AECOM

Operation, Maintenance and Monitoring Report
July 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

September 2012

AECOM

September 19, 2012

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: "July" 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 36-day period **(June 12– July 18, 2012)**.

With the exceptions noted below, if any, the P&T system was online and operational throughout the reporting period. Approximately 777,100 gallons of water were treated during the period. Discharge from the treatment system averaged approximately 21,586 gallons per day (gpd), compared to 36,050 gpd in the prior reporting period. In the previous reporting period, high static water levels after months of downtime contributed to the larger discharge rate over the 6-day treatment period.

As of the last day of the reporting period, a total of 87,536,700 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 July 18. **Effluent limitations were not exceeded this sampling period.** A copy of the analytical laboratory report is attached. Table 2 summarizes selected operational data as recorded on the sampling date. The effluent samples were collected while the VFD was operating at 60 Hz.

AECOM made 4 site visits during the period to conduct the required system inspection, perform scheduled and unscheduled maintenance, and to collect water samples. The June 12, 18, and 20, 2012 service visits were described in the previous report. Details for the current period follow:

July 18 – AECOM was onsite in response to an alarm condition that was associated with the air stripper blower. AECOM inspected and cleaned the blower flow switch and observed proper system operation. AECOM also increased the blower speed to 60 Hz from 55 Hz. AECOM collected effluent, influent, and recovery well samples.

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: July 18, 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		21,586				Monitor	gallons
pH	6.8	7.1				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	**260**	**250**	NA	NA	NA	1000	mg/L
TSS	<10	<10	NA	NA	NA	50	mg/L
Aluminum, Total	<200	<200	NA	NA	NA	Monitor	µg/L
Arsenic, Total	<20	<20	NA	NA	NA	100	µg/L
Barium, Total	**77 J**	**80 J**	NA	NA	NA	Monitor	µg/L
Chromium	<20	<20	NA	NA	NA	400	µg/L
Copper	<25	<25	NA	NA	NA	24	µg/L
Iron	<200	<200	NA	NA	NA	600	µg/L
Mercury	<0.2	<0.2	NA	NA	NA	0.8	µg/L
Manganese	**70**	**54**	NA	NA	NA	Monitor	µg/L
Nickel	**1.5 J**	**1.4 J**	NA	NA	NA	200	µg/L
Zinc	<50	**<50**	NA	NA	NA	150	µg/L
1,1,1-Trichloroethane	**490**	**1.9**	**5.2**	**560**	**5.5**	10	µg/L
1,1,2-Trichloroethane	<10	<0.5	<2	<20	<0.5	1.2	µg/L
1,1-Dichloroethane	**230**	**2.8**	**54**	**270**	**18**	10	µg/L
1,1-Dichloroethene	**22**	<0.5	**12**	**29**	**1.8**	0.5	µg/L
1,2-Dichloroethane	<10	<0.5	<2	<20	<0.5	1.6	µg/L
Benzene	<10	<0.5	<2	<20	<0.5	1.4	µg/L
Chlorobenzene	<10	<0.5	<2	<20	<0.5	10	µg/L
Chloroethane	<10	<0.5	<2	<20	**0.44 J**	10	µg/L
cis -1,2-Dichloroethene	**16**	**0.29**	**4.6**	**17 J**	**0.33 J**	5	µg/L
Ethylbenzene	<10	<0.5	<2	<20	<0.5	10	µg/L
o-Xylene	<10	<0.5	<2	<20	<0.5	5	µg/L
m,p-Xylene	<10	<0.5	<2	<20	<0.5	10	µg/L
Tetrachloroethene	<10	<0.5	<2	<20	<0.5	1.4	µg/L
Toluene	<10	<0.5	<2	<20	<0.5	10	µg/L
trans -1,2-Dichloroethene	<10	<0.5	<2	<20	<0.5	5	µg/L
Trichloroethene	**450**	**3.2**	**57**	**500**	**12**	6	µg/L
Vinyl Chloride	<10	<0.5	<2	<20	<0.5	0.6	µg/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 July 2012 O&M Data

NOW Corporation Site
Town of Clinton, New York

Instrumentation/Readings:		**7/18/12**	**Units**
TW-1			
	Pumping Rate	3	GPM
	Water Level Above Transducer	47.27	feet
	Flow Meter Reading	6,270,500	gallons
	Pump Pressure	70	psi
TW-2A			
	Pumping Rate	~14	GPM
	Water Level Above Transducer	24.61	feet
	Flow Meter Reading	23,727,400	gallons
	Pump Pressure	10	psi
TW-3			
	Pumping Rate	4	GPM
	Water Level Above Transducer	16.41	feet
	Flow Meter Reading	9,577,600	gallons
	Pump Pressure	65	psi
Air Stripper			
	Stripper Blower Pressure	16.5	inches H_2O
	Air Temperature in Stripper	60	°F
Effluent Flow			
	Effluent Flow this period (calculated)	777,100	gallons
	Total Effluent Flow (calculated)	87,536,700	gallons

Report Date:
07-Aug-12 16:50

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: L1583
Project : NOW Corp. Site, 7/12
Project #:

Attn: Stephen Choiniere

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
L1583-01	EFF 071812	Aqueous	18-Jul-12 12:45	19-Jul-12 08:40
L1583-02	INF 071812	Aqueous	18-Jul-12 12:51	19-Jul-12 08:40
L1583-03	TW-1 071812	Aqueous	18-Jul-12 13:00	19-Jul-12 08:40
L1583-04	TW-2A 071812	Aqueous	18-Jul-12 13:05	19-Jul-12 08:40
L1583-05	TW-3 071812	Aqueous	18-Jul-12 13:10	19-Jul-12 08:40
L1583-06	TB-071812	Aqueous	18-Jul-12 00:00	19-Jul-12 08:40

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
Pennsylvania	68-00520
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, 7/12

Laboratory Workorder / SDG #: L1583

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.

