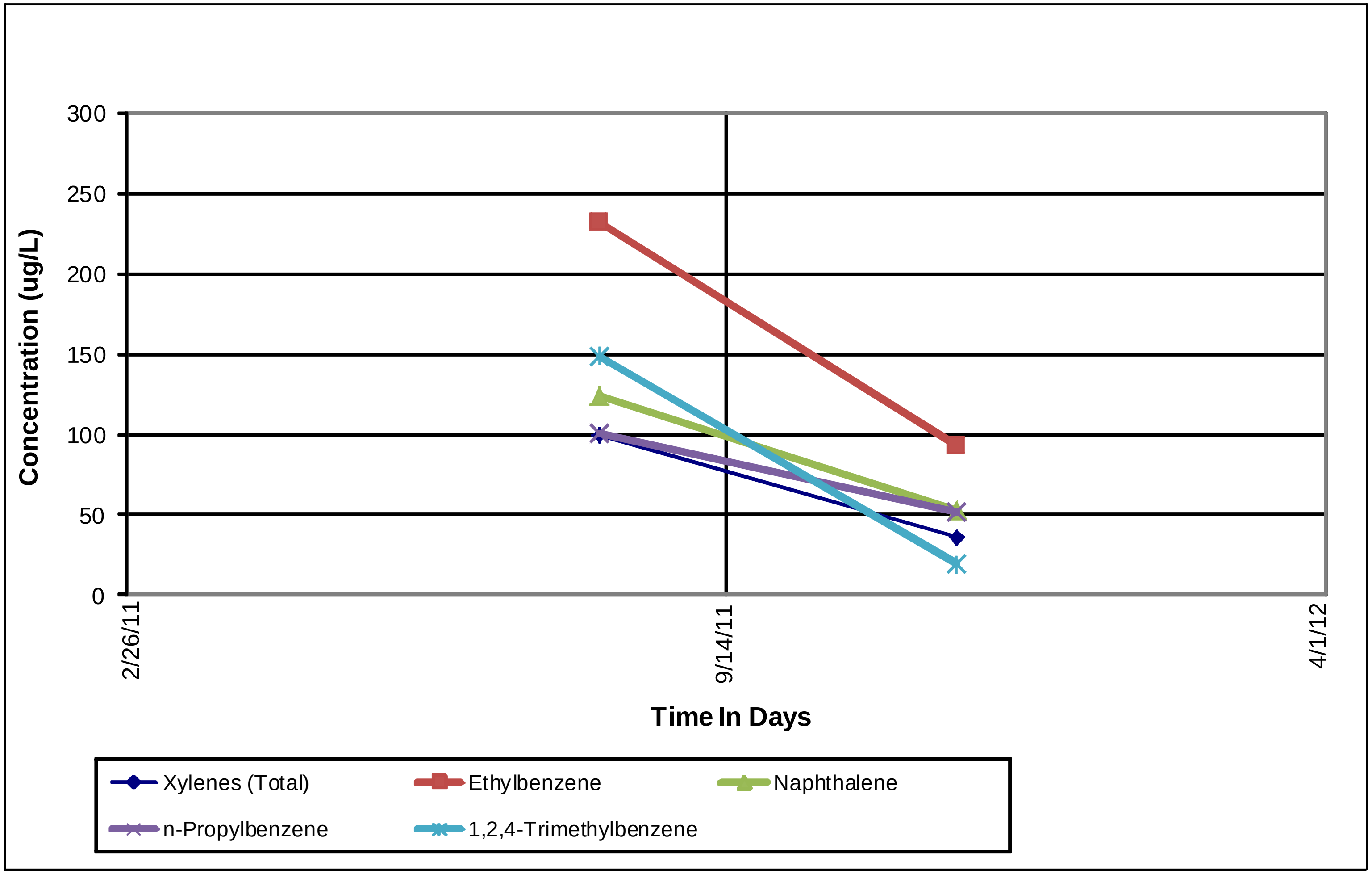
Certified Ground–Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

TITLE: Post Remedial Groundwater Monitoring Well Locations & Elevation of the Water Table on 8/25/11	DATE: 8/30/11
	SCALE: AS SHOWN
FIGURE: 1	DRAWN BY: J.T.C.
DRAWING NO: 2009-35A	APPR. BY: R.J.I.

Via Verde
New Housing New York Legacy
700–730 Brook Avenue
Bronx, New York

FIGURE 2

Concentrations Trends of Selected Compounds in Groundwater Monitoring Well MW-8
Via Verde
700-730 Brook Avenue, Bronx, NY



CA RICH ENVIRONMENTAL SPECIALISTS

TABLES

Table 1

Validated Analytical Results for Volatile Organic Compounds In Groundwater

Via Verde aka New Housing New York Legacy Project

700-730 Brook Avenue, Bronx, New York

BCP # C203043

Sample ID	**MW-6**	**MW-7**	**MW-8**	**MW-9**	**MW-XX****	**Field Blank**	**Trip Blank**	**Trip Blank**	**NYSDEC TOGs***
Matrix	groundwater	groundwater	groundwater	groundwater	groundwater	liquid	liquid	liquid	
Date Sampled	11/30/2011	11/29/2011	11/30/2011	11/29/2011	11/30/2011	11/30/2011	11/29/2011	11/30/2011	
Volatile Organic Compounds									
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	50
Benzene	ND	ND	0.98 J	ND	1.0	ND	ND	ND	1
Bromobenzene	ND	ND	ND	ND	ND	ND	ND	ND	5
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	5
Bromodichloromethane	2.0	ND	ND	ND	ND	ND	ND	ND	50
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	50
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	5
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	50
n-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	5
sec-Butylbenzene	ND	ND	3.7 J	ND	3.8 J	ND	ND	ND	5
tert-Butylbenzene	ND	ND	0.63 J	ND	0.57 J	ND	ND	ND	5
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	5
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	5
Chloroform	**39.0**	ND	1.1	0.54 J	1.4	ND	ND	ND	7
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	NVG
o-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	ND	5
p-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	ND	5
1,2-Dibromo-3-Chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	0.04
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	50
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	NVG
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	3
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	3
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	3
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	0.6
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	5
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	5
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	1
1,3-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	5
2,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	5
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	0.4
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	0.4
Ethylbenzene	ND	ND	**92.8**	ND	**99.0**	ND	ND	ND	5
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	0.5
Isopropylbenzene	0.46 J	ND	**23.4**	ND	**24.4**	ND	ND	ND	5
p-Isopropyltoluene	ND	ND	1.8 J	ND	1.8 J	ND	ND	ND	5
Methyl Tert Butyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	10
4-Methyl-2-Pentanone (MIBK)	ND	ND	ND	ND	ND	ND	ND	ND	NVG
Methylene bromide	ND	ND	ND	ND	ND	ND	ND	ND	NVG
Methylene Chloride	0.28 J	ND	ND	ND	ND	ND	ND	ND	5
Naphthalene	ND	ND	**52.2**	ND	**54.1**	ND	ND	ND	10
n-Propylbenzene	0.39 J	ND	**51.3**	ND	**53.7**	ND	ND	ND	5
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	5
Toluene	ND	ND	5.0	ND	**5.4**	ND	ND	ND	5
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	5
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	1
Trichloroethene	ND	0.22 J	ND	ND	ND	ND	ND	ND	5
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	5
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	0.04
1,2,4-Trimethylbenzene	ND	ND	**18.8**	ND	**19.3**	ND	ND	ND	5
1,3,5-Trimethylbenzene	ND	ND	**7.7**	ND	**7.9**	ND	ND	ND	5
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	2
m,p-Xylene	ND	ND	**30.5**	ND	**32.5**	ND	ND	ND	5
o-Xylene	ND	ND	**5.1**	ND	**5.2**	ND	ND	ND	5
Xylene (total)	ND	ND	**35.5**	ND	**37.7**	ND	ND	ND	5

