APPENDIX 1

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, New York 14203-2915
Phone: (716) 851-7220 • **Fax:** (716) 851-7226
Website: www.dec.ny.gov

Joe Martens
Commissioner

April 22, 2013

Mr. James Hartnett
General Motors, LLC
One General Motors Drive
Syracuse, New York 13206-1127

Dear Mr. Hartnett:

STORM SEWER SAMPLING REPORT
BCP SITE NOS. C932138, C932139, C932140
LOCKPORT (C)
NIAGARA COUNTY, NEW YORK

The New York State Departments of Health (NYSDOH) and Environmental Conservation (NYSDEC) are in receipt of the Storm Sewer Sampling Report submitted by GZA GeoEnvironmental of New York on March 8, 2013 on behalf of GM Components Holdings, LLC. This report (1) describes the field activities that were conducted between August 2012 and January 2013 to evaluate the potential for VOC-impacted groundwater to infiltrate the on-site storm sewer system; (2) presents the results of the investigation; and (3) makes recommendations for additional investigation.

GZA should be commended for their effort in identifying portions of the on-site storm sewer system at or below the groundwater table, and combining that information with storm water analytical results to identify areas of potential infiltration. This allows additional investigation to focus on those areas, and to help focus the evaluation of remedial alternatives to address this infiltration.

Following a detailed review of the Storm Sewer Sampling Report, the Departments have the following comments that should be included in a revised report, or incorporated into a comprehensive report following the completion of the additional investigations proposed:

- **Compounds of Concern, General:** To further evaluate the potential for VOC-impacted groundwater to infiltrate the on-site storm sewer system, an additional figure should be included that shows both groundwater and storm sewer water results. For clarity, this figure could be restricted to the chlorinated solvents only, as these compounds are the contaminants of concern in groundwater and storm sewer water at the site.

- **Compounds of Concern, 1st Bullet of 2nd Set of Bullets, Page 5:** There should be a more detailed discussion concerning the "similar COC concentration profile". Does this profile include the similarity of COC, concentrations, or both?

- **Conclusions and Recommendations, Page 7:** The report discusses the possibility that some COC detections "may have resulted from the presence of COC-impacted sediments within some pipes and bottom of the structures..." To evaluate this potential, sediment from select manholes should be collected during the proposed additional investigations and analyzed for VOCs.

Should you have any comments or questions, please feel free to contact me at (716) 851-7220.

Sincerely yours,

Glenn M May

Glenn M. May, CPG
Environmental Geologist II

GMM:vm

ecc: Mr. Gregory Sutton, P.E., NYSDEC, Region 9
Mr. Matthew Forcucci, NYSDOH, Buffalo
Mr. Christopher Boron, GZA GeoEnvironmental of New York

APPENDIX 2

CONESTOGA-ROVERS & ASSOCIATES

9033 Meridian Way, West Chester, Ohio 45069
Telephone: (513) 942-4750 Fax: (513) 942-8585
www.CRAworld.com

MEMORANDUM

TO:	Denis Conley	REF. NO.:	58507-256014
FROM:	Kathleen Willy/eew/61	DATE:	January 23, 2013
CC:	Claire Mondello, Chris Boron		**E-Mail and Hard Copy If Requested**
RE:	Data Quality Assessment and Verification Storm Sewer Investigation General Motors Corporation Lockport, New York January 2013		

INTRODUCTION

The following details a quality assessment and validation of the analytical data resulting from the January 2013 collection of four (4) samples from the General Motors Site in Lockport, New York. The sample summary detailing sample identification, sample location, quality control samples, and analytical parameters is presented in Table 1. Sample analysis was completed at TestAmerica Laboratories, Inc. (TestAmerica) in Amherst, New York in accordance with the methodologies presented in Table 2. Table 3 presents the validated analytical data.

The quality control criteria used to assess the data were established by the methods. Application of quality assurance criteria was consistent with following guidance documents:

(i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", EPA-540/R-99/008, October 1999

(ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", EPA-540/R-94/013, February 1994.

These guidelines are collectively referred to as "NFGs" in this Memorandum.

The final sample results and supporting QA/QC results were reported by the laboratory in a reduced deliverable format.

Data assessment was based on information obtained from blank data, surrogate recoveries, blank and matrix spike recoveries, and final data sheets.

SAMPLE QUANTITATION

The laboratory reported detected concentrations of volatile organic compounds (VOC) and oil and grease below the laboratory's practical quantitation limit (PQL) but above the laboratory's method detection limit (MDL). The laboratory flagged these sample concentrations with a "J". These concentrations should be considered as estimated (J) values unless qualified otherwise in this memorandum

SAMPLE PRESERVATION AND HOLDING TIMES

Sample holding time periods and preservation requirements are summarized in the analytical methods. All sample extractions and/or analyses were performed within the specified holding times.

All samples were properly received and stored after collection.

METHOD BLANK SAMPLES

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

Method blanks were analyzed at the recommended frequency, and the results were non-detect for all analytes of interest.

SURROGATE COMPOUNDS – ORGANIC ANALYSES

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report.

The surrogate recovery acceptance criteria were met for all samples indicating acceptable laboratory performance.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES

To assess the long term accuracy and precision of the analytical methods on various matrices, matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and the relative percent difference (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory.

Site specific MS/MSD analyses were not performed.

LABORATORY CONTROL SAMPLE (LCS) ANALYSES

The LCS analysis serves as a monitor of the overall performance in all steps of the sample analysis and are analyzed with each sample batch. The LCS percent recoveries were evaluated against method and laboratory established control limits.

The LCS percent recoveries were all within the laboratory control limits indicating acceptable analytical accuracy.

FIELD QUALITY ASSURANCE/QUALITY CONTROL

Field QC was not collected for this sampling event.

OVERALL ASSESSMENT

The data were found to exhibit acceptable levels of accuracy and precision based on the provided information and may be used without qualification.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
STORM SEWER INVESTIGATION
GENERAL MOTORS CORPORATION
LOCKPORT, NEW YORK
JANUARY 2013

				Analysis/Parameters		
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*TCL VOCs*	*Oil and Grease*	*Comments*
MH-24-010413-1110	MH-24	01/04/13	11:10	X	X	
MH-23-010413-1130	MH-23	01/04/13	11:30	X	X	
MH-22-010413-1145	MH-22	01/04/13	11:45	X	X	
MH-25-010413-1220	MH-25	01/04/13	12:20	X	X	

Notes:

VOCs Volatile Organic Compounds

TABLE 2

SUMMARY OF ANALYTICAL METHODS
STORM SEWER INVESTIGATION
GENERAL MOTORS CORPORATION
LOCKPORT, NEW YORK
JANUARY 2013

Parameter	*Analytical Method*
VOCs	SW 846 8260 [1]
Oil and Grease	1664A [2]

Notes:

[1] Referenced from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions.

[2] EPA-821-98-002

VOCs Volatile Organic Compounds.

TABLE 3

ANALYTICAL RESULTS SUMMARY
STORM SEWER INVESTIGATION
GENERAL MOTORS CORPORATION
LOCKPORT, NEW YORK
JANUARY 2013

Sample Location:		***MH-22***	***MH-23***	***MH-24***	***MH-25***
Sample ID:		***MH-22-010413-1145***	***MH-23-010413-1130***	***MH-24-010413-1110***	***MH-25-010413-1220***
Sample Date:		***1/4/2013***	***1/4/2013***	***1/4/2013***	***1/4/2013***
Parameters:	***Units***				
Volatile Organic Compounds					
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	10 U	3.0 J	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U

TABLE 3

ANALYTICAL RESULTS SUMMARY
STORM SEWER INVESTIGATION
GENERAL MOTORS CORPORATION
LOCKPORT, NEW YORK
JANUARY 2013

Sample Location:		***MH-22***	***MH-23***	***MH-24***	***MH-25***
Sample ID:		***MH-22-010413-1145***	***MH-23-010413-1130***	***MH-24-010413-1110***	***MH-25-010413-1220***
Sample Date:		***1/4/2013***	***1/4/2013***	***1/4/2013***	***1/4/2013***
Parameters:	***Units***				
Volatile Organic Compounds (continued)					
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl acetate	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl cyclohexane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
General Chemistry					
Oil and grease	mg/L	5.0 U	5.0 U	5.0 U	5.0 U

Notes:
J - Estimated concentration.
U - Not present at or above the associated value.

CONESTOGA-ROVERS & ASSOCIATES

2055 Niagara Falls Blvd., Suite #3
Niagara Falls, New York 14304
Telephone: (716) 297-6150 Fax: (716) 297-2265
www.CRAworld.com

MEMORANDUM

TO:	Denis Conley	REF. NO.:	58507-256016
FROM:	Kathleen Willy/bjw/74-NF KW	DATE:	July 15, 2013
CC:	Claire Mondello, Chris Boron		E-Mail and Hard Copy if Requested
RE:	**Analytical Results and Reduced Validation** **Storm Sewer Investigation** **General Motors Corporation** **Lockport, New York** **June 2013**		

INTRODUCTION

The following document details a reduced validation of analytical results for water samples collected in support of the Storm Sewer Investigation at the General Motors Site during June 2013. Samples were submitted to TestAmerica Laboratories, Inc., located in Amherst, New York. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard Conestoga-Rovers & Associates (CRA) report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes, laboratory control samples (LCS), and matrix spikes.

The QA/QC criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and the document entitled:

i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

Item i) will subsequently be referred to as the "Guidelines" in this Memorandum.

SAMPLE HOLDING TIME AND PRESERVATION

The sample holding time criteria and sample preservation requirements for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were analyzed within the required holding times.

All samples were properly preserved and delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

LABORATORY METHOD BLANK ANALYSES

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of one per 20 investigative samples and/or one per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

SURROGATE SPIKE RECOVERIES – ORGANIC ANALYSES

In accordance with the methods employed, all samples, blanks and QC samples analyzed for volatile organic compound (VOC) analysis are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for VOC determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the above criteria.

LABORATORY CONTROL SAMPLE (LCS) ANALYSES

LCS and/or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS (/LCSD) were analyzed at a minimum frequency of one per 20 investigative samples and/or one per analytical batch.

The LCS/LCSD contained all compounds of interest. All LCS recoveries and relative percent differences were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES

To evaluate the effects of sample matrices on the extraction or digestion process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The relative percent difference (RPD) between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

The laboratory performed site-specific MS/MSD analyses internally.

The MS/MSD samples were spiked with all compounds of interest. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

FIELD QA/QC SAMPLES

Site-specific field QA/QC samples were not collected for this sampling event.

ANALYTE REPORTING

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the PQL but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the PQL in Table 2.

CONCLUSION

Based on this assessment of the information provided, the data produced by TestAmerica were found to exhibit acceptable levels of accuracy and precision and may be used without qualification.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
STORM SEWER INVESTIGATION
GENERAL MOTORS CORPORATION
LOCKPORT, NEW YORK
JUNE 2013

				Analysis/Parameters
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*TCL VOCs*
Outfall002-061313-1256	Outfall 002	6/13/2013	12:56	X
MH-6-061313-1311	MH-6	6/13/2013	13:11	X
MH-8-061313-1502	MH-8	6/13/2013	15:02	X
MH-10-061313-1510	MH-10	6/13/2013	15:10	X
MH-11-061313-1525	MH-11	6/13/2013	15:25	X
Outfall003-061313-1301	Outfall 003	6/13/2013	13:01	X
MH-21-061313-1311	MH-21	6/13/2013	13:11	X
MH-16-061313-1325	MH-16	6/13/2013	13:25	X
MH-17-061313-1336	MH-17	6/13/2013	13:36	X
MH-4-061313-1400	MH-4	6/13/2013	14:00	X
MH-5-061313-1412	MH-5	6/13/2013	14:12	X
MH-1-061313-1440	MH-1	6/13/2013	14:40	X
MH-1-SP-061313-1447	MH-1-SP	6/13/2013	14:47	X

Notes:

TCL Target compound list.
VOCs Volatile organic compounds.

TABLE 2

ANALYTICAL RESULTS SUMMARY
STORM SEWER INVESTIGATION
GENERAL MOTORS CORPORATION
LOCKPORT, NEW YORK
JUNE 2013

	Sample Location:	*MH-1*	*MH-1-SP*	*MH-4*	*MH-5*	*MH-6*
	Sample ID:	*MH-1-061313-1440*	*MH-1-SP-061313-1447*	*MH-4-061313-1400*	*MH-5-061313-1412*	*MH-6-061313-1311*
	Sample Date:	*6/13/2013*	*6/13/2013*	*6/13/2013*	*6/13/2013*	*6/13/2013*
Parameters:	***Units***					
Volatile Organic Compounds						
cis-1,2-Dichloroethene	µg/L	3.2	1.0 U	1.0 U	1.0 U	44
Tetrachloroethene	µg/L	0.43 J	1.0 U	1.0 U	1.0 U	92
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	20	1.0 U	1.0 U	1.0 U	43
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	3.4

TABLE 2

ANALYTICAL RESULTS SUMMARY
STORM SEWER INVESTIGATION
GENERAL MOTORS CORPORATION
LOCKPORT, NEW YORK
JUNE 2013

	Sample Location:	*MH-8*	*MH-10*	*MH-11*	*MH-16*	*MH-17*
	Sample ID:	*MH-8-061313-1502*	*MH-10-061313-1510*	*MH-11-061313-1525*	*MH-16-061313-1325*	*MH-17-061313-1336*
	Sample Date:	*6/13/2013*	*6/13/2013*	*6/13/2013*	*6/13/2013*	*6/13/2013*
Parameters:	***Units***					
Volatile Organic Compounds						
cis-1,2-Dichloroethene	µg/L	46	240	1.0 U	1.0 U	3.1
Tetrachloroethene	µg/L	92	150	0.65 J	1.0 U	7.5
trans-1,2-Dichloroethene	µg/L	1.0 U	10 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	43	510	1.0 U	1.0 U	5.9
Vinyl chloride	µg/L	5.0	10 U	1.0 U	1.0 U	1.0 U

TABLE 2

ANALYTICAL RESULTS SUMMARY
STORM SEWER INVESTIGATION
GENERAL MOTORS CORPORATION
LOCKPORT, NEW YORK
JUNE 2013

	Sample Location:	***MH-21***	***Outfall 002***	***Outfall 003***
	Sample ID:	***MH-21-061313-1311***	***Outfall002-061313-1256***	***Outfall003-061313-1301***
	Sample Date:	***6/13/2013***	***6/13/2013***	***6/13/2013***
Parameters:	***Units***			
Volatile Organic Compounds				
cis-1,2-Dichloroethene	µg/L	18	89	3.2
Tetrachloroethene	µg/L	74	62	0.92 J
trans-1,2-Dichloroethene	µg/L	1.0 U	2.0 U	1.0 U
Trichloroethene	µg/L	17	160	1.0 U
Vinyl chloride	µg/L	1.4	4.1	1.0 U

Notes:

J Estimated concentration.

U Not present at or above the associated value.

TABLE 3

ANALYTICAL METHODS AND HOLDING TIME CRITERIA
STORM SEWER INVESTIGATION
GENERAL MOTORS CORPORATION
LOCKPORT, NEW YORK
JUNE 2013

Parameter	*Method* [1]	*Matrix*	*Holding Time*	
			Collection to Extraction (Days)	*Collection or Extraction to Analysis (Days)*
VOC's	SW-846 8260	Water	-	14

Notes

SW-846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions.
VOC's Volatile organic compounds.
- Not applicable.

APPENDIX 3

MODERN Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1002307862
Date: 12/24/2013
Time: 07:56:21 - 08:41:49
Scale

******** Reprinted Ticket - Edited ********

Gross: 53740 POU In Manual Wt M
Tare: 40040 POU Out Scale OUTBOI
Net: 13700 POU

Truck: TON-301
Customer: 0298120018/GMCH
Carrier: TONA-TANK/TONAWANDA TANI

Truck Type: RO30
Route: BROKER/SUB OUT VARIOUS BRC

PO: .

Service Site:
Comment:

Origin	Materials & Services	Quantity	Unit
292600/Lockport	DC DEC Approved Waste	6.85	TON

Driver: _____

Weighmaster: Deb Lehman

MODERN Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1002307862
Date: 12/24/2013
Time: 07:56:21 - 08:41:49
Scale

******** Reprinted Ticket - Edited ********

Gross: 53740 POUIn Manual Wt M
Tare: 40040 POUOut Scale OUTBOI
Net: 13700 POU

Truck: TON-301
Customer: 0298120018/GMCH
Carrier: TONA-TANK/TONAWANDA TANI

Truck Type: RO30
Route: BROKER/SUB OUT VARIOUS BRC

PO: .

Service Site:
Comment:

Origin	Materials & Services	Quantity	Unit
292600/Lockport	DC DEC Approved Waste	6.85	TON

Driver: _____

Weighmaster: Deb Lehman

53740

TONAWANDA TANK TRANSPORT SERVICE, INC.

