

APPENDIX A

TEST TRENCH & MONITORING WELL PARAMETERS

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: January 31, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: January 31, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-01	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1	01A		<p>- Black and light brown, fill including pieces of asphalt, concrete, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand. Layer had a strong odor of petroleum or cresol. Stratigraphy was wet from 6 to 8.5'bgs.</p> <hr style="width: 50%; margin-left: 0;"/> <p>- Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.</p> <p>Ended test trench @ 12.5 ft. bgs</p>
2			
3			
4			
5			
6			
7	01B		
8			
9			
10			
11			
12			

COMMENTS: Size of Test Pit: 12.5'D x 5'W x 10'L
 Surface and Subsurface Soil samples were taken at this location (0-0.5' and 6-7.5' bgs)

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC		JOB NUMBER: Site #C915258
CONTRACTOR: Panamerican Environmental, Inc.		LOCATION: 4630 River Rd, Tonawanda
DATE STARTED: January 31, 2013		GROUND ELEVATION: N/A
DATE COMPLETED: January 31, 2013		OPERATOR: Robert Broomfield
PIT NUMBER: RiRo-TP-02		GEOLOGIST: J. Ryszkiewicz
		GROUND WATER: N/A

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			
2			
3			- Black and light brown, fill including pieces of asphalt, concrete, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand. Stratigraphy was wet from 4.5 to 6' bgs.
4			
5			
6			
7			
8			- Grey, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.
9			
10			Ended test trench @ 10 ft. bgs
11			
12			

COMMENTS: Size of Test Pit: 10'D x 5'W x 8'L

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: January 31, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: January 31, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-03	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			
2			
3			
4			- Black and light brown, fill including pieces of asphalt, concrete, brick, wood, pipes, ash, C-F (course to fine) gravel and M-F (medium to fine) sand. Stratigraphy was wet from 6 to 8' bgs.
5			
6			
7			
8			
9			- Grey, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.
10			Ended test trench @ 10 ft. bgs
11			
12			

COMMENTS: Size of Test Pit: 10'D x 5'W x 8'L

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: January 31, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: January 31, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-04	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			Grey, C-F (course to fine) gravel with traces of M-F (medium to fine) sand and topsoil.
2			
3			
4			
5			Black and light brown, fill including pieces of asphalt, concrete, brick, wood, C-F gravel and M-F sand. Layer had a strong odor of petroleum or cresol. Stratigraphy was wet from 6 to 9' bgs.
6			
7	04		
8			
9			
10			Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.
11			Ended test trench @ 11 ft. bgs
12			

COMMENTS: Size of Test Pit: 11'D x 5'W x 9'L
 Subsurface Soil sample was taken at this location (7' bgs)

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC		JOB NUMBER: Site #C915258
CONTRACTOR: Panamerican Environmental, Inc.		LOCATION: 4630 River Rd, Tonawanda
DATE STARTED: January 31, 2013		GROUND ELEVATION: N/A
DATE COMPLETED: January 31, 2013		OPERATOR: Robert Broomfield
PIT NUMBER: RiRo-TP-05		GEOLOGIST: J. Ryszkiewicz
		GROUND WATER: N/A

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			- Black and dark brown, fill including pieces of asphalt, concrete, brick, wood, pipes, C-F (course to fine) gravel and M-F (medium to fine) sand.
2			
3			
4			
5			
6			- Light brown, loose silty clay with traces of C-F gravel and M-F sand.
7			- Grey, clay with traces of silt, M-F sand and C-F gravel. Material was damp.
8			
9			
10			
11			
12			

COMMENTS: Size of Test Pit: 12'D x 6'W x 9'L

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC		JOB NUMBER: Site #C915258
CONTRACTOR: Panamerican Environmental, Inc.		LOCATION: 4630 River Rd, Tonawanda
DATE STARTED: January 31, 2013		GROUND ELEVATION: N/A
DATE COMPLETED: January 31, 2013		OPERATOR: Robert Broomfield
PIT NUMBER: RiRo-TP-06		GEOLOGIST: J. Ryszkiewicz
		GROUND WATER: N/A

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			- Black and dark brown, fill including pieces of asphalt, concrete, brick, wood, pipes, C-F (course to fine) gravel and M-F (medium to fine) sand. Layer was wet from 4-5' bgs.
2			
3			
4			
5			
6			- Grey, clay with traces of silt, M-F sand and C-F gravel. Material was damp.
7			Ended test trench @ 6 ft. bgs
8			
9			
10			
11			
12			

COMMENTS: Size of Test Pit: 6'D x 6'W x 7'L

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: January 31, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: January 31, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-07	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			- Black and light brown, fill including pieces of asphalt, rebar, concrete, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand. Layer was damp from 4-5' bgs.
2			
3			
4			
5			
6			- Grey, clay with traces of silt, M-F sand and C-F gravel. Material was damp.
7			Ended test trench @ 7 ft. bgs
8			
9			
10			
11			
12			

COMMENTS: Size of Test Pit: 7'D x 6'W x 8'L

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC		JOB NUMBER: Site #C915258
CONTRACTOR: Panamerican Environmental, Inc.		LOCATION: 4630 River Rd, Tonawanda
DATE STARTED: January 31, 2013		GROUND ELEVATION: N/A
DATE COMPLETED: January 31, 2013		OPERATOR: Robert Broomfield
PIT NUMBER: RiRo-TP-08		GEOLOGIST: J. Ryszkiewicz
		GROUND WATER: N/A

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1	08A		- Black and light brown, fill including pieces of asphalt, concrete, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand. Stratigraphy was wet from 5 to 6' bgs. - Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet. Ended test trench @ 11 ft. bgs
2			
3			
4	08B		
5			
6			
7			
8			
9			
10			
11			
12			

COMMENTS: Size of Test Pit: 11'D x 6'W x 8'L
 Surface and Subsurface Soil samples were taken at this location (0-0.5' and 4' bgs)

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: January 31, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: January 31, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-09	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			
2			
3			
4			- Black and light brown, fill including pieces of large concrete, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand. Layer was damp from 6-8' bgs.
5			
6			
7			
8			
9			
10			- Grey, clay with traces of silt, M-F sand and C-F gravel. Material was damp.
11			
12			Ended test trench @ 11 ft. bgs

COMMENTS: Size of Test Pit: 11'D x 6'W x 10'L

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: January 31, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: January 31, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-10	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1	10A		- Black and light brown, fill including pieces of asphalt, concrete, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand. Stratigraphy was wet from 5 to 6' bgs.
2			
3			
4			
5			
6			- Light brown, loose silty clay with traces of C-F gravel and M-F sand.
7			
8	10B		- Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.
9			
10			
11			
12			Ended test trench @ 11 ft. bgs

COMMENTS: Size of Test Pit: 11'D x 6'W x 8'L
 Surface, Subsurface Soil and MS/MSD samples were taken at this location (0-0.5' and 7-8' bgs)

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 of 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: February 1, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: February 1, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-11	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			
2			
3			
4			- Black and light brown, fill including pieces of concrete, ash, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand within silty clay.
5			
6			
7			
8	11		- Dark green and black, M-F sand with organics. Layer was damp.
9			
10			- Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.
11			Ended test trench @ 11 ft. bgs
12			

COMMENTS: Size of Test Pit: 11'D x 5'W x 9'L
 Subsurface Soil sample was taken at this location (7-9' bgs)