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:

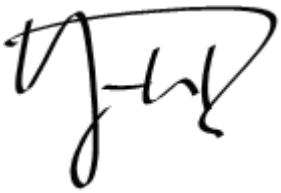
The following samples were analyzed at dilution:

INF 071812 (L1583-02A) : Dilution Factor: 20
TW-1 071812 (L1583-03A) : Dilution Factor: 4
TW-2A 071812 (L1583-04A) : 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:_____8/7/2012_____

REPORT NARRATIVE

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

Client : AECOM Technical Services, Inc.

Project: NOW Corp. Site, 7/12

Laboratory Workorder / SDG #: L1583

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 to perform analysis:

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, 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: 08/07/12

REPORT NARRATIVE

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

Client : AECOM Technical Services, Inc.

Project: NOW Corp. Site, 7/12

Laboratory Workorder / SDG #: L1583

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 analysis:

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.

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: 08/07/12

Client: AECOM Technical Services, Inc.
Client Sample ID: EFF 071812 **Project:** NOW Corp. Site, 7/12
Lab ID: L1583-01 **Collection Date:** 07/18/12 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	07/20/2012 16:26	67299
Chloroethane	ND		0.50	ug/L	1	07/20/2012 16:26	67299
1,1-Dichloroethene	ND		0.50	ug/L	1	07/20/2012 16:26	67299
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	07/20/2012 16:26	67299
Methyl tert-butyl ether	ND		0.50	ug/L	1	07/20/2012 16:26	67299
1,1-Dichloroethane	2.8		0.50	ug/L	1	07/20/2012 16:26	67299
cis-1,2-Dichloroethene	0.29	J	0.50	ug/L	1	07/20/2012 16:26	67299
1,1,1-Trichloroethane	1.9		0.50	ug/L	1	07/20/2012 16:26	67299
1,2-Dichloroethane	ND		0.50	ug/L	1	07/20/2012 16:26	67299
Benzene	ND		0.50	ug/L	1	07/20/2012 16:26	67299
Trichloroethene	3.2		0.50	ug/L	1	07/20/2012 16:26	67299
Toluene	ND		0.50	ug/L	1	07/20/2012 16:26	67299
1,1,2-Trichloroethane	ND		0.50	ug/L	1	07/20/2012 16:26	67299
Tetrachloroethene	ND		0.50	ug/L	1	07/20/2012 16:26	67299
Chlorobenzene	ND		0.50	ug/L	1	07/20/2012 16:26	67299
Ethylbenzene	ND		0.50	ug/L	1	07/20/2012 16:26	67299
m,p-Xylene	ND		0.50	ug/L	1	07/20/2012 16:26	67299
o-Xylene	ND		0.50	ug/L	1	07/20/2012 16:26	67299
Surrogate: Dibromofluoromethane	96.8		88-124	%REC	1	07/20/2012 16:26	67299
Surrogate: 1,2-Dichloroethane-d4	92.5		79-115	%REC	1	07/20/2012 16:26	67299
Surrogate: Toluene-d8	105		80-114	%REC	1	07/20/2012 16:26	67299
Surrogate: Bromofluorobenzene	102		60-123	%REC	1	07/20/2012 16:26	67299

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 071812 **Project:** NOW Corp. Site, 7/12
Lab ID: L1583-02 **Collection Date:** 07/18/12 12:51

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	07/20/2012 19:05	67299
Chloroethane	ND		10	ug/L	20	07/20/2012 19:05	67299
1,1-Dichloroethene	22		10	ug/L	20	07/20/2012 19:05	67299
trans-1,2-Dichloroethene	ND		10	ug/L	20	07/20/2012 19:05	67299
Methyl tert-butyl ether	ND		10	ug/L	20	07/20/2012 19:05	67299
1,1-Dichloroethane	230		10	ug/L	20	07/20/2012 19:05	67299
cis-1,2-Dichloroethene	16		10	ug/L	20	07/20/2012 19:05	67299
1,1,1-Trichloroethane	490		10	ug/L	20	07/20/2012 19:05	67299
1,2-Dichloroethane	ND		10	ug/L	20	07/20/2012 19:05	67299
Benzene	ND		10	ug/L	20	07/20/2012 19:05	67299
Trichloroethene	450		10	ug/L	20	07/20/2012 19:05	67299
Toluene	ND		10	ug/L	20	07/20/2012 19:05	67299
1,1,2-Trichloroethane	ND		10	ug/L	20	07/20/2012 19:05	67299
Tetrachloroethene	ND		10	ug/L	20	07/20/2012 19:05	67299
Chlorobenzene	ND		10	ug/L	20	07/20/2012 19:05	67299
Ethylbenzene	ND		10	ug/L	20	07/20/2012 19:05	67299
m,p-Xylene	ND		10	ug/L	20	07/20/2012 19:05	67299
o-Xylene	ND		10	ug/L	20	07/20/2012 19:05	67299
Surrogate: Dibromofluoromethane	96.0		88-124	%REC	20	07/20/2012 19:05	67299
Surrogate: 1,2-Dichloroethane-d4	94.5		79-115	%REC	20	07/20/2012 19:05	67299
Surrogate: Toluene-d8	102		80-114	%REC	20	07/20/2012 19:05	67299
Surrogate: Bromofluorobenzene	99.4		60-123	%REC	20	07/20/2012 19:05	67299

