GRAFTech International

GrafTech International Holdings Inc.
12900 Snow Road • Parma, Ohio 44130

Juanita Bursley
Senior Manager, Corporate Environmental Protection

(216) 676-2175
Facsimile (216) 676-2697
Juanita.bursley@graftech.com

February 12, 2010

Mr. Brian Sadowski, Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Ave.
Buffalo, NY 14203-2999

Dear Mr. Sadowski:

Subject: GrafTech International Holdings Inc. closed landfill site, SWMF #32N03 (formerly Site #932035)

Please find enclosed the requisite Periodic Review Report (PRR) and completed Site Management Periodic Review Report Notice/Institutional and Engineering Controls Certification Form (Enclosure 1) for the subject GrafTech International Holdings Inc. (GTIH) closed landfill site, SWMF #32N03 (formerly Union Carbide Corp., Carbon Products Division and UCAR Republic Site #932035), as requested in your letter dated January 4, 2010. This Landfill was closed and capped in 1987, and subsequently reclassified by the state in 1997 from a Class 2 to a Class 4 Inactive Hazardous Waste Site. There have been no required remedial actions at this Site. Since the site's closure in 1987, the established Remedial Program has consisted of post-remedial site management activities only, including the operation, maintenance, and monitoring of various institutional and engineering controls. As requested by the state in March 2009, a proposed Operation, Maintenance and Monitoring (OM&M) Plan was submitted to New York State Department of Environmental Conservation (NYS DEC), Division of Environmental Remediation, Region 9, on September 30, 2009. The OM&M Plan was subsequently approved on November 4, 2009. This is the first PRR required for this site, the purpose of which is to document GTIH's implementation and compliance with the OM&M Plan. Therefore, please note that this initial progress report covers the period of time between the OM&M Plan approval date, November 4, 2009, to January 1, 2010. The starting date of the reporting period has been duly corrected on the enclosed certification form. A full electronic copy is also enclosed.

Please contact me should you have any questions or need additional information regarding the PRR or the Certification Form. My contact information is provided above in the letter header.

Sincerely,

Juanita M Bursley

Juanita M. Bursley
Corporate Senior Manager, Environmental Protection

Enclosures

J:/word docs/2010/NF 2010 Annual PRR Cover Ltr.doc

Cc (hard copies only):

Mr. Michael Hinton
Environmental Engineer II
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

Mr. Robert Knizek
Director Remedial Bureau E
New York State Department of Environmental Conservation
Division of Environmental Remediation, 11th Floor
625 Broadway
Albany, NY 12233-7020

Mr. Gary Litwin
New York State Department of Health
Flanigan Square
547 River Street
Troy, NY 12180

Mr. Greg Sutton
Hazardous Waste Remediation Engineer
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

GRAFTECH INTERNATIONAL HOLDINGS INC.

(formerly UCAR Carbon Company, Republic Site)

PERIODIC REVIEW REPORT
FOR THE CLOSED LANDFILL SITE
SWMF #32N03

(Formerly UCAR Republic Site Registry No. 932035)

PER THE SITE OPERATION, MAINTENANCE AND MONITORING (OM&M) PLAN

January 28, 2010

PERIODIC REVIEW REPORT

For SWMF #32N03

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1.0 INTRODUCTION AND SITE OVERVIEW

This Periodic Review Report (PRR) is being submitted for the GrafTech International Holdings Inc. (GTIH) (formerly UCAR Carbon Company Inc.) closed landfill facility, SWMF #32N03 (Registry No. 932035) ("Landfill"), under the provisions of the Division of Environmental Remediation (DER) Inactive Hazardous Waste Site Program. The Landfill is located in the Town of Niagara, Niagara County, State of New York, on Parcel # 130.20-1.1. The Landfill is located off of Hyde Blvd. behind the former UCAR Republic Plant. The Landfill was closed and capped in 1987. The Landfill property, which is 61.80 acres, of which 16.48 acres make up the cap, is secured by a metal fence with two (2) locked entrance gates. In 1997, the Landfill was reclassified by the state from Class 2a to a Class 4 Inactive Hazardous Waste Site. **There is no required Remedial Program or remedial objectives for this site**. The purpose of this PRR is to document GTIH's full implementation and compliance with the post-closure care procedures and institutional/engineering controls contained in the Operation, Monitoring and Maintenance (OM&M) Plan, which was approved by the state on November 4, 2009. The OM&M Plan specifies the routine inspection, maintenance, and groundwater monitor programs, and also describes the requirement for an approved Soil Management Plan (SMP) in the event that GTIH has future plans to excavate soil from the areas outside the footprint of the landfill. This PRR covers the period of November 4, 2009 through December 31, 2009.

2.0 SITE MANAGEMENT

For the report period specified above, GTIH has designated the Sr. Manager, Corporate Environmental Protection, to be responsible for managing the Landfill. This position is currently filled by Ms. Juanita M. Bursley, who is located at the Corporate Headquarters in Parma, Ohio. In addition, GTIH has also contracted the services of Mr. Robert Bucci, a retired former manager who lives in the local Niagara Falls community, to act as the local point-of-contact for the Landfill and who also has the responsibility for managing the day-to-day operations at the Landfill, including conducting the scheduled inspections, managing contractors to perform routine sampling and any needed maintenance/repairs, responding to neighborhood requests, etc. Mr. Bucci has also been responsible for communicating any significant issue that could possibly prevent full conformance with the OM&M Plan, or any other important matters concerning the Landfill outside the scope of this Plan, to Ms. Bursley so that the necessary resources can be promptly allocated to implement the appropriate corrective actions to adequately address the identified deficiency.

3.0 INSPECTION AND MAINTENANCE PLAN

1. Weekly Inspections

Weekly visual inspections of the Landfill's security equipment (perimeter fence, gates and locks), cap, monitoring wells, and surrounding areas were conducted, as scheduled, and a record maintained on the standard inspection form, which documents the date and time of the inspection, the inspector's name, and the condition of these facilities, specifically noting any identified deficiency. The inspection record also documented any corrective action(s) taken. Any fence areas that were found damaged were also duly noted on the inspection map.

