AECOM

Operation, Maintenance and Monitoring Report
November 2012

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

January 2013

AECOM

January 21, 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: "November" 2012

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 33-day period **(October 26 – November 28, 2012)**.

With the exceptions noted below, if any, the P&T system was online and operational throughout the reporting period. Approximately 607,900 gallons of water were treated during the period. Discharge from the treatment system averaged approximately 18,421 gallons per day (gpd), compared to 16,789 gpd in the prior reporting period.

As of the last day of the reporting period, a total of 89,911,900 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 November 28. **Effluent limitations were not exceeded this reporting period.** A copy of the analytical laboratory report is attached. Table 2 summarizes selected operational data recorded on the sampling date. The effluent samples were collected while the VFD was operating at 60 Hz.

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

November 28 – AECOM was onsite to complete monthly influent, effluent, and recovery well sampling. Treatment system building interior housekeeping was performed. The propane tank was at 71% capacity.

The system efficiency and runtime was evaluated over the month. The system operated without incident for 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 Choiniere

Stephen R. Choiniere
Project Manager

Table 1
Summary of Influent and Effluent Data
Sampling Date: November 28, 2012
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		18,421				Monitor	gallons
pH	7.0	6.9				6.5 to 8.5	standard units
Oil and Grease	<1	<1	NA	NA	NA	15	mg/L
Total Cyanide	<10	<10	NA	NA	NA	10	ug/L
TDS	**280**	**270**	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	**89 J**	**93 J**	NA	NA	NA	Monitor	ug/L
Chromium	<20	<20	NA	NA	NA	400	ug/L
Copper	<25	<25	NA	NA	NA	24	ug/L
Iron	**36 J**	**34 J**	NA	NA	NA	600	ug/L
Mercury	<0.20	<0.20	NA	NA	NA	0.8	ug/L
Manganese	**160**	**150**	NA	NA	NA	Monitor	ug/L
Nickel	**1.5 J**	**13 J**	NA	NA	NA	200	ug/L
Zinc	<50	**150**	NA	NA	NA	150	ug/L
1,1,1-Trichloroethane	**610**	<0.5	<2	**1,300**	**14**	10	ug/L
1,1,2-Trichloroethane	<10	<0.5	<2	<20	<0.5	1.2	ug/L
1,1-Dichloroethane	**230**	<0.5	**38**	**450**	**24**	10	ug/L
1,1-Dichloroethene	**21**	<0.5	**13**	**42**	**2**	0.5	ug/L
1,2-Dichloroethane	<10	<0.5	<2	<20	<0.5	1.6	ug/L
Benzene	<10	<0.5	<2	<20	<0.5	1.4	ug/L
Chlorobenzene	<10	<0.5	<2	<20	<0.5	10	ug/L
Chloroethane	<10	<0.5	<2	<20	<0.5	10	ug/L
cis -1,2-Dichloroethene	**15**	<0.5	**3.7**	**29**	<0.5	5	ug/L
Ethylbenzene	<10	<0.5	<2	<20	<0.5	10	ug/L
o-Xylene	<10	<0.5	<2	<20	<0.5	5	ug/L
m,p-Xylene	<10	<0.5	<2	<20	<0.5	10	ug/L
Tetrachloroethene	<10	<0.5	<2	<20	<0.5	1.4	ug/L
Toluene	<10	<0.5	<2	<20	<0.5	10	ug/L
trans -1,2-Dichloroethene	<10	<0.5	<2	<20	<0.5	5	ug/L
Trichloroethene	**420**	<0.5	**42**	**880**	**9.3**	6	ug/L
Vinyl Chloride	<10	<0.5	<2	<20	<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 November 2012 O&M Data

NOW Corporation Site
Town of Clinton, New York

Instrumentation/Readings:		**11/28/12**	**Units**
TW-1			
	Pumping Rate	2	GPM
	Water Level Above Transducer	24.47	feet
	Flow Meter Reading	6,370,200	gallons
	Pump Pressure	80	psi
TW-2A			
	Pumping Rate	~14	GPM
	Water Level Above Transducer	19.65	feet
	Flow Meter Reading	25,179,300	gallons
	Pump Pressure	80	psi
TW-3			
	Pumping Rate	3	GPM
	Water Level Above Transducer	25.35	feet
	Flow Meter Reading	9,958,800	gallons
	Pump Pressure	65	psi
Air Stripper			
	Stripper Blower Pressure	18.5	inches H_2O
	Air Temperature in Stripper	50	°F
Effluent Flow			
	Effluent Flow this period (calculated)	607,900	gallons
	Total Effluent Flow (calculated)	89,911,900	gallons

Report Date:
21-Dec-12 10:00

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

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

Work Order: L2471
Project : NOW Corp. Site, 11/2012
Project #:

Attn: Stephen Choiniere

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
L2471-01	EFF 112812	Aqueous	28-Nov-12 12:05	29-Nov-12 07:56
L2471-02	INF 112812	Aqueous	28-Nov-12 12:40	29-Nov-12 07:56
L2471-03	TW-1 112812	Aqueous	28-Nov-12 12:32	29-Nov-12 07:56
L2471-04	TW-2A 112812	Aqueous	28-Nov-12 12:27	29-Nov-12 07:56
L2471-05	TW3 112812	Aqueous	28-Nov-12 12:15	29-Nov-12 07:56
L2471-06	TRIP BLANK 112812	Aqueous	28-Nov-12 00:00	29-Nov-12 07:56

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, 11/2012

Laboratory Workorder / SDG #: L2471

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: SW5030

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.

LCSD-69614 in batch 69614, Percent Recovery is outside QC Limits, recovery is above criteria for Tetrachloroethene at 125% with criteria of (74-115) and Trichloroethene at 128% with criteria of (74-123).

