

14496 Sheldon Road, Suite 200, Plymouth, Michigan 48170 Telephone: (734) 453-5123 Fax: (734) 453-5201

www.CRAworld.com

September 13, 2013

Reference No. 012607

Ms. Tessy Jose City of Detroit Water and Sewerage Department Industrial Waste Control Division 303 S. Livernois Avenue Detroit, Michigan 48209

Dear Ms. Jose:

Re: DWSD Semi-Annual Report

(March 2012 through August 2013)

12950 Eckles Road

Livonia, Michigan 48150 Permit No.: SD6-94508

Conestoga-Rovers & Associates, Inc. (CRA) is providing the attached documents for the reporting requirements of Special Discharge Permit SD6-94508 for the period of March 2013 through August 2013.

Special Discharge Permit SD6-94508 was issued in June 2011 and is effective July 1, 2011 through June 30, 2015.

#### SECTION D: REPORTING REQUIREMENTS

• Reporting Period: March 1, 2013 to August 31, 2013

515,338

- Dates of Sampling: March 20, 2013; April 17, 2013; May 29, 2013; June 12, 2013; July 10, 2013; and August 21, 2013
- All samples were collected from the effluent sampling port of Tank T12
- Total Monthly Discharges:

August 2013:

March 2013: 386,647
April 2013: 472,293
May 2013: 320,816
June 2013: 378,368
July 2013: 416,787

Equal Employment Opportunity Employer





September 13, 2013

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Reference No. 012607

- Total Flow to Date: 147,509,987 gallons
- Signature of CRA's authorized representative who is knowledgeable of the remediation site's discharge

CRA certifies that the discharge complied with the permit discharge limits.

Please contact me at (734) 453-5123 if you require further information or clarification.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Christopher J. Meincke, P.E.

CM/ds/6/Det.

Encl.

cc:

Dave Favero, RACER

#### Livonia, MI 48150 Permit No.: SD6-94508

Maintenance Log - March 2013

	Inspection	Changes or Replacements of		Quantites of Groundwater	
Date	Visits	Treatment System	Samples Taken	Discharged / Day - GAL	Notes
03/01/13	None	None	On-Site	26,785	
03/02/13	None	None			
03/03/13	None	None			
03/04/13	None	None	On-Site	2,291	
03/05/13		None	On-Site	25,085	
03/06/13	None	None	On-Site	20,925	
03/07/13	None	None	On-Site	27,736	
03/08/13		None	On-Site	21,674	
03/09/13		None	On-Site	12,974	
03/10/13		None	On-Site	27,105	
03/11/13		None	On-Site	21,519	
03/12/13	None	None	On-Site	24,815	
03/13/13	None	None			
03/14/13		None			
03/15/13		None			
03/16/13	None	None			
03/17/13	None	None			
03/18/13	None	None	On-Site	2,454	
03/19/13	None	None	On-Site	26,943	
03/20/13	None	None	On-site & Sampled	21,053	
03/21/13	None	None	On-Site	19,439	
03/22/13	None	None	On-Site	18,781	
03/23/13		None			
03/24/13		None			
03/25/13		None	On-Site	4,462	
03/26/13		None	On-Site	23,717	
03/27/13		None	On-Site	9,847	
03/28/13		None	On-Site	24,895	
03/29/13		None	On-Site	24,147	
03/30/13	None	None			
03/31/13	None	None			

**Permit No.: SD6-94508** 

Maintenance L	₋og - April	2013
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		Changes or		Quantites of	
	Inspection	Replacements of		Groundwater	
Date	Visits	Treatment System	Samples Taken	Discharged / Day - GAL	Notes
04/01/13	None	None	On-Site	2,363	
04/02/13		None	On-Site	27,335	
04/03/13	None	None	On-Site	23,630	
04/04/13	None	None	On-Site	27,165	
04/05/13	None	None	On-Site	22,178	
04/06/13	None	None			
04/07/13	None	None			
04/08/13	None	None	On-Site	2,013	
04/09/13	None	None	On-Site	21,719	
04/10/13	None	None	On-Site	20,866	
04/11/13	None	None	On-Site	26,236	
04/12/13		None	On-Site	19,887	
04/13/13		None			
04/14/13		None			
04/15/13		None	On-Site	1,377	
04/16/13		None	On-Site	23,190	
04/17/13		None	On-site & Sampled	24,473	
04/18/13		None	On-Site	25,175	
04/19/13		None	On-Site	19,446	
04/20/13		None			
04/21/13		None			
04/22/13		None	On-Site	4,615	
04/23/13		None	On-Site	33,573	
04/24/13		None	On-Site	31,468	
04/25/13		None	On-Site	39,555	
04/26/13		None	On-Site	39,917	
04/27/13		None			
04/28/13		None			
04/29/13		None	On-Site	1,945	
04/30/13	None	None	On-Site	34,166	

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**Maintenance Log - May 2013** 

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantites of Groundwater Discharged / Day - GAL	Notes
05/01/13	None	None	On-Site	25,564	
05/02/13		None	On-Site	32,280	
05/03/13		None	On-Site	20,715	
05/04/13		None			
05/05/13		None			
05/06/13		None	On-Site	1,181	
05/07/13		None	On-Site	29,900	
05/08/13		None	On-Site	24,715	
05/09/13		None			System down - low pH T 4
05/10/13		None			System down - low pH T 4
05/11/13	None	None			
05/12/13		None			
05/13/13		None	On-Site	14,068	
05/14/13	None	None	On-Site	18,841	
05/15/13	None	None	On-Site	22,441	
05/16/13	None	None	On-Site	18,357	
05/17/13	None	None			System down - sludge pump not working
05/18/13	None	None			
05/19/13	None	None			
05/20/13	None	None			System down - sludge pump not working
05/21/13	None	None			System down - sludge pump not working
05/22/13	None	None			System down - sludge pump not working
05/23/13		None			System down - sludge pump not working
05/24/13		None			System down - sludge pump not working
05/25/13	None	None			
05/26/13		None			
05/27/13		None	On-Site	19,480	
05/28/13	None	None	On-Site	17,772	
05/29/13	None	None	On-site & Sampled	33,395	
05/30/13	None	None	On-Site	26,459	
05/31/13	None	None	On-Site	15,647	

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**Maintenance Log - June 2013** 

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantites of Groundwater Discharged / Day - GAL	Notes
06/01/13		None	Samples Taken	Discharged / Day - GAL	Notes
06/02/13		None			
06/03/13		None	On-Site		
06/04/13		None	On-Site		
06/05/13		None	On-Site		
06/06/13		None	On-Site	13,379	
06/07/13		None	On-Site	39,292	
06/08/13		None	OH OILC	00,202	
06/09/13		None			
06/10/13		None	On-Site	1,059	
06/11/13		None	On-Site	21,694	
06/12/13		None	On-site & Sampled	42,610	
06/13/13		None	On-Site	20,301	
06/14/13		None	On-Site	26,384	
06/15/13		None			
06/16/13		None			
06/17/13	None	None	On-Site	15,815	
06/18/13		None	On-Site	22,940	
06/19/13	None	None	On-Site	27,145	
06/20/13	None	None	On-Site	23,499	
06/21/13	None	None	On-Site	20,036	
06/22/13	None	None		·	
06/23/13	None	None			
06/24/13	None	None	On-Site	2,208	
06/25/13	None	None	On-Site	23,812	
06/26/13	None	None	On-Site	17,819	
06/27/13	None	None	On-Site	39,470	
06/28/13	None	None	On-Site	20,905	
06/29/13	None	None			
06/30/13	None	None			

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Maintenance Log - July 2013

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantites of Groundwater Discharged / Day - GAL	Notes
07/01/13		None	On-Site	1,257	11111
07/02/13	None	None	On-Site	28,803	
07/03/13	None	None	On-Site	27,200	
07/04/13	None	None		,	
07/05/13	None	None			
07/06/13	None	None			
07/07/13	None	None			
07/08/13	None	None	On-Site	6,145	
07/09/13	None	None	On-Site	44,925	
07/10/13	None	None	On-site & Sampled	51,092	
07/11/13	None	None	On-Site	40,509	
07/12/13	None	None	On-Site	32,904	
07/13/13	None	None			
07/14/13	None	None			
07/15/13	None	None	On-Site	1,592	
07/16/13	None	None	On-Site	20,457	
07/17/13	None	None	On-Site	33,757	
07/18/13	None	None	On-Site	12,410	
07/19/13	None	None	On-Site	29,657	
07/20/13	None	None			
07/21/13	None	None			
07/22/13	None	None			System down - computer control panel down
07/23/13	None	None			System down - computer control panel down
07/24/13		None	On-Site	1,064	·
07/25/13	None	None	On-Site	5,923	
07/26/13		None	On-Site	19,074	
07/27/13		None			
07/28/13		None			
07/29/13		None	On-Site	18,448	
07/30/13		None	On-Site	28,731	
07/31/13	None	None	On-Site	12,839	

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## **Maintenance Log - August 2013**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantites of Groundwater Discharged / Day - GAL	Notes
08/01/13	None	None	On-Site	53,438	
08/02/13	None	None	On-Site	16,956	
08/03/13	None	None		·	
08/04/13	None	None			
08/05/13	None	None	On-Site	1,076	
08/06/13	None	None	On-Site	39,259	
08/07/13	None	None	On-Site	32,164	
08/08/13	None	None	On-Site	23,904	
08/09/13	None	None	On-Site	24,108	
08/10/13	None	None	On-Site	17,268	
08/11/13	None	None	On-Site	19,068	
08/12/13	None	None	On-Site	54,574	
08/13/13	None	None	On-Site	22,762	
08/14/13	None	None			
08/15/13		None			
08/16/13	None	None			
08/17/13	None	None			
08/18/13		None			
08/19/13	None	None	On-Site	3,198	
08/20/13	None	None	On-Site	52,194	
08/21/13	None	None	On-site & Sampled	17,862	
08/22/13		None	On-Site	17,966	
08/23/13		None	On-Site	12,778	
08/24/13		None			
08/25/13		None			
08/26/13		None	On-Site	8,251	
08/27/13		None	On-Site	24,197	
08/28/13		None	On-Site	18,756	
08/29/13		None	On-Site	15,021	
08/30/13		None	On-Site	40,536	
08/31/13	None	None			

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## **Maintenance Log- ISCO Sample Analyses - March 2013**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
	CAMBLEBATE		(mg/L)	(mg/L)	(mg/L)	
DATE	SAMPLE DATE	pН	NICKEL	HEX Cr	TOTAL Cr	NOTES
3/1/2013	3/1/2013	9.17	0.08	0.05	0.30	
3/2/2013	3/2/2013					
3/3/2013	3/3/2013					
3/4/2013	3/4/2013	8.72	0.05	0.05	0.15	
3/5/2013	3/5/2013	9.05	0.05	0.00	0.20	
3/6/2013	3/6/2013	9.11	0.07	0.00	0.25	
3/7/2013	3/7/2013	9.09	0.05	0.00	0.05	
3/8/2013	3/8/2013	9.02	0.07	0.00	0.25	
3/9/2013	3/9/2013	8.44	0.09	0.00	0.05	
3/10/2013	3/10/2013	9.09	0.06	0.00	0.05	
3/11/2013	3/11/2013	9.07	0.05	0.00	0.25	
3/12/2013	3/12/2013	9.15	0.08	0.00	0.00	
3/13/2013	3/13/2013					
3/14/2013	3/14/2013					
3/15/2013	3/15/2013					
3/16/2013	3/16/2013					
3/17/2013	3/17/2013					
3/18/2013	3/18/2013	8.26	0.05	0.00	0.00	
3/19/2013	3/19/2013	9.37	0.05	0.00	0.00	
3/20/2013	3/20/2013	9.29	0.12	0.00	0.05	
3/21/2013	3/21/2013	9.31	0.06	0.00	0.00	
3/22/2013	3/22/2013	9.39	0.07	0.00	0.00	
3/23/2013	3/23/2013					
3/24/2013	3/24/2013					
3/25/2013	3/25/2013	8.91	0.08	0.00	0.00	
3/26/2013	3/26/2013	9.30	0.09	0.00	0.00	
3/27/2013	3/27/2013	8.77	0.28	0.00	0.00	
3/28/2013	3/28/2013	9.28	0.11	0.00	0.00	
3/29/2013	3/29/2013	9.29	0.13	0.00	0.00	
3/30/2013	3/30/2013					
3/31/2013	3/31/2013					

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## **Maintenance Log- ISCO Sample Analyses - April 2013**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
	CAMPLEDATE		(mg/L)	(mg/L)	(mg/L)	
DATE	SAMPLE DATE	pН	NICKEL	HEX Cr	TOTAL Cr	NOTES
4/1/2013	4/1/2013	8.72	0.13	0.00	0.00	
4/2/2013	4/2/2013	8.92	0.09	0.00	0.00	
4/3/2013	4/3/2013	8.94	0.07	0.00	0.00	
4/4/2013	4/4/2013	8.88	0.08	0.00	0.10	
4/5/2013	4/5/2013	8.91	0.08	0.00	0.05	
4/6/2013	4/6/2013					
4/7/2013	4/7/2013					
4/8/2013	4/8/2013	8.41	0.08	0.00	0.05	
4/9/2013	4/9/2013	8.88	0.06	0.00	0.20	
4/10/2013	4/10/2013	8.86	0.08	0.00	0.20	
4/11/2013	4/11/2013	8.92	0.08	0.00	0.25	
4/12/2013	4/12/2013	8.88	0.10	0.00	0.15	
4/13/2013	4/13/2013					
4/14/2013	4/14/2013					
4/15/2013	4/15/2013	8.64	0.06	0.00	0.05	
4/16/2013	4/16/2013	9.17	0.07	0.00	0.20	
4/17/2013	4/17/2013	9.17	0.09	0.00	0.20	
4/18/2013	4/18/2013	9.10	0.09	0.00	0.25	
4/19/2013	4/19/2013	9.17	0.07	0.00	0.05	
4/20/2013	4/20/2013					
4/21/2013	4/21/2013					
4/22/2013	4/22/2013	9.09	0.04	0.00	0.00	
4/23/2013	4/23/2013	9.26	0.12	0.00	0.25	
4/24/2013	4/24/2013	9.23	0.11	0.00	0.00	
4/25/2013	4/25/2013	9.36	0.10	0.00	0.00	
4/26/2013	4/26/2013	9.35	0.09	0.00	0.00	
4/27/2013	4/27/2013					
4/28/2013	4/28/2013					
4/29/2013	4/29/2013	8.57	0.08	0.00	0.00	
4/30/2013	4/30/2013	9.10	0.12	0.00	0.00	

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## **Maintenance Log- ISCO Sample Analyses - May 2013**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
	CAMDLEDATE		(mg/L)	(mg/L)	(mg/L)	
DATE	SAMPLE DATE	pН	NICKEL	HEX Cr	TOTAL Cr	NOTES
5/1/2013	5/1/2013	9.04	0.16	0.00	0.05	
5/2/2013	5/2/2013	9.09	0.22	0.00	0.00	
5/3/2013	5/3/2013	9.05	0.14	0.00	0.00	
5/4/2013	5/4/2013					
5/5/2013	5/5/2013					
5/6/2013	5/6/2013	8.64	0.09	0.00	0.00	
5/7/2013	5/7/2013	8.94	0.39	0.00	0.00	
5/8/2013	5/8/2013	8.85	0.20	0.00	0.00	
5/9/2013	5/9/2013					System down - low pH T 4
5/10/2013	5/10/2013					System down - low pH T 4
5/11/2013	5/11/2013					
5/12/2013	5/12/2013					
5/13/2013	5/13/2013	7.89	0.26	0.00	0.00	
5/14/2013	5/14/2013	9.11	0.07	0.00	0.05	
5/15/2013	5/15/2013	8.91	0.10	0.00	0.30	
5/16/2013	5/16/2013	9.02	0.06	0.00	0.10	
5/17/2013	5/17/2013					System down - sludge pump not working
5/18/2013	5/18/2013					
5/19/2013	5/19/2013					
5/20/2013	5/20/2013					System down - sludge pump not working
5/21/2013	5/21/2013					System down - sludge pump not working
5/22/2013	5/22/2013					System down - sludge pump not working
5/23/2013	5/23/2013					System down - sludge pump not working
5/24/2013	5/24/2013					System down - sludge pump not working
5/25/2013	5/25/2013					
5/26/2013	5/26/2013					
5/27/2013	5/27/2013	8.00	0.13	0.00	0.00	
5/28/2013	5/28/2013	9.13	0.07	0.00	0.05	
5/29/2013	5/29/2013	8.94	0.11	0.00	0.45	
5/30/2013	5/30/2013	8.95	0.14	0.00	0.45	
5/31/2013	5/31/2013	·				

**Permit No.: SD6-94508** 

## **Maintenance Log- ISCO Sample Analyses - June 2013**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
			(mg/L)	(mg/L)	(mg/L)	
DATE	SAMPLE DATE	pН	NICKEL	HEX Cr	TOTAL Cr	NOTES
6/1/2013	6/1/2013					
6/2/2013	6/2/2013					
6/3/2013	6/3/2013					System Down - sand filter flow meter broken
6/4/2013	6/4/2013					System Down - sand filter flow meter broken
6/5/2013	6/5/2013	8.54	0.06	0.00	0.05	
6/6/2013	6/6/2013	8.92	0.12	0.00	0.15	
6/7/2013	6/7/2013	8.88	0.09	0.00	0.00	
6/8/2013	6/8/2013					
6/9/2013	6/9/2013					
6/10/2013	6/10/2013	8.91	0.05	0.00	0.00	
6/11/2013	6/11/2013	9.25	0.07	0.00	0.00	
6/12/2013	6/12/2013	9.10	0.07	0.00	0.10	
6/13/2013	6/13/2013	9.10	0.07	0.00	0.05	
6/14/2013	6/14/2013	9.08	0.12	0.00	0.10	
6/15/2013	6/15/2013					
6/16/2013	6/16/2013					
6/17/2013	6/17/2013	8.33	0.08	0.00	0.00	
6/18/2013	6/18/2013	9.16	0.07	0.00	0.00	
6/19/2013	6/19/2013	9.14	0.08	0.00	0.05	
6/20/2013	6/20/2013	9.08	0.09	0.00	0.05	
6/21/2013	6/21/2013	9.06	0.09	0.00	0.05	
6/22/2013	6/22/2013					
6/23/2013	6/23/2013					
6/24/2013	6/24/2013	8.50	0.08	0.00	0.00	
6/25/2013	6/25/2013	8.96	0.13	0.00	0.20	
6/26/2013	6/26/2013	8.97	0.09	0.00	0.00	
6/27/2013	6/27/2013	8.98	0.09	0.00	0.05	
6/28/2013	6/28/2013	8.96	0.14	0.00	0.05	
6/29/2013	6/29/2013					
6/30/2013	6/30/2013					

**Permit No.: SD6-94508** 

## **Maintenance Log- ISCO Sample Analyses - July 2013**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
	CAMDLEDATE		(mg/L)	(mg/L)	(mg/L)	
DATE	SAMPLE DATE	pН	NICKEL	HEX Cr	TOTAL Cr	NOTES
7/1/2013	7/1/2013	8.29	0.09	0.00	0.00	
7/2/2013	7/2/2013	8.75	0.06	0.00	0.10	
7/3/2013	7/3/2013	8.76	0.10	0.00	0.00	
7/4/2013	7/4/2013					
7/5/2013	7/5/2013					
7/6/2013	7/6/2013					
7/7/2013	7/7/2013					
7/8/2013	7/8/2013	8.04	0.09	0.00	0.00	
7/9/2013	7/9/2013	9.00	0.07	0.00	0.05	
7/10/2013	7/10/2013	9.34	0.17	0.00	0.10	
7/11/2013	7/11/2013	9.26	0.05	0.00	0.05	
7/12/2013	7/12/2013	9.26	0.10	0.00	0.00	
7/13/2013	7/13/2013					
7/14/2013	7/14/2013					
7/15/2013	7/15/2013	8.55	0.24	0.00	0.05	
7/16/2013	7/16/2013	8.09	0.40	0.15	0.25	
7/17/2013	7/17/2013	8.98	0.07	0.05	0.20	
7/18/2013	7/18/2013	8.99	0.07	0.00	0.05	
7/19/2013	7/19/2013	9.02	0.11	0.00	0.05	
7/20/2013	7/20/2013					
7/21/2013	7/21/2013					
7/22/2013	7/22/2013					System down - computer control panel down
7/23/2013	7/23/2013					System down - computer control panel down
7/24/2013	7/24/2013	8.15	0.07	0.00	0.25	
7/25/2013	7/25/2013	8.75	0.08	0.00	0.05	
7/26/2013	7/26/2013	8.84	0.06	0.00	0.00	
7/27/2013	7/27/2013					
7/28/2013	7/28/2013					
7/29/2013	7/29/2013	7.97	0.10	0.00	0.00	
7/30/2013	7/30/2013	8.80	0.06	0.00	0.20	
7/31/2013	7/31/2013	8.76	0.05	0.10	0.35	

**Permit No.: SD6-94508** 

#### **Maintenance Log- ISCO Sample Analyses - August 2013**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
	CAMDLEDATE		(mg/L)	(mg/L)	(mg/L)	
DATE	SAMPLE DATE	pН	NICKEL	HEX Cr	TOTAL Cr	NOTES
8/1/2013	8/1/2013	7.30	1.10	0.00	0.30	
8/2/2013	8/2/2013	8.71	0.08	0.00	0.15	
8/3/2013	8/3/2013					
8/4/2013	8/4/2013					
8/5/2013	8/5/2013	8.19	0.04	0.00	0.05	
8/6/2013	8/6/2013	9.09	0.21	0.00	0.10	
8/7/2013	8/7/2013	9.20	0.25	0.00	0.12	
8/8/2013	8/8/2013	9.05	0.04	0.10	0.10	
8/9/2013	8/9/2013	9.05	0.07	0.05	0.10	
8/10/2013	8/10/2013	9.11	0.08	0.00	0.05	
8/11/2013	8/11/2013	9.15	0.06	0.00	0.00	
8/12/2013	8/12/2013	9.14	0.05	0.00	0.00	
8/13/2013	8/13/2013	7.58	0.44	0.00	0.44	
8/14/2013	8/14/2013					
8/15/2013	8/15/2013					
8/16/2013	8/16/2013					
8/17/2013	8/17/2013					
8/18/2013	8/18/2013					
8/19/2013	8/19/2013	7.78	0.38	0.00	0.40	
8/20/2013	8/20/2013	8.91	0.12	0.00	0.10	
8/21/2013	8/21/2013	8.85	0.08	0.00	0.20	
8/22/2013	8/22/2013	8.82	0.09	0.00	0.20	
8/23/2013	8/23/2013	9.06	0.09	0.00	0.20	
8/24/2013	8/24/2013					
8/25/2013	8/25/2013					
8/26/2013	8/26/2013	8.53	0.09	0.00	0.20	
8/27/2013	8/27/2013	8.93	0.14	0.00	0.15	
8/28/2013	8/28/2013	8.92	0.08	0.00	0.15	
8/29/2013	8/29/2013	9.14	0.08	0.00	0.40	
8/30/2013	8/30/2013	9.23	0.16	0.00	0.40	
8/31/2013	8/31/2013					



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-22237-1

Client Project/Site: 12607-T01Y13-012, RACER Livonia

#### For:

Conestoga-Rovers & Associates, Inc. 14496 Sheldon Road, Suite 200 Plymouth, Michigan 48170

Attn: Mr. Paul Wiseman

ense DHeckler

Authorized for release by: 4/4/2013 8:58:41 AM

Denise Heckler Project Manager II

denise.heckler@testamericainc.com

.....LINKS .....

