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Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

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
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
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
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Job ID: 240-6392-1**Laboratory: TestAmerica North Canton****Narrative****CASE NARRATIVE****Client: Conestoga-Rovers & Associates, Inc.****Project: 070102-03 Caterpillar - Mapleton 817****Report Number: 240-6392-1**

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 North 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 12/01/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 0.8 C.

TOTAL DISSOLVED SOLIDS

Samples G110S (240-6392-1), G110D (240-6392-2), G112S (240-6392-3), G112D (240-6392-4), G113S (240-6392-5), G113D-1 (240-6392-6) and G113D-2 (240-6392-7) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 12/02/2011.

Samples G110D (240-6392-2)[2X], G112D (240-6392-4)[2X], G113D-1 (240-6392-6)[2X] and G113D-2 (240-6392-7)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the TDS analyses.

All quality control parameters were within the acceptance limits.

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Method	Method Description	Protocol	Laboratory
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL NC

Protocol References:

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

Laboratory References:

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



Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-6392-1	G110S	Water	11/29/11 17:15	12/01/11 09:20
240-6392-2	G110D	Water	11/29/11 17:50	12/01/11 09:20
240-6392-3	G112S	Water	11/29/11 10:50	12/01/11 09:20
240-6392-4	G112D	Water	11/29/11 10:10	12/01/11 09:20
240-6392-5	G113S	Water	11/29/11 11:35	12/01/11 09:20
240-6392-6	G113D-1	Water	11/29/11 16:20	12/01/11 09:20
240-6392-7	G113D-2	Water	11/29/11 16:20	12/01/11 09:20

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Client Sample ID: G110S

Lab Sample ID: 240-6392-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	830		10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: G110D

Lab Sample ID: 240-6392-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	1400		20	mg/L	2		SM 2540C	Total/NA

Client Sample ID: G112S

Lab Sample ID: 240-6392-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	1000		10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: G112D

Lab Sample ID: 240-6392-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	1500		20	mg/L	2		SM 2540C	Total/NA

Client Sample ID: G113S

Lab Sample ID: 240-6392-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	750		10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: G113D-1

Lab Sample ID: 240-6392-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	1000		20	mg/L	2		SM 2540C	Total/NA

Client Sample ID: G113D-2

Lab Sample ID: 240-6392-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	1100		20	mg/L	2		SM 2540C	Total/NA

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Client Sample ID: G110S

Lab Sample ID: 240-6392-1

Date Collected: 11/29/11 17:15

Matrix: Water

Date Received: 12/01/11 09:20

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	830		10	mg/L			12/02/11 11:24	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Client Sample ID: G110D

Lab Sample ID: 240-6392-2

Date Collected: 11/29/11 17:50

Matrix: Water

Date Received: 12/01/11 09:20

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1400		20	mg/L			12/02/11 11:24	2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Client Sample ID: G112S

Lab Sample ID: 240-6392-3

Date Collected: 11/29/11 10:50

Matrix: Water

Date Received: 12/01/11 09:20

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10	mg/L			12/02/11 11:24	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Client Sample ID: G112D
Date Collected: 11/29/11 10:10
Date Received: 12/01/11 09:20

Lab Sample ID: 240-6392-4
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1500		20	mg/L			12/02/11 11:24	2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Client Sample ID: G113S

Lab Sample ID: 240-6392-5

Date Collected: 11/29/11 11:35

Matrix: Water

Date Received: 12/01/11 09:20

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	750		10	mg/L			12/02/11 11:24	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
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- 13
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Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Client Sample ID: G113D-1

Lab Sample ID: 240-6392-6

Date Collected: 11/29/11 16:20

Matrix: Water

Date Received: 12/01/11 09:20

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		20	mg/L			12/02/11 11:24	2

- 1
- 2
- 3
- 4
- 5
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- 14

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Client Sample ID: G113D-2

Lab Sample ID: 240-6392-7

Date Collected: 11/29/11 16:20

Matrix: Water

Date Received: 12/01/11 09:20

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		20	mg/L			12/02/11 11:24	2

- 1
- 2
- 3
- 4
- 5
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- 13
- 14

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-25359/1
 Matrix: Water
 Analysis Batch: 25359

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	mg/L			12/02/11 11:24	1

Lab Sample ID: LCS 240-25359/2
 Matrix: Water
 Analysis Batch: 25359

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	190	176		mg/L		93	88 - 110

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QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

General Chemistry

Analysis Batch: 25359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-6392-1	G110S	Total/NA	Water	SM 2540C	
240-6392-2	G110D	Total/NA	Water	SM 2540C	
240-6392-3	G112S	Total/NA	Water	SM 2540C	
240-6392-4	G112D	Total/NA	Water	SM 2540C	
240-6392-5	G113S	Total/NA	Water	SM 2540C	
240-6392-6	G113D-1	Total/NA	Water	SM 2540C	
240-6392-7	G113D-2	Total/NA	Water	SM 2540C	
LCS 240-25359/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 240-25359/1	Method Blank	Total/NA	Water	SM 2540C	

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Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Client Sample ID: G110S

Lab Sample ID: 240-6392-1

Date Collected: 11/29/11 17:15

Matrix: Water

Date Received: 12/01/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	25359	12/02/11 11:24	AM	TAL NC

Client Sample ID: G110D

Lab Sample ID: 240-6392-2

Date Collected: 11/29/11 17:50

Matrix: Water

Date Received: 12/01/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		2	25359	12/02/11 11:24	AM	TAL NC

Client Sample ID: G112S

Lab Sample ID: 240-6392-3

Date Collected: 11/29/11 10:50

Matrix: Water

Date Received: 12/01/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	25359	12/02/11 11:24	AM	TAL NC

Client Sample ID: G112D

Lab Sample ID: 240-6392-4

Date Collected: 11/29/11 10:10

Matrix: Water

Date Received: 12/01/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		2	25359	12/02/11 11:24	AM	TAL NC