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:

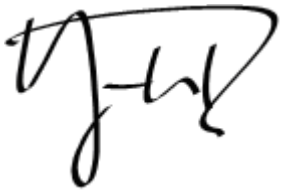
The following samples were analyzed at dilution:

INF 112812 (L2471-02A) : Dilution Factor: 20
TW-1 112812 (L2471-03A) : Dilution Factor: 4
TW-2A 112812 (L2471-04A) : Dilution Factor: 40

G. 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:_____12/20/2012_____

REPORT NARRATIVE

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

Client : AECOM Technical Services, Inc.

Project: NOW Corp. Site, 11/2012

Laboratory Workorder / SDG #: L2471

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: SW3005
Aqueous Samples were prepared following procedures in laboratory test code: SW7470A

V. INSTRUMENTATION

The following instrumentation was used to perform

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):

A serial dilution was not performed on any sample in this SDG.

G. 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 RI, 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: 12/21/12

REPORT NARRATIVE

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

Client : AECOM Technical Services, Inc.

Project: NOW Corp. Site, 11/2012

Laboratory Workorder / SDG #: L2471

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

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

V. INSTRUMENTATION

The following instrumentation was used to perform

Instrument Code: LACHAT1
Instrument Type: WC
Description: Flow Injection Analyzer
Manufacturer: Zellweger Analytics
Model: Quik-Chem 8000

Instrument Code: MANUAL
Instrument Type: WC

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.

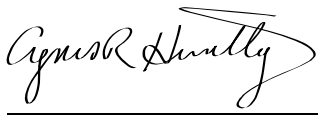
E. Dilutions:

No sample required dilution in this SDG.

F. Samples:

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum RI, 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: 12/21/12

Client: AECOM Technical Services, Inc.
Client Sample ID: EFF 112812 **Project:** NOW Corp. Site, 11/2012
Lab ID: L2471-01 **Collection Date:** 11/28/12 12:05

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	12/07/2012 16:58	69614
Chloroethane	ND		0.50	ug/L	1	12/07/2012 16:58	69614
1,1-Dichloroethene	ND		0.50	ug/L	1	12/07/2012 16:58	69614
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	12/07/2012 16:58	69614
Methyl tert-butyl ether	ND		0.50	ug/L	1	12/07/2012 16:58	69614
1,1-Dichloroethane	ND		0.50	ug/L	1	12/07/2012 16:58	69614
cis-1,2-Dichloroethene	ND		0.50	ug/L	1	12/07/2012 16:58	69614
1,1,1-Trichloroethane	ND		0.50	ug/L	1	12/07/2012 16:58	69614
1,2-Dichloroethane	ND		0.50	ug/L	1	12/07/2012 16:58	69614
Benzene	ND		0.50	ug/L	1	12/07/2012 16:58	69614
Trichloroethene	ND		0.50	ug/L	1	12/07/2012 16:58	69614
Toluene	ND		0.50	ug/L	1	12/07/2012 16:58	69614
1,1,2-Trichloroethane	ND		0.50	ug/L	1	12/07/2012 16:58	69614
Tetrachloroethene	ND		0.50	ug/L	1	12/07/2012 16:58	69614
Chlorobenzene	ND		0.50	ug/L	1	12/07/2012 16:58	69614
Ethylbenzene	ND		0.50	ug/L	1	12/07/2012 16:58	69614
m,p-Xylene	ND		0.50	ug/L	1	12/07/2012 16:58	69614
o-Xylene	ND		0.50	ug/L	1	12/07/2012 16:58	69614
Surrogate: Dibromofluoromethane	102		88-124	%REC	1	12/07/2012 16:58	69614
Surrogate: 1,2-Dichloroethane-d4	98.9		79-115	%REC	1	12/07/2012 16:58	69614
Surrogate: Toluene-d8	100		80-114	%REC	1	12/07/2012 16:58	69614
Surrogate: Bromofluorobenzene	104		60-123	%REC	1	12/07/2012 16:58	69614

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: INF 112812 **Project:** NOW Corp. Site, 11/2012
Lab ID: L2471-02 **Collection Date:** 11/28/12 12:40

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	12/07/2012 14:40	69614
Chloroethane	ND		10	ug/L	20	12/07/2012 14:40	69614
1,1-Dichloroethene	21		10	ug/L	20	12/07/2012 14:40	69614
trans-1,2-Dichloroethene	ND		10	ug/L	20	12/07/2012 14:40	69614
Methyl tert-butyl ether	ND		10	ug/L	20	12/07/2012 14:40	69614
1,1-Dichloroethane	230		10	ug/L	20	12/07/2012 14:40	69614
cis-1,2-Dichloroethene	15		10	ug/L	20	12/07/2012 14:40	69614
1,1,1-Trichloroethane	610		10	ug/L	20	12/07/2012 14:40	69614
1,2-Dichloroethane	ND		10	ug/L	20	12/07/2012 14:40	69614
Benzene	ND		10	ug/L	20	12/07/2012 14:40	69614
Trichloroethene	420		10	ug/L	20	12/07/2012 14:40	69614
Toluene	ND		10	ug/L	20	12/07/2012 14:40	69614
1,1,2-Trichloroethane	ND		10	ug/L	20	12/07/2012 14:40	69614
Tetrachloroethene	ND		10	ug/L	20	12/07/2012 14:40	69614
Chlorobenzene	ND		10	ug/L	20	12/07/2012 14:40	69614
Ethylbenzene	ND		10	ug/L	20	12/07/2012 14:40	69614
m,p-Xylene	ND		10	ug/L	20	12/07/2012 14:40	69614
o-Xylene	ND		10	ug/L	20	12/07/2012 14:40	69614
Surrogate: Dibromofluoromethane	100		88-124	%REC	20	12/07/2012 14:40	69614
Surrogate: 1,2-Dichloroethane-d4	99.5		79-115	%REC	20	12/07/2012 14:40	69614
Surrogate: Toluene-d8	99.0		80-114	%REC	20	12/07/2012 14:40	69614
Surrogate: Bromofluorobenzene	102		60-123	%REC	20	12/07/2012 14:40	69614