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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#### **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

TestAmerica Job ID: 240-22237-1

Job ID: 240-22237-1

**Laboratory: TestAmerica Canton** 

Narrative

#### **CASE NARRATIVE**

Client: Conestoga-Rovers & Associates, Inc.

Project: 12607-T01Y13-012, RACER Livonia

Report Number: 240-22237-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### **RECEIPT**

The samples were received on 03/21/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.8 C.

#### **POLYCHLORINATED BIPHENYLS (PCBS)**

Sample WT-12607-032013-EE-001 (240-22237-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 608. The samples were prepared on 03/28/2013 and analyzed on 04/02/2013.

No difficulties were encountered during the PCBs analysis.

All quality control parameters were within the acceptance limits.

#### TOTAL RECOVERABLE METALS (ICP)

Sample WT-12607-032013-EE-001 (240-22237-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 03/22/2013 and analyzed on 03/25/2013.

Zinc was detected in method blank MB 240-79102/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

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#### **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

TestAmerica Job ID: 240-22237-1

#### Job ID: 240-22237-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

No other difficulties were encountered during the metals analysis.

All other quality control parameters were within the acceptance limits.

#### **MERCURY**

Sample WT-12607-032013-EE-001 (240-22237-1) was analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared and analyzed on 03/22/2013.

No difficulties were encountered during the mercury analysis.

All quality control parameters were within the acceptance limits.

#### <u>HEM</u>

Sample WT-12607-032013-EE-001 (240-22237-1) was analyzed for HEM in accordance with EPA Method 1664A. The samples were prepared and analyzed on 04/02/2013.

No difficulties were encountered during the HEM analysis.

All quality control parameters were within the acceptance limits.

#### **TOTAL SUSPENDED SOLIDS**

Sample WT-12607-032013-EE-001 (240-22237-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 03/25/2013.

No difficulties were encountered during the TSS analysis.

All quality control parameters were within the acceptance limits.

#### **HEXAVALENT CHROMIUM**

Sample WT-12607-032013-EE-001 (240-22237-1) was analyzed for hexavalent chromium in accordance with SM 3500 CR D. The samples were analyzed on 03/21/2013.

Cr (VI) failed the recovery criteria low for the MS/MSD of sample WT-12607-032013-EE-001 (240-22237-1) in batch 240-79011.

No other difficulties were encountered during the hexavalent chromium analysis.

All other quality control parameters were within the acceptance limits.

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#### **Definitions/Glossary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

TestAmerica Job ID: 240-22237-1

#### **Qualifiers**

#### **GC Semi VOA**

Qualifier	Qualifier Description

U Indicates the analyte was analyzed for but not detected.

#### **Metals**

Qualifier Qualifier Description

U Indicates the analyte was analyzed for but not detected.

#### **General Chemistry**

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F	MS or MSD exceeds the control limits

#### **Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
n	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)

ND Not detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC Quality Control
RER Relative error ratio

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TestAmerica Canton

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#### **Sample Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

TestAmerica Job ID: 240-22237-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-22237-1	WT-12607-032013-EE-001	Water	03/20/13 16:00	03/21/13 10:00

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#### **Detection Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

TestAmerica Job ID: 240-22237-1

Lab Sample ID: 240-22237-1

#### Client Sample ID: WT-12607-032013-EE-001

Analyte	Result Qualifier	RL	Unit	Dil Fac D		Prep Type
Chromium	0.10	0.050	mg/L	1	200.7 Rev 4.4	Total
Nickel	0.14	0.010	mg/L	1	200.7 Rev 4.4	Recoverable Total Recoverable
Total Suspended Solids	5.0	4.0	mg/L	1	SM 2540D	Total/NA

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#### **Method Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia TestAmerica Job ID: 240-22237-1

Method	Method Description	Protocol	Laboratory
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
SM 3500 CR D	Chromium, Hexavalent	SM	TAL CAN

#### **Protocol References:**

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

#### **Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

TestAmerica Job ID: 240-22237-1

03/28/13 08:51 04/02/13 02:28

#### Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

67

 Client Sample ID: WT-12607-032013-EE-001
 Lab Sample ID: 240-22237-1

 Date Collected: 03/20/13 16:00
 Matrix: Water

-	- ciiootoui		0.00
Date	Received:	03/21/13 1	0:00

Tetrachloro-m-xylene

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	ug/L		03/28/13 08:51	04/02/13 02:28	1
Aroclor-1221	0.096	U	0.096	ug/L		03/28/13 08:51	04/02/13 02:28	1
Aroclor-1232	0.096	U	0.096	ug/L		03/28/13 08:51	04/02/13 02:28	1
Aroclor-1242	0.096	U	0.096	ug/L		03/28/13 08:51	04/02/13 02:28	1
Aroclor-1248	0.096	U	0.096	ug/L		03/28/13 08:51	04/02/13 02:28	1
Aroclor-1254	0.096	U	0.096	ug/L		03/28/13 08:51	04/02/13 02:28	1
Aroclor-1260	0.096	U	0.096	ug/L		03/28/13 08:51	04/02/13 02:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	63		10 - 114			03/28/13 08:51	04/02/13 02:28	1

15 - 131

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Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia TestAmerica Job ID: 240-22237-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: WT-12607-032013-EE-001

Date Collected: 03/20/13 16:00 Date Received: 03/21/13 10:00

Zinc

Date Neceived, 03/21/13 10.00							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed
Chromium	0.10		0.050	mg/L	_	03/22/13 07:57	03/25/13 16:25
Nickel	0.14		0.010	mg/L		03/22/13 07:57	03/25/13 16:25
Lead	0.050	U	0.050	mg/L		03/22/13 07:57	03/25/13 16:25

0.020

mg/L

0.020 U

Lab Sample ID: 240-22237-1

03/25/13 16:25

03/22/13 07:57

**Matrix: Water** 

Dil Fac

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia TestAmerica Job ID: 240-22237-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-12607-032013-EE-001

Date Collected: 03/20/13 16:00

Date Received: 03/21/13 10:00

Analyte

Result Qualifier Mercury 0.00020 U

RL0.00020 Unit mg/L D Prepared

03/22/13 13:00 03/22/13 16:25

Analyzed

Lab Sample ID: 240-22237-1

**Matrix: Water** 

Dil Fac

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia TestAmerica Job ID: 240-22237-1

#### **General Chemistry**

Client Sample ID: WT-12607-032013-EE-001

Date Collected: 03/20/13 16:00

Date Received: 03/21/13 10:00								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L		04/02/13 08:33	04/02/13 08:33	1
Total Suspended Solids	5.0		4.0	mg/L			03/25/13 09:34	1
Cr (VI)	0.0050	U	0.0050	0.0020 mg/L			03/21/13 11:11	1
	HEM Total Suspended Solids	AnalyteResultHEM4.7Total Suspended Solids5.0	AnalyteResult QualifierHEM4.7UTotal Suspended Solids5.0	Analyte         Result         Qualifier         RL           HEM         4.7         U         4.7           Total Suspended Solids         5.0         4.0	Analyte         Result         Qualifier         RL         Unit           HEM         4.7         U         4.7         mg/L           Total Suspended Solids         5.0         4.0         mg/L	Analyte         Result         Qualifier         RL         Unit         D           HEM         4.7         U         4.7         mg/L           Total Suspended Solids         5.0         4.0         mg/L	Analyte         Result 4.7         Qualifier Qualifier         RL Vinit Mg/L         D 04/02/13 08:33           Total Suspended Solids         5.0         4.0         mg/L         04/02/13 08:33	Analyte         Result HEM         Qualifier Qualifier         RL MIT ALT ALT ALT ALT ALT ALT ALT ALT ALT AL

Lab Sample ID: 240-22237-1

**Matrix: Water** 

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

TestAmerica Job ID: 240-22237-1

#### GC Semi VOA

#### Prep Batch: 79736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-22237-1	WT-12607-032013-EE-001	Total/NA	Water	3520C	
LCS 240-79736/17-A	Lab Control Sample	Total/NA	Water	3520C	
MB 240-79736/16-A	Method Blank	Total/NA	Water	3520C	
_					

#### **Analysis Batch: 80177**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-22237-1	WT-12607-032013-EE-001	Total/NA	Water	608	79736
LCS 240-79736/17-A	Lab Control Sample	Total/NA	Water	608	79736

#### **Analysis Batch: 80300**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-79736/16-A	Method Blank	Total/NA	Water	608	79736

#### **Metals**

#### Prep Batch: 79102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-22237-1	WT-12607-032013-EE-001	Total Recoverable	Water	200.7	
240-22237-1 MS	WT-12607-032013-EE-001	Total Recoverable	Water	200.7	
240-22237-1 MSD	WT-12607-032013-EE-001	Total Recoverable	Water	200.7	
LCS 240-79102/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-79102/1-A	Method Blank	Total Recoverable	Water	200.7	

#### Prep Batch: 79108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-22237-1	WT-12607-032013-EE-001	Total/NA	Water	245.1	
LCS 240-79108/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-79108/1-A	Method Blank	Total/NA	Water	245.1	

#### **Analysis Batch: 79179**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-22237-1	WT-12607-032013-EE-001	Total/NA	Water	245.1	79108
LCS 240-79108/2-A	Lab Control Sample	Total/NA	Water	245.1	79108
MB 240-79108/1-A	Method Blank	Total/NA	Water	245.1	79108

#### Analysis Batch: 79437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-22237-1	WT-12607-032013-EE-001	Total Recoverable	Water	200.7 Rev 4.4	79102
240-22237-1 MS	WT-12607-032013-EE-001	Total Recoverable	Water	200.7 Rev 4.4	79102
240-22237-1 MSD	WT-12607-032013-EE-001	Total Recoverable	Water	200.7 Rev 4.4	79102
LCS 240-79102/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	79102
MB 240-79102/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	79102

#### **General Chemistry**

#### Analysis Batch: 79011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-22237-1	WT-12607-032013-EE-001	Total/NA	Water	SM 3500 CR D	
240-22237-1 MS	WT-12607-032013-EE-001	Total/NA	Water	SM 3500 CR D	
240-22237-1 MSD	WT-12607-032013-EE-001	Total/NA	Water	SM 3500 CR D	

TestAmerica Canton

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#### **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

TestAmerica Job ID: 240-22237-1

#### **General Chemistry (Continued)**

#### **Analysis Batch: 79011 (Continued)**

l	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
	LCS 240-79011/4	Lab Control Sample	Total/NA	Water	SM 3500 CR D	
١	MB 240-79011/3	Method Blank	Total/NA	Water	SM 3500 CR D	

#### **Analysis Batch: 79302**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-22237-1	WT-12607-032013-EE-001	Total/NA	Water	SM 2540D	
LCS 240-79302/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 240-79302/1	Method Blank	Total/NA	Water	SM 2540D	

#### Prep Batch: 80205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-22237-1	WT-12607-032013-EE-001	Total/NA	Water	1664A	
240-22237-1 MS	WT-12607-032013-EE-001	Total/NA	Water	1664A	
LCS 240-80205/2-A	Lab Control Sample	Total/NA	Water	1664A	
MB 240-80205/1-A	Method Blank	Total/NA	Water	1664A	

#### **Analysis Batch: 80234**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-22237-1	WT-12607-032013-EE-001	Total/NA	Water	1664A	80205
240-22237-1 MS	WT-12607-032013-EE-001	Total/NA	Water	1664A	80205
LCS 240-80205/2-A	Lab Control Sample	Total/NA	Water	1664A	80205
MB 240-80205/1-A	Method Blank	Total/NA	Water	1664A	80205

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Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia TestAmerica Job ID: 240-22237-1

#### Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 240-79736/16-A

**Matrix: Water** 

Analysis Batch: 80300

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 79736

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		03/28/13 08:51	04/02/13 15:49	1
Aroclor-1221	0.10	U	0.10	ug/L		03/28/13 08:51	04/02/13 15:49	1
Aroclor-1232	0.10	U	0.10	ug/L		03/28/13 08:51	04/02/13 15:49	1
Aroclor-1242	0.10	U	0.10	ug/L		03/28/13 08:51	04/02/13 15:49	1
Aroclor-1248	0.10	U	0.10	ug/L		03/28/13 08:51	04/02/13 15:49	1
Aroclor-1254	0.10	U	0.10	ug/L		03/28/13 08:51	04/02/13 15:49	1
Aroclor-1260	0.10	U	0.10	ug/L		03/28/13 08:51	04/02/13 15:49	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	69		10 - 114	03/28/13 08:51	04/02/13 15:49	1
Tetrachloro-m-xylene	65		15 - 131	03/28/13 08:51	04/02/13 15:49	1

Lab Sample ID: LCS 240-79736/17-A

**Matrix: Water** 

**Analysis Batch: 80177** 

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Prep Batch: 79736

	<b>Spike</b>	LUS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Aroclor-1016	10.0	9.10		ug/L	_	91	50 - 114	
Aroclor-1260	10.0	9.48	ı	ug/L		95	8 - 127	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
DCB Decachlorobiphenyl	80		10 - 114
Tetrachloro-m-xylene	76		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-79102/1-A

**Matrix: Water** 

Analysis Batch: 79437

Client Sample ID: Method Blank **Prep Type: Total Recoverable** 

Prep Batch: 79102

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		03/22/13 07:57	03/25/13 16:18	1
Nickel	0.010	U	0.010	mg/L		03/22/13 07:57	03/25/13 16:18	1
Lead	0.050	U	0.050	mg/L		03/22/13 07:57	03/25/13 16:18	1
Zinc	0.0367		0.020	mg/L		03/22/13 07:57	03/25/13 16:18	1

Lab Sample ID: LCS 240-79102/2-A

**Matrix: Water** 

Analysis Batch: 79437

**Client Sample ID: Lab Control Sample Prep Type: Total Recoverable** 

Prep Batch: 79102

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chromium	0.200	0.190		mg/L		95	85 - 115	
Nickel	0.500	0.481		mg/L		96	85 - 115	
Lead	0.500	0.475		mg/L		95	85 - 115	
Zinc	0.500	0.501		mg/L		100	85 - 115	

TestAmerica Canton

TestAmerica Job ID: 240-22237-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 240-22237-1 MS

**Matrix: Water** 

**Analysis Batch: 79437** 

Client Sample ID: WT-12607-032013-EE-001 **Prep Type: Total Recoverable** 

Prep Batch: 79102

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chromium	0.10		0.200	0.300		mg/L		98	75 - 125	
Nickel	0.14		0.500	0.664		mg/L		104	75 - 125	
Lead	0.050	U	0.500	0.499		mg/L		100	75 - 125	
Zinc	0.020	Ū	0.500	0.535		mg/L		107	75 - 125	

Lab Sample ID: 240-22237-1 MSD Client Sample ID: WT-12607-032013-EE-001 **Prep Type: Total Recoverable** 

**Matrix: Water** 

Analysis Batch: 79437									Prep	Batch:	79102
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chromium	0.10		0.200	0.308		mg/L		102	75 - 125	2	20
Nickel	0.14		0.500	0.670		mg/L		105	75 - 125	1	20
Lead	0.050	U	0.500	0.499		mg/L		100	75 - 125	0	20
Zinc	0.020	U	0.500	0.535		mg/L		107	75 <sub>-</sub> 125	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-79108/1-A Client Sample ID: Method Blank

**Matrix: Water** 

**Analysis Batch: 79179** 

MB MB Result Qualifier RL Unit D Prepared Analyzed Dil Fac

Analyte Mercury 0.00020 U 0.00020 mg/L 03/22/13 13:00 03/22/13 16:09

Lab Sample ID: LCS 240-79108/2-A

**Matrix: Water** 

**Analysis Batch: 79179** 

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Mercury 0.00500 0.00456 mg/L 85 - 115

Method: 1664A - HEM and SGT-HEM

Client Sample ID: Method Blank Lab Sample ID: MB 240-80205/1-A

**Matrix: Water** 

**Analysis Batch: 80234** 

Prep Type: Total/NA Prep Batch: 80205 MB MB

Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac 04/02/13 08:33 HEM 5.0 5.0 U mg/L 04/02/13 08:33

Lab Sample ID: LCS 240-80205/2-A Client Sample ID: Lab Control Sample

**Matrix: Water** 

Analysis Batch: 80234 Spike LCS LCS

babbA Result Qualifier Analyte Unit %Rec Limits HEM 40.0 33.4 mg/L 84 78 - 114

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Prep Type: Total/NA

Prep Batch: 80205

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Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 79108

Client Sample ID: Lab Control Sample

Prep Batch: 79108

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia TestAmerica Job ID: 240-22237-1

Method: 1664A - HEM and SGT-HEM (Continued)

Lab Sample ID: 240-22237-1 MS Client Sample ID: WT-12607-032013-EE-001 **Matrix: Water** Prep Type: Total/NA Analysis Batch: 80234 Prep Batch: 80205

Sample Sample Spike MS MS Result Qualifier Added Result Qualifier %Rec Limits Analyte Unit D HEM 38.1 4.7 U 39.6 mg/L 104 78 - 114

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 240-79302/1 Client Sample ID: Method Blank Prep Type: Total/NA

**Matrix: Water** 

**Analysis Batch: 79302** мв мв

Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Total Suspended Solids 4.0 U 4.0 03/25/13 09:34 mg/L

Lab Sample ID: LCS 240-79302/2 Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

**Analysis Batch: 79302** 

LCS LCS %Rec Spike Analyte Added Result Qualifier Unit %Rec Limits Total Suspended Solids 76.1 72.0 mg/L 73 - 113

Method: SM 3500 CR D - Chromium, Hexavalent

Lab Sample ID: MB 240-79011/3 Client Sample ID: Method Blank Prep Type: Total/NA

**Matrix: Water** 

**Analysis Batch: 79011** 

мв мв Analyte Result Qualifier RL Unit D Dil Fac Prepared Analyzed 0.0050 U Cr (VI) 0.0050 0.0020 mg/L 03/21/13 11:09

Lab Sample ID: LCS 240-79011/4 Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

**Analysis Batch: 79011** 

Spike LCS LCS %Rec. hahhΔ Analyte Result Qualifier I imits Unit %Rec Cr (VI) 0.250 0.244 mg/L 98 80 - 118

Lab Sample ID: 240-22237-1 MS Client Sample ID: WT-12607-032013-EE-001 **Matrix: Water** Prep Type: Total/NA

**Analysis Batch: 79011** 

MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Cr (VI) 0.0050 U 0.250 0.0430 F mg/L 41 - 136

Lab Sample ID: 240-22237-1 MSD Client Sample ID: WT-12607-032013-EE-001

**Matrix: Water** 

**Analysis Batch: 79011** 

Sample Sample Spike MSD MSD %Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Cr (VI) 0.0050 U 0.250 0.0455 F mg/L 41 - 136 20 18

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Prep Type: Total/NA

#### **Surrogate Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

TCX = Tetrachloro-m-xylene

TestAmerica Job ID: 240-22237-1

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		DCB1	TCX1	
ab Sample ID	Client Sample ID	(10-114)	(15-131)	
240-22237-1	WT-12607-032013-EE-001	63	67	
LCS 240-79736/17-A	Lab Control Sample	80	76	
MB 240-79736/16-A	Method Blank	69	65	
Surrogate Legend				

TestAmerica Canton

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#### **Lab Chronicle**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

