AECOM

Operation, Maintenance and Monitoring Report
March 2013

NOW Corporation
Site 3-14-008

Work Assignment No.
D007626-25

Prepared for:

SUPERFUND STANDBY PROGRAM
New York State
Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Prepared by:

AECOM Technical Services Northeast, Inc.
40 British American Boulevard
Latham, New York 12110

May 2013

AECOM

May 17, 2013

Mr. Carl Hoffman, P.E.
NYSDEC Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7013

Re: NOW Corporation - Site #3-14-008
O&M Summary Report: "March" 2013

Dear Mr. Hoffman:

This monthly summary report describes the operation, monitoring and maintenance (OM&M) of the remedial system at the NOW Corporation site in the Town of Clinton, New York, for a 28-day period **(February 27 – March 27, 2013)**.

With the exceptions noted below, if any, the P&T system was online and operational throughout the reporting period. Approximately 544,600 gallons of water were treated during the period. Discharge from the treatment system averaged approximately 19,450 gallons per day (gpd), compared to 24,704 gpd in the prior reporting period.

As of the last day of the reporting period, a total of 92,576,100 gallons of groundwater had been recovered and treated by the system since it became operational in February 1998.

Table 1 summarizes influent and effluent analytical data for water samples collected on March 27. **Effluent limitations were not exceeded this reporting period.** A copy of the analytical laboratory report is attached. Table 2 and Table 3 summarize selected operational data and water levels as recorded on the sampling date. For the reporting period, including the sampling event, the VFD on the stripper blower was operating at 55 Hz.

AECOM made two site visits during the period to conduct the required system inspection, perform scheduled maintenance, and to collect well level and water samples. The February 27 service visit was described in the previous report. Details for the current period follow:

March 27 – AECOM was onsite to complete monthly influent, effluent, and recovery well sampling. Water levels were also recorded. General housekeeping was performed in the treatment building.

The system efficiency and runtime was evaluated over the month. The system operated without downtime for the period.

Please feel free to contact me at (518) 951-2262 if you have any questions regarding this report or the operation of the treatment system.

Sincerely,
AECOM Technical Services Northeast, Inc.

Stephen R. Choiniere
Project Manager

Table 1
Summary of Influent and Effluent Data
Sampling Date: March 27, 2013
NOW Corporation Site
Town of Clinton, New York

Analytes/ Parameters	Total Influent	Effluent	Recovery Wells TW-1	Recovery Wells TW-2A	Recovery Wells TW-3	Effluent Limitations	(units)
Quantity treated, per day		19,450				Monitor	gallons
pH	7.0	6.9				6.5 to 8.5	standard units
Oil and Grease	<5	<5	NA	NA	NA	15	mg/L
Total Cyanide	<10	<10	NA	NA	NA	10	ug/L
TDS	**230**	**240**	NA	NA	NA	1000	mg/L
TSS	<10	<10	NA	NA	NA	50	mg/L
Aluminum, Total	<200	<200	NA	NA	NA	Monitor	ug/L
Arsenic, Total	<20	<20	NA	NA	NA	100	ug/L
Barium, Total	**66 J**	**67 J**	NA	NA	NA	Monitor	ug/L
Chromium	<20	**0.77 J**	NA	NA	NA	400	ug/L
Copper	<25	<25	NA	NA	NA	24	ug/L
Iron	<200	<200	NA	NA	NA	600	ug/L
Mercury	<0.2	<0.2	NA	NA	NA	0.8	ug/L
Manganese	**93**	**52**	NA	NA	NA	Monitor	ug/L
Nickel	**1.4 J**	**1.3 J**	NA	NA	NA	200	ug/L
Zinc	**7.1 J**	<50	NA	NA	NA	150	ug/L
1,1,1-Trichloroethane	**180**	<0.5	**1.1 J**	**280**	**2.9**	10	ug/L
1,1,2-Trichloroethane	<0.5	<0.5	<2	<10	<0.5	1.2	ug/L
1,1-Dichloroethane	**100**	**0.34 J**	**38**	**140**	**13**	10	ug/L
1,1-Dichloroethene	<0.5	<0.5	**16**	<10	**1.9**	0.5	ug/L
1,2-Dichloroethane	<0.5	<0.5	<2	<10	<0.5	1.6	ug/L
Benzene	<0.5	<0.5	<2	<10	<0.5	1.4	ug/L
Chlorobenzene	<0.5	<0.5	<2	<10	<0.5	10	ug/L
Chloroethane	<0.5	<0.5	<2	<10	<0.5	10	ug/L
cis -1,2-Dichloroethene	**11**	<0.5	**4.1**	**16**	**0.28 J**	5	ug/L
Ethylbenzene	<0.5	<0.5	<2	<10	<0.5	10	ug/L
o-Xylene	<0.5	<0.5	<2	<10	<0.5	5	ug/L
m,p-Xylene	<0.5	<0.5	<2	<10	<0.5	10	ug/L
Tetrachloroethene	<0.5	<0.5	<2	<10	<0.5	1.4	ug/L
Toluene	<0.5	<0.5	<2	<10	<0.5	10	ug/L
trans -1,2-Dichloroethene	<0.5	<0.5	<2	<10	<0.5	5	ug/L
Trichloroethene	**240**	**0.50 J**	**47**	**350**	**9.6**	6	ug/L
Vinyl Chloride	<0.5	<0.5	<2	<10	<0.5	0.6	ug/L

Notes:

1) Detected concentrations are presented in ***bold*** *typeface, and are expressed in the units shown in far right column.*

2) Effluent concentration boxed in ***bold*** *denotes exceedance of effluent limitations.*

3) NA indicates not analyzed.

*4) "**J**" indicates an estimated concentration below the reporting limit (RL).*

*5) "**B**" denotes metal detected in method blank at concentration below the RL, but above the method detection limit.*

Table 2
Summary of March 2013 O&M Data

NOW Corporation Site
Town of Clinton, New York

Instrumentation/Readings:		**3/27/13**	**Units**
TW-1			
	Pumping Rate	2	GPM
	Water Level Above Transducer	28.44	feet
	Flow Meter Reading	6,565,300	gallons
	Pump Pressure	70	psi
TW-2A			
	Pumping Rate	~14	GPM
	Water Level Above Transducer	36.41	feet
	Flow Meter Reading	26,992,100	gallons
	Pump Pressure	0	psi
TW-3			
	Pumping Rate	4	GPM
	Water Level Above Transducer	30.18	feet
	Flow Meter Reading	10,615,100	gallons
	Pump Pressure	65	psi
VFD Setting	Arrival	55	Hz
	Departure	55	Hz
Air Stripper			
	Stripper Blower Pressure	17	inches H_2O
	Air Temperature in Stripper	50	°F
Effluent Flow			
	Effluent Flow this period (calculated)	544,600	gallons
	Total Effluent Flow (calculated)	92,576,100	gallons

Table 3
Groundwater Levels

NOW Corporation Site
Town of Clinton, New York

Well ID	MP Elevation	3/27/13 Depth to Water (Ft below MP)	3/27/13 GW Elevation
MW-1	289.50	8.70	280.80
MW-2	332.51	23.21	309.30
MW-3	312.83	24.24	288.59
MW-3S	312.51	17.21	295.30
MW-4	298.29	20.08	278.21
MW-4D	298.16	18.84	279.32
MW-5	285.48	17.52	267.96
MW-6S	287.90	3.43	284.47
MW-6D	287.25	5.31	281.94
MW-7S	292.12	11.64	280.48
MW-7D	292.54	28.45	264.09
OW-1	307.75	38.26	269.49
OW-2	305.96	51.20	254.76
OW-6	294.81	3.96	290.85
IW-1	312.46	22.26	290.20
IW-2	304.56	33.00	271.56

Note: N/A indicates data are not available.
MP denotes measuring point.