2. Required New York State Department of Environmental Conservation (NYSDEC) Annual Inspections

Annual visual inspections of the Landfill's monitoring well system (condition of the outer casings , concrete seals and security locks), and the condition of the cap were conducted, as scheduled, and a record maintained on the standard inspection form, which documents the date and time of the inspection, the inspector's name, and the condition of these facilities, specifically noting any identified deficiency.

3. Routine Maintenance and Repairs

a. Repairs were scheduled, as needed, with outside contractor(s) to timely correct any deficiencies discovered during the routine weekly and annual inspections.

b. Mowing of the vegetative cover on the Landfill cap and the perimeter lawn of the Landfill and other general care were scheduled, as needed. The cap was mowed a minimum of once per year, after September 1.

c. General clean-ups of any debris found along the fence line, etc. were performed, as needed, to keep the Landfill area clear of any objectionable or unsightly materials.

4. Recordkeeping

All inspection records are being retained for a minimum period of three (3) years and copies will be made available to the state upon written request.

4.0 GROUNDWATER MONITORING PROGRAM

The Landfill was capped and closed in 1987. The groundwater monitoring well network at the Landfill site consists of eleven (11) on-site wells. The history of the groundwater monitoring requirements is as follows. Between 1987 and 2000, groundwater monitoring was conducted quarterly. Following their review of the collected groundwater quality data, the NYSDEC Division of Environmental Remediation and the Division of Solid and Hazardous Materials approved a modified semi-annual sampling program, in a letter dated January 18, 2000, in accordance with the requirements of 6 NYCRR Section 360 to monitor the effectiveness of the solid waste landfill closure in protecting groundwater quality. This new monitoring program was implemented from April 2000 to November 2005. Following a subsequent review of the post-closure groundwater monitoring program and historical groundwater quality data, the NYSDEC Division of Environmental Remediation and the Division of Solid and Hazardous Materials agreed to a modified annual post-closure groundwater monitoring program, which was first implemented in the autumn of 2006. Since that time, the new monitoring program consists of sampling a network of seven (7) of the eleven (11) groundwater on-site wells at the Landfill (specifically, BW-1, BW-2, BW-3, BW-4, MW-3, GW-8B and GW-9B); testing the collected samples by the specified EPA Methodologies for five (5) parameters (Volatile Organic Compounds (VOCs), Total and Dissolved Iron, Potassium and Zinc, Ammonia, Nitrite and Total Kjeldahl Nitrogen (TKN)); and conducting four (4) field measurements for Turbidity, Specific Conductance, pH and temperature. One sampling event must occur in every calendar year, but scheduling of the sampling collection is rotated every year between spring (every odd year) and autumn (every even year).Groundwater elevation measurements are also recorded.

Analytical test results for the spring 2009 groundwater sampling event conducted on March 26, 2009 (copy of report attached) were compared to the New York State Class GA water criteria and to the results of the historical monitoring data for the Landfill; **no discernible negative trend in groundwater quality was observed**. Copies of the Annual Report and Certification Report were submitted by the December 31, 2009 deadline to the New York State DEC Division of Solid and Hazardous Materials and Division of Environmental Remediation, the Niagara County Director of Environmental Health, and the Town of Niagara Clerk, Chairman Environmental Committee, Supervisor and current Town of Niagara Council

5.0 SOIL MANAGEMENT PLAN (SMP)

The state has agreed that there is no requirement for a written soil management plan for this Landfill, because there are no immediate plans or anticipation of any future plans to excavate and/or remove soils from the property surrounding the Landfill footprint. However, should this situation change at any time in the future, GTIH must prepare and submit to the New York DEC for approval a written Soil Management Plan a minimum of 30 days prior to commencing such excavation activities. This plan would address the particulars of the planned project. In the event of an unlikely and unforeseen emergency event requiring that GTIH disturb the soils on-site, GTIH would follow all applicable OSHA regulations to protect the workers, would stage the removed soils as close to the excavation site as safely possible, and would contact the New York DEC within 48 hours of this event.

6.0 SOIL VAPOR MANAGEMENT

On February 8, 2007, New York DEC approved a modified Work Plan specifying the installation of four (4) soil vapor implants along the south fence line of the Landfill property in order to collect soil gas samples near the residences along Rhode Island Street. On March 8, 2007, the implants were installed. On March 26 - 27, 2007, these implants were purged and sampled in accordance with the sample collection criteria in the approved Work Plan. The volume of collected soil vapor at each sampling location was insufficient to analyze the contents in the laboratory. The inability to draw soil vapor from any of the implants suggested that the clay soils are too tight to allow migration of vapors. In May 2007, GTIH submitted a Soil Intrusion Evaluation Report to NYSDEC, which concluded that there is no threat to neighboring residential properties, based on the results of the attempted March 2007 soil vapor sampling event, and recommended that no further action concerning vapor studies was warranted.

On December 28, 2008, the NYSDEC and the New York State Department of Health (NYS DOH) informed GTIH, in writing, that they had reviewed the submitted Soil Intrusion Evaluation Report for the Landfill and determined that the potential for soil vapor intrusion into neighboring homes and businesses had been satisfactorily evaluated. Furthermore, the agencies concurred with GTIH's recommendation that no further action is needed at this site regarding soil vapor intrusion. Therefore, no vapor intrusion monitoring program is required at this Landfill.

7.0 CONCLUSIONS AND RECOMMENDATIONS

All inspection, monitoring, maintenance and reporting requirements in the OM&M Plan for the Landfill were met during the reporting period, which for this preliminary PRR report is November 4, 2009 to January 1, 2010. There are no identified deficiencies in the approved institutional/engineering controls (IC/EC) at this site, or any suggested improvements that would require changes to the OM&M Plan. The IC/EC Certification on the approved form is attached. Due to the facts that 1) this Landfill is a Class 4 Inactive Hazardous Waste Site; 2) there is no required Remedial Program or remedial objectives; and 3) the groundwater monitoring program for the past 22 years since closure has identified no negative trends in the water quality, GTIH therefore recommends that compliance be maintained with the OM&M Plan until 30 years post-closure. At that time, an assessment and determination should be made as to whether the site management can be discontinued.