Client Sample ID: G113S

Lab Sample ID: 240-6392-5

Date Collected: 11/29/11 11:35

Matrix: Water

Date Received: 12/01/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	25359	12/02/11 11:24	AM	TAL NC

Client Sample ID: G113D-1

Lab Sample ID: 240-6392-6

Date Collected: 11/29/11 16:20

Matrix: Water

Date Received: 12/01/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		2	25359	12/02/11 11:24	AM	TAL NC

Client Sample ID: G113D-2

Lab Sample ID: 240-6392-7

Date Collected: 11/29/11 16:20

Matrix: Water

Date Received: 12/01/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		2	25359	12/02/11 11:24	AM	TAL NC

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Laboratory References:

TAL NC = TestAmerica North 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: 070102-03 Caterpillar - Mapleton 817

TestAmerica Job ID: 240-6392-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica North Canton	ACCLASS	DoD ELAP		ADE-1437
TestAmerica North Canton	California	NELAC	9	01144CA
TestAmerica North Canton	Connecticut	State Program	1	PH-0590
TestAmerica North Canton	Florida	NELAC	4	E87225
TestAmerica North Canton	Georgia	Georgia EPD	4	N/A
TestAmerica North Canton	Illinois	NELAC	5	200004
TestAmerica North Canton	Kansas	NELAC	7	E-10336
TestAmerica North Canton	Kentucky	State Program	4	58
TestAmerica North Canton	Minnesota	NELAC	5	039-999-348
TestAmerica North Canton	Nevada	State Program	9	OH-000482008A
TestAmerica North Canton	New Jersey	NELAC	2	OH001
TestAmerica North Canton	New York	NELAC	2	10975
TestAmerica North Canton	Ohio	OVAP	5	CL0024
TestAmerica North Canton	Pennsylvania	NELAC	3	68-00340
TestAmerica North Canton	USDA	USDA		P330-11-00328
TestAmerica North Canton	Virginia	NELAC Secondary AB	3	460175
TestAmerica North Canton	West Virginia	West Virginia DEP	3	210
TestAmerica North Canton	Wisconsin	State Program	5	999518190

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.



Chain of Custody Record

North Canton, OH

TestAmerica Laboratory location: DW NPDES RCRA Other

TestAmerica Laboratories, Inc.

Client Contact Company Name: CATERPILLAR INC. Address: 8826 W. ROUTE 24 City/State/Zip: MABLETON, IL 61547 Phone:		Client Project Manager: Name: STEVE WANNER Telephone: 317-291-7007 Email: SWANNER@CEANOIL0.COM		Site Contact: Name: ANDREW JARRICK Telephone: 309-633-8482		Lab Contact: Name: AMY MCCORMICK Telephone: 330-497-9396		COC No: 027335 1 of 1 COCs											
Project Name: CATERPILLAR-MABLETON 817 Project Number: 070102-03 PO #		Method of Shipment/Carrier: FED EX Shipping/Tracking No:		Analysis Turnaround Time (in this days) TAT if different from below: <input type="checkbox"/> 3 weeks <input type="checkbox"/> 2 weeks <input checked="" type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		For lab use only: Walk-in client: <input type="checkbox"/> Lab pickup: <input type="checkbox"/> Lab sampling: <input type="checkbox"/> Job/SDG No:		Sample Specific Notes / Special Instructions:											
Sample Identification	Sample Date	Sample Time	Matrix						Filtered Sample (Y/N)	Composite / Grab-G	Analyses								
			Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives											
G110S	11-29-11	1715	X																
G110D	11-29-11	1750	X																
G112S	11-29-11	10:50	X																
G112D	11-29-11	10:10	X																
G113S	11-29-11	11:35	X																
G113D-1	11-29-11	16:20	X																
G1130-2	11-29-11	16:20	X																
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown										Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Relinquished by: <i>[Signature]</i> Date/Time: 11-30-11 1730 Company: CATERPILLAR										Received by: <i>[Signature]</i> Date/Time: 12/01/11 9:20am Company: TA/AC									

TAL 0018-1 (04/10)

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TestAmerica Cooler Receipt Form/Narrative		Lot Number: <u>10392</u>	
North Canton Facility			
Client <u>Caterpillar Inc.</u>	Project _____	By: <u>[Signature]</u> (Signature)	
Cooler Received on <u>12/01/11</u>	Opened on <u>12/01/11</u>		
<input checked="" type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> DHL <input type="checkbox"/> FAS <input type="checkbox"/> Stetson <input type="checkbox"/> Client Drop Off <input type="checkbox"/> TestAmerica Courier <input type="checkbox"/> Other _____			
TestAmerica Cooler # _____ Multiple Coolers <input type="checkbox"/> Foam Box <input type="checkbox"/> <input checked="" type="checkbox"/> Client Cooler <input type="checkbox"/> Other _____			
1. Were custody seals on the outside of the cooler(s)? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Intact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	
If YES, Quantity _____		Quantity Unsalvageable _____	
Were custody seals on the outside of cooler(s) signed and dated? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>			
Were custody seals on the bottle(s)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
If YES, are there any exceptions? _____			
2. Shippers' packing slip attached to the cooler(s)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Relinquished by client? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
3. Did custody papers accompany the sample(s)? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
4. Were the custody papers signed in the appropriate place? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
5. Packing material used: <input checked="" type="checkbox"/> Bubble Wrap <input type="checkbox"/> Foam <input type="checkbox"/> None <input type="checkbox"/> Other _____			
6. Cooler temperature upon receipt <u>0.8</u> °C See back of form for multiple coolers/temps			
METHOD: <input checked="" type="checkbox"/> IR <input type="checkbox"/> Other _____			
COOLANT: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> Water <input type="checkbox"/> None			
7. Did all bottles arrive in good condition (Unbroken)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
8. Could all bottle labels be reconciled with the COC? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
9. Were sample(s) at the correct pH upon receipt? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>			
10. Were correct bottle(s) used for the test(s) indicated? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
11. Were air bubbles >6 mm in any VOA vials? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>			
12. Sufficient quantity received to perform indicated analyses? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
13. Was a trip blank present in the cooler(s)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Were VOAs on the COC? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____			
Concerning _____			
14. CHAIN OF CUSTODY			
The following discrepancies occurred:			