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 of 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: February 1, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: February 1, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-12	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1	12A		
2			
3			
4	12B		- Black and light brown, fill including pieces of concrete, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand. Abundance of pea gravel from 3 to 5' bgs. Stratigraphy was wet from 3 to 5'bgs.
5			
6			
7			
8			
9			
10			- Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.
11			
12			
Ended test trench @ 12 ft. bgs			

COMMENTS: Size of Test Pit: 12'D x 6'W x 8'L
 Surface and Subsurface Soil samples were taken at this location (0-0.5' and 3-5' bgs)

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: February 1, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: February 1, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-13	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			- Black and light brown, fill including pieces of concrete, ash, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand within silty clay.
2			
3			
4			
5			
6			
7			
8	13		- Dark green and black, M-F sand with organics. Layer was damp.
9			- Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.
10			
11			
12			
			Ended test trench @ 11 ft. bgs

COMMENTS: Size of Test Pit: 11'D x 5'W x 9'L
 Subsurface Soil sample was taken at this location (7-9' bgs)

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: February 1, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: February 1, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-14	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			Black and light brown, fill including pieces of concrete, wire, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand within silty clay.
2			
3			
4			
5			
6			
7			
8			
9			Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet and had a slight petroleum odor.
10			
11			
12			
			Ended test trench @ 12 ft. bgs

COMMENTS: Size of Test Pit: 12'D x 5'W x 10'L

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC		JOB NUMBER: Site #C915258
CONTRACTOR: Panamerican Environmental, Inc.		LOCATION: 4630 River Rd, Tonawanda
DATE STARTED: February 1, 2013		GROUND ELEVATION: N/A
DATE COMPLETED: February 1, 2013		OPERATOR: Robert Broomfield
PIT NUMBER: RiRo-TP-15		GEOLOGIST: J. Ryszkiewicz
		GROUND WATER: N/A

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			Black and light brown, silty clay and pea gravel. Encountered a PVC drainage pipe.
2			
3			
4			Ended test trench @ 3 ft. bgs
5			
6			
7			
8			
9			
10			
11			
12			

COMMENTS: Size of Test Pit: 3'D x 5'W x 8'L

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: February 1, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: February 1, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-16	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1	16A		- Black and light brown, fill including pieces of concrete, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand. Heavy "spray paint" type odor from 4-6' bgs. Stratigraphy was wet from 5 to 6'bgs.
2			
3			
4			
5	16B		
6			- Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.
7			
8			
9			
10			Ended test trench @ 10 ft. bgs
11			
12			

COMMENTS: Size of Test Pit: 10'D x 6'W x 9'L
 Surface, Subsurface and MS/MSD Soil samples were taken at this location (0-0.5' and 4-6' bgs)

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: February 1, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: February 1, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-17	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			
2			
3			
4			- Black and light brown, fill including pieces of concrete, ash, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand within silty clay.
5			
6			
7			
8			- Dark green and grey, M-F sandy clay. Layer was damp.
9			
10			- Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.
11			
12			Ended test trench @ 11 ft. bgs

COMMENTS: Size of Test Pit: 11'D x 7'W x 10'L

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: February 1, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: February 1, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-18	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			- Black and light brown, fill including pieces of concrete, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand. Heavy "spray paint" type odor from 4-6' bgs. Stratigraphy was wet from 5 to 6'bgs.
2			
3			
4			
5			
6			
7			- Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.
8			Ended test trench @ 8 ft. bgs
9			
10			
11			
12			

COMMENTS: Size of Test Pit: 8'D x 6'W x 7'L

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: February 1, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: February 1, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-19	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1			
2			- Black and light brown, fill including pieces of concrete, brick, wood, C-F (course to fine) gravel and M-F (medium to fine) sand within silty clay.
3			
4			
5			- Dark green and grey, M-F sandy clay. Layer was damp and had a slight petroleum odor.
6			
7			- Grey and black, clay with traces of silt, M-F sand and C-F gravel. Material was damp to wet.
8			Ended test trench @ 7.5 ft. bgs
9			
10			
11			
12			

COMMENTS: Size of Test Pit: 7.5'D x 5'W x 6'L

TEST PIT LOG

PROJECT: 4630 River Road - Tonawanda, NY		SHEET: 1 OF 1
CLIENT: Giuseppe Holdings, LLC	JOB NUMBER: Site #C915258	
CONTRACTOR: Panamerican Environmental, Inc.	LOCATION: 4630 River Rd, Tonawanda	
DATE STARTED: February 1, 2013	GROUND ELEVATION: N/A	
DATE COMPLETED: February 1, 2013	OPERATOR: Robert Broomfield	
PIT NUMBER: RiRo-TP-20	GEOLOGIST: J. Ryszkiewicz	
	GROUND WATER: N/A	

DEPTH (FT)	SAMPLE		DESCRIPTION
	NO.	TYPE	
1	20		Black and grey, organic peat and silty clay
2			Ended test trench @ 1 ft. bgs
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

COMMENTS: Size of Test Pit: 1'D x 4'W x 2'L
 Subsurface Soil sample was taken at this location (1' bgs)

4630 RIVER MONITORING WELLS PURGE & SAMPLING PARAMETERS

MW-03

Volume	Temp	pH	ORP	DO	Cond	Turbidity
Initial	7.54	10.13	12	4.55	1.7	>1000
5g	6.17	10.22	13	4.83	1.71	>1000
7.5g	5.69	10.74	18	5	1.83	>1000

4.9' to water - 20.45' to bottom

MW-02

Volume	Temp	pH	ORP	DO	Cond	Turbidity
Initial	4.66	8.72	-86	5.87	0	>1000
5g	4.33	8.83	-32	5.23	0.92	>1000
9g	4	9.55	-20	4.12	1.8	>1000

5.15' to water - 21.45' to bottom

MW-01

Volume	Temp	pH	ORP	DO	Cond	Turbidity
Initial	4.12	9.59	-6	6.12	0	>1000
2.5g	4.08	9.62	-2	7.45	0	>1000
4g	3.6	10.44	1.4	13.87	0.01	>1000

6.85' to water - 14.85' to bottom (abundance of sediment in well)

MW-04

Volume	Temp	pH	ORP	DO	Cond	Turbidity
Initial	2.9	8.09	185	4.36	0.643	>1000
2g	2.73	8.12	192	5.23	0.01	>1000
3.5g	3.12	9.23	172	8.26	0	>1000

7.25' to water - 12.2' to bottom (abundance of sediment in well)

APPENDIX B

DATA USABILITY SUMMARY REPORTS (TEXT ONLY)

DATA USABILITY SUMMARY REPORT (DUSR)

**NYSDEC Site No. C915258
4630 River Road
Tonawanda, New York**

SDG: 0442-01

Samples:	RiRo-TP-01A	RiRo-TP-11
	RiRo-TP-01B	RiRo-TP-12A
	RiRo-TP-04	RiRo-TP-12B
	RiRo-TP-08A	RiRo-TP-13
	RiRo-TP-08B	RiRo-TP-16A
	RiRo-TP-10A	RiRo-TP-16B
	RiRo-TP-10B	RiRo-TP-20Ditch

Prepared for:

**Panamerican Environmental, Inc.
2390 Clinton Street
Buffalo, NY 14227**

March 2013



Table of Contents

	<u>Page No.</u>
REVIEWER'S NARRATIVE	
1.0 SUMMARY	1
2.0 INTRODUCTION	1
3.0 SAMPLE AND ANALYSIS SUMMARY	2
4.0 DATA VALIDATION QUALIFIERS	3
5.0 RESULTS OF THE DATA REVIEW	4
5.1 Volatile Organic Compounds (VOCs)	4
5.1.1 Data Validation Guidance	4
5.1.2 Review Criteria	4
5.2 Semi-Volatile Organic Compounds (SVOCs)	6
5.2.1 Data Validation Guidance	6
5.2.2 Review Criteria	6
5.3 PCBs	7
5.3.1 Data Validation Guidance	7
5.3.2 Review Criteria	7
5.4 Pesticides	7
5.4.1 Data Validation Guidance	7
5.4.2 Review Criteria	7
5.5 Metals	8
5.5.1 Data Validation Guidance	8
5.5.2 Review Criteria	9