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 112812 **Project:** NOW Corp. Site, 11/2012
Lab ID: L2471-03 **Collection Date:** 11/28/12 12:32

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	12/07/2012 15:08	69614
Chloroethane	ND		2.0	ug/L	4	12/07/2012 15:08	69614
1,1-Dichloroethene	13		2.0	ug/L	4	12/07/2012 15:08	69614
trans-1,2-Dichloroethene	ND		2.0	ug/L	4	12/07/2012 15:08	69614
Methyl tert-butyl ether	ND		2.0	ug/L	4	12/07/2012 15:08	69614
1,1-Dichloroethane	38		2.0	ug/L	4	12/07/2012 15:08	69614
cis-1,2-Dichloroethene	3.7		2.0	ug/L	4	12/07/2012 15:08	69614
1,1,1-Trichloroethane	ND		2.0	ug/L	4	12/07/2012 15:08	69614
1,2-Dichloroethane	ND		2.0	ug/L	4	12/07/2012 15:08	69614
Benzene	ND		2.0	ug/L	4	12/07/2012 15:08	69614
Trichloroethene	42		2.0	ug/L	4	12/07/2012 15:08	69614
Toluene	ND		2.0	ug/L	4	12/07/2012 15:08	69614
1,1,2-Trichloroethane	ND		2.0	ug/L	4	12/07/2012 15:08	69614
Tetrachloroethene	ND		2.0	ug/L	4	12/07/2012 15:08	69614
Chlorobenzene	ND		2.0	ug/L	4	12/07/2012 15:08	69614
Ethylbenzene	ND		2.0	ug/L	4	12/07/2012 15:08	69614
m,p-Xylene	ND		2.0	ug/L	4	12/07/2012 15:08	69614
o-Xylene	ND		2.0	ug/L	4	12/07/2012 15:08	69614
Surrogate: Dibromofluoromethane	100		88-124	%REC	4	12/07/2012 15:08	69614
Surrogate: 1,2-Dichloroethane-d4	103		79-115	%REC	4	12/07/2012 15:08	69614
Surrogate: Toluene-d8	99.9		80-114	%REC	4	12/07/2012 15:08	69614
Surrogate: Bromofluorobenzene	101		60-123	%REC	4	12/07/2012 15:08	69614

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 112812 **Project:** NOW Corp. Site, 11/2012
Lab ID: L2471-04 **Collection Date:** 11/28/12 12:27

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		20	ug/L	40	12/07/2012 15:36	69614
Chloroethane	ND		20	ug/L	40	12/07/2012 15:36	69614
1,1-Dichloroethene	42		20	ug/L	40	12/07/2012 15:36	69614
trans-1,2-Dichloroethene	ND		20	ug/L	40	12/07/2012 15:36	69614
Methyl tert-butyl ether	ND		20	ug/L	40	12/07/2012 15:36	69614
1,1-Dichloroethane	450		20	ug/L	40	12/07/2012 15:36	69614
cis-1,2-Dichloroethene	29		20	ug/L	40	12/07/2012 15:36	69614
1,1,1-Trichloroethane	1300		20	ug/L	40	12/07/2012 15:36	69614
1,2-Dichloroethane	ND		20	ug/L	40	12/07/2012 15:36	69614
Benzene	ND		20	ug/L	40	12/07/2012 15:36	69614
Trichloroethene	880		20	ug/L	40	12/07/2012 15:36	69614
Toluene	ND		20	ug/L	40	12/07/2012 15:36	69614
1,1,2-Trichloroethane	ND		20	ug/L	40	12/07/2012 15:36	69614
Tetrachloroethene	ND		20	ug/L	40	12/07/2012 15:36	69614
Chlorobenzene	ND		20	ug/L	40	12/07/2012 15:36	69614
Ethylbenzene	ND		20	ug/L	40	12/07/2012 15:36	69614
m,p-Xylene	ND		20	ug/L	40	12/07/2012 15:36	69614
o-Xylene	ND		20	ug/L	40	12/07/2012 15:36	69614
Surrogate: Dibromofluoromethane	100		88-124	%REC	40	12/07/2012 15:36	69614
Surrogate: 1,2-Dichloroethane-d4	97.3		79-115	%REC	40	12/07/2012 15:36	69614
Surrogate: Toluene-d8	99.6		80-114	%REC	40	12/07/2012 15:36	69614
Surrogate: Bromofluorobenzene	99.7		60-123	%REC	40	12/07/2012 15:36	69614

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: TW3 112812 **Project:** NOW Corp. Site, 11/2012
Lab ID: L2471-05 **Collection Date:** 11/28/12 12:15