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 Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 110410-HNO ₃ ; Sulfuric Acid Lot# 041911-H ₂ SO ₄ ; Sodium Hydroxide Lot# 121809 -NaOH; Hydrochloric Acid Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(CH ₃ COO) ₂ ZN/NaOH. What time was preservative added to sample(s)? _____			
Client ID	pH	Date	Initials

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 240-6392-1

Login Number: 6392

List Source: TestAmerica North Canton

List Number: 1

Creator: Sutek, Nick

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 240-7701-1

Client Project/Site: 070102-03 CAT Mapleton GW 1Q2012

For:

Conestoga-Rovers & Associates, Inc.
6520 Corporate Drive
Indianapolis, Indiana 46278

Attn: Mr. Michael Richardson



Authorized for release by:
1/23/2012 2:59:25 PM

Amy McCormick
Project Manager II
amy.mccormick@testamericainc.com



LINKS

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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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Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

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
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
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
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Job ID: 240-7701-1**Laboratory: TestAmerica North Canton****Narrative****CASE NARRATIVE****Client: Conestoga-Rovers & Associates, Inc.****Project: 070102-03 CAT Mapleton GW 1Q2012****Report Number: 240-7701-1**

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 North 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 01/16/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 0.8 C.

TOTAL DISSOLVED SOLIDS

Samples G110S-1 (240-7701-1), G110S-2 (240-7701-2), G110D (240-7701-3), G112S (240-7701-4), G112D (240-7701-5), G113S (240-7701-6) and G113D (240-7701-7) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 01/16/2012.

Samples G110D (240-7701-3)[2X], G112D (240-7701-5)[2X] and G113D (240-7701-7)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the TDS analyses.

All quality control parameters were within the acceptance limits.

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Method	Method Description	Protocol	Laboratory
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL NC

Protocol References:

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

Laboratory References:

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



Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-7701-1	G110S-1	Water	01/10/12 12:30	01/16/12 09:50
240-7701-2	G110S-2	Water	01/10/12 12:30	01/16/12 09:50
240-7701-3	G110D	Water	01/10/12 13:15	01/16/12 09:50
240-7701-4	G112S	Water	01/11/12 10:35	01/16/12 09:50
240-7701-5	G112D	Water	01/11/12 11:10	01/16/12 09:50
240-7701-6	G113S	Water	01/10/12 14:10	01/16/12 09:50
240-7701-7	G113D	Water	01/10/12 15:05	01/16/12 09:50

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Client Sample ID: G110S-1

Lab Sample ID: 240-7701-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	790		10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: G110S-2

Lab Sample ID: 240-7701-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	800		10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: G110D

Lab Sample ID: 240-7701-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	1300		20	mg/L	2		SM 2540C	Total/NA

Client Sample ID: G112S

Lab Sample ID: 240-7701-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	950		10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: G112D

Lab Sample ID: 240-7701-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	1500		20	mg/L	2		SM 2540C	Total/NA

Client Sample ID: G113S

Lab Sample ID: 240-7701-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	780		10	mg/L	1		SM 2540C	Total/NA

Client Sample ID: G113D

Lab Sample ID: 240-7701-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	950		20	mg/L	2		SM 2540C	Total/NA

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Client Sample ID: G110S-1
Date Collected: 01/10/12 12:30
Date Received: 01/16/12 09:50

Lab Sample ID: 240-7701-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	790		10	mg/L			01/16/12 13:21	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
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Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Client Sample ID: G110S-2

Lab Sample ID: 240-7701-2

Date Collected: 01/10/12 12:30

Matrix: Water

Date Received: 01/16/12 09:50

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	800		10	mg/L			01/16/12 13:21	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
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- 11
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- 13
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Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Client Sample ID: G110D

Lab Sample ID: 240-7701-3

Date Collected: 01/10/12 13:15

Matrix: Water

Date Received: 01/16/12 09:50

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		20	mg/L			01/16/12 13:21	2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
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Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Client Sample ID: G112S

Lab Sample ID: 240-7701-4

Date Collected: 01/11/12 10:35

Matrix: Water

Date Received: 01/16/12 09:50

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	950		10	mg/L			01/16/12 13:21	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
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- 9
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- 13
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Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Client Sample ID: G112D

Lab Sample ID: 240-7701-5

Date Collected: 01/11/12 11:10

Matrix: Water

Date Received: 01/16/12 09:50

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1500		20	mg/L			01/16/12 13:21	2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
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- 12
- 13
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Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Client Sample ID: G113S

Lab Sample ID: 240-7701-6

Date Collected: 01/10/12 14:10

Matrix: Water

Date Received: 01/16/12 09:50

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	780		10	mg/L			01/16/12 13:21	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
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- 11
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Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Client Sample ID: G113D

Lab Sample ID: 240-7701-7

Date Collected: 01/10/12 15:05

Matrix: Water

Date Received: 01/16/12 09:50

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	950		20	mg/L			01/16/12 13:21	2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
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QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-30367/1
 Matrix: Water
 Analysis Batch: 30367

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	mg/L			01/16/12 13:21	1

Lab Sample ID: LCS 240-30367/2
 Matrix: Water
 Analysis Batch: 30367

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	241	238		mg/L		99	88 - 110

Lab Sample ID: 240-7701-1 DU
 Matrix: Water
 Analysis Batch: 30367

Client Sample ID: G110S-1
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	790		749		mg/L		6	20