Table of Contents (Continued)

	<u>Page No.</u>
5.6 Total Cyanide	10
5.6.1 Data Validation Guidance	10
5.6.2 Review Criteria	10
6.0 TOTAL USABLE DATA	10

APPENDIX A	Laboratory Case Narratives
APPENDIX B	Validated Analytical Results
APPENDIX C	Documentation of QC Exceedances
APPENDIX D	Validator Certifications

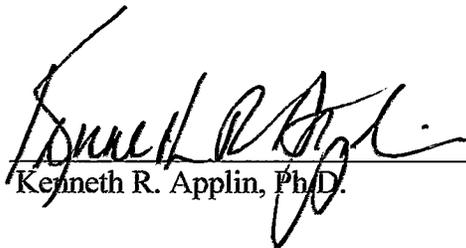
**REVIEWER'S NARRATIVE
(SDG 0442-01)**

The data associated with Sample Delivery Group (SDG) 0442-01, analyzed by Paradigm Environmental Services, Inc., Rochester, NY have been reviewed in accordance with assessment criteria provided by the New York State Department of Environmental Conservation following the review procedures provided in the USEPA Functional Guidelines for evaluating organic and inorganic data.

All analytical results reported by the laboratory are considered valid and acceptable except results that have been qualified as rejected, "R". Results qualified as estimated, "J", or as non-detects, "U", are considered usable for the purpose of evaluating water and/or soil quality. However, these qualifiers indicate that the accuracy and/or precision of the analytical result is questionable. A summary of all data that have been qualified and the reasons for qualification are provided in the following data usability summary report (DUSR).

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Values qualified with an "R" should not appear on final data tables because they cannot be relied upon, even as a last resort. Second, no analyte concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase the confidence in data, but any value potentially contains error.

Reviewer's
Signature


Kenneth R. Applin, Ph.D.

Date: Mar. 25, 2013

1.0 SUMMARY

SITE: 4630 River Road
Tonawanda, NY
NYSDEC Site # C915258

SAMPLING DATE: 1/31/13 and 2/1/13

SAMPLE TYPE: Soil

LABORATORY: Paradigm Environmental Services, Inc.
Rochester, NY

SDG No.: 0442-01

2.0 INTRODUCTION

This data usability summary report (DUSR) was prepared in accordance with guidance provided by the New York State Department of Environmental Conservation (NYSDEC). The DUSR is based on a review and evaluation of the laboratory analytical data package. Specifically, the NYSDEC guidance recommends review and evaluation of the following elements of the data package:

- Completeness of the data package as defined under the requirements of the NYSDEC Analytical Services Protocols (ASP) Category B or the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) deliverables,
- Compliance with established analyte holding times,
- Adherence to quality control (QC) limits and specifications for blanks, instrument tuning and calibration, surrogate recoveries, spike recoveries, laboratory duplicate analyses, and other QC criteria,
- Adherence to established analytical protocols,
- Conformance of data summary sheets with raw analytical data, and

- Use of correct data qualifiers.

Data deficiencies, analytical protocol deviations, and quality control problems identified using the review criteria above and their effect on the analytical results are discussed in this report.

3.0 SAMPLE AND ANALYSIS SUMMARY

The data package consists of analytical results for 14 soil samples collected on January 31 and February 1, 2013. The sample identification numbers and analyses performed on each sample are listed in the following table:

Field ID	Lab ID	Analytes
RiRo-TP-01A	130442-01	SVOC, PEST,PCBs, METs, CN
RiRo-TP-01B	130442-02	VOC, SVOC, PEST,PCBs, METs, CN
RiRo-TP-04	130442-03	VOC (Stars)
RiRo-TP-08A	130442-04	SVOC, PEST,PCBs, METs, CN
RiRo-TP-08B	130442-05	VOC, SVOC, PEST,PCBs, METs, CN
RiRo-TP-10A	130442-06	SVOC, PEST,PCBs, METs, CN
RiRo-TP-10B	130442-07	VOC, SVOC, PEST,PCBs, METs, CN
RiRo-TP-11	130457-01	VOC (Stars)
RiRo-TP-12A	130457-02	SVOC, PEST,PCBs, METs, CN
RiRo-TP-12B	130457-03	VOC, SVOC, PEST,PCBs, METs, CN
RiRo-TP-13	130457-04	VOC (Stars)
RiRo-TP-16B	130457-05	VOC, SVOC, PEST,PCBs, METs, CN
RiRo-TP-16A	130457-06	SVOC, PEST,PCBs, METs, CN
RiRo-TP-20Ditch	130457-07	VOC (Stars)

Notes: VOC = TCL volatile organic compounds, VOC (stars) = VOCs listed in NYSDEC STARS Memo, SVOC = semi-volatile organic compounds, PEST = pesticides, PCBs = polychlorinated biphenyls, METs = TAL Metals, CN = cyanide

All laboratory analyses except for total cyanide were performed by Paradigm Environmental Services, Inc., Rochester, NY. The samples were analyzed as sample delivery group (SDG) 0442-01. Total cyanide analysis was performed by H2M Labs, Melville, NY, with the assigned SDG number PAR044. The analytical results were provided in NYSDEC

ASP Category B format, which includes all raw analytical data and laboratory QC data.

4.0 DATA VALIDATION QUALIFIERS

The letter qualifiers (flags) used to define data usability are described briefly below. These letters are assigned by the data validator to analytical results having questionable accuracy and/or precision as determined by reviewing the laboratory QC data associated with the analytical results.

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

- U** The analyte was analyzed for but was not detected at or above the sample quantitation limit.
- J** The analyte was positively identified; the associated numerical value is the *approximate* concentration of the analyte in the sample. (The magnitude of any \pm value associated with the result is not determined by data validation).
- 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 result is rejected (i.e., is unusable) due to serious 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".

JN The analyte is considered to be "presumptively present." The associated numerical value represents its *approximate* concentration.

The validated analytical results are attached to this report. Validation qualifiers (flags) are indicated using red ink. Data sheets having qualified data are signed and dated by the data reviewer.

The analytical QC data were reviewed using the review criteria listed in Section 2.0 above. Specific QC criteria included in the reviews of each analyte type (i.e., volatile organic compounds, semi-volatile organic compounds, PCBs, pesticides, metals, etc.) are listed below. Where QC indicators were found to exceed acceptable limits, the actions taken to qualify the associated analytical results are briefly discussed.

5.0 RESULTS OF THE DATA REVIEW

5.1 VOLATILE ORGANIC COMPOUNDS (VOCs)

5.1.1 Data Validation Guidance

USEPA, 2006, CLP Organics Data Review and Preliminary Review; SOP No. HW-6, Revision #14, Part A.

5.1.2 Review Criteria

- Completeness of Data Package - Acceptable
- Sample Condition - Acceptable
- Holding Times - Acceptable
- System Monitoring Compounds - Acceptable
- Matrix Spikes -

The recovery of **toluene exceeded the control limit** in the matrix spike (MS) and matrix spike duplicate (MSD) samples analyzed on 2/5/13 with sample **RiRo-TP-16B**. The sample results for this compound were not qualified, but are assumed to be **biased high**.