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

07/31/2012

Client: AECOM Technical Services, Inc.
Client Sample ID: TW-1 071812
Lab ID: L1583-03
Project: NOW Corp. Site, 7/12
Collection Date: 07/18/12 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	07/20/2012 19:32	67299
Chloroethane	ND		2.0	ug/L	4	07/20/2012 19:32	67299
1,1-Dichloroethene	12		2.0	ug/L	4	07/20/2012 19:32	67299
trans-1,2-Dichloroethene	ND		2.0	ug/L	4	07/20/2012 19:32	67299
Methyl tert-butyl ether	ND		2.0	ug/L	4	07/20/2012 19:32	67299
1,1-Dichloroethane	54		2.0	ug/L	4	07/20/2012 19:32	67299
cis-1,2-Dichloroethene	4.6		2.0	ug/L	4	07/20/2012 19:32	67299
1,1,1-Trichloroethane	5.2		2.0	ug/L	4	07/20/2012 19:32	67299
1,2-Dichloroethane	ND		2.0	ug/L	4	07/20/2012 19:32	67299
Benzene	ND		2.0	ug/L	4	07/20/2012 19:32	67299
Trichloroethene	57		2.0	ug/L	4	07/20/2012 19:32	67299
Toluene	ND		2.0	ug/L	4	07/20/2012 19:32	67299
1,1,2-Trichloroethane	ND		2.0	ug/L	4	07/20/2012 19:32	67299
Tetrachloroethene	ND		2.0	ug/L	4	07/20/2012 19:32	67299
Chlorobenzene	ND		2.0	ug/L	4	07/20/2012 19:32	67299
Ethylbenzene	ND		2.0	ug/L	4	07/20/2012 19:32	67299
m,p-Xylene	ND		2.0	ug/L	4	07/20/2012 19:32	67299
o-Xylene	ND		2.0	ug/L	4	07/20/2012 19:32	67299
Surrogate: Dibromofluoromethane	98.4		88-124	%REC	4	07/20/2012 19:32	67299
Surrogate: 1,2-Dichloroethane-d4	90.2		79-115	%REC	4	07/20/2012 19:32	67299
Surrogate: Toluene-d8	101		80-114	%REC	4	07/20/2012 19:32	67299
Surrogate: Bromofluorobenzene	102		60-123	%REC	4	07/20/2012 19:32	67299

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 071812 **Project:** NOW Corp. Site, 7/12
Lab ID: L1583-04 **Collection Date:** 07/18/12 13:05

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		20	ug/L	40	07/20/2012 19:58	67299
Chloroethane	ND		20	ug/L	40	07/20/2012 19:58	67299
1,1-Dichloroethene	29		20	ug/L	40	07/20/2012 19:58	67299
trans-1,2-Dichloroethene	ND		20	ug/L	40	07/20/2012 19:58	67299
Methyl tert-butyl ether	ND		20	ug/L	40	07/20/2012 19:58	67299
1,1-Dichloroethane	270		20	ug/L	40	07/20/2012 19:58	67299
cis-1,2-Dichloroethene	17	J	20	ug/L	40	07/20/2012 19:58	67299
1,1,1-Trichloroethane	560		20	ug/L	40	07/20/2012 19:58	67299
1,2-Dichloroethane	ND		20	ug/L	40	07/20/2012 19:58	67299
Benzene	ND		20	ug/L	40	07/20/2012 19:58	67299
Trichloroethene	500		20	ug/L	40	07/20/2012 19:58	67299
Toluene	ND		20	ug/L	40	07/20/2012 19:58	67299
1,1,2-Trichloroethane	ND		20	ug/L	40	07/20/2012 19:58	67299
Tetrachloroethene	ND		20	ug/L	40	07/20/2012 19:58	67299
Chlorobenzene	ND		20	ug/L	40	07/20/2012 19:58	67299
Ethylbenzene	ND		20	ug/L	40	07/20/2012 19:58	67299
m,p-Xylene	ND		20	ug/L	40	07/20/2012 19:58	67299
o-Xylene	ND		20	ug/L	40	07/20/2012 19:58	67299
Surrogate: Dibromofluoromethane	97.9		88-124	%REC	40	07/20/2012 19:58	67299
Surrogate: 1,2-Dichloroethane-d4	97.0		79-115	%REC	40	07/20/2012 19:58	67299
Surrogate: Toluene-d8	104		80-114	%REC	40	07/20/2012 19:58	67299
Surrogate: Bromofluorobenzene	100		60-123	%REC	40	07/20/2012 19:58	67299