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

General Chemistry

Analysis Batch: 30367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-7701-1	G110S-1	Total/NA	Water	SM 2540C	
240-7701-1 DU	G110S-1	Total/NA	Water	SM 2540C	
240-7701-2	G110S-2	Total/NA	Water	SM 2540C	
240-7701-3	G110D	Total/NA	Water	SM 2540C	
240-7701-4	G112S	Total/NA	Water	SM 2540C	
240-7701-5	G112D	Total/NA	Water	SM 2540C	
240-7701-6	G113S	Total/NA	Water	SM 2540C	
240-7701-7	G113D	Total/NA	Water	SM 2540C	
LCS 240-30367/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 240-30367/1	Method Blank	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
 Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Client Sample ID: G110S-1

Date Collected: 01/10/12 12:30

Date Received: 01/16/12 09:50

Lab Sample ID: 240-7701-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	30367	01/16/12 13:21	CN	TAL NC

Client Sample ID: G110S-2

Date Collected: 01/10/12 12:30

Date Received: 01/16/12 09:50

Lab Sample ID: 240-7701-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	30367	01/16/12 13:21	CN	TAL NC

Client Sample ID: G110D

Date Collected: 01/10/12 13:15

Date Received: 01/16/12 09:50

Lab Sample ID: 240-7701-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		2	30367	01/16/12 13:21	CN	TAL NC

Client Sample ID: G112S

Date Collected: 01/11/12 10:35

Date Received: 01/16/12 09:50

Lab Sample ID: 240-7701-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	30367	01/16/12 13:21	CN	TAL NC

Client Sample ID: G112D

Date Collected: 01/11/12 11:10

Date Received: 01/16/12 09:50

Lab Sample ID: 240-7701-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		2	30367	01/16/12 13:21	CN	TAL NC

Client Sample ID: G113S

Date Collected: 01/10/12 14:10

Date Received: 01/16/12 09:50

Lab Sample ID: 240-7701-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	30367	01/16/12 13:21	CN	TAL NC

Client Sample ID: G113D

Date Collected: 01/10/12 15:05

Date Received: 01/16/12 09:50

Lab Sample ID: 240-7701-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		2	30367	01/16/12 13:21	CN	TAL NC

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Laboratory References:

TAL NC = TestAmerica North 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: 070102-03 CAT Mapleton GW 1Q2012

TestAmerica Job ID: 240-7701-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica North Canton	ACCLASS	DoD ELAP		ADE-1437
TestAmerica North Canton	California	NELAC	9	01144CA
TestAmerica North Canton	Connecticut	State Program	1	PH-0590
TestAmerica North Canton	Florida	NELAC	4	E87225
TestAmerica North Canton	Georgia	Georgia EPD	4	N/A
TestAmerica North Canton	Illinois	NELAC	5	200004
TestAmerica North Canton	Kansas	NELAC	7	E-10336
TestAmerica North Canton	Kentucky	State Program	4	58
TestAmerica North Canton	Minnesota	NELAC	5	039-999-348
TestAmerica North Canton	Nevada	State Program	9	OH-000482008A
TestAmerica North Canton	New Jersey	NELAC	2	OH001
TestAmerica North Canton	New York	NELAC	2	10975
TestAmerica North Canton	Ohio	OVAP	5	CL0024
TestAmerica North Canton	Pennsylvania	NELAC	3	68-00340
TestAmerica North Canton	USDA	USDA		P330-11-00328
TestAmerica North Canton	Virginia	NELAC Secondary AB	3	460175
TestAmerica North Canton	Washington	State Program	10	C971
TestAmerica North Canton	West Virginia	West Virginia DEP	3	210
TestAmerica North Canton	Wisconsin	State Program	5	999518190

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Chain of Custody Record

TestAmerica Laboratory location: North Canton, OH
 Regulatory program: DW NPDES RCRA Other

Client Contact		Client Project Manager:		Site Contact:		Lab Contact:		Analyses		Sample Specific Notes / Special Instructions:	
Company Name:	CATERPILAR INC.	Client Project Manager:	ANDREW JARRICK	Site Contact:	ANDREW JARRICK	Lab Contact:	AMY MCCORMICK	COC No:	029881		
Address:	8826 W. ROUTE 24	Telephone:	(309) 633-8482	Telephone:	(309) 633-8482	Telephone:	(330) 497-9396	of COCs			
City/State/Zip:	MARLETON, IL 61547	Email:	JARRICK.ANDREW.E@CAT.COM	Analysis Turnaround Time (in BUS days)		TAT if different from below		For lab use only			
Phone:	(309) 633-8482	Method of Shipment/Carrier:		3 weeks <input type="checkbox"/>		2 weeks <input checked="" type="checkbox"/>		Walk-in client <input type="checkbox"/>			
Project Name:	CAT MARLETON GW 1Q2012	Shipping/Tracking No:		1 week <input type="checkbox"/>		2 days <input type="checkbox"/>		Lab pickup <input type="checkbox"/>			
Project Number:				1 day <input type="checkbox"/>				Lab sampling <input type="checkbox"/>			
P O #				Containers & Preservatives		Matrix		Job/SDG No:			
Sample Identification		Sample Date	Sample Time	Air	Aqueous	Sediment	Solid	Other:			
G1105-1		1-10-12	1230	X				Upters			
G1105-2		1-10-12	1230	X				ZnAc/NaOH			
G110D		1-10-12	1315	X				NaOH			
G112S		1-11-12	1035	X				HCl			
G112D		1-11-12	1110	X				HNO3			
G113S		1-10-12	1410	X				H2SO4			
G113D		1-10-12	1505	X				Other:			
Possible Hazard Identification		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Poison B.		<input type="checkbox"/> Unknown		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Return to Client		<input checked="" type="checkbox"/> Disposal By Lab		Archive For		Months	
Special Instructions/QC Requirements & Comments:											
Relinquished by:		Company:	CATERPILAR	Date/Time:	1-13-12 1330	Received by:		Company:		Date/Time:	
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:	
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Company:	TAL	Date/Time:	1/10/12-950