The recovery of **chlorobenzene** was **below the control limit** in the MS/MSD analyses performed on 2/6/13. For the samples analyzed on this date, the results for chlorobenzene are assumed to be **biased low**. No results were qualified, however.

- Blanks -

Acetone was detected in the method blank analyzed on 2/6/13 at 13.7 µg/Kg. All acetone detections were greater than 10x the blank value (i.e., < 137 µg/Kg) and were not qualified.

- Instrument Performance Check - Acceptable
- Internal Standards -

The recoveries of internal standard 3 (IS3) exceeded the control limit in samples **RiRo-TP-01B** and **RiRo-TP-04**. All positive results in these samples were qualified as estimated (J).

- Initial Calibration (ICAL)-

The average relative response factors (RRFs) for **2-butanone** and **1,4-dioxane** were below the 0.05 control limit. **All sample results** for these compounds (all non-detects) were **qualified as rejected (R)**.

- Continuing Calibration (CCAL)-

The CCAL relative response factors (RRFs) for **2-butanone** and **1,4-dioxane** were below the 0.05 control limit. **All sample results** were previously **qualified as rejected (R)** for failing to meet the ICAL RRF criteria.

- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

5.2 SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)

5.2.1 Data Validation Guidance

USEPA, 2006, CLP Organics Data Review and Preliminary Review; SOP No. HW-6, Revision #14, Part B.

5.2.2 Review Criteria

- Completeness of Data Package - Acceptable
- Sample Condition - Acceptable
- Holding Times - Acceptable
- Surrogate Recoveries - Acceptable
- Matrix Spikes -

The recovery of **4-chloro-3-methylphenol** was below the control limit in the matrix spike duplicate (MSD) sample, which indicates a possible **low bias** in the sample analytical results. No sample results were qualified, however.

- Blanks - Acceptable
- Instrument Performance Check - Acceptable
- Internal Standards - Acceptable
- Initial Calibration (ICAL) - Acceptable
- Continuing Calibration (CCAL)-

For the CCAL performed on 2/14/13, the percent difference (%D) between the initial and continuing RRFs **exceeded the $\pm 25\%$ control limit** for **4-chloroaniline**. For the samples analyzed on this date (**RiRo-TP-10A and RiRo-TP-10B**), the results for **4-chloroaniline** were qualified as **estimated (UJ or J)**.

- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

5.3 PCBs

5.3.1 Data Validation Guidance

USEPA, 2006, CLP Organics Data Review and Preliminary Review; SOP No. HW-6, Revision #14, Part C.

5.3.2 Review Criteria

- Completeness of Data Package - Acceptable
- Sample Condition - Acceptable
- Holding Times - Acceptable
- Surrogate Recoveries -

The recoveries of both surrogates (TCmX and DCPB) were **below the control limits** for sample **RiRo-TP-01B**. Non-detect and positive results in this sample were **qualified as estimated (UJ or J)**.

- Matrix Spikes - Acceptable
- Blanks - Acceptable
- Calibration and Verification - Acceptable
- PCB Identification - Acceptable
- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

5.4 PESTICIDES

5.4.1 Data Validation Guidance

USEPA, 2006, CLP Organics Data Review and Preliminary Review; SOP No. HW-6, Revision #14, Part C.

5.4.2 Review Criteria

- Completeness of Data Package - Acceptable
- Sample Condition - Acceptable
- Holding Times - Acceptable
- Surrogate Recoveries -

The recoveries of both surrogates (TCmX and DCPB) were **below the control limits** for sample **RiRo-TP-01B**. Non-detect and positive results in this sample were **qualified as estimated (UJ or J)**.

- Matrix Spikes -

For the MS/MSD analysis performed on 2/14/13, the recoveries of all compounds were below the control limits indicating a possible **low bias** in the analytical results due to matrix interference. The samples affected include **RiRo-TP-01B** and **RiRo-TP-16B**. No results were qualified, however.

- Calibration - Acceptable
- Pesticide Identification -

The percent difference (%D) between the results obtained on the two gas chromatography (GC) columns used in the analysis **exceeded the control limits** for a few compounds in several of the samples. The following USEPA guidance was used to qualify the analytical results:

<u>%D</u>	<u>Qualifier</u>
0 - 25	none
26 - 70	J
71 - 100	JN
> 100	JN *

* Because matrix interference is suspected, a "JN" qualifier was used rather than an "R".

- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

5.5 METALS

5.5.1 Data Validation Guidance

USEPA, 2006, Validation of Metals for the Contract Laboratory Program (CLP) based on SOW ILMO5.3 (SOP # HW-2, Revision 13)

5.5.2 Review Criteria

- Completeness of Data Package - Acceptable
- Holding Times - Acceptable
- Sample Condition - Acceptable
- Initial/Continuing Calibration - Acceptable
- Contract Required Detection Limit (CRDL) Standards - N/A
- Calibration Blanks - Acceptable
- Preparation Blank - Acceptable
- Interference Check Sample - Acceptable
- Spiked Sample Recoveries -

Matrix spike (MS) recoveries were **below the laboratory control limits for antimony, mercury, and zinc**, and **above the control limits for magnesium and manganese** in the samples analyzed under project number 130457 (see lab ID table in Section 3.0 above). In accordance with USEPA data validation guidance, analytical results are not qualified on the basis of MS recoveries alone. However, low recoveries indicate possible low biases in the analytical results and high recoveries indicate possible high biases in the results.

- Lab Duplicates -

The percent difference (%D) between the duplicate analytical results exceeded the 20% control limit for **mercury** in the samples analyzed under project number 130442 and for **arsenic, beryllium, calcium, and sodium** in the samples analyzed under project number 130457 (see lab ID table in Section 3.0). Positive results for these analytes were **qualified as estimated (J)** in the samples associated with each project number.

- Laboratory Control Sample - Acceptable
- ICP Serial Dilutions - N/A
- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

5.6 TOTAL CYANIDE

5.6.1 Data Validation Guidance

USEPA, 2006, Validation of Metals for the Contract Laboratory Program (CLP) based on SOW ILM05.3 (SOP # HW-2, Revision 13)

5.6.2 Review Criteria

- Completeness of Data Package - Acceptable
- Sample Condition - Acceptable
- Holding Time - Acceptable
- Calibration - Acceptable
- Contract Required Quantitation Limit (CRQL) Standard - Acceptable
- Preparation Blank - Acceptable
- Spike Recovery - Acceptable
- Laboratory Duplicate - Acceptable
- Laboratory Control Sample (LCS) - Acceptable
- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

6.0 TOTAL USABLE DATA

For SDG 0442-01, analytical results were reported for 1580 analytes. Twenty seven results were rejected as a result of this data usability review and are not considered usable. The remainder of the analytical results (98.3%) are considered usable.

Appendix A

*Laboratory
Case
Narratives*

LAB PROJECT NARRATIVE: 130442-457
PROJECT NAME: 4630 River Road
SDG: 0442-01
CLIENT: Panamerican Environmental Consultants

Fourteen soil samples were collected by Panamerican Environmental personnel on 01/31 & 02/01/2013 and received at the Paradigm laboratory on 02/01 & 02/04/2013. Container and holding times were acceptable at time of receipt; the samples were received at 5 & 3° Centigrade and were on ice. The samples were submitted with the Chains-of-Custody requesting the TCL or STARs list for VOCs, the TCL list for SVOCs, Pesticides, PCBs, Total Cyanide, and TAL list Metals. TICs were requested for the TCL VOCs and SVOCs. All analyses were performed using EPA SW-846 methods and holding times.