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 071812 **Project:** NOW Corp. Site, 7/12
Lab ID: L1583-05 **Collection Date:** 07/18/12 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		0.50	ug/L	1	07/20/2012 20:25	67299
Chloroethane	0.44	J	0.50	ug/L	1	07/20/2012 20:25	67299
1,1-Dichloroethene	1.8		0.50	ug/L	1	07/20/2012 20:25	67299
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	07/20/2012 20:25	67299
Methyl tert-butyl ether	ND		0.50	ug/L	1	07/20/2012 20:25	67299
1,1-Dichloroethane	18		0.50	ug/L	1	07/20/2012 20:25	67299
cis-1,2-Dichloroethene	0.33	J	0.50	ug/L	1	07/20/2012 20:25	67299
1,1,1-Trichloroethane	5.5		0.50	ug/L	1	07/20/2012 20:25	67299
1,2-Dichloroethane	ND		0.50	ug/L	1	07/20/2012 20:25	67299
Benzene	ND		0.50	ug/L	1	07/20/2012 20:25	67299
Trichloroethene	12		0.50	ug/L	1	07/20/2012 20:25	67299
Toluene	ND		0.50	ug/L	1	07/20/2012 20:25	67299
1,1,2-Trichloroethane	ND		0.50	ug/L	1	07/20/2012 20:25	67299
Tetrachloroethene	ND		0.50	ug/L	1	07/20/2012 20:25	67299
Chlorobenzene	ND		0.50	ug/L	1	07/20/2012 20:25	67299
Ethylbenzene	ND		0.50	ug/L	1	07/20/2012 20:25	67299
m,p-Xylene	ND		0.50	ug/L	1	07/20/2012 20:25	67299
o-Xylene	ND		0.50	ug/L	1	07/20/2012 20:25	67299
Surrogate: Dibromofluoromethane	99.3		88-124	%REC	1	07/20/2012 20:25	67299
Surrogate: 1,2-Dichloroethane-d4	97.4		79-115	%REC	1	07/20/2012 20:25	67299
Surrogate: Toluene-d8	100		80-114	%REC	1	07/20/2012 20:25	67299
Surrogate: Bromofluorobenzene	100		60-123	%REC	1	07/20/2012 20:25	67299

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-071812 **Project:** NOW Corp. Site, 7/12
Lab ID: L1583-06 **Collection Date:** 07/18/12 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	07/20/2012 18:39	67299
Chloroethane	ND		0.50	ug/L	1	07/20/2012 18:39	67299
1,1-Dichloroethene	ND		0.50	ug/L	1	07/20/2012 18:39	67299
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	07/20/2012 18:39	67299
Methyl tert-butyl ether	ND		0.50	ug/L	1	07/20/2012 18:39	67299
1,1-Dichloroethane	ND		0.50	ug/L	1	07/20/2012 18:39	67299
cis-1,2-Dichloroethene	ND		0.50	ug/L	1	07/20/2012 18:39	67299
1,1,1-Trichloroethane	ND		0.50	ug/L	1	07/20/2012 18:39	67299
1,2-Dichloroethane	ND		0.50	ug/L	1	07/20/2012 18:39	67299
Benzene	ND		0.50	ug/L	1	07/20/2012 18:39	67299
Trichloroethene	ND		0.50	ug/L	1	07/20/2012 18:39	67299
Toluene	ND		0.50	ug/L	1	07/20/2012 18:39	67299
1,1,2-Trichloroethane	ND		0.50	ug/L	1	07/20/2012 18:39	67299
Tetrachloroethene	ND		0.50	ug/L	1	07/20/2012 18:39	67299
Chlorobenzene	ND		0.50	ug/L	1	07/20/2012 18:39	67299
Ethylbenzene	ND		0.50	ug/L	1	07/20/2012 18:39	67299
m,p-Xylene	ND		0.50	ug/L	1	07/20/2012 18:39	67299
o-Xylene	ND		0.50	ug/L	1	07/20/2012 18:39	67299
Surrogate: Dibromofluoromethane	99.7		88-124	%REC	1	07/20/2012 18:39	67299
Surrogate: 1,2-Dichloroethane-d4	89.8		79-115	%REC	1	07/20/2012 18:39	67299
Surrogate: Toluene-d8	99.6		80-114	%REC	1	07/20/2012 18:39	67299
Surrogate: Bromofluorobenzene	99.5		60-123	%REC	1	07/20/2012 18:39	67299

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: L1583
Project: NOW Corp. Site, 7/12

ANALYTICAL QC SUMMARY REPORT

SW8260_25_W

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

Sample ID: **MB-67299** SampType: **MBLK** TestCode: **SW8260_25_W** Prep Date: **07/20/12 7:22** Run ID: **V5_120720A**
Client ID: **MB-67299** Batch ID: **67299** Units: **ug/L** Analysis Date **07/20/12 13:47** SeqNo: **1773110**

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	9.670		0.50	10.00	0	96.7	88	124	0			
Surrogate: 1,2-Dichloroethane-d4	8.882		0.50	10.00	0	88.8	79	115	0			
Surrogate: Toluene-d8	10.21		0.50	10.00	0	102	80	114	0			
Surrogate: Bromofluorobenzene	9.912		0.50	10.00	0	99.1	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

mm11.12.11.A

CLIENT: AECOM Technical Services, Inc.
Work Order: L1583
Project: NOW Corp. Site, 7/12