Notes:

ug/L - micrograms per liter or parts per billion
ND - Not detected at or above laboratory detection limits
NVG - No Value Given
J - Estimated Value

**NYSDEC Technical and Operational Guidance Series (1.1.1)*
Ambient Water Quality Standards and Guidance Values
and Groundwater Effluent Limitations; June 1998
*** MW-XX is a duplicate of MW-8*

Boxed and bold indicates exceedance groundwater standards or guidance values

Table 2

Validated Analytical Results for Semi-Volatile Organic Compounds In Groundwater

Via Verde aka New Housing New York Legacy Project
700-730 Brook Avenue, Bronx, New York
BCP # C203043

Sample ID	**MW-6**	**MW-7**	**MW-8**	**MW-9**	**MW-XX****	**Field Blank**	**NYSDEC TOGS***
Matrix	groundwater	groundwater	groundwater	groundwater	groundwater	liquid	
Date Sampled	11/30/2011	11/29/2011	11/30/2011	11/29/2011	11/30/2011	11/30/2011	
Semi-Volatile Organic Compounds							
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
2-Chlorophenol	ND	ND	ND	ND	ND	ND	NVG
4-Chloro-3-methyl phenol	ND	ND	ND	ND	ND	ND	NVG
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	5
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	50
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	10
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	NVG
2-Methylphenol	ND	ND	ND	ND	ND	ND	1
3+4-Methylphenols	ND	ND	ND	ND	ND	ND	1
2-Nitrophenol	ND	ND	ND	ND	ND	ND	NVG
4-Nitrophenol	ND	ND	ND	ND	ND	ND	NVG
Pentachlorophenol	ND	ND	ND	ND	ND	ND	NVG
Phenol	ND	ND	ND	ND	ND	ND	1
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	NVG
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	NVG
Acenaphthene	ND	ND	1.3	ND	1.4	ND	20
Acenaphthylene	ND	ND	ND	ND	ND	ND	NVG
Acetophenone	ND	ND	ND	ND	ND	ND	NVG
Anthracene	ND	ND	ND	ND	ND	ND	50
Atrazine	ND	ND	ND	ND	ND	ND	7.5
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND	0.002
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	0.002
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	NVG
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	0.002
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	NVG
Butylbenzylphthalate	ND	ND	ND	ND	ND	ND	50
1,1' -Biphenyl	ND	ND	ND	ND	ND	ND	5
Benzaldehyde	ND	ND	ND	ND	ND	ND	NVG
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	10
4-Chloroaniline	ND	ND	ND	ND	ND	ND	5
Carbazole	ND	ND	0.49 J	ND	0.49 J	ND	NVG
Caprolactam	ND	ND	ND	ND	ND	ND	NVG
Chrysene	ND	ND	ND	ND	ND	ND	0.002
bis(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	5
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	1
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	NVG
4-Chlorophenyl-phenylether	ND	ND	ND	ND	ND	ND	NVG
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	5
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	5
3,3-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	5
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	NVG
Dibenzofuran	ND	ND	0.78 J	ND	0.91 J	ND	NVG
Di-n-butylphthalate	ND	ND	ND	ND	ND	ND	50
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	50
Diethylphthalate	ND	ND	ND	ND	ND	ND	50
Dimethylphthalate	ND	ND	ND	ND	ND	ND	50
bis(2-Ethylhexyl)phthalate	ND	ND	**43.8**	ND	ND	2.7	5
Fluoranthene	ND	ND	0.71 J	ND	0.71 J	ND	50
Fluorene	ND	ND	0.71 J	ND	0.75 J	ND	50
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	0.04
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	0.5
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	5
Hexachloroethane	ND	ND	ND	ND	ND	ND	5
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	0.002
Isophorone	ND	ND	ND	ND	ND	ND	50
2-Methylnaphthalene	ND	ND	13.6	ND	14.7	ND	NGV
2-Nitroaniline	ND	ND	ND	ND	ND	ND	5
3-Nitroaniline	ND	ND	ND	ND	ND	ND	5
4-Nitroaniline	ND	ND	ND	ND	ND	ND	5
Naphthalene	ND	ND	**30.9**	ND	**32.9**	ND	10
Nitrobenzene	ND	ND	ND	ND	ND	ND	0.4
N-Nitroso-di-n-propylamine	ND	ND	ND	ND	ND	ND	NVG
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	50
Phenanthrene	ND	ND	1.0 J	ND	1.1	ND	50
Pyrene	ND	ND	0.61 J	ND	0.62 J	ND	50

Notes:
ug/L - micrograms per liter or parts per billion
ND - Not detected at or above laboratory detection limits
NVG - No Value Given
J - Estimated Value

**NYSDEC Technical and Operational Guidance Series (1.1.1)*
Ambient Water Quality Standards and Guidance Values
and Groundwater Effluent Limitations; June 1998
** MW-XX is a duplicate of MW-8

Boxed and bold indicates exceedance of groundwater standards or guidance values

Table 3

Validated Analytical Results for PCBs In Groundwater

Via Verde aka New Housing New York Legacy Project
700-730 Brook Avenue, Bronx, New York
BCP # C203043

Sample ID	**MW-6**	**MW-7**	**MW-8**	**MW-9**	**MW-XX****	**Field Blank**	**NYSDEC TOGS*****
Matrix	groundwater	groundwater	groundwater	groundwater	groundwater	liquid	
Date Sampled	11/30/2011	11/29/2011	11/30/2011	11/29/2011	11/30/2011	11/30/2011	
PCBs							
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aroclor-1016	ND	ND	ND	ND	ND	ND	0.09 *
Aroclor-1221	ND	ND	ND	ND	ND	ND	0.09 *
Aroclor-1232	ND	ND	ND	ND	ND	ND	0.09 *
Aroclor-1242	ND	ND	ND	ND	ND	ND	0.09 *
Aroclor-1248	ND	ND	ND	ND	ND	ND	0.09 *
Aroclor-1254	ND	ND	ND	ND	ND	ND	0.09 *
Aroclor-1260	ND	ND	ND	ND	ND	ND	0.09 *

Notes:

ug/L - micrograms per liter or parts per billion
ND - Not detected at or above laboratory detection limits
** Applies to the sum of these compounds*
*** MW-XX is a duplicate of MW-8*

****NYSDEC Technical and Operational Guidance Series (1.1.1)*
Ambient Water Quality Standards and Guidance Values
and Groundwater Effluent Limitations; June 1998