1140 MILITARY ROAD
P.O. BOX H
BUFFALO, NY 14217
(716) 873-9703

3990 U.S. ROUTE 42
MASON, OH 45040
(513) 398-6997

DATE 12/24/13

PICK UP (SHIPPER)			DELIVERY (CONSIGNEE)		
NAME: GM COMPONENTS			NAME: MODERN LANDFILL		
STREET:			STREET:		
CITY: LOCKPORT	STATE: NY.	ZIP CODE:	CITY: MODEL CITY	STATE: NY.	ZIP CODE:
CONTACT NAME:			CONTACT NAME:		
SCHEDULED TIME:			SCHEDULED TIME:		
ADDITIONAL INFORMATION: PICK UP ONLY			ADDITIONAL INFORMATION:		

PURCHASE ORDER NO.	WORK ORDER NUMBER	MANIFEST NUMBER	PRODUCT CODE
LOAD NUMBER	**TRACTOR NUMBER**	**TRAILER NUMBER**	**DRIVER'S NAME**
11312158		212/	GOODALE

TYPE (CIRCLE ONE)	MATERIAL DESCRIPTION	QUANTITY
TANK (S/S) (R/L) VAC DUMP VAN ROLL-OFF FLATBED	Non-Regulated material Non-Haz-Waste ID tracking no. 110-13	EST 15 Yds

PICK UP

ARRIVAL TIME ______ AM PM RELEASE TIME ______ AM PM

TRAILER EMPTY UPON ARRIVAL ☐ YES ☐ NO
(If not, explain below)

DIP MEASUREMENT (Tankers Only) ______ INCHES

COMMENTS: (EXPLAIN ALL DELAYS) Approval MO1-1581
PickUp Only B240
Bags not put in
Tarp full of water

I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.
in behalf of GMCH LLC
X [signature]
SHIPPERS SIGNATURE

DELIVERY

DRIVER ______ DATE 12/24/13

ARRIVAL TIME 08 00 (AM) PM RELEASE TIME ______ AM PM

TRAILER EMPTY UPON DEPARTURE ☒ YES ☐ NO
(If not, explain below)

COMMENTS: (EXPLAIN ALL DELAYS) ______

I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.
X [signature]
CONSIGNEE'S SIGNATURE

OFFICE USE ONLY

DRIVER		ACCOUNTING	
TRIP		DRIVER'S #	
TOLLS		FREIGHT	
DEMURRAGE		TOLLS	
LAYOVER		DEMURRAGE	
VAC		MISC.	
MISC	TOTAL:	TOTAL	

WHITE-BILLING COPY YELLOW-DRIVER COPY PINK-ACCOUNTING COPY GREEN-TSDF COPY GOLD-GENERATOR COPY

MODERN Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1002307862
Date: 12/24/2013
Time: 07:56:21 - 08:41:49
Scale

******** Reprinted Ticket - Edited ********

Gross: 53740 POU In Manual Wt M
Tare: 40040 POU Out Scale OUTBOI
Net: 13700 POU

Truck: TON-301
Customer: 0298120018/GMCH
Carrier: TONA-TANK/TONAWANDA TANI

Truck Type: RO30
Route: BROKER/SUB OUT VARIOUS BRC

PO: .

Service Site:
Comment:

Origin	Materials & Services	Quantity	Unit
292600/Lockport	DC DEC Approved Waste	6.85	TON

Driver: _____

Weighmaster: Deb Lehman

MODERN Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1002307862
Date: 12/24/2013
Time: 07:56:21 - 08:41:49
Scale

******** Reprinted Ticket - Edited ********

Gross: 53740 POUIn Manual Wt M
Tare: 40040 POUOut Scale OUTBOI
Net: 13700 POU

Truck: TON-301
Customer: 0298120018/GMCH
Carrier: TONA-TANK/TONAWANDA TANI

Truck Type: RO30
Route: BROKER/SUB OUT VARIOUS BRC

PO: .

Service Site:
Comment:

Origin	Materials & Services	Quantity	Unit
292600/Lockport	DC DEC Approved Waste	6.85	TON

Driver: _____

Weighmaster: Deb Lehman

53740

TONAWANDA TANK TRANSPORT SERVICE, INC.

1140 MILITARY ROAD
P.O. BOX H
BUFFALO, NY 14217
(716) 873-9703

3990 U.S. ROUTE 42
MASON, OH 45040
(513) 398-6997

DATE 12/24/13

PICK UP (SHIPPER)			DELIVERY (CONSIGNEE)		
NAME: GM COMPONENTS			NAME: MODERN LANDFILL		
STREET:			STREET:		
CITY: LOCKPORT	STATE: NY.	ZIP CODE:	CITY: MODEL CITY	STATE: NY.	ZIP CODE:
CONTACT NAME:			CONTACT NAME:		
SCHEDULED TIME:			SCHEDULED TIME:		
ADDITIONAL INFORMATION: PICK UP ONLY			ADDITIONAL INFORMATION:		

PURCHASE ORDER NO.	WORK ORDER NUMBER	MANIFEST NUMBER	PRODUCT CODE
LOAD NUMBER	**TRACTOR NUMBER**	**TRAILER NUMBER**	**DRIVER'S NAME**
11312158		2121	GOODALE

TYPE (CIRCLE ONE)	MATERIAL DESCRIPTION	QUANTITY
TANK (S/S) (R/L) VAC DUMP VAN ROLL-OFF FLATBED	Non-Regulated material Non-Haz-Waste ID tracking no. 110-13	EST 15 Yds

PICK UP

ARRIVAL TIME ______ AM PM RELEASE TIME ______ AM PM

TRAILER EMPTY UPON ARRIVAL ☐ YES ☐ NO
(If not, explain below)

DIP MEASUREMENT (Tankers Only) ______ INCHES

COMMENTS: (EXPLAIN ALL DELAYS) Approval M01-1581
Pick Up Only B240
Bags not put in
Tarp full of water

I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.
in behalf of GMCH LLC
X [signature]
SHIPPERS SIGNATURE

DELIVERY

DRIVER ______ DATE 12/24/13

ARRIVAL TIME 08 00 (AM) PM RELEASE TIME ______ AM PM

TRAILER EMPTY UPON DEPARTURE ☒ YES ☐ NO
(If not, explain below)

COMMENTS: (EXPLAIN ALL DELAYS) ______

I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.
X [signature]
CONSIGNEE'S SIGNATURE

OFFICE USE ONLY

DRIVER		ACCOUNTING	
TRIP		DRIVER'S #	
TOLLS		FREIGHT	
DEMURRAGE		TOLLS	
LAYOVER		DEMURRAGE	
VAC		MISC.	
MISC	TOTAL:	TOTAL	

WHITE-BILLING COPY YELLOW-DRIVER COPY PINK-ACCOUNTING COPY GREEN-TSDF COPY GOLD-GENERATOR COPY

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-48914-1
Client Project/Site: GMCH Building 10 Stormsewer Exterior

For:
GZA GeoEnvironmental, Inc.
535 Washington Street
11th Floor
Buffalo, New York 14203

Attn: Mr. Tom Bohlen

Joseph V. Giacomazza

Authorized for release by:
11/14/2013 10:26:21 AM
Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(610)337-0992
judy.stone@testamericainc.com

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Surrogate Summary 8
QC Sample Results 10
QC Association Summary 17
Lab Chronicle 20
Certification Summary 21
Method Summary 22
Sample Summary 23
Chain of Custody 24
Receipt Checklists 25

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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)
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)

Client: GZA GeoEnvironmental, Inc.
Project/Site: GMCH Building 10 Stormsewer Exterior

TestAmerica Job ID: 480-48914-1

Job ID: 480-48914-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-48914-1

Receipt
The sample was received on 10/29/2013 3:15 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3º C.

GC/MS VOA
Method(s) 8260C: The following sample(s) was diluted due to the nature of the TCLP sample matrix: (480-48914-1 MS), (480-48914-1 MSD), (LB 480-148702/1-A), SS-BLDG-10-EXTERIOR-102813 (480-48914-1). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

GC/MS Semi VOA
No analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Metals
Method(s) 6010C: The TCLP Extractor Blank, LB 480-148675, contained total chromium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of sample SS-BLDG-10-EXTERIOR-102813 (480-48914-1) was not performed.

Method(s) 6010C: The analyte total barium was detected in the TCLP Extractor Blank, LB 480-148675, at a concentration above the TestAmerica Laboratories standard quantitation limit. Sample SS-BLDG-10-EXTERIOR-102813 (480-48914-1) associated with the blank was evaluated and determined to be at least five times less than the TCLP Regulatory Limit. The sample data was therefore accepted and no corrective action was performed.

No other analytical or quality issues were noted.

Organic Prep
Method(s) 3510C: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 149472. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

Detection Summary

Client: GZA GeoEnvironmental, Inc.
Project/Site: GMCH Building 10 Stormsewer Exterior

TestAmerica Job ID: 480-48914-1

Client Sample ID: SS-BLDG-10-EXTERIOR-102813

Lab Sample ID: 480-48914-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.011		0.010	0.0036	mg/L	10		8260C	TCLP
Barium	0.46	B	0.0020	0.00070	mg/L	1		6010C	TCLP
Cadmium	0.00089	J	0.0010	0.00050	mg/L	1		6010C	TCLP
Chromium	0.0023	J B	0.0040	0.0010	mg/L	1		6010C	TCLP
Lead	0.040		0.0050	0.0030	mg/L	1		6010C	TCLP

This Detection Summary does not include radiochemical test results.

Client: GZA GeoEnvironmental, Inc.
Project/Site: GMCH Building 10 Stormsewer Exterior

TestAmerica Job ID: 480-48914-1

Client Sample ID: SS-BLDG-10-EXTERIOR-102813
Date Collected: 10/28/13 13:15
Date Received: 10/29/13 15:15

Lab Sample ID: 480-48914-1
Matrix: Solid

Method: 8260C - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			11/02/13 19:40	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			11/02/13 19:40	10
Chlorobenzene	ND		0.010	0.0075	mg/L			11/02/13 19:40	10
Chloroform	ND		0.010	0.0034	mg/L			11/02/13 19:40	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			11/02/13 19:40	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			11/02/13 19:40	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			11/02/13 19:40	10
Tetrachloroethene	**0.011**		0.010	0.0036	mg/L			11/02/13 19:40	10
Trichloroethene	ND		0.010	0.0046	mg/L			11/02/13 19:40	10
Vinyl chloride	ND		0.010	0.0090	mg/L			11/02/13 19:40	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*66 - 137*		*11/02/13 19:40*	*10*
Toluene-d8 (Surr)	*94*		*71 - 126*		*11/02/13 19:40*	*10*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*11/02/13 19:40*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/04/13 07:29	11/04/13 23:06	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/04/13 07:29	11/04/13 23:06	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/04/13 07:29	11/04/13 23:06	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/04/13 07:29	11/04/13 23:06	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/04/13 07:29	11/04/13 23:06	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/04/13 07:29	11/04/13 23:06	1
2-Methylphenol	ND		0.0050	0.00040	mg/L		11/04/13 07:29	11/04/13 23:06	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/04/13 07:29	11/04/13 23:06	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/04/13 07:29	11/04/13 23:06	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/04/13 07:29	11/04/13 23:06	1
Pyridine	ND		0.025	0.00041	mg/L		11/04/13 07:29	11/04/13 23:06	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/04/13 07:29	11/04/13 23:06	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/04/13 07:29	11/04/13 23:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*92*		*52 - 132*	*11/04/13 07:29*	*11/04/13 23:06*	*1*
2-Fluorobiphenyl	*96*		*48 - 120*	*11/04/13 07:29*	*11/04/13 23:06*	*1*
2-Fluorophenol	*50*		*20 - 120*	*11/04/13 07:29*	*11/04/13 23:06*	*1*
Nitrobenzene-d5	*87*		*46 - 120*	*11/04/13 07:29*	*11/04/13 23:06*	*1*
p-Terphenyl-d14	*127*		*67 - 150*	*11/04/13 07:29*	*11/04/13 23:06*	*1*
Phenol-d5	*36*		*16 - 120*	*11/04/13 07:29*	*11/04/13 23:06*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.22	0.043	mg/Kg	☼	11/01/13 12:41	11/02/13 13:51	1
PCB-1221	ND		0.22	0.043	mg/Kg	☼	11/01/13 12:41	11/02/13 13:51	1
PCB-1232	ND		0.22	0.043	mg/Kg	☼	11/01/13 12:41	11/02/13 13:51	1
PCB-1242	ND		0.22	0.043	mg/Kg	☼	11/01/13 12:41	11/02/13 13:51	1
PCB-1248	ND		0.22	0.043	mg/Kg	☼	11/01/13 12:41	11/02/13 13:51	1
PCB-1254	ND		0.22	0.10	mg/Kg	☼	11/01/13 12:41	11/02/13 13:51	1
PCB-1260	ND		0.22	0.10	mg/Kg	☼	11/01/13 12:41	11/02/13 13:51	1

Client: GZA GeoEnvironmental, Inc.
Project/Site: GMCH Building 10 Stormsewer Exterior

TestAmerica Job ID: 480-48914-1

Client Sample ID: SS-BLDG-10-EXTERIOR-102813
Date Collected: 10/28/13 13:15
Date Received: 10/29/13 15:15

Lab Sample ID: 480-48914-1
Matrix: Solid
Percent Solids: 95.7

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*96*		*46 - 175*	*11/01/13 12:41*	*11/02/13 13:51*	*1*
DCB Decachlorobiphenyl	*95*		*47 - 176*	*11/01/13 12:41*	*11/02/13 13:51*	*1*

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/31/13 10:55	11/01/13 14:14	1
Barium	**0.46**	**B**	0.0020	0.00070	mg/L		10/31/13 10:55	11/01/13 14:14	1
Cadmium	**0.00089**	**J**	0.0010	0.00050	mg/L		10/31/13 10:55	11/01/13 14:14	1
Chromium	**0.0023**	**J B**	0.0040	0.0010	mg/L		10/31/13 10:55	11/01/13 14:14	1
Lead	**0.040**		0.0050	0.0030	mg/L		10/31/13 10:55	11/01/13 14:14	1
Selenium	ND		0.015	0.0087	mg/L		10/31/13 10:55	11/05/13 13:24	1
Silver	ND		0.0030	0.0017	mg/L		10/31/13 10:55	11/01/13 14:14	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		10/31/13 12:00	10/31/13 15:01	1

Surrogate Summary

Client: GZA GeoEnvironmental, Inc.
Project/Site: GMCH Building 10 Stormsewer Exterior

TestAmerica Job ID: 480-48914-1

Method: 8260C - TCLP Volatiles

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		12DCE	TOL	BFB
Lab Sample ID	Client Sample ID	(66-137)	(71-126)	(73-120)
LCS 480-149348/5	Lab Control Sample	104	98	102
MB 480-149348/7	Method Blank	105	98	102

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 8260C - TCLP Volatiles

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)		
		12DCE	TOL	BFB
Lab Sample ID	Client Sample ID	(66-137)	(71-126)	(73-120)
480-48914-1	SS-BLDG-10-EXTERIOR-102813	107	94	102
480-48914-1 MS	SS-BLDG-10-EXTERIOR-102813	105	99	101
480-48914-1 MSD	SS-BLDG-10-EXTERIOR-102813	104	98	101
LB 480-148702/1-A LB	Method Blank	106	100	99

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPH	PHL
Lab Sample ID	Client Sample ID	(52-132)	(48-120)	(20-120)	(46-120)	(67-150)	(16-120)
LCS 480-149472/2-A	Lab Control Sample	86	88	50	89	138	37
LCSD 480-149472/3-A	Lab Control Sample Dup	99	87	47	98	139	36
MB 480-149472/1-A	Method Blank	85	89	48	83	135	36

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
TPH = p-Terphenyl-d14
PHL = Phenol-d5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPH	PHL
Lab Sample ID	Client Sample ID	(52-132)	(48-120)	(20-120)	(46-120)	(67-150)	(16-120)
480-48914-1	SS-BLDG-10-EXTERIOR-102813	92	96	50	87	127	36
LB 480-148675/1-D LB	Method Blank	87	88	44	81	118	33

Surrogate Summary

Client: GZA GeoEnvironmental, Inc.
Project/Site: GMCH Building 10 Stormsewer Exterior

TestAmerica Job ID: 480-48914-1

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
TPH = p-Terphenyl-d14
PHL = Phenol-d5

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		TCX1	DCB1								
Lab Sample ID	Client Sample ID	(46-175)	(47-176)								
480-48914-1	SS-BLDG-10-EXTERIOR-102813	96	95								
LCS 480-149188/2-A	Lab Control Sample	133	128								
MB 480-149188/1-A	Method Blank	111	112								