Report Date:
16-Apr-13 13:51

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

- [x] Final Report
- [ ] Re-Issued Report
- [ ] Revised Report

Laboratory Report

AECOM Technical Services, Inc.
40 British American Boulevard
Latham, NY 12110

Work Order: M0413
Project : NOW Corp. Site, 3/13
Project #:

Attn: Stephen Choiniere

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
M0413-01	EFF032713	Aqueous	27-Mar-13 12:45	28-Mar-13 08:30
M0413-02	INF032713	Aqueous	27-Mar-13 12:53	28-Mar-13 08:30
M0413-03	TW-1 032713	Aqueous	27-Mar-13 13:00	28-Mar-13 08:30
M0413-04	TW-2A 032713	Aqueous	27-Mar-13 13:10	28-Mar-13 08:30
M0413-05	TW-3 032713	Aqueous	27-Mar-13 13:12	28-Mar-13 08:30
M0413-06	TB-032713	Aqueous	27-Mar-13 00:00	28-Mar-13 08:30

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and DoD Environmental Laboratory Accreditation Program (ELAP), holds Organic and Inorganic contracts under the USEPA CLP Program and is certified under several states. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.spectrum-analytical.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

Department of Defense	N/A
Connecticut	PH-0153
Delaware	N/A
Florida	E87664
Maine	2007037
Massachusetts	M-RI907
New Hampshire	2631
New Jersey	RI001
New York	11522
North Carolina	581
Rhode Island	LAI00301
USDA	P330-08-00023
USEPA - ISM	EP-W-09-039
USEPA - SOM	EP-W-11-033

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
DoD ELAP
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : AECOM Technical Services, Inc.

Project: NOW Corp. Site, 3/13

Laboratory Workorder / SDG #: M0413

SW846 8260C, VOC by GC-MS (25 mL Purge)

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030B

V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V5
Instrument Type: GCMS-VOA

Description: HP6890 / HP6890
Manufacturer: Hewlett-Packard
Model: 6890 / 6890

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

D. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits with the following exceptions. Please note that most test procedures allow for several compounds outside of the QC limits for the LCS, although this may indicate a bias for this specific compound.

LCS-71056 in batch 71056, recovery is above criteria for Tetrachloroethene at 117% with criteria of (74-115).

LCSD-71056 in batch 71056, recovery is above criteria for Tetrachloroethene at 118% with criteria of (74-115).

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

The following samples were analyzed at dilution:

INF032713 (M0413-02A) : Dilution Factor: 10

TW-1 032713 (M0413-03A) : Dilution Factor: 4
TW-2A 032713 (M0413-04A) : Dilution Factor: 20

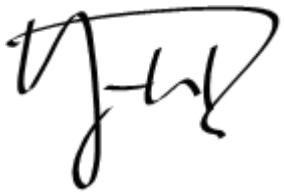
G. Samples:

No other unusual occurrences were noted during sample analysis.

H. Manual Integration

No manual integrations were performed on any sample or standard.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.



Signed:_____ _____

Date:_____4/16/2013_____

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : AECOM Technical Services, Inc.

Project: NOW Corp. Site, 3/13

Laboratory Workorder / SDG #: M0413

SW846 6010C, SW846 7470A

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 6010C, SW846 7470A

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3005A
Aqueous Samples were prepared following procedures in laboratory test code: SW7470A

V. INSTRUMENTATION

The following instrumentation was used:

Instrument Code: FIMS2
Instrument Type: CVAA
Description: FIMS
Manufacturer: Perkin-Elmer
Model: FIMS100

Instrument Code: OPTIMA3
Instrument Type: ICP
Description: Optima ICP-OES
Manufacturer: Perkin-Elmer
Model: 4300 DV

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for laboratory control samples were within the QC limits.

2. Matrix spike (MS):

A matrix spike was not performed on any sample in this SDG.

D. Post Digestion Spike (PDS):

A post-digestion spike was not performed on any sample in this SDG.

E. Duplicate sample:

A duplicate analysis was not performed on any sample in this SDG.

F. Serial Dilution (SD):

Serial Dilution analyses were performed on sample: INF032713 (M0413-02BSD).

Percent differences were within the QC limits.

G. Samples:

No other unusual occurrences were noted during sample analysis.

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Signed:_____

Date: 04/10/2013

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : AECOM Technical Services, Inc.

Project: NOW Corp. Site, 3/13

Laboratory Workorder / SDG #: M0413

SM 2540C, SM 2540D, SW846 9012B

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: SM 2540C, SM 2540D, SW846 9012B

IV. PREPARATION

Samples were prepared following procedures in laboratory test code: SM 2540C, SM 2540D, SW846 9012B

V. INSTRUMENTATION

The following instrumentation was used:

Instrument Code: LACHAT1
Instrument Type: WC

Description: Flow Injection Analyzer
Manufacturer: Zellweger Analytics
Model: Quik-Chem 8000

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

No client-requested MS/MSD analyses were included in this SDG.

D. Duplicate sample:

No client-requested laboratory duplicate analyses were included in this SDG.

E. Dilutions:

No sample required dilution in this SDG.

F. Samples:

No other unusual occurrences were noted during sample analysis.

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Signed: 

Date: 04/10/2013

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : AECOM Technical Services, Inc.

Project: NOW Corp. Site, 3/13

Laboratory Workorder / SDG #: M0413

EPA 1664A, Oil & Grease, HEM

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered unless a Sample Condition Notification Form, or other record of communication is included with the Sample Receipt Documentation.

II. HOLDING TIMES

A. Sample Preparation:

All samples were prepared within the method-specified holding times.

B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

III. METHODS

Samples were analyzed following procedures in laboratory test code: EPA 1664A

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510C

V. INSTRUMENTATION

The following instrumentation was used to perform Oil and Grease analysis.

Instrument Type: Analytical Balance
Manufacturer: Denver Instrument Company
Model: A-250

VI. ANALYSIS

A. Calibration:

Analytical balance was calibrated based on SOP/Method criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Spikes:

1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on sample: INF032713 (M0413-02DMS).

Percent recoveries were within the QC limits.

D. Duplicate sample:

No client-requested duplicate analyses were included in this SDG.

E. Samples:

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____ _____

Date:_____4/15/2013_____

Client: AECOM Technical Services, Inc.

