

Operation, Maintenance and Monitoring Report September 2011

**NOW Corporation
Site 3-14-008**

**Work Assignment No.
D004445-4.2**

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

December 2011

December 23, 2011

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: "September" 2011**

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 34-day period **(August 26 – September 29, 2011)**.

With the exceptions noted below, if any, the P&T system was online and operational throughout the reporting period. Approximately 632,800 gallons of water were treated during the period. Discharge from the treatment system averaged approximately 18,600 gallons per day (gpd), compared to 9,250 gpd in the prior reporting period.

As of the last day of the reporting period, a total of 86,494,100 gallons of groundwater had been recovered and treated by the system since it became operational in February 1998.

Table 1 summarizes influent and effluent analytical data for water samples collected on September 29, 2011. Although four VOCs were detected in system effluent, there were no exceedances of ELMR. **TSS was detected at a concentration of 170 mg/L, exceeding the effluent limitation of 50 mg/L.** A copy of the analytical laboratory report is attached. Table 2 and Table 3 summarize selected operational data and quarterly groundwater levels, respectively, as recorded on the sampling date. Monitoring well locations are shown on Figure 1.

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 August 26 service visit was described in the previous report. Details for the current period follow:

August 31 – Site visit in response to auto-shutdown of system on the 29th due to a high-level alarm in the sump. Tech noted that the sump pump had tripped the breaker. The breaker was reset during the site visit, restoring proper operation of the pump (confirmed by testing). Effluent line check ball was cleaned of mineral deposits. The effluent pump was replaced by a spare effluent pump. Only TW-2A was restarted and other well pumps remained off. Groundwater levels were extremely high as a result of rains from tropical storms Lee (August 28) and Irene (September 6 & 7). Limited influent to avoid overwhelming stripper and effluent pump.

The pump in TW-3 was activated in the morning of September 2. TW-1 was turned on in the afternoon of September 15, in response to August 26 analytical results (presented and discussed in the O&M report for August).

September 29 – Performed monthly system inspection, noted system readings, measured groundwater levels at monitoring wells, and collected monthly influent and effluent samples. The technician noted that

another seam in the Carbtrol air stripper had split. High level sump alarm was successfully tested. Only the pump in TW-2A was enabled upon departure due to leaking stripper.

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.

A handwritten signature in cursive script, reading "Stephen R. Choiniere". The ink is dark and the signature is fluid.

Stephen R. Choiniere
Project Manager

Table 1
Summary of Influent and Effluent Data
Sampling Date: September 29, 2011
NOW Corporation Site
Town of Clinton, New York

Analytes/ Parameters	Total Influent	Effluent	Recovery Wells			Effluent Limitations	
			TW-1	TW-2A	TW-3		(units)
Quantity treated, per day		18,612				Monitor	gallons
pH	6.8	7.1				6.5 to 8.5	standard units
Oil and Grease	<5.0	<5.0	NA	NA	NA	15	mg/L
Total Cyanide	<10	<10	NA	NA	NA	10	ug/L
TDS	270	260	NA	NA	NA	1000	mg/L
TSS	230	170	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	72 J	76 J	NA	NA	NA	Monitor	ug/L
Chromium	0.82 BJ	1.3 BJ	NA	NA	NA	400	ug/L
Copper	<25	<25	NA	NA	NA	24	ug/L
Iron	<200	<200	NA	NA	NA	600	ug/L
Mercury	<0.20	<0.20	NA	NA	NA	0.8	ug/L
Manganese	86	61	NA	NA	NA	Monitor	ug/L
Nickel	<50	2.2 BJ	NA	NA	NA	200	ug/L
Zinc	13 J	13 J	NA	NA	NA	150	ug/L
1,1,1-Trichloroethane	100	2.7	<2.0	340	3.0	10	ug/L
1,1,2-Trichloroethane	<8.0	<0.50	<2.0	<10	<0.50	1.2	ug/L
1,1-Dichloroethane	52	3.1	37	140	10	10	ug/L
1,1-Dichloroethene	<8.0	<0.50	12	16	1.2	0.5	ug/L
1,2-Dichloroethane	<8.0	<0.50	<2.0	<10	<0.50	1.6	ug/L
Benzene	<8.0	<0.50	<2.0	<10	<0.50	1.4	ug/L
Chlorobenzene	<8.0	<0.50	<2.0	<10	<0.50	10	ug/L
Chloroethane	<8.0	<0.50	<2.0	<10	<0.50	10	ug/L
cis -1,2-Dichloroethene	<8.0	0.55	2.9	18	<0.50	5	ug/L
Ethylbenzene	<8.0	<0.50	<2.0	<10	<0.50	10	ug/L
o-Xylene	<8.0	<0.50	<2.0	<10	<0.50	5	ug/L
m,p-Xylene	<8.0	<0.50	<2.0	<10	<0.50	10	ug/L
Tetrachloroethene	<8.0	<0.50	<2.0	<10	<0.50	1.4	ug/L
Toluene	<8.0	<0.50	<2.0	<10	<0.50	10	ug/L
trans -1,2-Dichloroethene	<8.0	<0.50	<2.0	<10	<0.50	5	ug/L
Trichloroethene	120	5.5	43	390	11	6	ug/L
Vinyl Chloride	<8.0	<0.50	<2.0	<10	<0.50	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 September 2011 O&M Data

NOW Corporation Site
Town of Clinton, New York

Instrumentation/Readings:		9/29/11	Units
<i>TW-1</i>			
	Pumping Rate	4	GPM
	Water Level Above Transducer	15.00	feet
	Flow Meter Reading	6,231,700	gallons
	Pump Pressure	70	psi
<i>TW-2A</i>			
	Pumping Rate	~14	GPM
	Water Level Above Transducer	33.51	feet
	Flow Meter Reading	22,941,400	gallons
	Pump Pressure	0	psi
<i>TW-3</i>			
	Pumping Rate	3	GPM
	Water Level Above Transducer	44.71	feet
	Flow Meter Reading	9,359,800	gallons
	Pump Pressure	75	psi
<i>Air Stripper</i>			
	Stripper Blower Pressure	23	inches H ₂ O
	Air Temperature in Stripper	54	°F
	Pressure Gauge - Left Leg	4.5	inches H ₂ O
	Pressure Gauge - Right Leg	0.5	inches H ₂ O
<i>Effluent Flow</i>			
	Effluent Flow this period (calculated)	632,800	gallons
	Total Effluent Flow (calculated)	86,494,100	gallons