TestAmerica Cooler Receipt Form/Narrative Lot Number: 7701

North Canton Facility

Client Caterpillar Inc. Project _____ By: Mike Harrison
 Cooler Received on 1/16/12 Opened on 1/16/12 (Signature)

FedEx UPS DHL FAS Stetson Client Drop Off TestAmerica Courier Other _____
 TestAmerica Cooler # _____ Multiple Coolers _____ Foam Box _____ Client Cooler _____ Other _____

1. Were custody seals on the outside of the cooler(s)? Yes No Intact? Yes No NA
 If YES, Quantity 2 Quantity Unsalvageable _____
 Were custody seals on the outside of cooler(s) signed and dated? Yes No NA
 Were custody seals on the bottle(s)? Yes No
 If YES, are there any exceptions? _____
 2. Shippers' packing slip attached to the cooler(s)? Yes No
 3. Did custody papers accompany the sample(s)? Yes No Relinquished by client? Yes No
 4. Were the custody papers signed in the appropriate place? Yes No
 5. Packing material used: Bubble Wrap Foam None Other _____
 6. Cooler temperature upon receipt 0.8 °C See back of form for multiple coolers/temps
 METHOD: IR Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were sample(s) at the correct pH upon receipt? Yes No NA
 10. Were correct bottle(s) used for the test(s) indicated? Yes No
 11. Were air bubbles >6 mm in any VOA vials? Yes No NA
 12. Sufficient quantity received to perform indicated analyses? Yes No
 13. Was a trip blank present in the cooler(s)? Yes No Were VOAs on the COC? Yes No
- Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

14. CHAIN OF CUSTODY

The following discrepancies occurred:

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 Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 110410-HNO₃; Sulfuric Acid Lot# 041911-H₂SO₄; Sodium Hydroxide Lot# 121809 -NaOH; Hydrochloric Acid Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(CH₃COO)₂ZN/NaOH. What time was preservative added to sample(s)? _____

Client ID	pH	Date	Initials

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 240-7701-1

Login Number: 7701

List Source: TestAmerica North Canton

List Number: 1

Creator: Sutek, Nick

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

EXHIBIT 3



**CONESTOGA-ROVERS
& ASSOCIATES**

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MEMORANDUM

TO: Steven Wanner, CRA REF. NO.: 070102

FROM: Allan McMurray and Ian Summerscales, CRA/br/14 DATE: June 29, 2012

C.C.: Jaron Bromm, Caterpillar

RE: **Basis and Cost Estimate for Conceptual Landfill Leachate Treatment System
Caterpillar Part 817 Landfill
Mapleton, Illinois**

1.0 INTRODUCTION

Caterpillar operates a gray iron foundry on a property that has an area of approximately 350 acres located south of the Village of Mapleton, Illinois, Peoria County, Illinois (Site). As part of its foundry operations, Caterpillar operates an approximately 80-acre foundry waste landfill (Landfill) on the southeastern portion of the Site under permit No. 1995-154-LFM (Permit) issued by the Illinois Environmental Protection Agency (IEPA). Caterpillar operates the Landfill under the requirements for a potentially usable foundry waste landfill at Title 35 IAC Part 817 rules, and the Landfill does not accept any material from off-Site sources. The Landfill is permitted to dispose of a variety of potentially usable wastes generated at the Site including, predominantly, foundry sands from the foundry casting production process, as well as varying amounts of finishing waste (foundry sand mixed with metallics and metal pieces), metallics waste, metal pieces mixed with sand (less than 1%), foundry slag, dust collector wastewater treatment sludge, full dry dust collector super sacks, and used furnace refractory.

The applicable Maximum Allowable Leaching Concentration (MALC) for Total Dissolved Solids (TDS) in the Landfill leachate is 1,200 mg/L. Leachate sample results for TDS have shown concentrations above the MALC since monitoring under the Permit commenced in 1997, although, at least up until 2009, Caterpillar had been successful in maintaining compliance with the MALC for TDS through the statistical analysis specified by the Permit.

Caterpillar commissioned CRA to develop a conceptual design and capital and operating cost estimates for a leachate collection and treatment system. Such a system would be one compliance option if IEPA required the Landfill to meet the low risk waste requirements of Part 817 rather than the potentially usable waste requirements currently applicable under the Permit, in response to TDS concentrations in the leachate above the MALC for a potentially usable waste landfill. Collection, treatment, and discharge of the leachate would eliminate the possibility of exceeding the MALC, which would presumably allow the Landfill to continue operating as a potentially usable waste landfill. The plant has a National Pollutant Discharge Elimination System (NPDES) permit (No. IL0001830) to discharge various Site wastewater streams to the Illinois River and its tributaries. The permit includes sanitary and process wastewater, non-contact cooling

water, and surface water run-off from the Landfill. The NPDES permit would require modification to allow the discharge of treated leachate.

2.0 CONCEPTUAL DESIGN BASIS

2.1 LEACHATE COLLECTION AND CONVEYANCE

The Landfill is unlined and does not have a leachate collection system. Therefore, to retrofit the Landfill a network of leachate extraction wells would need to be installed to capture the leachate. Additionally, a conveyance system consisting of a force main would be required to convey the leachate to the wastewater treatment plant. The treated effluent then would be discharged into the plant's existing infrastructure for conveyance to the existing NPDES outfall at the Illinois River.

Based on modeling, CRA estimates that a combined pumping rate of approximately 80 gallons per minute (gpm) would be necessary to induce an inward groundwater flow gradient beneath the Landfill. The actual flows would likely vary over time due to factors such as precipitation, Landfill operations, and variable infiltration. Due to the uncertainty associated with this estimate and to account for some of the expected variability in precipitation over time, CRA used a peak value of 100 gpm for the purpose of the conceptual design.

The conceptual design includes the use of five vertical leachate extraction wells each operating at a peak of 20 gallons per minute to induce an inward gradient and collect a combination of leachate and groundwater beneath the Landfill. Accordingly, such a design also would, by necessity, treat naturally occurring constituents in the groundwater. The wells would pump to a conveyance system that would deliver the leachate to Building RR, where the leachate treatment system would be located.