Table 4
Validated Analytical Results for Total Metals In Groundwater

Via Verde aka New Housing New York Legacy Project

700-730 Brook Avenue, Bronx, New York

BCP # C203043

Sample ID	**MW-6**	**MW-7**	**MW-8**	**MW-9**	**MW-XX****	**Field Blank**	**NYSDEC TOGS***
Matrix	groundwater	groundwater	groundwater	groundwater	groundwater	liquid	
Date Sampled	11/30/2011	11/29/2011	11/30/2011	11/29/2011	11/30/2011	11/30/2011	
Total Metals							
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	542	229	545	346	887	<200	NVG
Antimony	1.1	<1.0	<1.0	1.3	<1.0	<1.0	3
Arsenic	<3.0	<3.0	12.7	<3.0	12.7	<3.0	25
Barium	<200	<200	<200	<200	<200	<200	1,000
Berylium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3
Cadmium	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	5
Calcium	17,400	103,000	200,000	132,000	199,000	<5,000	NVG
Chromium	<10	<10	<10	11.7	<10	<10	50
Cobalt	<50	<50	<50	<50	<50	<50	NVG
Copper	20.3	<10	27.9	<10	33.2	<10	200
Iron	**474**	**362**	**5,030**	**497**	**5,180**	<100	300
Lead	<3.0	<3.0	9.4	<3.0	11.3	<3.0	25
Magnesium	<5,000	21,300	22,100	5,410	22,000	<5,000	35,000
Manganese	19.8	39.1	**1,920**	204	**1,920**	<15	300
Mercury	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.7
Nickel	<10	<10	12.3	<10	12.9	<10	100
Potassium	<10,000	<10,000	16,300	15,900	15,900	<10,000	NVG
Selenium	<10	<10	<10	<10	<10	<10	10
Silver	<10	<10	<10	<10	<10	<10	50
Sodium	**31,800**	**56,600**	**130,000**	**43,200**	**130,000**	<10,000	20,000
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.5
Vanadium	<50	<50	<50	<50	<50	<50	NVG
Zinc	<20	<20	<20	<20	<20	<20	2,000
Chromium, Hexavalent	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	50
Chromium, Trivalent	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	50

Notes:

ug/L - micrograms per liter or parts per billion
ND - Not detected at or above laboratory detection limits
NVG - No Value Given
J - Estimated Value

**NYSDEC Technical and Operational Guidance Series (1.1.1)*
Ambient Water Quality Standards and Guidance Values
and Groundwater Effluent Limitations; June 1998
** MW-X is a duplicate of MW-8

Boxed and bold indicates exceedance of groundwater standards or guidance values

APPENDICES

Appendix A

Field Forms and Chain of Custody

MW = 6
SAmple ID = MW-6

Page 1 of 1

Well PURGING-FIELD WATER QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) Via Verde
Well Number MW-6 Date 11/30/11
Field Personnel MY/OR
Sampling Organization CA RICH INC.
Identify MP TOC

Depth to (below MP) 15 / 30 of screen
top / bottom
Pump Intake at (ft. below MP) 29
Purging Device; (pump type) mega monsoon submersible

Clock Time 24 HR	Water Depth below MP ft	Pump Dial¹	Purge Rate ml/min	Cum. Volume Purged liters	Temp. 3% °C	Spec. Cond.² 3% µS/cm	pH ±.1	ORP/Eh³ ±10 mv	DO ±0.3 mg/L	Turb-idity 10% NTU	Comments
1105	21.52										
1135	21.55	8.4	300		13.99	0.327	7.82	113	11.67	17.9	
1145	21.53	8.7	300		14.77	0.327	7.75	108	10.48	4.8	
1155	21.49	8.7	300		14.82	0.321	7.67	112	10.09	0.0	
1205	21.49	9.0	300		14.89	0.311	7.64	115	9.85	0.0	
1215	21.48	8.9	300		14.75	0.302	7.63	117	9.63	0.0	
1225	21.48	8.7	300		14.93	0,293	7.63	118	9.54	0.0	
1235	21.48	9.1	300	5gals	15.07	0.284	7.63	119	9.47	0.0	

1. Pump dial setting (for example: hertz, cycles/min, etc).
2. µSiemens per cm(same as µmhos/cm)at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

DTW start: 21.52
DTW End: 21.48

Pump ON: 1105
Pump OFF: 1300

SAmple Date/Time = 11/30/11 1300

Static DTW = 21.48

* No more than 0.33 feet drawdown

MW = 7
SAMple ID = MW-7, MW-7MS, MW-7MSD

Page 1 of 1

Well PURGING-FIELD WATER QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) ViA Verde
Well Number MW-7 Date 11/29/11
Field Personnel MTY + JC
Sampling Organization CA RICH INC.
Identify MP Top of Standpipe

Depth to (below MP) 15 top / 30 bottom of screen
Pump Intake at (ft. below MP) 27′
Purging Device; (pump type) Submersible – Mega Monsoon

Clock Time 24 HR	Water Depth below MP ft	Pump Dial¹	Purge Rate ml/min	Cum. Volume Purged liters	Temp. 3% °C	Spec. Cond.² 3% µS/cm	pH ±.1	ORP/Eh³ ±10 mv	DO ±0.3 mg/L	Turb-idity 10% NTU	Comments
1120	22.72	8.3			17.21	0.867	6.95	123	3.41	21.5	
1200	22.69	8.8	300		17.25	0.873	6.95	109	1.46	9.7	
1210	22.71	8.9	300	5 gal	17.41	0.877	6.96	100	1.20	6.3	
1220	22.71	9.1	300		17.57	0.888	6.98	88	0.90	1.0	
1230	22.71	9.9	400		17.58	0.904	6.99	96	0.84	37.6	
1245	22.71	9.6	480		17.60	0.911	6.99	91	0.75	9.3	
1250	22.71	9.5	480		17.55	0.916	6.99	89	0.71	3.5	
1255	22.71	9.5	480								

1. Pump dial setting (for example: hertz, cycles/min, etc).
2. µSiemens per cm(same as µmhos/cm)at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

DTW start: 22.70
DTW End: 22.71

Pump ON: 1117
Pump OFF: 1300

SAmple DAte/Time = 11/29/11 1300

* No more than 0.33 feet drawdown

MW = 8

Sample ID = MW-8 & MW-XX (Duplicate)

Page 1 of 1

Well PURGING-FIELD WATER QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) Via Verde
Well Number MW-8 Date 11/30/11
Field Personnel SC/MY
Sampling Organization CA RICH INC.
Identify MP

Depth to (below MP) 15 / 30 (top / bottom) of screen
Pump Intake at (ft. below MP) 29
Purging Device; (pump type) Submersible Mega Monsoon

Clock Time 24 HR	Water Depth below MP ft	Pump Dial[1]	Purge Rate ml/min	Cum. Volume Purged liters	Temp. 3% °C	Spec. Cond.[2] 3% µS/cm	pH ±.1	ORP/Eh[3] ±10 mv	DO ±0.3 mg/L	Turbidity 10% NTU	Comments
0753	24.63										
0830	27.16	10.1	100		14.32	1.76	7.28	-121	6.22	33.0	
0840	27.25	10.1	100		13.22	1.75	7.29	-117	1.93	28.2	
0850	27.27	10.1	100		12.48	1.77	7.28	-115	1.63	34.1	
0900	27.33	10.1	100		13.02	1.78	7.27	-114	1.47	28.3	
0910	27.46	10.1	100		13.40	1.74	7.29	-115	1.19	72.9	
0920	27.66	10.1	100	3 gals	13.24	1.79	7.28	-114	1.06	28.5	

1. Pump dial setting (for example: hertz, cycles/min, etc).
2. µSiemens per cm (same as µmhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

11/30/11 DTW
MW-7 - 22.41
MW9 21.82

DTW start:
DTW End: .50
DTW = ~~24.83~~ ~~24.63~~ 24.83
w/o Pump - Static ~~24.83~~ 24.63

Pump ON: 0753
Pump OFF:

Sample Date/Time = 11/30/11

★ No more than 0.33 feet drawdown

MW=9

Sample ID=

Page 1 of 1

Well PURGING-FIELD WATER QUALITY MEASUREMENTS FORM

Location (Site/Facility Name) Via Verde

Well Number MW-9 Date 11/29/2011

Field Personnel JTC/MTV

Sampling Organization CA RICH INC.