Client Sample ID: EFF032713 **Project:** NOW Corp. Site, 3/13

Lab ID: M0413-01 **Collection Date:** 03/27/13 12:45

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS (25 mL Purge)							**SW8260_25_W**
Vinyl chloride	ND		0.50	ug/L	1	04/01/2013 18:35	71056
Chloroethane	ND		0.50	ug/L	1	04/01/2013 18:35	71056
1,1-Dichloroethene	ND		0.50	ug/L	1	04/01/2013 18:35	71056
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	04/01/2013 18:35	71056
Methyl tert-butyl ether	ND		0.50	ug/L	1	04/01/2013 18:35	71056
1,1-Dichloroethane	0.34	J	0.50	ug/L	1	04/01/2013 18:35	71056
cis-1,2-Dichloroethene	ND		0.50	ug/L	1	04/01/2013 18:35	71056
1,1,1-Trichloroethane	ND		0.50	ug/L	1	04/01/2013 18:35	71056
1,2-Dichloroethane	ND		0.50	ug/L	1	04/01/2013 18:35	71056
Benzene	ND		0.50	ug/L	1	04/01/2013 18:35	71056
Trichloroethene	0.50	J	0.50	ug/L	1	04/01/2013 18:35	71056
Toluene	ND		0.50	ug/L	1	04/01/2013 18:35	71056
1,1,2-Trichloroethane	ND		0.50	ug/L	1	04/01/2013 18:35	71056
Tetrachloroethene	ND		0.50	ug/L	1	04/01/2013 18:35	71056
Chlorobenzene	ND		0.50	ug/L	1	04/01/2013 18:35	71056
Ethylbenzene	ND		0.50	ug/L	1	04/01/2013 18:35	71056
m,p-Xylene	ND		0.50	ug/L	1	04/01/2013 18:35	71056
o-Xylene	ND		0.50	ug/L	1	04/01/2013 18:35	71056
Surrogate: Dibromofluoromethane	99.1		88-124	%REC	1	04/01/2013 18:35	71056
Surrogate: 1,2-Dichloroethane-d4	90.4		79-115	%REC	1	04/01/2013 18:35	71056
Surrogate: Toluene-d8	105		80-114	%REC	1	04/01/2013 18:35	71056
Surrogate: Bromofluorobenzene	106		60-123	%REC	1	04/01/2013 18:35	71056

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL - Reporting Limit

Client: AECOM Technical Services, Inc.

Client Sample ID: INF032713 **Project:** NOW Corp. Site, 3/13

Lab ID: M0413-02 **Collection Date:** 03/27/13 12:53

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS (25 mL Purge)							**SW8260_25_W**
Vinyl chloride	ND		5.0	ug/L	10	04/01/2013 19:02	71056
Chloroethane	ND		5.0	ug/L	10	04/01/2013 19:02	71056
1,1-Dichloroethene	ND		5.0	ug/L	10	04/01/2013 19:02	71056
trans-1,2-Dichloroethene	ND		5.0	ug/L	10	04/01/2013 19:02	71056
Methyl tert-butyl ether	ND		5.0	ug/L	10	04/01/2013 19:02	71056
1,1-Dichloroethane	100		5.0	ug/L	10	04/01/2013 19:02	71056
cis-1,2-Dichloroethene	11		5.0	ug/L	10	04/01/2013 19:02	71056
1,1,1-Trichloroethane	180		5.0	ug/L	10	04/01/2013 19:02	71056
1,2-Dichloroethane	ND		5.0	ug/L	10	04/01/2013 19:02	71056
Benzene	ND		5.0	ug/L	10	04/01/2013 19:02	71056
Trichloroethene	240		5.0	ug/L	10	04/01/2013 19:02	71056
Toluene	ND		5.0	ug/L	10	04/01/2013 19:02	71056
1,1,2-Trichloroethane	ND		5.0	ug/L	10	04/01/2013 19:02	71056
Tetrachloroethene	ND		5.0	ug/L	10	04/01/2013 19:02	71056
Chlorobenzene	ND		5.0	ug/L	10	04/01/2013 19:02	71056
Ethylbenzene	ND		5.0	ug/L	10	04/01/2013 19:02	71056
m,p-Xylene	ND		5.0	ug/L	10	04/01/2013 19:02	71056
o-Xylene	ND		5.0	ug/L	10	04/01/2013 19:02	71056
Surrogate: Dibromofluoromethane	96.1		88-124	%REC	10	04/01/2013 19:02	71056
Surrogate: 1,2-Dichloroethane-d4	94.2		79-115	%REC	10	04/01/2013 19:02	71056
Surrogate: Toluene-d8	105		80-114	%REC	10	04/01/2013 19:02	71056
Surrogate: Bromofluorobenzene	108		60-123	%REC	10	04/01/2013 19:02	71056

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL - Reporting Limit

Client: AECOM Technical Services, Inc.

Client Sample ID: TW-1 032713 **Project:** NOW Corp. Site, 3/13

Lab ID: M0413-03 **Collection Date:** 03/27/13 13:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS (25 mL Purge)							**SW8260_25_W**
Vinyl chloride	ND		2.0	ug/L	4	04/01/2013 19:30	71056
Chloroethane	ND		2.0	ug/L	4	04/01/2013 19:30	71056
1,1-Dichloroethene	16		2.0	ug/L	4	04/01/2013 19:30	71056
trans-1,2-Dichloroethene	ND		2.0	ug/L	4	04/01/2013 19:30	71056
Methyl tert-butyl ether	ND		2.0	ug/L	4	04/01/2013 19:30	71056
1,1-Dichloroethane	38		2.0	ug/L	4	04/01/2013 19:30	71056
cis-1,2-Dichloroethene	4.1		2.0	ug/L	4	04/01/2013 19:30	71056
1,1,1-Trichloroethane	1.1	J	2.0	ug/L	4	04/01/2013 19:30	71056
1,2-Dichloroethane	ND		2.0	ug/L	4	04/01/2013 19:30	71056
Benzene	ND		2.0	ug/L	4	04/01/2013 19:30	71056
Trichloroethene	47		2.0	ug/L	4	04/01/2013 19:30	71056
Toluene	ND		2.0	ug/L	4	04/01/2013 19:30	71056
1,1,2-Trichloroethane	ND		2.0	ug/L	4	04/01/2013 19:30	71056
Tetrachloroethene	ND		2.0	ug/L	4	04/01/2013 19:30	71056
Chlorobenzene	ND		2.0	ug/L	4	04/01/2013 19:30	71056
Ethylbenzene	ND		2.0	ug/L	4	04/01/2013 19:30	71056
m,p-Xylene	ND		2.0	ug/L	4	04/01/2013 19:30	71056
o-Xylene	ND		2.0	ug/L	4	04/01/2013 19:30	71056
Surrogate: Dibromofluoromethane	98.3		88-124	%REC	4	04/01/2013 19:30	71056
Surrogate: 1,2-Dichloroethane-d4	93.7		79-115	%REC	4	04/01/2013 19:30	71056
Surrogate: Toluene-d8	106		80-114	%REC	4	04/01/2013 19:30	71056
Surrogate: Bromofluorobenzene	104		60-123	%REC	4	04/01/2013 19:30	71056

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL - Reporting Limit

Client: AECOM Technical Services, Inc.