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl

Method: 8260C - TCLP Volatiles

Lab Sample ID: MB 480-149348/7
Matrix: Solid
Analysis Batch: 149348

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	0.00041	mg/L			11/02/13 12:17	1
Carbon tetrachloride	ND		0.0010	0.00027	mg/L			11/02/13 12:17	1
Chlorobenzene	ND		0.0010	0.00075	mg/L			11/02/13 12:17	1
Chloroform	ND		0.0010	0.00034	mg/L			11/02/13 12:17	1
1,2-Dichloroethane	ND		0.0010	0.00021	mg/L			11/02/13 12:17	1
1,1-Dichloroethene	ND		0.0010	0.00029	mg/L			11/02/13 12:17	1
2-Butanone (MEK)	ND		0.0050	0.0013	mg/L			11/02/13 12:17	1
Tetrachloroethene	ND		0.0010	0.00036	mg/L			11/02/13 12:17	1
Trichloroethene	ND		0.0010	0.00046	mg/L			11/02/13 12:17	1
Vinyl chloride	ND		0.0010	0.00090	mg/L			11/02/13 12:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*66 - 137*		*11/02/13 12:17*	*1*
Toluene-d8 (Surr)	*98*		*71 - 126*		*11/02/13 12:17*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*11/02/13 12:17*	*1*

Lab Sample ID: LCS 480-149348/5
Matrix: Solid
Analysis Batch: 149348

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0250	0.0233		mg/L		93	71 - 124
Chlorobenzene	0.0250	0.0225		mg/L		90	72 - 120
1,2-Dichloroethane	0.0250	0.0236		mg/L		94	75 - 127
1,1-Dichloroethene	0.0250	0.0239		mg/L		95	58 - 121
Tetrachloroethene	0.0250	0.0221		mg/L		88	74 - 122
Trichloroethene	0.0250	0.0229		mg/L		92	74 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*66 - 137*
Toluene-d8 (Surr)	*98*		*71 - 126*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*

Lab Sample ID: LB 480-148702/1-A LB
Matrix: Solid
Analysis Batch: 149348

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.010	0.0041	mg/L			11/02/13 16:28	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			11/02/13 16:28	10
Chlorobenzene	ND		0.010	0.0075	mg/L			11/02/13 16:28	10
Chloroform	ND		0.010	0.0034	mg/L			11/02/13 16:28	10
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			11/02/13 16:28	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			11/02/13 16:28	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			11/02/13 16:28	10
Tetrachloroethene	ND		0.010	0.0036	mg/L			11/02/13 16:28	10
Trichloroethene	ND		0.010	0.0046	mg/L			11/02/13 16:28	10

Method: 8260C - TCLP Volatiles (Continued)

Lab Sample ID: LB 480-148702/1-A LB
Matrix: Solid
Analysis Batch: 149348

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.010	0.0090	mg/L			11/02/13 16:28	10

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*66 - 137*		*11/02/13 16:28*	*10*
Toluene-d8 (Surr)	*100*		*71 - 126*		*11/02/13 16:28*	*10*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*11/02/13 16:28*	*10*

Lab Sample ID: 480-48914-1 MS
Matrix: Solid
Analysis Batch: 149348

Client Sample ID: SS-BLDG-10-EXTERIOR-102813
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		0.250	0.248		mg/L		99	71 - 124
Chlorobenzene	ND		0.250	0.235		mg/L		94	72 - 120
1,2-Dichloroethane	ND		0.250	0.252		mg/L		101	75 - 127
1,1-Dichloroethene	ND		0.250	0.252		mg/L		101	58 - 121
Tetrachloroethene	0.011		0.250	0.243		mg/L		93	74 - 122
Trichloroethene	ND		0.250	0.247		mg/L		99	74 - 123

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*66 - 137*
Toluene-d8 (Surr)	*99*		*71 - 126*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*

Lab Sample ID: 480-48914-1 MSD
Matrix: Solid
Analysis Batch: 149348

Client Sample ID: SS-BLDG-10-EXTERIOR-102813
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		0.250	0.239		mg/L		96	71 - 124	4	13
Chlorobenzene	ND		0.250	0.229		mg/L		92	72 - 120	2	25
1,2-Dichloroethane	ND		0.250	0.244		mg/L		98	75 - 127	3	20
1,1-Dichloroethene	ND		0.250	0.238		mg/L		95	58 - 121	6	16
Tetrachloroethene	0.011		0.250	0.234		mg/L		89	74 - 122	4	20
Trichloroethene	ND		0.250	0.237		mg/L		95	74 - 123	4	16

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*66 - 137*
Toluene-d8 (Surr)	*98*		*71 - 126*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-149472/1-A
Matrix: Solid
Analysis Batch: 149571

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 149472

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.0025	0.00012	mg/L		11/04/13 07:29	11/04/13 15:48	1
2,4-Dinitrotoluene	ND		0.0013	0.00011	mg/L		11/04/13 07:29	11/04/13 15:48	1
Hexachlorobenzene	ND		0.0013	0.00013	mg/L		11/04/13 07:29	11/04/13 15:48	1
Hexachlorobutadiene	ND		0.0013	0.00017	mg/L		11/04/13 07:29	11/04/13 15:48	1
Hexachloroethane	ND		0.0013	0.00015	mg/L		11/04/13 07:29	11/04/13 15:48	1
3-Methylphenol	ND		0.0025	0.00010	mg/L		11/04/13 07:29	11/04/13 15:48	1
2-Methylphenol	ND		0.0013	0.00010	mg/L		11/04/13 07:29	11/04/13 15:48	1
4-Methylphenol	ND		0.0025	0.000090	mg/L		11/04/13 07:29	11/04/13 15:48	1
Nitrobenzene	ND		0.0013	0.000073	mg/L		11/04/13 07:29	11/04/13 15:48	1
Pentachlorophenol	ND		0.0025	0.00055	mg/L		11/04/13 07:29	11/04/13 15:48	1
Pyridine	ND		0.0063	0.00010	mg/L		11/04/13 07:29	11/04/13 15:48	1
2,4,5-Trichlorophenol	ND		0.0013	0.00012	mg/L		11/04/13 07:29	11/04/13 15:48	1
2,4,6-Trichlorophenol	ND		0.0013	0.00015	mg/L		11/04/13 07:29	11/04/13 15:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*85*		*52 - 132*	*11/04/13 07:29*	*11/04/13 15:48*	*1*
2-Fluorobiphenyl	*89*		*48 - 120*	*11/04/13 07:29*	*11/04/13 15:48*	*1*
2-Fluorophenol	*48*		*20 - 120*	*11/04/13 07:29*	*11/04/13 15:48*	*1*
Nitrobenzene-d5	*83*		*46 - 120*	*11/04/13 07:29*	*11/04/13 15:48*	*1*
p-Terphenyl-d14	*135*		*67 - 150*	*11/04/13 07:29*	*11/04/13 15:48*	*1*
Phenol-d5	*36*		*16 - 120*	*11/04/13 07:29*	*11/04/13 15:48*	*1*

Lab Sample ID: LCS 480-149472/2-A
Matrix: Solid
Analysis Batch: 149571

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 149472

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	0.0500	0.0385		mg/L		77	32 - 120
2,4-Dinitrotoluene	0.0500	0.0472		mg/L		94	65 - 154
Hexachloroethane	0.0500	0.0242		mg/L		48	14 - 101
Pentachlorophenol	0.100	0.0821		mg/L		82	39 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*86*		*52 - 132*
2-Fluorobiphenyl	*88*		*48 - 120*
2-Fluorophenol	*50*		*20 - 120*
Nitrobenzene-d5	*89*		*46 - 120*
p-Terphenyl-d14	*138*		*67 - 150*
Phenol-d5	*37*		*16 - 120*

Lab Sample ID: LCSD 480-149472/3-A
Matrix: Solid
Analysis Batch: 149571

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 149472

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	0.0500	0.0391		mg/L		78	32 - 120	2	36
2,4-Dinitrotoluene	0.0500	0.0461		mg/L		92	65 - 154	2	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 480-149472/3-A
Matrix: Solid
Analysis Batch: 149571

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 149472

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachloroethane			0.0500	0.0254		mg/L		51	14 - 101	5	46
Pentachlorophenol			0.100	0.0928		mg/L		93	39 - 136	12	37

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*99*		*52 - 132*
2-Fluorobiphenyl	*87*		*48 - 120*
2-Fluorophenol	*47*		*20 - 120*
Nitrobenzene-d5	*98*		*46 - 120*
p-Terphenyl-d14	*139*		*67 - 150*
Phenol-d5	*36*		*16 - 120*

Lab Sample ID: LB 480-148675/1-D LB
Matrix: Solid
Analysis Batch: 149571

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 149472

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.00046	mg/L		11/04/13 07:29	11/04/13 20:16	1
2,4-Dinitrotoluene	ND		0.0050	0.00045	mg/L		11/04/13 07:29	11/04/13 20:16	1
Hexachlorobenzene	ND		0.0050	0.00051	mg/L		11/04/13 07:29	11/04/13 20:16	1
Hexachlorobutadiene	ND		0.0050	0.00068	mg/L		11/04/13 07:29	11/04/13 20:16	1
Hexachloroethane	ND		0.0050	0.00059	mg/L		11/04/13 07:29	11/04/13 20:16	1
3-Methylphenol	ND		0.010	0.00040	mg/L		11/04/13 07:29	11/04/13 20:16	1
2-Methylphenol	0.00307	J	0.0050	0.00040	mg/L		11/04/13 07:29	11/04/13 20:16	1
4-Methylphenol	ND		0.010	0.00036	mg/L		11/04/13 07:29	11/04/13 20:16	1
Nitrobenzene	ND		0.0050	0.00029	mg/L		11/04/13 07:29	11/04/13 20:16	1
Pentachlorophenol	ND		0.010	0.0022	mg/L		11/04/13 07:29	11/04/13 20:16	1
Pyridine	ND		0.025	0.00041	mg/L		11/04/13 07:29	11/04/13 20:16	1
2,4,5-Trichlorophenol	ND		0.0050	0.00048	mg/L		11/04/13 07:29	11/04/13 20:16	1
2,4,6-Trichlorophenol	ND		0.0050	0.00061	mg/L		11/04/13 07:29	11/04/13 20:16	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*87*		*52 - 132*	*11/04/13 07:29*	*11/04/13 20:16*	*1*
2-Fluorobiphenyl	*88*		*48 - 120*	*11/04/13 07:29*	*11/04/13 20:16*	*1*
2-Fluorophenol	*44*		*20 - 120*	*11/04/13 07:29*	*11/04/13 20:16*	*1*
Nitrobenzene-d5	*81*		*46 - 120*	*11/04/13 07:29*	*11/04/13 20:16*	*1*
p-Terphenyl-d14	*118*		*67 - 150*	*11/04/13 07:29*	*11/04/13 20:16*	*1*
Phenol-d5	*33*		*16 - 120*	*11/04/13 07:29*	*11/04/13 20:16*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 480-149188/1-A
Matrix: Solid
Analysis Batch: 149367

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 149188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.24	0.047	mg/Kg		11/01/13 12:41	11/02/13 11:28	1
PCB-1221	ND		0.24	0.047	mg/Kg		11/01/13 12:41	11/02/13 11:28	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 480-149188/1-A
Matrix: Solid
Analysis Batch: 149367

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 149188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1232	ND		0.24	0.047	mg/Kg		11/01/13 12:41	11/02/13 11:28	1
PCB-1242	ND		0.24	0.047	mg/Kg		11/01/13 12:41	11/02/13 11:28	1
PCB-1248	ND		0.24	0.047	mg/Kg		11/01/13 12:41	11/02/13 11:28	1
PCB-1254	ND		0.24	0.11	mg/Kg		11/01/13 12:41	11/02/13 11:28	1
PCB-1260	ND		0.24	0.11	mg/Kg		11/01/13 12:41	11/02/13 11:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*111*		*46 - 175*	*11/01/13 12:41*	*11/02/13 11:28*	*1*
DCB Decachlorobiphenyl	*112*		*47 - 176*	*11/01/13 12:41*	*11/02/13 11:28*	*1*

Lab Sample ID: LCS 480-149188/2-A
Matrix: Solid
Analysis Batch: 149367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 149188

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	2.43	3.50		mg/Kg		144	51 - 185
PCB-1260	2.43	3.17		mg/Kg		131	61 - 184

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*133*		*46 - 175*
DCB Decachlorobiphenyl	*128*		*47 - 176*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-148904/2-A
Matrix: Solid
Analysis Batch: 149604

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 148904

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/31/13 10:55	11/01/13 13:50	1
Barium	ND		0.0020	0.00070	mg/L		10/31/13 10:55	11/01/13 13:50	1
Cadmium	ND		0.0010	0.00050	mg/L		10/31/13 10:55	11/01/13 13:50	1
Chromium	ND		0.0040	0.0010	mg/L		10/31/13 10:55	11/01/13 13:50	1
Lead	ND		0.0050	0.0030	mg/L		10/31/13 10:55	11/01/13 13:50	1
Selenium	ND		0.015	0.0087	mg/L		10/31/13 10:55	11/01/13 13:50	1
Silver	ND		0.0030	0.0017	mg/L		10/31/13 10:55	11/01/13 13:50	1

Lab Sample ID: LCS 480-148904/3-A
Matrix: Solid
Analysis Batch: 149604

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 148904

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.13		mg/L		113	80 - 120
Barium	1.00	1.10		mg/L		110	80 - 120
Cadmium	1.00	1.04		mg/L		104	80 - 120
Chromium	1.00	1.06		mg/L		106	80 - 120
Lead	1.00	1.03		mg/L		103	80 - 120
Silver	1.00	1.12		mg/L		112	80 - 120

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-148904/3-A
Matrix: Solid
Analysis Batch: 150082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 148904

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	1.00	1.11		mg/L		111	80 - 120

Lab Sample ID: LB 480-148675/1-B LB
Matrix: Solid
Analysis Batch: 149604

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 148904

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/31/13 10:55	11/01/13 13:47	1
Barium	0.120		0.0020	0.00070	mg/L		10/31/13 10:55	11/01/13 13:47	1
Cadmium	ND		0.0010	0.00050	mg/L		10/31/13 10:55	11/01/13 13:47	1
Chromium	0.00237	J	0.0040	0.0010	mg/L		10/31/13 10:55	11/01/13 13:47	1
Lead	ND		0.0050	0.0030	mg/L		10/31/13 10:55	11/01/13 13:47	1
Selenium	ND		0.015	0.0087	mg/L		10/31/13 10:55	11/01/13 13:47	1
Silver	ND		0.0030	0.0017	mg/L		10/31/13 10:55	11/01/13 13:47	1

Lab Sample ID: 480-48914-1 MS
Matrix: Solid
Analysis Batch: 149604

Client Sample ID: SS-BLDG-10-EXTERIOR-102813
Prep Type: TCLP
Prep Batch: 148904

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		1.00	1.13		mg/L		113	75 - 125
Barium	0.46	B	1.00	1.44		mg/L		98	75 - 125
Cadmium	0.00089	J	1.00	1.05		mg/L		105	75 - 125
Chromium	0.0023	J B	1.00	1.02		mg/L		101	75 - 125
Lead	0.040		1.00	1.05		mg/L		101	75 - 125
Silver	ND		1.00	1.14		mg/L		114	75 - 125

Lab Sample ID: 480-48914-1 MS
Matrix: Solid
Analysis Batch: 150082

Client Sample ID: SS-BLDG-10-EXTERIOR-102813
Prep Type: TCLP
Prep Batch: 148904

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	ND		1.00	1.11		mg/L		111	75 - 125

Lab Sample ID: 480-48914-1 MSD
Matrix: Solid
Analysis Batch: 149604

Client Sample ID: SS-BLDG-10-EXTERIOR-102813
Prep Type: TCLP
Prep Batch: 148904

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		1.00	1.14		mg/L		114	75 - 125	1	20
Barium	0.46	B	1.00	1.44		mg/L		99	75 - 125	0	20
Cadmium	0.00089	J	1.00	1.06		mg/L		106	75 - 125	1	20
Chromium	0.0023	J B	1.00	1.03		mg/L		103	75 - 125	1	20
Lead	0.040		1.00	1.06		mg/L		102	75 - 125	1	20
Silver	ND		1.00	1.15		mg/L		115	75 - 125	1	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-48914-1 MSD — **Client Sample ID: SS-BLDG-10-EXTERIOR-102813**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 150082 — **Prep Batch: 148904**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	ND		1.00	1.12		mg/L		112	75 - 125	1	20

Method: 7470A - TCLP Mercury

Lab Sample ID: MB 480-148925/2-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 148979 — **Prep Batch: 148925**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		10/31/13 12:00	10/31/13 14:48	1

Lab Sample ID: LCS 480-148925/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 148979 — **Prep Batch: 148925**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00668	0.00633		mg/L		95	80 - 120

Lab Sample ID: LB 480-148675/1-C LB — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 148979 — **Prep Batch: 148925**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		10/31/13 12:00	10/31/13 14:46	1