Identify MP

Depth to (below MP) 15 / 30 (top / bottom) of screen

Pump Intake at (ft. below MP) 30

Purging Device; (pump type) Submersible - Mega Monsoon

Clock Time	Water Depth below MP	Pump Dial^1	Purge Rate	Cum. Volume Purged	Temp.	Spec. Cond.^{2}	pH	ORP/ Eh^3	DO	Turb- idity	Comments
					3%	3%	±.1	±10	±0.3	10%	
24 HR	ft		ml/min	Liters	°C	µS/cm		mv	mg/L	NTU	
0825	21.88	8.3	100mL								
0900	27.15	9.1	125		18.09	1.01	8.39	48	1.65	206	
0910	27.35	9.2	125		18.25	0.967	8.57	41	2.07	110	
0920	27.42	9.2	120		18.29	0.937	8.29	47	2.48	62.4	
0930	27.38	9.2	100		18.29	0.927	8.64	52	2.50	45.9	
0940	27.31	9.2	100		18.26	0.919	8.66	56	2.49	25.4	
0950	27.15	9.3	100	3.5gal	18.26	0.919	8.66	~~58~~ 58	2.48	14.2	

1. Pump dial setting (for example: hertz, cycles/min, etc).
2. µSiemens per cm(same as µmhos/cm)at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

DTW start: 21.88

DTW End: 27.15

Pump ON: 0825

Pump OFF: 1100

Sample Date/Time= 11/29/11

* gauged well from black Standpipe

* Start Sampling @ 0953

★ No more than 0.33 feet drawdown

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PAGE 1 OF 1

FED-EX Tracking #
Bottle Order Control #
Accutest Quote #
Accutest Job #

Client / Reporting Information

Company Name: CA Rich Consultants
Street Address: 17 Dupont Street
City: Plainview State: NY Zip: 11803
Project Contact: Richard Izzo E-mail:
Phone #: 516-576-8844 Fax #:
Sampler(s) Name(s): Mike Yager / Jason Cooper Phone #:

Project Information

Project Name: Via Verde
Street: 700-730 Brooke Ave
City: Bronx State: NY
Project #:
Client Purchase Order #:
Project Manager: Richard Izzo

Billing Information (if different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	VOC 8260	SVOC 8270	PCBs	TAL metals + Tri + Hex Chrome	LAB USE ONLY
	mw-9		11/29/11	1100	JC/my	GW	9	3		1		5				X	X	X	X	
	mw-7		11/29/11		JC/my	GW	9	3		1		5				X	X	X	X	
	mw-7ms		11/29/11		JC/my	GW	9	3		1		5				X	X	X	X	
	mw-7msD		11/29/11		JC/my	GW	9	3		1		5				X	X	X	X	
	Trip Blank 11/29/11				–	TB	1	1								X				

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)

☒ Std. 15 Business Days
☐ Std. 10 Business Days (by Contract only)
☐ 10 Day *RUSH*
☐ 5 Day *RUSH*
☐ 3 Day *EMERGENCY*
☐ 2 Day *EMERGENCY*
☐ 1 Day *EMERGENCY*
Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

☐ Commercial "A" (Level 1)
☐ Commercial "B" (Level 2)
☐ FULLT1 (Level 3+4)
☐ NJ Reduced
☐ Commercial "C"
☐ NYASP Category A
☒ NYASP Category B
☐ State Forms
☐ EDD Format
☐ Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

* 24 hr TAT on Hex Chrome
* Detection limits for metals must be below NYS TOGS

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1	Date Time: 11/29/11	Received By: 1	Relinquished By: 2	Date Time:	Received By: 2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐

On Ice ☐
Cooler Temp.

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PAGE 1 OF 1 E

FED-EX Tracking # 8986 1143 5905
Bottle Order Control #
Accutest Quote #
Accutest Job # JA93288

Client / Reporting Information

Company Name: CA Rich Consultants Inc
Street Address: 17 Dupont Street
City: Plainview State: NY Zip: 11803
Project Contact: Richard Izzo E-mail:
Phone #: 516-576-8844 Fax #:
Sampler(s) Name(s): Jason Cooper/mike Yager Phone #:

Project Information

Project Name: Via Verde
Street: 700-730 Brooke
City: Bronx State: NY
Project #:
Client Purchase Order #:
Project Manager: Richard Izzo

Billing Information (if different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	VOC 8260	SVOC 8270	PCB	TAL Metals + Tri + hex chrome	LAB USE ONLY
1	mw-8		11/30/11	1230	JC/my	GW	9	3		1		5				X	X	X	X	~~Ex~~
2	mw-6		11/30/11	1300	JC/my	GW	9	3		1		5				X	X	X	X	AMET18
																				ME46
3	mw-xx		11/30/11	—	JC/my	GW	9	3		1		5				X	X	X	X	UTC28
4	Field Blank 11/30/11		11/30/11	1320	JC/my	FB	~~9~~ 8	~~3~~		1		5				X	X	X	X	488
5	Trip Blank 11/30/11			—		TB	1	1								X				

TN 12/1/11

~~TB~~ TB 11-10/11 @ 0800 TN 12/1/11

Matrix Codes
DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)
☒ Std. 15 Business Days
☐ Std. 10 Business Days (by Contract only)
☐ 10 Day *RUSH*
☐ 5 Day *RUSH*
☐ 3 Day *EMERGENCY*
☐ 2 Day *EMERGENCY*
☐ 1 Day *EMERGENCY*
Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information
☐ Commercial "A" (Level 1)
☐ Commercial "B" (Level 2)
☐ FULLT1 (Level 3+4)
☐ NJ Reduced
☐ Commercial "C"
☐ NYASP Category A
☒ NYASP Category B
☐ State Forms
☐ EDD Format
☐ Other
Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions
*24 hr TAT Hex Chrome
* metals need to be tested
to below NYS TOGS Standards
Field Blank - 2 40mL VOAs

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1	Date Time:	Received By: 1 Fed	Relinquished By: 2 Fed	Date Time: 12/1/11 1000	Received By: 2	
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4	
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # 376, 378 rec'd	☒ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 3.0°C

2A
TN 12/1/11
5.0°C - TN

Appendix B

DUSR

L.A.B. Validation Corp, 14 West Point Drive, East Northport, NY 11731

DATA USABILITY SUMMARY REPORT – DUSR
DATA VALIDATION SUMMARY

ORGANIC/INORGANIC ANALYSES

TARGET COMPOUND LIST (TCL) VOLATILES BY GC/MS
TARGET COMPOUND LIST (TCL) SEMIVOLATILES BY GC/MS
PCBs BY GC ECD
TARGET ANALYTE LIST (TAL) METALS (Total) BY ICP/ICP-MS/CV
And HEXAVALENT CHROMIUM
BY CLASSICAL WET CHEMISTRY TECHNIQUES

For Groundwater Samples Collected
November 29, 2011 through November 30, 2011
From 700-730 Brook Avenue, Bronx, NY
Via Verde
Collected by CA Rich Consultants

SAMPLE DELIVERY GROUP NUMBERs:
JA93152, 93288
BY ACCUTEST LABORATORIES (ELAP #10983)

SUBMITTED TO:

Mr. Rich Izzo, CPG
CA Rich Consultants, Inc.
17 Dupont Street
Plainview, NY 11803

cc:
Ms. Deborah Shapiro
CA Rich Consultants, Inc.
17 Dupont Street
Plainview, NY 11803

March 05, 2012

PREPARED BY:

Lori A. Beyer/President
L.A.B. Validation Corp.
14 West Point Drive
East Northport, NY 11731

Lori A. Beyer

(516) 523-7891; email LABValidation@aol.com

L.A.B. Validation Corp, 14 West Point Drive, East Northport, NY 11731

700-730 Brook Avenue, Bronx – Via Verde; Groundwater Samples; November 2011 (Q4) Sampling Event
Data Usability Summary Report (Data Validation): TCL Volatiles, TCL Semivolatiles, PCBs, TAL Metals (Total) and Hexavalent Chromium.