In agreement with NYS DEC, Division of Environmental Remediation, Region 9, a Groundwater Monitoring Event Report has been submitted annually. This report includes a written summary of the annual groundwater sampling results, the laboratory data reports, chain-of-custody documentation and field notes. Starting in December 2009, an Annual OM&M Compliance Report, including a copy of this same groundwater monitoring report and supporting documentation, was prepared and submitted to the same Division, by the December 31st deadline, to confirm GTIH's compliance with the site management requirements contained in the OM&M Plan. Starting in February 2010, GTIH is now required to complete and submit this PRR and signed IC/EC certification form. Because the OM&M Plan is the only document governing the site management requirements for this Landfill, the contents of the PRR and OM&M Compliance Report are largely duplicative. In following the report content guidance provided by the Albany headquarters, a copy of the full 2009 Groundwater Monitoring Event Report has again been provided for the third time with this submittal of the PRR. GTIH believes that it is duplicative and overly burdensome for the state to require the company to submit the same groundwater data and compliance documentation multiple times. The OM&M Plan, which was approved in November 2009, is a comprehensive post-remedial site management plan that contains all the elements and requirements applicable to this closed, Class 4 Landfill, i.e., the operation, maintenance and monitoring procedures and IC/EC requirements, and a soil management plan. Therefore, GTIH is asking the state to accept our request for an administrative change to rename the approved OM&M Plan to the Site Management Plan (SMP). Furthermore, given the fact that the site management for this Landfill consists only of routine and relatively simple institutional and engineering controls, including visual site inspections, and monitoring and maintenance of the cap, groundwater monitoring network and security fencing, GTIH is also respectfully recommending that it be required to submit only one annual compliance report (the PRR) and the IC/EC certification, inclusive of the Annual Groundwater Monitoring Event Report, to be submitted within 45 days of the state's reminder notice. To provide the state with timely information on the quality of the groundwater, GTIH proposes that it also submit a separate Groundwater Monitoring Event Report in the odd numbered years when it conducts the annual groundwater sampling campaign in the spring.

Enclosure 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **932035** (SWMF #32NO3)

Site Name **Union Carbide Corp., Carbon Prod. Div.** (Current Owner: GrafTech International Holdings Inc.)

Site Address: Hyde Park Boulevard Zip Code: 14303
City/Town: Niagara
County: Niagara
Allowable Use(s) (if applicable, does not address local zoning):
Site Acreage: 61.8
Owner: GrafTech International Holdings Inc.
12900 Snow Road, Parma, OH 44130

Reporting Period: ~~March 15, 2007~~ to January 01, 2010
November 4, 2009

Verification of Site Details **Box 2**

	YES	NO
1. Is the information in Box 1 correct?	☐	☒
If NO, are changes handwritten above or included on a separate sheet?	☒	
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
3. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If YES, is documentation (or evidence that documentation has been previously submitted) included with this certification?	☐	
4. If use of the site is restricted, is the current use of the site consistent with those restrictions? (Restricted only by local zoning.)	☒	☐
If NO, is an explanation included with this certification?	☐	
5. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid? N/A	☐	☐
If YES, is the new information or evidence that new information has been previously submitted included with this Certification?	☐	
6. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years)? N/A	☐	☐
If NO, are changes in the assessment included with this certification?	☐	

SITE NO. 932035 Box 3

Description of Institutional Controls

Parcel	Institutional Control
S_B_L Image: **130.20-1-1**	Monitoring Plan O&M Plan

Box 4

Description of Engineering Controls

Parcel	Engineering Control
S_B_L Image: **130.20-1-1**	Cover System

Attach documentation if IC/ECs cannot be certified or why IC/ECs are no longer applicable. (See instructions)

Control Description for Site No. 932035

Parcel: 130.20-1-1

Site is the former Union Carbide UCAR landfill #32N03, closed under a Part 360 solid waste closure permit in 1980's. Property is zoned Industrial.

Revised OM&M plan prepared and submitted 10/2009. Groundwater monitoring and landfill cap maintenance required.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted OM&M Plan

YES	NO
X	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:
   (NOTE: Operation, Maintenance and Monitoring Plan)

(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

(d) nothing has occurred that would constitute a violation or failure to comply with the ~~Site Management Plan~~ OM&M for this Control; and

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
X	☐

3. If this site has an Operation and Maintenance (O&M) Plan (or equivalent as required in the Decision Document);

   I certify by checking "YES" below that the O&M Plan Requirements (or equivalent as required in the Decision Document) are being met.
   (NOTE: Operation, Maintenance and Monitoring Plan)

X	☐

4. If this site has a Monitoring Plan (or equivalent as required in the remedy selection document);

   I certify by checking "YES" below that the requirements of the Monitoring Plan (or equivalent as required in the Decision Document) is being met.
   (NOTE: Operation, Maintenance and Monitoring Plan)

YES	NO
X	☐

IC CERTIFICATIONS
SITE NO. 932035

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 and/or 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Petrius Barnard (print name) at 12900 Snow Road, Parma, Ohio 44130 (print business address),

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner or Remedial Party Rendering Certification — Date: 2/16/10

IC/EC CERTIFICATIONS

Box 7

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I JUANITA M. BURSLEY (print name) at 12900 SNOW RD., PARMA, OHIO 44130 (print business address),

am certifying as a Qualified Environmental Professional for the OWNER

(Owner or Remedial Party) for the Site named in the Site Details Section of this form.