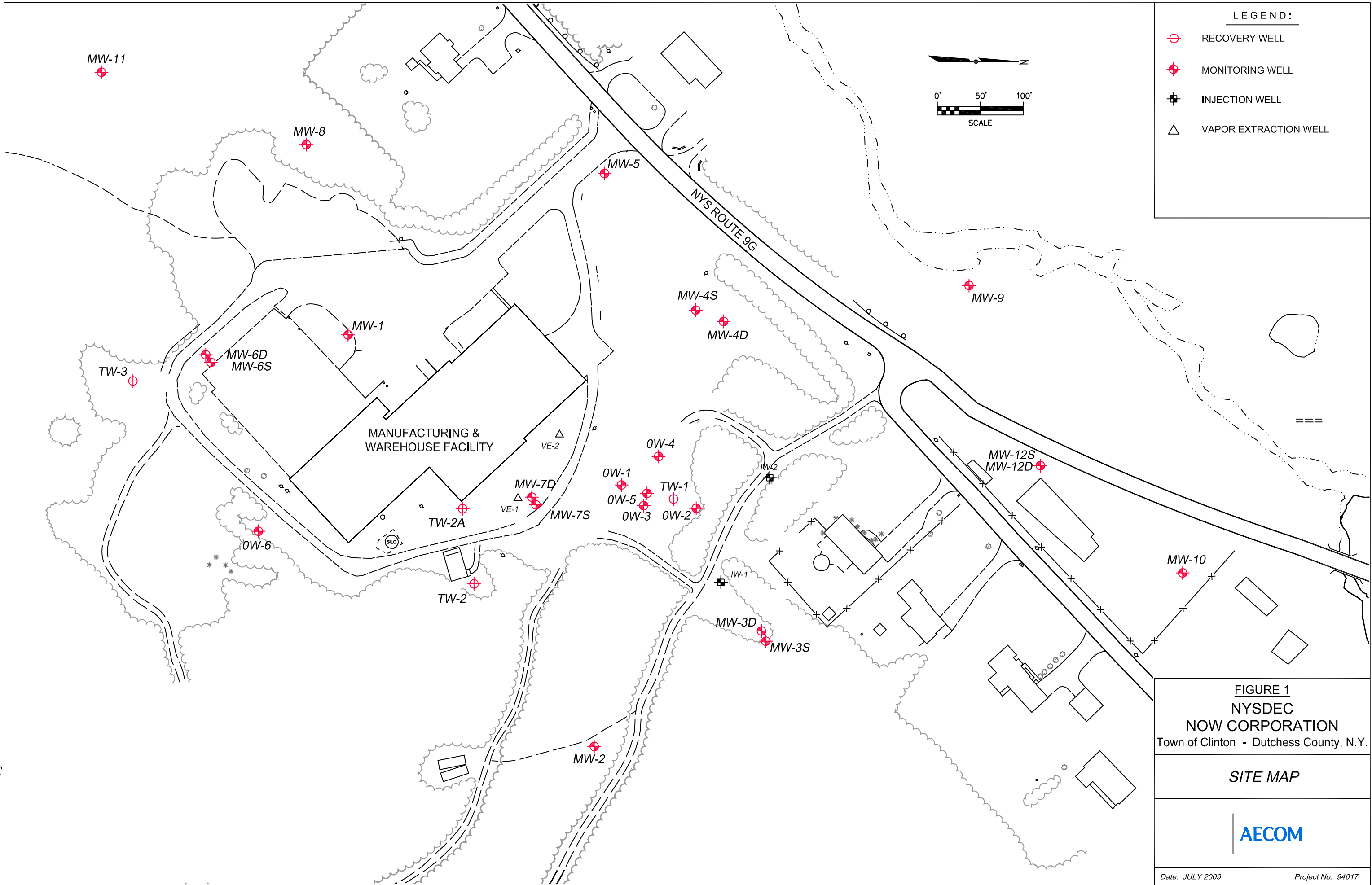
Table 3
September 2011 Groundwater Levels

NOW Corporation Site
Town of Clinton, New York

Well ID	MP Elevation	9/29/11	
		Depth to Water (Ft below MP)	GW Elevation
MW-1	289.50	9.35	280.15
MW-2	332.51	25.88	306.63
MW-3	312.83	23.57	289.26
MW-3S	312.51	21.77	290.74
MW-4	298.29	19.89	278.40
MW-4D	298.16	19.61	278.55
MW-5	285.48	17.38	268.10
MW-6S	287.90	3.38	284.52
MW-6D	287.25	5.42	281.83
MW-7S	292.12	15.48	276.64
MW-7D	292.54	42.60	249.94
OW-1	307.75	46.01	261.74
OW-2	305.96	70.09	235.87
OW-6	294.81	3.16	291.65
IW-1	312.46	26.81	285.65
IW-2	304.56	36.42	268.14

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

FILE NAME: 94017-BASE.dwg



Report Date:
19-Oct-11 14:41



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: K1888
Project : NOW Corp. Site, 9/2011
Project #:

Attn: Stephen Choiniere

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
K1888-01	EFF092911	Aqueous	29-Sep-11 12:06	30-Sep-11 08:30
K1888-02	INF092911	Aqueous	29-Sep-11 12:00	30-Sep-11 08:30
K1888-03	TW-1 092911	Aqueous	29-Sep-11 11:45	30-Sep-11 08:30
K1888-04	TW-2A 092911	Aqueous	29-Sep-11 11:50	30-Sep-11 08:30
K1888-05	TW-3 092911	Aqueous	29-Sep-11 11:55	30-Sep-11 08:30
K1888-06	TB 092911	Aqueous	29-Sep-11 00:00	30-Sep-11 08:30

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

All applicable NELAP or USEPA CLP requirements have been met.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and is certified by several States, as well as USEPA and US Department of Defense. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.mitkem.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
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



**LABORATORY
ACCREDITATION
BUREAU
ACCREDITED**



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, 9/2011

Laboratory Workorder / SDG #: K1888

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

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

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. Laboratory Control Spikes (LCS):

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

E. Internal Standards:

Internal standard peak areas were within the QC limits.

F. Dilutions:

The following samples were analyzed at dilution:

INF092911 (K1888-02A) : Dilution Factor: 16
TW-1 092911 (K1888-03A) : Dilution Factor: 4
TW-2A 092911 (K1888-04A) : Dilution Factor: 20

G. Samples:

No 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: _____10/19/11_____

REPORT NARRATIVE

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

Client : AECOM Technical Services, Inc.

Project: NOW Corp. Site, 9/2011

Laboratory Workorder / SDG #: K1888

EPA 1664A, Oil & Grease, HEM

I. SAMPLE RECEIPT

No exceptions or unusual conditions were.

II. HOLDING TIMES

A. Sample Preparation:

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

B. Sample Analysis:

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

III. METHODS

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

IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510

V. INSTRUMENTATION

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

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

VI. ANALYSIS

A. Calibration:

Analytical balance was calibrated based on SOP/Method criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Laboratory Control Spikes (LCS):

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

D. Samples:

No unusual occurrences were noted during sample analysis.