TestAmerica Job ID: 240-22237-1

Lab Sample ID: 240-22237-1

Matrix: Water

Client Sample ID: WT-12607-032013-EE-001

Date Collected: 03/20/13 16:00 Date Received: 03/21/13 10:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			79736	03/28/13 08:51	SE	TAL CAN
Total/NA	Analysis	608		1	80177	04/02/13 02:28	LH	TAL CAN
Total/NA	Prep	245.1			79108	03/22/13 13:00	LM	TAL CAN
Total/NA	Analysis	245.1		1	79179	03/22/13 16:25	SG	TAL CAN
Total Recoverable	Prep	200.7			79102	03/22/13 07:57	LM	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	79437	03/25/13 16:25	SG	TAL CAN
Total/NA	Analysis	SM 3500 CR D		1	79011	03/21/13 11:11	AM	TAL CAN
Total/NA	Analysis	SM 2540D		1	79302	03/25/13 09:34	AM	TAL CAN
Total/NA	Analysis	1664A		1	80234	04/02/13 08:33	NP	TAL CAN
Total/NA	Prep	1664A			80205	04/02/13 08:33	NP	TAL CAN

#### **Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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#### **Certification Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Livonia

TestAmerica Job ID: 240-22237-1

#### **Laboratory: TestAmerica Canton**

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-13
Connecticut	State Program	1	PH-0590	12-31-13
Florida	NELAP	4	E87225	06-30-13
Georgia	State Program	4	N/A	06-30-13
Illinois	NELAP	5	200004	07-31-13
Kansas	NELAP	7	E-10336	01-31-14
Kentucky	State Program	4	58	06-30-13
L-A-B	DoD ELAP		L2315	07-28-13
Minnesota	NELAP	5	039-999-348	12-31-13
Nevada	State Program	9	OH-000482008A	07-31-13
New Jersey	NELAP	2	OH001	06-30-13
Ohio VAP	State Program	5	CL0024	01-19-14
Pennsylvania	NELAP	3	68-00340	08-31-13
Texas	NELAP	6		08-03-13
USDA	Federal		P330-11-00328	08-26-14
Virginia	NELAP	3	460175	09-14-13
Washington	State Program	10	C971	01-12-14
West Virginia DEP	State Program	3	210	12-31-13
Wisconsin	State Program	5	999518190	08-31-13

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# CHAIN OF CUSTODY RECORD

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170 Phone: (734) 453-5123

Fax: (734) 453-5201

COC NO. PL 09892 (See Reverse Side for Instructions)

roject No/ Phase/Task Code: 13607-TOIYIS-603 roject Name: RACER Livonia GWTP roject Location: Livonia, WIT themistry Contact: Paul Wiseman ampler(s): Evil Engnell	Test America tact: Denise Heckler Container QUANTITY & PRESERVATION	Lab Quote No: Cantur Old SSOW ID: Lab Quote No: Cooler No:	SSOW ID: 1 3 Let 7 - [C1/13-01] 2 Cooler No:
roject Name: RACER Livonia GWTP roject Location: Livonia, Mt  Themistry Contact: Paul Wise man ampler(s): Evil Engnell			ar No:
roject Location: Livenie, Mt. hemistry Contact: ampler(s): Evit Engnell	CONTAINER QUANTITY & PRESERVATION *		
inemistry Contact: Paul Wiseman ampler(s): Evik Engnell	6	ANALYSIS REQUESTED Carrier: (See Back of COC for Definitions)	er:
ampler(s): Evil Enginell	)) di	Airbill No:	II No:
trix C	or Com yead Joric Acic	SVA) スイノ シリオト	Date Shipped:
	Grab (G) Unpresent Hydrochi Mitric Ac Sodium P (Machano VOC) Methano VOC) EnCores	dsw/sw	COMMENTS/ SPECIAL INSTRUCTIONS:
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		240-22237 Chain of Custors	
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TAT Required in business days (use separate COCs for different TATs):	Total Number of Containers:	Notes/ Special Requirements:	
□1 Day □2 Days □3 Days □1 Week 🕱 2 Week □ Other. ST0	All Samples in Cooler must be on COC		
RELINQUISHED BY COMPANY DATE	TIME RECEIVED BY	COMPANY	рате, тіме
1. Call Chair	13 1730 1. Thus with	THC 3/E	E-1/13 1000
013	ń		
THE CHAIN OF CUSTODY IS A LE	A LEGAL DOCUMENT—ALL FIELDS MUST BE COMPLETED ACCURATELY	FED ACCURATELY	

WHITE - Fully Executed Copy (CRA)

Distribution:

YELLOW - Receiving Laboratory Copy

PINK - Shipper

GOLDENROD - Sampling Crew

CRA Form: COC-10A (20110804)

'estAmerica Canton Sample Receipt Form/Narrative Login # : 22237
lient CRA Site Name Live Nith By: Thur William
poler Received on 3-2(-13 (Signature)
edEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other
estAmerica Cooler   Foam Box Client Cooler Box Other
Packing material used: (Bubble Wrap) Foam Plastic Bag None Other
COOLANT: (Wet Ice) Blue Ice Dry Ice Water None
Cooler temperature upon receipt
IR GUN# 1 (CF -2 °C) Observed Sample Temp. 5.8 °C Corrected Sample Temp. 3.8 °C
IR GUN# 4G (CF 0 °C) Observed Sample Temp. °C Corrected Sample Temp. °C Multiple
IR GUN# 5G (CF 0 °C) Observed Sample Temp °C Corrected Sample Temp °C on Back
IR GUN# 8 (CF 0 °C) Observed Sample Temp. °C Corrected Sample Temp. °C
. Were custody seals on the outside of the cooler(s)? If Yes Quantity Yes (No)
-Were custody seals on the outside of the cooler(s) signed & dated?  Yes No (NA)
-Were custody seals on the bottle(s)?  Yes No
. Shippers' packing slip attached to the cooler(s)? (Yes) No
. Did custody papers accompany the sample(s)?
. Were the custody papers relinquished & signed in the appropriate place? Yes No
. Did all bottles arrive in good condition (Unbroken)? (Yes) No
Could all bottle labels be reconciled with the COC? Yes No
. Were correct bottle(s) used for the test(s) indicated? Yes No
Sufficient quantity received to perform indicated analyses? Yes No
0. Were sample(s) at the correct pH upon receipt? (Yes) No NA
1. Were VOAs on the COC?  Yes (No)
2. Were air bubbles >6 mm in any VOA vials?  Yes No (NA)
3. Was a trip blank present in the cooler(s)?  Yes No
Contacted PM Date by via Verbal Voice Mail Other
Concerning
4. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES
·
5. SAMPLE CONDITION
Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE P	RESERVA	ATION	1	
Sample(s)recommended pl	H level(s). N	were further preserved i Nitric Acid Lot# 031512-HNO3; Sulfuric Acid Lot# 051012-H2SO4; S Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(	odium Hydroxide	Lot# 121809
time was preserv	ative added	to sample(s)?	CH3COO)2ZIN/N	aOH. What
Client I		рН	<u>Date</u>	<u>Initials</u>
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<u>Cooler</u>	<u>#</u>	Observed Sample Temp. °C Corrected Sample Temp. °C	<u>IR#</u>	<u>Coolant</u>
		9,		



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-23350-1

Client Project/Site: 12607-T01Y13-012, RACER Eckles Rd

# For:

Conestoga-Rovers & Associates, Inc. 14496 Sheldon Road, Suite 200 Plymouth, Michigan 48170

Attn: Mr. Paul Wiseman

Denise DHeckler

Authorized for release by: 4/30/2013 8:12:39 AM

Denise Heckler Project Manager II

denise.heckler@testamericainc.com

·····LINKS ·······

Review your project results through

Total Access

**Have a Question?** 



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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QC Sample Results	15
Surrogate Summary	18
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Chain of Custody	21

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## **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-23350-1

Job ID: 240-23350-1

**Laboratory: TestAmerica Canton** 

Narrative

# **CASE NARRATIVE**

Client: Conestoga-Rovers & Associates, Inc.

Project: 12607-T01Y13-012, RACER Eckles Rd

Report Number: 240-23350-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### **RECEIPT**

The samples were received on 04/18/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.4 C.

## **POLYCHLORINATED BIPHENYLS (PCBS)**

Sample WT-12607-041713-EE-001 (240-23350-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 608. The samples were prepared on 04/24/2013 and analyzed on 04/25/2013.

No difficulties were encountered during the PCBs analysis.

All quality control parameters were within the acceptance limits.

# TOTAL RECOVERABLE METALS (ICP)

Sample WT-12607-041713-EE-001 (240-23350-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 04/22/2013 and analyzed on 04/23/2013.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

TestAmerica Canton 4/30/2013

Page 3 of 23

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## **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-23350-1

## Job ID: 240-23350-1 (Continued)

## Laboratory: TestAmerica Canton (Continued)

## **MERCURY**

Sample WT-12607-041713-EE-001 (240-23350-1) was analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared on 04/19/2013 and analyzed on 04/22/2013.

No difficulties were encountered during the mercury analysis.

All quality control parameters were within the acceptance limits.

## **HEM**

Sample WT-12607-041713-EE-001 (240-23350-1) was analyzed for HEM in accordance with EPA Method 1664A. The samples were prepared and analyzed on 04/29/2013.

No difficulties were encountered during the HEM analysis.

All quality control parameters were within the acceptance limits.

## **TOTAL SUSPENDED SOLIDS**

Sample WT-12607-041713-EE-001 (240-23350-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 04/23/2013.

No difficulties were encountered during the TSS analysis.

All quality control parameters were within the acceptance limits.

## **HEXAVALENT CHROMIUM**

Sample WT-12607-041713-EE-001 (240-23350-1) was analyzed for hexavalent chromium in accordance with SM 3500 CR D. The samples were analyzed on 04/18/2013.

No difficulties were encountered during the hexavalent chromium analysis.

All quality control parameters were within the acceptance limits.

# **Definitions/Glossary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-23350-1

## **Qualifiers**

## **GC Semi VOA**

Qualifier	Qualifier Description

U Indicates the analyte was analyzed for but not detected.

Metals

Qualifier Qualifier Description

U Indicates the analyte was analyzed for but not detected.

**General Chemistry** 

U Indicates the analyte was analyzed for but not detected.

# **Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CNF Contains no Free Liquid

DER Duplicate error ratio (normalized absolute difference)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision level concentration
MDA Minimum detectable activity
EDL Estimated Detection Limit
MDC Minimum detectable apparent

MDC Minimum detectable concentration

MDL Method Detection Limit
ML Minimum Level (Dioxin)

ND Not detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC Quality Control
RER Relative error ratio

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TestAmerica Canton

# **Sample Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-23350-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-23350-1	WT-12607-041713-EE-001	Water	04/17/13 13:00	04/18/13 09:00

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# **Detection Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

Client Sample ID: WT-12607-041713-EE-001

TestAmerica Job ID: 240-23350-1

Lab Sample ID: 240-23350-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.23		0.050	mg/L	1	_	200.7 Rev 4.4	Total
Nickel	0.19		0.010	mg/L	1		200.7 Rev 4.4	Recoverable Total
Total Suspended Solids	17		4.0	mg/L	1		SM 2540D	Recoverable Total/NA

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# **Method Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-23350-1

Method	Method Description	Protocol	Laboratory
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
45.1	Mercury (CVAA)	EPA	TAL CAN
664A	HEM and SGT-HEM	1664A	TAL CAN
M 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
SM 3500 CR D	Chromium, Hexavalent	SM	TAL CAN

## **Protocol References:**

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

## **Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-23350-1

# Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: WT-12607-041713-EE-001

Date Collected: 04/17/13 13:00

Lab Sample ID: 240-23350-1

Matrix: Water

Date Received: 04/18/13 09:00

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		04/24/13 12:24	04/25/13 16:01	1
Aroclor-1221	0.095	U	0.095	ug/L		04/24/13 12:24	04/25/13 16:01	1
Aroclor-1232	0.095	U	0.095	ug/L		04/24/13 12:24	04/25/13 16:01	1
Aroclor-1242	0.095	U	0.095	ug/L		04/24/13 12:24	04/25/13 16:01	1
Aroclor-1248	0.095	U	0.095	ug/L		04/24/13 12:24	04/25/13 16:01	1
Aroclor-1254	0.095	U	0.095	ug/L		04/24/13 12:24	04/25/13 16:01	1
Aroclor-1260	0.095	U	0.095	ug/L		04/24/13 12:24	04/25/13 16:01	1
Surrogate	%Recovery	Qualifier	l imits			Prenared	Analyzed	Dil Fac

Surrogate	%Recovery Qu	ualifier Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	52	10 - 114	04/24/13 12:24	04/25/13 16:01	1
Tetrachloro-m-xylene	79	15 - 131	04/24/13 12:24	04/25/13 16:01	1

4/30/2013

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-23350-1

# Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: WT-12607-041713-EE-001

Date Collected: 04/17/13 13:00 Date Received: 04/18/13 09:00

Date Neceived. 04/10/13 03:00								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.23		0.050	mg/L		04/22/13 08:20	04/23/13 18:43	1
Nickel	0.19		0.010	mg/L		04/22/13 08:20	04/23/13 18:43	1
Lead	0.050	U	0.050	mg/L		04/22/13 08:20	04/23/13 18:43	1
Zinc	0.020	U	0.020	ma/l		04/22/13 08:20	04/23/13 18:43	1

Lab Sample ID: 240-23350-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-23350-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-12607-041713-EE-001

Date Collected: 04/17/13 13:00

Date Received: 04/18/13 09:00

Analyte

Result Qualifier Mercury 0.00020 U

RL0.00020 Unit mg/L

D

Prepared

04/19/13 12:45 04/22/13 12:19

Lab Sample ID: 240-23350-1

Dil Fac Analyzed

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-23350-1

# **General Chemistry**

Client Sample ID: WT-12607-041713-EE-001

Date Collected: 04/17/13 13:00

Date Received: 04/18/13 09:00

Date Received: 04/16/13 09:00								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L		04/29/13 08:26	04/29/13 09:28	1
Total Suspended Solids	17		4.0	mg/L			04/23/13 11:30	1
Cr (VI)	0.0050	U	0.0050	mg/L			04/18/13 11:28	1

Lab Sample ID: 240-23350-1

# **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-23350-1

GC Semi VOA

Prep Batch: 8337	Pre	р Ва	tch:	8337
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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-23350-1	WT-12607-041713-EE-001	Total/NA	Water	3510C	
LCS 240-83375/10-A	Lab Control Sample	Total/NA	Water	3510C	
MB 240-83375/9-A	Method Blank	Total/NA	Water	3510C	

# Analysis Batch: 83554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-23350-1	WT-12607-041713-EE-001	Total/NA	Water	608	83375
LCS 240-83375/10-A	Lab Control Sample	Total/NA	Water	608	83375
MB 240-83375/9-A	Method Blank	Total/NA	Water	608	83375

## **Metals**

# Prep Batch: 82638

Lab Sample ID 240-23350-1	Client Sample ID WT-12607-041713-EE-001	Prep Type Total/NA	Matrix Water	Method 245.1	Prep Batch
LCS 240-82638/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-82638/1-A	Method Blank	Total/NA	Water	245.1	

# Prep Batch: 82916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
240-23350-1	WT-12607-041713-EE-001	Total Recoverable	Water	200.7	
240-23350-1 MS	WT-12607-041713-EE-001	Total Recoverable	Water	200.7	
240-23350-1 MSD	WT-12607-041713-EE-001	Total Recoverable	Water	200.7	
LCS 240-82916/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-82916/1-A	Method Blank	Total Recoverable	Water	200.7	

# Analysis Batch: 83068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-23350-1	WT-12607-041713-EE-001	Total/NA	Water	245.1	82638
LCS 240-82638/2-A	Lab Control Sample	Total/NA	Water	245.1	82638
MB 240-82638/1-A	Method Blank	Total/NA	Water	245.1	82638

# Analysis Batch: 83125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-23350-1	WT-12607-041713-EE-001	Total Recoverable	Water	200.7 Rev 4.4	82916
240-23350-1 MS	WT-12607-041713-EE-001	Total Recoverable	Water	200.7 Rev 4.4	82916
240-23350-1 MSD	WT-12607-041713-EE-001	Total Recoverable	Water	200.7 Rev 4.4	82916
LCS 240-82916/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	82916
MB 240-82916/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	82916

# **General Chemistry**

# Analysis Batch: 82493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-23350-1	WT-12607-041713-EE-001	Total/NA	Water	SM 3500 CR D	
LCS 240-82493/4	Lab Control Sample	Total/NA	Water	SM 3500 CR D	
MB 240-82493/3	Method Blank	Total/NA	Water	SM 3500 CR D	

TestAmerica Canton

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# **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-23350-1

# **General Chemistry (Continued)**

# Analysis Batch: 83180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-23350-1	WT-12607-041713-EE-001	Total/NA	Water	SM 2540D	
LCS 240-83180/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 240-83180/1	Method Blank	Total/NA	Water	SM 2540D	

# Prep Batch: 83919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-23350-1	WT-12607-041713-EE-001	Total/NA	Water	1664A	
LCS 240-83919/2-A	Lab Control Sample	Total/NA	Water	1664A	
MB 240-83919/1-A	Method Blank	Total/NA	Water	1664A	

# **Analysis Batch: 83938**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-23350-1	WT-12607-041713-EE-001	Total/NA	Water	1664A	83919
LCS 240-83919/2-A	Lab Control Sample	Total/NA	Water	1664A	83919
MB 240-83919/1-A	Method Blank	Total/NA	Water	1664A	83919

TestAmerica Job ID: 240-23350-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

# Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 240-83375/9-A

**Matrix: Water** 

Analysis Batch: 83554

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 83375

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		04/24/13 12:24	04/25/13 16:15	1
Aroclor-1221	0.10	U	0.10	ug/L		04/24/13 12:24	04/25/13 16:15	1
Aroclor-1232	0.10	U	0.10	ug/L		04/24/13 12:24	04/25/13 16:15	1
Aroclor-1242	0.10	U	0.10	ug/L		04/24/13 12:24	04/25/13 16:15	1
Aroclor-1248	0.10	U	0.10	ug/L		04/24/13 12:24	04/25/13 16:15	1
Aroclor-1254	0.10	U	0.10	ug/L		04/24/13 12:24	04/25/13 16:15	1
Aroclor-1260	0.10	U	0.10	ug/L		04/24/13 12:24	04/25/13 16:15	1

MD MD

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	67	10 - 114	04/24/13 12:24	04/25/13 16:15	1
Tetrachloro-m-xylene	88	15 - 131	04/24/13 12:24	04/25/13 16:15	1

Lab Sample ID: LCS 240-83375/10-A

**Matrix: Water** 

Analysis Batch: 83554

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA Prep Batch: 83375

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Aroclor-1016	 2.50	2.31		ug/L		93	50 - 114	
Aroclor-1260	2.50	2.15		ug/L		86	8 - 127	

LCS LCS

Surrogate	%Recovery Qualifie	er Limits
DCB Decachlorobiphenyl	64	10 - 114
Tetrachloro-m-xylene	83	15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-82916/1-A

**Matrix: Water** 

**Analysis Batch: 83125** 

Client Sample ID: Method Blank **Prep Type: Total Recoverable** 

Prep Batch: 82916

-	MB	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		04/22/13 08:20	04/23/13 18:35	1
Nickel	0.010	U	0.010	mg/L		04/22/13 08:20	04/23/13 18:35	1
Lead	0.050	U	0.050	mg/L		04/22/13 08:20	04/23/13 18:35	1
Zinc	0.020	U	0.020	mg/L		04/22/13 08:20	04/23/13 18:35	1

Lab Sample ID: LCS 240-82916/2-A

**Matrix: Water** 

**Analysis Batch: 83125** 

**Client Sample ID: Lab Control Sample Prep Type: Total Recoverable** 

Prep Batch: 82916

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chromium	0.200	0.191		mg/L		96	85 - 115	
Nickel	0.500	0.485		mg/L		97	85 - 115	
Lead	0.500	0.478		mg/L		96	85 - 115	
Zinc	0.500	0.502		mg/L		100	85 - 115	

TestAmerica Canton

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TestAmerica Job ID: 240-23350-1

Client: Conestoga-Rovers & Associates, Inc.

Project/Site: 12607-T01Y13-012, RACER Eckles Rd

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 240-23350-1 MS **Matrix: Water** 

**Analysis Batch: 83125** 

Client Sample ID: WT-12607-041713-EE-001 **Prep Type: Total Recoverable** 

Prep Batch: 82916

Prep Type: Total/NA

Prep Batch: 82638

Prep Batch: 82638

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 83919

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chromium	0.23		0.200	0.412		mg/L		90	75 - 125	
Nickel	0.19		0.500	0.673		mg/L		97	75 - 125	
Lead	0.050	U	0.500	0.479		mg/L		96	75 - 125	
Zinc	0.020	U	0.500	0.500		mg/L		100	75 - 125	

Lab Sample ID: 240-23350-1 MSD Client Sample ID: WT-12607-041713-EE-001 **Prep Type: Total Recoverable** 

**Matrix: Water** 

Analysis Batch: 83125									Prep	Batch:	82916	
,	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chromium	0.23		0.200	0.437		mg/L		102	75 - 125	6	20	
Nickel	0.19		0.500	0.709		mg/L		104	75 - 125	5	20	
Lead	0.050	U	0.500	0.503		mg/L		101	75 - 125	5	20	
Zinc	0.020	Ü	0.500	0.526		ma/L		105	75 - 125	5	20	

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-82638/1-A Client Sample ID: Method Blank

**Matrix: Water** 

**Analysis Batch: 83068** 

MB MB

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020 U	0.00020	mg/L		04/19/13 12:45	04/22/13 11:49	1

Lab Sample ID: LCS 240-82638/2-A **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

**Matrix: Water** 

**Analysis Batch: 83068** 

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Mercury 0.00500 0.00482 mg/L 85 - 115

Method: 1664A - HEM and SGT-HEM

Client Sample ID: Method Blank Lab Sample ID: MB 240-83919/1-A

**Matrix: Water** 

**Analysis Batch: 83938** 

MB MB Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac HEM 5.0 U 5.0 04/29/13 08:26 04/29/13 09:28 mg/L

Lab Sample ID: LCS 240-83919/2-A Client Sample ID: Lab Control Sample

**Matrix: Water** 

**Analysis Batch: 83938** 

Prep Batch: 83919 Spike LCS LCS babbA Result Qualifier Analyte Unit %Rec Limits HEM 40.0 42.8 mg/L 107 78 - 114

TestAmerica Canton

Client: Conestoga-Rovers & Associates, Inc.