ANALYTICAL QC SUMMARY REPORT

SW8260_25_W

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

Sample ID: **LCS-67299** SampType: **LCS** TestCode: **SW8260_25_W** Prep Date: **07/20/12 7:22** Run ID: **V5_120720A**
Client ID: **LCS-67299** Batch ID: **67299** Units: **ug/L** Analysis Date **07/20/12 12:27** SeqNo: **1773108**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	9.466	0.15	0.50	10.00	0	94.7	77	120	0			
Chloroethane	9.667	0.24	0.50	10.00	0	96.7	75	135	0			
1,1-Dichloroethene	9.714	0.19	0.50	10.00	0	97.1	81	125	0			
trans-1,2-Dichloroethene	10.29	0.14	0.50	10.00	0	103	60	137	0			
Methyl tert-butyl ether	8.611	0.13	0.50	10.00	0	86.1	61	134	0			
1,1-Dichloroethane	10.26	0.18	0.50	10.00	0	103	82	120	0			
cis-1,2-Dichloroethene	9.894	0.19	0.50	10.00	0	98.9	84	116	0			
1,1,1-Trichloroethane	10.45	0.11	0.50	10.00	0	105	80	124	0			
1,2-Dichloroethane	9.184	0.16	0.50	10.00	0	91.8	86	117	0			
Benzene	9.991	0.12	0.50	10.00	0	99.9	81	121	0			
Trichloroethene	10.07	0.13	0.50	10.00	0	101	74	123	0			
Toluene	10.20	0.14	0.50	10.00	0	102	88	117	0			
1,1,2-Trichloroethane	8.816	0.20	0.50	10.00	0	88.2	83	121	0			
Tetrachloroethene	10.44	0.17	0.50	10.00	0	104	74	115	0			
Chlorobenzene	10.37	0.13	0.50	10.00	0	104	83	112	0			
Ethylbenzene	10.82	0.13	0.50	10.00	0	108	87	110	0			
m,p-Xylene	21.48	0.22	0.50	20.00	0	107	87	114	0			
o-Xylene	10.17	0.17	0.50	10.00	0	102	84	114	0			
Surrogate: Dibromofluoromethane	9.546		0.50	10.00	0	95.5	88	124	0			
Surrogate: 1,2-Dichloroethane-d4	9.054		0.50	10.00	0	90.5	79	115	0			
Surrogate: Toluene-d8	10.28		0.50	10.00	0	103	80	114	0			
Surrogate: Bromofluorobenzene	9.804		0.50	10.00	0	98.0	60	123	0			

CLIENT: AECOM Technical Services, Inc.
Work Order: L1583
Project: NOW Corp. Site, 7/12

ANALYTICAL QC SUMMARY REPORT

SW8260_25_W

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

Sample ID: **LCSD-67299** SampType: **LCSD** TestCode: **SW8260_25_W** Prep Date: **07/20/12 7:22** Run ID: **V5_120720A**
Client ID: **LCSD-67299** Batch ID: **67299** Units: **ug/L** Analysis Date **07/20/12 12:53** SeqNo: **1773109**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	9.702	0.15	0.50	10.00	0	97.0	77	120	9.466	2.46	40	
Chloroethane	10.16	0.24	0.50	10.00	0	102	75	135	9.667	4.92	40	
1,1-Dichloroethene	9.889	0.19	0.50	10.00	0	98.9	81	125	9.714	1.78	40	
trans-1,2-Dichloroethene	10.34	0.14	0.50	10.00	0	103	60	137	10.29	0.518	40	
Methyl tert-butyl ether	8.824	0.13	0.50	10.00	0	88.2	61	134	8.611	2.44	40	
1,1-Dichloroethane	10.52	0.18	0.50	10.00	0	105	82	120	10.26	2.45	40	
cis-1,2-Dichloroethene	10.15	0.19	0.50	10.00	0	102	84	116	9.894	2.58	40	
1,1,1-Trichloroethane	10.46	0.11	0.50	10.00	0	105	80	124	10.45	0.0555	40	
1,2-Dichloroethane	9.342	0.16	0.50	10.00	0	93.4	86	117	9.184	1.7	40	
Benzene	10.05	0.12	0.50	10.00	0	100	81	121	9.991	0.582	40	
Trichloroethene	10.27	0.13	0.50	10.00	0	103	74	123	10.07	2.0	40	
Toluene	10.35	0.14	0.50	10.00	0	104	88	117	10.20	1.5	40	
1,1,2-Trichloroethane	8.715	0.20	0.50	10.00	0	87.1	83	121	8.816	1.15	40	
Tetrachloroethene	10.23	0.17	0.50	10.00	0	102	74	115	10.44	2.01	40	
Chlorobenzene	10.39	0.13	0.50	10.00	0	104	83	112	10.37	0.17	40	
Ethylbenzene	10.73	0.13	0.50	10.00	0	107	87	110	10.82	0.89	40	
m,p-Xylene	20.63	0.22	0.50	20.00	0	103	87	114	21.48	4.06	40	
o-Xylene	10.04	0.17	0.50	10.00	0	100	84	114	10.17	1.21	40	
Surrogate: Dibromofluoromethane	9.686		0.50	10.00	0	96.9	88	124	0			
Surrogate: 1,2-Dichloroethane-d4	8.720		0.50	10.00	0	87.2	79	115	0			
Surrogate: Toluene-d8	10.17		0.50	10.00	0	102	80	114	0			
Surrogate: Bromofluorobenzene	9.995		0.50	10.00	0	99.9	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