Juanita M. Bursley
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (if Required)

Date: 2/23/10

ATTACHMENT

Robert Bucci, Consultant
3344 Wildwood Dr.
Niagara Falls, New York 14304
Phone 716 297-6772 Cell & 716 628-8208
Email: nia3344@verizon.net

June 2, 2009

Reference No. 005513

Ms. Mary F. McIntosh
Engineering Geologist II
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
270 Michigan Avenue
Buffalo, NY 14203-2999

Dear Ms. McIntosh:

Re: Annual Monitoring Event 2009
UCAR Republic SWMF #32N03

The annual monitoring event for the above-referenced Site was conducted on March 26, 2009. The Site groundwater monitoring program was modified in November 2005 and currently consists of the following (excerpt from letter from C. Barron (CRA) to M. McIntosh (NYSDEC) dated November 4, 2005.):

> Annual sampling of seven wells (BW-1, BW-2, BW-3, BW-4, MW-3, GW-8B, and GW-9B) with analysis of the samples for Part 360 volatiles, ammonia, iron (total and soluble), potassium (total and soluble), zinc (total and soluble), nitrite, total kjeldahl nitrogen (TKN), turbidity, groundwater elevation, pH, specific conductance, and temperature. Monitoring is rotated between the spring and fall seasons such that one year sampling is conducted in the spring and the next year it will be conducted in the fall. Sampling is conducted once in each calendar year and reporting is submitted annually following receipt and review of the groundwater analytical data.

The sample collection and analyses were performed in accordance with the program outlined in the letters from M. McIntosh (NYSDEC) to R. Bucci (UCAR), dated January 18, 2000 and February 23, 2000. A sample collection and analysis summary is presented in Table 1 and water level elevations measured prior to well purging are presented in Table 2. The analytical laboratory report for this sampling event is enclosed and the data are summarized in Table 3.

June 2, 2009 Reference No. 005513

The analytical data from this monitoring event are consistent with the historical data.

The next groundwater monitoring event at the Site will be conducted in the Fall of 2010. Should you have any questions or require additional information, please do not hesitate to contact the undersigned at 716-628-8208.

Yours truly,

Robert Bucci
Site Consultant

Encl.

c.c.: M. Hans
M. Hinton
J. M. Bursley

TABLE 1

HYDRAULIC MONITORING
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMU #32NO3
NIAGARA FALLS, NEW YORK
MARCH 2009

Well I.D.	*TOC Elevation (Ft. AMSL)*	*Depth to Water (Ft. BTOC)*	*Water Level Elevation (Ft. AMSL)*	*Sounded Depth (Ft. BTOC)*	*Installed Depth (Ft. BTOC)*
MW-3	601.89	4.38	597.51	15.08	14.4
BW-1	610.72	10.54	600.18	25.88	35.9
BW-2	608.43	8.89	599.54	24.50	37.1
BW-3	604.72	5.10	599.62	23.46	22.7
BW-4	607.08	5.53	601.55	21.21	27.5
GW-8B	603.90	8.79	595.11	29.60	29.5
GW-9B	603.40	10.74	592.66	31.83	31.7

Notes:

AMSL	Above Mean Sea Level.
BTOC	Below Top of Casing.
Ft.	Feet.
NM	Not Measured.

TABLE 2

ANALYTICAL RESULTS SUMMARY
ANNUAL GROUNDWATER MONITORING
UCAR CARBON COMPANY, INC.
NIAGARA FALLS, NEW YORK
MARCH 2009

	Sample ID:	WG-5513-032609-003	WG-5513-032609-004	WG-5513-032609-001	WG-5513-032609-006
	Location ID:	BW-2	BW-2	GW-8B	BW-1
	Collection Date:	*03/26/09*	*03/26/09*	*03/26/09*	*03/26/09*
			Duplicate		
Parameters	*Units*				
TCL Volatiles					
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethene (total)	µg/L	10 U	10 U	20	10 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	µg/L	10 U	10 U	10 U	10 U
Acetone	µg/L	3.1 J	3.5 J	20 U	3.4 J
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	0.84 J	0.86 J	10 U	0.63 J
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	3.0 J
Chloroform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Ethyl benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	7.4	5.0 U
Vinyl chloride	µg/L	5.0 U	5.0 U	3.5 J	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 2

ANALYTICAL RESULTS SUMMARY
ANNUAL GROUNDWATER MONITORING
UCAR CARBON COMPANY, INC.
NIAGARA FALLS, NEW YORK
MARCH 2009

Parameters	Units	Sample ID: WG-5513-032609-003 Location ID: BW-2 Collection Date: 03/26/09	WG-5513-032609-004 BW-2 03/26/09 Duplicate	WG-5513-032609-001 GW-8B 03/26/09	WG-5513-032609-006 BW-1 03/26/09
TCL Volatiles					
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Metals					
Iron (total)	mg/L	49.1	54.4	0.319	5.49
Potassium (total)	mg/L	7.38	7.38	5.86	5.01
Zinc (total)	mg/L	8.82	9.64	0.725	11.4
Iron (dissolved)	mg/L	0.668	0.621	0.234	0.622
Potassium (dissolved)	mg/L	6.96	7.37	5.63	5.13
Zinc (dissolved)	mg/L	0.262 J	0.583 J	0.419	0.0200 U
General Chemistry					
Ammonia	mg/L	0.275	0.282	0.050 U	0.758
Nitrite	mg/L	0.010 U	0.010 U	0.010 U	0.010 U
Total Kjeldahl Nitrogen	mg/L	0.75	0.91	0.26	1.62

TABLE 2

ANALYTICAL RESULTS SUMMARY
ANNUAL GROUNDWATER MONITORING
UCAR CARBON COMPANY, INC.
NIAGARA FALLS, NEW YORK
MARCH 2009

	Sample ID:	WG-5513-032609-008	WG-5513-032609-002	WG-5513-032609-007	WG-5513-032609-005
	Location ID:	BW-3	GW-9B	BW-4	MW-3
	Collection Date:	*03/26/09*	*03/26/09*	*03/26/09*	*03/26/09*
Parameters	***Units***				
TCL Volatiles					
1,1,1-Trichloroethane	µg/L	0.71 J	5.0 U	13 UJ	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	2.5 J	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	3.6 J	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
1,2-Dichloroethene (total)	µg/L	10 U	10 U	720	10 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
2-Butanone	µg/L	10 U	10 U	25 UJ	10 U
2-Hexanone	µg/L	10 U	10 U	25 UJ	10 U
4-Methyl-2-pentanone	µg/L	10 U	10 U	25 UJ	10 U
Acetone	µg/L	1.2 J	1.6 J	4.2 J	1.9 J
Benzene	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Bromomethane	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Carbon disulfide	µg/L	10 U	10 U	25 UJ	10 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Chloroform	µg/L	5.0 U	5.0 U	4.6 J	5.0 U
Chloromethane	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Ethyl benzene	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Styrene	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	140 J	5.0 U
Toluene	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	220 J	5.0 U
Vinyl chloride	µg/L	5.0 U	5.0 U	160 J	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	13 UJ	5.0 U