Table of Contents:

Introduction:

A validation was performed on groundwater samples and the associated quality control samples for organic/inorganic analysis for samples collected under chain of custody documentation by CA Rich Consultants and submitted to Accutest Laboratories for subsequent analysis. This report contains the laboratory and validation results for the field samples itemized below. The groundwater samples were collected on November 29, 2011 through November 30, 2011.

The samples were analyzed by Accutest Laboratories, utilizing SW846 Methods and submitted under NYSDEC ASP Category B equivalent deliverable requirements for the associated analytical methodologies employed. The analytical testing consisted of the Target Compound/Analyte Lists for Volatile Organics, Semivolatile Organics, PCBs, TAL Metals (Total) and Hexavalent Chromium.

The data was evaluated in accordance with EPA Region II National Functional Guidelines for Organic and Inorganic Data Review (October 2006) and EPA Region II SOPs for 8260, 8270, 8082 and Metals (August 2008 with 2009 updates) and also in conjunction with the analytical methodologies for which the samples were analyzed, where applicable and relevant.

The data validation report pertains to the following samples:

Sample Identification	**Laboratory Identification**	**Sample Matrix**	**Date Collected**	**Date Received**
MW-9	JA93152-1	Groundwater	11/29/11	11/30/11
MW-7	JA93152-2	Groundwater	11/29/11	11/30/11
MW-7 MSD	JA93152-2D	Groundwater	11/29/11	11/30/11
MW-7 MS	JA93152-2S	Groundwater	11/29/11	11/30/11
Trip Blank 11/29/11	JA93152-3	Aqueous	11/29/11	11/30/11
MW-8	JA93288-1	Groundwater	11/30/11	12/01/11
MW-6	JA93288-2	Groundwater	11/30/11	12/01/11
MW-XX (Duplicate of MW-8)	JA93288-3	Groundwater	11/30/11	12/01/11
Field Blank 11/30/11	JA93288-4	Aqueous	11/30/11	12/01/11
Trip Blank 11/30/11	JA93288-5	Aqueous	11/30/11	12/01/11

Data Qualifier Definitions:

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate quantity.

Sample Receipt:

The Chain of Custody document indicates that the samples were received at Accutest Laboratories via Federal Express on 11/30/11 and 12/01/11 upon completion of the sampling event. Sample login notes were generated. The cooler temperature for all sample receipts were recorded upon receipt at Accutest Laboratories and determined to be acceptable (<6.0 degrees C). The actual temperature is recorded on the chain of custody document in addition to the case narratives provided in Appendix B of this report.

No unresolved problems and/or discrepancies were noted, consequently, the integrity of the samples has been assumed to be good.

The data summary tables included in Appendix A includes all usable (qualified) and unusable (rejected) results for the samples identified above. These tables summarize the detailed narrative section of the report. All data validation qualifications have been reported in the excel spreadsheet.

NOTE:
L.A.B. Validation Corp. believes it is appropriate to note that the data validation criteria utilized for data evaluation is different than the method requirements utilized by the laboratory. Qualified data does not necessarily mean that the laboratory was non-compliant in the analysis that was performed.

1.0 Target Analyte List (TCL) Volatile Organics by GC/MS SW846 Method 8260

The following method criteria were reviewed: holding times, SMCs, MS, MSD, LCS, Laboratory Spiked Blanks, Method Blanks, Tunes, Calibrations, Internal Standards, Target Component Identification, Quantitation, Reported Quantitation Limits and Overall System Performance. The Volatile results were considered to be valid and useable as noted within the following as noted within the following text:

1.1 Holding Time

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J". The non-detects (sample quantitation limits) are required to be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

Samples pertaining to these SDGs were performed within the Method required holding times as well as the technical holding times for data validation of 14 days from collection to analysis. Samples were properly preserved with HCL to pH <2. No data validation qualifiers were required based upon holding time.

1.2 System Monitoring Compound (Surrogate) Recovery

All samples are spiked with surrogate compounds prior to sample analysis to evaluate overall laboratory performance and efficiency of the analytical technique. If the measure of surrogate concentrations is outside contract specification, qualifications are required to be applied to associated samples and analytes.

Surrogate recoveries (%R) were found to be within acceptable limits for all four (4) surrogate compounds for all analyses pertaining to these SDGs for analysis.

1.3 Matrix Spikes (MS)/ Matrix Spike Duplicates (MSD)

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

MS/MSD analyses were conducted for each analytical sequence and were spiked with all components as required by the analytical procedure. Site-specific aqueous MS/MSD was performed by the laboratory on sample MW-7. Acceptable recovery values and RPD was observed for all analytes.

No qualifications to the data were required based on batch (non-site specific QC).

1.4 Laboratory Control Sample/Blank Spikes

The LCS data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance.

LCS/Blank Spikes were analyzed for each sequence. Recovery values were acceptable and no qualifications were applied.

1.5 Blank Contamination

Quality assurance (QA) blanks; i.e. method, trip and field blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations.

The following table was utilized to qualify target analyte results due to contamination. The largest value from all the associated blanks is required to be utilized:

For:	**Flag Sample Result with a "U" when:**	**Report CRQL & Qualify "U" when:**	**No Qualification is Needed when:**
Methylene Chloride, Acetone, Toluene & 2-Butanone	Sample Conc. Is >CRQL, but </=10x blank value	Sample Conc. is <CRQL and </=10x blank value	Sample Conc. is >CRQL and >10x blank value
Other Contaminants	Sample Conc. Is >CRQL, but </=5x blank value	Sample Conc. Is <CRQL and </=5x blank value	Sample Conc. is >CRQL and >5x blank value

Below is a summary of the compounds in the sample and the associated qualifications that have been applied:

A) **Method Blank Contamination:**

No target analytes were detected in the method blanks associated with sample analysis.

B) **Field Blank Contamination:**

No target analytes were detected in the field blank associated with sample analysis.

C) **Trip Blank Contamination:**

No target analytes were detected in the trip blanks associated with sample analysis.

1.6 GC/MS Instrument Performance Check

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The Tuning standard for volatile organics is Bromofluorobenzene (BFB).

Instrument performance was generated within acceptable limits and frequency for Bromofluorobenzene (BFB) for all analyses conducted for these SDGs.

1.7 Initial and Continuing Calibrations

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence.

The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:
The response factor measures the instrument's response to specific chemical compounds. The response factor for all compounds must be >/= 0.05 in both initial and continuing calibrations. A value <0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound in the corresponding samples will be rejected, "R".

All the response factors for the target analytes reported were found to be within acceptable limits (>/=0.05), for the initial and continuing calibrations for all reported TCL analytes.

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):
Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentrations. Percent D compares the response factor of the continuing calibration check to the mean response factor

(RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified, "R", unusable. Additionally, in cases where the %RSD is >30% and eliminating either the high or the low point of the curve does not restore the %RSD to less than or equal to 30% then positive results are qualified, "J". In cases where removal of either the low or high point restores the linearity, then only low or high level results will be qualified, "J" in the portion of the curve where non linearity exists.