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

08/02/2012

Client: AECOM Technical Services, Inc.
Client Sample ID: EFF 071812
Lab ID: L1583-01
Project: NOW Corp. Site, 7/12
Collection Date: 07/18/12 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	07/23/2012 9:27	67335
Arsenic	ND		20	ug/L	1	07/23/2012 9:27	67335
Barium	80	J	200	ug/L	1	07/23/2012 9:27	67335
Chromium	ND		20	ug/L	1	07/23/2012 9:27	67335
Copper	ND		25	ug/L	1	07/23/2012 9:27	67335
Iron	ND		200	ug/L	1	07/23/2012 9:27	67335
Manganese	54		50	ug/L	1	07/23/2012 9:27	67335
Nickel	1.4	J	50	ug/L	1	07/23/2012 9:27	67335
Zinc	ND		50	ug/L	1	07/23/2012 9:27	67335
SW846 7470A -- Mercury by FIA							**SW7470**
Mercury	ND		0.20	µg/L	1	07/25/2012 12:40	67384

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 071812 **Project:** NOW Corp. Site, 7/12
Lab ID: L1583-02 **Collection Date:** 07/18/12 12:51

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							**SW6010_W**
Aluminum	ND		200	ug/L	1	07/23/2012 9:31	67335
Arsenic	ND		20	ug/L	1	07/23/2012 9:31	67335
Barium	77	J	200	ug/L	1	07/23/2012 9:31	67335
Chromium	ND		20	ug/L	1	07/23/2012 9:31	67335
Copper	ND		25	ug/L	1	07/23/2012 9:31	67335
Iron	ND		200	ug/L	1	07/23/2012 9:31	67335
Manganese	70		50	ug/L	1	07/23/2012 9:31	67335
Nickel	1.5	J	50	ug/L	1	07/23/2012 9:31	67335
Zinc	ND		50	ug/L	1	07/23/2012 9:31	67335
SW846 7470A -- Mercury by FIA							**SW7470**
Mercury	ND		0.20	µg/L	1	07/25/2012 12:42	67384

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: L1583
Project: NOW Corp. Site, 7/12

ANALYTICAL QC SUMMARY REPORT

SW6010_W

SW846 6010C -- Metals by ICP

Sample ID: **MB-67335** SampType: **MBLK** TestCode: **SW6010_W** Prep Date: **07/20/12 10:45** Run ID: **OPTIMA3_120723A**
Client ID: **MB-67335** Batch ID: **67335** Units: **ug/L** Analysis Date: **07/23/12 8:24** SeqNo: **1773224**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	66	200									
Arsenic	7.142	4.3	20									J
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-67335** SampType: **LCS** TestCode: **SW6010_W** Prep Date: **07/20/12 10:45** Run ID: **OPTIMA3_120723A**
Client ID: **LCS-67335** Batch ID: **67335** Units: **ug/L** Analysis Date: **07/23/12 8:28** SeqNo: **1773225**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8810	66	200	9100	0	96.8	80	120	0			
Arsenic	446.7	4.3	20	455.0	0	98.2	80	120	0			B
Barium	9179	1.1	200	9100	0	101	80	120	0			
Chromium	887.8	0.64	20	910.0	0	97.6	80	120	0			
Copper	1117	3.6	30	1130	0	98.8	80	120	0			
Iron	4476	31	200	4550	0	98.4	80	120	0			
Manganese	2257	10	50	2270	0	99.4	80	120	0			
Nickel	2236	0.85	50	2270	0	98.5	80	120	0			
Zinc	2224	4.9	50	2270	0	98.0	80	120	0			

CLIENT: AECOM Technical Services, Inc.
Work Order: L1583
Project: NOW Corp. Site, 7/12

ANALYTICAL QC SUMMARY REPORT

SW7470

SW846 7470A -- Mercury by FIA

Sample ID: **MB-67384**	SampType: **MBLK**	TestCode: **SW7470**			Prep Date: **07/24/12 14:00**			Run ID: **FIMS2_120725B**			
Client ID: **MB-67384**	Batch ID: **67384**	Units: **µg/L**			Analysis Date: **07/25/12 12:14**			SeqNo: **1774865**			
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-67384**	SampType: **LCS**	TestCode: **SW7470**			Prep Date: **07/24/12 14:00**			Run ID: **FIMS2_120725B**			
Client ID: **LCS-67384**	Batch ID: **67384**	Units: **µg/L**			Analysis Date: **07/25/12 12:15**			SeqNo: **1774866**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.835	0.028	0.20	4.550	0	106	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: EFF 071812 **Project:** NOW Corp. Site, 7/12
Lab ID: L1583-01 **Collection Date:** 07/18/12 12:45

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2540C -- TOTAL DISSOLVED SOLIDS							**SM2540_TDS**
Total Dissolved Solids	250		10	mg/L	1	07/20/2012 4:22	67329
SM 2540D -- TOTAL SUSPENDED SOLIDS							**SM2540_TSS**
Total Suspended Solids	ND		10	mg/L	1	07/20/2012 5:50	67330
SW846 9012B -- Total Cyanide							**SW9012_W**
Cyanide	ND		10	ug/L	1	07/31/2012 14:37	67463

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 071812 **Project:** NOW Corp. Site, 7/12
Lab ID: L1583-02 **Collection Date:** 07/18/12 12:51

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SM 2540C -- TOTAL DISSOLVED SOLIDS							**SM2540_TDS**
Total Dissolved Solids	260		10	mg/L	1	07/20/2012 6:26	67329
SM 2540D -- TOTAL SUSPENDED SOLIDS							**SM2540_TSS**
Total Suspended Solids	ND		10	mg/L	1	07/20/2012 7:10	67330
SW846 9012B -- Total Cyanide							**SW9012_W**
Cyanide	ND		10	ug/L	1	07/31/2012 14:39	67463