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Signed: _____

Date: _____10/19/11_____

REPORT NARRATIVE

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

Client : AECOM Technical Services, Inc.

Project: NOW Corp. Site, 9/2011

Laboratory Workorder / SDG #: K1888

SW846 6010C, SW846 7470A

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

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: OPTIMA2
Instrument Type: ICP
Description: Optima 3100 XL
Manufacturer: Perkin-Elmer
Model: 3100 XL

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria. Method blank MB-61950 contained Chromium and Nickel below the reporting limit but above the detection limit. This does not significantly impact sample results as these elements, where detected in a sample, were also at concentrations below the reporting limit.

C. Laboratory Control Spikes (LCS):

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

D. Samples:

No other unusual occurrences were noted during sample analysis.

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Signed: _____

Date: _____10/19/11_____

REPORT NARRATIVE

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

Client : AECOM Technical Services, Inc.

Project: NOW Corp. Site, 9/2011

Laboratory Workorder / SDG #: K1888

SM 2540C, SM 2540D, SW846 9012B, TOTAL DISSOLVED SOLIDS

I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

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

VI. ANALYSIS

A. Calibration:

Calibrations met the method/SOP acceptance criteria.

B. Blanks:

All method blanks were within the acceptance criteria.

C. Laboratory Control Spikes (LCS):

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

D. Duplicate sample:

Relative percent differences were within the QC limits for Total Dissolved Solids and Total Suspended Solids analyses.

E. Samples:

No unusual occurrences were noted during sample analysis.

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Signed: _____

Date: _____10/19/11_____

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

10/17/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: EFF092911

Lab ID: K1888-01

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 12:06

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	10/07/2011 2:14	62033
Chloroethane	ND		0.50	ug/L	1	10/07/2011 2:14	62033
1,1-Dichloroethene	ND		0.50	ug/L	1	10/07/2011 2:14	62033
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	10/07/2011 2:14	62033
Methyl tert-butyl ether	ND		0.50	ug/L	1	10/07/2011 2:14	62033
1,1-Dichloroethane	3.1		0.50	ug/L	1	10/07/2011 2:14	62033
cis-1,2-Dichloroethene	0.55		0.50	ug/L	1	10/07/2011 2:14	62033
1,1,1-Trichloroethane	2.7		0.50	ug/L	1	10/07/2011 2:14	62033
1,2-Dichloroethane	ND		0.50	ug/L	1	10/07/2011 2:14	62033
Benzene	ND		0.50	ug/L	1	10/07/2011 2:14	62033
Trichloroethene	5.5		0.50	ug/L	1	10/07/2011 2:14	62033
Toluene	ND		0.50	ug/L	1	10/07/2011 2:14	62033
1,1,2-Trichloroethane	ND		0.50	ug/L	1	10/07/2011 2:14	62033
Tetrachloroethene	ND		0.50	ug/L	1	10/07/2011 2:14	62033
Chlorobenzene	ND		0.50	ug/L	1	10/07/2011 2:14	62033
Ethylbenzene	ND		0.50	ug/L	1	10/07/2011 2:14	62033
m,p-Xylene	ND		0.50	ug/L	1	10/07/2011 2:14	62033
o-Xylene	ND		0.50	ug/L	1	10/07/2011 2:14	62033
Surrogate: Dibromofluoromethane	110		88-124	%REC	1	10/07/2011 2:14	62033
Surrogate: 1,2-Dichloroethane-d4	99.8		79-115	%REC	1	10/07/2011 2:14	62033
Surrogate: Toluene-d8	90.5		80-114	%REC	1	10/07/2011 2:14	62033
Surrogate: Bromofluorobenzene	98.4		60-123	%REC	1	10/07/2011 2:14	62033

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation 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

10/17/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: INF092911

Lab ID: K1888-02

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 12:00

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		8.0	ug/L		16 10/07/2011 2:43	62033
Chloroethane	ND		8.0	ug/L		16 10/07/2011 2:43	62033
1,1-Dichloroethene	ND		8.0	ug/L		16 10/07/2011 2:43	62033
trans-1,2-Dichloroethene	ND		8.0	ug/L		16 10/07/2011 2:43	62033
Methyl tert-butyl ether	ND		8.0	ug/L		16 10/07/2011 2:43	62033
1,1-Dichloroethane	52		8.0	ug/L		16 10/07/2011 2:43	62033
cis-1,2-Dichloroethene	ND		8.0	ug/L		16 10/07/2011 2:43	62033
1,1,1-Trichloroethane	100		8.0	ug/L		16 10/07/2011 2:43	62033
1,2-Dichloroethane	ND		8.0	ug/L		16 10/07/2011 2:43	62033
Benzene	ND		8.0	ug/L		16 10/07/2011 2:43	62033
Trichloroethene	120		8.0	ug/L		16 10/07/2011 2:43	62033
Toluene	ND		8.0	ug/L		16 10/07/2011 2:43	62033
1,1,2-Trichloroethane	ND		8.0	ug/L		16 10/07/2011 2:43	62033
Tetrachloroethene	ND		8.0	ug/L		16 10/07/2011 2:43	62033
Chlorobenzene	ND		8.0	ug/L		16 10/07/2011 2:43	62033
Ethylbenzene	ND		8.0	ug/L		16 10/07/2011 2:43	62033
m,p-Xylene	ND		8.0	ug/L		16 10/07/2011 2:43	62033
o-Xylene	ND		8.0	ug/L		16 10/07/2011 2:43	62033
Surrogate: Dibromofluoromethane	108		88-124	%REC		16 10/07/2011 2:43	62033
Surrogate: 1,2-Dichloroethane-d4	110		79-115	%REC		16 10/07/2011 2:43	62033
Surrogate: Toluene-d8	87.8		80-114	%REC		16 10/07/2011 2:43	62033
Surrogate: Bromofluorobenzene	96.1		60-123	%REC		16 10/07/2011 2:43	62033

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation 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