Initial Calibrations: The initial calibrations provided and the %RSD were within acceptable limits (30%) for all compounds.

Continuing Calibrations: The continuing calibrations provided and the %D was within acceptable limits (25%) for all compounds.

1.8 Internal Standards

Internal Standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than +/-30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, professional judgment will be used to determine either partial or total rejection of the data for that sample fraction.

All samples were spiked with the internal standards Chlorobenzene-d5, Fluorobenzene and 1,4-Dichlorobenzene-d4 prior to sample analysis. The area responses and retention time of each internal standard met QC criteria in all samples associated with these SDGs.

1.9 Field Duplicates

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples. Generally an acceptable RPD is 10% for water samples.

Groundwater sample MW-8 was collected in duplicate, a summary of positive detections is summarized below:

	MW-8	**MW-XX**
Benzene	**0.98 ug/L**	**1.0 ug/L**
sec-Butylbenzene	**3.7 ug/L**	**3.8 ug/L**
tert-Butylbenzene	**0.63 ug/L**	**0.57 ug/L**
Chloroform	**1.1 ug/L**	**1.4 ug/L**
Ethylbenzene	**92.8 ug/L**	**99.0 ug/L**
Isopropylbenzene	**23.4 ug/L**	**24.4 ug/L**
p-Isopropyltoluene	**1.8 ug/L**	**1.8 ug/L**
Naphthalene	**52.2 ug/L**	**54.2 ug/L**
n-Propylbenzene	**52.3 ug/L**	**53.7 ug/L**
Toluene	**5.0 ug/L**	**5.4 ug/L**
1,2,4-Trimethylbenzene	**18.8 ug/L**	**19.3 ug/L**
1,3,5-Trimethylbenzene	**7.7 ug/L**	**7.9 ug/L**
Total Xylenes	**35.5 ug/L**	**37.7 ug/L**

Acceptable precision was observed and no qualification to the data is required.

1.10 Target Compound List Identification

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within =/- 0.06RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound.

GC/MS spectra met the qualitative criteria for identification. All retention times were within required specifications.

1.10 Compound Quantification and Reported Detection Limits

GC/MS quantitative analysis is considered to be acceptable. Correct internal standards per SW846 and response factors and dilution corrections were used to calculate final concentrations.
As required, the laboratory reported "J" values between the reporting limits (RL) and Method Detection Limits (MDLs). This is consistent with common laboratory practices and a requirement of the National Environmental Laboratory Approval Program (NELAP).

All groundwater samples were analyzed undiluted.

1.11 Overall System Performance

Good resolution and chromatographic performance were observed.

Tentatively Identified Compounds (TICs) were not generated and therefore not evaluated.

2.0 Target Compound List (TCL) Semivolatile Organics by GC/MS SW846 Method 8270

The following method criteria were reviewed: holding times, Surrogates, MS, MSD, LCS, Blanks, Tunes, Calibrations, Internal Standards, Target Component Identification, Quantitation, Reported Quantitation Limits and overall system performance. The Total Semivolatile results were considered to be valid and usable as noted within the following text:

2.1 Holding Time

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J". The non-detects (sample quantitation limits) are required to be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

All aqueous samples were extracted and analyzed within the method required holding times and the technical holding times (7 days from collection for water samples) required for data validation.

2.2 Surrogate Recovery

All samples are spiked with surrogate compounds prior to sample preparation/extraction to evaluate overall laboratory performance and efficiency of the analytical technique. Additionally, the sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Since the effects of the sample matrix are frequently outside the control of the laboratory and may present relatively unique problems, the evaluation of the data is dependent upon reextraction and/or reanalysis to confirm/negate laboratory error or matrix related problems. Discussion of surrogate recoveries that fell outside (above/below) QC guidelines is itemized below:

All samples were spiked with six (6) surrogate standards at the sample extraction portion of analysis. Acceptable recovery values were obtained for all groundwater analyses.

2.3 Matrix Spikes (MS)/Matrix Spike Duplicates (MSD)

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices.

Aqueous MS/MSD analysis was performed on MW-7 and was spiked with all components as required by the analytical procedure. Acceptable recovery values and RPD were obtained. No data qualifications are required based on this outlier.

2.4 Laboratory Control Sample

The LCS data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance.

LCS/Blank Spikes were analyzed for each analytical extraction batch. Recovery values were acceptable and no qualifications were applied.

2.5 Method Blanks

Quality assurance (QA) blanks; i.e. method, trip and field blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field blanks measure cross-contamination of samples during field operations.

The following table was utilized to qualify target analyte results due to contamination. The largest value from all the associated blanks is required to be utilized:

For:	**Flag Sample Result with a "U" when:**	**Report CRQL & Qualify "U" when:**	**No Qualification is Needed when:**
Phthalates (common laboratory contaminants)	Sample Conc. is >CRQL, but </=10x blank value	Sample Conc. Is <CRQL and </=10x blank value	Sample Conc. is >CRQL and >10x blank value
Other Contaminants	Sample Conc. is >CRQL, but </=5x blank value	Sample Conc. Is <CRQL and </=5x blank value	Sample Conc. is >CRQL and >5x blank value

Below is a summary of the compounds in the sample and the associated qualification that have been applied:

A) **Method Blank Contamination:**

Target analytes were not detected in the extraction blanks applicable to sample analysis.

B) **Field Blank Contamination:**

Bis (2-ethylhexyl) phthalate was detected in the Field Blank applicable to this sampling event at 2.7 ug/L. This common laboratory contaminant was detected in MW-8 at 43.8 ug/L but not in the blind duplicate (MW-XX). No qualifications to the data is required based on the above criteria since the sample concentration is greater than 10x the field blank level, however, the end user should proceed with caution when making decisions based on phthalate concentrations. Based on professional judgment, it is suspected that this detection may not be attributable to sample matrix constituents, however, could not be negated during the validation process.

2.6 GC/MS Instrument Performance Check

Tuning and performance criteria are established to ensure adequate mass resolution proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The Tuning standard for semivolatile organics is decafluorotriphenylphosphine (DFTPP).

Instrument performance was generated within acceptable limits and frequency (12 hours) for decafluorotriphenylphosphine (DFTPP) for all analyses.

2.7 Initial and Continuing Calibrations

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:
The response factor measures the instrument's response to specific chemical compounds. The response factor for all compounds must be >/= 0.05 in both initial and continuing calibrations. A value <0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J." All non-detects for that compound in the corresponding samples will be rejected, "R".

All the response factors for the target analytes reported were found to be within acceptable limits (>/=0.05), for the initial (average RRF) and continuing calibrations.

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):
Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentrations. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the

instrument's daily performance. Percent RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified, "R", unusable. Additionally, in cases where the %RSD is >30% and eliminating either the high or the low point of the curve does not restore the %RSD to less than or equal to 30% then positive results are qualified, "J". In cases where removal of either the low or high point restores the linearity, then only low or high level results will be qualified, "J" in the portion of the curve where non linearity exists.

Initial Calibrations: The initial calibrations provided and the %RSD were within acceptable limits (30%) for all compounds with the following exception:

ICAL 12/9/11 GCMSR; 2,4-Dinitrophenol – 37.1%. "UJ" non-detects in MW-8, MW-6 and MW-XX.

Continuing Calibrations: The continuing calibrations provided and the %D was within acceptable limits (25%) for all compounds with the following exceptions:

CCAL 12/09/11 GCMSR; 2,4-Dinitrophenol – 34.8%. "UJ" non-detected concentration in MW-8.