Lab Sample ID: 480-48914-1 MS — **Client Sample ID: SS-BLDG-10-EXTERIOR-102813**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 148979 — **Prep Batch: 148925**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00668	0.00632		mg/L		95	75 - 125

Lab Sample ID: 480-48914-1 MSD — **Client Sample ID: SS-BLDG-10-EXTERIOR-102813**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 148979 — **Prep Batch: 148925**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00668	0.00650		mg/L		97	75 - 125	3	20

GC/MS VOA

Leach Batch: 148702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	1311	
480-48914-1 MS	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	1311	
480-48914-1 MSD	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	1311	
LB 480-148702/1-A LB	Method Blank	TCLP	Solid	1311	

Analysis Batch: 149348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	8260C	148702
480-48914-1 MS	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	8260C	148702
480-48914-1 MSD	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	8260C	148702
LB 480-148702/1-A LB	Method Blank	TCLP	Solid	8260C	148702
LCS 480-149348/5	Lab Control Sample	Total/NA	Solid	8260C	
MB 480-149348/7	Method Blank	Total/NA	Solid	8260C	

GC/MS Semi VOA

Leach Batch: 148675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	1311	
LB 480-148675/1-D LB	Method Blank	TCLP	Solid	1311	

Prep Batch: 149472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	3510C	148675
LB 480-148675/1-D LB	Method Blank	TCLP	Solid	3510C	148675
LCS 480-149472/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 480-149472/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	
MB 480-149472/1-A	Method Blank	Total/NA	Solid	3510C	

Analysis Batch: 149571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	8270D	149472
LB 480-148675/1-D LB	Method Blank	TCLP	Solid	8270D	149472
LCS 480-149472/2-A	Lab Control Sample	Total/NA	Solid	8270D	149472
LCSD 480-149472/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	149472
MB 480-149472/1-A	Method Blank	Total/NA	Solid	8270D	149472

GC Semi VOA

Prep Batch: 149188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	Total/NA	Solid	3550C	
LCS 480-149188/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 480-149188/1-A	Method Blank	Total/NA	Solid	3550C	

Analysis Batch: 149367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	Total/NA	Solid	8082A	149188
LCS 480-149188/2-A	Lab Control Sample	Total/NA	Solid	8082A	149188
MB 480-149188/1-A	Method Blank	Total/NA	Solid	8082A	149188

Metals

Leach Batch: 148675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	1311	
480-48914-1 MS	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	1311	
480-48914-1 MSD	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	1311	
LB 480-148675/1-B LB	Method Blank	TCLP	Solid	1311	
LB 480-148675/1-C LB	Method Blank	TCLP	Solid	1311	

Prep Batch: 148904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	3010A	148675
480-48914-1 MS	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	3010A	148675
480-48914-1 MSD	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	3010A	148675
LB 480-148675/1-B LB	Method Blank	TCLP	Solid	3010A	148675
LCS 480-148904/3-A	Lab Control Sample	Total/NA	Solid	3010A	
MB 480-148904/2-A	Method Blank	Total/NA	Solid	3010A	

Prep Batch: 148925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	7470A	148675
480-48914-1 MS	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	7470A	148675
480-48914-1 MSD	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	7470A	148675
LB 480-148675/1-C LB	Method Blank	TCLP	Solid	7470A	148675
LCS 480-148925/3-A	Lab Control Sample	Total/NA	Solid	7470A	
MB 480-148925/2-A	Method Blank	Total/NA	Solid	7470A	

Analysis Batch: 148979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	7470A	148925
480-48914-1 MS	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	7470A	148925
480-48914-1 MSD	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	7470A	148925
LB 480-148675/1-C LB	Method Blank	TCLP	Solid	7470A	148925
LCS 480-148925/3-A	Lab Control Sample	Total/NA	Solid	7470A	148925
MB 480-148925/2-A	Method Blank	Total/NA	Solid	7470A	148925

Analysis Batch: 149604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	6010C	148904
480-48914-1 MS	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	6010C	148904
480-48914-1 MSD	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	6010C	148904
LB 480-148675/1-B LB	Method Blank	TCLP	Solid	6010C	148904
LCS 480-148904/3-A	Lab Control Sample	Total/NA	Solid	6010C	148904
MB 480-148904/2-A	Method Blank	Total/NA	Solid	6010C	148904

Analysis Batch: 150082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	6010C	148904
480-48914-1 MS	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	6010C	148904
480-48914-1 MSD	SS-BLDG-10-EXTERIOR-102813	TCLP	Solid	6010C	148904
LCS 480-148904/3-A	Lab Control Sample	Total/NA	Solid	6010C	148904

QC Association Summary

Client: GZA GeoEnvironmental, Inc.
Project/Site: GMCH Building 10 Stormsewer Exterior

TestAmerica Job ID: 480-48914-1

General Chemistry

Analysis Batch: 148471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-48914-1	SS-BLDG-10-EXTERIOR-102813	Total/NA	Solid	Moisture	

Lab Chronicle

Client: GZA GeoEnvironmental, Inc.
Project/Site: GMCH Building 10 Stormsewer Exterior

TestAmerica Job ID: 480-48914-1

Client Sample ID: SS-BLDG-10-EXTERIOR-102813
Date Collected: 10/28/13 13:15
Date Received: 10/29/13 15:15

Lab Sample ID: 480-48914-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			148702	10/30/13 15:11	MRB	TAL BUF
TCLP	Analysis	8260C		10	149348	11/02/13 19:40	NQN	TAL BUF
TCLP	Leach	1311			148675	10/30/13 13:04	MRB	TAL BUF
TCLP	Prep	3510C			149472	11/04/13 07:29	DLE	TAL BUF
TCLP	Analysis	8270D		1	149571	11/04/13 23:06	RMM	TAL BUF
Total/NA	Prep	3550C			149188	11/01/13 12:41	CAM	TAL BUF
Total/NA	Analysis	8082A		1	149367	11/02/13 13:51	JMM	TAL BUF
TCLP	Leach	1311			148675	10/30/13 13:04	MRB	TAL BUF
TCLP	Prep	7470A			148925	10/31/13 12:00	JRK	TAL BUF
TCLP	Analysis	7470A		1	148979	10/31/13 15:01	JRK	TAL BUF
TCLP	Prep	3010A			148904	10/31/13 10:55	NMD2	TAL BUF
TCLP	Analysis	6010C		1	149604	11/01/13 14:14	LMH	TAL BUF
TCLP	Leach	1311			148675	10/30/13 13:04	MRB	TAL BUF
TCLP	Analysis	6010C		1	150082	11/05/13 13:24	LMH	TAL BUF
Total/NA	Analysis	Moisture		1	148471	10/29/13 22:58	GTG	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: GZA GeoEnvironmental, Inc.
Project/Site: GMCH Building 10 Stormsewer Exterior

TestAmerica Job ID: 480-48914-1

Laboratory: TestAmerica Buffalo

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-14
California	NELAP	9	1169CA	09-30-14
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-14
Georgia	State Program	4	N/A	03-31-14
Illinois	NELAP	5	200003	09-30-14
Iowa	State Program	7	374	03-15-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-14
Maine	State Program	1	NY00044	12-04-14
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-14
Michigan	State Program	5	9937	04-01-14
Minnesota	NELAP	5	036-999-337	12-31-13
New Hampshire	NELAP	1	2973	09-11-14
New Jersey	NELAP	2	NY455	06-30-14
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-14
Oregon	NELAP	10	NY200003	06-09-14
Pennsylvania	NELAP	3	68-00281	07-31-14
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-14
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-14
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	12-31-13
Wisconsin	State Program	5	998310390	08-31-14

Method Summary

Client: GZA GeoEnvironmental, Inc.
Project/Site: GMCH Building 10 Stormsewer Exterior

TestAmerica Job ID: 480-48914-1

Method	Method Description	Protocol	Laboratory
8260C	TCLP Volatiles	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
7470A	TCLP Mercury	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: GZA GeoEnvironmental, Inc.
Project/Site: GMCH Building 10 Stormsewer Exterior

TestAmerica Job ID: 480-48914-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-48914-1	SS-BLDG-10-EXTERIOR-102813	Solid	10/28/13 13:15	10/29/13 15:15

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☒

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
GZA GeoEnvironmental	Christopher Boron	10/29/13	176535
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 1
535 Washington St	716 - 844 - 7046		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Buffalo / NY / 14203	T. Bohlen	S. Hoffman	
Project Name and Location (State)	**Carrier/Waybill Number**		
GMCH Bldg 10 Storm Sewer Exterior Lockport, NY			
Contract/Purchase Order/Quote No.			
21.0056546.00 Task 35			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: TCLP Metals	TCLP SVOCs	TCLP VOCs	Total PCBs	Special Instructions/ Conditions of Receipt
SS-BLDG-10-Exterior-102813	10/28/13	1315			X		4						X	X	X	X	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other Standard

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Thomas Bohlen	10/29/13	1515	TA BUFFALO	10/29/13	1515
2.						
3.						

Comments

#2 4.3

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Login Sample Receipt Checklist

Client: GZA GeoEnvironmental, Inc.

Job Number: 480-48914-1

Login Number: 48914

List Source: TestAmerica Buffalo

List Number: 1

Creator: Stau, Brandon M

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
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	
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	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	GZA GEO ENVIRONMENTAL
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

APPENDIX 4

National Vacuum Corp.

Environmental Contracting & Industrial Cleaning

CCTV INSPECTION REPORT PRESENTED TO:

GZA GeoEnvironmental of NY

FOR:

Storm Sewer Cleaning and Video Inspection between Building 7 and Building 10 at GMCH Lockport, NY

Inspection Date:

October 22-24, 2013

National Vacuum Corp
47th st
Niagara Falls
Tel.: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Table of contents

Project Name:	Project number:	Date:	Contact:	
GMCH Storm sewer cleanou		10/22/2013		

Profile Report 1

Inspection Summary 2

Inspection: 1

Project Information 16

Legend of Classification 17

Section: 1, MH-1 — 2-16 18

Section: 2, 10-2-16 — 10-3 21

Section: 3, 10-3 — 10-4 32

Section: 4, 10-1 — 10-2-16 37

Section: 5, 10-5-7 — 10-4 41

Section: 6, 10-6 — 10-5-7 43

Section: 7, 10-5-7 — 10-7 47

Section: 8, 10-7 — 10-8-21 51

Section: 9, 10-8-21 — 10-9 55

Section: 10, 10-9 — 10-10-6 60

Section: 11, 10-11-18 — 10-10-6 69

City :

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

∑∅ / Main sections / Inspection: 1

Project name	Project # :	Responsible :	Date :
GMCH Storm sewer cleanout			**10/22/2013**

No.	Start MH	End MH	Date	Street	Tape No.	Material	m	(m)
1	MH-1	2-16		Bldg 7-10 exterior	001	clay tile	35.15	**32.15**
4	10-1	10-2-16		Bldg 7-10	002	clay tile	166.85	**163.85**
Pipe size: ROUND 12 = 202 ft (196 ft)								

No.	Start MH	End MH	Date	Street	Tape No.	Material	m	(m)
2	10-2-16	10-3		Bldg 7-10 exterior	001	concrete	260.10	**257.10**
3	10-3	10-4		Bldg 7-10	002	concrete	178.90	**175.90**
5	10-5-7	10-4		Bldg 7-10	002	concrete	17.40	**12.80**
6	10-6	10-5-7		Bldg 7-10	002	concrete	104.95	**101.95**
7	10-5-7	10-7		Bldg 7-10	002	concrete	127.30	**124.30**
8	10-7	10-8-21		Bldg 7-10	002	concrete	125.85	**110.15**
9	10-8-21	10-9		Bldg 7-10	003	concrete	197.85	**194.85**
Pipe size: ROUND 18 = 1012.35 ft (977.05 ft)								

No.	Start MH	End MH	Date	Street	Tape No.	Material	m	(m)
10	10-9	10-10-6		Bldg 7-10	003	concrete	248.55	**245.85**
11	10-11-18	10-10-6		Bldg 7-10	003	concrete	139.85	**134.85**
Pipe size: ROUND 24 = 388.4 ft (380.7 ft)								

All sections = 1602.75 ft (1553.75 ft)

National Vacuum Corp
47th st
Niagara Falls
Tel.: 1-866-773-1167
Fax: 1-716-775-1213
Email tmcinerney@nationalvacuum.com

Inspection summary / Inspection: 1

Project Name:	Project number:	Date:	Contact:	
GMCH Storm sewer cleanout		10/22/2013		

Please find per enclosure the inspection report

Total Length of sewer network	**1567.60 ft**
Inspected Length of sewer network	**1521.60 ft**
Not inspected Length of sewer network	**46.00 ft**
Total Length of house connections (satellite)	**0.00 ft**
Inspected Length of house connections (satellite)	**0.00 ft**
Not inspected Length of house connections (satellite)	**0.00 ft**
Number of Sections	**10**
Number of house connections	**0**
Number of Photos	**131**

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

Sewer Reference:	storm	Section length:	35.15 ft
Section Numer:	1	Pipe length:	
Start node:	MH-1	Material	clay tile
End node:	2-16	Shape:	round

MH-1	3.00	0	inspection begins at upstream manhole
	15.10	220	Infiltration Seeping at joint at 08 o´clock
	18.50	130	scale/mineral deposits at joint from 04 to 05 o´clock light
	30.50	220	Infiltration Seeping at joint at 12 o´clock
2-16	35.15	0	camera blocked, inspection abandoned

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

Sewer Reference:	Storm	Section length:	260.10 ft
Section Numer:	2	Pipe length:	
Start node:	10-2-16	Material	concrete
End node:	10-3	Shape:	round

10-2-16	3.00	0	inspection begins at upstream manhole / Light Flow
	9.30	220	Infiltration Seeping at joint at 12 o´clock / Light
	17.45	220	Infiltration Seeping at joint at 12 o´clock / Light
	25.50	220	Infiltration Seeping at joint at 12 o´clock
	33.90	220	Infiltration Seeping at joint at 12 o´clock
	49.75	220	Infiltration Seeping at joint at 03 o´clock
	57.80	320	Infiltration Running at joint at 04 o´clock
	66.20	220	Infiltration Seeping at joint at 12 o´clock
	70.45	130	erosion light / Pipe wet at erosion site
	74.20	220	Infiltration Seeping at joint at 12 o´clock
	81.80	220	Infiltration Seeping at joint at 12 o´clock
	90.25	220	Infiltration Seeping at joint at 12 o´clock
	94.55	0	Hole in pipe at 12 o´clock / repaired but leaking
	98.50	220	Infiltration Seeping at joint at 12 o´clock
	106.65	220	Infiltration Seeping at joint at 12 o´clock, light
	122.65	220	Infiltration Seeping at joint at 03 o´clock
	130.80	150	offset joint, slight
	134.95	0	Hole in pipe at 01 o´clock / leaking repair
	138.75	220	Infiltration Seeping at joint at 12 o´clock
	143.00	0	Hole in pipe at 12 o´clock / leaking repair

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

146.90	220	Infiltration Seeping at joint at 12 o´clock
150.85	0	Hole in pipe at 12 o´clock / repair leaking
155.10	220	Infiltration Seeping at joint at 03 o´clock
159.10	0	Hole in pipe at 12 o´clock / repair leaking
163.35	220	Infiltration Seeping at joint at 03 o´clock
167.50	0	Hole in pipe at 01 o´clock / repair leaking
171.30	220	Infiltration Seeping at joint at 12 o´clock
175.40	0	Hole in pipe at 12 o´clock / repair leaking
187.20	220	Infiltration Seeping at joint at 12 o´clock
195.50	220	Infiltration Seeping at joint at 04 o´clock
203.50	220	Infiltration Seeping at joint at 12 o´clock
207.80	0	Hole in pipe at 11 o´clock / repair leaking
211.65	220	Infiltration Seeping at joint at 12 o´clock
215.90	0	Hole in pipe at 12 o´clock / repair leaking
219.90	220	Infiltration Seeping at joint at 12 o´clock
232.00	0	Hole in pipe at 11 o´clock / repair leaking
235.95	220	Infiltration Seeping at joint at 03 o´clock
240.00	0	Hole in pipe at 12 o´clock / repair leaking
243.90	250	offset joint, medium / seeping
246.50	160	break-in-connection, at 03 o´clock
248.00	0	Hole in pipe at 01 o´clock / repair leaking
252.20	220	Infiltration Seeping at joint at 12 o´clock

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

256.55	0	Hole in pipe at 12 o´clock / repair leaking
260.10	0	inspection ends at downstream manhole

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

Sewer Reference:	Storm	Section length:	178.90 ft
Section Numer:	3	Pipe length:	
Start node:	10-3	Material	concrete
End node:	10-4	Shape:	round