TABLE 2

ANALYTICAL RESULTS SUMMARY
ANNUAL GROUNDWATER MONITORING
UCAR CARBON COMPANY, INC.
NIAGARA FALLS, NEW YORK
MARCH 2009

	Sample ID:	WG-5513-032609-008	WG-5513-032609-002	WG-5513-032609-007	WG-5513-032609-005
	Location ID:	BW-3	GW-9B	BW-4	MW-3
	Collection Date:	*03/26/09*	*03/26/09*	*03/26/09*	*03/26/09*
Parameters	*Units*				
TCL Volatiles					
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	13 UJ	5.0 U
Metals					
Iron (total)	mg/L	2.33	0.699	26.0	7.67
Potassium (total)	mg/L	2.0 U	7.41	13.1	3.07
Zinc (total)	mg/L	2.32	0.0200 U	7.67	0.0268
Iron (dissolved)	mg/L	0.10 U	0.100 U	3.51	0.384
Potassium (dissolved)	mg/L	2.00 U	6.73	13.2	2.00 U
Zinc (dissolved)	mg/L	1.2100	0.0200 U	0.694	0.0200 U
General Chemistry					
Ammonia	mg/L	0.050 U	0.103	2.85	0.050 U
Nitrite	mg/L	0.010 U	0.010 U	0.010 U	0.010 U
Total Kjeldahl Nitrogen	mg/L	0.46	0.68	3.54	0.59

TABLE 3

SAMPLE COLLECTION AND ANALYSIS SUMMARY
ANNUAL GROUNDWATER MONITORING
UCAR CARBON COMPANY, INC.
NIAGARA FALLS, NEW YORK
MARCH 2009

				Analysis/Parameters					
Sample I.D.	*Location I.D.*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs*	*Selected Metals-total and dissolved*	*TKN*	*Nitrate*	*Ammonia*	*Comments*
WG-5513-032609-001	GW-8B	03/26/09	9:00	X	X	X	X	X	MS/MSD
WG-5513-032609-002	GW-9B	03/26/09	10:15	X	X	X	X	X	
WG-5513-032609-003	BW-2	03/26/09	11:00	X	X	X	X	X	
WG-5513-032609-004	BW-2	03/26/09	11:10	X	X	X	X	X	Field duplicate of WG-5513-032609-003
WG-5513-032609-005	MW-3	03/26/09	13:00	X	X	X	X	X	
WG-5513-032609-006	BW-1	03/26/09	11:45	X	X	X	X	X	
WG-5513-032609-007	BW-4	03/26/09	12:45	X	X	X	X	X	
WG-5513-032609-008	BW-3	03/26/09	13:15	X	X	X	X	X	
TB-5513-032609	-	03/26/09	-	X					Trip blank

Notes:

- = Not applicable.
MS - Matrix Spike.
MSD - Matrix Spike Duplicate.
TKN - Total Kjeldahl Nitrogen.
VOCs - Volatile Organic Compounds.

(106)

Hydraulic Monitoring

Date 3.26.09 Crew DD, SG, D

Well #	Time	w/L	Sounded Depth
MW 3	1028	4.38	15.08
BW 1	0952	10.54	25.88
BW 2	0924	8.89	21.50
BW 3	1011	5.10	23.46
BW 4	1005	5.53	21.21
GW 8B	0828	8.79	29.60
GW 9B	0909	~~11.29~~ 10.74	31.83
MW 1	0959	7.97	21.00
MW 2	0920	18.83	24.55
BW 5	1022	1.70	28.80
BW 6	0904	13.70	26.00

Inst. Control #

W/L Meter NE05034

Daily Log

YSI 650 MDS NE04441 CALABRATION

	BEFORE	AFTER
DO	-	98.1
PH (7.00)	6.62	7.00
PH (4.00)	3.96	4.00
COND. (4.49)	4.49	4.49
TURB. (0)	0.2	0.0
TURB (100)	100.6	100.0

3-26-09 Partly Sunny 49°F

0755 on-site Meet Bob Budci get site keys

DJT w/L Round DO/SG purge and Sample GW 8B, 9B, BW 2

1030 DJT Dry out MW 3

1100 DJT off-site

SG/DO Purge & Sample BW 1, 4, 3

Sample MW 3

1345 off-site

Dave Tyson

(108)

MW-3

Date 3-26-09 Crew DJT,
Project # 5513-02
Condition Good
Depth 2" 0-15.25
Initial w/L 4.38
Vol. Calc. 15.25 - 4.38 = 10.87 x .16 = 1.7
Method dedicated Teflon Bailer

Purge Record

Time	Vol	pH	Cond	Temp °C	Turb
1035	1.7	7.90	0.580	9.66	360.8

well Dry @ 2.2 gallons

Initial w/Q Clear, Colorless

Final w/Q Cloudy Red/Brown

Final w/L Dry

Sample Record

Date 3-26-09
Crew SG/DD
Method dedicated Teflon Bailer

Vol/Analysis See pg 28C

Sample Time 1300
Sample ID WG-5513-032609-005

w/Q CLEAR, LT BROWN

pH	Cond	Temp °C	Turb
7.90	0.554	7.32	100.2

CofC # 18094

Inst Control # 5
w/L Meter NF05034
YSI NF04441

Dave J Tyan

(110)

BGW-1

Date 3/26/09 crew SG, DJT, DD
Project # 5513.20
Condition Good
Depth 4" 0 - 20.9 3" 20.9 - 35.9
Initial w/L 10.54
Vol. Calc 20.9 - 10.54 = 10.36 x .165 = 6.7
Method WHALE PUMP
35.9 - 20.9 = 15 x .37 = 5.6 5.6 + 6.7 = 12.3 GAL