The items noted in this case narrative address compliance with the referenced methods, NYSDOH ELAP rules, and any project specific data quality requirements. These may be different from the usability criteria referenced in any "Functional Guidelines" or other data review standards used by data validators.

GENERAL NOTES

ALL ANALYSES

The initial and continuing calibration reports are only evaluated for compounds that are on the sample summary report.

Regarding results on QC summary forms versus included raw data, due to calculations made at the instrument where many significant figures may be used, there may be slight discrepancies between the summary report result and that recorded on the raw data. This does not affect data usability.

VOLATILES and SEMIVOLATILES

Regarding initial calibrations, it should be noted that the Quantitation Report concentrations supplied for the initial calibration reflect the calibration prior to updating. The response factors and areas are correct.

Regarding Quantitation Reports, it should be noted that the "#" symbol that appears on some of the Quantitation Reports is a software artifact and should be disregarded.

VOLATILES

Soil samples were not sampled per EPA method 5035A compliance rules. Thus, an extra note has been added to all Volatile sample reports.

Holding times were met for all samples.

The surrogate recoveries for the samples and associated QC were within acceptable limits.

Site specific QC was requested and analyzed on samples RiRo-TP-10B and RiRo-TP-16B. Numerous Matrix Spike and Matrix Spike Duplicate Recoveries were outside acceptable limits low and have been flagged with an "M" on the sample reports. Additionally, Chlorobenzene for sample RiRo-TP-10B and Toluene for sample RiRo-TP-16B have been flagged with an "*" on the QC Summary Forms accordingly. Matrix Interference is suspected. All RPDs were within acceptable limits. The Laboratory Control Samples recovered within acceptance limits.

The method blanks* were free from contamination within the reportable ranges, except an Acetone hit of 14 ug/Kg in Method Blank 02/06. Acetone hits in any associated samples have been flagged with a "B" accordingly.

The instrument tunes passed all criteria.

The internal standards areas and retention times were within acceptance ranges, except the area for IS#3 (1,4-Dichlorobenzene-d4) for locations RiRo-TP-01 and RiRo-TP-04. It was out low, flagged with a "*" on the summary form, and annotated on the sample report accordingly. These samples were repeated to confirm the results and the raw data for the confirmations has been supplied after the raw data from the reported results. Matrix interference is suspected. No further evaluation of this data or corresponding summary forms has been made.

All data for the initial calibration was within acceptance limits. Compounds flagged with an "*" on the summary table have been calibrated using a non-average Response Factor calibration curve. The supporting curves are located after the initial calibration table. (see method 8000B, section 7.5.1.2.1).

All continuing calibration data was within acceptance limits.

SEMI-VOLATILES

Holding times were met for all samples.

The surrogate recoveries for the samples and associated QC were within acceptable limits with the following exceptions: 2-Fluorophenol for RiRo-TP-01B and RiRo-TP-16BMSD, Nitrobenzene-d5 for Blk 2/7 and RiRo-TP-10A, and 2,4,6-Tribromophenol for RiRo-TP-10A. All were out low and flagged with a "*" on the QC Summary Forms and annotated on the reports accordingly. Matrix Interference is suspected regarding the sample outliers. The Method Blank outlier appears to be an instrument calibration anomaly and is not considered to be matrix related. As all LCS recoveries were within limits, all data was deemed usable.

Site specific QC was requested and analyzed on samples RiRo-TP-10B and RiRo-TP-16B. All Matrix Spike and Matrix Spike Duplicate Recoveries were within acceptable limits except three compounds for sample RiRo-TP-10B. They were out low and have been flagged with an "M" on the sample reports and an "*" on the QC Summary Form accordingly. Matrix Interference is suspected. All RPDs were within acceptable limits. The Laboratory Control Samples recovered

within acceptance limits. Due to an analyst oversight, LCS 02/06 was double spiked with internal standard. Results for the surrogate recoveries and internal standard areas have been manually recalculated accordingly on the raw data and have been reported on the summary forms correctly.

The method blanks were free from contamination within the reportable ranges.

The instrument tunes passed all criteria.

The internal standards areas and retention times were within acceptance ranges.

All data for the initial calibrations was within acceptance limits. Compounds flagged with an "*" on the summary table have been calibrated using a non-average Response Factor calibration curve. The supporting curves are located after the initial calibration table. (see method 8000B, section 7.5.1.2.1).

All continuing calibration data was within acceptance limits.

PESTICIDES AND PCBS

Holding times were met for all samples.

Surrogate recoveries for the PCB and Pesticide analyses were within acceptable limits for the samples and associated QC with the following exceptions: both surrogates for both fractions were out low in sample RiRo-TP-01B, for Pesticides only: Decachlorobiphenyl was out low in sample RiRo-TP-16BMSD and was out high in samples RiRo-TP-01A and RiRo-TP-16A. All outliers have been flagged with an "*" on the QC Summary Forms and annotated on the sample reports accordingly. Matrix Interference is suspected.

Site specific QC was requested and analyzed on samples RiRo-TP-10B and RiRo-TP-16B. All Matrix Spike and Matrix Spike Duplicate Recoveries were within acceptable limits for PCBs and the first QC locations for Pesticides. Most of the MS and/or MSD Recoveries (all but Endrin Aldehyde and Methoxychlor) and RPDs were outside limits for Pesticides location RiRo-TP-16B. Recoveries were out low and have been flagged with an "M" on the sample report and an "*" on the QC Summary Form accordingly. Matrix Interference is suspected. The Laboratory Control Samples recovered within acceptance limits.

For samples RiRo-TP-01B and RiRo-TP-16B (plus the MS and MSD on this location), the extracts for both fractions required a Copper clean-up to address possible Sulfur interferences. Additional method blanks have been reported for this reason. The method blanks were free from contamination within the reportable ranges.

The internal standards areas and retention times were within acceptance ranges for the Pesticides.

All data for the initial calibrations were within acceptance limits. The internal acceptance criteria for the initial calibrations was 0.990 or better for each peak.

All continuing calibrations data was within acceptance limits, except Decachlorobiphenyl for Pesticides CCV 2/18 on the second column was out high and labeled accordingly on the CCV Summary Form.

For all Pesticide hits, a Form 10 including Percent Difference has been included. Column confirmations above 40% difference have been flagged with a "C" on the sample reports and an "*" on the Form 10 indicating matrix interference. The reported result is always the lower of the two results.

For PCBs for sample RiRo-TP-01A, Aroclor 1254 and 1260 hits were confirmed on a second column. Raw data for the confirmations is supplied after the raw data for the reported results. No further evaluation of this data has been made. As these two Aroclors appear to be representative of this site, no further confirmations will be run unless sample profile changes.

METALS

Holding times were met for all samples.

Metals were submitted and analyzed as dissolved and total lists per client request.

Site specific QC was requested and analyzed on samples RiRo-TP-10B and RiRo-TP-16B. For the first location, the Duplicate Percent Difference for Hg was outside acceptable limits. For the second location, numerous Matrix Spike Recoveries and Duplicate Percent Differences were outside acceptable limits. Outliers were flagged with a "D" and/or "M" on the sample reports and an "*" on QC Summary Forms accordingly. Matrix interference is suspected. Al and Mg on the first location and Al, Ca, and Fe on the second location have been flagged with a "V" on the QC summary form indicating that the sample concentrations were ten times greater than the matrix spike and could not be calculated. All Laboratory Control Sample and Duplicate Recoveries and LCS Percent Differences were within acceptance limits.