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	12/07/2012 16:03	69614
Chloroethane	ND		0.50	ug/L	1	12/07/2012 16:03	69614
1,1-Dichloroethene	2.0		0.50	ug/L	1	12/07/2012 16:03	69614
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	12/07/2012 16:03	69614
Methyl tert-butyl ether	ND		0.50	ug/L	1	12/07/2012 16:03	69614
1,1-Dichloroethane	24		0.50	ug/L	1	12/07/2012 16:03	69614
cis-1,2-Dichloroethene	ND		0.50	ug/L	1	12/07/2012 16:03	69614
1,1,1-Trichloroethane	14		0.50	ug/L	1	12/07/2012 16:03	69614
1,2-Dichloroethane	ND		0.50	ug/L	1	12/07/2012 16:03	69614
Benzene	ND		0.50	ug/L	1	12/07/2012 16:03	69614
Trichloroethene	9.3		0.50	ug/L	1	12/07/2012 16:03	69614
Toluene	ND		0.50	ug/L	1	12/07/2012 16:03	69614
1,1,2-Trichloroethane	ND		0.50	ug/L	1	12/07/2012 16:03	69614
Tetrachloroethene	ND		0.50	ug/L	1	12/07/2012 16:03	69614
Chlorobenzene	ND		0.50	ug/L	1	12/07/2012 16:03	69614
Ethylbenzene	ND		0.50	ug/L	1	12/07/2012 16:03	69614
m,p-Xylene	ND		0.50	ug/L	1	12/07/2012 16:03	69614
o-Xylene	ND		0.50	ug/L	1	12/07/2012 16:03	69614
Surrogate: Dibromofluoromethane	101		88-124	%REC	1	12/07/2012 16:03	69614
Surrogate: 1,2-Dichloroethane-d4	99.7		79-115	%REC	1	12/07/2012 16:03	69614
Surrogate: Toluene-d8	101		80-114	%REC	1	12/07/2012 16:03	69614
Surrogate: Bromofluorobenzene	101		60-123	%REC	1	12/07/2012 16:03	69614

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: TRIP BLANK 112812 **Project:** NOW Corp. Site, 11/2012
Lab ID: L2471-06 **Collection Date:** 11/28/12 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	12/07/2012 16:31	69614
Chloroethane	ND		0.50	ug/L	1	12/07/2012 16:31	69614
1,1-Dichloroethene	ND		0.50	ug/L	1	12/07/2012 16:31	69614
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	12/07/2012 16:31	69614
Methyl tert-butyl ether	ND		0.50	ug/L	1	12/07/2012 16:31	69614
1,1-Dichloroethane	ND		0.50	ug/L	1	12/07/2012 16:31	69614
cis-1,2-Dichloroethene	ND		0.50	ug/L	1	12/07/2012 16:31	69614
1,1,1-Trichloroethane	ND		0.50	ug/L	1	12/07/2012 16:31	69614
1,2-Dichloroethane	ND		0.50	ug/L	1	12/07/2012 16:31	69614
Benzene	ND		0.50	ug/L	1	12/07/2012 16:31	69614
Trichloroethene	ND		0.50	ug/L	1	12/07/2012 16:31	69614
Toluene	ND		0.50	ug/L	1	12/07/2012 16:31	69614
1,1,2-Trichloroethane	ND		0.50	ug/L	1	12/07/2012 16:31	69614
Tetrachloroethene	ND		0.50	ug/L	1	12/07/2012 16:31	69614
Chlorobenzene	ND		0.50	ug/L	1	12/07/2012 16:31	69614
Ethylbenzene	ND		0.50	ug/L	1	12/07/2012 16:31	69614
m,p-Xylene	ND		0.50	ug/L	1	12/07/2012 16:31	69614
o-Xylene	ND		0.50	ug/L	1	12/07/2012 16:31	69614
Surrogate: Dibromofluoromethane	103		88-124	%REC	1	12/07/2012 16:31	69614
Surrogate: 1,2-Dichloroethane-d4	100		79-115	%REC	1	12/07/2012 16:31	69614
Surrogate: Toluene-d8	101		80-114	%REC	1	12/07/2012 16:31	69614
Surrogate: Bromofluorobenzene	102		60-123	%REC	1	12/07/2012 16:31	69614

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.
Work Order: L2471
Project: NOW Corp. Site, 11/2012

ANALYTICAL QC SUMMARY REPORT

SW8260_25_W

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

Sample ID: **MB-69614** SampType: **MBLK** TestCode: **SW8260_25_W** Prep Date: **12/07/12 8:26** Run ID: **V5_121207A**
Client ID: **MB-69614** Batch ID: **69614** Units: **ug/L** Analysis Date: **12/07/12 14:12** SeqNo: **1842645**

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	10.24		0.50	10.00	0	102	88	124	0			
Surrogate: 1,2-Dichloroethane-d4	9.787		0.50	10.00	0	97.9	79	115	0			
Surrogate: Toluene-d8	9.973		0.50	10.00	0	99.7	80	114	0			
Surrogate: Bromofluorobenzene	10.10		0.50	10.00	0	101	60	123	0			

CLIENT: AECOM Technical Services, Inc.
Work Order: L2471
Project: NOW Corp. Site, 11/2012