Purge Record

Time	Vol	pH	Cond	Temp°C	Turb
1133	12.3	7.89	1.84	9.83	58.5
1137	24.6	7.66	1.83	9.85	74.5
1142	36.9	7.59	1.83	9.85	9.1
1146	49.2	7.49	1.82	9.81	8.4
1151	61.5	7.59	1.82	9.83	7.4

Initial w/Q CLOUDY BLACK

Final w/Q CLEAR, COLORLESS

Final w/L 12.83

Sample Record

Date 3/26/09
crew SG, DJT, DD
Method TEFLON BAILER

Vol/Analysis See pg 28C

Sample Time 1145
Sample ID WG-5513-032609-006

w/Q CLOUDY GRAY

pH	Cond	Temp°C	Turb
7.89	1.96	8.80	121.3

CofC # 18094

Inst. Control #'s
w/L Meter NF 050334
YSI NF 041441

David J Tyler

(112) BW-2

Date 3/26/09 crew DD/SG
Project # 5513-20
Condition Good
Depth 4" 0-21.1 3" 21.1-37.1
Initial w/L 8.83
Vol. Calc 21.1-8.83 = 12.27 x .65 = 7.97
37.1-21.1 = 17 x .37 = 6.29 7.97+6.29 = 14.3 gal
Method WHALE PUMP

Purge Record

Time	Vol	pH	cond	Temp°C	Turb
1043	14.3	7.02	2.62	10.32	11.8
1048	28.6	6.93	2.51	10.17	7.1
1053	42.9	7.00	2.57	10.21	2.3

Initial w/Q CLOUDY, BROWN

Final w/Q CLEAR, COLORLESS

Final w/L 9.02

Sample Record DUP

Date 3/20/09
Crew GG, DJT, DD
Method TEFLON BAILER

Vol/Analysis see pg 28C

Sample Time 1100
Sample ID WG-5513-032009-003
BLIND DUP 10* WG-5513-032009-004 TIME 1110

w/Q CLOUDY BROWN

pH	cond	Temp °C	Turb
7.18	2.34	8.32	289.7

COC #	Inst. Control #'s
13094	w/L Meter NF050347
	YSI NF044410

David J Tyler

(114)

BGW-3

Date 3/26/09 Crew SG, DT, DD

Project # 5513-20

Condition Good

Depth 4" 0-9.7 3" 9.7-13.45

Initial w/L 5.10

Vol. Cal 9.7-5.10 = 4.6 x .65 = 3.0

13.45-9.7 = 13.75 x .37 = 5.1 5.1 + 3.0 = 8.1

Method WHALE PUMP

Purge Record

Time	Vol	pH	Cond	Temp °C	Turb
1255	8.1	7.54	0.950	8.37	4.8
1258	16.2	7.34	0.929	8.05	2.7
1300	24.3	7.24	0.929	8.00	3.5
1302	32.4	7.20	0.930	8.01	2.3

Initial w/Q CLEAR, COLORLESS

Final w/Q CLEAR, COLORLESS

Final w/L 5.15

Sample Record

Date 3/26/09

Crew SG, DT, DD

Method TEFLON BAILER

Vol/Analysis See pg 28C

Sample Time 1315

Sample ID WG-5513-032609-008

w/Q CLEAR, COLORLESS

pH	Cond	Temp °C	Turb
7.33	0.845	7.55	15.6

CofC # 18094

Inst. Control #5

w/L Meter NF05031

w/T NF04441

David Yoon

(116)

BCW-4

Date 3/26/09 Crew SG, DJT, DD
Project # 5513-20
Condition Good
Depth 4" 0-13.9 3" 13.9-27.5
Initial w/L 5.53
Vol. Calc 13.9-5.53 = 8.37 x .165 = 5.4
27.5-13.9 = 13.6 x .37 = 5.0 5.4+5.0 = 10.4 GAL.
Method WHALE PUMP

Purge Record

Time	Vol	pH	cond	Temp °C	Turb
1219	10.4	7.48	1.43	9.23	134.1
1223	20.8	7.36	1.47	9.20	20.0
1227	31.2	7.38	1.46	9.22	14.5
1230	41.6	7.35	1.44	9.21	12.0

Initial w/Q CLEAR, LT BROWN

Final w/Q CLEAR, COLORLESS

Final w/L 6.96

Sample Record

Date 3/26/09
Crew SG, DJT, DD
Method TEFLON BAILER

Vol/Analysis See pg 28C

Sample Time 1245
Sample ID WG-5513-032609-007

w/Q CLEAR LT BROWN

pH	Cond	Temp °C	Turb
7.55	1.30	7.98	39.9

Cof C # 18094

Inst. Control #'s
WL Meter NF05034
YSI NF04441

Dave J Tyler

(118) GW-8B

Date 3/26/09 Crew SG, DJT, DD

Project # 5513-20

Condition Good

Depth 3" 0-29.5

Initial w/L 8.79

Vol. Calc. 29.5 - 8.79 = 20.21 x .37 = 7.7

Method WHALE PUMP

Purge Record

Time	Vol	pH	Cond	Temp°C	Turb
0833	7.7	8.47	1.75	8.80	86.2
0837	15.4	8.05	1.87	9.63	180.2
0841	23.1	7.50	1.88	9.66	65.7
0847	30.8	7.24	1.87	9.64	20.2
0852	38.5	7.19	1.87	9.64	11.1

Initial w/Q CLEAR, COLORLESS

Final w/Q CLEAR, COLORLESS

Final w/L 16.28

Sample Record MS/MSD

Date 3/26/09

Crew SG, DJT, DD

Method TEFLON BAILER

Vol/Analysis See pg 28C

Sample Time 0900

Sample ID WG-5513-032609-001

w/Q CLEAR, COLORLESS

pH	Cond	Temp°C	Turb
7.40	1.87	9.30	4.5

CofC #
18094

Inst. Control #'s
w/L Matrix NF05034
YSI NF04441

Dan J Yan

(20) GW-9B

Date 3/26/09 Crew SG, DJT, DD
Project # 5513-20
Condition Good
Depth 3" O-31.7
Initial w/L 10.74
Vol. Calc. 31.7 - 10.74 = 20.96 x .37 = 7.8 GAL