2.2 LEACHATE CHARACTERIZATION AND ANTICIPATED DISCHARGE LIMITS

Fundamental to the development of a conceptual design of a conceptual treatment system is an understanding of the constituents in the wastewater stream, the flows (average and peak), and the discharge criteria to be imposed on the effluent water. The anticipated flows are discussed in the preceding section, and CRA's Hydrogeological Investigation report (CRA, June 26, 2012) contains information on the anticipated constituents in the leachate. More difficult is determining the discharge limitations to be imposed on the wastewater as these are regulatory criteria that vary depending on the wastewater characteristics, mixing, zones, the nature of the receiving water body, and other factors, and are developed by the IEPA through the permitting process.

Although TDS in leachate is the primary driver of the current issue for the Landfill's status under the Part 817 regulations, if the leachate instead were collected for discharge to the Illinois River, TDS levels would no longer be the primary regulatory consideration, as the IEPA imposes no water quality criteria for TDS for discharges to surface water bodies. The IEPA abandoned the TDS standard in favor of chloride and sulfate standards to address more reliably the causal agents of the problems that might be associated with high TDS concentrations. The IEPA asserts that TDS concentrations cannot predict the threshold of adverse effects to aquatic life and that the adoption of chloride and revised sulfate standards more adequately

addresses the toxicity of dissolved salts¹. When considering the chloride and sulfate standards to replace the TDS standard, IEPA did not change the chloride standard (500 mg/L) but did change the sulfate standard from 500 mg/L to a hardness/chloride-based standard that ranges from 500 to approximately 2,750 mg/L.

The leachate produced at the Landfill does not contain dissolved organics at the concentrations that typically would be found in leachate from a municipal landfill. Rather, the leachate stream is primarily composed of ions consisting of bicarbonates, chlorides and dissolved metals. Table 1 summarizes the leachate concentrations and the estimated loadings to the conceptual treatment plant. Based on the existing leachate analytical data, it is not likely that the leachate would need to be treated for chloride or sulfate prior to discharge. However, there are a number of other constituents in the leachate that potentially could require treatment.

The Illinois Water Quality Standards at 35 Ill. Adm. Code Section 302.208 contains numeric acute and chronic water standards for chemical constituents, many of which are based on the hardness of the receiving water body. Using the available hardness data at the closest stream monitoring station near Pekin (approximately 300 µg/L), the anticipated acute and chronic criteria can be calculated. As the IEPA generally does not allow mixing zone adjustments for groundwater extraction/treatment systems, IEPA likely could impose these acute and chronic criteria as daily maximum and monthly average discharge criteria, respectively, for the conceptual system. Based on this, the collected leachate could require treatment for several constituents including but not necessarily limited to iron, manganese, and fluoride.

3.0 LEACHATE TREATMENT CONCEPTUAL DESIGN

As the discharge limits for the effluent have not been set and would be dependent on a permitting process, CRA developed two different conceptual treatment options for the purpose of developing a range of cost estimates for the leachate collection/treatment system. The first treatment system is a reverse osmosis (RO)-based process that would treat the leachate to a very high standard with the removal of most dissolved ions. The second conceptual treatment option involves a physical co-precipitation process that would specifically target metals and fluoride. These two options are discussed below.

3.1 RO-BASED TREATMENT SYSTEM

Under the proposed conceptual design, an RO-based treatment process would be used to treat the leachate stream prior to discharge of the wastewater effluent streams. The RO process would be capable of consistently producing an effluent stream in compliance with the potential effluent discharge limitations. The treatment plant would include the necessary pretreatment processes to improve the quality of the leachate stream prior to RO treatment, as well as residuals handling processes to reduce the volume of the reject (concentrated waste) stream from the RO.

CRA based the leachate treatment plant (LTP) conceptual design on a single treatment train. There would be no redundant back-up treatment equipment. As a result, the LTP would not provide continuous treatment on a 24-hour per day, 365-day per year basis. Based on discussions with equipment suppliers,

¹ See also Iowa Department of Natural Resources, Environmental Protection Commission. Notice of Intended Action – Chapter 61 Water Quality Standards- Chloride, Sulfate and Total Dissolved Solids. April 27, 2009. Available at http://www.iowadnr.gov/portals/idnr/uploads/water/standards/tds_noia.pdf.

CRA estimates that the LTP would be offline approximately 15 percent of the time for regular maintenance and cleaning activities. For example, the LTP could operate continuously for four or five consecutive days but would then be taken offline for a period of approximately one day for maintenance.

To allow for storage of leachate generated while the LTP is offline for maintenance, it would be necessary to install a leachate storage reservoir. At minimum, the leachate storage reservoir would need sufficient capacity to store the leachate generated when the LTP is offline for a period of 24 hours for regular maintenance (i.e., at least 144,000 gallons).

The RO-based treatment system would include the following processes/components:

- Chemical pretreatment and clarification for precipitation and settling of heavy metals present in the raw leachate stream
- Pressure filtration pretreatment to further reduce fine precipitated solids that are not removed by settling in the clarifier
- pH adjustment to convert bicarbonates to carbon dioxide gas and minimize the precipitation of salts such as calcium and barium on the RO membrane
- RO treatment (membrane separation process based on osmotic pressure and chemical diffusion)
- Clarifier sludge dewatering
- RO reject water treatment using an evaporator and slurry dryer

3.4 CHEMICAL PRECIPITATION TREATMENT APPROACH

As previously discussed, an alternative treatment approach using chemical precipitation may be appropriate depending on the effluent discharge limits imposed. This LTP would not be as efficient at removal of ions as the RO-based system thus produce marginally higher effluent concentrations of selected ions. However, this LTP might be appropriate depending on the effluent discharge limits imposed by the NPDES permit. Chemical precipitation involves the addition of treatment chemicals, which results in the precipitation or co-precipitation of target constituents. In this case, the system would target dissolved metals and fluoride. Given that the effluent discharge criteria are not defined and the potentially difficulties in reducing fluoride to typical discharge concentrations, a dual-stage lime based precipitation process has been assumed for purposes of estimating costs. The dual-stage LTP would include both first and second stage clarification processes complete with associated chemical addition systems. A sludge management system has also been included as the residual lime based sludge would have to be dewatered for off-site disposal.