ANALYTICAL QC SUMMARY REPORT

SW8260_25_W

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

Sample ID: **LCS-69614** SampType: **LCS** TestCode: **SW8260_25_W** Prep Date: **12/07/12 8:26** Run ID: **V5_121207A**
Client ID: **LCS-69614** Batch ID: **69614** Units: **ug/L** Analysis Date: **12/07/12 12:50** SeqNo: **1842643**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	9.942	0.15	0.50	10.00	0	99.4	77	120	0			
Chloroethane	10.05	0.24	0.50	10.00	0	100	75	135	0			
1,1-Dichloroethene	10.32	0.19	0.50	10.00	0	103	81	125	0			
trans-1,2-Dichloroethene	9.753	0.14	0.50	10.00	0	97.5	60	137	0			
Methyl tert-butyl ether	10.16	0.13	0.50	10.00	0	102	61	134	0			
1,1-Dichloroethane	10.01	0.18	0.50	10.00	0	100	82	120	0			
cis-1,2-Dichloroethene	9.600	0.19	0.50	10.00	0	96.0	84	116	0			
1,1,1-Trichloroethane	9.923	0.11	0.50	10.00	0	99.2	80	124	0			
1,2-Dichloroethane	10.16	0.16	0.50	10.00	0	102	86	117	0			
Benzene	10.06	0.12	0.50	10.00	0	101	81	121	0			
Trichloroethene	10.02	0.13	0.50	10.00	0	100	74	123	0			
Toluene	10.02	0.14	0.50	10.00	0	100	88	117	0			
1,1,2-Trichloroethane	9.814	0.20	0.50	10.00	0	98.1	83	121	0			
Tetrachloroethene	11.44	0.17	0.50	10.00	0	114	74	115	0			
Chlorobenzene	9.798	0.13	0.50	10.00	0	98.0	83	112	0			
Ethylbenzene	9.662	0.13	0.50	10.00	0	96.6	87	110	0			
m,p-Xylene	19.37	0.22	0.50	20.00	0	96.8	87	114	0			
o-Xylene	9.556	0.17	0.50	10.00	0	95.6	84	114	0			
Surrogate: Dibromofluoromethane	9.982		0.50	10.00	0	99.8	88	124	0			
Surrogate: 1,2-Dichloroethane-d4	10.41		0.50	10.00	0	104	79	115	0			
Surrogate: Toluene-d8	9.647		0.50	10.00	0	96.5	80	114	0			
Surrogate: Bromofluorobenzene	10.13		0.50	10.00	0	101	60	123	0			

CLIENT: AECOM Technical Services, Inc.
Work Order: L2471
Project: NOW Corp. Site, 11/2012

ANALYTICAL QC SUMMARY REPORT

SW8260_25_W

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

Sample ID: **LCSD-69614** SampType: **LCSD** TestCode: **SW8260_25_W** Prep Date: **12/07/12 8:26** Run ID: **V5_121207A**
Client ID: **LCSD-69614** Batch ID: **69614** Units: **ug/L** Analysis Date: **12/07/12 13:17** SeqNo: **1842644**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	9.939	0.15	0.50	10.00	0	99.4	77	120	9.942	0.0285	40	
Chloroethane	9.493	0.24	0.50	10.00	0	94.9	75	135	10.05	5.68	40	
1,1-Dichloroethene	10.36	0.19	0.50	10.00	0	104	81	125	10.32	0.37	40	
trans-1,2-Dichloroethene	9.853	0.14	0.50	10.00	0	98.5	60	137	9.753	1.02	40	
Methyl tert-butyl ether	10.06	0.13	0.50	10.00	0	101	61	134	10.16	0.922	40	
1,1-Dichloroethane	9.898	0.18	0.50	10.00	0	99.0	82	120	10.01	1.13	40	
cis-1,2-Dichloroethene	9.872	0.19	0.50	10.00	0	98.7	84	116	9.600	2.79	40	
1,1,1-Trichloroethane	10.15	0.11	0.50	10.00	0	102	80	124	9.923	2.3	40	
1,2-Dichloroethane	10.01	0.16	0.50	10.00	0	100	86	117	10.16	1.48	40	
Benzene	10.05	0.12	0.50	10.00	0	101	81	121	10.06	0.0889	40	
Trichloroethene	12.82	0.13	0.50	10.00	0	128	74	123	10.02	24.5	40	S
Toluene	10.03	0.14	0.50	10.00	0	100	88	117	10.02	0.173	40	
1,1,2-Trichloroethane	9.687	0.20	0.50	10.00	0	96.9	83	121	9.814	1.3	40	
Tetrachloroethene	12.50	0.17	0.50	10.00	0	125	74	115	11.44	8.88	40	S
Chlorobenzene	9.899	0.13	0.50	10.00	0	99.0	83	112	9.798	1.03	40	
Ethylbenzene	10.00	0.13	0.50	10.00	0	100	87	110	9.662	3.47	40	
m,p-Xylene	20.08	0.22	0.50	20.00	0	100	87	114	19.37	3.61	40	
o-Xylene	9.922	0.17	0.50	10.00	0	99.2	84	114	9.556	3.76	40	
Surrogate: Dibromofluoromethane	9.812		0.50	10.00	0	98.1	88	124	0			
Surrogate: 1,2-Dichloroethane-d4	10.33		0.50	10.00	0	103	79	115	0			
Surrogate: Toluene-d8	9.843		0.50	10.00	0	98.4	80	114	0			
Surrogate: Bromofluorobenzene	9.966		0.50	10.00	0	99.7	60	123	0			

Client: AECOM Technical Services, Inc.
Client Sample ID: EFF 112812 **Project:** NOW Corp. Site, 11/2012
Lab ID: L2471-01 **Collection Date:** 11/28/12 12:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_W**
Aluminum	ND		200	ug/L	1	12/04/2012 12:53	69510
Arsenic	ND		20	ug/L	1	12/04/2012 12:53	69510
Barium	93	J	200	ug/L	1	12/04/2012 12:53	69510
Chromium	ND		20	ug/L	1	12/04/2012 12:53	69510
Copper	ND		25	ug/L	1	12/04/2012 12:53	69510
Iron	34	J	200	ug/L	1	12/04/2012 12:53	69510
Manganese	150		50	ug/L	1	12/04/2012 12:53	69510
Nickel	13	J	50	ug/L	1	12/04/2012 12:53	69510
Zinc	150		50	ug/L	1	12/04/2012 12:53	69510
SW846 7470A -- Mercury by FIA							**SW7470**
Mercury	ND		0.20	µg/L	1	12/03/2012 16:28	69512

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: INF 112812 **Project:** NOW Corp. Site, 11/2012
Lab ID: L2471-02 **Collection Date:** 11/28/12 12:40