Client Sample ID: TW-2A 032713 **Project:** NOW Corp. Site, 3/13

Lab ID: M0413-04 **Collection Date:** 03/27/13 13:10

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS (25 mL Purge)							**SW8260_25_W**
Vinyl chloride	ND		10	ug/L	20	04/01/2013 19:58	71056
Chloroethane	ND		10	ug/L	20	04/01/2013 19:58	71056
1,1-Dichloroethene	ND		10	ug/L	20	04/01/2013 19:58	71056
trans-1,2-Dichloroethene	ND		10	ug/L	20	04/01/2013 19:58	71056
Methyl tert-butyl ether	ND		10	ug/L	20	04/01/2013 19:58	71056
1,1-Dichloroethane	140		10	ug/L	20	04/01/2013 19:58	71056
cis-1,2-Dichloroethene	16		10	ug/L	20	04/01/2013 19:58	71056
1,1,1-Trichloroethane	280		10	ug/L	20	04/01/2013 19:58	71056
1,2-Dichloroethane	ND		10	ug/L	20	04/01/2013 19:58	71056
Benzene	ND		10	ug/L	20	04/01/2013 19:58	71056
Trichloroethene	350		10	ug/L	20	04/01/2013 19:58	71056
Toluene	ND		10	ug/L	20	04/01/2013 19:58	71056
1,1,2-Trichloroethane	ND		10	ug/L	20	04/01/2013 19:58	71056
Tetrachloroethene	ND		10	ug/L	20	04/01/2013 19:58	71056
Chlorobenzene	ND		10	ug/L	20	04/01/2013 19:58	71056
Ethylbenzene	ND		10	ug/L	20	04/01/2013 19:58	71056
m,p-Xylene	ND		10	ug/L	20	04/01/2013 19:58	71056
o-Xylene	ND		10	ug/L	20	04/01/2013 19:58	71056
Surrogate: Dibromofluoromethane	95.7		88-124	%REC	20	04/01/2013 19:58	71056
Surrogate: 1,2-Dichloroethane-d4	83.9		79-115	%REC	20	04/01/2013 19:58	71056
Surrogate: Toluene-d8	106		80-114	%REC	20	04/01/2013 19:58	71056
Surrogate: Bromofluorobenzene	105		60-123	%REC	20	04/01/2013 19:58	71056

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL - Reporting Limit

Client: AECOM Technical Services, Inc.

Client Sample ID: TW-3 032713 **Project:** NOW Corp. Site, 3/13

Lab ID: M0413-05 **Collection Date:** 03/27/13 13:12

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS (25 mL Purge)							**SW8260_25_W**
Vinyl chloride	ND		0.50	ug/L	1	04/01/2013 20:25	71056
Chloroethane	ND		0.50	ug/L	1	04/01/2013 20:25	71056
1,1-Dichloroethene	1.9		0.50	ug/L	1	04/01/2013 20:25	71056
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	04/01/2013 20:25	71056
Methyl tert-butyl ether	ND		0.50	ug/L	1	04/01/2013 20:25	71056
1,1-Dichloroethane	13		0.50	ug/L	1	04/01/2013 20:25	71056
cis-1,2-Dichloroethene	0.28	J	0.50	ug/L	1	04/01/2013 20:25	71056
1,1,1-Trichloroethane	2.9		0.50	ug/L	1	04/01/2013 20:25	71056
1,2-Dichloroethane	ND		0.50	ug/L	1	04/01/2013 20:25	71056
Benzene	ND		0.50	ug/L	1	04/01/2013 20:25	71056
Trichloroethene	9.6		0.50	ug/L	1	04/01/2013 20:25	71056
Toluene	ND		0.50	ug/L	1	04/01/2013 20:25	71056
1,1,2-Trichloroethane	ND		0.50	ug/L	1	04/01/2013 20:25	71056
Tetrachloroethene	ND		0.50	ug/L	1	04/01/2013 20:25	71056
Chlorobenzene	ND		0.50	ug/L	1	04/01/2013 20:25	71056
Ethylbenzene	ND		0.50	ug/L	1	04/01/2013 20:25	71056
m,p-Xylene	ND		0.50	ug/L	1	04/01/2013 20:25	71056
o-Xylene	ND		0.50	ug/L	1	04/01/2013 20:25	71056
Surrogate: Dibromofluoromethane	98.6		88-124	%REC	1	04/01/2013 20:25	71056
Surrogate: 1,2-Dichloroethane-d4	87.9		79-115	%REC	1	04/01/2013 20:25	71056
Surrogate: Toluene-d8	104		80-114	%REC	1	04/01/2013 20:25	71056
Surrogate: Bromofluorobenzene	105		60-123	%REC	1	04/01/2013 20:25	71056

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL - Reporting Limit

Client: AECOM Technical Services, Inc.

Client Sample ID: TB-032713 **Project:** NOW Corp. Site, 3/13

Lab ID: M0413-06 **Collection Date:** 03/27/13 0:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 8260C -- VOC by GC-MS (25 mL Purge)							**SW8260_25_W**
Vinyl chloride	ND		0.50	ug/L	1	04/01/2013 20:53	71056
Chloroethane	ND		0.50	ug/L	1	04/01/2013 20:53	71056
1,1-Dichloroethene	ND		0.50	ug/L	1	04/01/2013 20:53	71056
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	04/01/2013 20:53	71056
Methyl tert-butyl ether	ND		0.50	ug/L	1	04/01/2013 20:53	71056
1,1-Dichloroethane	ND		0.50	ug/L	1	04/01/2013 20:53	71056
cis-1,2-Dichloroethene	ND		0.50	ug/L	1	04/01/2013 20:53	71056
1,1,1-Trichloroethane	ND		0.50	ug/L	1	04/01/2013 20:53	71056
1,2-Dichloroethane	ND		0.50	ug/L	1	04/01/2013 20:53	71056
Benzene	ND		0.50	ug/L	1	04/01/2013 20:53	71056
Trichloroethene	ND		0.50	ug/L	1	04/01/2013 20:53	71056
Toluene	ND		0.50	ug/L	1	04/01/2013 20:53	71056
1,1,2-Trichloroethane	ND		0.50	ug/L	1	04/01/2013 20:53	71056
Tetrachloroethene	ND		0.50	ug/L	1	04/01/2013 20:53	71056
Chlorobenzene	ND		0.50	ug/L	1	04/01/2013 20:53	71056
Ethylbenzene	ND		0.50	ug/L	1	04/01/2013 20:53	71056
m,p-Xylene	ND		0.50	ug/L	1	04/01/2013 20:53	71056
o-Xylene	ND		0.50	ug/L	1	04/01/2013 20:53	71056
Surrogate: Dibromofluoromethane	96.0		88-124	%REC	1	04/01/2013 20:53	71056
Surrogate: 1,2-Dichloroethane-d4	91.5		79-115	%REC	1	04/01/2013 20:53	71056
Surrogate: Toluene-d8	106		80-114	%REC	1	04/01/2013 20:53	71056
Surrogate: Bromofluorobenzene	102		60-123	%REC	1	04/01/2013 20:53	71056

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL - Reporting Limit

M0413

CLIENT: AECOM Technical Services, Inc.
Work Order: M0413
Project: NOW Corp. Site, 3/13

ANALYTICAL QC SUMMARY REPORT

SW8260_25_W

SW846 8260C -- VOC by GC-MS (25 mL Purge)