10/17/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: TW-1 092911

Lab ID: K1888-03

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 11:45

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		2.0	ug/L	4	10/07/2011 3:12	62033
Chloroethane	ND		2.0	ug/L	4	10/07/2011 3:12	62033
1,1-Dichloroethene	12		2.0	ug/L	4	10/07/2011 3:12	62033
trans-1,2-Dichloroethene	ND		2.0	ug/L	4	10/07/2011 3:12	62033
Methyl tert-butyl ether	ND		2.0	ug/L	4	10/07/2011 3:12	62033
1,1-Dichloroethane	37		2.0	ug/L	4	10/07/2011 3:12	62033
cis-1,2-Dichloroethene	2.9		2.0	ug/L	4	10/07/2011 3:12	62033
1,1,1-Trichloroethane	ND		2.0	ug/L	4	10/07/2011 3:12	62033
1,2-Dichloroethane	ND		2.0	ug/L	4	10/07/2011 3:12	62033
Benzene	ND		2.0	ug/L	4	10/07/2011 3:12	62033
Trichloroethene	43		2.0	ug/L	4	10/07/2011 3:12	62033
Toluene	ND		2.0	ug/L	4	10/07/2011 3:12	62033
1,1,2-Trichloroethane	ND		2.0	ug/L	4	10/07/2011 3:12	62033
Tetrachloroethene	ND		2.0	ug/L	4	10/07/2011 3:12	62033
Chlorobenzene	ND		2.0	ug/L	4	10/07/2011 3:12	62033
Ethylbenzene	ND		2.0	ug/L	4	10/07/2011 3:12	62033
m,p-Xylene	ND		2.0	ug/L	4	10/07/2011 3:12	62033
o-Xylene	ND		2.0	ug/L	4	10/07/2011 3:12	62033
Surrogate: Dibromofluoromethane	110		88-124	%REC	4	10/07/2011 3:12	62033
Surrogate: 1,2-Dichloroethane-d4	102		79-115	%REC	4	10/07/2011 3:12	62033
Surrogate: Toluene-d8	91.4		80-114	%REC	4	10/07/2011 3:12	62033
Surrogate: Bromofluorobenzene	98.9		60-123	%REC	4	10/07/2011 3:12	62033

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation 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

10/17/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: TW-2A 092911

Lab ID: K1888-04

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 11:50

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 10/07/2011 3:40	62033
Chloroethane	ND		10	ug/L		20 10/07/2011 3:40	62033
1,1-Dichloroethene	16		10	ug/L		20 10/07/2011 3:40	62033
trans-1,2-Dichloroethene	ND		10	ug/L		20 10/07/2011 3:40	62033
Methyl tert-butyl ether	ND		10	ug/L		20 10/07/2011 3:40	62033
1,1-Dichloroethane	140		10	ug/L		20 10/07/2011 3:40	62033
cis-1,2-Dichloroethene	18		10	ug/L		20 10/07/2011 3:40	62033
1,1,1-Trichloroethane	340		10	ug/L		20 10/07/2011 3:40	62033
1,2-Dichloroethane	ND		10	ug/L		20 10/07/2011 3:40	62033
Benzene	ND		10	ug/L		20 10/07/2011 3:40	62033
Trichloroethene	390		10	ug/L		20 10/07/2011 3:40	62033
Toluene	ND		10	ug/L		20 10/07/2011 3:40	62033
1,1,2-Trichloroethane	ND		10	ug/L		20 10/07/2011 3:40	62033
Tetrachloroethene	ND		10	ug/L		20 10/07/2011 3:40	62033
Chlorobenzene	ND		10	ug/L		20 10/07/2011 3:40	62033
Ethylbenzene	ND		10	ug/L		20 10/07/2011 3:40	62033
m,p-Xylene	ND		10	ug/L		20 10/07/2011 3:40	62033
o-Xylene	ND		10	ug/L		20 10/07/2011 3:40	62033
Surrogate: Dibromofluoromethane	107		88-124	%REC		20 10/07/2011 3:40	62033
Surrogate: 1,2-Dichloroethane-d4	95.4		79-115	%REC		20 10/07/2011 3:40	62033
Surrogate: Toluene-d8	90.9		80-114	%REC		20 10/07/2011 3:40	62033
Surrogate: Bromofluorobenzene	96.0		60-123	%REC		20 10/07/2011 3:40	62033

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation 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

10/17/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: TW-3 092911

Lab ID: K1888-05

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 11:55

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	10/07/2011 4:09	62033
Chloroethane	ND		0.50	ug/L	1	10/07/2011 4:09	62033
1,1-Dichloroethene	1.2		0.50	ug/L	1	10/07/2011 4:09	62033
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	10/07/2011 4:09	62033
Methyl tert-butyl ether	ND		0.50	ug/L	1	10/07/2011 4:09	62033
1,1-Dichloroethane	10		0.50	ug/L	1	10/07/2011 4:09	62033
cis-1,2-Dichloroethene	ND		0.50	ug/L	1	10/07/2011 4:09	62033
1,1,1-Trichloroethane	3.0		0.50	ug/L	1	10/07/2011 4:09	62033
1,2-Dichloroethane	ND		0.50	ug/L	1	10/07/2011 4:09	62033
Benzene	ND		0.50	ug/L	1	10/07/2011 4:09	62033
Trichloroethene	11		0.50	ug/L	1	10/07/2011 4:09	62033
Toluene	ND		0.50	ug/L	1	10/07/2011 4:09	62033
1,1,2-Trichloroethane	ND		0.50	ug/L	1	10/07/2011 4:09	62033
Tetrachloroethene	ND		0.50	ug/L	1	10/07/2011 4:09	62033
Chlorobenzene	ND		0.50	ug/L	1	10/07/2011 4:09	62033
Ethylbenzene	ND		0.50	ug/L	1	10/07/2011 4:09	62033
m,p-Xylene	ND		0.50	ug/L	1	10/07/2011 4:09	62033
o-Xylene	ND		0.50	ug/L	1	10/07/2011 4:09	62033
Surrogate: Dibromofluoromethane	107		88-124	%REC	1	10/07/2011 4:09	62033
Surrogate: 1,2-Dichloroethane-d4	103		79-115	%REC	1	10/07/2011 4:09	62033
Surrogate: Toluene-d8	92.7		80-114	%REC	1	10/07/2011 4:09	62033
Surrogate: Bromofluorobenzene	96.5		60-123	%REC	1	10/07/2011 4:09	62033

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation 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