The method blanks were free from contamination within the reportable ranges.

All data for the initial calibrations was within acceptance limits.

All continuing calibrations data was within acceptance limits.

SUB-CONTRACTED ANALYSES

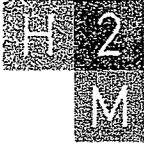
Total Cyanide by EPA method 9014 was subcontracted to H2M Labs, Inc. of Melville, New York. Their report is provided in its entirety as a separate entity after the Paradigm Environmental Services, Inc. report. A separate case narrative addressing the above parameter is included with their report.

(signed)


Bruce Hoogesteger- Technical Director

(date)

3/14/2013



labs

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

**SDG NARRATIVE FOR METALS ANALYSES
SAMPLE(S) RECEIVED: 2/5/13
SDG #: PAR044**

For Sample(s):

- RIRO-TP-01A RIRO-TP-10B
- RIRO-TP-01B RIRO-TP-12A
- RIRO-TP-08A RIRO-TP-12B
- RIRO-TP-08B RIRO-TP-16A
- RIRO-TP-10A RIRO-TP-16B

The above water sample(s) was/were received by H2M Labs, Inc. for total cyanide analysis.

The sample and Q. C. samples were prepared and analyzed for cyanide using Standard Method SM4500E.

All Q. C. data and calibrations met the requirements of the method, and no problems were encountered with sample analysis. A different sample was used for batch Q. C. analysis and reporting.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: February 12, 2013

*
*  *
*

Joann M. Slavin
Senior Vice President

DATA USABILITY SUMMARY REPORT (DUSR)

**NYSDEC Site No. C915258
4630 River Road
Tonawanda, New York**

SDG: 0535-01

Samples: RiRo-MW-01
RiRo-MW-02
RiRo-MW-03
RiRo-MW-04

Prepared for:

**Panamerican Environmental, Inc.
2390 Clinton Street
Buffalo, NY 14227**

March 2013



Table of Contents

	<u>Page No.</u>
REVIEWER'S NARRATIVE	
1.0 SUMMARY	1
2.0 INTRODUCTION	1
3.0 SAMPLE AND ANALYSIS SUMMARY	2
4.0 DATA VALIDATION QUALIFIERS	2
5.0 RESULTS OF THE DATA REVIEW	4
5.1 Volatile Organic Compounds (VOCs)	4
5.1.1 Data Validation Guidance	4
5.1.2 Review Criteria	4
5.2 Semi-Volatile Organic Compounds (SVOCs)	5
5.2.1 Data Validation Guidance	5
5.2.2 Review Criteria	5
5.3 PCBs	6
5.3.1 Data Validation Guidance	6
5.3.2 Review Criteria	6
5.4 Pesticides	6
5.4.1 Data Validation Guidance	6
5.4.2 Review Criteria	6
5.5 Metals	7
5.5.1 Data Validation Guidance	7
5.5.2 Review Criteria	7

Table of Contents (Continued)

	<u>Page No.</u>
5.6 Total Cyanide	7
5.6.1 Data Validation Guidance	7
5.6.2 Review Criteria	8
6.0 TOTAL USABLE DATA	8

APPENDIX A	Laboratory Case Narratives
APPENDIX B	Validated Analytical Results
APPENDIX C	Documentation of QC Exceedances
APPENDIX D	Validator Certifications

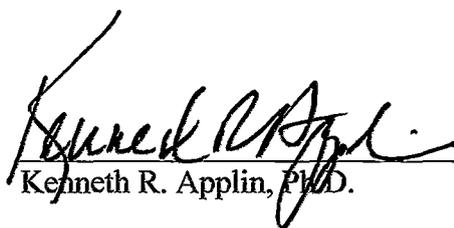
**REVIEWER'S NARRATIVE
(SDG 0535-01)**

The data associated with Sample Delivery Group (SDG) 0535-01, analyzed by Paradigm Environmental Services, Inc., Rochester, NY have been reviewed in accordance with assessment criteria provided by the New York State Department of Environmental Conservation following the review procedures provided in the USEPA Functional Guidelines for evaluating organic and inorganic data.

All analytical results reported by the laboratory are considered valid and acceptable except results that have been qualified as rejected, "R". Results qualified as estimated, "J", or as non-detects, "U", are considered usable for the purpose of evaluating water and/or soil quality. However, these qualifiers indicate that the accuracy and/or precision of the analytical result is questionable. A summary of all data that have been qualified and the reasons for qualification are provided in the following data usability summary report (DUSR).

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Values qualified with an "R" should not appear on final data tables because they cannot be relied upon, even as a last resort. Second, no analyte concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase the confidence in data, but any value potentially contains error.

Reviewer's
Signature


Kenneth R. Applin, Ph.D.

Date: Mar. 25, 2013

1.0 SUMMARY

SITE: 4630 River Road
Tonawanda, NY
NYSDEC Site # C915258

SAMPLING DATE: 2/7/13

SAMPLE TYPE: Groundwater

LABORATORY: Paradigm Environmental Services, Inc.
Rochester, NY

SDG No.: 0535-01

2.0 INTRODUCTION

This data usability summary report (DUSR) was prepared in accordance with guidance provided by the New York State Department of Environmental Conservation (NYSDEC). The DUSR is based on a review and evaluation of the laboratory analytical data package. Specifically, the NYSDEC guidance recommends review and evaluation of the following elements of the data package:

- Completeness of the data package as defined under the requirements of the NYSDEC Analytical Services Protocols (ASP) Category B or the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) deliverables,
- Compliance with established analyte holding times,
- Adherence to quality control (QC) limits and specifications for blanks, instrument tuning and calibration, surrogate recoveries, spike recoveries, laboratory duplicate analyses, and other QC criteria,
- Adherence to established analytical protocols,
- Conformance of data summary sheets with raw analytical data, and

- Use of correct data qualifiers.

Data deficiencies, analytical protocol deviations, and quality control problems identified using the review criteria above and their effect on the analytical results are discussed in this report.

3.0 SAMPLE AND ANALYSIS SUMMARY

The data package consists of analytical results for four groundwater samples collected on February 7, 2013. The sample identification numbers and analyses performed on each sample are listed in the following table:

Field ID	Lab ID	Analytes
RiRo-MW-03	130442-01	VOC, SVOC, PEST,PCBs, METs, CN
RiRo-MW-02	130442-02	VOC, SVOC, PEST,PCBs, METs, CN
RiRo-MW-01	130442-03	VOC, SVOC, PEST,PCBs, METs, CN
RiRo-MW-04	130442-04	VOC, SVOC, PEST,PCBs, METs, CN

Notes: VOC = TCL volatile organic compounds, SVOC = semi-volatile organic compounds, PEST = pesticides, PCBs = polychlorinated biphenyls, METs = TAL Metals (total & dissolved), CN = cyanide

All laboratory analyses except for total cyanide were performed by Paradigm Environmental Services, Inc., Rochester, NY. The samples were analyzed as sample delivery group (SDG) 0535-01. Total cyanide analysis was performed by H2M Labs, Melville, NY, with the assigned SDG number PAR045. The analytical results were provided in NYSDEC ASP Category B format, which includes all raw analytical data and laboratory QC data.

4.0 DATA VALIDATION QUALIFIERS

The letter qualifiers (flags) used to define data usability are described briefly below. These letters are assigned by the data validator to analytical results having questionable

accuracy and/or precision as determined by reviewing the laboratory QC data associated with the analytical results.