Sample ID: **MB-71056** SampType: **MBLK** TestCode: **SW8260_25_W** Prep Date: **04/01/13 12:25** Run ID: **V5_130401A**

Client ID: **MB-71056** Batch ID: **71056** Units: **ug/L** Analysis Date **04/01/13 18:08** SeqNo: **1883370**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.15	0.50									
Chloroethane	ND	0.24	0.50									
1,1-Dichloroethene	ND	0.19	0.50									
trans-1,2-Dichloroethene	ND	0.14	0.50									
Methyl tert-butyl ether	ND	0.13	0.50									
1,1-Dichloroethane	ND	0.18	0.50									
cis-1,2-Dichloroethene	ND	0.19	0.50									
1,1,1-Trichloroethane	ND	0.11	0.50									
1,2-Dichloroethane	ND	0.16	0.50									
Benzene	ND	0.12	0.50									
Trichloroethene	ND	0.13	0.50									
Toluene	ND	0.14	0.50									
1,1,2-Trichloroethane	ND	0.20	0.50									
Tetrachloroethene	ND	0.17	0.50									
Chlorobenzene	ND	0.13	0.50									
Ethylbenzene	ND	0.13	0.50									
m,p-Xylene	ND	0.22	0.50									
o-Xylene	ND	0.17	0.50									
Surrogate: Dibromofluoromethane	9.598		0.50	10.00	0	96.0	88	124	0			
Surrogate: 1,2-Dichloroethane-d4	9.116		0.50	10.00	0	91.2	79	115	0			
Surrogate: Toluene-d8	10.64		0.50	10.00	0	106	80	114	0			
Surrogate: Bromofluorobenzene	10.68		0.50	10.00	0	107	60	123	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: AECOM Technical Services, Inc.
Work Order: M0413
Project: NOW Corp. Site, 3/13

ANALYTICAL QC SUMMARY REPORT

SW8260_25_W

SW846 8260C -- VOC by GC-MS (25 mL Purge)

Sample ID: **LCS-71056** SampType: **LCS** TestCode: **SW8260_25_W** Prep Date: **04/01/13 12:25** Run ID: **V5_130401A**
Client ID: **LCS-71056** Batch ID: **71056** Units: **ug/L** Analysis Date **04/01/13 16:45** SeqNo: **1883368**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	10.64	0.15	0.50	10.00	0	106	77	120	0			
Chloroethane	10.51	0.24	0.50	10.00	0	105	75	135	0			
1,1-Dichloroethene	10.87	0.19	0.50	10.00	0	109	81	125	0			
trans-1,2-Dichloroethene	10.72	0.14	0.50	10.00	0	107	60	137	0			
Methyl tert-butyl ether	10.35	0.13	0.50	10.00	0	103	61	134	0			
1,1-Dichloroethane	10.27	0.18	0.50	10.00	0	103	82	120	0			
cis-1,2-Dichloroethene	10.03	0.19	0.50	10.00	0	100	84	116	0			
1,1,1-Trichloroethane	10.55	0.11	0.50	10.00	0	106	80	124	0			
1,2-Dichloroethane	10.22	0.16	0.50	10.00	0	102	86	117	0			
Benzene	10.32	0.12	0.50	10.00	0	103	81	121	0			
Trichloroethene	10.04	0.13	0.50	10.00	0	100	74	123	0			
Toluene	10.00	0.14	0.50	10.00	0	100	88	117	0			
1,1,2-Trichloroethane	10.31	0.20	0.50	10.00	0	103	83	121	0			
Tetrachloroethene	11.71	0.17	0.50	10.00	0	117	74	115	0			S
Chlorobenzene	10.25	0.13	0.50	10.00	0	102	83	112	0			
Ethylbenzene	10.25	0.13	0.50	10.00	0	102	87	110	0			
m,p-Xylene	19.38	0.22	0.50	20.00	0	96.9	87	114	0			
o-Xylene	9.829	0.17	0.50	10.00	0	98.3	84	114	0			
Surrogate: Dibromofluoromethane	10.10		0.50	10.00	0	101	88	124	0			
Surrogate: 1,2-Dichloroethane-d4	10.11		0.50	10.00	0	101	79	115	0			
Surrogate: Toluene-d8	10.11		0.50	10.00	0	101	80	114	0			
Surrogate: Bromofluorobenzene	8.729		0.50	10.00	0	87.3	60	123	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: AECOM Technical Services, Inc.
Work Order: M0413
Project: NOW Corp. Site, 3/13

ANALYTICAL QC SUMMARY REPORT

SW8260_25_W

SW846 8260C -- VOC by GC-MS (25 mL Purge)

Sample ID: **LCSD-71056** SampType: **LCSD** TestCode: **SW8260_25_W** Prep Date: **04/01/13 12:25** Run ID: **V5_130401A**
Client ID: **LCSD-71056** Batch ID: **71056** Units: **ug/L** Analysis Date **04/01/13 17:13** SeqNo: **1883369**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	9.387	0.15	0.50	10.00	0	93.9	77	120	10.64	12.5	40	
Chloroethane	8.946	0.24	0.50	10.00	0	89.5	75	135	10.51	16.1	40	
1,1-Dichloroethene	10.47	0.19	0.50	10.00	0	105	81	125	10.87	3.81	40	
trans-1,2-Dichloroethene	10.31	0.14	0.50	10.00	0	103	60	137	10.72	3.95	40	
Methyl tert-butyl ether	10.06	0.13	0.50	10.00	0	101	61	134	10.35	2.83	40	
1,1-Dichloroethane	10.15	0.18	0.50	10.00	0	102	82	120	10.27	1.17	40	
cis-1,2-Dichloroethene	9.824	0.19	0.50	10.00	0	98.2	84	116	10.03	2.1	40	
1,1,1-Trichloroethane	10.45	0.11	0.50	10.00	0	105	80	124	10.55	0.915	40	
1,2-Dichloroethane	10.11	0.16	0.50	10.00	0	101	86	117	10.22	1.12	40	
Benzene	10.07	0.12	0.50	10.00	0	101	81	121	10.32	2.44	40	
Trichloroethene	10.03	0.13	0.50	10.00	0	100	74	123	10.04	0.0968	40	
Toluene	9.472	0.14	0.50	10.00	0	94.7	88	117	10.00	5.46	40	
1,1,2-Trichloroethane	10.49	0.20	0.50	10.00	0	105	83	121	10.31	1.81	40	
Tetrachloroethene	11.76	0.17	0.50	10.00	0	118	74	115	11.71	0.443	40	S
Chlorobenzene	10.03	0.13	0.50	10.00	0	100	83	112	10.25	2.2	40	
Ethylbenzene	10.23	0.13	0.50	10.00	0	102	87	110	10.25	0.187	40	
m,p-Xylene	18.20	0.22	0.50	20.00	0	91.0	87	114	19.38	6.28	40	
o-Xylene	9.522	0.17	0.50	10.00	0	95.2	84	114	9.829	3.18	40	
Surrogate: Dibromofluoromethane	9.997		0.50	10.00	0	100	88	124	0			
Surrogate: 1,2-Dichloroethane-d4	9.651		0.50	10.00	0	96.5	79	115	0			
Surrogate: Toluene-d8	10.32		0.50	10.00	0	103	80	114	0			
Surrogate: Bromofluorobenzene	8.875		0.50	10.00	0	88.7	60	123	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