10/17/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: TB 092911

Lab ID: K1888-06

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 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	10/07/2011 4:38	62033
Chloroethane	ND		0.50	ug/L	1	10/07/2011 4:38	62033
1,1-Dichloroethene	ND		0.50	ug/L	1	10/07/2011 4:38	62033
trans-1,2-Dichloroethene	ND		0.50	ug/L	1	10/07/2011 4:38	62033
Methyl tert-butyl ether	ND		0.50	ug/L	1	10/07/2011 4:38	62033
1,1-Dichloroethane	ND		0.50	ug/L	1	10/07/2011 4:38	62033
cis-1,2-Dichloroethene	ND		0.50	ug/L	1	10/07/2011 4:38	62033
1,1,1-Trichloroethane	ND		0.50	ug/L	1	10/07/2011 4:38	62033
1,2-Dichloroethane	ND		0.50	ug/L	1	10/07/2011 4:38	62033
Benzene	ND		0.50	ug/L	1	10/07/2011 4:38	62033
Trichloroethene	ND		0.50	ug/L	1	10/07/2011 4:38	62033
Toluene	ND		0.50	ug/L	1	10/07/2011 4:38	62033
1,1,2-Trichloroethane	ND		0.50	ug/L	1	10/07/2011 4:38	62033
Tetrachloroethene	ND		0.50	ug/L	1	10/07/2011 4:38	62033
Chlorobenzene	ND		0.50	ug/L	1	10/07/2011 4:38	62033
Ethylbenzene	ND		0.50	ug/L	1	10/07/2011 4:38	62033
m,p-Xylene	ND		0.50	ug/L	1	10/07/2011 4:38	62033
o-Xylene	ND		0.50	ug/L	1	10/07/2011 4:38	62033
Surrogate: Dibromofluoromethane	106		88-124	%REC	1	10/07/2011 4:38	62033
Surrogate: 1,2-Dichloroethane-d4	103		79-115	%REC	1	10/07/2011 4:38	62033
Surrogate: Toluene-d8	91.4		80-114	%REC	1	10/07/2011 4:38	62033
Surrogate: Bromofluorobenzene	101		60-123	%REC	1	10/07/2011 4:38	62033

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation 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

ANALYTICAL QC SUMMARY REPORT

CLIENT: AECOM Technical Services, Inc.
Work Order: K1888
Project: NOW Corp. Site, 9/2011

SW8260_25_W
SW846 8260C -- VOC by GC-MS (25 mL Purge)

Sample ID: MB-62033	SampType: MBLK	TestCode: SW8260_25_W	Prep Date: 10/06/11 11:26	Run ID: V5_111007A									
Client ID: MB-62033	Batch ID: 62033	Units: ug/L	Analysis Date: 10/07/11 1:45	SeqNo: 1620662									
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:	10.86		0.50	10.00	0	109	88	124		0			
Dibromofluoromethane													
Surrogate: 1,2-	9.579		0.50	10.00	0	95.8	79	115		0			
Dichloroethane-d4													
Surrogate: Toluene-d8	9.081		0.50	10.00	0	90.8	80	114		0			
Surrogate:	9.639		0.50	10.00	0	96.4	60	123		0			
Bromofluorobenzene													

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CLIENT: AECOM Technical Services, Inc.
Work Order: K1888
Project: NOW Corp. Site, 9/2011

ANALYTICAL QC SUMMARY REPORT
SW8260_25_W
SW846 8260C -- VOC by GC-MS (25 mL Purge)

Sample ID: LCS-62033		SampType: LCS		TestCode: SW8260_25_W		Prep Date: 10/06/11 11:26		Run ID: V5_111007A				
Client ID: LCS-62033		Batch ID: 62033		Units: ug/L		Analysis Date: 10/07/11 0:48		SeqNo: 1620660				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	9.610	0.15	0.50	10.00	0	96.1	77	120	0			
Chloroethane	9.601	0.24	0.50	10.00	0	96.0	75	135	0			
1,1,1-Dichloroethene	9.711	0.19	0.50	10.00	0	97.1	81	125	0			
trans-1,2-Dichloroethene	9.963	0.14	0.50	10.00	0	99.6	60	137	0			
Methyl tert-butyl ether	10.22	0.13	0.50	10.00	0	102	61	134	0			
1,1,1,1-Dichloroethane	10.34	0.18	0.50	10.00	0	103	82	120	0			
cis-1,2-Dichloroethene	10.37	0.19	0.50	10.00	0	104	84	116	0			
1,1,1,1-Trichloroethane	10.76	0.11	0.50	10.00	0	108	80	124	0			
1,2-Dichloroethane	10.64	0.16	0.50	10.00	0	106	86	117	0			
Benzene	10.55	0.12	0.50	10.00	0	105	81	121	0			
Trichloroethene	10.45	0.13	0.50	10.00	0	104	74	123	0			
Toluene	10.38	0.14	0.50	10.00	0	104	88	117	0			
1,1,2-Trichloroethane	10.80	0.20	0.50	10.00	0	108	83	121	0			
Tetrachloroethene	9.533	0.17	0.50	10.00	0	95.3	74	115	0			
Chlorobenzene	9.347	0.13	0.50	10.00	0	93.5	83	112	0			
Ethylbenzene	9.417	0.13	0.50	10.00	0	94.2	87	110	0			
m,p-Xylene	18.75	0.22	0.50	20.00	0	93.8	87	114	0			
o-Xylene	9.462	0.17	0.50	10.00	0	94.6	84	114	0			
Surrogate:	10.10		0.50	10.00	0	101	88	124	0			
Dibromofluoromethane												
Surrogate: 1,2-Dichloroethane-d4	10.29		0.50	10.00	0	103	79	115	0			
Surrogate: Toluene-d8	9.574		0.50	10.00	0	95.7	80	114	0			
Surrogate:	10.37		0.50	10.00	0	104	60	123	0			
Bromofluorobenzene												

Qualifiers: ND - Not Detected at the Reporting Limit S - Recovery outside accepted recovery limits MDL - Method Detection Limit B - Analyte detected in the associated Method Blank
m11.10.10.A J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits RL - Reporting Limit

CLIENT: AECOM Technical Services, Inc.

ANALYTICAL QC SUMMARY REPORT

Work Order: K1888

SW8260_25_W

Project: NOW Corp. Site, 9/2011

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

Sample ID: LCSD-62033		SampType: LCSD		TestCode: SW8260_25_W		Prep Date: 10/06/11 11:26		Run ID: V5_111007A				
Client ID: LCSD-62033		Batch ID: 62033		Units: ug/L		Analysis Date: 10/07/11 1:16		SeqNo: 1620661				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	9.356	0.15	0.50	10.00	0	93.6	77	120	9.610	2.68	40	
Chloroethane	9.558	0.24	0.50	10.00	0	95.6	75	135	9.601	0.45	40	
1,1-Dichloroethene	9.199	0.19	0.50	10.00	0	92.0	81	125	9.711	5.42	40	
trans-1,2-Dichloroethene	10.00	0.14	0.50	10.00	0	100	60	137	9.963	0.374	40	
Methyl tert-butyl ether	9.904	0.13	0.50	10.00	0	99.0	61	134	10.22	3.16	40	
1,1-Dichloroethane	10.39	0.18	0.50	10.00	0	104	82	120	10.34	0.483	40	
cis-1,2-Dichloroethene	10.45	0.19	0.50	10.00	0	105	84	116	10.37	0.814	40	
1,1,1-Trichloroethane	10.52	0.11	0.50	10.00	0	105	80	124	10.76	2.19	40	
1,2-Dichloroethane	10.46	0.16	0.50	10.00	0	105	86	117	10.64	1.73	40	
Benzene	10.11	0.12	0.50	10.00	0	101	81	121	10.55	4.25	40	
Trichloroethene	10.53	0.13	0.50	10.00	0	105	74	123	10.45	0.769	40	
Toluene	10.38	0.14	0.50	10.00	0	104	88	117	10.38	0.00934	40	
1,1,2-Trichloroethane	10.47	0.20	0.50	10.00	0	105	83	121	10.80	3.12	40	
Tetrachloroethene	10.40	0.17	0.50	10.00	0	104	74	115	9.533	8.68	40	
Chlorobenzene	9.367	0.13	0.50	10.00	0	93.7	83	112	9.347	0.213	40	
Ethylbenzene	9.325	0.13	0.50	10.00	0	93.3	87	110	9.417	0.98	40	
m,p-Xylene	18.92	0.22	0.50	20.00	0	94.6	87	114	18.75	0.89	40	
o-Xylene	9.312	0.17	0.50	10.00	0	93.1	84	114	9.462	1.6	40	
Surrogate:	10.34		0.50	10.00	0	103	88	124	0			
Dibromofluoromethane												
Surrogate: 1,2-	9.872		0.50	10.00	0	98.7	79	115	0			
Dichloroethane-d4												
Surrogate: Toluene-d8	9.671		0.50	10.00	0	96.7	80	114	0			
Surrogate:	10.44		0.50	10.00	0	104	60	123	0			
Bromofluorobenzene												