10-3	3.00	0	inspection begins at upstream manhole / light flow
	6.65	0	Hole in pipe at 11 o´clock / seeping
	10.75	220	Infiltration Seeping at joint at 12 o´clock
	14.55	0	Hole in pipe at 12 o´clock / seeping
	18.60	0	Longitudinal Fracture at 12 o´clock, Start
	21.05	0	Longitudinal Fracture at 12 o´clock, Finish
	26.70	220	Infiltration Seeping at joint at 03 o´clock
	39.00	0	Hole in pipe at 12 o´clock / seeping
	42.90	220	Infiltration Seeping at joint at 12 o´clock
	58.90	220	Infiltration Seeping at joint at 12 o´clock
	75.15	150	separated joint slight
	87.20	0	Hole in pipe at 01 o´clock / repair seeping
	91.20	220	Infiltration Seeping at joint at 12 o´clock
	127.50	0	Hole in pipe at 12 o´clock / repair seeping
	139.90	220	Infiltration Seeping at joint at 12 o´clock
	147.80	220	Infiltration Seeping at joint at 12 o´clock
	156.10	220	Infiltration Seeping at joint at 12 o´clock
	172.15	320	Infiltration Running at joint at 08 o´clock
10-4	178.90	0	inspection ends at downstream manhole

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

Sewer Reference:	Storm	Section length:	166.85 ft
Section Numer:	4	Pipe length:	
Start node:	10-1	Material	clay tile
End node:	10-2-16	Shape:	round

10-1	3.00	0	inspection begins at upstream manhole / light flow
	12.15	150	separated joint slight
	30.75	220	Infiltration Seeping at joint at 12 o´clock
	39.80	220	Infiltration Seeping at joint at 12 o´clock
	42.95	220	Infiltration Seeping at joint at 12 o´clock
	48.95	220	Infiltration Seeping at joint at 12 o´clock
	52.20	220	Infiltration Seeping at joint at 12 o´clock, light
	67.40	320	Infiltration Running at joint at 04 o´clock
	73.45	220	Infiltration Seeping at joint at 12 o´clock
	79.80	220	Infiltration Seeping at joint at 12 o´clock
	82.90	250	separated joint medium / seeping
	86.10	220	Infiltration Seeping at joint at 12 o´clock
	89.25	220	Infiltration Seeping at joint at 12 o´clock
	92.20	220	Infiltration Seeping at joint at 12 o´clock
	98.45	220	Infiltration Seeping at joint at 12 o´clock / around clock
	104.45	220	Infiltration Seeping at joint at 12 o´clock / around clock
	107.35	220	Infiltration Seeping at joint at 12 o´clock / around clock
	116.60	220	Infiltration Seeping at joint at 12 o´clock / around clock
	119.65	220	Infiltration Seeping at joint at 12 o´clock
	122.75	220	Infiltration Seeping at joint at 12 o´clock / around clock

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

	125.70	220	Infiltration Seeping at joint at 12 o´clock
	128.85	220	Infiltration Seeping at joint at 12 o´clock
	135.10	220	Infiltration Seeping at joint at 12 o´clock
	153.50	220	Infiltration Seeping at joint at 12 o´clock
10-2-16	166.85	0	inspection ends at downstream manhole / all joints seeping

Sewer Reference:	Storm	Section length:	17.40 ft
Section Numer:	5	Pipe length:	
Start node:	10-5-7	Material	concrete
End node:	10-4	Shape:	round

10-5-7	4.60	0	inspection begins at downstream manhole / light flow
10-4	17.40	0	inspection ends at upstream manhole / no defects

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

Sewer Reference:	Storm	Section length:	104.95 ft
Section Numer:	6	Pipe length:	
Start node:	10-6	Material	concrete
End node:	10-5-7	Shape:	round

10-5-7	3.00	0	inspection begins at upstream manhole
	8.35	0	Longitudinal Crack, at 12 o´clock, Start
	15.70	0	Longitudinal Crack, at 12 o´clock, Finish
	23.60	320	Infiltration Running at joint at 09 o´clock
	57.65	160	break-in-connection, at 10 o´clock / light flow
	58.70	160	break-in-connection, at 02 o´clock
10-6	104.95	0	inspection ends at upstream manhole

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

Sewer Reference:	Storm	Section length:	127.30 ft
Section Numer:	7	Pipe length:	
Start node:	10-5-7	Material	concrete
End node:	10-7	Shape:	round

10-5-7	3.00	0	inspection begins at upstream manhole / light flow
	12.50	220	Infiltration Seeping at joint at 12 o´clock
	20.40	0	Longitudinal Crack, at 12 o´clock, Start
	36.55	0	Longitudinal Crack, at 12 o´clock, Finish
	36.65	130	scale/mineral deposits at joint from 12 to 12 o´clock light
	43.50	160	break-in-connection, at 09 o´clock
	48.50	0	service connection capped, at 09 o´clock
	50.15	0	Hole in pipe at 01 o´clock / seeping
	93.20	230	scale/mineral deposits at joint from 04 to 08 o´clock medium
	101.35	250	offset joint, medium
	109.30	130	scale/mineral deposits at joint from 04 to 08 o´clock light
10-7	127.30	0	inspection ends at downstream manhole

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

Sewer Reference:	Storm	Section length:	125.85 ft
Section Numer:	8	Pipe length:	
Start node:	10-7	Material	concrete
End node:	10-8-21	Shape:	round

10-7	0.00	0	inspection begins at upstream manhole
	44.70	120	Infiltration Dripping at joint at 12 o´clock
	62.80	160	break-in-connection, at 09 o´clock
	78.05	220	Infiltration Seeping at joint at 12 o´clock
	94.35	130	scale/mineral deposits at joint from 04 to 08 o´clock light
	102.60	320	Infiltration Running at joint at 04 o´clock
10-8-21	110.15	0	inspection ends at downstream manhole

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

Sewer Reference:	Storm	Section length:	197.85 ft
Section Numer:	9	Pipe length:	
Start node:	10-8-21	Material	concrete
End node:	10-9	Shape:	round

10-9	3.00	0	inspection begins at downstream manhole / light steam and flow
	6.65	320	Infiltration Running at joint at 04 o´clock
	87.95	0	Circumferential Crack, from 03 to 05 o´clock
	101.75	160	break-in-connection, at 03 o´clock
	112.00	220	Infiltration Seeping at joint at 04 o´clock
	120.45	320	Infiltration Running at joint at 08 o´clock
	152.60	320	Infiltration Running at joint at 07 o´clock / medium flow
	168.85	320	Infiltration Running at joint at 07 o´clock / light flow
	184.95	150	separated joint slight
	185.55	150	offset joint, slight
	193.20	150	offset joint, slight
10-8-21	197.85	0	inspection ends at upstream manhole

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

Sewer Reference:	Storm	Section length:	248.55 ft
Section Numer:	10	Pipe length:	
Start node:	10-9	Material	concrete
End node:	10-10-6	Shape:	round

10-9	2.70	0	inspection begins at upstream manhole / light flow
	24.85	0	Longitudinal Fracture at 11 o´clock, Start
	36.55	0	Longitudinal Fracture at 11 o´clock, Finish
	49.10	220	Infiltration Seeping at joint at 12 o´clock
	49.10	0	Longitudinal Fracture at 12 o´clock, Start
	52.85	160	break-in-connection, at 09 o´clock
	56.30	0	Multiple Cracks, from 09 to 04 o´clock
	56.95	220	Infiltration Seeping at joint at 12 o´clock
	57.75	0	Longitudinal Fracture at 12 o´clock, Finish
	73.25	220	Infiltration Seeping at joint at 12 o´clock
	88.45	160	break-in-connection, at 02 o´clock
	106.90	0	Longitudinal Crack, at 11 o´clock, Start
	109.40	160	break-in-connection, at 03 o´clock
	113.35	0	Longitudinal Crack, at 11 o´clock, Finish
	121.65	0	Circumferential Fracture, from 11 to 01 o´clock
	186.65	0	Longitudinal Fracture at 12 o´clock, Start
	190.30	0	Longitudinal Fracture at 12 o´clock, Finish
	198.80	160	break-in-connection, at 09 o´clock / multiple cracks
	229.90	0	Longitudinal Crack, at 12 o´clock, Start
	234.85	0	Longitudinal Crack, at 12 o´clock, Finish

Inspection Summary / Inspection: 1

Date:	Responsible:			
10/22/2013				

	243.35	150	offset joint, slight
10-10-6	248.55	0	inspection ends at downstream manhole

Sewer Reference:	Storm	Section length:	139.85 ft
Section Numer:	11	Pipe length:	
Start node:	10-11-18	Material	concrete
End node:	10-10-6	Shape:	round

10-11-18	5.00	0	inspection begins at downstream manhole
	10.20	0	Longitudinal Crack, at 12 o´clock, Start
	58.90	0	Longitudinal Crack, at 12 o´clock, Finish
	58.90	0	Multiple Cracks, from 09 to 03 o´clock, Start
	83.00	0	Multiple Cracks, from 09 to 03 o´clock, Finish
	95.45	320	Infiltration Running at joint at 03 o´clock
	97.15	0	Longitudinal Crack, at 12 o´clock, Start
	103.20	0	Longitudinal Crack, at 12 o´clock, Finish
	107.40	0	Longitudinal Crack, at 12 o´clock, Start
	115.50	0	Longitudinal Crack, at 12 o´clock, Finish
10-10-6	139.85	0	inspection ends at upstream manhole

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Project Information / Inspection: 1

Project name	Project # :	Responsible :	Date :
GMCH Storm sewer cleanout			**10/22/2013**

Client:	**GZA**
Contact Name:	**Chris Boron**
Department:	**GZA**
Po Box:	
Street:	
City:	
Telephone:	
Fax:	
Mobile:	
E-mail:	

Site:	**GMCH**
Contact Name:	**Hillie Ladue**
Department:	**Enviromenal engineering**
Po Box:	
Street:	
City:	
Telephone:	
Fax:	
Mobile:	
E-mail:	

Contractor	**National Vacuum Corp**
Contact Name:	**Mr. Tom McInerney**
Department:	**Operations**
Po Box:	**ny**
Street:	**47th st**
City:	**Niagara Falls**
Telephone:	**1-866-773-1167**
Fax:	**1-716-775-1213**
Mobile:	**1-716-474-1427**
E-mail:	**tmcinerney@nationalvacuum.com**

National Vacuum Corp
47th st
City : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
tmcinerney@nationalvacuum.com

Legend of Classification / Inspection: 1

Project Name :	Project number :	Responsible :	Date :
GMCH Storm sewer cleanout			10/22/2013

1: These codes describe the physical condition of the sewer and the severity of the damage

STRUCTURAL CONDITION

2: These codes describe the capability of the sewer to meet its service requirements and indicate loss of capacity, potential for blockage and watertightness

SERVICE DEFECTS

3: These codes define features relating to the construction of the sewer

CONSTRUCTIONAL FEATURES

4: These codes define general items concerning the sewer

MISCELLANEOUS FEATURES

5: Collapsed or collapse imminent

Brick Sewers: Already collapsed, Missing Invert,Deformation >10% and fractured, Displaced/hanging brickwork and deformation <10%, Extensive areas of missing brickwork Clayware, concrete and plastic pipe sewers: Already collapsed, Deformation >10% and brok

National Vacuum Corp
47th st
Street : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinemey@nationalvacuum.com

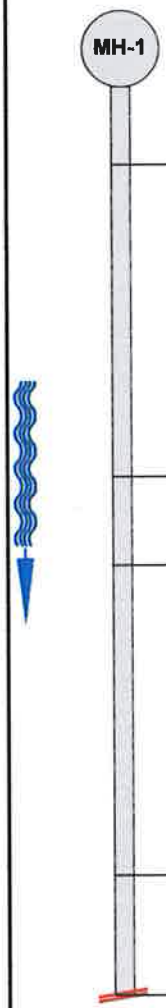
Inspection Report / Inspection: 1

Date:	Job # :	Weather :	Operator :	Section # :	Section name :
10/22/2013		**cloudy**	**Jeff Heeb**	**1**	**storm**
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**	**3**	**no**	

Street 1 :	**Bldg 7-10 exterior**	Map # 1 :		From MH :	**MH-1**
Street 2:		Map # 2 :		To MH :	**2-16**
City :	**Lockport**	VCR # :	**001**	Section length :	**35.15 ft**
Insp. method :	**Crawler**	Media # :		Joint length :	

Reason of inspection :	**gen. condition control**	Pipe shape :	**round**
Section type :	**storm water**	Pipe size :	**12 inch**
Area :	**bldg 7-10**	Pipe material :	**clay tile**
		Lining :	

Remarks :

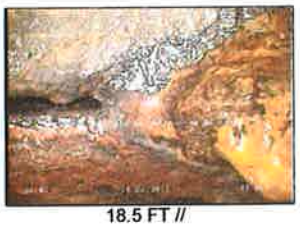


1:90 Position	Code	Observation	Rate
3.00	0	inspection begins at upstream manhole	
15.10	220	Infiltration Seeping at joint at 08 o´clock	
18.50	130	scale/mineral deposits at joint from 04 to 05 o´clock light	
30.50	220	Infiltration Seeping at joint at 12 o´clock	
35.15	0	camera blocked, inspection abandoned	


3 FT //


3 FT //


15.1 FT //


18.5 FT //


18.5 FT //

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport	**Bldg 7-10 exterior**	**10/22/2013**	**1**	**storm**

Photo: MH-1_2-16_1_22102013_105946_A.JPG
inspection begins at upstream manhole

Photo: MH-1_2-16_1_22102013_105953_B.JPG
inspection begins at upstream manhole

Photo: MH-1_2-16_2_22102013_110401_A.JPG
Infiltration Seeping at joint at 08 o´clock

Photo: MH-1_2-16_3_22102013_110749_A.JPG
scale/mineral deposits at joint from 04 to 05 o´clock light

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport	**Bldg 7-10 exterior**	**10/22/2013**	**1**	**storm**

Photo: MH-1_2-16_3_22102013_110802_B.JPG
scale/mineral deposits at joint from 04 to 05 o'clock light

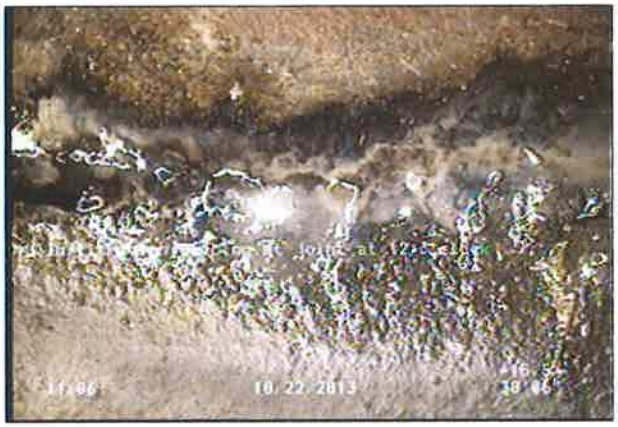


Photo: MH-1_2-16_4_22102013_111149_A.JPG
Infiltration Seeping at joint at 12 o'clock

Photo: MH-1_2-16_5_22102013_111421_A.JPG
camera blocked, inspection abandoned

National Vacuum Corp
47th st
Street : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinemey@nationalvacuum.com

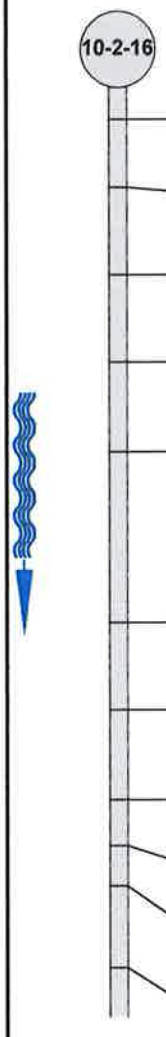
Inspection Report / Inspection: 1

Date:	Job # :	Weather :	Operator :	Section # :	Section name :
10/22/2013		**cloudy**	**Jeff Heeb**	**2**	**Storm**
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**	**3**	**yes**	

Street 1 :	**Bldg 7-10 exterior**	Map # 1 :		From MH :	**10-2-16**
Street 2:		Map # 2 :		To MH :	**10-3**
City :	**Lockport ny**	VCR # :	**001**	Section length :	**260.10 ft**
Insp. method :	**Crawler**	Media # :		Joint length :	

Reason of inspection :	**gen. condition control**	Pipe shape :	**round**
Section type :	**storm water**	Pipe size :	**18 inch**
Area :	**bldg 7-10**	Pipe material :	**concrete**
		Lining :	

Remarks :



1:216 Position	Code	Observation	Rate
3.00	0	inspection begins at upstream manhole / Light Flow	
9.30	220	Infiltration Seeping at joint at 12 o´clock / Light	
17.45	220	Infiltration Seeping at joint at 12 o´clock / Light	
25.50	220	Infiltration Seeping at joint at 12 o´clock	
33.90	220	Infiltration Seeping at joint at 12 o´clock	
49.75	220	Infiltration Seeping at joint at 03 o´clock	
57.80	320	Infiltration Running at joint at 04 o´clock	
66.20	220	Infiltration Seeping at joint at 12 o´clock	
70.45	130	erosion light / Pipe wet at erosion site	
74.20	220	Infiltration Seeping at joint at 12 o´clock	
81.80	220	Infiltration Seeping at joint at 12 o´clock	