CCAL 12/14/11 GCMSR; 2,4-Dinitrophenol – 31.1%. 'UJ" non-detects in MW-6 and MW-XX.

2.8 Internal Standards

Internal Standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than +/-30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, professional judgment will be used to determine either partial or total rejection of the data for that sample fraction.

All area responses and retention times fell within established QC ranges.

2.9 Field Duplicates

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples. Generally for soil samples an acceptable RPD is 10% for water samples.

Groundwater sample MW-8 was collected in duplicate, a summary of positive detections is summarized below:

	MW-8	MW-XX
Acenaphthene	1.3 ug/L	1.4 ug/L
Carbazole	0.49 ug/L	0.49 ug/L
Dibenzofuran	0.78 ug/L	0.91 ug/L
Bis (2-ethylhexyl) phthalate	43.8 ug/L	ND
Fluoranthene	0.71 ug/L	0.71 ug/L
Fluorene	0.71 ug/L	0.75 ug/L
2-Methylnaphthalene	13.6 ug/L	14.7 ug/L
Naphthalene	30.9 ug/L	32.9 ug/L
Phenanthrene	1.0 ug/L	1.1 ug/L
Pyrene	0.61 ug/L	0.62 ug/L

The presence of bis (2-ethylhexyl) phthalate in MW-8 must be considered suspect (J) since low concentrations were detected in the Field Blank but the concentration detected in MW-8 could not be negated based on the validation criteria.

2.10 Target Compound List Identification

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within =/- 0.06RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound.

Mass spectra meet criteria for all detected analytes.

All samples were analyzed undiluted.

Tentatively Identified Compounds (TICs) were not provided by the laboratory and therefore not evaluated.

2.11 Compound Quantification and Reported Detection Limits

GC/MS quantitative analysis is considered to be acceptable. Correct internal standards and response factors were used to calculate final concentrations.

As required, the laboratory reported "J" values between the reporting limits (RL) and Method Detection Limits (MDLs). This is consistent with common laboratory practices and a requirement of the National Environmental Laboratory Approval Program (NELAP).

2.12 Overall System Performance

Acceptable system performance was maintained throughout the analysis.

3.0 PCBs by GC SW846 Method 8082.

The following method criteria were reviewed: holding times, Surrogates, MS, MSD, LCS, Blanks, Analytical Sequences, Calibrations, Target Component Identification, Quantitation, Reported Quantitation Limits and overall system performance. The PCB results were considered to be valid and usable as noted within the following text:

3.1 Holding Time

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J". The non-detects (sample quantitation limits) are required to be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

All groundwater samples were extracted and analyzed within the method required holding times and the technical holding times required for data validation (7 days for water).

3.2 Surrogate Recovery

All samples are spiked with surrogate compounds prior to sample preparation/extraction to evaluate overall laboratory performance and efficiency of the analytical technique. Additionally, the sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Since the effects of the sample matrix are frequently outside the control of the laboratory and may present relatively unique problems, the evaluation of the data is dependent upon reextraction and/or reanalysis to confirm/negate laboratory error or matrix related problems. Discussion of surrogate recoveries that fell outside (above/below) QC guidelines is itemized below:

Acceptable surrogate recovery values were obtained for all aqueous analysis.

3.3 Matrix Spikes (MS)/Matrix Spike Duplicates (MSD)

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices.

The National Functional Guidelines indicate that MS/MSD data alone shall not be utilized to qualify sample data.

Aqueous PCB matrix spike analysis was conducted on MW-7. Acceptable recovery and RPD values were obtained.

3.4 Laboratory Control Sample

The LCS data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance.

LCS/Blank Spikes were analyzed for each analytical extraction batch for PCBs. Recovery values were acceptable and no qualifications were applied for groundwater analyses.

3.5 Blanks

Quality assurance (QA) blanks; i.e. method, instrument, trip and field blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Instrument blanks measure carryover for cross contamination. Field blanks measure cross-contamination of samples during field operations.

The following table was utilized to qualify target analyte results due to contamination. The largest value from all the associated blanks is required to be utilized:

For:	**Flag Sample Result with a "U" when:**	**Report CRQL & Qualify "U" when:**	**No Qualification is Needed when:**
Any Contaminant	Sample Conc. is >CRQL, but </=5x blank value	Sample Conc. Is <CRQL and </=5x blank value	Sample Conc. is >CRQL and >5x blank value

Extraction and Instrument blanks were performed at the appropriate frequency.
Below is a summary of blank contamination:

A) **Method Blank Contamination:**
No target analytes were detected in the associated method blanks and no data validation qualifiers were required based upon method blank data.

B) **Field Blank Contamination:**

Target analytes were not detected in the Field Blank associated with sample analysis.

3.6 Calibration Verification

Initial and continuing calibration sequence was performed as required for multi-component PCB standards. Acceptable retention times were obtained for all analysis and GC resolution is acceptable for both columns.

Linearity criteria for the initial standards have been satisfied for both columns as detailed below:

%RSD </= 30% for surrogates (TCMX and DCB)
%RSD >20% for PCB aroclors.

Continuing calibration verifications:
For PCB analysis acceptable percent difference for any PCB analysis is 15%.

No qualifications have been applied based on these criteria.

3.7 Field Duplicates

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples. Generally for water samples an acceptable RPD is 10%.

MW-8 was utilized as the aqueous blind field duplicate (MW-XX). Target analytes were not detected in either analytical run for PCBs.

3.8 Target Compound Identification

Qualitative criteria for compound identification have been established to minimize the number of false positives and false negatives. The retention times of all target analytes have been verified in the samples to that of the analyzed reference standards

Positive PCB sample results are compared and where %Difference >25% when quantitated on the two columns the qualifications below are applied. Sample chromatograms were reviewed for the presence of interference. The following qualifications were applied where neither column shows interference:

%Difference	Qualifier
0-25%	None
26-70%	"J"
71-100%	"JN"
101-200% (no interference)	"R"
101-200% (interference detected)*	"JN"
>50% (Pesticide value is <CRQL)**	"U"
>201%	"R"

***When the reported %D is 101-200%, but interference is determined on either column, the results shall be qualified, "JN"**
**** When the reported pesticide value is lower than the CRQL, and the %D is >50%, raise the value to the CRQL and qualify "U", undetected.**

All sample results have been evaluated based on these criteria.
Groundwaters:
None

3.9 Compound Quantification and Reported Detection Limits

TCL compounds are identified on the GC by using the analyte's relative retention time (RRT) and by comparison to the primary column and the secondary confirmation column data. The laboratory reported the lower of the concentrations for primary/confirmatory column results as required.

3.10 Overall System Performance

Acceptable system performance was maintained throughout the analysis of all samples. Good resolution and chromatographic performance were observed.

4.0 TAL Metals by ICP/ICP-MS/Cold Vapor SW846 Methods 6010/6020/7471

The following method criteria were reviewed: holding times, CRDL standards, calibration, blanks, MS, laboratory duplicates, LCS, interference check sample, ICP serial dilutions and sample results verification. In order to meet the groundwater standard criteria, all samples were analyzed by ICP-MS techniques for Antimony and Thallium. The groundwater results were considered to be valid and usable with the appropriate qualifiers as notated in the following text:

4.1 Holding Times

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J". The non-detects (sample quantitation limits) are required to be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

All samples were digested and analyzed for Metals within the method required holding times and the technical holding times for data validation. No qualifications were applied based upon holding time criteria.

4.2 Calibration (ICV/CCV)

Satisfactory instrument calibration is established to ensure that the instruments are capable of producing acceptable quantitative data. An initial calibration demonstrates that the instruments are capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instruments are giving satisfactory sequential performance and that the initial calibration is still valid.