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_W**
Aluminum	ND		200	ug/L	1	12/04/2012 12:57	69510
Arsenic	ND		20	ug/L	1	12/04/2012 12:57	69510
Barium	89	J	200	ug/L	1	12/04/2012 12:57	69510
Chromium	ND		20	ug/L	1	12/04/2012 12:57	69510
Copper	ND		25	ug/L	1	12/04/2012 12:57	69510
Iron	36	J	200	ug/L	1	12/04/2012 12:57	69510
Manganese	160		50	ug/L	1	12/04/2012 12:57	69510
Nickel	1.5	J	50	ug/L	1	12/04/2012 12:57	69510
Zinc	ND		50	ug/L	1	12/04/2012 12:57	69510
SW846 7470A -- Mercury by FIA							**SW7470**
Mercury	ND		0.20	µg/L	1	12/03/2012 16:29	69512

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.
Work Order: L2471
Project: NOW Corp. Site, 11/2012

ANALYTICAL QC SUMMARY REPORT

SW6010_W

SW846 6010C -- Metals by ICP

Sample ID: **MB-69510** SampType: **MBLK** TestCode: **SW6010_W** Prep Date: **12/03/12 11:00** Run ID: **OPTIMA3_121204A**
Client ID: **MB-69510** Batch ID: **69510** Units: **ug/L** Analysis Date: **12/04/12 12:01** SeqNo: **1839850**

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-69510** SampType: **LCS** TestCode: **SW6010_W** Prep Date: **12/03/12 11:00** Run ID: **OPTIMA3_121204A**
Client ID: **LCS-69510** Batch ID: **69510** Units: **ug/L** Analysis Date: **12/04/12 12:05** SeqNo: **1839851**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9234	66	200	9100	0	101	80	120	0			
Arsenic	476.6	4.3	20	455.0	0	105	80	120	0			
Barium	9541	1.1	200	9100	0	105	80	120	0			
Chromium	916.3	0.64	20	910.0	0	101	80	120	0			
Copper	1146	3.6	30	1130	0	101	80	120	0			
Iron	4535	31	200	4550	0	99.7	80	120	0			
Manganese	2355	10	50	2270	0	104	80	120	0			
Nickel	2323	0.85	50	2270	0	102	80	120	0			
Zinc	2316	4.9	50	2270	0	102	80	120	0			

CLIENT: AECOM Technical Services, Inc.
Work Order: L2471
Project: NOW Corp. Site, 11/2012

ANALYTICAL QC SUMMARY REPORT

SW6010_W

SW846 6010C -- Metals by ICP

Sample ID: **LCSD-69510** SampType: **LCSD** TestCode: **SW6010_W** Prep Date: **12/03/12 11:00** Run ID: **OPTIMA3_121204A**

Client ID: **LCSD-69510** Batch ID: **69510** Units: **ug/L** Analysis Date: **12/04/12 12:08** SeqNo: **1839853**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9294	66	200	9100	0	102	80	120	9234	0.655	20	
Arsenic	473.7	4.3	20	455.0	0	104	80	120	476.6	0.617	20	
Barium	9597	1.1	200	9100	0	105	80	120	9541	0.59	20	
Chromium	921.1	0.64	20	910.0	0	101	80	120	916.3	0.512	20	
Copper	1153	3.6	30	1130	0	102	80	120	1146	0.627	20	
Iron	4560	31	200	4550	0	100	80	120	4535	0.536	20	
Manganese	2370	10	50	2270	0	104	80	120	2355	0.623	20	
Nickel	2339	0.85	50	2270	0	103	80	120	2323	0.661	20	
Zinc	2337	4.9	50	2270	0	103	80	120	2316	0.883	20	

CLIENT: AECOM Technical Services, Inc.
Work Order: L2471
Project: NOW Corp. Site, 11/2012

ANALYTICAL QC SUMMARY REPORT

SW7470

SW846 7470A -- Mercury by FIA

Sample ID: **MB-69512**	SampType: **MBLK**	TestCode: **SW7470**			Prep Date: **12/03/12 12:30**			Run ID: **FIMS2_121203A**				
Client ID: **MB-69512**	Batch ID: **69512**	Units: **µg/L**			Analysis Date: **12/03/12 15:59**			SeqNo: **1839118**				
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-69512**	SampType: **LCS**	TestCode: **SW7470**			Prep Date: **12/03/12 12:30**			Run ID: **FIMS2_121203A**				
Client ID: **LCS-69512**	Batch ID: **69512**	Units: **µg/L**			Analysis Date: **12/03/12 16:01**			SeqNo: **1839119**				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.630	0.028	0.20	4.550	0	102	80	120	0			

Sample ID: **LCSD-69512**	SampType: **LCSD**	TestCode: **SW7470**			Prep Date: **12/03/12 12:30**			Run ID: **FIMS2_121203A**				
Client ID: **LCSD-69512**	Batch ID: **69512**	Units: **µg/L**			Analysis Date: **12/03/12 16:03**			SeqNo: **1839120**				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.709	0.028	0.20	4.550	0	103	80	120	4.630	1.69	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: EFF 112812 **Project:** NOW Corp. Site, 11/2012
Lab ID: L2471-01 **Collection Date:** 11/28/12 12:05

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2540C -- TOTAL DISSOLVED SOLIDS							**SM2540_TDS**
Total Dissolved Solids	270		10	mg/L	1	12/05/2012 7:09	69529
SM 2540D -- TOTAL SUSPENDED SOLIDS							**SM2540_TSS**
Total Suspended Solids	ND		10	mg/L	1	12/04/2012 20:52	69533
SW846 9012B -- Total Cyanide							**SW9012_W**
Cyanide	ND		10	ug/L	1	12/06/2012 12:49	69517

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

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

12/19/2012

Client: AECOM Technical Services, Inc.
Client Sample ID: INF 112812
Lab ID: L2471-02
Project: NOW Corp. Site, 11/2012
Collection Date: 11/28/12 12:40