Project/Site: 12607-T01Y13-012, RACER Eckles Rd

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 240-83180/1

**Analysis Batch: 83180** 

**Matrix: Water** 

мв мв

Result Qualifier RL Unit Dil Fac Analyte D Prepared Analyzed 4.0 U 4.0 mg/L 04/23/13 11:30 **Total Suspended Solids** 

Lab Sample ID: LCS 240-83180/2

**Matrix: Water** 

Analysis Batch: 83180

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Total Suspended Solids 43.3 45.0 mg/L 104 73 - 113

Method: SM 3500 CR D - Chromium, Hexavalent

Lab Sample ID: MB 240-82493/3

**Matrix: Water** 

Analysis Batch: 82493

MR MR

Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Cr (VI) 0.0050 U 0.0050 mg/L 04/18/13 10:07

Lab Sample ID: LCS 240-82493/4

**Matrix: Water** 

Analysis Batch: 82493

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit %Rec Limits Cr (VI) 0.250 0.248 99 80 - 118 mg/L

TestAmerica Job ID: 240-23350-1

Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

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TestAmerica Canton

# **Surrogate Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-23350-1

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		DCB2	TCX2	
Lab Sample ID	Client Sample ID	(10-114)	(15-131)	
240-23350-1	WT-12607-041713-EE-001	52	79	
LCS 240-83375/10-A	Lab Control Sample	64	83	
MB 240-83375/9-A	Method Blank	67	88	
Surrogate Legend				
DCB = DCB Decachloro	biphenyl			
TCX = Tetrachloro-m-xy	lene			

TestAmerica Canton

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# **Lab Chronicle**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-23350-1

Lab Sample ID: 240-23350-1

Matrix: Water

Client Sample ID: WT-12607-041713-EE-001

Date Collected: 04/17/13 13:00 Date Received: 04/18/13 09:00

<del>_</del>	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			83375	04/24/13 12:24	CC	TAL CAN
Total/NA	Analysis	608		1	83554	04/25/13 16:01	LH	TAL CAN
Total/NA	Prep	245.1			82638	04/19/13 12:45	LM	TAL CAN
Total/NA	Analysis	245.1		1	83068	04/22/13 12:19	AS	TAL CAN
Total Recoverable	Prep	200.7			82916	04/22/13 08:20	LM	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	83125	04/23/13 18:43	KC	TAL CAN
Total/NA	Analysis	SM 3500 CR D		1	82493	04/18/13 11:28	LG	TAL CAN
Total/NA	Analysis	SM 2540D		1	83180	04/23/13 11:30	CN	TAL CAN
Total/NA	Prep	1664A			83919	04/29/13 08:26	NP	TAL CAN
Total/NA	Analysis	1664A		1	83938	04/29/13 09:28	NP	TAL CAN

## Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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# **Certification Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-23350-1

# **Laboratory: TestAmerica Canton**

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	<b>Expiration Date</b>
California	NELAP	9	01144CA	06-30-13
Connecticut	State Program	1	PH-0590	12-31-13
Florida	NELAP	4	E87225	06-30-13
Georgia	State Program	4	N/A	06-30-13
Illinois	NELAP	5	200004	07-31-13
Kansas	NELAP	7	E-10336	01-31-14
Kentucky	State Program	4	58	06-30-13
L-A-B	DoD ELAP		L2315	07-28-13
Minnesota	NELAP	5	039-999-348	12-31-13
Nevada	State Program	9	OH-000482008A	07-31-13
New Jersey	NELAP	2	OH001	06-30-13
New York	NELAP	2	10975	04-01-14
Ohio VAP	State Program	5	CL0024	01-19-14
Pennsylvania	NELAP	3	68-00340	08-31-13
Texas	NELAP	6		08-03-13
USDA	Federal		P330-11-00328	08-26-14
Virginia	NELAP	3	460175	09-14-13
Washington	State Program	10	C971	01-12-14
West Virginia DEP	State Program	3	210	12-31-13
Wisconsin	State Program	5	999518190	08-31-13

Phone: (734) 453-5123 CONESTOGA-ROVERS & ASSOCIATES

# CHAIN OF CUSTODY RECORD

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170

Fax: (734) 453-5201

(See Reverse Side for Instructions)

COC NO.:**PL-** 10320 PAGE LOF L

550WID: 1014[3-012 SPECIAL INSTRUCTIONS: TIME COMMENTS/ Date Shipped: Cooler No: DATE Airbill No: Carrier: MS/MSD Request N Carter Ot (See Back of COC for Definitions) COMPANY ANALYSIS REQUESTED 240-23350 Chain of Custody Total Number of Containers: 21sts M Lab Location: HEX Chrome THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT — ALL FIELDS MUST BE COMPLETED ACCURATELY Lab Quote No: > \$ (51 E0 SE RECEIVED BY Fotal Containers/Sample All Samples in Cooler must be on COC CONTAINER QUANTITY & Laboratory Name: Test America Lab Contact: Denise Heckler EnCores 3x5-g, 1x25-g PRESERVATION Methanol/Water (Soil Sodium Hydroxide (NaOH) Nitric Acid (HNO<sub>3</sub>) > 1130 Hydrochloric Acid (HCI) SAMPLE TYPE でにす (D) dmoO no (D) danD 1 1 1 1 3 1 3 0 0 WT DATE (see back of COC) Matrix Code So TIME TAT Required in business days (use separate COCs for different TATs): □1 Day □2 Days □3 Days □1 Week 🔟 2 Week □ Other. Project No/ Phase/Task Code: | ALC) - Tol 413 -603 GWTP DATE COMPANY CR Chemistry Contact: Paul Wiseman WT-12607-641713 - EE-001 RACER Livenia Project Location: Liveria, MI iners for each sample may be combined on one line) Evil Engned SAMPLE IDENTIFICATION RELINQUISHED BY 2 Project Name: Sampler(s): uen œ თ - 0 8 Patge 21 ~4/30/2013 8f 23

YELLOW — Receiving Laboratory Copy

WHITE -- Fully Executed Copy (CRA)

Distribution:

PINK - Shipper

GOLDENROD — Sampling Crew

CRA Form: COC-10A (20110804)

TestAmerica Canton Sample Receipt Form/Narrative Log Canton Facility	in#:Z3350
Client Site Name	Cooler unpacked by:
Cooler Received on 4-18-13 Opened on 4-18-13	Wheel offen
FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier FestAmerica Cooler# 247 599 Foam Box Client Cooler Box Other	Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other COOLANT: Wet Ico Blue Ice Dry Ice Water None	AP-2010-0-10-10-10-10-10-10-10-10-10-10-10-1
1. Cooler temperature upon receipt	
IR GUN# 1 (CF -0 °C) Observed Cooler Temp. °C Corrected Cooler T	emp. °C
IR GUN# 4G (CF +1 °C) Observed Cooler Temp. 29°C Corrected Cooler T	
IR GUN# 5G (CF +1 °C) Observed Cooler Temp. °C Corrected Cooler T	
IR GUN# 8 (CF +1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. 1	A
	es (NA) es (NA)
	es NO
3. Shippers' packing slip attached to the cooler(s)?	No
4. Did custody papers accompany the sample(s)?	No No
5. Were the custody papers relinquished & signed in the appropriate place?	es) No
6. Did all bottles arrive in good condition (Unbroken)?	$\mathbf{Q}_{No}$
7. Could all bottle labels be reconciled with the COC?	No
8. Were correct bottle(s) used for the test(s) indicated?	No No
9. Sufficient quantity received to perform indicated analyses?	No No
	es No (NA) pH Strip Lot# HC256691
	es No
<ul><li>12. Were air bubbles &gt;6 mm in any VOA vials?</li><li>13. Was a trip blank present in the cooler(s)?</li><li>Ye</li></ul>	es No (NA)
10 Thus a wap statut probable in the content of	
•	Voice Mail Other
Concerning	
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by
	Wall C. Hell
15. SAMPLE CONDITION	, , ,
Sample(s) were received after the recommended hole	
Sample(s) were received with bubble >6 mm	
16. SAMPLE PRESERVATION	an diameter. (10011) 1111)
Sample PRESERVATION Sample(s)	
were further preserved in Sample Receiving to meet recommended pH level(s). Preservation	Lot; Nitric Acid Lot# 100110-HNO3:
Sulfuric Acid Lot# 051012-H2SO4; Sodium Hydroxide and Zinc Acetate Lot# 100108-(CH3	
Time preservative was added to sample(s):	

# Login Container Summary Report

240-23350

i emperature readings:					
Client Sample ID	<u>Lab ID</u>	Container Type	Container pH	Preservative Added (mls)	<u>Lot #</u>
WT-12607-041713-EE-001	240-23350-C-1	Plastic 500ml - with Nitric Acid	<2		
WT-12607-041713-EE-001	240-23350-F-1	Amber Glass 1 liter - Sulfuric Acid	<2		
WT-12607-041713-EE-001	240-23350-G-1	Amber Glass 1 liter - Sulfuric Acid	<2	<del></del>	# AP-1/4 PA-1/4



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-25032-1

Client Project/Site: 12607-T01Y13-012, RACER Eckles Rd

# For:

Conestoga-Rovers & Associates, Inc. 14496 Sheldon Road, Suite 200 Plymouth, Michigan 48170

Attn: Mr. Paul Wiseman

Denise DHeckler

Authorized for release by: 6/13/2013 9:56:43 AM

Denise Heckler, Project Manager II denise.heckler@testamericainc.com

.....LINKS .....

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Total Access

**Have a Question?** 



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25032-1

Job ID: 240-25032-1

**Laboratory: TestAmerica Canton** 

Narrative

## **CASE NARRATIVE**

Client: Conestoga-Rovers & Associates, Inc.

Project: 12607-T01Y13-012, RACER Eckles Rd

Report Number: 240-25032-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### RECEIPT

The samples were received on 05/30/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.9 C.

#### POLYCHLORINATED BIPHENYLS (PCBS)

Sample WT-12607-052913-EE-001 (240-25032-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 608. The samples were prepared on 06/06/2013 and analyzed on 06/11/2013.

No difficulties were encountered during the PCBs analysis.

All quality control parameters were within the acceptance limits.

## **TOTAL RECOVERABLE METALS (ICP)**

Sample WT-12607-052913-EE-001 (240-25032-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 06/03/2013 and analyzed on 06/10/2013.

No difficulties were encountered during the metals analysis.

TestAmerica Canton 6/13/2013

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<u> 13</u>

## **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-25032-1

# Job ID: 240-25032-1 (Continued)

# Laboratory: TestAmerica Canton (Continued)

All quality control parameters were within the acceptance limits.

## **MERCURY**

Sample WT-12607-052913-EE-001 (240-25032-1) was analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared on 05/31/2013 and analyzed on 06/03/2013.

No difficulties were encountered during the mercury analysis.

All quality control parameters were within the acceptance limits.

#### HEM

Sample WT-12607-052913-EE-001 (240-25032-1) was analyzed for HEM in accordance with EPA Method 1664A. The samples were prepared and analyzed on 06/11/2013.

No difficulties were encountered during the HEM analysis.

All quality control parameters were within the acceptance limits.

## **TOTAL SUSPENDED SOLIDS**

Sample WT-12607-052913-EE-001 (240-25032-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 06/03/2013.

No difficulties were encountered during the TSS analysis.

All quality control parameters were within the acceptance limits.

## **HEXAVALENT CHROMIUM**

Sample WT-12607-052913-EE-001 (240-25032-1) was analyzed for hexavalent chromium in accordance with SM 3500 CR D. The samples were analyzed on 05/30/2013.

No difficulties were encountered during the hexavalent chromium analysis.

All quality control parameters were within the acceptance limits.

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# **Definitions/Glossary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-25032-1

## **Qualifiers**

## GC Semi VOA

Qualifier	Qualifier Description	
		16 1 1

U Indicates the analyte was analyzed for but not detected.

## **Metals**

Qualifier Qualifier Description

U Indicates the analyte was analyzed for but not detected.

## **General Chemistry**

Qualifier	Qualifier Description
-----------	-----------------------

U Indicates the analyte was analyzed for but not detected.

# **Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.

Eisted under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CNF Contains no Free Liquid

DER Duplicate error ratio (normalized absolute difference)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision level concentration
MDA Minimum detectable activity
EDL Estimated Detection Limit

MDC Minimum detectable concentration

MDL Method Detection Limit
ML Minimum Level (Dioxin)

NC Not Calculated

ND Not detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC Quality Control
RER Relative error ratio

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TestAmerica Canton

# **Sample Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-25032-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-25032-1	WT-12607-052913-EE-001	Water	05/29/13 15:00	05/30/13 09:15

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# **Detection Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

Client Sample ID: WT-12607-052913-EE-001

TestAmerica Job ID: 240-25032-1

Lab Sample ID: 240-25032-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1.5	<del></del> -	0.050	mg/L	1	_	200.7 Rev 4.4	Total
Nickel	1.0		0.010	mg/L	1		200.7 Rev 4.4	Recoverable Total
Total Suspended Solids	57		4.0	mg/L	1		SM 2540D	Recoverable Total/NA

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# **Method Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25032-1

Method	Method Description	Protocol	Laboratory
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
664A	HEM and SGT-HEM	1664A	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
SM 3500 CR D	Chromium, Hexavalent	SM	TAL CAN

## **Protocol References:**

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

## **Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25032-1

Analyzed

06/11/13 09:23

# Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: WT-12607-052913-EE-001 Lab Sample ID: 240-25032-1 Date Collected: 05/29/13 15:00 **Matrix: Water** 

Result Qualifier

67

-	- on ottour	00,20,10	
Date	Received:	05/30/13	09:15

Analyte

Tetrachloro-m-xylene

DCB Decachlorobiphenyl	41	-	10 - 114		06/06/13 11:59	06/11/13 09:23	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
Aroclor-1260	0.095	U	0.095	ug/L	06/06/13 11:59	06/11/13 09:23	1
Aroclor-1254	0.095	U	0.095	ug/L	06/06/13 11:59	06/11/13 09:23	1
Aroclor-1248	0.095	U	0.095	ug/L	06/06/13 11:59	06/11/13 09:23	1
Aroclor-1242	0.095	U	0.095	ug/L	06/06/13 11:59	06/11/13 09:23	1
Aroclor-1232	0.095	U	0.095	ug/L	06/06/13 11:59	06/11/13 09:23	1
Aroclor-1221	0.095	U	0.095	ug/L	06/06/13 11:59	06/11/13 09:23	1
Aroclor-1016	0.095	U	0.095	ug/L	06/06/13 11:59	06/11/13 09:23	1

15 - 131

RL

Unit

D

Prepared

06/06/13 11:59

Dil Fac

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: WT-12607-052913-EE-001

Date Collected: 05/29/13 15:00

Date Received: 05/30/13 09:15

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	1.5		0.050	mg/L		06/03/13 09:46	06/10/13 18:17	1
Nickel	1.0		0.010	mg/L		06/03/13 09:46	06/10/13 18:17	1
Lead	0.050	U	0.050	mg/L		06/03/13 09:46	06/10/13 18:17	1
Zinc	0.020	U	0.020	mg/L		06/03/13 09:46	06/10/13 18:17	1
	Chromium Nickel Lead	Chromium         1.5           Nickel         1.0           Lead         0.050	Chromium         1.5           Nickel         1.0           Lead         0.050         U	Chromium         1.5         0.050           Nickel         1.0         0.010           Lead         0.050         U         0.050	Chromium         1.5         0.050         mg/L           Nickel         1.0         0.010         mg/L           Lead         0.050         U         0.050         mg/L	Chromium         1.5         0.050         mg/L           Nickel         1.0         0.010         mg/L           Lead         0.050         U         0.050         mg/L	Chromium         1.5         0.050         mg/L         06/03/13 09:46           Nickel         1.0         0.010         mg/L         06/03/13 09:46           Lead         0.050         U         0.050         mg/L         06/03/13 09:46	Chromium         1.5         0.050         mg/L         06/03/13 09:46         06/10/13 18:17           Nickel         1.0         0.010         mg/L         06/03/13 09:46         06/10/13 18:17           Lead         0.050         U         0.050         mg/L         06/03/13 09:46         06/10/13 18:17

TestAmerica Job ID: 240-25032-1

Lab Sample ID: 240-25032-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25032-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-12607-052913-EE-001

Date Collected: 05/29/13 15:00

Date Received: 05/30/13 09:15

Analyte Result Qualifier RLUnit Mercury 0.00020 U 0.00020 mg/L

D Prepared

Dil Fac Analyzed 05/31/13 11:20 06/03/13 13:53

Lab Sample ID: 240-25032-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25032-1

# **General Chemistry**

Client Sample ID: WT-12607-052913-EE-001

Date Collected: 05/29/13 15:00

Date Received: 05/30/13 09:15								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L		06/11/13 08:46	06/11/13 16:47	1
Total Suspended Solids	57		4.0	mg/L			06/03/13 10:12	1
Cr (VI)	0.0050	U	0.0050	0.0020 mg/L			05/30/13 14:56	1
	HEM Total Suspended Solids	Analyte         Result           HEM         4.7           Total Suspended Solids         57	Analyte         Result         Qualifier           HEM         4.7         U           Total Suspended Solids         57         Total Suspended Solids	Analyte         Result         Qualifier         RL           HEM         4.7         U         4.7           Total Suspended Solids         57         4.0	Analyte         Result         Qualifier         RL         Unit           HEM         4.7         U         4.7         mg/L           Total Suspended Solids         57         4.0         mg/L	Analyte         Result         Qualifier         RL         Unit         D           HEM         4.7         U         4.7         mg/L           Total Suspended Solids         57         4.0         mg/L	Analyte         Result         Qualifier         RL         Unit         D         Prepared           HEM         4.7         U         4.7         mg/L         06/11/13 08:46           Total Suspended Solids         57         4.0         mg/L	Analyte         Result         Qualifier         RL         Unit         D         Prepared         Analyzed           HEM         4.7         U         4.7         mg/L         06/11/13 08:46         06/11/13 16:47           Total Suspended Solids         57         4.0         mg/L         06/03/13 10:12

Lab Sample ID: 240-25032-1

TestAmerica Job ID: 240-25032-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

# GC Semi VOA

Prep	D-4	 00	-

İ	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
	240-25032-1	WT-12607-052913-EE-001	Total/NA	Water	3510C	
ı	LCS 240-88819/20-A	Lab Control Sample	Total/NA	Water	3510C	
İ	MB 240-88819/19-A	Method Blank	Total/NA	Water	3510C	

# Analysis Batch: 89326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25032-1	WT-12607-052913-EE-001	Total/NA	Water	608	88819
LCS 240-88819/20-A	Lab Control Sample	Total/NA	Water	608	88819
MB 240-88819/19-A	Method Blank	Total/NA	Water	608	88819

# **Metals**

# Prep Batch: 87999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25032-1	WT-12607-052913-EE-001	Total/NA	Water	245.1	
LCS 240-87999/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-87999/1-A	Method Blank	Total/NA	Water	245.1	

# Prep Batch: 88214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25032-1	WT-12607-052913-EE-001	Total Recoverable	Water	200.7	
LCS 240-88214/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-88214/1-A	Method Blank	Total Recoverable	Water	200.7	

# Analysis Batch: 88272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25032-1	WT-12607-052913-EE-001	Total/NA	Water	245.1	87999
LCS 240-87999/2-A	Lab Control Sample	Total/NA	Water	245.1	87999
MB 240-87999/1-A	Method Blank	Total/NA	Water	245.1	87999

# Analysis Batch: 89262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25032-1	WT-12607-052913-EE-001	Total Recoverable	Water	200.7 Rev 4.4	88214
LCS 240-88214/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	88214
MB 240-88214/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	88214

# **General Chemistry**

# Analysis Batch: 87774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25032-1	WT-12607-052913-EE-001	Total/NA	Water	SM 3500 CR D	
LCS 240-87774/4	Lab Control Sample	Total/NA	Water	SM 3500 CR D	
MB 240-87774/3	Method Blank	Total/NA	Water	SM 3500 CR D	

# Analysis Batch: 88226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25032-1	WT-12607-052913-EE-001	Total/NA	Water	SM 2540D	
LCS 240-88226/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 240-88226/1	Method Blank	Total/NA	Water	SM 2540D	

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6/13/2013

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# **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-25032-1

# **General Chemistry (Continued)**

# Prep Batch: 89354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25032-1	WT-12607-052913-EE-001	Total/NA	Water	1664A	
LCS 240-89354/2-A	Lab Control Sample	Total/NA	Water	1664A	
MB 240-89354/1-A	Method Blank	Total/NA	Water	1664A	

# Analysis Batch: 89482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25032-1	WT-12607-052913-EE-001	Total/NA	Water	1664A	89354
LCS 240-89354/2-A	Lab Control Sample	Total/NA	Water	1664A	89354
MB 240-89354/1-A	Method Blank	Total/NA	Water	1664A	89354

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TestAmerica Job ID: 240-25032-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

# Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 240-88819/19-A

**Matrix: Water** 

Analyte

Analysis Batch: 89326

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 88819

МВ	MB					. Top Date:	00010
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
0.10	U	0.10	ug/L		06/06/13 11:59	06/11/13 11:33	1
0.10	U	0.10	ug/L		06/06/13 11:59	06/11/13 11:33	1
0.10	U	0.10	ug/L		06/06/13 11:59	06/11/13 11:33	1

Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 06/11/13 11:33 0.10 U 0.10 ug/L 06/06/13 11:59 Aroclor-1248 0.10 U 0.10 ug/L 06/06/13 11:59 06/11/13 11:33 Aroclor-1254 0.10 U 0.10 ug/L 06/06/13 11:59 06/11/13 11:33 Aroclor-1260 0.10 U 0.10 ug/L 06/06/13 11:59 06/11/13 11:33

MB MB

	1112 1112				
Surrogate	%Recovery Qualifie	er Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	93	10 - 114	06/06/13 11:59	06/11/13 11:33	1
Tetrachloro-m-xylene	92	15 - 131	06/06/13 11:59	06/11/13 11:33	1

Lab Sample ID: LCS 240-88819/20-A

**Matrix: Water** 

Analysis Batch: 89326

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA Prep Batch: 88819

Spike LCS LCS %Rec. Added Analyte Result Qualifier %Rec Unit Limits Aroclor-1016 2.50 2.34 ug/L 93 50 - 114 ug/L Aroclor-1260 2.50 2.84 8 - 127 113

LCS LCS

Surrogate	%Recovery Qualifier	Limits
DCB Decachlorobiphenyl	107	10 - 114
Tetrachloro-m-xylene	79	15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-88214/1-A

**Matrix: Water** 

Analysis Batch: 89262

Client Sample ID: Method Blank **Prep Type: Total Recoverable** 

Prep Batch: 88214

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		06/03/13 09:46	06/10/13 17:08	1
Nickel	0.010	U	0.010	mg/L		06/03/13 09:46	06/10/13 17:08	1
Lead	0.050	U	0.050	mg/L		06/03/13 09:46	06/10/13 17:08	1
Zinc	0.020	U	0.020	mg/L		06/03/13 09:46	06/10/13 17:08	1

Lab Sample ID: LCS 240-88214/2-A

**Matrix: Water** 

**Analysis Batch: 89262** 

**Client Sample ID: Lab Control Sample Prep Type: Total Recoverable** 

Prep Batch: 88214

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chromium	0.200	0.185		mg/L		93	85 - 115	
Nickel	0.500	0.464		mg/L		93	85 - 115	
Lead	0.500	0.455		mg/L		91	85 - 115	
Zinc	0.500	0.476		ma/L		95	85 - 115	

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Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

78 \_ 114

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 89354

Prep Batch: 89354

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-87999/1-A

**Matrix: Water** 

**Analysis Batch: 88272** 

Prep Type: Total/NA Prep Batch: 87999

мв мв

RL Unit Result Qualifier D Prepared Dil Fac Analyte Analyzed 0.00020 mg/L 05/31/13 11:20 06/03/13 13:25 Mercury 0.00020 U

Lab Sample ID: LCS 240-87999/2-A

**Matrix: Water** 

Analyte

Mercury

**Analysis Batch: 88272** 

Prep Type: Total/NA Prep Batch: 87999 LCS LCS

Spike Added Result Qualifier Unit %Rec Limits 0.00500 0.00469 mg/L 94 85 - 115

mg/L

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-89354/1-A

**Matrix: Water** 

Analysis Batch: 89482

MR MR

Analyte Result Qualifier Unit Prepared Analyzed Dil Fac HEM 5.0 5.0 U mg/L 06/11/13 08:46 06/11/13 16:47

Lab Sample ID: LCS 240-89354/2-A

**Matrix: Water** 

**Analysis Batch: 89482** 

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits HEM 40.0 39.8 100

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 240-88226/1

**Matrix: Water** 

**Analysis Batch: 88226** 

MB MB

Analyte Result Qualifier RL Unit D Dil Fac Prepared Analyzed 4.0 Total Suspended Solids 4.0 Ū mg/L 06/03/13 10:12

Lab Sample ID: LCS 240-88226/2

**Matrix: Water** 

**Analysis Batch: 88226** 

LCS LCS Spike %Rec. Added Result Qualifier Unit %Rec Limits Total Suspended Solids 43.3 38.0 mg/L 88 73 - 113

TestAmerica Canton

# **QC Sample Results**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-25032-1

Method: SM 3500 CR D - Chromium, Hexavalent

Lab Sample ID: MB 240-87774/3

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

**Analysis Batch: 87774** 

	MB	MB							
Analyte	Result	Qualifier	RL	Un	it	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050	0.0020 mg	/L			05/30/13 08:24	1

Lab Sample ID: LCS 240-87774/4

Client Sample ID: Lab Control Sample
Matrix: Water

Prep Type: Total/NA

Analysis Batch: 87774

 Analyte
 Added Cr (VI)
 Result Dust
 Qualifier Mg/L
 Unit Mg/L
 D MRec Limits Mg/L
 Limits Mg/L
 111 Mg/L
 80 - 118

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# **Surrogate Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TCX = Tetrachloro-m-xylene

TestAmerica Job ID: 240-25032-1

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		DCB2	TCX2	
ab Sample ID	Client Sample ID	(10-114)	(15-131)	
240-25032-1	WT-12607-052913-EE-001	41	67	
CS 240-88819/20-A	Lab Control Sample	107	79	
MB 240-88819/19-A	Method Blank	93	92	
Surrogate Legend				

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# **Lab Chronicle**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25032-1

Lab Sample ID: 240-25032-1

Matrix: Water

Client Sample ID: WT-12607-052913-EE-001

Date Collected: 05/29/13 15:00 Date Received: 05/30/13 09:15

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			88819	06/06/13 11:59	BM	TAL CAN
Total/NA	Analysis	608		1	89326	06/11/13 09:23	LH	TAL CAN
Total/NA	Prep	245.1			87999	05/31/13 11:20	LM	TAL CAN
Total/NA	Analysis	245.1		1	88272	06/03/13 13:53	AS	TAL CAN
Total Recoverable	Prep	200.7			88214	06/03/13 09:46	LM	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	89262	06/10/13 18:17	NJT	TAL CAN
Total/NA	Analysis	SM 3500 CR D		1	87774	05/30/13 14:56	BW	TAL CAN
Total/NA	Analysis	SM 2540D		1	88226	06/03/13 10:12	JB	TAL CAN
Total/NA	Prep	1664A			89354	06/11/13 08:46	AM	TAL CAN
Total/NA	Analysis	1664A		1	89482	06/11/13 16:47	AM	TAL CAN

### Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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# **Certification Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25032-1

# **Laboratory: TestAmerica Canton**

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	<b>Expiration Date</b>
California	NELAP	9	01144CA	06-30-13
Connecticut	State Program	1	PH-0590	12-31-13
Florida	NELAP	4	E87225	06-30-13
Georgia	State Program	4	N/A	06-30-13
Illinois	NELAP	5	200004	07-31-13
Kansas	NELAP	7	E-10336	01-31-14
Kentucky	State Program	4	58	06-30-13
L-A-B	DoD ELAP		L2315	07-28-13
Minnesota	NELAP	5	039-999-348	12-31-13
Nevada	State Program	9	OH-000482008A	07-31-13
New Jersey	NELAP	2	OH001	06-30-13
New York	NELAP	2	10975	04-01-14
Ohio VAP	State Program	5	CL0024	01-19-14
Pennsylvania	NELAP	3	68-00340	08-31-13
Texas	NELAP	6		08-03-13
USDA	Federal		P330-11-00328	08-26-14
Virginia	NELAP	3	460175	09-14-13
Washington	State Program	10	C971	01-12-14
West Virginia DEP	State Program	3	210	12-31-13
Wisconsin	State Program	5	999518190	08-31-13

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170 Phone: (734) 453-5123

Fax: (734) 453-5201

COC NO.: PAGE 1 05 21 (See Reverse Side for Instructions)

Project No/ Phase/Task Code:	6 6 7 2 7	Laboratory Name:	\$	, ,	Lab Location:	1	
	12001-10110-609		Ą	les America	2	anton (Cli	12607-701413-612
Project Name: RACER Liverala	GETTO	Lab Contact:	and sand	serise Heciller	Lab Quote No:		Cooler No:
Project Location: Livenia, ML		SAMPLE	CONT	CONTAINER QUANTITY & PRESERVATION	ANALYSIS REQUESTED (See Back of COC for Definition	PEQUESTED  Sor Definitions)	Carrier:
Chemistry Contact: Paul Wise Man	im	(a) d			70,7		Airbilf No:
Sampler(s): Evil Engred		Sode Sk of COO	rved loric Acid	Acid (H <sub>z</sub> S) Hydroxidd الWater (غ x کئو-و, ۱ x	چېرور د	Request	Date Shipped:
SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)	DATE T (mm/dd//yy)			Sodium (NaOH) Methano VOC) EnCores	900 11.0 146x 20.1	dsw/sw	COMMENTS/ SPECIAL INSTRUCTIONS:
1 WT-12607-052913 - EE-001	- 5/29/13	1560 WT	<u> </u>		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
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TAT Required in business days (use separate COCs for different TATs):	COCs for different TA	:(s):	Total I	Total Number of Containers:	Notes/ Special Requirements:	ifrements: 🗻	
🛮 🗆 1 Day 🗆 2 Days 💛 3 Days 🗀 1 Week 😿	1 Other:	510	All Samples	All Samples in Cooler must be on COC			
RELINQUISHED BY	COMPANY	DATE	TIME	RECEWED BY	BY /	COMPANY	DATE TIME
1. Cas Crowd	CRA	5/29/13	 600	1. Levellon	N.	MC	5/30/(3 9/5
,		,		2.	)		
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3	1	HAIN OF CUSTODY IS A LEG	GAL DOCUMENT	THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT — ALL FIELDS MUST BE COMPLETED ACCURATELY	(		

CestAmerica Canton Sample Receipt Form/Narrative Login #: 25032	-
lient CRA Site Name ROCER Cooler unpacked by:	
ooler Received on \$30 - 13 Opened on \$30 - 10 Opened on \$30 - 10 Other CedEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other CestAmerica Cooler #2 Center Office Offic	;
Contacted PM Date by via Verbal Voice Mail Other Concerning	
4. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  Samples professed by:	The state of the s
5. SAMPLE CONDITION  ample(s) were received after the recommended holding time had expired.  ample(s) were received in a broken container.  ample(s) were received with bubble >6 mm in diameter. (Notify PM)	
6. SAMPLE PRESERVATION  ample(s) were further preserved in the laboratory. ime preserved:Preservative(s) added/Lot number(s):	

# Login Container Summary Report

240-25032

Temperature readings:			.,		
Client Sample ID	<u>Lab ID</u>	Container Type	Container pH	Preservative Added (mls)	<u>Lot</u> #
WT-12607-052913-EE-001	240-25032-C-1	Plastic 500ml - with Nitric Acid	<2		
WT-12607-052913-EE-001	240-25032-F-1	Amber Glass 1 liter - Sulfuric Acid	<2		
WT-12607-052913-EE-001	240-25032-G-1	Amber Glass 1 liter - Sulfuric Acid	<2	N. P. Control Co.	****

Page 1 of 1



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-25665-1

Client Project/Site: 12607-T01Y13-012, RACER Eckles Rd

# For:

Conestoga-Rovers & Associates, Inc. 14496 Sheldon Road, Suite 200 Plymouth, Michigan 48170

Attn: Mr. Paul Wiseman

Denise DHeckler

Authorized for release by: 6/27/2013 5:20:36 PM

Denise Heckler, Project Manager II denise.heckler@testamericainc.com

.....LINKS .....

Review your project results through
Total Access

**Have a Question?** 



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

# **Table of Contents**

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Method Summary	8
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QC Sample Results	15
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Lab Chronicle	19
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Chain of Custody	21

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### **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25665-1

Job ID: 240-25665-1

**Laboratory: TestAmerica Canton** 

Narrative

### **CASE NARRATIVE**

Client: Conestoga-Rovers & Associates, Inc.

Project: 12607-T01Y13-012, RACER Eckles Rd

Report Number: 240-25665-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

### **RECEIPT**

The samples were received on 06/13/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.6 C.

# POLYCHLORINATED BIPHENYLS (PCBS)

Sample WT-12607-061213-EE-001 (240-25665-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 608. The samples were prepared on 06/18/2013 and analyzed on 06/19/2013.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 90277.

No difficulties were encountered during the PCBs analysis.

All quality control parameters were within the acceptance limits.

### **TOTAL RECOVERABLE METALS (ICP)**

Sample WT-12607-061213-EE-001 (240-25665-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 06/14/2013 and analyzed on 06/17/2013.

Zinc was detected in method blank MB 240-89874/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

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### **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-25665-1

# Job ID: 240-25665-1 (Continued)

# Laboratory: TestAmerica Canton (Continued)

No other difficulties were encountered during the metals analysis.

All other quality control parameters were within the acceptance limits.

### **MERCURY**

Sample WT-12607-061213-EE-001 (240-25665-1) was analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared and analyzed on 06/14/2013.

The continuing calibration verification (CCV) for Mercury associated with prep batch 89877 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data has been reported.

No difficulties were encountered during the mercury analysis.

All quality control parameters were within the acceptance limits.

### HEM

Sample WT-12607-061213-EE-001 (240-25665-1) was analyzed for HEM in accordance with EPA Method 1664A. The samples were prepared and analyzed on 06/27/2013.

No difficulties were encountered during the HEM analysis.

All quality control parameters were within the acceptance limits.

### **TOTAL SUSPENDED SOLIDS**

Sample WT-12607-061213-EE-001 (240-25665-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 06/14/2013.

No difficulties were encountered during the TSS analysis.

All quality control parameters were within the acceptance limits.

### **HEXAVALENT CHROMIUM**

Sample WT-12607-061213-EE-001 (240-25665-1) was analyzed for hexavalent chromium in accordance with SM 3500 CR D. The samples were analyzed on 06/13/2013.

No difficulties were encountered during the hexavalent chromium analysis.

All quality control parameters were within the acceptance limits.

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# **Definitions/Glossary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-25665-1

### **Qualifiers**

# **GC Semi VOA**

Qualifier Q	ualifier Description
	•

U Indicates the analyte was analyzed for but not detected.

### Metals

Qualifier	Qualifier	Description
Qualifiei	Qualifier	Description

<sup>^</sup> ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

U Indicates the analyte was analyzed for but not detected.

### **General Chemistry**

U Indicates the analyte was analyzed for but not detected.

# Glossary

Abbreviation	These commonly	y used abbreviations may	v or ma	not be	present in	this report

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CNF Contains no Free Liquid

DER Duplicate error ratio (normalized absolute difference)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision level concentration
MDA Minimum detectable activity
EDL Estimated Detection Limit
MDC Minimum detectable concentration

MDL Method Detection Limit
ML Minimum Level (Dioxin)
NC Not Calculated

ND Not detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC Quality Control
RER Relative error ratio

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TestAmerica Canton

# **Sample Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-25665-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-25665-1	WT-12607-061213-EE-001	Water	06/12/13 14:00	06/13/13 09:20

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# **Detection Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

Client Sample ID: WT-12607-061213-EE-001

TestAmerica Job ID: 240-25665-1

Lab Sample ID: 240-25665-1

Analyte	Result Qualifier	RL	Unit	Dil Fac	D Method	Prep Type
Chromium	0.16	0.050	mg/L	1	200.7 Rev 4.4	Total
Nickel	0.15	0.010	mg/L	1	200.7 Rev 4.4	Recoverable Total
Total Suspended Solids	5.0	4.0	mg/L	1	SM 2540D	Recoverable Total/NA

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# **Method Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-25665-1

Method	Method Description	Protocol	Laboratory
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
664A	HEM and SGT-HEM	1664A	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
SM 3500 CR D	Chromium, Hexavalent	SM	TAL CAN

### **Protocol References:**

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

### **Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25665-1

# Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: WT-12607-061213-EE-001 Lab Sample ID: 240-25665-1 Date Collected: 06/12/13 14:00 **Matrix: Water** 

Date Received: 06/13/13 09:20

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		06/18/13 09:34	06/19/13 15:47	1
Aroclor-1221	0.095	U	0.095	ug/L		06/18/13 09:34	06/19/13 15:47	1
Aroclor-1232	0.095	U	0.095	ug/L		06/18/13 09:34	06/19/13 15:47	1
Aroclor-1242	0.095	U	0.095	ug/L		06/18/13 09:34	06/19/13 15:47	1
Aroclor-1248	0.095	U	0.095	ug/L		06/18/13 09:34	06/19/13 15:47	1
Aroclor-1254	0.095	U	0.095	ug/L		06/18/13 09:34	06/19/13 15:47	1
Aroclor-1260	0.095	U	0.095	ug/L		06/18/13 09:34	06/19/13 15:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	38		10 - 114	06/18/13 09:34	06/19/13 15:47	1
Tetrachloro-m-xylene	64		15 - 131	06/18/13 09:34	06/19/13 15:47	1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

# Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: WT-12607-061213-EE-001

Date Collected: 06/12/13 14:00

Date Received: 06/13/13 09:20

Date Neceived, 00/13/13 03.20								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.16		0.050	mg/L		06/14/13 07:24	06/17/13 11:28	1
Nickel	0.15		0.010	mg/L		06/14/13 07:24	06/17/13 11:28	1
Lead	0.050	U	0.050	mg/L		06/14/13 07:24	06/17/13 11:28	1
Zinc	0.020	U	0.020	mg/L		06/14/13 07:24	06/17/13 11:28	1

TestAmerica Job ID: 240-25665-1

Lab Sample ID: 240-25665-1

**Matrix: Water** 

0.00020

mg/L

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25665-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-12607-061213-EE-001

Date Collected: 06/12/13 14:00

Date Received: 06/13/13 09:20

Mercury

Analyte Result Qualifier RLUnit D Prepared

0.00020 U ^

Lab Sample ID: 240-25665-1

**Matrix: Water** 

Dil Fac Analyzed 06/14/13 11:00 06/14/13 15:02

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25665-1

Lab Sample ID: 240-25665-1

**Matrix: Water** 

# **General Chemistry**

Client Sample ID: WT-12607-061213-EE-001

Date Collected: 06/12/13 14:00

Date Received: 06/13/13 09:20								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L		06/27/13 08:34	06/27/13 10:51	1
Total Suspended Solids	5.0		4.0	mg/L			06/14/13 10:51	1
Cr (VI)	0.0050	U	0.0050	mg/L			06/13/13 11:17	1

TestAmerica Job ID: 240-25665-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

# GC Semi VOA

# Prep Batch: 90277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25665-1	WT-12607-061213-EE-001	Total/NA	Water	3510C	
LCS 240-90277/7-A	Lab Control Sample	Total/NA	Water	3510C	
MB 240-90277/6-A	Method Blank	Total/NA	Water	3510C	

# Analysis Batch: 90526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25665-1	WT-12607-061213-EE-001	Total/NA	Water	608	90277
LCS 240-90277/7-A	Lab Control Sample	Total/NA	Water	608	90277
MB 240-90277/6-A	Method Blank	Total/NA	Water	608	90277

# **Metals**

# Prep Batch: 89874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25665-1	WT-12607-061213-EE-001	Total Recoverable	Water	200.7	
240-25665-1 MS	WT-12607-061213-EE-001	Total Recoverable	Water	200.7	
240-25665-1 MSD	WT-12607-061213-EE-001	Total Recoverable	Water	200.7	
LCS 240-89874/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-89874/1-A	Method Blank	Total Recoverable	Water	200.7	

# Prep Batch: 89877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25665-1	WT-12607-061213-EE-001	Total/NA	Water	245.1	
240-25665-1 MS	WT-12607-061213-EE-001	Total/NA	Water	245.1	
240-25665-1 MSD	WT-12607-061213-EE-001	Total/NA	Water	245.1	
LCS 240-89877/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-89877/1-A	Method Blank	Total/NA	Water	245.1	

# Analysis Batch: 89984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25665-1	WT-12607-061213-EE-001	Total/NA	Water	245.1	89877
240-25665-1 MS	WT-12607-061213-EE-001	Total/NA	Water	245.1	89877
240-25665-1 MSD	WT-12607-061213-EE-001	Total/NA	Water	245.1	89877
LCS 240-89877/2-A	Lab Control Sample	Total/NA	Water	245.1	89877
MB 240-89877/1-A	Method Blank	Total/NA	Water	245.1	89877

# **Analysis Batch: 90103**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25665-1	WT-12607-061213-EE-001	Total Recoverable	Water	200.7 Rev 4.4	89874
240-25665-1 MS	WT-12607-061213-EE-001	Total Recoverable	Water	200.7 Rev 4.4	89874
240-25665-1 MSD	WT-12607-061213-EE-001	Total Recoverable	Water	200.7 Rev 4.4	89874
LCS 240-89874/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	89874
MB 240-89874/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	89874

# **General Chemistry**

# Analysis Batch: 89720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25665-1	WT-12607-061213-EE-001	Total/NA	Water	SM 3500 CR D	
LCS 240-89720/3	Lab Control Sample	Total/NA	Water	SM 3500 CR D	

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# **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25665-1

# **General Chemistry (Continued)**

# **Analysis Batch: 89720 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-89720/8	Method Blank	Total/NA	Water	SM 3500 CR D	

# Analysis Batch: 89948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25665-1	WT-12607-061213-EE-001	Total/NA	Water	SM 2540D	
LCS 240-89948/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 240-89948/1	Method Blank	Total/NA	Water	SM 2540D	