Method WHALE PUMP

Purge Record

Time	Vol	pH	Cond	Temp C	Turb
0952	7.8	7.38	2.61	9.96	2.9
0955	15.6	7.15	2.67	10.10	3.7
1000	23.4	7.09	2.67	10.23	2.1
1004	31.2	7.08	2.68	10.22	2.5

Initial w/Q CLEAR, COLORLESS

Final w/Q CLEAR, COLORLESS

Final w/L 23.09

Sample Record

Date 3/26/09
Crew SG, DJT, DD
Project # 5513-20
METHOD: TEFLON BAILER
Vol/Analysis See pg 28C

Sample Time 1015
Sample ID WG-032609-002

w/Q CLEAR, COLORLESS

pH	Cond	Temp °C	Turb
7.47	2.61	9.87	8.6

Inst. Control #5
w/L Heron NF05034
YSI NF04441

CofC # 18084

Dave Ryan

Robert Bucci, Consultant
3344 Wildwood Dr.
Niagara Falls, New York 14304
Phone 716 297-6772 Cell & 716 628-8208
Email: nia3344@verizon.net

June 2, 2009

Reference No. 005513

Mark Carpenter, Councilman
Town of Niagara
7105 Lockport Road
Niagara Falls, New York 14305

SUBJECT: Semi-Annual Monitoring Event
UCAR Republic SWMF #32N03

Dear Mr. Carpenter,

Please find attached letter that was sent from Mary E. McIntosh, Engineering Geologist II of the N.Y.S.D.E.C. Region 9 Office for the UCAR Republic Landfill #32N03. The entire report is filed in the Town of Niagara Town Clerks Office for your review.

Copies of the these reports have also been forwarded to N.Y.S.D.E.C. Region 9 Office in Buffalo, as well as the Niagara County Health Department.

If anyone in the Town of Niagara has any questions please feel free to call me at (716) 628-8208.

Very truly yours,

Robert Bucci
Consultant

R. Bucci
Attachment

Robert Bucci, Consultant
3344 Wildwood Dr.
Niagara Falls, New York 14304
Phone 716 297-6772 Cell & 716 628-8208
Email: nia3344@verizon.net

June 2, 2009

Charles F. Teixeira, Councilman
Town of Niagara
7105 Lockport Road
Niagara Falls, New York 14305

SUBJECT: Semi-Annual Monitoring Event
UCAR Republic SWMF #32N03

Dear Mr. Teixeira,

Please find attached letter that was sent from Mary E. McIntosh, Engineering Geologist II of the N.Y.S.D.E.C. Region 9 Office for the UCAR Republic Landfill #32N03. The entire report is filed in the Town of Niagara Town Clerks Office for your review.

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If anyone in the Town of Niagara has any questions please feel free to call me at (716) 628-8208.

Very truly yours,

Robert Bucci
Consultant

R. Bucci
Attachment

Robert Bucci, Consultant
3344 Wildwood Dr.
Niagara Falls, New York 14304
Phone 716 297-6772 Cell & 716 628-8208
Email: nia3344@verizon.net

June 2, 2009

Reference No. 005513

Fabian Rosati
Chairman-Environmental Committee
Town of Niagara
7105 Lockport Road
Niagara Falls, New York 14305

SUBJECT: Semi-Annual Monitoring Event
UCAR Republic SWMF #32N03

Dear Mr. Rosati,

Please find attached letter that was sent from Mary E. McIntosh, Engineering Geologist II of the N.Y.S.D.E.C. Region 9 Office for the UCAR Republic Landfill #32N03. The entire report is filed in the Town of Niagara Town Clerks Office for your review.

Copies of the these reports have also been forwarded to N.Y.S.D.E.C. Region 9 Office in Buffalo, as well as the Niagara County Health Department.

If anyone in the Town of Niagara has any questions please feel free to call me at (716) 628-8208.

Very truly yours,

Robert Bucci
Consultant

R. Bucci
Attachment

Robert Bucci, Consultant
3344 Wildwood Dr.
Niagara Falls, New York 14304
Phone 716 297-6772 Cell & 716 628-8208
Email: nia3344@verizon.net

June 2, 2009

Reference No. 005513

Richard Clark, Councilman
Town of Niagara
7105 Lockport Road
Niagara Falls, New York 14305

SUBJECT: Semi-Annual Monitoring Event
UCAR Republic SWMF #32N03

Dear Mr. Clark,

Please find attached letter that was sent from Mary E. McIntosh, Engineering Geologist II of the N.Y.S.D.E.C. Region 9 Office for the UCAR Republic Landfill #32N03. The entire report is filed in the Town of Niagara Town Clerks Office for your review.

Copies of the these reports have also been forwarded to N.Y.S.D.E.C. Region 9 Office in Buffalo, as well as the Niagara County Health Department.

If anyone in the Town of Niagara has any questions please feel free to call me at (716) 628-8208.

Very truly yours,

Robert Bucci
Consultant

R. Bucci
Attachment

Robert Bucci, Consultant
3344 Wildwood Dr.
Niagara Falls, New York 14304
Phone 716 297-6772 Cell & 716 628-8208
Email: nia3344@verizon.net

June 2, 2009

Reference No. 005513

Honorable S. Richards, Supervisor
Town of Niagara
7105 Lockport Road
Niagara Falls, New York 14305

SUBJECT: Semi-Annual Monitoring Event
UCAR Republic SWMF #32N03

Dear Mr. Richards,

Please find attached letter that was sent from Mary E. McIntosh, Engineering Geologist II of the N.Y.S.D.E.C. Region 9 Office for the UCAR Republic Landfill #32N03. The entire report is filed in the Town of Niagara Town Clerks Office for your review.

Copies of the these reports have also been forwarded to N.Y.S.D.E.C. Region 9 Office in Buffalo, as well as the Niagara County Health Department.

If anyone in the Town of Niagara has any questions please feel free to call me at (716) 628-8208.