The ICP, ICP/MS and Mercury instruments were calibrated utilizing a minimum of a four-point curve in addition to blanks at the beginning of each analytical run. The calibrations had been determined to be acceptable, yielding correlation coefficients of 0.995 or greater.

For ICP analysis, satisfactory instrument performance near the Contract Required Detection Limit (CRDL) was demonstrated by analyzing a CRDL standard at the beginning and end of the analytical run. The instruments were calibrated properly by analyzing the CRDL solution at the correct levels, and analyzed at the required frequency at the beginning and end of each analytical run.

All recoveries were within acceptable limits of 90-110 % for initial calibration pertaining to field samples.

Continuing calibrations were within acceptable limits of 90-110% recovery of the true values for ICP and Mercury (80-120%) for all field samples.

No qualifications were applied based upon ICV/CCV analysis.

4.3 Blanks

Quality assurance (QA) blanks, i.e. method, field or preparation blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Preparation blanks measure laboratory contamination. Field blanks measure cross-contamination of samples during field operations.

All digestion/prep/ICB/CCB/Field blanks were generated within acceptable limits yielding final concentrations less than the CRDL.

No qualifications to the data were made based upon blank contamination.

4.4 Spiked Sample Recovery

The spike data are generated to determine the long terms precision and accuracy of the analytical method in various matrices.
Aqueous spike recoveries are qualified based on the criteria below:
<30% - "R" all detects and non-detects
Between 30%-74% - results >/=MDL "J" and non-detects "UJ"
Between 126-150% - results >/=MDL "J" and
>150% - results >/= MDL "R"

Aqueous MS/MSD analysis was conducted on MW-7. Analysis resulted in acceptable recovery values for all elements and no qualifications to the data were required.

4.5 Laboratory/Field Duplicates

The laboratory uses duplicate sample determinations to demonstrate acceptable method precision at the time of analysis. Duplicate analyses are also performed to generate data in order to determine the long-term precision of the analytical method on various matrices.

Laboratory Duplicates:
RPD >20% but <100% - J detected concentrations
RPD >/=100% - R all detected and non-detected concentrations

Field Duplicates:
RPD >/=35% but <120% - qualify sample and duplicate results >/= CRQL "J"
RPD >/= 120% - rejected sample and duplicate results >/= CRQL "R"

Aqueous Laboratory Duplicate analysis was conducted on MW-7. Acceptable RPD values were obtained for all elements.

Field Duplicate analysis was conducted on MW-8 (MW-XX).

A summary of detected concentrations in ppb is listed below:

	MW-8	MW-XX (Duplicate)
Aluminum	**545**	**887**
Arsenic	**12.7**	**12.7**
Calcium	**200000**	**199000**
Copper	**27.9**	**33.2**
Iron	**5030**	**5180**
Lead	**9.4**	**11.3**
Magnesium	**22100**	**22000**
Manganese	**1920**	**1920**
Nickel	**12.3**	**12.9**
Potassium	**16300**	**15900**
Sodium	**130000**	**130000**

Based on >10% RPD between original and duplicate analysis the following element concentrations must be considered estimated, "J/UJ" for both MW-8 and MW-XX:

Aluminum.

4.6 Laboratory Control Sample

The laboratory Control Sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Aqueous and solid Laboratory Control samples shall be analyzed for each analyte utilizing the same sample preparation, analytical methods and QA/QC procedures as employed for the samples.

The LCS was analyzed and reported for all ICP, ICP-MS and Mercury analysis. Associated LCS recoveries were within the acceptable limits for TAL Metals analyses (80-120%).

4.7 Interference Check Sample

The interference check sample (ICS) verifies the laboratory's interelement and background correction factors. The ICS consists of two solutions A and AB. Solution A consists of interference, and solution AB consists of the analytes mixed with interferents.

SW846 Method 6010 requires solution A and solution AB to be analyzed separately. The recoveries for the ICP interference check sample were all within the acceptable limits of 80-120%. No data qualifications were made based upon ICS analysis.

4.8 ICP Serial Dilution

The serial dilution of samples quantitated by ICP determines whether or not significant physical or chemical interferences exist due to sample matrix. An ICP serial dilution analysis must be performed on a sample for each group of samples with a similar matrix type and concentration, or for each Sample Delivery Group (SDG), whichever is more frequent.

Acceptable ICP serial dilution was performed at a 5-fold dilution as required by the method where the initial concentration is equal or greater than 50x IDL. The serial dilution analysis agrees within a 10% difference of the original determination after correction for dilution for all elements where the sample concentration was determined by be <50x the IDL.

ICP-MS serial dilution resulted in high percent different and can be attributed to interference. Non-detects for Antimony must be considered estimated, "J/UJ" in MW-7, MW-9, MW-6, MW-8, MW-XX and the Field Blank.

4.9 Sample Results Verification

Analyte quantitation was generated in accordance with protocols. The raw data was verified and found within the linear range of each instrument used for quantitation. Raw data supplied corresponds with reported values. Verification of the calculations yielded reported results.

Metals analysis resulted in acceptable results.

4.10 Overall Assessment of Data

The data generated were of acceptable quality.

For the TAL analysis, results are usable at the concentration presented in the validated spreadsheets.

5.0 General Chemistry Analysis

Groundwater samples were analyzed for Hexavalent and Trivalent Chromium. The groundwater results were considered to be valid and usable with the appropriate qualifiers as notated in the following text:

5.1 Holding Times

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, “J”. The non-detects (sample quantitation limits) are required to be flagged as estimated, “J”, or unusable, “R”, if the holding times are grossly exceeded.

Samples were analyzed within 24 hours of collection as required for Hexavalent Chromium.

5.2 Calibration

Acceptable ICVs and CCVs were analyzed. No qualifications were applied based upon calibration data.

5.3 Blanks

Quality assurance (QA) blanks, i.e. method, field or preparation blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Preparation blanks measure laboratory contamination. Field blanks measure cross-contamination of samples during field operations.

Acceptable method blanks were analyzed with this SDG as dictated by the analytical methods employed.

5.4 Spiked Sample Recovery

The spike data are generated to determine the long-term precision and accuracy of the analytical method in various matrices.

Matrix spike analysis was performed on MW-7. Acceptable spike recoveries were obtained.

5.5 Laboratory/Field Duplicates

The laboratory uses duplicate sample determinations to demonstrate acceptable method precision at the time of analysis. Duplicate analyses are also performed to generate data in order to determine the long-term precision of the analytical method on various matrices.

Acceptable laboratory duplicate analysis on MW-7 was conducted as required by the method. The RPD exceeded acceptance limit as a result of low duplicate and sample concentrations (1.3 ug/L and 2.4 ug/L). Based on professional judgment, no qualifications to the data were required.

Field duplicate analysis was collected on MW-8. Precision as defined by Relative Percent Difference (RPD) was found to be within acceptable limits of +/- 20% for Hexavalent Chromium; no detections above the reporting limit.

5.6 Laboratory Control Sample

The laboratory Control Sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Aqueous and solid Laboratory Control samples shall be analyzed for each analyte utilizing the same sample preparation, analytical methods and QA/QC procedures as employed for the samples.

Acceptable LCS was analyzed.

5.7 Sample Results Verification

Analyte quantitation was generated in accordance with protocols. The instrument logs were verified and found within the linear ranges of each instrument used for quantitation.

5.8 Overall Assessment of Data

The data was of acceptable quality.

Reviewer's Signature Lori A. Beyer **Date** 03/05/12