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

10/18/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: EFF092911

Lab ID: K1888-01

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 12:06

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 1664A -- Oil & Grease, HEM							E1664
Oil & Grease, Total Recoverable	ND		5.0	mg/L	1	10/03/2011 0:00	61947

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation 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

10/18/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: INF092911

Lab ID: K1888-02

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 12:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
EPA 1664A -- Oil & Grease, HEM							E1664
Oil & Grease, Total Recoverable	ND		5.0	mg/L	1	10/03/2011 0:00	61947

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation 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: K1888

Project: NOW Corp. Site, 9/2011

ANALYTICAL QC SUMMARY REPORT

E1664

EPA 1664A -- Oil & Grease, HEM

Sample ID: MB-61947	SampType: MBLK	TestCode: E1664	Prep Date: 10/02/11 11:00	Run ID: MANUAL_111003A							
Client ID: MB-61947	Batch ID: 61947	Units: mg/L	Analysis Date: 10/03/11 0:00	SeqNo: 1612851							
Analyte	Result	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: LCS-61947	SampType: LCS	TestCode: E1664	Prep Date: 10/02/11 11:00	Run ID: MANUAL_111003A							
Client ID: LCS-61947	Batch ID: 61947	Units: mg/L	Analysis Date: 10/03/11 0:00	SeqNo: 1612849							
Analyte	Result	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: LCSD-61947	SampType: LCSD	TestCode: E1664	Prep Date: 10/02/11 11:00	Run ID: MANUAL_111003A							
Client ID: LCSD-61947	Batch ID: 61947	Units: mg/L	Analysis Date: 10/03/11 0:00	SeqNo: 1612850							
Analyte	Result	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

10/06/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: EFF092911

Lab ID: K1888-01

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 12:06

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							SW6010_W
Aluminum	ND		200	µg/L		1 10/04/2011 8:43	61950
Arsenic	ND		20	µg/L		1 10/04/2011 8:43	61950
Barium	76	J	200	µg/L		1 10/04/2011 8:43	61950
Chromium	1.3	BJ	20	µg/L		1 10/04/2011 8:43	61950
Copper	ND		25	µg/L		1 10/04/2011 8:43	61950
Iron	ND		200	µg/L		1 10/04/2011 8:43	61950
Manganese	61		50	µg/L		1 10/04/2011 8:43	61950
Nickel	2.2	BJ	50	µg/L		1 10/04/2011 8:43	61950
Zinc	13	J	50	µg/L		1 10/04/2011 8:43	61950
SW846 7470A -- Mercury by FIA							SW7470
Mercury	ND		0.20	µg/L		1 10/05/2011 9:56	61992

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation 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

10/06/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: INF092911

Lab ID: K1888-02

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 12:00

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
SW846 6010C -- Metals by ICP							SW6010_W
Aluminum	ND		200	µg/L		1 10/04/2011 8:46	61950
Arsenic	ND		20	µg/L		1 10/04/2011 8:46	61950
Barium	72	J	200	µg/L		1 10/04/2011 8:46	61950
Chromium	0.82	BJ	20	µg/L		1 10/04/2011 8:46	61950
Copper	ND		25	µg/L		1 10/04/2011 8:46	61950
Iron	ND		200	µg/L		1 10/04/2011 8:46	61950
Manganese	86		50	µg/L		1 10/04/2011 8:46	61950
Nickel	ND		50	µg/L		1 10/04/2011 8:46	61950
Zinc	13	J	50	µg/L		1 10/04/2011 8:46	61950
SW846 7470A -- Mercury by FIA							SW7470
Mercury	ND		0.20	µg/L		1 10/05/2011 9:57	61992

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation 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: K1888

Project: NOW Corp. Site, 9/2011

ANALYTICAL QC SUMMARY REPORT

SW6010_W

SW846 6010C -- Metals by ICP

Sample ID: MB-61950	SampType: MBLK	TestCode: SW6010_W	Prep Date: 10/03/11 9:45	Run ID: OPTIMA2_111004A								
Client ID: MB-61950	Batch ID: 61950	Units: µg/L	Analysis Date: 10/04/11 8:33	SeqNo: 1613235								
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	0.8204	0.64	20									
Copper	ND	3.6	30									
Iron	ND	31	200									
Manganese	ND	10	50									
Nickel	3.716	0.85	50									
Zinc	ND	4.9	50									

Sample ID: LCS-61950	SampType: LCS	TestCode: SW6010_W	Prep Date: 10/03/11 9:45	Run ID: OPTIMA2_111004A								
Client ID: LCS-61950	Batch ID: 61950	Units: µg/L	Analysis Date: 10/04/11 8:36	SeqNo: 1613236								
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9288	66	200	9100	0	102	80	120	0			
Arsenic	452.2	4.3	20	455.0	0	99.4	80	120	0			
Barium	9522	1.1	200	9100	0	105	80	120	0			
Chromium	945.3	0.64	20	910.0	0	104	80	120	0			B
Copper	1164	3.6	30	1130	0	103	80	120	0			
Iron	4821	31	200	4550	0	106	80	120	0			
Manganese	2351	10	50	2270	0	104	80	120	0			
Nickel	2291	0.85	50	2270	0	101	80	120	0			B
Zinc	2369	4.9	50	2270	0	104	80	120	0			

CLIENT: AECOM Technical Services, Inc.