# Prep Batch: 91658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25665-1	WT-12607-061213-EE-001	Total/NA	Water	1664A	
LCS 240-91658/2-A	Lab Control Sample	Total/NA	Water	1664A	
MB 240-91658/1-A	Method Blank	Total/NA	Water	1664A	

# Analysis Batch: 91689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-25665-1	WT-12607-061213-EE-001	Total/NA	Water	1664A	91658
LCS 240-91658/2-A	Lab Control Sample	Total/NA	Water	1664A	91658
MB 240-91658/1-A	Method Blank	Total/NA	Water	1664A	91658

TestAmerica Job ID: 240-25665-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

# Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 240-90277/6-A

**Matrix: Water** 

Analysis Batch: 90526

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 90277

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		06/18/13 09:34	06/19/13 16:03	1
Aroclor-1221	0.10	U	0.10	ug/L		06/18/13 09:34	06/19/13 16:03	1
Aroclor-1232	0.10	U	0.10	ug/L		06/18/13 09:34	06/19/13 16:03	1
Aroclor-1242	0.10	U	0.10	ug/L		06/18/13 09:34	06/19/13 16:03	1
Aroclor-1248	0.10	U	0.10	ug/L		06/18/13 09:34	06/19/13 16:03	1
Aroclor-1254	0.10	U	0.10	ug/L		06/18/13 09:34	06/19/13 16:03	1
Aroclor-1260	0.10	U	0.10	ug/L		06/18/13 09:34	06/19/13 16:03	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	54		10 - 114	06/18/13 09:34	06/19/13 16:03	1
Tetrachloro-m-xylene	64		15 - 131	06/18/13 09:34	06/19/13 16:03	1

Lab Sample ID: LCS 240-90277/7-A

**Matrix: Water** 

Analysis Batch: 90526

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Prep Batch: 90277

ı		<b>Spike</b>	LCS	LCS				%Rec.	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Aroclor-1016	2.50	2.24	-	ug/L		90	50 - 114	
	Aroclor-1260	2.50	2.07		ug/L		83	8 - 127	

LCS LCS

MR MR

Surrogate	%Recovery 0	Qualifier	Limits
DCB Decachlorobiphenyl	55		10 - 114
Tetrachloro-m-xylene	77		15 - 131

# Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-89874/1-A

**Matrix: Water** 

**Analysis Batch: 90103** 

Client Sample ID: Method Blank **Prep Type: Total Recoverable** Prep Batch: 89874

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		06/14/13 07:24	06/17/13 11:20	1
Nickel	0.010	U	0.010	mg/L		06/14/13 07:24	06/17/13 11:20	1
Lead	0.050	U	0.050	mg/L		06/14/13 07:24	06/17/13 11:20	1
Zinc	0.0638		0.020	mg/L		06/14/13 07:24	06/17/13 11:20	1

Lab Sample ID: LCS 240-89874/2-A

**Matrix: Water** 

**Analysis Batch: 90103** 

**Client Sample ID: Lab Control Sample Prep Type: Total Recoverable** 

Prep Batch: 89874

· · · · · ·								
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chromium	0.200	0.193		mg/L		96	85 - 115	
Nickel	0.500	0.487		mg/L		97	85 - 115	
Lead	0.500	0.467		mg/L		93	85 - 115	
Zinc	0.500	0.547		ma/L		109	85 - 115	

TestAmerica Canton

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TestAmerica Job ID: 240-25665-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

10

20

20

Client Sample ID: WT-12607-061213-EE-001 **Prep Type: Total Recoverable** 

Client Sample ID: WT-12607-061213-EE-001

75 - 125

75 - 125

Client Sample ID: Lab Control Sample

%Rec.

Limits

85 - 115

%Rec.

Limits

Client Sample ID: WT-12607-061213-EE-001

70 - 130

Client Sample ID: WT-12607-061213-EE-001

%Rec

%Rec

116

105

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA Prep Batch: 89877

Prep Type: Total/NA

Prep Batch: 89877

Prep Batch: 89877

95

104

**Prep Type: Total Recoverable** 

Prep Batch: 89874

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chromium	0.16		0.200	0.326		mg/L		84	75 - 125	
Nickel	0.15		0.500	0.608		mg/L		91	75 - 125	
Lead	0.050	U	0.500	0.443		mg/L		89	75 - 125	
Zinc	0.020	U	0.500	0.479		mg/L		96	75 - 125	

0.500

0.500

Spike

Added

Spike

Added

0.00100

0.00500

Lab Sample ID: 240-25665-1 MSD

Lab Sample ID: 240-25665-1 MS

**Matrix: Water** 

Analyte Chromium Nickel

Lead

Zinc

**Matrix: Water** 

**Analysis Batch: 90103** 

**Analysis Batch: 90103** 

								Pre	p Batch:	89874
Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
0.16		0.200	0.353		mg/L		97	75 - 125	8	20
0.15		0.500	0.660		mg/L		102	75 - 125	8	20

mg/L

mg/L

Unit

mg/L

Unit

mg/L

0.475

0.519

LCS LCS

MS MS

0.00116 ^

Result Qualifier

0.00524 ^

Result Qualifier

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-89877/1-A

**Matrix: Water** 

Analysis Batch: 89984

MB MB

Sample Sample

0.00020 U ^

Result Qualifier

0.050 U

0.020 U

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U ^	0.00020	mg/L	_	06/14/13 11:00	06/14/13 14:59	1

Lab Sample ID: LCS 240-89877/2-A

**Matrix: Water** 

Mercury

Analysis Batch: 89984

Analyte		

Lab Sample ID: 240-25665-1 MS

**Matrix: Water** 

Analysi	Batch: 89984	
Analyte		

Mercury

Lab Sample ID: 240-25665-1 MSD **Matrix: Water** 

Analysis Batch: 89984

Analysis Batch: 89984									Prep	Batch:	89877
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00020	U ^	0.00100	0.00113	۸	mg/L		113	70 - 130	3	20

TestAmerica Canton

10

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Dil Fac

Prep Batch: 91658

Prep Batch: 91658

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-91658/1-A

**Matrix: Water** 

**Analysis Batch: 91689** 

мв мв

Result Qualifier RL Unit D Prepared Dil Fac Analyte Analyzed 5.0 HEM mg/L 06/27/13 08:34 06/27/13 10:51 5.0 U

Lab Sample ID: LCS 240-91658/2-A

Matrix: Water

HEM

**Analysis Batch: 91689** 

Analyte

LCS LCS Spike Added

RL

4.0

40.0

33.5

Result Qualifier

Unit mg/L

%Rec

78 - 114

84

Prepared

Limits

Client Sample ID: Method Blank

Analyzed

06/14/13 10:51

Client Sample ID: Method Blank

Analyzed

Client Sample ID: Lab Control Sample

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 240-89948/1

**Matrix: Water** 

Analysis Batch: 89948

MR MR

Analyte Result Qualifier

Total Suspended Solids 4.0 U

Lab Sample ID: LCS 240-89948/2

Matrix: Water

Analysis Batch: 89948

Total Suspended Solids

Spike Added

43.3

LCS LCS Result Qualifier 43.0

Unit mg/L

Unit

mg/L

D

%Rec. %Rec

Limits 73 \_ 113

Client Sample ID: Lab Control Sample

Method: SM 3500 CR D - Chromium, Hexavalent

Lab Sample ID: MB 240-89720/8

**Matrix: Water** 

Analyte

**Analysis Batch: 89720** 

MB MB

Analyte 0.0050 Cr (VI) Ū

Result Qualifier

RI 0.0050 Unit mg/L D

Prepared

06/13/13 09:12 Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Dil Fac

Lab Sample ID: LCS 240-89720/3

**Matrix: Water** 

Cr (VI)

**Analysis Batch: 89720** 

Analyte

Spike Added 0.250

LCS LCS Result Qualifier

0.256

Unit mg/L D %Rec

%Rec. Limits 102 80 - 118

TestAmerica Canton

# **Surrogate Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25665-1

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		DCB2	TCX2	
Lab Sample ID	Client Sample ID	(10-114)	(15-131)	
240-25665-1	WT-12607-061213-EE-001	38	64	
LCS 240-90277/7-A	Lab Control Sample	55	77	
MB 240-90277/6-A	Method Blank	54	64	
Surrogate Legend				
DCB = DCB Decachloro	bbiphenyl			
TCX = Tetrachloro-m-xy	rlene			

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# **Lab Chronicle**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd

TestAmerica Job ID: 240-25665-1

Lab Sample ID: 240-25665-1

Matrice Matrice

Matrix: Water

Client Sample ID: WT-12607-061213-EE-001

Date Collected: 06/12/13 14:00 Date Received: 06/13/13 09:20

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			90277	06/18/13 09:34	BM	TAL CAN
Total/NA	Analysis	608		1	90526	06/19/13 15:47	LH	TAL CAN
Total/NA	Prep	245.1			89877	06/14/13 11:00	LM	TAL CAN
Total/NA	Analysis	245.1		1	89984	06/14/13 15:02	SG	TAL CAN
Total Recoverable	Prep	200.7			89874	06/14/13 07:24	LM	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	90103	06/17/13 11:28	NJT	TAL CAN
Total/NA	Analysis	SM 3500 CR D		1	89720	06/13/13 11:17	NP	TAL CAN
Total/NA	Analysis	SM 2540D		1	89948	06/14/13 10:51	KG	TAL CAN
Total/NA	Prep	1664A			91658	06/27/13 08:34	NP	TAL CAN
Total/NA	Analysis	1664A		1	91689	06/27/13 10:51	NP	TAL CAN

### Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

3

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13

# **Certification Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01Y13-012, RACER Eckles Rd TestAmerica Job ID: 240-25665-1

# **Laboratory: TestAmerica Canton**

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	<b>Expiration Date</b>
California	NELAP	9	01144CA	06-30-13
Connecticut	State Program	1	PH-0590	12-31-13
Florida	NELAP	4	E87225	06-30-13
Georgia	State Program	4	N/A	06-30-13
Illinois	NELAP	5	200004	07-31-13
Kansas	NELAP	7	E-10336	01-31-14
Kentucky	State Program	4	58	06-30-13
L-A-B	DoD ELAP		L2315	07-28-13
Minnesota	NELAP	5	039-999-348	12-31-13
Nevada	State Program	9	OH-000482008A	07-31-13
New Jersey	NELAP	2	OH001	06-30-13
New York	NELAP	2	10975	04-01-14
Ohio VAP	State Program	5	CL0024	01-19-14
Pennsylvania	NELAP	3	68-00340	08-31-13
Texas	NELAP	6		08-03-13
USDA	Federal		P330-11-00328	08-26-14
Virginia	NELAP	3	460175	09-14-13
Washington	State Program	10	C971	01-12-14
West Virginia DEP	State Program	3	210	12-31-13
Wisconsin	State Program	5	999518190	08-31-13

# CHAIN OF CUSTODY RECORD

14496 Sheldon Road, Suite #200. Plymouth. Michieum Assess Phone: (734) 453-5123 Fax: (734) 453-5201

COCNO.PL. 10000 (See Reverse Side for Instructions)

Project No/ Phase/Task Code:   A & C] - TO! Y   3 - 003	-To1413 - 003	Laborator	y Name:	Laboratory Name: Test America		Lab Location:	N. Canton OH	SSOWID:
Project Name: RACER Livonce	GWTP	Lab Contact:	ect: Ve	Denise Hedkley		Lab Quote No:	~	Cooler No:
Project Location: Liverice, MI		SAMPLE	CON	CONTAINER QUANTITY & PRESERVATION	8	ANALYSIS (See Back of C	ANALYSIS REQUESTED (See Back of COC for Definitions)	Carrier:
Chemistry Contact: Peul Wiseman	nan		<u> </u>	llos	əldmse	3W		Airbill No:
Sampler(s): Erik Engnell		octe ck of CO	rved loric Acid	Pcid (H <sub>2</sub> S Hydroxidd Hydroxidd 19 Tefel 19 Tefel 19 Tefel	ntalners/8	Chrigh		Date Shipped:
SAMPLE IDENTIFICATION  Containers for each sample may be convined on one In	DATE TIME	O xinteM osd ses)		Sodium (NaOH)	Other: Total Co	B 150 Hex ZST SSM		COMMENTS/ SPECIAL INSTRUCTIONS:
	-001 6/12/13 HO	D WT C	>	>	(2)   (2)   >	111111111111111111111111111111111111111		
2								
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1. 4						240-2566	240-25665 Chain of Custody	
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TAT Required in business days (use separate COCs for different TATs):	ate COCs for different TATs)		Total	Total Number of Containers:	D	Notes/ Special Requirements:	quirements:	
□1 Day □2 Days □3 Days □1 Week		Sign	All Samples	All Samples in Cooler must be on COC	on coc			
RELINQUISHED BY	٨	DATE	100	T. C.	RECEIVED BY		COMPANY	DATE TIME
1. Carcagon	Cast	4/12/13	1500	1. Coull	Qr.			6/13/13 820
					4			
<i>7/</i> 20				3.				
Distribution: WHITE – Fully Executed Copy (CRA)		HAIN OF CUSTODY IS A LEGAL DOCUMENT YELLOW — Receiving Laboratory Copy	AL DOCUMENT	THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT—ALL FIELDS MUST BE COMPLETED ACCURATELY VELLOW—Receiving Laboratory Copy PINK—Shipper GOLDENRG	E COMPLETE	ACCURATELY GOI DENROD	Accuratery GOLDENROD — Sampling Crew	CPA Form: COC-104 (20110804)

TestAmerica Canton Sample Receipt Form/Narrative Login # : 25665  Canton Facility
Client CIZA Site Name Cooler unpacked by:
Cooler 1 sived on (2-13-13 Opened on 6-13-13
FedEx: 3rd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other
TestAmerica Cooler #200234/ Foam Box Client Cooler Box Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other
COOLANT: Wet Ice Blue Ice Dry Ice Water None
1. Cooler temperature upon receipt
IR GUN# 1 (CF -1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C  IR GUN# 4G (CF 0 °C) Observed Cooler Temp. 4 6 °C See Multiple
IR GUN# 4G (CF 0 °C) Observed Cooler Temp. 4 C Corrected Cooler Temp. 4 C °C See Multiple IR GUN# 5G (CF +1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C Cooler Form
IR GUN# 8 (CF 2°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C out of service
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity Yes No
-Were custody seals on the outside of the cooler(s) signed & dated?  Yes No NA
-Were custody seals on the bottle(s)?
3. Shippers' packing slip attached to the cooler(s)?
4. Did custody papers accompany the sample(s)?
5. Were the custody papers relinquished & signed in the appropriate place?
6 Did all hardes and a control of the All and
6. Did all bottles arrive in good condition (Unbroken)?  7. Could all bottle labels be reconciled with the COC?  Yes No
8. Were correct bottle(s) used for the test(s) indicated?
9. Sufficient quantity received to perform indicated analyses?  No
10. Were sample(s) at the correct pH upon receipt?  Yes No NA pH Strip Lot# HC379740
11. Were VOAs on the COC?
12. Were air bubbles >6 mm in any VOA vials?  Yes No NA
13. Was a trip blank present in the cooler(s)?  Yes No
Contacted PM Date by via Verbal Voice Mail Other
Concerning
14 CHAIN OF CUSTODY & SAMBLE DISCREDANCIES Samoles plocessed by
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES
a penne real
15. SAMPLE CONDITION
Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)
16. SAMPLE PRESERVATION
Sample(s) were further preserved in the laboratory.
Sample(s) were further preserved in the laboratory.  Time preserved: Preservative(s) added/Lot number(s):

# Login Container Summary Report

240-25665

Temperature readings:					
Client Sample ID	<u>Lab ID</u>	Container Type	Container pH	Preservative Added (mls)	Lot #
WT-12607-061213-EE-001	240-25665-D-1	Plastic 500ml - with Nitric Acid	<2		
WT-12607-061213-EE-001	240-25665-E-1	Amber Glass 1 liter - Sulfuric Acid	<2		
WT-12607-061213-EE-001	240-25665-F-1	Amber Glass 1 liter - Sulfuric Acid	<2	***************************************	<u> </u>



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-26680-1

Client Project/Site: 012607-T01Y13-03, RACER Eckles Rd

# For:

Conestoga-Rovers & Associates, Inc. 14496 Sheldon Road, Suite 200 Plymouth, Michigan 48170

Attn: Mr. Paul Wiseman

ense DHeckler

Authorized for release by: 7/22/2013 9:23:46 AM

Denise Heckler, Project Manager II denise.heckler@testamericainc.com

·····LINKS ·······

**Review your project** results through Total Access

**Have a Question?** 



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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# **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd TestAmerica Job ID: 240-26680-1

Job ID: 240-26680-1

**Laboratory: TestAmerica Canton** 

Narrative

# **CASE NARRATIVE**

Client: Conestoga-Rovers & Associates, Inc.

Project: 012607-T01Y13-03, RACER Eckles Rd

Report Number: 240-26680-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### **RECEIPT**

The samples were received on 07/11/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.0 C.

# POLYCHLORINATED BIPHENYLS (PCBS)

Sample WT-12607-071013-EE-001 (240-26680-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 608. The samples were prepared on 07/12/2013 and analyzed on 07/16/2013.

No difficulties were encountered during the PCBs analysis.

All quality control parameters were within the acceptance limits.

# **TOTAL RECOVERABLE METALS (ICP)**

Sample WT-12607-071013-EE-001 (240-26680-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 07/12/2013 and analyzed on 07/15/2013.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

TestAmerica Canton 7/22/2013

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# **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd TestAmerica Job ID: 240-26680-1

# Job ID: 240-26680-1 (Continued)

# Laboratory: TestAmerica Canton (Continued)

#### MERCURY

Sample WT-12607-071013-EE-001 (240-26680-1) was analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared on 07/12/2013 and analyzed on 07/15/2013.

No difficulties were encountered during the mercury analysis.

All quality control parameters were within the acceptance limits.

# **N-HEXANE EXTRACTABLE MATERIAL**

Sample WT-12607-071013-EE-001 (240-26680-1) was analyzed for n-hexane extractable material in accordance with EPA Method 1664A. The samples were prepared and analyzed on 07/19/2013.

No difficulties were encountered during the HEM analysis.

All quality control parameters were within the acceptance limits.

# **TOTAL SUSPENDED SOLIDS**

Sample WT-12607-071013-EE-001 (240-26680-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 07/12/2013.

No difficulties were encountered during the TSS analysis.

All quality control parameters were within the acceptance limits.

# **HEXAVALENT CHROMIUM**

Sample WT-12607-071013-EE-001 (240-26680-1) was analyzed for hexavalent chromium in accordance with SM 3500 CR D. The samples were analyzed on 07/11/2013.

Cr (VI) failed the recovery criteria low for the MS of sample WT-12607-071013-EE-001MS (240-26680-1) in batch 240-93350.

Cr (VI) failed the recovery criteria low for the MSD of sample WT-12607-071013-EE-001MSD (240-26680-1) in batch 240-93350. Cr (VI) exceeded the RPD limit. Matrix interference is suspected.

No other difficulties were encountered during the hexavalent chromium analysis.

All other quality control parameters were within the acceptance limits.

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# **Definitions/Glossary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd

TestAmerica Job ID: 240-26680-1

# **Qualifiers**

# **GC Semi VOA**

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

# **Metals**

Qualifier	Qualifier	Description
Qualifier	Qualifier	Description

U Indicates the analyte was analyzed for but not detected.