4.0 COST ESTIMATES

4.1 CAPITAL COST ESTIMATES

Capital cost estimates for the RO treatment and dual-stage precipitation treatment alternatives are included in Tables 2 and 3, respectively.

The total cost estimates of \$11.1 million for the RO treatment alternative and \$6.8 million for the dual stage precipitation alternative are based on a single treatment train. Supply and installation of a second parallel treatment train to provide full redundancy would result in a significant increase in the capital cost above these estimates for both alternatives.

Both capital cost estimates includes some infrastructure located outside of the LTP. The leachate collection system, which would consist of five extraction wells and a force main approximately three-quarters of a mile in length to convey the leachate to the LTP, is included in the capital cost estimate, as well as a leachate storage reservoir capable of storing leachate generated when the LTP is off-line for regular maintenance activities.

In addition to the LTP treatment equipment outlined in Section 3, the cost estimates include allowances for engineering design, construction oversight, installation and start-up and commissioning services.

4.2 OPERATING COST ESTIMATES

CRA developed an estimate of the annual operating cost for the LTP based on the cost of consumables (i.e., process chemicals and replacement of process equipment), electricity, hauling, and disposal of the filter cake and dried slurry wastes to a local landfill, and staffing. CRA estimates the total operating cost to be \$680,000/year for the RO-based system and \$580,000/year for the dual-stage chemical precipitation system. The operating cost estimate and the relevant assumptions are shown in Tables 4 and 5.

TABLE 1

SUMMARY OF LEACHATE ANALYTICAL RESULTS
CATERPILLAR INC.
MAPLETON, ILLINOIS

<i>Parameters</i>	<i>Concentration Range (mg/L)</i>			<i>Maximum loading (kg/d)</i>	<i>Maximum loading (lb/d)</i>
	<i>Minimum</i>	<i>Average</i>	<i>Maximum</i>		
<i>Volatile Organic Compounds</i>					
Benzene	0.0006	0.0126	0.0350	0.02	0.04
Tetrachloroethene	0.0006	0.0030	0.0077	0.004	0.01
Toluene	0.0002	0.0021	0.0090	0.005	0.01
Trichloroethene	0.0006	0.0006	0.0006	0.0003	0.001
Vinyl chloride	0.0040	0.0040	0.0040	0.002	0.005
Xylenes (total)	0.0003	0.0029	0.0100	0.01	0.01
<i>Metals</i>					
Aluminum	1.10	1.10	1.10	0.60	1.32
Arsenic	0.001	0.01	0.05	0.03	0.06
Barium	0.01	0.09	0.22	0.12	0.26
Cadmium	0.001	0.01	0.04	0.02	0.05
Chromium	0.001	0.01	0.18	0.10	0.22
Copper	0.002	0.01	0.21	0.12	0.25
Iron	0.08	3.29	25.00	13.63	29.98
Lead	0.001	0.01	0.05	0.03	0.06
Magnesium	5.00	12.20	28.00	15.26	33.58
Manganese	0.02	0.16	1.40	0.76	1.68
Potassium	11.00	22.20	43.00	23.44	51.57
Selenium	0.001	0.01	0.03	0.02	0.04
Silicon	4.60	8.43	14.00	7.63	16.79
Sodium	350.00	449.00	660.00	359.77	791.49
Zinc	0.002	0.03	0.34	0.19	0.41
<i>General Chemistry</i>					
Alkalinity, bicarbonate	510.00	727.00	1000.00	545.10	1199.22
Alkalinity, carbonate	39.00	41.00	43.00	23.44	51.57
Ammonia-N	1.80	6.18	18.00	9.81	21.59
Bromide	1.50	2.20	3.40	1.85	4.08
Calcium	6.70	14.24	30.00	16.35	35.98
Chloride	18.00	210.62	960.00	523.30	1151.25
Fluoride	0.69	3.60	12.10	6.60	14.51
Nitrate (as N)	0.03	0.09	0.39	0.21	0.47
Nitrite (as N)	0	0	0	0	0
Nitrite/Nitrate	0.10	0.13	0.15	0.08	0.18
Orthophosphate	0.20	0.26	0.37	0.20	0.44
Phosphate, total	0.26	0.73	1.40	0.76	1.68
Phosphorus	0.08	0.24	0.47	0.26	0.56
Sulfate	1.00	107.36	560.00	305.26	671.56
Sulfide	1.10	1.20	1.40	0.76	1.68
Sulfite	10.80	12.60	14.40	7.85	17.27
Total dissolved solids (TDS)	200.00	1411.90	3200.00	1744.32	3837.50

TABLE 2

**CAPITAL COST ESTIMATE
CONCEPTUAL LEACHATE TREATMENT PLANT
RO TREATMENT ALTERNATIVE
CATERPILLAR INC.
MAPLETON, ILLINOIS**