Work Order: K1888

Project: NOW Corp. Site, 9/2011

ANALYTICAL QC SUMMARY REPORT

SW6010_W

SW846 6010C -- Metals by ICP

Sample ID: LCSD-61950		SampType: LCSD		TestCode: SW6010_W		Prep Date: 10/03/11 9:45		Run ID: OPTIMA2_111004A				
Client ID: LCSD-61950		Batch ID: 61950		Units: µg/L		Analysis Date: 10/04/11 8:39		SeqNo: 1613238				
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9459	66	200	9100	0	104	80	120	9288	1.83	20	
Arsenic	456.1	4.3	20	455.0	0	100	80	120	452.2	0.86	20	
Barium	9690	1.1	200	9100	0	106	80	120	9522	1.74	20	
Chromium	960.8	0.64	20	910.0	0	106	80	120	945.3	1.63	20	B
Copper	1183	3.6	30	1130	0	105	80	120	1164	1.63	20	
Iron	4900	31	200	4550	0	108	80	120	4821	1.62	20	
Manganese	2393	10	50	2270	0	105	80	120	2351	1.77	20	
Nickel	2331	0.85	50	2270	0	103	80	120	2291	1.74	20	B
Zinc	2408	4.9	50	2270	0	106	80	120	2369	1.67	20	

CLIENT: AECOM Technical Services, Inc.

ANALYTICAL QC SUMMARY REPORT

Work Order: K1888

SW7470

Project: NOW Corp. Site, 9/2011

SW846 7470A -- Mercury by FIA

Sample ID: MB-61992	SampType: MBLK	TestCode: SW7470	Prep Date: 10/04/11 14:15	Run ID: FIMS2_111005A							
Client ID: MB-61992	Batch ID: 61992	Units: µg/L	Analysis Date: 10/05/11 9:29	SeqNo: 1614174							
Analyte	Result	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	ND	0.028	0.20									
Sample ID: LCS-61992	SampType: LCS	TestCode: SW7470	Prep Date: 10/04/11 14:15	Run ID: FIMS2_111005A								
Client ID: LCS-61992	Batch ID: 61992	Units: µg/L	Analysis Date: 10/05/11 9:31	SeqNo: 1614175								
Analyte	Result	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	4.484	0.028	0.20	4.550	0	98.6	80	120	0			

Sample ID: LCSD-61992	SampType: LCSD	TestCode: SW7470	Prep Date: 10/04/11 14:15	Run ID: FIMS2_111005A							
Client ID: LCSD-61992	Batch ID: 61992	Units: µg/L	Analysis Date: 10/05/11 9:33	SeqNo: 1614176							
Analyte	Result	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.461	0.028	0.20	4.550	0	98.0	80	120	4.484	0.519	20

Mercury	4.461	0.028	0.20	4.550	0	98.0	80	120	4.484	0.519	20
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Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

10/18/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: EFF092911

Lab ID: K1888-01

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 12:06

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	10/03/2011 22:36	61965
SM 2540D -- TOTAL SUSPENDED SOLIDS							SM2540_TSS
Total Suspended Solids	170		10	mg/L	1	10/03/2011 22:36	61966
SW846 9012B -- Total Cyanide							SW9012_W
Cyanide	ND		10	ug/L	1	10/04/2011 15:15	61993

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation 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

10/18/2011

Client: AECOM Technical Services, Inc.

Client Sample ID: INF092911

Lab ID: K1888-02

Project: NOW Corp. Site, 9/2011

Collection Date: 09/29/11 12:00

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	10/04/2011 1:54	61965
SM 2540D -- TOTAL SUSPENDED SOLIDS							SM2540_TSS
Total Suspended Solids	230		10	mg/L	1	10/04/2011 1:54	61966
SW846 9012B -- Total Cyanide							SW9012_W
Cyanide	ND		10	ug/L	1	10/04/2011 15:22	61993

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation 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: K1888

Project: NOW Corp. Site, 9/2011

ANALYTICAL QC SUMMARY REPORT

SM2540_TDS

SM 2540C -- TOTAL DISSOLVED SOLIDS

Sample ID: MB-61965	SampType: MBLK	TestCode: SM2540_TDS	Prep Date: 10/03/11 16:00	Run ID: MANUAL_111003B				
Client ID: MB-61965	Batch ID: 61965	Units: mg/L	Analysis Date: 10/03/11 16:00	SeqNo: 1613869				
Analyte	Result	MDL	SPK value	SPK Ref Val	%REC LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Total Dissolved Solids		ND	10	10				

Sample ID: LCS-61965	SampType: LCS	TestCode: SM2540_TDS	Prep Date: 10/03/11 16:00	Run ID: MANUAL_111003B					
Client ID: LCS-61965	Batch ID: 61965	Units: mg/L	Analysis Date: 10/03/11 19:18	SeqNo: 1613870					
Analyte	Result	MDL	SPK value	SPK Ref Val	%REC LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Total Dissolved Solids	414.0	10	10	413.0	0	100	80	120	0

Sample ID: K1888-02BDUP	SampType: DUP	TestCode: SM2540_TDS	Prep Date: 10/03/11 16:00	Run ID: MANUAL_111003B				
Client ID: INF092911	Batch ID: 61965	Units: mg/L	Analysis Date: 10/04/11 5:12	SeqNo: 1613873				
Analyte	Result	MDL	SPK value	SPK Ref Val	%REC LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Total Dissolved Solids	269.0	10	0	0	0	268.0	0.372	5.0

CLIENT: AECOM Technical Services, Inc.

ANALYTICAL QC SUMMARY REPORT

Work Order: K1888

SM2540_TSS

Project: NOW Corp. Site, 9/2011

SM 2540D -- TOTAL SUSPENDED SOLIDS

Sample ID: MB-61966	SampType: MBLK	TestCode: SM2540_TSS	Prep Date: 10/03/11 16:00	Run ID: MANUAL_111003C							
Client ID: MB-61966	Batch ID: 61966	Units: mg/L	Analysis Date: 10/03/11 16:00	SeqNo: 1613874							
Analyte	Result	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids		ND	10	10							

Sample ID: LCS-61966	SampType: LCS	TestCode: SM2540_TSS	Prep Date: 10/03/11 16:00	Run ID: MANUAL_111003C								
Client ID: LCS-61966	Batch ID: 61966	Units: mg/L	Analysis Date: 10/03/11 19:18	SeqNo: 1613875								
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids		32.00	10	10	32.50	0	98.5	80	120	0		

Sample ID: K1888-02BDUP	SampType: DUP	TestCode: SM2540_TSS	Prep Date: 10/03/11 16:00	Run ID: MANUAL_111003C								
Client ID: INF092911	Batch ID: 61966	Units: mg/L	Analysis Date: 10/04/11 5:12	SeqNo: 1613878								
Analyte	Result	MDL	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	226.0	10	10	0	0	0	0	0	229.0	1.32	5.0	

CLIENT: AECOM Technical Services, Inc.