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

- U** The analyte was analyzed for but was not detected at or above the sample quantitation limit.
- J** The analyte was positively identified; the associated numerical value is the *approximate* concentration of the analyte in the sample. (The magnitude of any \pm value associated with the result is not determined by data validation).
- 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 result is rejected (i.e., is unusable) due to serious 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".
- JN** The analyte is considered to be "presumptively present." The associated numerical value represents its *approximate* concentration.

The validated analytical results are attached to this report. Validation qualifiers (flags) are indicated using red ink. Data sheets having qualified data are signed and dated by the data reviewer.

The analytical QC data were reviewed using the review criteria listed in Section 2.0 above. Specific QC criteria included in the reviews of each analyte type (i.e., volatile organic compounds, semi-volatile organic compounds, PCBs, pesticides, metals, etc.) are listed below. Where QC indicators were found to exceed acceptable limits, the actions taken to qualify the associated analytical results are briefly discussed.

5.0 RESULTS OF THE DATA REVIEW

5.1 VOLATILE ORGANIC COMPOUNDS (VOCs)

5.1.1 Data Validation Guidance

USEPA, 2006, CLP Organics Data Review and Preliminary Review; SOP No. HW-6, Revision #14, Part A.

5.1.2 Review Criteria

- Completeness of Data Package - Acceptable
- Sample Condition - Acceptable
- Holding Times - Acceptable
- System Monitoring Compounds - Acceptable
- Matrix Spikes - Acceptable
- Blanks - Acceptable
- Instrument Performance Check - Acceptable
- Internal Standards - Acceptable
- Initial Calibration (ICAL)-

The average relative response factors (RRFs) for **2-butanone** and **1,4-dioxane** were below the 0.05 control limit. **All sample results** for these compounds (all non-detects) were **qualified as rejected (R)**.

- Continuing Calibration (CCAL)-

The percent difference (%D) between the initial and continuing RRFs for **acetone** and **methylene chloride** **exceeded the ±25% control limit**. Positive and non-detect

results for these compounds in **all samples** were qualified as **estimated (J or UJ)**.

The CCAL relative response factors (RRFs) for **2-butanone** and **1,4-dioxane** were below the 0.05 control limit. **All sample results** were previously **qualified as rejected (R)** for failing to meet the ICAL RRF criteria.

- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

5.2 SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)

5.2.1 Data Validation Guidance

USEPA, 2006, CLP Organics Data Review and Preliminary Review; SOP No. HW-6, Revision #14, Part B.

5.2.2 Review Criteria

- Completeness of Data Package - Acceptable
- Sample Condition - Acceptable
- Holding Times - Acceptable
- Surrogate Recoveries - Acceptable
- Matrix Spikes - Acceptable
- Blanks - Acceptable
- Instrument Performance Check - Acceptable
- Internal Standards - Acceptable
- Initial Calibration (ICAL) - Acceptable
- Continuing Calibration (CCAL)-

For the CCAL performed on 2/15/13, the percent difference (%D) between the initial and continuing RRFs **exceeded the $\pm 25\%$ control limit** for **4-chloroaniline**. Positive and non-detect results for **4-chloroaniline** were qualified as **estimated (J or UJ)** in all samples.

- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

5.3 PCBs

5.3.1 Data Validation Guidance

USEPA, 2006, CLP Organics Data Review and Preliminary Review; SOP No. HW-6, Revision #14, Part C.

5.3.2 Review Criteria

- Completeness of Data Package - Acceptable
- Sample Condition - Acceptable
- Holding Times - Acceptable
- Surrogate Recoveries - Acceptable
- Matrix Spikes - Acceptable
- Blanks - Acceptable
- Calibration and Verification - Acceptable
- PCB Identification - Acceptable
- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

5.4 PESTICIDES

5.4.1 Data Validation Guidance

USEPA, 2006, CLP Organics Data Review and Preliminary Review; SOP No. HW-6, Revision #14, Part C.

5.4.2 Review Criteria

- Completeness of Data Package - Acceptable
- Sample Condition - Acceptable
- Holding Times - Acceptable
- Surrogate Recoveries - Acceptable
- Matrix Spikes - Acceptable
- Calibration - Acceptable
- Pesticide Identification - N/A
- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

5.5 METALS

5.5.1 Data Validation Guidance

USEPA, 2006, Validation of Metals for the Contract Laboratory Program (CLP) based on SOW ILMO5.3 (SOP # HW-2, Revision 13)

5.5.2 Review Criteria

- Completeness of Data Package - Acceptable
- Holding Times - Acceptable
- Sample Condition - Acceptable
- Initial/Continuing Calibration - Acceptable
- Contract Required Detection Limit (CRDL) Standards - N/A
- Calibration Blanks - Acceptable
- Preparation Blank - Acceptable
- Interference Check Sample - Acceptable
- Spiked Sample Recoveries - Acceptable
- Lab Duplicates -

The percent difference (%D) between the duplicate analytical results exceeded the 20% control limit for **chromium** and **selenium**. Positive results for these analytes were **qualified as estimated (J)** in all samples.

- Laboratory Control Sample - Acceptable
- ICP Serial Dilutions - N/A
- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

5.6 TOTAL CYANIDE

5.6.1 Data Validation Guidance

USEPA, 2006, Validation of Metals for the Contract Laboratory Program (CLP) based on SOW ILMO5.3 (SOP # HW-2, Revision 13)

5.6.2 Review Criteria

- Completeness of Data Package - Acceptable
- Sample Condition - Acceptable
- Holding Time - Acceptable
- Calibration - Acceptable
- Contract Required Quantitation Limit (CRQL) Standard -

The percent recovery (%R) for CN **exceeded the 130% control limit** indicating a possible high bias in the analytical results. However, all sample results were non-detects and **no results were qualified**.

- Preparation Blank - Acceptable
- Spike Recovery - Acceptable
- Laboratory Duplicate - Acceptable
- Laboratory Control Sample (LCS) - Acceptable
- Correct Lab Qualifiers - Acceptable
- Field Duplicate - N/A

6.0 TOTAL USABLE DATA

For SDG 0535-01, analytical results were reported for 804 analytes. Eight results were rejected as a result of this data usability review and are not considered usable. The remainder of the analytical results (99.0%) are considered usable.

Appendix A

Laboratory Case Narratives

LAB PROJECT NARRATIVE: 130535
PROJECT NAME: 4630 River Road
SDG: 0535-01
CLIENT: Panamerican Environmental Consultants

Four water samples were collected by Panamerican Environmental personnel on 02/07/2013 and received at the Paradigm laboratory on 02/08/2013. Container and holding times were acceptable at time of receipt; the samples were received at 1° Centigrade and were on ice. The samples were submitted with the Chains-of-Custody requesting the TCL list for VOCs, SVOCs, Pesticides, PCBs, Total Cyanide, and TAL list Metals. TICs were requested for the VOCs and SVOCs. All analyses were performed using EPA SW-846 methods and holding times.

The items noted in this case narrative address compliance with the referenced methods, NYSDOH ELAP rules, and any project specific data quality requirements. These may be different from the usability criteria referenced in any "Functional Guidelines" or other data review standards used by data validators.

GENERAL NOTES

ALL ANALYSES

The initial and continuing calibration reports are only evaluated for compounds that are on the sample summary report.

Regarding results on QC summary forms versus included raw data, due to calculations made at the instrument where many significant figures may be used, there may be slight discrepancies between the summary report result and that recorded on the raw data. This does not affect data usability.