		<i>Estimated Capital Cost</i>
<u><i>General</i></u>		
Insurance and Bonding	\$	200,000
Mob/Demob	\$	250,000
Site Prep	\$	150,000
Utilities to Site	\$	60,000
Extraction Wells	\$	184,000
Forcemain to Existing WWTP	\$	448,000
Leachate Storage Tank	\$	345,000
Pumping Station	\$	37,000
Building	\$	1,000,000
Internal Piping and Valves	\$	190,000
Subtotal	\$	2,864,000
<u><i>Preliminary Treatment</i></u>		
Coagulant Metering System	\$	35,000
Caustic Metering Skid	\$	35,000
Polymer Blending System	\$	25,000
Inclined Plate Clarifier	\$	105,000
Clarifier Effluent Tank	\$	50,000
Clarifier Effluent Pumps	\$	8,000
Clarifier Sludge Transfer Pumps	\$	15,000
Pressure filtration system	\$	193,000
Filter Backwash Pump	\$	8,000
Filter Effluent Tank	\$	80,000
Subtotal	\$	554,000
<u><i>Reverse Osmosis System</i></u>		
RO Feed Pumps	\$	8,000
Sulfuric Acid Metering System	\$	35,000
RO System	\$	1,866,000
RO Permeate Tank		included
RO Permeate Pumps	\$	8,000
Permeate Supply Pumps	\$	11,000
Permeate Buffering Filters	\$	31,000
RO Concentrate Tank	\$	140,000
RO Concentrate Pumps		included
Subtotal	\$	2,099,000

TABLE 2

**CAPITAL COST ESTIMATE
CONCEPTUAL LEACHATE TREATMENT PLANT
RO TREATMENT ALTERNATIVE
CATERPILLAR INC.
MAPLETON, ILLINOIS**

	<i>Estimated Capital Cost</i>
<u>RO Reject Treatment</u>	
Anti-scaling Agent Metering System	\$ 35,000
Evaporator	\$ 1,300,000
Slurry Tank	\$ 35,000
Slurry Pumps	included
Slurry Dryers	\$ 390,000
Slurry Storage Bin	\$ 2,900
Scrubber	\$ 40,000
CIP Chemical Metering System	\$ 35,000
CIP Recirculation System	\$ 25,000
Subtotal	\$ 1,862,900
<u>Clarifier Sludge Dewatering Treatment</u>	
Sludge Tank	\$ 60,000
Sludge Pumps	included
Polymer Blending System	\$ 25,000
Belt Filter Press	\$ 59,000
Filter Cake Storage Bin	\$ 3,000
Subtotal	\$ 147,000
<i>Instrumentation & Control</i>	\$ 676,000
Construction Subtotal	\$ 8,203,000
<i>Engineering and Administration (15%)</i>	\$ 1,230,000
<i>Contingency (20%)</i>	\$ 1,641,000
Total	\$ 11,074,000

TABLE 3

CAPITAL COST ESTIMATE
 CONCEPTUAL LEACHATE TREATMENT PLANT
 DUAL CLARIFICATION ALTERNATIVE
 CATERPILLAR INC.
 MAPLETON, ILLINOIS

	<i>Estimated Capital Cost</i>
<u><i>General</i></u>	
Insurance and Bonding	\$ 200,000
Mob/Demob	\$ 250,000
Site Prep	\$ 150,000
Utilities to Site	\$ 60,000
Extraction Wells	\$ 184,000
Forcemain to Existing WWTP	\$ 450,000
Leachate Storage Tank	\$ 345,000
Pumping Station	\$ 37,000
Building	\$ 1,000,000
Internal Piping and Valves	\$ 190,000
Subtotal	\$ 2,866,000
<u><i>Primary treatment equipment</i></u>	
Chemical metering systems	\$ 60,000
Lime metering system	\$ 35,000
1st Stage Mix Tank	\$ 14,000
1st Stage Clarifier	\$ 500,000
2nd Stage Mix Tank	\$ 14,000
2nd Stage Clarifier	\$ 500,000
Final Clarifier	\$ 500,000
Subtotal	\$ 1,623,000
<u><i>Clarifier Sludge Dewatering Treatment</i></u>	
Sludge Tank	\$ 60,000
Sludge Pumps	included
Polymer Blending System	\$ 25,000
Belt Filter Press	\$ 59,000
Filter Cake Storage Bin	\$ 3,000
Subtotal	\$ 147,000
<i>Ancillary Mechanical</i>	\$ 520,000
<i>Electrical and Controls</i>	\$ 676,000
Construction Subtotal	\$ 5,832,000
<i>Chemical Treatment Pilot</i>	\$ 78,000
<i>Engineering & Administration Fees (15%)</i>	\$ 396,000
<i>Contingency (20%)</i>	\$ 527,000
Total	\$ 6,833,000

TABLE 4

ANNUAL LEACHATE TREATMENT PLANT OPERATING COST ESTIMATE
CATERPILLAR INC.
MAPLETON, ILLINOIS

<i>Consumable</i>	<i>Estimated annual cost (USD/yr)</i>	<i>Notes/Assumptions</i>
Process chemical	\$143,000	- RO and evaporator undergo one CIP cycle every 5 days
Equipment and parts	\$135,000	- RO membrane module life of 3 years - Filter cartridge life of 4 days
Electrical	\$195,000	- \$0.08/kWh electricity rate
Waste disposal	\$60,000	- unit cost of \$151.50/ton for hauling and disposal - rental rate of \$600/mo for roll-off box
Staffing	\$146,000	- 8 h/d of effort on average - \$50/h labor rate
TOTAL (EXCLUDING TAXES)	\$679,000	- treatment plant is on-line 85% of the time (310 d/yr)

TABLE 5

ANNUAL LEACHATE TREATMENT PLANT OPERATING COST ESTIMATE
 DUAL CLARIFICATION ALTERNATIVE
 CATERPILLAR INC.
 MAPLETON, ILLINOIS

<i>Consumable</i>	<i>Estimated annual cost (USD/yr)</i>	<i>Notes/Assumptions</i>
Process chemical	\$390,000	- Hydrated Lime, Acid, Alum, Polymer
Equipment and parts	\$1,000	- Belt Filter Press Components
Electrical	\$1,600	- \$0.08/kWh electricity rate
Waste disposal	\$39,000	- unit cost of \$151.50/ton for hauling and disposal - rental rate of \$600/mo for roll-off box
Staffing	\$146,000	- 8 h/d of effort on average - \$50/h labor rate
TOTAL (EXCLUDING TAXES)	\$577,600	- treatment plant is on-line 365 d/yr