# **General Chemistry**

Qualifier	Qualifier Description					
U	Indicates the analyte was analyzed for but not detected.					
F	MS or MSD exceeds the control limits					
F	RPD of the MS and MSD exceeds the control limits					

# **Glossary**

QC

RER

RPD

TEF TEQ

RL

Quality Control

Relative error ratio

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit

TestAmerica Canton

# **Sample Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd

TestAmerica Job ID: 240-26680-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-26680-1	WT-12607-071013-EE-001	Water	07/10/13 17:00	07/11/13 09:15

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# **Detection Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd

Client Sample ID: WT-12607-071013-EE-001

TestAmerica Job ID: 240-26680-1

Lab Sample ID: 240-26680-1

Analyte	Result Qualifier	RL	Unit	Dil Fac D	Method	Prep Type
Chromium	0.26	0.050	mg/L	1	200.7 Rev 4.4	Total
Nickel	0.22	0.010	mg/L	1	200.7 Rev 4.4	Recoverable Total
Total Suspended Solids	40	4.0	mg/L	1	SM 2540D	Recoverable Total/NA

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# **Method Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd

TestAmerica Job ID: 240-26680-1

Method	Method Description	Protocol	Laboratory
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
664A	HEM and SGT-HEM	1664A	TAL CAN
M 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
SM 3500 CR D	Chromium, Hexavalent	SM	TAL CAN

# **Protocol References:**

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

# **Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd TestAmerica Job ID: 240-26680-1

# Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: WT-12607-071013-EE-001	Lab Sample ID: 240-26680-1
Date Collected: 07/10/13 17:00	Matrix: Water

Client Sample ID: W1-12607-	ient Sample ID: W1-12607-071013-EE-001							20000-1
Date Collected: 07/10/13 17:0	00						Matrix	c: Water
Date Received: 07/11/13 09:1	5							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		07/12/13 08:45	07/16/13 13:03	1
Aroclor-1221	0.095	U	0.095	ug/L		07/12/13 08:45	07/16/13 13:03	1
Aroclor-1232	0.095	U	0.095	ug/L		07/12/13 08:45	07/16/13 13:03	1
Aroclor-1242	0.095	U	0.095	ug/L		07/12/13 08:45	07/16/13 13:03	1
Aroclor-1248	0.095	U	0.095	ug/L		07/12/13 08:45	07/16/13 13:03	1
Aroclor-1254	0.095	U	0.095	ug/L		07/12/13 08:45	07/16/13 13:03	1
Aroclor-1260	0.095	U	0.095	ug/L		07/12/13 08:45	07/16/13 13:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	74		10 - 114			07/12/13 08:45	07/16/13 13:03	1
Tetrachloro-m-xylene	72		15 - 131			07/12/13 08:45	07/16/13 13:03	1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: WT-12607-071013-EE-001

Date Collected: 07/10/13 17:00 Date Received: 07/11/13 09:15

Date Received. 07/11/13 03.13								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.26		0.050	mg/L		07/12/13 07:16	07/15/13 14:18	1
Nickel	0.22		0.010	mg/L		07/12/13 07:16	07/15/13 14:18	1
Lead	0.050	U	0.050	mg/L		07/12/13 07:16	07/15/13 14:18	1
Zinc	0.020	U	0.020	mg/L		07/12/13 07:16	07/15/13 14:18	1

TestAmerica Job ID: 240-26680-1

Lab Sample ID: 240-26680-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd TestAmerica Job ID: 240-26680-1

Lab Sample ID: 240-26680-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-12607-071013-EE-001

Date Collected: 07/10/13 17:00

Date Received: 07/11/13 09:15

Analyte

Mercury

Result Qualifier RL0.00020 U 0.00020 Unit mg/L

D

Prepared

07/12/13 07:26 07/15/13 12:24

Dil Fac Analyzed

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd

# **General Chemistry**

Client Sample ID: WT-12607-071013-EE-001

Date Collected: 07/10/13 17:00

Date Received: 07/11/13 09:15								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L		07/19/13 08:38	07/19/13 09:14	1
Total Suspended Solids	40		4.0	mg/L			07/12/13 08:24	1
Cr (VI)	0.0050	U	0.0050	mg/L			07/11/13 15:43	1

TestAmerica Job ID: 240-26680-1

Lab Sample ID: 240-26680-1

# **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd TestAmerica Job ID: 240-26680-1

# **GC Semi VOA**

# Prep Batch: 93459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-26680-1	WT-12607-071013-EE-001	Total/NA	Water	3510C	
LCS 240-93459/10-A	Lab Control Sample	Total/NA	Water	3510C	
MB 240-93459/9-A	Method Blank	Total/NA	Water	3510C	

# Analysis Batch: 93813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-26680-1	WT-12607-071013-EE-001	Total/NA	Water	608	93459
LCS 240-93459/10-A	Lab Control Sample	Total/NA	Water	608	93459
MB 240-93459/9-A	Method Blank	Total/NA	Water	608	93459

# **Metals**

# Prep Batch: 93440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-26680-1	WT-12607-071013-EE-001	Total Recoverable	Water	200.7	
LCS 240-93440/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-93440/1-A	Method Blank	Total Recoverable	Water	200.7	

# Prep Batch: 93441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-26680-1	WT-12607-071013-EE-001	Total/NA	Water	245.1	
LCS 240-93441/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-93441/1-A	Method Blank	Total/NA	Water	245.1	

# Analysis Batch: 93668

Lab Sample ID	Client Sample ID	Prep Type  Total Recoverable		Method	Prep Batch 93440	
240-26680-1	WT-12607-071013-EE-001			200.7 Rev 4.4		
LCS 240-93440/2-A	Lab Control Sample	Total Recoverable		200.7 Rev 4.4	93440	
MB 240-93440/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	93440	

# Analysis Batch: 93711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-26680-1	WT-12607-071013-EE-001	Total/NA	Water	245.1	93441
LCS 240-93441/2-A	Lab Control Sample	Total/NA	Water	245.1	93441
MB 240-93441/1-A	Method Blank	Total/NA	Water	245.1	93441

# **General Chemistry**

# Analysis Batch: 93350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-26680-1	WT-12607-071013-EE-001	Total/NA	Water	SM 3500 CR D	
240-26680-1 MS	WT-12607-071013-EE-001	Total/NA	Water	SM 3500 CR D	
240-26680-1 MSD	WT-12607-071013-EE-001	Total/NA	Water	SM 3500 CR D	
LCS 240-93350/4	Lab Control Sample	Total/NA	Water	SM 3500 CR D	
MB 240-93350/3	Method Blank	Total/NA	Water	SM 3500 CR D	

# **Analysis Batch: 93455**

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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-26680-1	WT-12607-071013-EE-001	Total/NA	Water	SM 2540D	
LCS 240-93455/2	Lab Control Sample	Total/NA	Water	SM 2540D	

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# **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd TestAmerica Job ID: 240-26680-1

# **General Chemistry (Continued)**

# Analysis Batch: 93455 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-93455/1	Method Blank	Total/NA	Water	SM 2540D	

# Prep Batch: 94232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-26680-1	WT-12607-071013-EE-001	Total/NA	Water	1664A	
240-26680-1 MS	WT-12607-071013-EE-001	Total/NA	Water	1664A	
LCS 240-94232/2-A	Lab Control Sample	Total/NA	Water	1664A	
MB 240-94232/1-A	Method Blank	Total/NA	Water	1664A	

# **Analysis Batch: 94235**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-26680-1	WT-12607-071013-EE-001	Total/NA	Water	1664A	94232
240-26680-1 MS	WT-12607-071013-EE-001	Total/NA	Water	1664A	94232
LCS 240-94232/2-A	Lab Control Sample	Total/NA	Water	1664A	94232
MB 240-94232/1-A	Method Blank	Total/NA	Water	1664A	94232

TestAmerica Job ID: 240-26680-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd

# Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

0.10 U

Lab Sample ID: MB 240-93459/9-A

**Matrix: Water** 

Analyte Aroclor-1016 Aroclor-1221

Aroclor-1232

Aroclor-1242

**Analysis Batch: 93813** 

Client Sample ID: Method Blank Prep Type: Total/NA

07/16/13 14:14

Drop Patch: 02450

					Piep Batcii. 33433		
MB	MB						
Result	Qualifier	RL	Unit I	D Prepared	Analyzed	Dil Fac	
0.10	U	0.10	ug/L	07/12/13 08:45	07/16/13 14:14	1	
0.10	U	0.10	ug/L	07/12/13 08:45	07/16/13 14:14	1	
0.10	U	0.10	ug/L	07/12/13 08:45	07/16/13 14:14	1	

ug/L

Aroclor-1248 0.10 U 0.10 ug/L 07/12/13 08:45 07/16/13 14:14 Aroclor-1254 0.10 U 0.10 ug/L 07/12/13 08:45 07/16/13 14:14 Aroclor-1260 0.10 U 0.10 ug/L 07/12/13 08:45 07/16/13 14:14 MB MB

0.10

Dil Fac Surrogate %Recovery Qualifier Limits Prepared Analyzed 07/12/13 08:45 DCB Decachlorobiphenyl 98 10 - 114 07/16/13 14:14 Tetrachloro-m-xylene 83 15 - 131 07/12/13 08:45 07/16/13 14:14

Lab Sample ID: LCS 240-93459/10-A

**Matrix: Water** 

**Analysis Batch: 93813** 

Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 93459

07/12/13 08:45

Spike LCS LCS %Rec. Analyte babbA Result Qualifier Unit D %Rec Limits Aroclor-1016 3.50 2.20 ug/L 63 50 - 114 Aroclor-1260 3.50 66 8 - 127 2.30 ug/L

LCS LCS Surrogate %Recovery Qualifier Limits DCB Decachlorobiphenyl 72 10 - 114 Tetrachloro-m-xylene 62 15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-93440/1-A

**Matrix: Water** 

Analysis Batch: 93668

Client Sample ID: Method Blank **Prep Type: Total Recoverable** 

Prep Batch: 93440

	MB	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		07/12/13 07:16	07/15/13 13:26	1
Nickel	0.010	U	0.010	mg/L		07/12/13 07:16	07/15/13 13:26	1
Lead	0.050	U	0.050	mg/L		07/12/13 07:16	07/15/13 13:26	1
Zinc	0.020	U	0.020	mg/L		07/12/13 07:16	07/15/13 13:26	1

Lab Sample ID: LCS 240-93440/2-A Client Sample ID: Lab Control Sample **Matrix: Water Prep Type: Total Recoverable** 

Prep Batch: 93440 Analysis Batch: 93668

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chromium	0.200	0.199		mg/L		100	85 - 115	
Nickel	0.500	0.492		mg/L		98	85 - 115	
Lead	0.500	0.498		mg/L		100	85 - 115	
Zinc	0.500	0.519		mg/L		104	85 - 115	

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Client Sample ID: Method Blank

Prep Type: Total/NA

Dil Fac

Prep Batch: 94232

Prep Batch: 94232

Prep Batch: 94232

Dil Fac

Prep Batch: 93441

Prep Batch: 93441

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-93441/1-A

**Matrix: Water** Analysis Batch: 93711

мв мв Analyte

Result Qualifier RLUnit D Prepared Dil Fac Analyzed 0.00020 07/12/13 07:26 07/15/13 12:10 0.00020 U mg/L

Lab Sample ID: LCS 240-93441/2-A

**Matrix: Water** 

Mercury

Mercury

**Analysis Batch: 93711** 

Analyte

LCS LCS Spike Added

5.0

0.00500

Spike

Added

40.0

Spike

Added

38.1

0.00458

Result Qualifier

Unit

mg/L

Unit

mg/L

Unit

mg/L

LCS LCS

MS MS

34.5

Result Qualifier

36.2

Result Qualifier

Unit mg/L

%Rec 92

Prepared

07/19/13 08:38

%Rec

%Rec

Prepared

91

D

Limits

85 - 115

Client Sample ID: Method Blank

Analyzed

07/19/13 09:14

Client Sample ID: Lab Control Sample

%Rec.

Limits

78 - 114

%Rec.

Limits

78 - 114

Client Sample ID: Method Blank

Analyzed

07/12/13 08:24

Client Sample ID: Lab Control Sample

%Rec.

Client Sample ID: WT-12607-071013-EE-001

Client Sample ID: Lab Control Sample

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-94232/1-A

**Matrix: Water** 

Analysis Batch: 94235

MR MR

5.0 U

Sample Sample

4.7 U

Result Qualifier

MB MB

4.0 Ū

Result Qualifier

Analyte

HEM

Lab Sample ID: LCS 240-94232/2-A **Matrix: Water** 

**Analysis Batch: 94235** 

Analyte

Lab Sample ID: 240-26680-1 MS

**Matrix: Water** 

HEM

HEM

**Analysis Batch: 94235** 

Analyte

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 240-93455/1 **Matrix: Water** 

**Analysis Batch: 93455** 

Result Qualifier

Total Suspended Solids

Lab Sample ID: LCS 240-93455/2 **Matrix: Water** 

**Analysis Batch: 93455** 

Total Suspended Solids

Spike Added 43.3

Result 39.0

LCS LCS

Qualifier Unit mg/L

Unit

mg/L

%Rec 90

Limits

73 - 113

TestAmerica Canton

RL

4.0

# **QC Sample Results**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd TestAmerica Job ID: 240-26680-1

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: WT-12607-071013-EE-001

Client Sample ID: WT-12607-071013-EE-001

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Method: SM 3500 CR D - Chromium, Hexavalent

Lab Sample ID: MB 240-93350/3

**Matrix: Water** 

Analysis Batch: 93350

мв мв

Result Qualifier RL Unit Analyte D Prepared Analyzed Cr (VI) 0.0050 mg/L 07/11/13 15:40 0.0050 U

Lab Sample ID: LCS 240-93350/4

**Matrix: Water** 

**Analysis Batch: 93350** 

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Cr (VI) 0.250 0.234 mg/L 94 80 - 118

Lab Sample ID: 240-26680-1 MS

**Matrix: Water** 

Analysis Batch: 93350

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Unit %Rec Limits Cr (VI) 0.0050 U 0.250 0.0656 F mg/L 41 - 136

Lab Sample ID: 240-26680-1 MSD

**Matrix: Water** 

**Analysis Batch: 93350** 

Sample Sample Spike %Rec. RPD MSD MSD Analyte Result Qualifier Added Result Qualifier Limits Limit Unit %Rec Cr (VI) 0.0050 U 0.250 0.0255 F mg/L 10 41 - 136 88 20

Dil Fac

# **Surrogate Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd

TCX = Tetrachloro-m-xylene

TestAmerica Job ID: 240-26680-1

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water Prep Type: Total/NA

_				Percent Surrogate Recovery (Acceptance Limits)
		DCB2	TCX2	
Lab Sample ID	Client Sample ID	(10-114)	(15-131)	
240-26680-1	WT-12607-071013-EE-001	74	72	
LCS 240-93459/10-A	Lab Control Sample	72	62	
MB 240-93459/9-A	Method Blank	98	83	
Surrogate Legend				
DCB = DCB Decachlorol	biphenyl			

TestAmerica Canton

# **Lab Chronicle**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd

TestAmerica Job ID: 240-26680-1

Lab Sample ID: 240-26680-1

Matrix: Water

Client Sample ID: WT-12607-071013-EE-001

Date Collected: 07/10/13 17:00 Date Received: 07/11/13 09:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			93459	07/12/13 08:45	CSC	TAL CAN
Total/NA	Analysis	608		1	93813	07/16/13 13:03	CVD	TAL CAN
Total Recoverable	Prep	200.7			93440	07/12/13 07:16	LPM	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	93668	07/15/13 14:18	NJT	TAL CAN
Total/NA	Prep	245.1			93441	07/12/13 07:26	LPM	TAL CAN
Total/NA	Analysis	245.1		1	93711	07/15/13 12:24	ADS	TAL CAN
Total/NA	Analysis	SM 3500 CR D		1	93350	07/11/13 15:43	LKG	TAL CAN
Total/NA	Analysis	SM 2540D		1	93455	07/12/13 08:24	KMG	TAL CAN
Total/NA	Prep	1664A			94232	07/19/13 08:38	NMP	TAL CAN
Total/NA	Analysis	1664A		1	94235	07/19/13 09:14	NMP	TAL CAN

#### **Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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# **Certification Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 012607-T01Y13-03, RACER Eckles Rd TestAmerica Job ID: 240-26680-1

# **Laboratory: TestAmerica Canton**

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date	
Connecticut	State Program	1	PH-0590	12-31-13	
Florida	NELAP	4	E87225	06-30-14	
Georgia	State Program	4	N/A	06-30-14	
Illinois	NELAP	5	200004	07-31-13	
Kansas	NELAP	7	E-10336	01-31-14	
Kentucky	State Program	4	58	06-30-14	
L-A-B	DoD ELAP		L2315	07-28-13	
Minnesota	NELAP	5	039-999-348	12-31-13	
Nevada	State Program	9	OH-000482008A	07-31-13 *	
New Jersey	NELAP	2	OH001	06-30-14	
New York	NELAP	2	10975	04-01-14	
Ohio VAP	State Program	5	CL0024	01-19-14	
Pennsylvania	NELAP	3	68-00340	08-31-13	
Texas	NELAP	6		08-03-13	
USDA	Federal		P330-11-00328	08-26-14	
Virginia	NELAP	3	460175	09-14-13	
Washington	State Program	10	C971	01-12-14	
Wisconsin	State Program	5	999518190	08-31-13	

<sup>\*</sup> Expired certification is currently pending renewal and is considered valid.

TestAmerica Canton

CONESTOGA-ROVERS & ASSOCIATES

# CHAIN OF CUSTODY RECORD

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170 Phone: (734) 453-5123

Fax: (734) 453-5201

(See Reverse Side for Instructions)

OF

SSOWID: SPECIAL INSTRUCTIONS: TIME COMMENTS/ Date Shipped: DATE Cooler No: Airbill No: Carrier: MS/MSD Request Lab Location: N. Carton, OH ANALYSIS REQUESTED
(See Back of COC for Definitions) COMPANY 240-26680 Chain of Custody Notes/ Special Requirements: Lab. Quote No: THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT — ALL FIELDS MUST BE COMPLETED ACCURATELY 0116 Greede Healhind III RECEIVED BY 9 Total Containers/Sample All Samples in Cooler must be on COC Total Number of Containers: Denise Hedliler Laboratory Name: Test America CONTAINER QUANTITY & PRESERVATION EnCores 3x5-g, 1x25-g Methanol/Water (Soil 5000 TIME Lab Contact: SAMPLE TYPE Grab (G) or Comp (C) 7/10/13 DATE (see back of COC) Sto DOLI EIRIT TIME TAT Required in busines's days (use separate COCs for different TATs): X 2 Week ☐ Other: 12607 - Tol 43 -003 DATE į, Project Name: AACER Livonia GWTP COMPANY GR P WI - 12607 - 1071013 - EE -001 Chemistry Contact: Paul Wisemier Project Location: Liveria, MI ☐ 1 Week Evik Engreu ☐ 2 Days ☐ 3 Days SAMPLE IDENTIFICATION RELINQUISHED BY Project No/ Phase/Task Code: Sampler(s): ☐ 1 Day ١ цец ∾ Patge - 0 91

PINK - Shipper YELLOW — Receiving Laboratory Copy

WHITE - Fully Executed Copy (CRA)

Distribution:

GOLDENROD - Sampling Crew

CRA Form: COC-10A (20110804)

TestAmerica Canton Sample Receipt Form/Narrative Canton Facility	Login # :
Client CAA Site Name	Cooler unpacked by:
Cooler Received on 74/13 Opened on 74/	1412 March Marco
	estAmerica Courier Other
TestAmerica Cooler # Foam Box Client Cooler	Box Other
Packing material used Bubble Wrap Foam Plastic Bag	None Other
COOLANT: Wet Ico Blue Ice Dry Ice Water	None
1. Cooler temperature upon receipt	
IR GUN# A (CF -1 °C) Observed Cooler Temp °C	Corrected Cooler Temp. °C
IR GUN#4 (CF 0°C) Observed Cooler Temp. 2.0°C	Corrected Cooler Temp. 20°C See Multiple
IR GUN# 5 (CF +1 °C) Observed Cooler Temp°C	Corrected Cooler Temp. °C Cooler Form
IR GUN# 8 (CF -0 °C) Observed Cooler Temp. °C	Corrected Cooler Temp°C
2. Were custody seals on the outside of the cooler(s)? If Yes Qua	
-Were custody seals on the outside of the cooler(s) signed & dated	
<ul><li>-Were custody seals on the bottle(s)?</li><li>3. Shippers' packing slip attached to the cooler(s)?</li></ul>	Yes No
4. Did custody papers accompany the sample(s)?	Yes No
5. Were the custody papers relinquished & signed in the appropriate p	Iace? Yes No
7. We are custody papers reiniquished to signed in the appropriate p	1006;
6. Did all bottles arrive in good condition (Unbroken)?	Yes No
7. Could all bottle labels be reconciled with the COC?	Ves No
8. Were correct bottle(s) used for the test(s) indicated?	YES No
9. Sufficient quantity received to perform indicated analyses?	Yes No
10. Were sample(s) at the correct pH upon receipt?	Yes No NA pH Strip Lot# HC376062
11. Were VOAs on the COC?	Yes No
12. Were air bubbles >6 mm in any VOA vials?	Yes No NA
13. Was a trip blank present in the cooler(s)?	Yes 🐠
Contacted PM Date by	via Verbal, Voice Mail, Other
Concerning	vid volbdi volbo ividii Omoi
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by:
15. SAMPLE CONDITION	
Sample(s) were received after the	e recommended holding time had expired
Sample(s)were received after the	were received in a broken container.
	with bubble >6 mm in diameter. (Notify PM)
	The state of the s
16. SAMPLE PRESERVATION	
Sample(s) Preservative(s) added/Lot number(s):	were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):	

# Login Container Summary Report

240-26680

Temperature readings:							
Client Sample ID	<u>Lab ID</u>	Container Type	Container pH	<u>Preservative</u> <u>Added (mls)</u>	<u>Lot #</u>		
WT-12607-071013-EE-001	240-26680-A-1	Plastic 500ml - with Nitric Acid	<2				
WT-12607-071013-EE-001	240-26680-E-1	Amber Glass 1 liter - Sulfuric Acid	<2	Provide the second seco			
WT-12607-071013-EE-001	240-26680-F-1	Amber Glass 1 liter - Sulfuric Acid	<2				

Page 1 of 1



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-28201-1

Client Project/Site: 12607-T01-012, RACER Eckles Rd

# For:

Conestoga-Rovers & Associates, Inc. 14496 Sheldon Road, Suite 200 Plymouth, Michigan 48170

Attn: Mr. Paul Wiseman

Denise DHeckler

Authorized for release by: 9/5/2013 7:56:43 AM

Denise Heckler, Project Manager II denise.heckler@testamericainc.com

.....LINKS .....

Review your project results through

Total Access

**Have a Question?** 



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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# **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd

TestAmerica Job ID: 240-28201-1

Job ID: 240-28201-1

**Laboratory: TestAmerica Canton** 

Narrative

# **CASE NARRATIVE**

Client: Conestoga-Rovers & Associates, Inc.

Project: 12607-T01-012, RACER Eckles Rd

Report Number: 240-28201-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### RECEIPT

The samples were received on 08/22/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 6.0 C.

# POLYCHLORINATED BIPHENYLS (PCBS)

Sample WT-12607-082113-EE-001 (240-28201-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 608. The samples were prepared on 08/27/2013 and analyzed on 08/28/2013.

Aroclor-1016 failed the recovery criteria high for LCS 240-99117/7-A.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 99117.

No other difficulties were encountered during the PCBs analysis.

All other quality control parameters were within the acceptance limits.

# **TOTAL RECOVERABLE METALS (ICP)**

Sample WT-12607-082113-EE-001 (240-28201-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 08/23/2013 and analyzed on 08/27/2013.