Client: AECOM Technical Services, Inc.
Client Sample ID: EFF032713 **Project:** NOW Corp. Site, 3/13
Lab ID: M0413-01 **Collection Date:** 03/27/13 12:45

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_W**
Aluminum	ND		200	ug/L	1	04/01/2013 9:33	71015
Arsenic	ND		20	ug/L	1	04/01/2013 9:33	71015
Barium	67	J	200	ug/L	1	04/01/2013 9:33	71015
Chromium	0.77	J	20	ug/L	1	04/01/2013 9:33	71015
Copper	ND		25	ug/L	1	04/01/2013 9:33	71015
Iron	ND		200	ug/L	1	04/01/2013 9:33	71015
Manganese	52		50	ug/L	1	04/01/2013 9:33	71015
Nickel	1.3	J	50	ug/L	1	04/01/2013 9:33	71015
Zinc	ND		50	ug/L	1	04/01/2013 9:33	71015
SW846 7470A -- Mercury by FIA							**SW7470**
Mercury	ND		0.20	µg/L	1	04/02/2013 10:24	71027

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: AECOM Technical Services, Inc.
Client Sample ID: INF032713 **Project:** NOW Corp. Site, 3/13
Lab ID: M0413-02 **Collection Date:** 03/27/13 12:53

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_W**
Aluminum	ND		200	ug/L	1	04/01/2013 9:37	71015
Arsenic	ND		20	ug/L	1	04/01/2013 9:37	71015
Barium	66	J	200	ug/L	1	04/01/2013 9:37	71015
Chromium	ND		20	ug/L	1	04/01/2013 9:37	71015
Copper	ND		25	ug/L	1	04/01/2013 9:37	71015
Iron	ND		200	ug/L	1	04/01/2013 9:37	71015
Manganese	93		50	ug/L	1	04/01/2013 9:37	71015
Nickel	1.4	J	50	ug/L	1	04/01/2013 9:37	71015
Zinc	7.1	J	50	ug/L	1	04/01/2013 9:37	71015
SW846 7470A -- Mercury by FIA							**SW7470**
Mercury	ND		0.20	µg/L	1	04/02/2013 10:25	71027

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

M0413

CLIENT: AECOM Technical Services, Inc.
Work Order: M0413
Project: NOW Corp. Site, 3/13

ANALYTICAL QC SUMMARY REPORT

SW6010_W

SW846 6010C -- Metals by ICP

Sample ID: **MB-71015** SampType: **MBLK** TestCode: **SW6010_W** Prep Date: **03/28/13 10:30** Run ID: **OPTIMA3_130401A**
Client ID: **MB-71015** Batch ID: **71015** Units: **ug/L** Analysis Date: **04/01/13 9:22** SeqNo: **1882772**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	66	200									
Arsenic	ND	4.3	20									
Barium	ND	1.1	200									
Chromium	ND	0.64	20									
Copper	ND	3.6	30									
Iron	ND	31	200									
Manganese	ND	10	50									
Nickel	ND	0.85	50									
Zinc	ND	4.9	50									

Sample ID: **LCS-71015** SampType: **LCS** TestCode: **SW6010_W** Prep Date: **03/28/13 10:30** Run ID: **OPTIMA3_130401A**
Client ID: **LCS-71015** Batch ID: **71015** Units: **ug/L** Analysis Date: **04/01/13 9:26** SeqNo: **1882773**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9024	66	200	9100	0	99.2	80	120	0			
Arsenic	476.5	4.3	20	455.0	0	105	80	120	0			
Barium	9308	1.1	200	9100	0	102	80	120	0			
Chromium	914.8	0.64	20	910.0	0	101	80	120	0			
Copper	1104	3.6	30	1130	0	97.7	80	120	0			
Iron	4736	31	200	4550	0	104	80	120	0			
Manganese	2276	10	50	2270	0	100	80	120	0			
Nickel	2299	0.85	50	2270	0	101	80	120	0			
Zinc	2280	4.9	50	2270	0	100	80	120	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank; J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: AECOM Technical Services, Inc.
Work Order: M0413
Project: NOW Corp. Site, 3/13

ANALYTICAL QC SUMMARY REPORT

SW6010_W
SW846 6010C -- Metals by ICP

Sample ID: **LCSD-71015** SampType: **LCSD** TestCode: **SW6010_W** Prep Date: **03/28/13 10:30** Run ID: **OPTIMA3_130401A**
Client ID: **LCSD-71015** Batch ID: **71015** Units: **ug/L** Analysis Date: **04/01/13 9:30** SeqNo: **1882774**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9080	66	200	9100	0	99.8	80	120	9024	0.618	20	
Arsenic	476.5	4.3	20	455.0	0	105	80	120	476.5	0.00085	20	
Barium	9332	1.1	200	9100	0	103	80	120	9308	0.257	20	
Chromium	921.9	0.64	20	910.0	0	101	80	120	914.8	0.77	20	
Copper	1112	3.6	30	1130	0	98.4	80	120	1104	0.726	20	
Iron	4770	31	200	4550	0	105	80	120	4736	0.721	20	
Manganese	2279	10	50	2270	0	100	80	120	2276	0.149	20	
Nickel	2317	0.85	50	2270	0	102	80	120	2299	0.76	20	
Zinc	2302	4.9	50	2270	0	101	80	120	2280	0.99	20	

Sample ID: **M0413-02BSD** SampType: **SD** TestCode: **SW6010_W** Prep Date: **03/28/13 10:30** Run ID: **OPTIMA3_130401A**
Client ID: **INF032713** Batch ID: **71015** Units: **ug/L** Analysis Date: **04/01/13 9:40** SeqNo: **1882777**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	330	1000	0	0	0	0	0	0	0	10	
Arsenic	ND	22	100	0	0	0	0	0	0	0	10	
Barium	66.66	5.5	1000	0	0	0	0	0	65.75	1.38	10	J
Chromium	ND	3.2	100	0	0	0	0	0	0	0	10	
Copper	ND	18	130	0	0	0	0	0	0	0	10	
Iron	ND	160	1000	0	0	0	0	0	0	0	10	
Manganese	91.23	50	250	0	0	0	0	0	92.52	1.4	10	J
Nickel	ND	4.3	250	0	0	0	0	0	1.380	0	10	
Zinc	ND	25	250	0	0	0	0	0	7.052	0	10	

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank
J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

CLIENT: AECOM Technical Services, Inc.
Work Order: M0413
Project: NOW Corp. Site, 3/13

ANALYTICAL QC SUMMARY REPORT

SW7470
SW846 7470A -- Mercury by FIA

Sample ID: **MB-71027**	SampType: **MBLK**	TestCode: **SW7470**			Prep Date: **04/01/13 14:30**				Run ID: **FIMS2_130402A**		
Client ID: **MB-71027**	Batch ID: **71027**	Units: **µg/L**			Analysis Date: **04/02/13 9:57**				SeqNo: **1883012**		
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.028	0.20									