3 FT //


3 FT //


9.3 FT //


33.9 FT //


49.75 FT //

National Vacuum Corp
47th st
City : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

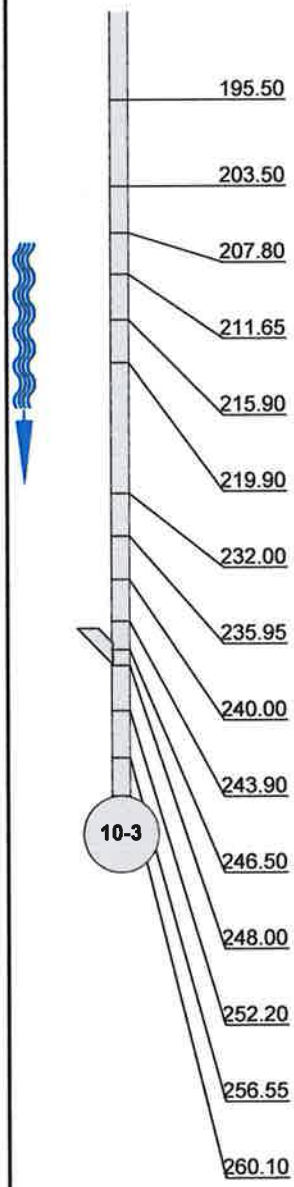
Date :	Job number :	Weather :	Operator :	Counter :	Section name :
10/22/2013		**cloudy**	**Jeff Heeb**	**2**	
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**		**yes**	

1:216 Position	Code	Observation	Rate
90.25	220	Infiltration Seeping at joint at 12 o´clock	
94.55	0	Hole in pipe at 12 o´clock / repaired but leaking	
98.50	220	Infiltration Seeping at joint at 12 o´clock	
106.65	220	Infiltration Seeping at joint at 12 o´clock, light	
122.65	220	Infiltration Seeping at joint at 03 o´clock	
130.80	150	offset joint, slight	
134.95	0	Hole in pipe at 01 o´clock / leaking repair	
138.75	220	Infiltration Seeping at joint at 12 o´clock	
143.00	0	Hole in pipe at 12 o´clock / leaking repair	
146.90	220	Infiltration Seeping at joint at 12 o´clock	
150.85	0	Hole in pipe at 12 o´clock / repair leaking	
155.10	220	Infiltration Seeping at joint at 03 o´clock	
159.10	0	Hole in pipe at 12 o´clock / repair leaking	
163.35	220	Infiltration Seeping at joint at 03 o´clock	
167.50	0	Hole in pipe at 01 o´clock / repair leaking	
171.30	220	Infiltration Seeping at joint at 12 o´clock	
175.40	0	Hole in pipe at 12 o´clock / repair leaking	
187.20	220	Infiltration Seeping at joint at 12 o´clock	

National Vacuum Corp
47th st
City : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

Date :	Job number :	Weather :	Operator :	Counter :	Section name :
10/22/2013		**cloudy**	**Jeff Heeb**	**2**	
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**		**yes**	



1:216 Position	Code	Observation	Rate
195.50	220	Infiltration Seeping at joint at 04 o´clock	
203.50	220	Infiltration Seeping at joint at 12 o´clock	
207.80	0	Hole in pipe at 11 o´clock / repair leaking	
211.65	220	Infiltration Seeping at joint at 12 o´clock	
215.90	0	Hole in pipe at 12 o´clock / repair leaking	
219.90	220	Infiltration Seeping at joint at 12 o´clock	
232.00	0	Hole in pipe at 11 o´clock / repair leaking	
235.95	220	Infiltration Seeping at joint at 03 o´clock	
240.00	0	Hole in pipe at 12 o´clock / repair leaking	
243.90	250	offset joint, medium / seeping	
246.50	160	break-in-connection, at 03 o´clock	
248.00	0	Hole in pipe at 01 o´clock / repair leaking	
252.20	220	Infiltration Seeping at joint at 12 o´clock	
256.55	0	Hole in pipe at 12 o´clock / repair leaking	
260.10	0	inspection ends at downstream manhole	

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10 exterior**	**10/22/2013**	**2**	**Storm**

Photo: 2-16_MH-3_1_22102013_145323_A.JPG
inspection begins at upstream manhole / Light Flow

Photo: 2-16_MH-3_1_22102013_145342_B.JPG
inspection begins at upstream manhole / Light Flow

Photo: 2-16_MH-3_2_22102013_145515_A.JPG
Infiltration Seeping at joint at 12 o´clock / Light

Photo: 2-16_MH-3_5_22102013_145907_A.JPG
Infiltration Seeping at joint at 12 o´clock

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10 exterior**	**10/22/2013**	**2**	**Storm**

Photo: 2-16_MH-3_6_22102013_150116_A.JPG
Infiltration Seeping at joint at 03 o´clock

Photo: 2-16_MH-3_7_22102013_150240_A.JPG
Infiltration Running at joint at 04 o´clock

Photo: 2-16_MH-3_9_22102013_150452_A.JPG
erosion light / Pipe wet at erosion site

Photo: 2-16_MH-3_10_22102013_150555_A.JPG
Infiltration Seeping at joint at 12 o´clock

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10 exterior**	**10/22/2013**	**2**	**Storm**

Photo: 2-16_MH-3_11_22102013_150715_A.JPG
Infiltration Seeping at joint at 12 o´clock

Photo: 2-16_MH-3_13_22102013_150929_A.JPG
Hole in pipe at 12 o´clock / repaired but leaking

Photo: 2-16_MH-3_18_22102013_151516_A.JPG
Hole in pipe at 01 o´clock / leaking repair

Photo: 2-16_MH-3_18_22102013_151530_B.JPG
Hole in pipe at 01 o´clock / leaking repair

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10 exterior**	**10/22/2013**	**2**	**Storm**

Photo: 2-16_MH-3_20_22102013_151705_A.JPG
Hole in pipe at 12 o´clock / leaking repair

Photo: 2-16_MH-3_20_22102013_151719_B.JPG
Hole in pipe at 12 o´clock / leaking repair

Photo: 2-16_MH-3_22_22102013_151902_A.JPG
Hole in pipe at 12 o´clock / repair leaking

Photo: 2-16_MH-3_22_22102013_151913_B.JPG
Hole in pipe at 12 o´clock / repair leaking

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10 exterior**	**10/22/2013**	**2**	**Storm**

Photo: 2-16_MH-3_24_22102013_152118_A.JPG
Hole in pipe at 12 o´clock / repair leaking

Photo: 2-16_MH-3_26_22102013_152412_A.JPG
Hole in pipe at 01 o´clock / repair leaking

Photo: 2-16_MH-3_28_22102013_152620_A.JPG
Hole in pipe at 12 o´clock / repair leaking

Photo: 2-16_MH-3_32_22102013_153138_A.JPG
Hole in pipe at 11 o´clock / repair leaking

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10 exterior**	**10/22/2013**	**2**	**Storm**

Photo: 2-16_MH-3_34_22102013_153325_A.JPG
Hole in pipe at 12 o´clock / repair leaking

Photo: 2-16_MH-3_36_22102013_153553_A.JPG
Hole in pipe at 11 o´clock / repair leaking

Photo: 2-16_MH-3_38_22102013_153733_A.JPG
Hole in pipe at 12 o´clock / repair leaking

Photo: 2-16_MH-3_39_22102013_153833_A.JPG
offset joint, medium / seeping

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10 exterior**	**10/22/2013**	**2**	**Storm**

Photo: 2-16_MH-3_39_22102013_153859_B.JPG
offset joint, medium / seeping

Photo: 2-16_MH-3_40_22102013_153951_A.JPG
break-in-connection, at 03 o´clock

Photo: 2-16_MH-3_40_22102013_154011_B.JPG
break-in-connection, at 03 o´clock

Photo: 2-16_MH-3_41_22102013_154128_A.JPG
Hole in pipe at 01 o´clock / repair leaking

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10 exterior**	**10/22/2013**	**2**	**Storm**

Photo: 2-16_MH-3_43_22102013_154253_A.JPG
Hole in pipe at 12 o´clock / repair leaking

Photo: 2-16_MH-3_44_22102013_154412_A.JPG
inspection ends at downstream manhole

National Vacuum Corp
47th st
Street : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

Date:	Job # :	Weather :	Operator :	Section # :	Section name :
10/23/2013		**rain**	**Jeff Heeb**	**3**	**Storm**
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**	**3**	**yes**	

Street 1 :	**Bldg 7-10**	Map # 1 :		From MH :	**10-3**
Street 2:		Map # 2 :		To MH :	**10-4**
City :	**Lockport ny**	VCR # :	**002**	Section length :	**178.90 ft**
Insp. method :		Media # :		Joint length :	

Reason of inspection :	**gen. condition control**	Pipe shape :	**round**
Section type :	**storm water**	Pipe size :	**18 inch**
Area :	**Bldg 7-10**	Pipe material :	**concrete**
		Lining :	

Remarks :

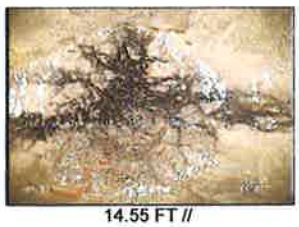
1:270	Position	Code	Observation	Rate
	3.00	0	inspection begins at upstream manhole / light flow	
	6.65	0	Hole in pipe at 11 o´clock / seeping	
	10.75	220	Infiltration Seeping at joint at 12 o´clock	
	14.55	0	Hole in pipe at 12 o´clock / seeping	
	18.60 S1	0	Longitudinal Fracture at 12 o´clock, Start	
	21.05 E1	0	Longitudinal Fracture at 12 o´clock, Finish	
	26.70	220	Infiltration Seeping at joint at 03 o´clock	
	39.00	0	Hole in pipe at 12 o´clock / seeping	
	42.90	220	Infiltration Seeping at joint at 12 o´clock	
	58.90	220	Infiltration Seeping at joint at 12 o´clock	
	75.15	150	separated joint slight	
	87.20	0	Hole in pipe at 01 o´clock / repair seeping	
	91.20	220	Infiltration Seeping at joint at 12 o´clock	


3 FT //


3 FT //


6.65 FT //


6.65 FT //

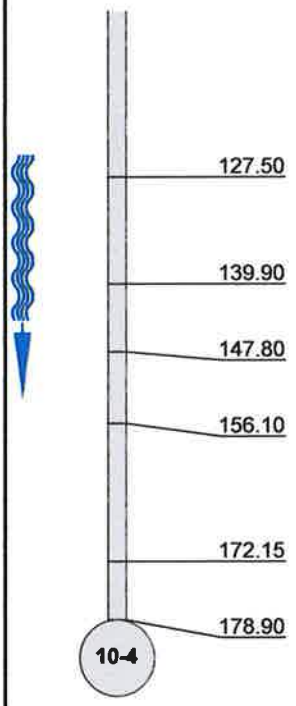

14.55 FT //

National Vacuum Corp
47th st
City : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

Date :	Job number :	Weather :	Operator :	Counter :	Section name :
10/23/2013		**rain**	**Jeff Heeb**	**3**	
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**		**yes**	

1:270 Position	Code	Observation	Rate
127.50	0	Hole in pipe at 12 o´clock / repair seeping	
139.90	220	Infiltration Seeping at joint at 12 o´clock	
147.80	220	Infiltration Seeping at joint at 12 o´clock	
156.10	220	Infiltration Seeping at joint at 12 o´clock	
172.15	320	Infiltration Running at joint at 08 o´clock	
178.90	0	inspection ends at downstream manhole	



National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**3**	**Storm**

Photo: 10-3_10-4_1_23102013_090507_A.JPG
inspection begins at upstream manhole / light flow

Photo: 10-3_10-4_1_23102013_090500_B.JPG
inspection begins at upstream manhole / light flow

Photo: 10-3_10-4_2_23102013_090558_A.JPG
Hole in pipe at 11 o´clock / seeping

Photo: 10-3_10-4_2_23102013_090618_B.JPG
Hole in pipe at 11 o´clock / seeping

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**3**	**Storm**

Photo: 10-3_10-4_4_23102013_090806_A.JPG
Hole in pipe at 12 o´clock / seeping

Photo: 10-3_10-4_5_23102013_090910_A.JPG
Longitudinal Fracture at 12 o´clock, Start

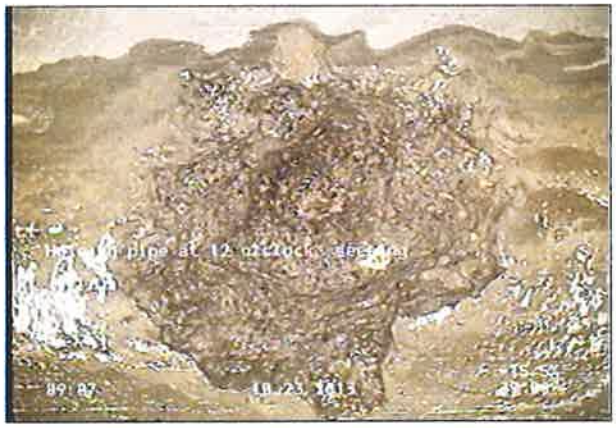


Photo: 10-3_10-4_8_23102013_091213_A.JPG
Hole in pipe at 12 o´clock / seeping

Photo: 10-3_10-4_11_23102013_091724_A.JPG
separated joint slight

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**3**	**Storm**

Photo: 10-3_10-4_12_23102013_091859_A.JPG
Hole in pipe at 01 o´clock / repair seeping

Photo: 10-3_10-4_18_23102013_093033_A.JPG
Infiltration Running at joint at 08 o´clock

Photo: 10-3_10-4_19_23102013_093200_A.JPG
inspection ends at downstream manhole

National Vacuum Corp
47th st
Street : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinemey@nationalvacuum.com

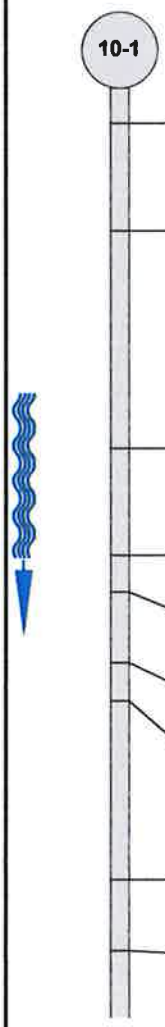
Inspection Report / Inspection: 1

Date:	Job # :	Weather :	Operator :	Section # :	Section name :
10/23/2013		**cloudy**	**Jeff Heeb**	**4**	**Storm**
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**	**3**	**yes**	

Street 1 :	**Bldg 7-10**	Map # 1 :		From MH :	**10-1**
Street 2:		Map # 2 :		To MH :	**10-2-16**
City :	**Lockport ny**	VCR # :	**002**	Section length :	**166.85 ft**
Insp. method :	**Crawler**	Media # :		Joint length :	

Reason of inspection :	**gen. condition control**	Pipe shape :	**round**
Section type :	**storm water**	Pipe size :	**12 inch**
Area :	**Bldg 7-10**	Pipe material :	**clay tile**
		Lining :	

Remarks :



1:198 Position	Code	Observation	Rate
3.00	0	inspection begins at upstream manhole / light flow	
12.15	150	separated joint slight	
30.75	220	Infiltration Seeping at joint at 12 o´clock	
39.80	220	Infiltration Seeping at joint at 12 o´clock	
42.95	220	Infiltration Seeping at joint at 12 o´clock	
48.95	220	Infiltration Seeping at joint at 12 o´clock	
52.20	220	Infiltration Seeping at joint at 12 o´clock, light	
67.40	320	Infiltration Running at joint at 04 o´clock	
73.45	220	Infiltration Seeping at joint at 12 o´clock	


3 FT //


3 FT //


12.15 FT //

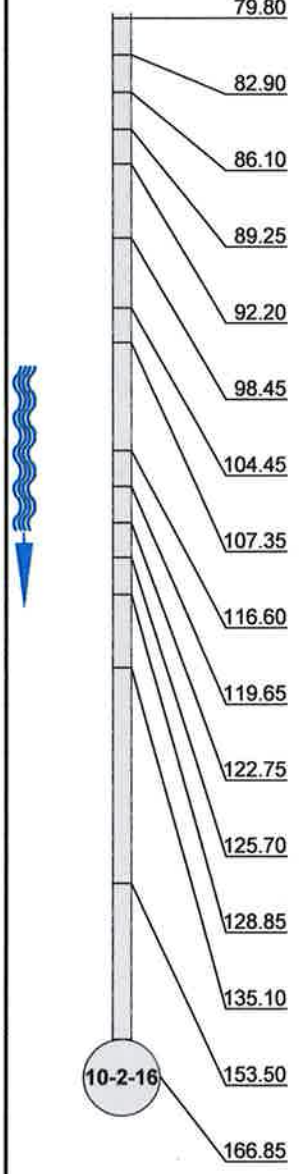

67.4 FT //


82.9 FT //

National Vacuum Corp
47th st
City : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