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# **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd

TestAmerica Job ID: 240-28201-1

# Job ID: 240-28201-1 (Continued)

# Laboratory: TestAmerica Canton (Continued)

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

# **MERCURY**

Sample WT-12607-082113-EE-001 (240-28201-1) was analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared on 08/27/2013 and analyzed on 08/28/2013.

No difficulties were encountered during the mercury analysis.

All other quality control parameters were within the acceptance limits.

# **N-HEXANE EXTRACTABLE MATERIAL**

Sample WT-12607-082113-EE-001 (240-28201-1) was analyzed for n-hexane extractable material in accordance with EPA Method 1664A. The samples were prepared and analyzed on 09/04/2013.

No difficulties were encountered during the HEM analysis.

All other quality control parameters were within the acceptance limits.

#### **TOTAL SUSPENDED SOLIDS**

Sample WT-12607-082113-EE-001 (240-28201-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 08/23/2013.

No difficulties were encountered during the TSS analysis.

All quality control parameters were within the acceptance limits.

# **HEXAVALENT CHROMIUM**

Sample WT-12607-082113-EE-001 (240-28201-1) was analyzed for hexavalent chromium in accordance with SM 3500 CR D. The samples were analyzed on 08/22/2013.

No difficulties were encountered during the hexavalent chromium analysis.

All quality control parameters were within the acceptance limits.

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# **Definitions/Glossary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd

TestAmerica Job ID: 240-28201-1

# **Qualifiers**

# **GC Semi VOA**

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits

\* LCS or LCSD exceeds the control limits

U Indicates the analyte was analyzed for but not detected.

**Metals** 

U Indicates the analyte was analyzed for but not detected.

# **General Chemistry**

Qualifier	Qualifier Description
-----------	-----------------------

U Indicates the analyte was analyzed for but not detected.

# Glossary

Abbreviation	These commonly	y used abbreviations may	v or may not	be present in	this report.
ADDIEVIALIOII	THESE COMMISSION	y useu abbi eviations ma	y oi illay liot	De present in	una report

Eisted under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CNF Contains no Free Liquid

DER Duplicate error ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision level concentration
MDA Minimum detectable activity
EDL Estimated Detection Limit
MDC Minimum detectable concentration

MDL Method Detection Limit
ML Minimum Level (Dioxin)

NC Not Calculated

ND Not detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC Quality Control
RER Relative error ratio

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TestAmerica Canton

# **Sample Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd

TestAmerica Job ID: 240-28201-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-28201-1	WT-12607-082113-EE-001	Water	08/21/13 16:00	08/22/13 09:10

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# **Detection Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd

TestAmerica Job ID: 240-28201-1

Lab Sample ID: 240-28201-1

# Client Sample ID: WT-12607-082113-EE-001

Analyte	Result Qualifier	RL	Unit	Dil Fac	) Method	Prep Type
Chromium	0.27	0.050	mg/L	1	200.7 Rev 4.4	Total
						Recoverable
Nickel	0.18	0.010	mg/L	1	200.7 Rev 4.4	Total
						Recoverable
Total Suspended Solids	14	4.0	mg/L	1	SM 2540D	Total/NA
Cr (VI)	0.051	0.0050	mg/L	1	SM 3500 CR D	Total/NA

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# **Method Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd TestAmerica Job ID: 240-28201-1

Method	Method Description	Protocol	Laboratory
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
SM 3500 CR D	Chromium, Hexavalent	SM	TAL CAN

# **Protocol References:**

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

# **Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd TestAmerica Job ID: 240-28201-1

# Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

 Client Sample ID: WT-12607-082113-EE-001
 Lab Sample ID: 240-28201-1

 Date Collected: 08/21/13 16:00
 Matrix: Water

Date Received: 08/22/13 09:10

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U *	0.095	ug/L		08/27/13 10:31	08/28/13 13:00	1
Aroclor-1221	0.095	U	0.095	ug/L		08/27/13 10:31	08/28/13 13:00	1
Aroclor-1232	0.095	U	0.095	ug/L		08/27/13 10:31	08/28/13 13:00	1
Aroclor-1242	0.095	U	0.095	ug/L		08/27/13 10:31	08/28/13 13:00	1
Aroclor-1248	0.095	U	0.095	ug/L		08/27/13 10:31	08/28/13 13:00	1
Aroclor-1254	0.095	U	0.095	ug/L		08/27/13 10:31	08/28/13 13:00	1
Aroclor-1260	0.095	U	0.095	ug/L		08/27/13 10:31	08/28/13 13:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	67		10 - 114	08/27/13 10:31	08/28/13 13:00	1
Tetrachloro-m-xvlene	88		15 - 131	08/27/13 10:31	08/28/13 13:00	1

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RL

0.050

0.010

0.050

0.020

Unit

mg/L

mg/L

mg/L

mg/L

D

08/23/13 09:52

08/23/13 09:52

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd TestAmerica Job ID: 240-28201-1

# Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

0.050 U

0.020 U

Client Sample ID: WT-12607-082113-EE-001

Date Collected: 08/21/13 16:00 Date Received: 08/22/13 09:10

Lead

Zinc

Analyte	Result	Qualifier
Chromium	0.27	
Nickel	0.18	

Lab Sample ID: 240-28201-1

**Matrix: Water** 

Dil Fac Prepared Analyzed 08/23/13 09:52 08/27/13 16:19 08/23/13 09:52 08/27/13 16:19

08/27/13 16:19

08/27/13 16:19

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd

TestAmerica Job ID: 240-28201-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-12607-082113-EE-001

Date Collected: 08/21/13 16:00

Date Received: 08/22/13 09:10

 Analyte
 Result
 Qualifier
 RL
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 D
 Pre 

 Mercury
 0.00020
 U
 0.00020
 mg/L
 08/27/

Lab Sample ID: 240-28201-1

Matrix: Water

Watiix. Watei

Prepared Analyzed Dil Fac

 Prepared
 Analyzed
 Dil Fac

 08/27/13 15:00
 08/28/13 10:12
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Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd TestAmerica Job ID: 240-28201-1

# **General Chemistry**

Client Sample ID: WT-12607-082113-EE-001

Date Collected: 08/21/13 16:00

Date Received: 08/22/13 09:10

Date Neceived, 00/22/13 03.10								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L		09/04/13 08:07	09/04/13 08:07	1
Total Suspended Solids	14		4.0	mg/L			08/23/13 08:18	1
Cr (VI)	0.051		0.0050	mg/L			08/22/13 10:48	1

Lab Sample ID: 240-28201-1

TestAmerica Job ID: 240-28201-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd

GC Semi VOA

Prep Batch: 99117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28201-1	WT-12607-082113-EE-001	Total/NA	Water	3510C	
LCS 240-99117/7-A	Lab Control Sample	Total/NA	Water	3510C	
MB 240-99117/6-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 99336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28201-1	WT-12607-082113-EE-001	Total/NA	Water	608	99117
LCS 240-99117/7-A	Lab Control Sample	Total/NA	Water	608	99117
MB 240-99117/6-A	Method Blank	Total/NA	Water	608	99117

**Metals** 

Prep Batch: 98687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28201-1	WT-12607-082113-EE-001	Total Recoverable	Water	200.7	
240-28201-1 MS	WT-12607-082113-EE-001	Total Recoverable	Water	200.7	
240-28201-1 MSD	WT-12607-082113-EE-001	Total Recoverable	Water	200.7	
LCS 240-98687/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-98687/1-A	Method Blank	Total Recoverable	Water	200.7	

Prep Batch: 99086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28201-1	WT-12607-082113-EE-001	Total/NA	Water	245.1	
LCS 240-99086/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-99086/1-A	Method Blank	Total/NA	Water	245.1	

Analysis Batch: 99113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28201-1	WT-12607-082113-EE-001	Total Recoverable	Water	200.7 Rev 4.4	98687
240-28201-1 MS	WT-12607-082113-EE-001	Total Recoverable	Water	200.7 Rev 4.4	98687
240-28201-1 MSD	WT-12607-082113-EE-001	Total Recoverable	Water	200.7 Rev 4.4	98687
LCS 240-98687/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	98687
MB 240-98687/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	98687

Analysis Batch: 99388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method F	Prep Batch
240-28201-1	WT-12607-082113-EE-001	Total/NA	Water	245.1	99086
LCS 240-99086/2-A	Lab Control Sample	Total/NA	Water	245.1	99086
MB 240-99086/1-A	Method Blank	Total/NA	Water	245.1	99086

**General Chemistry** 

Analysis Batch: 98522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28201-1	WT-12607-082113-EE-001	Total/NA	Water	SM 3500 CR D	
240-28201-1 MS	WT-12607-082113-EE-001	Total/NA	Water	SM 3500 CR D	
240-28201-1 MSD	WT-12607-082113-EE-001	Total/NA	Water	SM 3500 CR D	
LCS 240-98522/4	Lab Control Sample	Total/NA	Water	SM 3500 CR D	
MB 240-98522/3	Method Blank	Total/NA	Water	SM 3500 CR D	

TestAmerica Canton

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# **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd TestAmerica Job ID: 240-28201-1

# **General Chemistry (Continued)**

# Analysis Batch: 98654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28201-1	WT-12607-082113-EE-001	Total/NA	Water	SM 2540D	
LCS 240-98654/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 240-98654/1	Method Blank	Total/NA	Water	SM 2540D	

# Prep Batch: 100029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28201-1	WT-12607-082113-EE-001	Total/NA	Water	1664A	
LCS 240-100029/2	2-A Lab Control Sample	Total/NA	Water	1664A	
MB 240-100029/1-	A Method Blank	Total/NA	Water	1664A	

# Analysis Batch: 100051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-28201-1	WT-12607-082113-EE-001	Total/NA	Water	1664A	100029
LCS 240-100029/2-A	Lab Control Sample	Total/NA	Water	1664A	100029
MB 240-100029/1-A	Method Blank	Total/NA	Water	1664A	100029

TestAmerica Job ID: 240-28201-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd

# Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 240-99117/6-A

**Matrix: Water** 

Analysis Batch: 99336

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 99117

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		08/27/13 10:31	08/28/13 14:11	1
Aroclor-1221	0.10	U	0.10	ug/L		08/27/13 10:31	08/28/13 14:11	1
Aroclor-1232	0.10	U	0.10	ug/L		08/27/13 10:31	08/28/13 14:11	1
Aroclor-1242	0.10	U	0.10	ug/L		08/27/13 10:31	08/28/13 14:11	1
Aroclor-1248	0.10	U	0.10	ug/L		08/27/13 10:31	08/28/13 14:11	1
Aroclor-1254	0.10	U	0.10	ug/L		08/27/13 10:31	08/28/13 14:11	1
Aroclor-1260	0.10	U	0.10	ug/L		08/27/13 10:31	08/28/13 14:11	1

Surrogate	%Recovery Qualit	ifier Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	85	10 - 114	08/27/13 10:31	08/28/13 14:11	1
Tetrachloro-m-xylene	86	15 - 131	08/27/13 10:31	08/28/13 14:11	1

Lab Sample ID: LCS 240-99117/7-A

**Matrix: Water** 

Analysis Batch: 99336

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Prep Batch: 99117

	Spike	LCS	LCS			%Rec.	
Analyte	Added	Result	Qualifier	Unit	%Rec	Limits	
Aroclor-1016	 2.50	3.04	*	ug/L	 122	50 - 114	
Aroclor-1260	2.50	2.80		ug/L	112	8 - 127	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
DCB Decachlorobiphenyl	97	10 - 114
Tetrachloro-m-xylene	96	15 - 131

# Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-98687/1-A

**Matrix: Water** 

**Analysis Batch: 99113** 

Client Sample ID: Method Blank **Prep Type: Total Recoverable** 

Prep Batch: 98687

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		08/23/13 09:52	08/27/13 16:07	1
Nickel	0.010	U	0.010	mg/L		08/23/13 09:52	08/27/13 16:07	1
Lead	0.050	U	0.050	mg/L		08/23/13 09:52	08/27/13 16:07	1
Zinc	0.020	U	0.020	mg/L		08/23/13 09:52	08/27/13 16:07	1

Lab Sample ID: LCS 240-98687/2-A

**Matrix: Water** 

**Analysis Batch: 99113** 

**Client Sample ID: Lab Control Sample Prep Type: Total Recoverable** 

Prep Batch: 98687

· ·····   · · · · · · · · · · · · · ·								
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chromium	0.200	0.208		mg/L		104	85 - 115	
Nickel	0.500	0.515		mg/L		103	85 - 115	
Lead	0.500	0.504		mg/L		101	85 - 115	
Zinc	0.500	0.530		mg/L		106	85 - 115	

TestAmerica Canton

Page 15 of 23

TestAmerica Job ID: 240-28201-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 240-28201-1 MS

**Matrix: Water** 

**Analysis Batch: 99113** 

Client Sample ID: WT-12607-082113-EE-001 **Prep Type: Total Recoverable** 

Prep Batch: 98687

-	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chromium	0.27		0.200	0.477		mg/L		104	75 - 125	
Nickel	0.18		0.500	0.693		mg/L		103	75 - 125	
Lead	0.050	U	0.500	0.509		mg/L		102	75 - 125	
Zinc	0.020	U	0.500	0.534		mg/L		105	75 - 125	

Client Sample ID: WT-12607-082113-EE-001

**Prep Type: Total Recoverable** 

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA Prep Batch: 100029

Prep Type: Total/NA

Dil Fac

Prep Batch: 99086

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Analyzed

Client Sample ID: Lab Control Sample

Prepared

Prep Batch: 99086

**Matrix: Water** 

**Analysis Batch: 99113** 

Lab Sample ID: 240-28201-1 MSD

Prep Batch: 98687 MSD MSD Sample Sample Spike %Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chromium 0.27 0.200 0.478 mg/L 105 75 - 125 0 20 Nickel 0.18 0.500 0.694 mg/L 103 75 - 125 0 20

0.050 U 0.500 0.511 102 75 - 125 Lead mg/L 0 20 0.020 U 0.500 75 - 125 Zinc 0.538 mg/L 106 20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-99086/1-A Client Sample ID: Method Blank

**Matrix: Water** 

**Analysis Batch: 99388** 

MB MB

Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Mercury 0.00020 U 0.00020 mg/L 08/27/13 15:00 08/28/13 09:42

Lab Sample ID: LCS 240-99086/2-A

**Matrix: Water** 

**Analysis Batch: 99388** 

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Mercury 0.00500 0.00462 mg/L 85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-100029/1-A

**Matrix: Water** 

**Analysis Batch: 100051** 

MB MB

Analyte Result Qualifier

RL HEM 5.0 5.0 U mg/L 09/04/13 08:07 09/04/13 08:07

Unit

Lab Sample ID: LCS 240-100029/2-A

**Matrix: Water** 

Analysis Batch: 100051

Prep Batch: 100029 Spike LCS LCS babbA Result Qualifier Limits Analyte Unit D %Rec HEM 40.0 31.6 mg/L 79 78 - 114

TestAmerica Canton

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd TestAmerica Job ID: 240-28201-1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 240-98654/1 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 98654

мв мв Result Qualifier RL Unit D Analyzed Dil Fac Analyte Prepared 4.0 08/23/13 08:18 **Total Suspended Solids** 4.0 U mg/L

Lab Sample ID: LCS 240-98654/2 Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

**Analysis Batch: 98654** 

LCS LCS %Rec. Spike Added Analyte Result Qualifier Unit %Rec Limits Total Suspended Solids 29.0 27.0 mg/L 93 73 - 113

Method: SM 3500 CR D - Chromium, Hexavalent

Lab Sample ID: MB 240-98522/3 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 98522

MR MR

Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Cr (VI) 0.0050 0.0050 U mg/L 08/22/13 10:48

Lab Sample ID: LCS 240-98522/4 Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

**Analysis Batch: 98522** 

LCS LCS Spike %Rec. Added Analyte Result Qualifier Unit %Rec Limits Cr (VI) 0.250 0.271 108 80 - 118 mg/L

Lab Sample ID: 240-28201-1 MS Client Sample ID: WT-12607-082113-EE-001 Prep Type: Total/NA

**Matrix: Water** 

**Analysis Batch: 98522** 

Sample Sample Spike MS MS %Rec. Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Cr (VI) 0.051 0.250 0.285 mg/L 41 - 136

Lab Sample ID: 240-28201-1 MSD Client Sample ID: WT-12607-082113-EE-001 Prep Type: Total/NA

**Matrix: Water** 

**Analysis Batch: 98522** 

MSD MSD Sample Sample Spike %Rec. RPD Added RPD Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Limit Cr (VI) 0.051 0.250 0.277 mg/L 90 41 - 136 20

10

TestAmerica Canton

9/5/2013

# **Surrogate Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd

TestAmerica Job ID: 240-28201-1

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		DCB2	TCX2	
Lab Sample ID	Client Sample ID	(10-114)	(15-131)	
240-28201-1	WT-12607-082113-EE-001	67	88	
LCS 240-99117/7-A	Lab Control Sample	97	96	
MB 240-99117/6-A	Method Blank	85	86	
Surrogate Legend				
DCB = DCB Decachloro	bbiphenyl			
TCX = Tetrachloro-m-xy	rlene			

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12

13

# **Lab Chronicle**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd TestAmerica Job ID: 240-28201-1

Lab Sample ID: 240-28201-1

Matrix: Water

Client Sample ID: WT-12607-082113-EE-001

Date Collected: 08/21/13 16:00 Date Received: 08/22/13 09:10

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			99117	08/27/13 10:31	MPM	TAL CAN
Total/NA	Analysis	608		1	99336	08/28/13 13:00	DEB	TAL CAN
Total Recoverable	Prep	200.7			98687	08/23/13 09:52	LPM	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	99113	08/27/13 16:19	KLC	TAL CAN
Total/NA	Prep	245.1			99086	08/27/13 15:00	LPM	TAL CAN
Total/NA	Analysis	245.1		1	99388	08/28/13 10:12	ADS	TAL CAN
Total/NA	Prep	1664A			100029	09/04/13 08:07	BLW	TAL CAN
Total/NA	Analysis	1664A		1	100051	09/04/13 08:07	BLW	TAL CAN
Total/NA	Analysis	SM 3500 CR D		1	98522	08/22/13 10:48	LKG	TAL CAN
Total/NA	Analysis	SM 2540D		1	98654	08/23/13 08:18	KMG	TAL CAN

# Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# **Certification Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 12607-T01-012, RACER Eckles Rd TestAmerica Job ID: 240-28201-1

# **Laboratory: TestAmerica Canton**

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date	
California	NELAP	9	01144CA	06-30-14	
Connecticut	State Program	1	PH-0590	12-31-13	
Florida	NELAP	4	E87225	06-30-14	
Georgia	State Program	4	N/A	06-30-14	
Illinois	NELAP	5	200004	07-31-13 *	
Kansas	NELAP	7	E-10336	01-31-14	
Kentucky	State Program	4	58	06-30-14	
L-A-B	DoD ELAP		L2315	07-18-16	
Nevada	State Program	9	OH-000482008A	07-31-14	
New Jersey	NELAP	2	OH001	06-30-14	
New York	NELAP	2	10975	04-01-14	
Ohio VAP	State Program	5	CL0024	01-19-14	
Pennsylvania	NELAP	3	68-00340	08-31-13 *	
USDA	Federal		P330-11-00328	08-26-14	
Virginia	NELAP	3	460175	09-14-13	
Washington	State Program	10	C971	01-12-14	
Wisconsin	State Program	5	999518190	08-31-14	

<sup>\*</sup> Expired certification is currently pending renewal and is considered valid.

TestAmerica Canton

CONESTOGA-ROVERS & ASSOCIATES

# CHAIN OF CUSTODY RECORD 6.0 COCNO.PL = 11002

Fax: (734) 453-5201 Phone: (734) 453-5123

(See Reverse Side for Instructions)

Project No/ Phase/Task Code:	500-51413-003	Laborate	ory Name:	Laboratory Name: Test America	Lab Location: N. Centon, 6H	Serter, Ost	SSOW ID:
Project Name: RACER Livonia	6 GWTP	Lab Contact:	tact:	Denise Heckler	Lab Quote No:		Cooler No:
Project Location: Livenia, M.I.		SAMPLE	Cov	CONTAINER QUANTITY & PRESERVATION	ANALYSIS (See Back of C	ANALYSIS REQUESTED See Back of COC for Definitions)	Carrier:
Chemistry Contact: Paul Wisernan	nen Cles	(c)		β-gz)			Airbill No:
Sampler(s): Evil Engnell, Clerk	CS	ode oor Com	rved loric Acic	Pcid (H) Hydroxide () (t) (g-3x5 (t) (g-3x5	261 Mg 21,51 2000M	Request	Date Shipped:
SAMPLE IDENTIFICATION (Containers for each semple may be combined on one line)	DATE (mm/dd//v/)			Sodium I (NaOH) Methano VOC) EnCores	MC. HE	asw/sw	COMMENTS/ SPECIAL INSTRUCTIONS:
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YELLOW - Receiving Laboratory Copy

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GOLDENROD -- Sampling Crew

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8/22/2013

WT-12607-082113-EE-001

WT-12607-082113-EE-001

# **Login Container Summary Report**

Amber Glass 1 liter - Sulfuric Acid

Amber Glass 1 liter - Sulfuric Acid

<2

<2

240-28201

Temperature readings:

Client Sample ID

Lab ID

Container Type

Description

Container Type

Preservative

pH

Added (mls)

Lot #

WT-12607-082113-EE-001

240-28201-B-1

Plastic 500ml - with Nitric Acid

42

240-28201-E-1

240-28201-F-1

5

6

8

4.6

11

13