Sample ID: **LCS-71027**	SampType: **LCS**	TestCode: **SW7470**			Prep Date: **04/01/13 14:30**				Run ID: **FIMS2_130402A**		
Client ID: **LCS-71027**	Batch ID: **71027**	Units: **µg/L**			Analysis Date: **04/02/13 9:59**				SeqNo: **1883013**		
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.517	0.028	0.20	4.550	0	99.3	80	120	0			

Sample ID: **LCSD-71027**	SampType: **LCSD**	TestCode: **SW7470**			Prep Date: **04/01/13 14:30**				Run ID: **FIMS2_130402A**		
Client ID: **LCSD-71027**	Batch ID: **71027**	Units: **µg/L**			Analysis Date: **04/02/13 10:00**				SeqNo: **1883015**		
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.455	0.028	0.20	4.550	0	97.9	80	120	4.517	1.39	20	

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

Client: AECOM Technical Services, Inc.
Client Sample ID: EFF032713 **Project:** NOW Corp. Site, 3/13
Lab ID: M0413-01 **Collection Date:** 03/27/13 12:45

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2540C -- TOTAL DISSOLVED SOLIDS							**SM2540_TDS**
Total Dissolved Solids	240		10	mg/L	1	04/02/2013 18:35	71074
SM 2540D -- TOTAL SUSPENDED SOLIDS							**SM2540_TSS**
Total Suspended Solids	ND		10	mg/L	1	04/02/2013 16:56	71073
SW846 9012B -- Total Cyanide							**SW9012_W**
Cyanide	ND		10	ug/L	1	03/29/2013 12:58	71023

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: AECOM Technical Services, Inc.
Client Sample ID: INF032713 **Project:** NOW Corp. Site, 3/13
Lab ID: M0413-02 **Collection Date:** 03/27/13 12:53

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2540C -- TOTAL DISSOLVED SOLIDS							**SM2540_TDS**
Total Dissolved Solids	230		10	mg/L	1	04/02/2013 19:27	71074
SM 2540D -- TOTAL SUSPENDED SOLIDS							**SM2540_TSS**
Total Suspended Solids	ND		10	mg/L	1	04/02/2013 19:10	71073
SW846 9012B -- Total Cyanide							**SW9012_W**
Cyanide	ND		10	ug/L	1	03/29/2013 13:00	71023

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

M0413

CLIENT: AECOM Technical Services, Inc.
Work Order: M0413
Project: NOW Corp. Site, 3/13

ANALYTICAL QC SUMMARY REPORT

SM2540_TDS

SM 2540C -- TOTAL DISSOLVED SOLIDS

Sample ID: **MB-71074**	SampType: **MBLK**	TestCode: **SM2540_TDS**			Prep Date: **04/02/13 12:30**				Run ID: **MANUAL_130402B**		
Client ID: **MB-71074**	Batch ID: **71074**	Units: **mg/L**			Analysis Date: **04/02/13 12:30**				SeqNo: **1884151**		
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	10	10									

Sample ID: **LCS-71074**	SampType: **LCS**	TestCode: **SM2540_TDS**			Prep Date: **04/02/13 12:30**				Run ID: **MANUAL_130402B**		
Client ID: **LCS-71074**	Batch ID: **71074**	Units: **mg/L**			Analysis Date: **04/02/13 13:22**				SeqNo: **1884152**		
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	497.0	10	10	503.0	0	98.8	80	120	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: AECOM Technical Services, Inc.
Work Order: M0413
Project: NOW Corp. Site, 3/13

ANALYTICAL QC SUMMARY REPORT

SM2540_TSS
SM 2540D -- TOTAL SUSPENDED SOLIDS

Sample ID: **MB-71073**	SampType: **MBLK**	TestCode: **SM2540_TSS**			Prep Date: **04/02/13 12:30**			Run ID: **MANUAL_130402A**			
Client ID: **MB-71073**	Batch ID: **71073**	Units: **mg/L**			Analysis Date: **04/02/13 12:30**			SeqNo: **1883576**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	10	10									

Sample ID: **LCS-71073**	SampType: **LCS**	TestCode: **SM2540_TSS**			Prep Date: **04/02/13 12:30**			Run ID: **MANUAL_130402A**			
Client ID: **LCS-71073**	Batch ID: **71073**	Units: **mg/L**			Analysis Date: **04/02/13 14:43**			SeqNo: **1883577**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	84.00	10	10	89.10	0	94.3	80	120	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

CLIENT: AECOM Technical Services, Inc.
Work Order: M0413
Project: NOW Corp. Site, 3/13

ANALYTICAL QC SUMMARY REPORT

SW9012_W
SW846 9012B -- Total Cyanide

Sample ID: **MB-71023**	SampType: **MBLK**	TestCode: **SW9012_W**			Prep Date: **03/28/13 15:00**			Run ID: **LACHAT1_130329A**			
Client ID: **MB-71023**	Batch ID: **71023**	Units: **ug/L**			Analysis Date: **03/29/13 12:18**			SeqNo: **1882493**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	7.5	20									

Sample ID: **LCS-71023**	SampType: **LCS**	TestCode: **SW9012_W**			Prep Date: **03/28/13 15:00**			Run ID: **LACHAT1_130329A**			
Client ID: **LCS-71023**	Batch ID: **71023**	Units: **ug/L**			Analysis Date: **03/29/13 12:20**			SeqNo: **1882494**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	100.8	7.5	20	100.0	0	101	80	120	0			

Qualifiers:
ND - Not Detected at the MDL
J - Analyte detected below quanititation limits
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
MDL - Method Detection Limit
RL - Reporting Limit
B - Analyte detected in the associated Method Blank

Client: AECOM Technical Services, Inc.
Client Sample ID: EFF032713 **Project:** NOW Corp. Site, 3/13
Lab ID: M0413-01 **Collection Date:** 03/27/13 12:45

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 1664A -- Oil & Grease, HEM							**E1664**
Oil & Grease, Total Recoverable	ND		5.0	mg/L	1	04/05/2013 10:30	71106

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: AECOM Technical Services, Inc.
Client Sample ID: INF032713 **Project:** NOW Corp. Site, 3/13
Lab ID: M0413-02 **Collection Date:** 03/27/13 12:53

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 1664A -- Oil & Grease, HEM							**E1664**
Oil & Grease, Total Recoverable	ND		5.0	mg/L	1	04/05/2013 10:30	71106

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

M0413

CLIENT: AECOM Technical Services, Inc.
Work Order: M0413
Project: NOW Corp. Site, 3/13

ANALYTICAL QC SUMMARY REPORT

E1664

EPA 1664A -- Oil & Grease, HEM

Sample ID: **MB-71106**	SampType: **MBLK**	TestCode: **E1664**			Prep Date: **04/04/13 15:44**				Run ID: **MANUAL_130405A**			
Client ID: **MB-71106**	Batch ID: **71106**	Units: **mg/L**			Analysis Date **04/05/13 10:30**				SeqNo: **1884577**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	ND	1.2	5.0									

Sample ID: **LCS-71106**	SampType: **LCS**	TestCode: **E1664**			Prep Date: **04/04/13 15:44**				Run ID: **MANUAL_130405A**			
Client ID: **LCS-71106**	Batch ID: **71106**	Units: **mg/L**			Analysis Date **04/05/13 10:30**				SeqNo: **1884571**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	37.10	1.2	5.0	40.00	0	92.8	78	114	0			