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2540C -- TOTAL DISSOLVED SOLIDS							**SM2540_TDS**
Total Dissolved Solids	280		10	mg/L	1	12/05/2012 7:49	69529
SM 2540D -- TOTAL SUSPENDED SOLIDS							**SM2540_TSS**
Total Suspended Solids	ND		10	mg/L	1	12/04/2012 22:48	69533
SW846 9012B -- Total Cyanide							**SW9012_W**
Cyanide	ND		10	ug/L	1	12/06/2012 12:51	69517

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.
Work Order: L2471
Project: NOW Corp. Site, 11/2012

ANALYTICAL QC SUMMARY REPORT

SM2540_TDS

SM 2540C -- TOTAL DISSOLVED SOLIDS

Sample ID: **MB-69529**	SampType: **MBLK**	TestCode: **SM2540_TDS**			Prep Date: **12/04/12 17:00**			Run ID: **MANUAL_121204B**				
Client ID: **MB-69529**	Batch ID: **69529**	Units: **mg/L**			Analysis Date: **12/04/12 17:00**			SeqNo: **1844608**				
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-69529**	SampType: **LCS**	TestCode: **SM2540_TDS**			Prep Date: **12/04/12 17:00**			Run ID: **MANUAL_121204B**				
Client ID: **LCS-69529**	Batch ID: **69529**	Units: **mg/L**			Analysis Date: **12/04/12 17:40**			SeqNo: **1844609**				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	165.0	10	10	159.0	0	104	80	120	0			

CLIENT: AECOM Technical Services, Inc.
Work Order: L2471
Project: NOW Corp. Site, 11/2012

ANALYTICAL QC SUMMARY REPORT

SM2540_TSS
SM 2540D -- TOTAL SUSPENDED SOLIDS

Sample ID: **MB-69533**	SampType: **MBLK**	TestCode: **SM2540_TSS**			Prep Date: **12/04/12 17:00**			Run ID: **MANUAL_121204D**			
Client ID: **MB-69533**	Batch ID: **69533**	Units: **mg/L**			Analysis Date: **12/04/12 17:00**			SeqNo: **1844649**			
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-69533**	SampType: **LCS**	TestCode: **SM2540_TSS**			Prep Date: **12/04/12 17:00**			Run ID: **MANUAL_121204D**			
Client ID: **LCS-69533**	Batch ID: **69533**	Units: **mg/L**			Analysis Date: **12/04/12 18:56**			SeqNo: **1844650**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	38.00	10	10	40.56	0	93.7	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: L2471
Project: NOW Corp. Site, 11/2012

ANALYTICAL QC SUMMARY REPORT

SW9012_W

SW846 9012B -- Total Cyanide

Sample ID: **MB-69517**	SampType: **MBLK**	TestCode: **SW9012_W**			Prep Date: **12/03/12 13:00**			Run ID: **LACHAT1_121206A**			
Client ID: **MB-69517**	Batch ID: **69517**	Units: **ug/L**			Analysis Date: **12/06/12 12:39**			SeqNo: **1841187**			
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-69517**	SampType: **LCS**	TestCode: **SW9012_W**			Prep Date: **12/03/12 13:00**			Run ID: **LACHAT1_121206A**			
Client ID: **LCS-69517**	Batch ID: **69517**	Units: **ug/L**			Analysis Date: **12/06/12 12:41**			SeqNo: **1841188**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	108.6	7.5	20	100.0	0	109	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

Report Date:
10-Dec-12 18:35

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Spectrum Analytical, Inc.
646 Camp Ave.
North Kingstown, RI 02852
Attn: Edward Lawler

Project: See Chain of Custody
Project #: L2471

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB60953-01	EFF 112812	Aqueous	28-Nov-12 12:05	30-Nov-12 18:55
SB60953-02	INF 112812	Aqueous	28-Nov-12 12:40	30-Nov-12 18:55

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 5 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

The samples were received 1.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

There is no relevant protocol-specific QC and/or performance standards non-conformances to report.

Sample Identification
EFF 112812
SB60953-01

Client Project #	Matrix	Collection Date/Time	Received
L2471	Aqueous	28-Nov-12 12:05	30-Nov-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
	Oil & Grease	< 1.00	OG	mg/l	1.00	0.619	1	EPA 1664A	05-Dec-12	06-Dec-12	JK	1229870	X

Sample Identification
INF 112812
SB60953-02

Client Project #	Matrix	Collection Date/Time	Received
L2471	Aqueous	28-Nov-12 12:40	30-Nov-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
	Oil & Grease	< 1.00	OG	mg/l	1.00	0.619	1	EPA 1664A	05-Dec-12	06-Dec-12	JK	1229870	X

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1229870 - SW846 3510C										
Blank (1229870-BLK1)						Prepared: 05-Dec-12 Analyzed: 06-Dec-12				
Oil & Grease	< 1.00		mg/l	1.00						
LCS (1229870-BS1)						Prepared: 05-Dec-12 Analyzed: 06-Dec-12				
Oil & Grease	**36.1**		mg/l		41.6		87	83-101		
Matrix Spike (1229870-MS1)			**Source: SB60953-01**			Prepared: 05-Dec-12 Analyzed: 06-Dec-12				
Oil & Grease	**35.5**		mg/l		41.6	0.312	85	64-132		

Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
OG	The required Matrix Spike and Matrix Spike Duplicate (MS/MSD) for Oil & Grease method 1664A can only be analyzed when the client has submitted sufficient sample volume. An extra liter per MS/MSD is required to fulfill the method QC criteria. Please refer to Chain of Custody and QC Summary (MS/MSD) of the Laboratory Report to verify ample sample volume was submitted to fulfill the requirement.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
Kimberly Wisk

SB60953

CHAIN-OF-CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
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Subcontractor:
Spectrum Analytical, Inc.

Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

WorkOrder : L2471
Report Type : LEVEL 2
Due Date : 12/18/2012
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : L2471
EDD Type :

Client Sample ID	Collection Date	Matrix	DUP/MS/MSD	Mitkem Sample ID	Requested Test: E1664	
EFF 112812 60953-01	11/28/2012 12:05:00 PM	Aqueous		L2471-01E	X	3 bottles each
INF 112812 02	11/28/2012 12:40:00 PM	Aqueous		L2471-02E	X	

1) E1664, OIL _GREASE, HEM

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

Comments: PEL EDD is required for this sub-contracted work instead of the EDD listed above.

		Date/Time			Date/Time
Relinquished by:	Edward A. Lawler	11/30/12 9:29	**Received by:**	Bill Hanley	11/30/12 1030
Relinquished by:	Bill Hanley		**Received by:**	SUM	11/30/12 1855

11/30/2012
Page 1 of 1

646 Camp Ave * North Kingstown * RI * 02852 * 401-732-3400 * 401-732-3499
www.spectrum-analytical.com

1.0

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

WorkOrder: L2471

Client ID: EARTH_NY
Project: NOW Corp. Site
WO Name: NOW Corp. Site, 11/2012
Location: NOW_CORP,
Comments: N/A

Case:
SDG:
PO: 6027 6639 1

HC Due: 12/18/12
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
L2471-01A	EFF 112812	11/28/2012 12:05	11/29/2012	Aqueous	SW8260_25_W	/				Y	VOA
L2471-01B	EFF 112812	11/28/2012 12:05	11/29/2012	Aqueous	SW6010_W	/ See SEL list				Y	M3
L2471-01B	EFF 112812	11/28/2012 12:05	11/29/2012	Aqueous	SW7470	/ See SEL list					M3
L2471-01C	EFF 112812	11/28/2012 12:05	11/29/2012	Aqueous	SM2540_TDS	/					U3
L2471-01C	EFF 112812	11/28/2012 12:05	11/29/2012	Aqueous	SM2540_TSS	/					U3
L2471-01D	EFF 112812	11/28/2012 12:05	11/29/2012	Aqueous	SW9012_W	/				Y	U3
L2471-01E	EFF 112812	11/28/2012 12:05	11/29/2012	Aqueous	E1664	/ SPECTRUM					SUB
L2471-02A	INF 112812	11/28/2012 12:40	11/29/2012	Aqueous	SW8260_25_W	/				Y	VOA
L2471-02B	INF 112812	11/28/2012 12:40	11/29/2012	Aqueous	SW6010_W	/ See SEL list				Y	M3
L2471-02B	INF 112812	11/28/2012 12:40	11/29/2012	Aqueous	SW7470	/ See SEL list					M3
L2471-02C	INF 112812	11/28/2012 12:40	11/29/2012	Aqueous	SM2540_TDS	/					U3
L2471-02C	INF 112812	11/28/2012 12:40	11/29/2012	Aqueous	SM2540_TSS	/					U3
L2471-02D	INF 112812	11/28/2012 12:40	11/29/2012	Aqueous	SW9012_W	/				Y	U3
L2471-02E	INF 112812	11/28/2012 12:40	11/29/2012	Aqueous	E1664	/ SPECTRUM					SUB
L2471-03A	TW-1 112812	11/28/2012 12:32	11/29/2012	Aqueous	SW8260_25_W	/				Y	VOA
L2471-04A	TW-2A 112812	11/28/2012 12:27	11/29/2012	Aqueous	SW8260_25_W	/				Y	VOA
L2471-05A	TW3 112812	11/28/2012 12:15	11/29/2012	Aqueous	SW8260_25_W	/				Y	VOA
L2471-06A	TRIP BLANK 112812	11/28/2012 00:00	11/29/2012	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

SPECTRUM ANALYTICAL, INC
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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: ~~SPE~~ AECOM
40 British American Blvd.
Latham NY 12110

Project Mgr.: Stephen Chainiere

Invoice To: Same

P.O. No.: _____ RQN: _____

Project No.: 60276639
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=_____ 10=_____ 11=_____

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	List preservative code below:	Analyses: 8260	* Metals	TDS/TSS	O+G	Cyanide	Notes:
L2471-01	EFF 112812	11/28/12	12:05	G	GW	2	3		3		X	X	X	X	X	*Al, As, Ba, Cr, Cu, Fe, Mn, Hg Zn, N
-02	INF 112812		12:40				3		3			X	X	X	X	
-03	TW-1 112812		12:32													
-04	TW-2A 112812		12:27													
-05	TW3 112812		12:15													
L2471-06	Trip Blank 112812	—	—													

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 5°

Relinquished by:	Received by:	Date:	Time:
Stan Ng	FedEx	11/28/12	15:20
FedEx	Veronica Bryant	11/29/12	7:56

175 Metro Center Boulevard • Warwick, RI 02886-1755 • 401-732-3400 • Fax 401-732-3499 • www.spectrum-analytical.com

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

Received By: VEB	Page 01 of 00
Reviewed By:	Log-in Date 11/29/2012
Work Order: L2471	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 7902
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	5 °C
10. Does information on TR/COCs and sample tags agree?	Yes / No
11. Date Received at Laboratory	11/29/2012
12. Time Received	07:56

Lab Sample ID	Preservation (pH) HNO3	H2SO4	HCl	NaOH	H3PO4	VOA Matrix	Soil HeadSpace or Air Bubble > or equal to 1/4"
L2471-01	<2		<2	>12		H	
L2471-02	<2		<2	>12		H	
L2471-03						H	
L2471-04						H	
L2471-05						H	
L2471-06						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