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: L1583
Project: NOW Corp. Site, 7/12

ANALYTICAL QC SUMMARY REPORT

SM2540_TDS

SM 2540C -- TOTAL DISSOLVED SOLIDS

Sample ID: **MB-67329** SampType: **MBLK** TestCode: **SM2540_TDS** Prep Date: **07/19/12 16:30** Run ID: **MANUAL_120719C**
Client ID: **MB-67329** Batch ID: **67329** Units: **mg/L** Analysis Date: **07/19/12 16:30** SeqNo: **1773168**

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-67329** SampType: **LCS** TestCode: **SM2540_TDS** Prep Date: **07/19/12 16:30** Run ID: **MANUAL_120719C**
Client ID: **LCS-67329** Batch ID: **67329** Units: **mg/L** Analysis Date: **07/19/12 18:03** SeqNo: **1773169**

Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	388.0	10	10	396.0	0	98.0	80	120	0			

CLIENT: AECOM Technical Services, Inc.
Work Order: L1583
Project: NOW Corp. Site, 7/12

ANALYTICAL QC SUMMARY REPORT

SM2540_TSS
SM 2540D -- TOTAL SUSPENDED SOLIDS

Sample ID: **MB-67330**	SampType: **MBLK**	TestCode: **SM2540_TSS**			Prep Date: **07/19/12 16:30**			Run ID: **MANUAL_120719B**			
Client ID: **MB-67330**	Batch ID: **67330**	Units: **mg/L**			Analysis Date: **07/19/12 16:30**			SeqNo: **1773156**			
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-67330**	SampType: **LCS**	TestCode: **SM2540_TSS**			Prep Date: **07/19/12 16:30**			Run ID: **MANUAL_120719B**			
Client ID: **LCS-67330**	Batch ID: **67330**	Units: **mg/L**			Analysis Date: **07/19/12 17:50**			SeqNo: **1773157**			
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	87.00	10	10	85.40	0	102	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: L1583
Project: NOW Corp. Site, 7/12

ANALYTICAL QC SUMMARY REPORT

SW9012_W

SW846 9012B -- Total Cyanide

Sample ID: **MB-67463**	SampType: **MBLK**	TestCode: **SW9012_W**			Prep Date: **07/30/12 9:30**				Run ID: **LACHAT1_120731A**		
Client ID: **MB-67463**	Batch ID: **67463**	Units: **ug/L**			Analysis Date: **07/31/12 14:31**				SeqNo: **1776543**		
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-67463**	SampType: **LCS**	TestCode: **SW9012_W**			Prep Date: **07/30/12 9:30**				Run ID: **LACHAT1_120731A**		
Client ID: **LCS-67463**	Batch ID: **67463**	Units: **ug/L**			Analysis Date: **07/31/12 14:34**				SeqNo: **1776544**		
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	102.9	7.5	20	100.0	0	103	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:
01-Aug-12 11:51

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Spectrum Analytical, Inc.
175 Metro Center Boulevard
Warwick, RI 02886-1755
Attn: Edward Lawler

Project: See Chain of Custody
Project #: L1583

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB53312-01	EFF 071812	Aqueous	18-Jul-12 12:45	20-Jul-12 17:06
SB53312-02	INF 071812	Aqueous	18-Jul-12 12:51	20-Jul-12 17:06

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 note that this report contains 6 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).

CASE NARRATIVE:

The samples were received 0.5 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	Client Project #	Matrix	Collection Date/Time	Received
EFF 071812 SB53312-01	L1583	Aqueous	18-Jul-12 12:45	20-Jul-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	26-Jul-12	27-Jul-12	JK	1217820	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
INF 071812	L1583	Aqueous	18-Jul-12 12:51	20-Jul-12
SB53312-02				

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	26-Jul-12	27-Jul-12	JK	1217820	X

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1217820 - SW846 3510C										
Blank (1217820-BLK1)					Prepared: 26-Jul-12 Analyzed: 27-Jul-12					
Oil & Grease	< 1.00		mg/l	1.00						
LCS (1217820-BS1)					Prepared: 26-Jul-12 Analyzed: 27-Jul-12					
Oil & Grease	**34.4**		mg/l		40.2		86	83-101		
Matrix Spike (1217820-MS1)			**Source: SB53312-01**		Prepared: 26-Jul-12 Analyzed: 27-Jul-12					
Oil & Grease	**34.0**		mg/l		40.2	BRL	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:
Nicole Leja

SDG 53312 JB

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN-OF-CUSTODY RECORD

Subcontractor:
Spectrum Analytical, Inc.

Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

WorkOrder : L1583
Report Type : LEVEL 2
Due Date : 8/7/2012
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : L1583
EDD Type : - PDF EDD

Client Sample ID	Collection Date	Matrix	DUP/MS/MSD	Mitkem Sample ID	Requested Test: E1664
EFF 071812 SO53312-01	7/18/2012 12:45:00 PM	Aqueous		L1583-01B	X
INF 071812 ↓ 02	7/18/2012 12:51:00 PM	Aqueous		L1583-02B	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: PDF - EDD

		Date/Time			Date/Time
Relinquished by:	Edward A Lawler	07/20/12 8:01	**Received by:**	Bill Hanigan	7/20/12 1240
Relinquished by:	Bill Hanigan		**Received by:**	CPC	7/20/12 1706 0.5

07/20/2012
Page 1 of 1

175 Metro Center Blvd * Warwick * RI * 02886-1755 * 401-732-3400 * 401-732-3499
www.spectrum-analytical.com

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

WorkOrder: L1583

Client ID: EARTH_NY
Project: NOW Corp. Site
WO Name: NOW Corp. Site, 7/12
Location: NOW_CORP,
Comments: N/A

Case:
SDG:
PO: 94017.02

HC Due: 08/07/12
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
L1583-01A	EFF 071812	07/18/2012 12:45	07/19/2012	Aqueous	SW8260_25_W	/ use for VOCs,				Y	VOA
L1583-01B	EFF 071812	07/18/2012 12:45	07/19/2012	Aqueous	E1664	/ SPECTRUM					SUB
L1583-01C	EFF 071812	07/18/2012 12:45	07/19/2012	Aqueous	SW6010_W	/ See SEL list				Y	M2
L1583-01C	EFF 071812	07/18/2012 12:45	07/19/2012	Aqueous	SW7470	/ See SEL list					M2
L1583-01D	EFF 071812	07/18/2012 12:45	07/19/2012	Aqueous	SM2540_TDS	/					F3
L1583-01D	EFF 071812	07/18/2012 12:45	07/19/2012	Aqueous	SM2540_TSS	/					F3
L1583-01E	EFF 071812	07/18/2012 12:45	07/19/2012	Aqueous	SW9012_W	/				Y	F3
L1583-02A	INF 071812	07/18/2012 12:51	07/19/2012	Aqueous	SW8260_25_W	/ use for VOCs,				Y	VOA
L1583-02B	INF 071812	07/18/2012 12:51	07/19/2012	Aqueous	E1664	/ SPECTRUM					SUB
L1583-02C	INF 071812	07/18/2012 12:51	07/19/2012	Aqueous	SW6010_W	/ See SEL list				Y	M2
L1583-02C	INF 071812	07/18/2012 12:51	07/19/2012	Aqueous	SW7470	/ See SEL list					M2
L1583-02D	INF 071812	07/18/2012 12:51	07/19/2012	Aqueous	SM2540_TDS	/					F3
L1583-02D	INF 071812	07/18/2012 12:51	07/19/2012	Aqueous	SM2540_TSS	/					F3
L1583-02E	INF 071812	07/18/2012 12:51	07/19/2012	Aqueous	SW9012_W	/				Y	F3
L1583-03A	TW-1 071812	07/18/2012 13:00	07/19/2012	Aqueous	SW8260_25_W	/ use for VOCs,				Y	VOA
L1583-04A	TW-2A 071812	07/18/2012 13:05	07/19/2012	Aqueous	SW8260_25_W	/ use for VOCs,				Y	VOA
L1583-05A	TW-3 071812	07/18/2012 13:10	07/19/2012	Aqueous	SW8260_25_W	/ use for VOCs,				Y	VOA
L1583-06A	TB-071812	07/18/2012 00:00	07/19/2012	Aqueous	SW8260_25_W	/ use for VOCs,				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
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

FedEx #
8996 2349 6127

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 Chaimiere

Invoice To: Same

P.O. No.: _____ RQN: _____

Project No.: 60135676 02
Site Name: Now Corp
Location: Statts burgh 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
01	EFF071812	7-18-12	12:45	G	GW	2	3		3	X	X	X	X	X
02	INF071812		12:51				3		3		X	X	X	X
03	TW-1 071812		13:00											
04	TW-2 071812		13:05											
05	TW-3 071812		13:10											
06	TB-071812													

L1583 (01)
L1583 (06)

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 4°

Relinquished by:	Received by:	Date:	Time:
Steve Gross	FedEx	7-18-12	16:09
FedEx	Veronica Byrd	7/19/12	8:40

36

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

Received By:	Page 01 of 00
Reviewed By:	Log-in Date 07/19/2012
Work Order: L1583	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 8996 2349 6127
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	4 °C
10. Does information on TR/COCs and sample tags agree?	Yes / No
11. Date Received at Laboratory	07/19/2012
12. Time Received	08:40

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:

Lab Sample ID	Preservation (pH) HNO3	H2SO4	HCl	NaOH	H3PO4	VOA Matrix	Soil HeadSpace or Air Bubble > or equal to 1/4"
L1583-01	<2			>12		H	
L1583-02	<2			>12		H	
L1583-03						H	
L1583-04						H	
L1583-05						H	
L1583-06						H	

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

Spectrum Analytical, Inc. RI Division Sample Condition Notification

Project#: L1583 **Date of Receipt:** 7/19/12
Client: Earth NY **Received By:** JV
Client project #/name: Now Corp

Unusual Occurance Description:

One ~~vite~~ VIAL for sample TB-071812 was received broken. There is one ~~vite~~ VIAL remaining.

Client Contacted:

Contacted via: Phone/Fax/E-mail
Date:_____ **Time:**_____
Contacted By:_____
Name of person contacted:_____

Client Response:

Responded via: Phone/Fax/E-mail
Date:_____
Name of person responding:_____
Responding to:_____

Analyze the bottle we have left (should be sufficient).

Action Taken:

Form ID: QAF.0005

Last Page of Data Report