VOLATILES and SEMIVOLATILES

Regarding initial calibrations, it should be noted that the Quantitation Report concentrations supplied for the initial calibration reflect the calibration prior to updating. The response factors and areas are correct.

Regarding Quantitation Reports, it should be noted that the "#" symbol that appears on some of the Quantitation Reports is a software artifact and should be disregarded.

VOLATILES

Holding times were met for all samples.

The surrogate recoveries for the samples and associated QC were within acceptable limits.

Site specific QC was requested and analyzed on sample RiRo-MW-03. The matrix spike, matrix spike duplicate, and laboratory control sample recovered within acceptance limits. All RPDs were within acceptable limits.

The method blank was free from contamination within the reportable ranges.

The instrument tunes passed all criteria.

The internal standards areas and retention times were within acceptance ranges.

All data for the initial calibration was within acceptance limits. Compounds flagged with an "*" on the summary table have been calibrated using a non-average Response Factor calibration curve. The supporting curves are located after the initial calibration table. (see method 8000B, section 7.5.1.2.1).

All continuing calibration data was within acceptance limits.

SEMI-VOLATILES

Holding times were met for all samples.

The surrogate recoveries for the samples and associated QC were within acceptable limits.

Site specific QC was requested and analyzed on sample RiRo-MW-03. The matrix spike, matrix spike duplicate, and laboratory control sample recovered within acceptance limits. All RPDs were within acceptable limits.

The method blank was free from contamination within the reportable range, except an Unknown TIC at Retention Time 8.59. Any Unknown TICs at this Retention Time for the associated samples have been flagged with a "B" accordingly.

The instrument tunes passed all criteria.

The internal standards areas and retention times were within acceptance ranges.

All data for the initial calibrations was within acceptance limits. Compounds flagged with an "*" on the summary table have been calibrated using a non-average Response Factor calibration curve. The supporting curves are located after the initial calibration table. (see method 8000B, section 7.5.1.2.1).

All continuing calibration data was within acceptance limits.

PESTICIDES AND PCBS

Holding times were met for all samples.

Surrogate recoveries for the PCB and Pesticide analyses were within acceptable limits for the sample and associated QC.

Site specific QC was requested and analyzed on sample RiRo-MW-03. The matrix spikes, matrix spike duplicates, and laboratory control samples recovered within acceptance limits. All RPDs were within acceptable limits.

The method blanks were free from contamination within the reportable ranges.

The internal standards areas and retention times were within acceptance ranges for the Pesticides.

All data for the initial calibrations were within acceptance limits. The internal acceptance criteria for the initial calibrations was 0.990 or better for each peak.

All continuing calibrations data was within acceptance limits.

METALS

Holding times were met for all samples.

Metals were submitted and analyzed as dissolved and total lists per client request.

Site specific QC was requested and analyzed on sample RiRo-MW-03. All Matrix Spike Recoveries were within acceptable limits. For sample and duplicate percent differences, Cr and Se were flagged with a "D" on the results page and a "*" on the QC Summary Form as being outside acceptable limits. Matrix interference is suspected. Ca for the total sample and Ca and Na for the filtered sample are flagged with a "V" on the QC summary form indicating that the sample concentration was ten times greater than the matrix spike. All Laboratory Control Sample and Duplicate Recoveries and Percent Differences were within acceptance limits.

The method blanks were free from contamination within the reportable ranges.

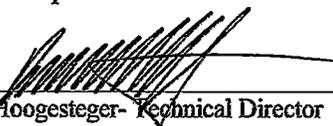
All data for the initial calibrations was within acceptance limits.

All continuing calibrations data was within acceptance limits.

SUB-CONTRACTED ANALYSES

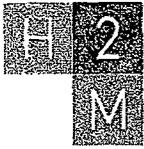
Total Cyanide by EPA method 9014 was subcontracted to H2M Labs, Inc. of Melville, New York. Their report is provided in its entirety as a separate entity after the Paradigm Environmental Services, Inc. report. A separate case narrative addressing the above parameter is included with their report.

(signed)


Bruce Hoogesteger - Technical Director

(date)

3/15/2013



labs

575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

**SDG NARRATIVE FOR METALS ANALYSES
SAMPLE(S) RECEIVED: 2/08/13
SDG #: PAR045**

For Sample(s):

- RIRO-MW-01
- RIRO-MW-02
- RIRO-MW-03
- RIRO-MW-04

Sample(s) was/were received by H2M Labs, Inc. for total cyanide analysis.

Samples were prepared and analyzed using EPA cyanide methods 9010/9014.

Sample RIRO-MW-03 was used for Q.C. analysis and reporting.

No problems were noted during the analysis of this sample group.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: February 14, 2013

 *  *

Vincent Stancampiano
Vice President

APPENDIX C

PHOTOGRAPHS



Photograph 1. View of RiRo-01 stratigraphy



Photograph 2. View of RiRo-03 stratigraphy



Photograph 3. View of RiRo-05 stratigraphy



Photograph 4. View of RiRo-08 stratigraphy



Photograph 5. View of RiRo-11 stratigraphy



Photograph 6. View of RiRo-13 stratigraphy



Photograph 7. View of RiRo-16 stratigraphy



Photograph 8. View of RiRo-17 stratigraphy

APPENDIX D

DER-10 APPENDIX 3C FISH & WILDLIFE DECISION KEY

Appendix 3C Fish and Wildlife Resources Impact Analysis Decision Key		If YES Go to:	If NO Go to:
1.	Is the site or area of concern a discharge or spill event?	13	2
2.	Is the site or area of concern a point source of contamination to the groundwater which will be prevented from discharging to surface water? Soil contamination is not widespread, or if widespread, is confined under buildings and paved areas.	13	3
3.	Is the site and all adjacent property a developed area with buildings, paved surfaces and little or no vegetation?	4	9
4.	Does the site contain habitat of an endangered, threatened or special concern species?	Section 3.10.1	5
5.	Has the contamination gone off-site?	6	14
6.	Is there any discharge or erosion of contamination to surface water or the potential for discharge or erosion of contamination?	7	14
7.	Are the site contaminants PCBs, pesticides or other persistent, bioaccumulable substances?	Section 3.10.1	8
8.	Does contamination exist at concentrations that could exceed ecological impact SCGs or be toxic to aquatic life if discharged to surface water?	Section 3.10.1	14
9.	Does the site or any adjacent or downgradient property contain any of the following resources? i. Any endangered, threatened or special concern species or rare plants or their habitat ii. Any DEC designated significant habitats or rare NYS Ecological Communities iii. Tidal or freshwater wetlands iv. Stream, creek or river v. Pond, lake, lagoon vi. Drainage ditch or channel vii. Other surface water feature viii. Other marine or freshwater habitat ix. Forest x. Grassland or grassy field xi. Parkland or woodland xii. Shrubby area xiii. Urban wildlife habitat xiv. Other terrestrial habitat	11	10
10.	Is the lack of resources due to the contamination?	3.10.1	14
11.	Is the contamination a localized source which has not migrated and will not migrate from the source to impact any on-site or off-site resources?	14	12
12.	Does the site have widespread surface soil contamination that is not confined under and around buildings or paved areas?	Section 3.10.1	12
13.	Does the contamination at the site or area of concern have the potential to migrate to, erode into or otherwise impact any on-site or off-site habitat of endangered, threatened or special concern species or other fish and wildlife resource? (See #9 for list of potential resources. Contact DEC for information regarding endangered species.)	Section 3.10.1	14
14.	No Fish and Wildlife Resources Impact Analysis needed.		