Date :	Job number :	Weather :	Operator :	Counter :	Section name :
10/23/2013		**cloudy**	**Jeff Heeb**	**4**	
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**		**yes**	



1:198 Position	Code	Observation	Rate
79.80	220	Infiltration Seeping at joint at 12 o´clock	
82.90	250	separated joint medium / seeping	
86.10	220	Infiltration Seeping at joint at 12 o´clock	
89.25	220	Infiltration Seeping at joint at 12 o´clock	
92.20	220	Infiltration Seeping at joint at 12 o´clock	
98.45	220	Infiltration Seeping at joint at 12 o´clock / around clock	
104.45	220	Infiltration Seeping at joint at 12 o´clock / around clock	
107.35	220	Infiltration Seeping at joint at 12 o´clock / around clock	
116.60	220	Infiltration Seeping at joint at 12 o´clock / around clock	
119.65	220	Infiltration Seeping at joint at 12 o´clock	
122.75	220	Infiltration Seeping at joint at 12 o´clock / around clock	
125.70	220	Infiltration Seeping at joint at 12 o´clock	
128.85	220	Infiltration Seeping at joint at 12 o´clock	
135.10	220	Infiltration Seeping at joint at 12 o´clock	
153.50	220	Infiltration Seeping at joint at 12 o´clock	
166.85	0	inspection ends at downstream manhole / all joints seeping	

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**4**	**Storm**

Photo: 10-1_10-2-16_1_23102013_095507_A.JPG
inspection begins at upstream manhole / light flow

Photo: 10-1_10-2-16_1_23102013_095534_B.JPG
inspection begins at upstream manhole / light flow

Photo: 10-1_10-2-16_2_23102013_095756_A.JPG
separated joint slight

Photo: 10-1_10-2-16_8_23102013_100842_A.JPG
Infiltration Running at joint at 04 o´clock

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**4**	**Storm**

Photo: 10-1_10-2-16_11_23102013_101234_A.JPG
separated joint medium / seeping

Photo: 10-1_10-2-16_25_23102013_103125_A.JPG
inspection ends at downstream manhole / all joints seeping

National Vacuum Corp
47th st
Street : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

Date:	Job # :	Weather :	Operator :	Section # :	Section name :
10/23/2013		**drizzle**	**Jeff Heeb**	**5**	**Storm**
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**	**3**	**yes**	

Street 1 :	**Bldg 7-10**	Map # 1 :		From MH :	**10-5-7**
Street 2:		Map # 2 :		To MH :	**10-4**
City :	**Lockport ny**	VCR # :	**002**	Section length :	**17.40 ft**
Insp. method :	**crawler**	Media # :		Joint length :	

Reason of inspection :	**gen. condition control**	Pipe shape :	**round**
Section type :	**storm water**	Pipe size :	**18 inch**
Area :	**Bldg 7-10**	Pipe material :	**concrete**
		Lining :	

Remarks :

1:50	Position	Code	Observation	Rate
10-5-7				
	4.60	0	inspection begins at downstream manhole / light flow	
	17.40	0	inspection ends at upstream manhole / no defects	
10-4				


4.6 FT //


4.6 FT //


17.4 FT //

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**5**	**Storm**

Photo: 10-5-7_10-4_1_23102013_105829_A.JPG
inspection begins at downstream manhole / light flow

Photo: 10-5-7_10-4_1_23102013_105903_B.JPG
inspection begins at downstream manhole / light flow

Photo: 10-5-7_10-4_2_23102013_110128_A.JPG
inspection ends at upstream manhole / no defects

National Vacuum Corp
47th st
Street : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

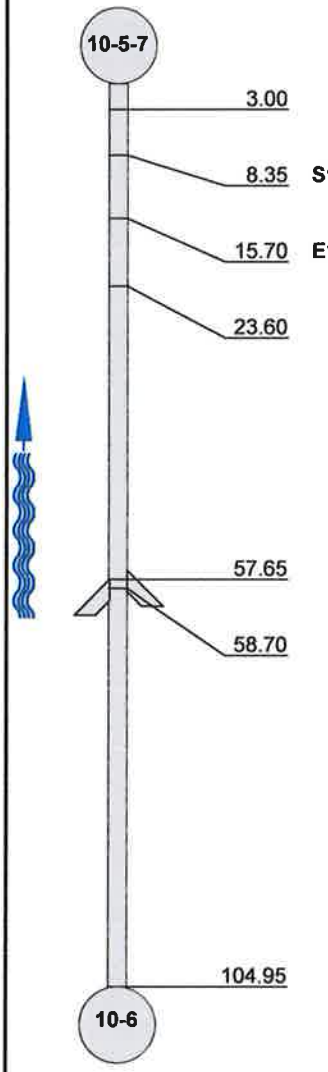
Inspection Report / Inspection: 1

Date:	Job # :	Weather :	Operator :	Section # :	Section name :
10/23/2013		**rain**	**Jeff Heeb**	**6**	**Storm**
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**	**3**	**yes**	

Street 1 :	**Bldg 7-10**	Map # 1 :		From MH :	**10-6**
Street 2:		Map # 2 :		To MH :	**10-5-7**
City :	**Lockport ny**	VCR # :	**002**	Section length :	**104.95 ft**
Insp. method :	**Crawler**	Media # :		Joint length :	

Reason of inspection :	**gen. condition control**	Pipe shape :	**round**
Section type :	**storm water**	Pipe size :	**18 inch**
Area :	**Bldg 7-10**	Pipe material :	**concrete**
		Lining :	

Remarks :



1:270 Position		Code	Observation	Rate
3.00		0	inspection begins at upstream manhole	
8.35	S1	0	Longitudinal Crack, at 12 o´clock, Start	
15.70	E1	0	Longitudinal Crack, at 12 o´clock, Finish	
23.60		320	Infiltration Running at joint at 09 o´clock	
57.65		160	break-in-connection, at 10 o´clock / light flow	
58.70		160	break-in-connection, at 02 o´clock	
104.95		0	inspection ends at upstream manhole	


3 FT //


3 FT //


8.35 FT //


15.7 FT //


23.6 FT //

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**6**	**Storm**

Photo: 10-6_10-5-7_1_23102013_113045_A.JPG
inspection begins at upstream manhole

Photo: 10-6_10-5-7_1_23102013_113116_B.JPG
inspection begins at upstream manhole

Photo: 10-6_10-5-7_2_23102013_113458_A.JPG
Longitudinal Crack, at 12 o´clock, Start

Photo: 10-6_10-5-7_3_23102013_113546_A.JPG
Longitudinal Crack, at 12 o´clock, Finish

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**6**	**Storm**

Photo: 10-6_10-5-7_4_23102013_114354_A.JPG
Infiltration Running at joint at 09 o´clock

Photo: 10-6_10-5-7_5_23102013_114625_A.JPG
break-in-connection, at 10 o´clock / light flow

Photo: 10-6_10-5-7_5_23102013_114639_B.JPG
break-in-connection, at 10 o´clock / light flow

Photo: 10-6_10-5-7_6_23102013_114705_A.JPG
break-in-connection, at 02 o´clock

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	Bldg 7-10	10/23/2013	6	Storm

Photo: 10-6_10-5-7_6_23102013_114717_B.JPG
break-in-connection, at 02 o´clock

Photo: 10-6_10-5-7_7_23102013_115151_A.JPG
inspection ends at upstream manhole

National Vacuum Corp
47th st
Street : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

Date:	Job # :	Weather :	Operator :	Section # :	Section name :
10/23/2013		rain	Jeff Heeb	7	Storm
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	camera 1	3	yes	

Street 1 :	Bldg 7-10	Map # 1 :		From MH :	10-5-7
Street 2:		Map # 2 :		To MH :	10-7
City :	Lockport ny	VCR # :	002	Section length :	127.30 ft
Insp. method :	Crawler	Media # :		Joint length :	

Reason of inspection :	gen. condition control	Pipe shape :	round
Section type :	storm water	Pipe size :	18 inch
Area :	Bldg 7-10	Pipe material :	concrete
		Lining :	

Remarks :

1:330

Position		Code	Observation	Rate
3.00		0	inspection begins at upstream manhole / light flow	
12.50		220	Infiltration Seeping at joint at 12 o´clock	
20.40	S1	0	Longitudinal Crack, at 12 o´clock, Start	
36.55	E1	0	Longitudinal Crack, at 12 o´clock, Finish	
36.65		130	scale/mineral deposits at joint from 12 to 12 o´clock light	
43.50		160	break-in-connection, at 09 o´clock	
48.50		0	service connection capped, at 09 o´clock	
50.15		0	Hole in pipe at 01 o´clock / seeping	
93.20		230	scale/mineral deposits at joint from 04 to 08 o´clock medium	
101.35		250	offset joint, medium	
109.30		130	scale/mineral deposits at joint from 04 to 08 o´clock light	
127.30		0	inspection ends at downstream manhole	


3 FT //


3 FT //


20.4 FT //


36.65 FT //


43.5 FT //

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**7**	**Storm**

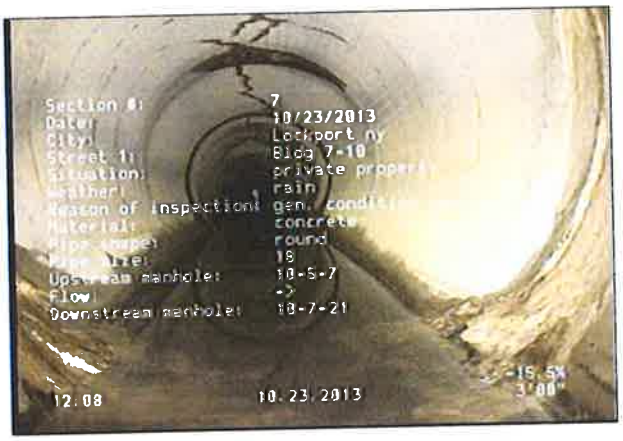


Photo: 10-5-7_10-7-21_1_23102013_121329_A.JPG
inspection begins at upstream manhole / light flow

Photo: 10-5-7_10-7-21_1_23102013_121357_B.JPG
inspection begins at upstream manhole / light flow

Photo: 10-5-7_10-7-21_3_23102013_121941_A.JPG
Longitudinal Crack, at 12 o´clock, Start

Photo: 10-5-7_10-7-21_5_23102013_122130_A.JPG
scale/mineral deposits at joint from 12 to 12 o´clock light

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	Bldg 7-10	10/23/2013	7	Storm

Photo: 10-5-7_10-7-21_6_23102013_122208_A.JPG
break-in-connection, at 09 o´clock

Photo: 10-5-7_10-7-21_6_23102013_122225_B.JPG
break-in-connection, at 09 o´clock

Photo: 10-5-7_10-7-21_7_23102013_122352_A.JPG
service connection capped, at 09 o´clock

Photo: 10-5-7_10-7-21_7_23102013_122407_B.JPG
service connection capped, at 09 o´clock

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**7**	**Storm**

Photo: 10-5-7_10-7-21_10_23102013_123411_A.JPG
offset joint, medium

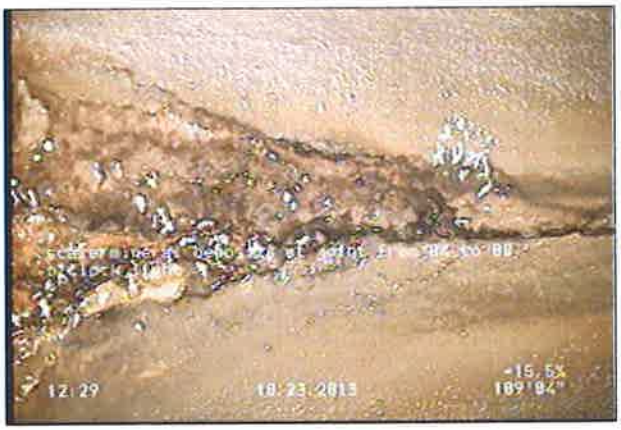


Photo: 10-5-7_10-7-21_11_23102013_123502_A.JPG
scale/mineral deposits at joint from 04 to 08 o´clock light

Photo: 10-5-7_10-7-21_12_23102013_123650_A.JPG
inspection ends at downstream manhole

National Vacuum Corp
47th st
Street : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

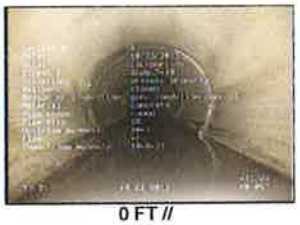
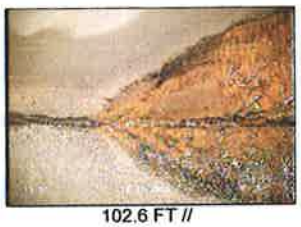
Inspection Report / Inspection: 1

Date:	Job # :	Weather :	Operator :	Section # :	Section name :
10/23/2013		cloudy	Jeff Heeb	8	Storm
Present :	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Rate :**
	1226	camera 1	0	yes	

Street 1 :	Bldg 7-10	Map # 1 :		From MH :	10-7
Street 2:		Map # 2 :		To MH :	10-8-21
City :	Lockport ny	VCR # :	002	Section length :	125.85 ft
Insp. method :	crawler	Media # :		Joint length :	

Reason of inspection :	gen. condition control	Pipe shape :	round
Section type :	storm water	Pipe size :	18 inch
Area :	Bldg 7-10	Pipe material :	concrete
		Lining :	

Remarks :

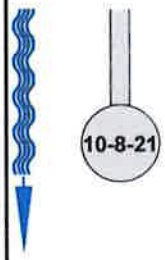
1:285 Position	Code	Observation	Rate
10-7			
0.00	0	inspection begins at upstream manhole	 0 FT //
			 0 FT //
44.70	120	Infiltration Dripping at joint at 12 o´clock	 62.8 FT //
62.80	160	break-in-connection, at 09 o´clock	
78.05	220	Infiltration Seeping at joint at 12 o´clock	 62.8 FT //
94.35	130	scale/mineral deposits at joint from 04 to 08 o´clock light	
102.60	320	Infiltration Running at joint at 04 o´clock	 102.6 FT //
110.15	0	inspection ends at downstream manhole	

National Vacuum Corp
47th st
City : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

Date :	Job number :	Weather :	Operator :	Counter :	Section name :
10/23/2013		cloudy	Jeff Heeb	8	
Present :	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Rate :**
	1226	camera 1		yes	

1:285	Position	Code	Observation	Rate



National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**8**	**Storm**

Photo: 10-7_10-8-21_1_23102013_132909_A.JPG
inspection begins at upstream manhole

Photo: 10-7_10-8-21_1_23102013_132930_B.JPG
inspection begins at upstream manhole

Photo: 10-7_10-8-21_3_23102013_133905_A.JPG
break-in-connection, at 09 o´clock

Photo: 10-7_10-8-21_3_23102013_133920_B.JPG
break-in-connection, at 09 o´clock

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/23/2013**	**8**	**Storm**

Photo: 10-7_10-8-21_6_23102013_134244_A.JPG
Infiltration Running at joint at 04 o´clock

Photo: 10-7_10-8-21_7_23102013_134409_A.JPG
inspection ends at downstream manhole

National Vacuum Corp
47th st
Street : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

Date:	Job # :	Weather :	Operator :	Section # :	Section name :
10/24/2013		**sunny, dry**	**Jeff Heeb**	**9**	**Storm**
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**	**3**	**yes**	

Street 1 :	**Bldg 7-10**	Map # 1 :		From MH :	**10-8-21**
Street 2:		Map # 2 :		To MH :	**10-9**
City :	**Lockport ny**	VCR # :	**003**	Section length :	**197.85 ft**
Insp. method :	**crawler**	Media # :		Joint length :	

Reason of inspection :	**gen. condition control**	Pipe shape :	**round**
Section type :	**storm water**	Pipe size :	**18 inch**
Area :	**Bldg 7-10**	Pipe material :	**concrete**
		Lining :	

Remarks :

1:495 Position	Code	Observation	Rate
3.00	0	inspection begins at downstream manhole / light steam and flow	
6.65	320	Infiltration Running at joint at 04 o´clock	
87.95	0	Circumferential Crack, from 03 to 05 o´clock	
101.75	160	break-in-connection, at 03 o´clock	
112.00	220	Infiltration Seeping at joint at 04 o´clock	
120.45	320	Infiltration Running at joint at 08 o´clock	
152.60	320	Infiltration Running at joint at 07 o´clock / medium flow	
168.85	320	Infiltration Running at joint at 07 o´clock / light flow	
184.95	150	separated joint slight	
185.55	150	offset joint, slight	
193.20	150	offset joint, slight	
197.85	0	inspection ends at upstream manhole	