ANALYTICAL QC SUMMARY REPORT

Work Order: K1888

SW9012_W

Project: NOW Corp. Site, 9/2011

SW846 9012B -- Total Cyanide

Sample ID: MB-61993	SampType: MBLK	TestCode: SW9012_W	Prep Date: 10/04/11 10:30	Run ID: LACHAT1_111004A
Client ID: MB-61993	Batch ID: 61993	Units: ug/L	Analysis Date: 10/04/11 14:57	SeqNo: 1613758
Analyte	Result	MDL	SPK Ref Val	RPD Ref Val
Cyanide	ND	7.5	SPK value	%RPD RPDLimit
		20		Qual

Sample ID: LCS-61993	SampType: LCS	TestCode: SW9012_W	Prep Date: 10/04/11 10:30	Run ID: LACHAT1_111004A
Client ID: LCS-61993	Batch ID: 61993	Units: ug/L	Analysis Date: 10/04/11 15:00	SeqNo: 1613759
Analyte	Result	MDL	SPK Ref Val	RPD Ref Val
Cyanide	85.47	7.5	SPK value	%RPD RPDLimit
		20	100.0	Qual
			0	0
			85.5	120
			80	

Sample ID: LCSD-61993	SampType: LCSD	TestCode: SW9012_W	Prep Date: 10/04/11 10:30	Run ID: LACHAT1_111004A
Client ID: LCSD-61993	Batch ID: 61993	Units: ug/L	Analysis Date: 10/04/11 15:02	SeqNo: 1613760
Analyte	Result	MDL	SPK Ref Val	RPD Ref Val
Cyanide	90.25	7.5	SPK value	%RPD RPDLimit
		20	100.0	Qual
			0	20
			90.2	5.44
			80	85.47

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

WorkOrder: K1888

Client ID: EARTH_NY
Project: NOW Corp. Site
WO Name: NOW Corp. Site, 9/2011
Location: NOW_CORP,
Comments: N/A

Case:
SDG:

PO: 94017.02

HC Due: 10/18/11
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
K1888-01A	EFF092911	09/29/2011 12:06	09/30/2011	Aqueous	SW8260_25_W	/ use for VOCs,				Y	VOA
K1888-01B	EFF092911	09/29/2011 12:06	09/30/2011	Aqueous	SM2540_TDS	/					F1
K1888-01B	EFF092911	09/29/2011 12:06	09/30/2011	Aqueous	SM2540_TSS	/					F1
K1888-01C	EFF092911	09/29/2011 12:06	09/30/2011	Aqueous	SW6010_W	/ See SEL list				Y	M1
K1888-01C	EFF092911	09/29/2011 12:06	09/30/2011	Aqueous	SW7470	/ See SEL list					M1
K1888-01D	EFF092911	09/29/2011 12:06	09/30/2011	Aqueous	SW9012_W	/				Y	F1
K1888-01E	EFF092911	09/29/2011 12:06	09/30/2011	Aqueous	E1664	/					F1
K1888-02A	INF092911	09/29/2011 12:00	09/30/2011	Aqueous	SW8260_25_W	/ use for VOCs,				Y	VOA
K1888-02B	INF092911	09/29/2011 12:00	09/30/2011	Aqueous	SM2540_TDS	/					F1
K1888-02B	INF092911	09/29/2011 12:00	09/30/2011	Aqueous	SM2540_TSS	/					F1
K1888-02C	INF092911	09/29/2011 12:00	09/30/2011	Aqueous	SW6010_W	/ See SEL list				Y	M1
K1888-02C	INF092911	09/29/2011 12:00	09/30/2011	Aqueous	SW7470	/ See SEL list					M1
K1888-02D	INF092911	09/29/2011 12:00	09/30/2011	Aqueous	SW9012_W	/				Y	F1
K1888-02E	INF092911	09/29/2011 12:00	09/30/2011	Aqueous	E1664	/					F1
K1888-03A	TW-1 092911	09/29/2011 11:45	09/30/2011	Aqueous	SW8260_25_W	/ use for VOCs,				Y	VOA
K1888-04A	TW-2A 092911	09/29/2011 11:50	09/30/2011	Aqueous	SW8260_25_W	/ use for VOCs,				Y	VOA
K1888-05A	TW-3 092911	09/29/2011 11:55	09/30/2011	Aqueous	SW8260_25_W	/ use for VOCs,				Y	VOA
K1888-06A	TB 092911	09/29/2011 00:00	09/30/2011	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

Page 1 of 1

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.

P.O. No.: _____ RON: _____

Notes:

☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other

State specific reporting standards:

*Al, As, Ba, Cr,
Cu, Fe, Mn, Hg
Zn, N

** No HCl
please Add

DATE:	TIME:
9/29/11	15:05
9/30/11	8:30

Sample Condition Form

Received By: <i>Danish Mubem</i>				Page 01 of 01							
Reviewed By: <i>gn</i>				Log-in Date 09/30/2011							
Work Order: K1888		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.		Lab Sample ID		Preservation (pH)			VOA Matrix	Soil HeadSpace or Air Bubble > or equal to 1/4"			
				HNO3	H2SO4	HCl			NaOH	H3PO4	
		1. Custody Seal(s)	Present / Absent	K1888-01	<2		<2	>12		H	
			Intact / Broken	K1888-02	<2		<2	>12		H	
		2. Custody Seal Nos.	N/A	K1888-03						H	
				K1888-04						H	
				K1888-05						H	
		K1888-06						H			
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists		Present / Absent									
4. Airbill		AirBill / Sticker Present / Absent									
5. Airbill No.		876709961411 N/A									
6. Sample Tags		Present / Absent									
Sample Tag Numbers		Listed / Not Listed on Chain-of-Custody									
7. Sample Condition		Intact / Broken / Leaking									
8. Cooler Temperature Indicator Bottle		Present / Absent									
9. Cooler Temperature		3 °C									
10. Does information on TR/COCs and sample tags agree?		Yes / No									
11. Date Received at Laboratory		09/30/2011									
12. Time Received		08:30									
Sample Transfer											
Fraction (1) TVOA/VOA		Fraction (2) SVOA/PEST/ARO									
Area #		Area #									
By		By									
On		On									
IR Temp Gun ID:				VOA Matrix Key: US = Unpreserved Soil A = Air UA = Unpreserved Aqueous H = HCl M = MeOH E = Encore N = NaHSO4 F = Freeze							
Coolant Condition: ICE											
<i>(*) HCl added</i> <i>lot # 4111 010 exp. 9/2013</i>				See Sample Condition Notification/Corrective Action Form Yes / No							
				Rad OK Yes / No							

Last Page of Data Report