Sample ID: **LCSD-71106**	SampType: **LCSD**	TestCode: **E1664**			Prep Date: **04/04/13 15:44**				Run ID: **MANUAL_130405A**			
Client ID: **LCSD-71106**	Batch ID: **71106**	Units: **mg/L**			Analysis Date **04/05/13 10:30**				SeqNo: **1884572**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	37.20	1.2	5.0	40.00	0	93.0	78	114	37.10	0.269	18	

Sample ID: **M0413-02DMS**	SampType: **MS**	TestCode: **E1664**			Prep Date: **04/04/13 15:44**				Run ID: **MANUAL_130405A**			
Client ID: **INF032713**	Batch ID: **71106**	Units: **mg/L**			Analysis Date **04/05/13 10:30**				SeqNo: **1884575**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	32.20	1.2	5.0	40.00	0	80.5	78	114	0			

Qualifiers: ND - Not Detected at the MDL; S - Recovery outside accepted recovery limits; MDL - Method Detection Limit; B - Analyte detected in the associated Method Blank; J - Analyte detected below quanititation limits; R - RPD outside accepted recovery limits; RL - Reporting Limit

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

WorkOrder: M0413

Client ID: EARTH_NY
Project: NOW Corp. Site
WO Name: NOW Corp. Site, 3/13
Location: NOW_CORP,
Comments: N/A

Case:
SDG:
PO: 6027 6639 1

HC Due: 04/16/13
Fax Due:
Fax Report: ☐

Report Level: LEVEL 2
Special Program:
EDD:

Lab Samp ID	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Samp / Lab Test Comments	HF	HT	MS	SEL	Storage
M0413-01A	EFF032713	03/27/2013 12:45	03/28/2013	Aqueous	SW8260_25_W	/				Y	VOA
M0413-01B	EFF032713	03/27/2013 12:45	03/28/2013	Aqueous	SW6010_W	/ See SEL list				Y	M1
M0413-01B	EFF032713	03/27/2013 12:45	03/28/2013	Aqueous	SW7470	/ See SEL list					M1
M0413-01C	EFF032713	03/27/2013 12:45	03/28/2013	Aqueous	SM2540_TDS	/					P1
M0413-01C	EFF032713	03/27/2013 12:45	03/28/2013	Aqueous	SM2540_TSS	/					P1
M0413-01D	EFF032713	03/27/2013 12:45	03/28/2013	Aqueous	E1664	/					P1
M0413-01E	EFF032713	03/27/2013 12:45	03/28/2013	Aqueous	SW9012_W	/				Y	P1
M0413-02A	INF032713	03/27/2013 12:53	03/28/2013	Aqueous	SW8260_25_W	/				Y	VOA
M0413-02B	INF032713	03/27/2013 12:53	03/28/2013	Aqueous	SW6010_W	/ See SEL list				Y	M1
M0413-02B	INF032713	03/27/2013 12:53	03/28/2013	Aqueous	SW7470	/ See SEL list					M1
M0413-02C	INF032713	03/27/2013 12:53	03/28/2013	Aqueous	SM2540_TDS	/					P1
M0413-02C	INF032713	03/27/2013 12:53	03/28/2013	Aqueous	SM2540_TSS	/					P1
M0413-02D	INF032713	03/27/2013 12:53	03/28/2013	Aqueous	E1664	/					P1
M0413-02E	INF032713	03/27/2013 12:53	03/28/2013	Aqueous	SW9012_W	/				Y	P1
M0413-03A	TW-1 032713	03/27/2013 13:00	03/28/2013	Aqueous	SW8260_25_W	/				Y	VOA
M0413-04A	TW-2A 032713	03/27/2013 13:10	03/28/2013	Aqueous	SW8260_25_W	/				Y	VOA
M0413-05A	TW-3 032713	03/27/2013 13:12	03/28/2013	Aqueous	SW8260_25_W	/				Y	VOA
M0413-06A	TB-032713	03/27/2013 00:00	03/28/2013	Aqueous	SW8260_25_W	/				Y	VOA

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

03/28/2013 15:37

Lab Client Rep: Edward A Lawler

M0413

SPECTRUM ANALYTICAL, INC
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
TAT- Indicate Date Needed: _____
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 30 days unless otherwise instructed.

Report To: AECOM
40 British American Blvd
Latham NY 12110

Project Mgr.: Stephen Choiniere

Invoice To: Same

P.O. No.: _____ RQN: _____

Project No.: 60276639 1
Site Name: Now Corp
Location: Stattsburg State: NY
Sampler(s): SRG

1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9= None 10= _____ 11= _____

List preservative code below: 2 4 9 2 5

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: 8260	Metals*	TSS/TDS	O+G	Cyanide
	EFF032713	3/27/13	12:45	G	GW	2	3		3	X	X	X	X	X
	INF 032713		12:53				X		X		X	X	X	X
	TW-1 032713		13:00											
	TW-2A 032713		13:10											
	TW-3 032713		13:12											
	TB-032713	—	—											

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards: _____

☐ E-mail to _____
EDD Format _____

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 3

Relinquished by:	Received by:	Date:	Time:
[signature]	FEDEX	3/27/13	15:46
FEDEX	[signature]	3/28/13	8:30

Page 36 of 38

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

Received By: AED	Page 01 of 00
Reviewed By: VRB	Log-in Date 03/28/2013
Work Order: M0413	Client Name: AECOM Technical Services, Inc.
Project Name/Event: NOW Corp. Site	

Remarks: (1/2) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s)	Present / Absent
	Intact / Broken
2. Custody Seal Nos.	N/A
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists	Present / Absent
4. Airbill	AirBill / Sticker
	Present / Absent
5. Airbill No.	FedEx 8014 0638 8390
6. Sample Tags	Present / Absent
Sample Tag Numbers	Listed / Not Listed on Chain-of-Custody
7. Sample Condition	Intact / Broken/ Leaking
8. Cooler Temperature Indicator Bottle	Present / Absent
9. Cooler Temperature	3 °C
10. Does information on TR/COCs and sample tags agree?	Yes / No
11. Date Received at Laboratory	03/28/2013
12. Time Received	08:30

Lab Sample ID	Preservation (pH) HNO3	H2SO4	HCl	NaOH	H3PO4	VOA Matrix	Soil HeadSpace or Air Bubble > or equal to 1/4"
M0413-01						H	
M0413-02						H	
M0413-03						H	
M0413-04						H	
M0413-05						H	
M0413-06						H	

Sample Transfer

Fraction (1) TVOA/VOA	Fraction (2) SVOA/PEST/ARO
Area #	Area #
By	By
On	On

IR Temp Gun ID:MT-1

CoolantCondition: ICE

Preservative Name/Lot No:

VOA Matrix Key:

US = Unpreserved Soil	A= Air
UA = Unpreserved Aqueous	H = HCl
M = MeOH	E = Encore
N = NaHSO4	F = Freeze

See Sample Condition Notification/Corrective Action Form Yes / No

Rad OK Yes / No

Last Page of Data Report