3 FT //


3 FT //


6.65 FT //


87.95 FT //


101.75 FT //

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**9**	**Storm**

Photo: 10-8-21_10-9_1_24102013_083813_A.JPG
inspection begins at downstream manhole / light steam and flow

Photo: 10-8-21_10-9_1_24102013_083845_B.JPG
inspection begins at downstream manhole / light steam and flow

Photo: 10-8-21_10-9_2_24102013_083933_A.JPG
Infiltration Running at joint at 04 o´clock

Photo: 10-8-21_10-9_3_24102013_084918_A.JPG
Circumferential Crack, from 03 to 05 o´clock

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**9**	**Storm**

Photo: 10-8-21_10-9_4_24102013_085111_A.JPG
break-in-connection, at 03 o´clock

Photo: 10-8-21_10-9_4_24102013_085130_B.JPG
break-in-connection, at 03 o´clock

Photo: 10-8-21_10-9_5_24102013_085252_A.JPG
Infiltration Seeping at joint at 04 o´clock

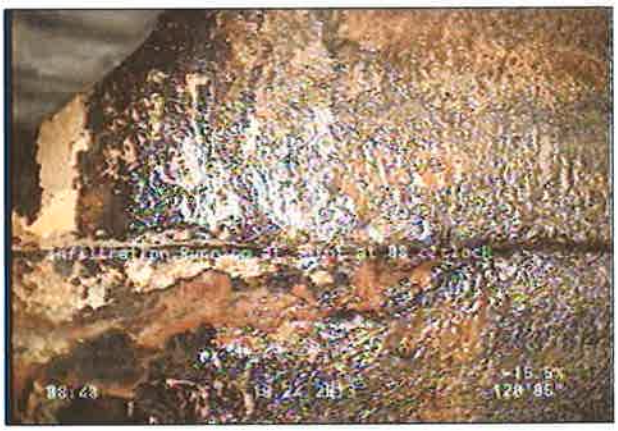


Photo: 10-8-21_10-9_6_24102013_085404_A.JPG
Infiltration Running at joint at 08 o´clock

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**9**	**Storm**

Photo: 10-8-21_10-9_7_24102013_085718_A.JPG
Infiltration Running at joint at 07 o´clock / medium flow

Photo: 10-8-21_10-9_7_24102013_085748_B.JPG
Infiltration Running at joint at 07 o´clock / medium flow

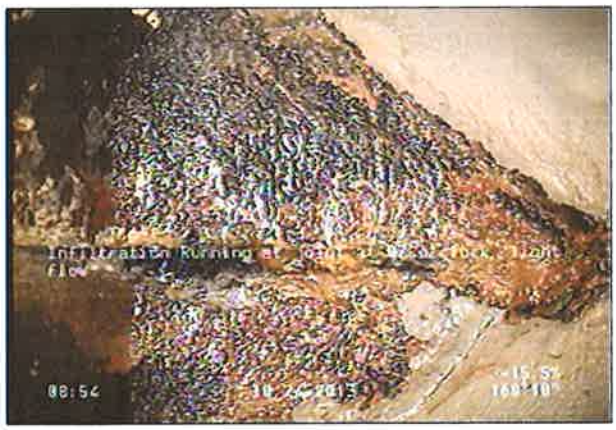


Photo: 10-8-21_10-9_8_24102013_085931_A.JPG
Infiltration Running at joint at 07 o´clock / light flow

Photo: 10-8-21_10-9_9_24102013_090132_A.JPG
separated joint slight

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**9**	**Storm**

Photo: 10-8-21_10-9_12_24102013_090400_A.JPG
inspection ends at upstream manhole

National Vacuum Corp
47th st
Street : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

Date:	Job # :	Weather :	Operator :	Section # :	Section name :
10/24/2013		**sunny, dry**	**Jeff Heeb**	**10**	**Storm**
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**	**3**	**yes**	

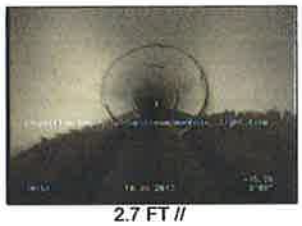
Street 1 :	**Bldg 7-10**	Map # 1 :		From MH :	**10-9**
Street 2:		Map # 2 :		To MH :	**10-10-6**
City :	**Lockport ny**	VCR # :	**003**	Section length :	**248.55 ft**
Insp. method :	**crawler**	Media # :		Joint length :	

Reason of inspection :	**gen. condition control**	Pipe shape :	**round**
Section type :	**storm water**	Pipe size :	**24 inch**
Area :	**Bldg 7-10**	Pipe material :	**concrete**
		Lining :	

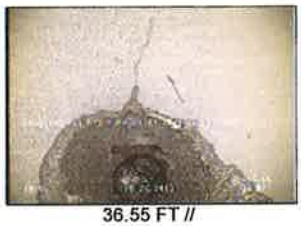
Remarks :

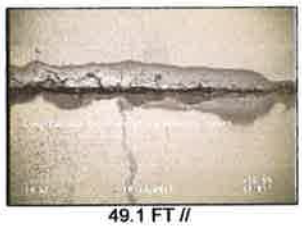
1:252 Position		Code	Observation	Rate
2.70		0	inspection begins at upstream manhole / light flow	
24.85	S1	0	Longitudinal Fracture at 11 o´clock, Start	
36.55	E1	0	Longitudinal Fracture at 11 o´clock, Finish	
49.10		220	Infiltration Seeping at joint at 12 o´clock	
49.10	S2	0	Longitudinal Fracture at 12 o´clock, Start	
52.85		160	break-in-connection, at 09 o´clock	
56.30		0	Multiple Cracks, from 09 to 04 o´clock	
56.95		220	Infiltration Seeping at joint at 12 o´clock	
57.75	E2	0	Longitudinal Fracture at 12 o´clock, Finish	
73.25		220	Infiltration Seeping at joint at 12 o´clock	
88.45		160	break-in-connection, at 02 o´clock	


2.7 FT //


2.7 FT //


24.85 FT //


36.55 FT //


49.1 FT //

National Vacuum Corp
47th st
City : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

Date :	Job number :	Weather :	Operator :	Counter :	Section name :
10/24/2013		**sunny, dry**	**Jeff Heeb**	**10**	
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**		**yes**	

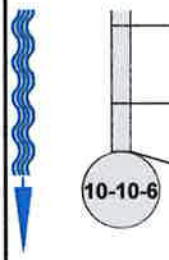
1:252 Position		Code	Observation	Rate
106.90	S3	0	Longitudinal Crack, at 11 o´clock, Start	
109.40		160	break-in-connection, at 03 o´clock	
113.35	E3	0	Longitudinal Crack, at 11 o´clock, Finish	
121.65		0	Circumferential Fracture, from 11 to 01 o´clock	
186.65	S4	0	Longitudinal Fracture at 12 o´clock, Start	
190.30	E4	0	Longitudinal Fracture at 12 o´clock, Finish	
198.80		160	break-in-connection, at 09 o´clock / multiple cracks	
229.90	S5	0	Longitudinal Crack, at 12 o´clock, Start	

National Vacuum Corp
47th st
City : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

Date :	Job number :	Weather :	Operator :	Counter :	Section name :
10/24/2013		**sunny, dry**	**Jeff Heeb**	**10**	
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**		**yes**	

1:252 Position		Code	Observation	Rate
234.85	E5	0	Longitudinal Crack, at 12 o´clock, Finish	
243.35		150	offset joint, slight	
248.55		0	inspection ends at downstream manhole	



National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinemey@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**10**	**Storm**

Photo: 10-9_10-10-6_1_24102013_105555_A.JPG
inspection begins at upstream manhole / light flow

Photo: 10-9_10-10-6_1_24102013_105613_B.JPG
inspection begins at upstream manhole / light flow

Photo: 10-9_10-10-6_2_24102013_105910_A.JPG
Longitudinal Fracture at 11 o´clock, Start

Photo: 10-9_10-10-6_3_24102013_110043_A.JPG
Longitudinal Fracture at 11 o´clock, Finish

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**10**	**Storm**

Photo: 10-9_10-10-6_5_24102013_110253_A.JPG
Longitudinal Fracture at 12 o´clock, Start

Photo: 10-9_10-10-6_6_24102013_110627_A.JPG
break-in-connection, at 09 o´clock

Photo: 10-9_10-10-6_6_24102013_110648_B.JPG
break-in-connection, at 09 o´clock

Photo: 10-9_10-10-6_6_24102013_110443_A.JPG
Multiple Cracks, from 09 to 04 o´clock

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**10**	**Storm**

Photo: 10-9_10-10-6_6_24102013_110342_A.JPG
Longitudinal Fracture at 12 o´clock, Finish

Photo: 10-9_10-10-6_11_24102013_111047_A.JPG
break-in-connection, at 02 o´clock

Photo: 10-9_10-10-6_11_24102013_111104_B.JPG
break-in-connection, at 02 o´clock

Photo: 10-9_10-10-6_12_24102013_111516_A.JPG
Longitudinal Crack, at 11 o´clock, Start

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**10**	**Storm**

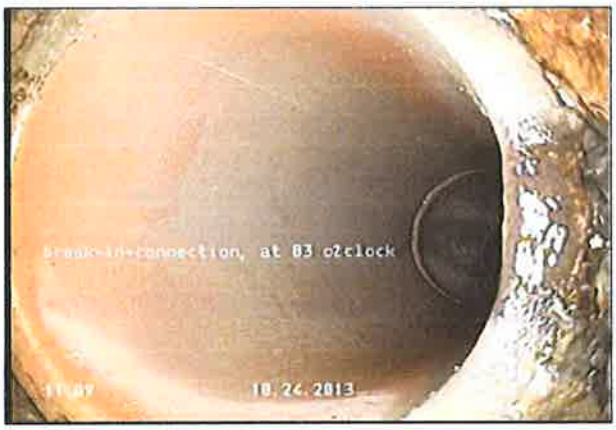


Photo: 10-9_10-10-6_12_24102013_111412_A.JPG
break-in-connection, at 03 o´clock

Photo: 10-9_10-10-6_12_24102013_111433_B.JPG
break-in-connection, at 03 o´clock

Photo: 10-9_10-10-6_14_24102013_111553_A.JPG
Longitudinal Crack, at 11 o´clock, Finish

Photo: 10-9_10-10-6_15_24102013_111723_A.JPG
Circumferential Fracture, from 11 to 01 o´clock

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**10**	**Storm**

Photo: 10-9_10-10-6_16_24102013_112259_A.JPG
Longitudinal Fracture at 12 o´clock, Start

Photo: 10-9_10-10-6_17_24102013_112322_A.JPG
Longitudinal Fracture at 12 o´clock, Finish

Photo: 10-9_10-10-6_18_24102013_112435_A.JPG
break-in-connection, at 09 o´clock / multiple cracks

Photo: 10-9_10-10-6_18_24102013_112450_B.JPG
break-in-connection, at 09 o´clock / multiple cracks

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**10**	**Storm**

Photo: 10-9_10-10-6_19_24102013_112710_A.JPG
Longitudinal Crack, at 12 o´clock, Start

Photo: 10-9_10-10-6_20_24102013_112809_A.JPG
Longitudinal Crack, at 12 o´clock, Finish

Photo: 10-9_10-10-6_22_24102013_112927_A.JPG
inspection ends at downstream manhole

National Vacuum Corp
47th st
Street : Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Report / Inspection: 1

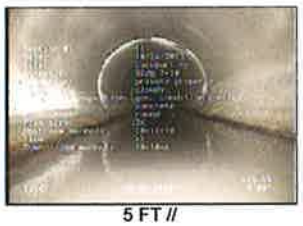
Date:	Job # :	Weather :	Operator :	Section # :	Section name :
10/24/2013		**cloudy**	**Jeff Heeb**	**11**	**Storm**
Present :	Vehicle :	Camera :	Preset :	Cleaned :	Rate :
	1226	**camera 1**	**5**	**yes**	

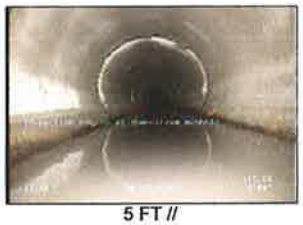
Street 1 :	**Bldg 7-10**	Map # 1 :		From MH :	**10-11-18**
Street 2:		Map # 2 :		To MH :	**10-10-6**
City :	**Lockport ny**	VCR # :	**003**	Section length :	**139.85 ft**
Insp. method :	**crawler**	Media # :		Joint length :	

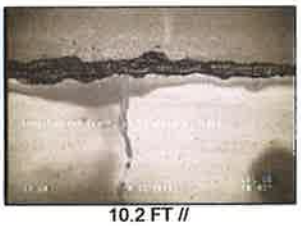
Reason of inspection :	**gen. condition control**	Pipe shape :	**round**
Section type :	**storm water**	Pipe size :	**24 inch**
Area :	**Bldg 7-10**	Pipe material :	**concrete**
		Lining :	

Remarks :

1:360 Position		Code	Observation	Rate
10-11-18				
5.00		0	inspection begins at downstream manhole	
10.20	S1	0	Longitudinal Crack, at 12 o´clock, Start	
58.90	E1	0	Longitudinal Crack, at 12 o´clock, Finish	
58.90	S2	0	Multiple Cracks, from 09 to 03 o´clock, Start	
83.00	E2	0	Multiple Cracks, from 09 to 03 o´clock, Finish	
95.45		320	Infiltration Running at joint at 03 o´clock	
97.15	S3	0	Longitudinal Crack, at 12 o´clock, Start	
103.20	E3	0	Longitudinal Crack, at 12 o´clock, Finish	
107.40	S4	0	Longitudinal Crack, at 12 o´clock, Start	
115.50	E4	0	Longitudinal Crack, at 12 o´clock, Finish	
10-10-6				
139.85		0	inspection ends at upstream manhole	


5 FT //


5 FT //


10.2 FT //


58.9 FT //


83 FT //

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**11**	**Storm**

Photo: 10-11-18_10-10-6_1_24102013_125256_A.JPG
inspection begins at downstream manhole

Photo: 10-11-18_10-10-6_1_24102013_125311_B.JPG
inspection begins at downstream manhole

Photo: 10-11-18_10-10-6_2_24102013_125509_A.JPG
Longitudinal Crack, at 12 o´clock, Start

Photo: 10-11-18_10-10-6_3_24102013_130013_A.JPG
Longitudinal Crack, at 12 o´clock, Finish

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**11**	**Storm**

Photo: 10-11-18_10-10-6_5_24102013_130236_A.JPG
Multiple Cracks, from 09 to 03 o´clock, Finish

Photo: 10-11-18_10-10-6_6_24102013_130416_A.JPG
Infiltration Running at joint at 03 o´clock

Photo: 10-11-18_10-10-6_7_24102013_130510_A.JPG
Longitudinal Crack, at 12 o´clock, Start

Photo: 10-11-18_10-10-6_8_24102013_130559_A.JPG
Longitudinal Crack, at 12 o´clock, Finish

National Vacuum Corp
47th st
Niagara Falls
Tel: 1-866-773-1167
Fax: 1-716-775-1213
Email: tmcinerney@nationalvacuum.com

Inspection Pictures / Inspection: 1

City :	Street :	Date :	Section # :	Section name :
Lockport ny	**Bldg 7-10**	**10/24/2013**	**11**	**Storm**

Photo: 10-11-18_10-10-6_9_24102013_130651_A.JPG
Longitudinal Crack, at 12 o´clock, Start

Photo: 10-11-18_10-10-6_10_24102013_130825_A.JPG
Longitudinal Crack, at 12 o´clock, Finish

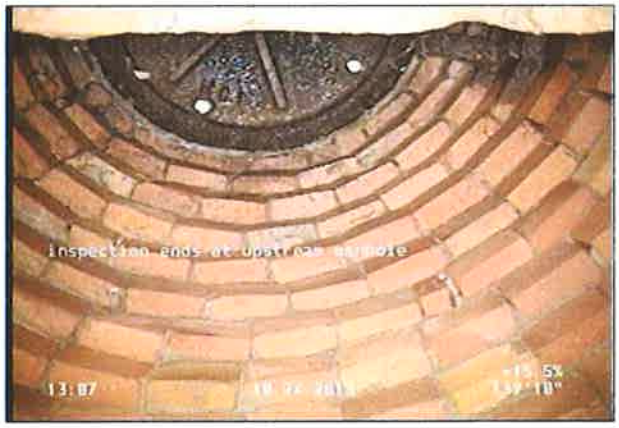


Photo: 10-11-18_10-10-6_11_24102013_131241_A.JPG
inspection ends at upstream manhole