Very truly yours,

Robert Bucci
Consultant

R. Bucci
Attachment

Robert Bucci, Consultant
3344 Wildwood Dr.
Niagara Falls, New York 14304
Phone 716 297-6772 Cell & 716 628-8208
Email: nia3344@verizon.net

June 2, 2009

Mr. Mark Hans, PE
Regional Solid Materials Engineer
NYS Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

SUBJECT: UCAR Republic Landfill #32NO3

Dear Mr. Hans,

Please find enclosed a copy of the sampling results that were sent to Mary E. McIntosh, Engineering Geologist II of the New York State Department of Environmental Conservation Region 9 Office.

If you have any questions please feel free to call me at (716 628-8208.

Very truly yours,

Robert Bucci
Consultant

R. Bucci
enc.

Robert Bucci, Consultant
3344 Wildwood Dr.
Niagara Falls, New York 14304
Phone 716 297-6772 Cell & 716 628-8208
Email: nia3344@verizon.net

June 2, 2009

Mr. Michael J. Hinton, PE
Environmental Engineer II
NYS Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

SUBJECT: UCAR Republic Landfill #32NO3

Dear Mr. Hinton,

Please find enclosed a copy of the sampling results that were sent to Mary E. McIntosh, Engineering Geologist II of the New York State Department of Environmental Conservation Region 9 Office.

If you have any questions please feel free to call me at (716) 628-8208.

Very truly yours,

Robert Bucci
Consultant

R. Bucci
enc.

Robert Bucci, Consultant
3344 Wildwood Dr.
Niagara Falls, New York 14304
Phone 716 297-6772 Cell & 716 628-8208
Email: nia3344@verizon.net

June 2, 2009

Mr. Jim Devald, Dir. of Environmental Health
Niagara County Health Department
Environmental Division
5467 Upper Mountain Road
Lockport, New York 14094-1899

SUBJECT: UCAR Republic Landfill #32NO3

Dear Mr. Devald,

Please find enclosed a copy of the sampling results that were sent to Mary E. McIntosh, Engineering Geologist II of the New York State Department of Environmental Conservation Region 9 Office.

If you have any questions please feel free to call me at (716 (628-8208).

Very truly yours,

Robert Bucci
Consultant

R. Bucci
enc.

Robert Bucci, Consultant
3344 Wildwood Dr.
Niagara Falls, New York 14304
Phone 716 297-6772 Cell & 716 628-8208
Email: nia3344@verizon.net

June 2, 2009

Mrs. Sylvia Virtuoso, Town Clerk
Town of Niagara
7105 Lockport Road
Niagara Falls, New York 14305

SUBJECT: Semi-Annual Monitoring Event
UCAR Republic SWMF #32N03

Dear Mrs. Virtuoso,

Please find enclosed a copy of the sampling results that were sent to Mary E. McIntosh, Engineering Geologist II of the N.Y.S.D.E.C. Region 9 Office for the UCAR Republic Landfill #32N03.

If anyone in the Town of Niagara has any questions please feel free to call me at (716) 628-8208.

Very truly yours,

Robert Bucci
Consultant

R. Bucci
Enc.

Robert Bucci, Consultant
3344 Wildwood Dr.
Niagara Falls, New York 14304
Phone 716 297-6772 Cell & 716 628-8208
Email: nia3344@verizon.net

June 2, 2008

Reference No. 005513

Ed Edamczyk Supt. Of Water
Town of Niagara
7105 Lockport Road
Niagara Falls, New York 14305

SUBJECT: Semi-Annual Monitoring Event
UCAR Republic SWMF #32N03

Dear Mr. Edamczyk,

Please find attached letter that was sent from Mary E. McIntosh, Engineering Geologist II of the N.Y.S.D.E.C. Region 9 Office for the UCAR Republic Landfill #32N03. The entire report is filed in the Town of Niagara Town Clerks Office for your review.

Copies of the these reports have also been forwarded to N.Y.S.D.E.C. Region 9 Office in Buffalo, as well as the Niagara County Health Department.

If anyone in the Town of Niagara has any questions please feel free to call me at (716) 628-8208.

Very truly yours,

Robert Bucci
Consultant

R. Bucci
Attachment

CONESTOGA-ROVERS & ASSOCIATES

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

MEMORANDUM

TO: Jim Kay

REF. NO.: 005513

FROM: Deb Andrasko/bjw/1

DATE: May 15, 2009

E-Mail and Hard Copy If Requested

RE: Analytical Results and QA/QC Review
Annual Groundwater Monitoring Program
UCAR Carbon Company, Inc.
Niagara Falls, New York
March 2009

INTRODUCTION

Eight groundwater samples, including one field duplicate sample were collected during March 2009 in support of the annual monitoring program at the UCAR Carbon Site in Niagara Falls, New York (Site). The samples were submitted to Columbia Analytical Services (CAS), located in Rochester, New York, and analyzed for the following:

Parameter	*Methodology*
Volatile Organic Compounds (VOCs)	SW-846 8260B[1]
Total & Dissolved Iron, Potassium, and Zinc	SW-846 6010B[1]
Ammonia	USEPA 350.1[2]
Nitrite	USEPA 353.2[2]
Total Kjeldahl Nitrogen (TKN)	USEPA 351.2[2]

A sampling and analysis summary is presented in Table 1. The analytical results are summarized in Table 2. The quality assurance/quality control (QA/QC) criteria by which the data have been assessed are outlined in the respective methods and the following documents:

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

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

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1 "Test Methods for Solid Waste Physical/Chemical Methods", SW-846, 3rd Edition, September 1986 (with all subsequent revisions).

2 "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency (USEPA) 600/4-79-220, March 1983 (with all subsequent revisions).

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MEMORANDUM

Sent via email

TO:	Jim Kay	REF. NO.:	005513
FROM:	Dave Tyran/adh/7 DJT	DATE:	March 27, 2009
RE:	**Annual Groundwater Sampling**		

INTRODUCTION

In accordance with Conestoga-Rovers & Associates (CRA) Field Sampling Plan (FSP) Post-Closure Monitoring Program for UCAR Carbon's Solid Waste Management Unit (SWMU) No. 32NO3, the Annual groundwater sampling event was performed on March 26, 2009. Activities associated with this sampling event are described in this memo.

HYDRAULIC MONITORING

Prior to sampling, a complete round of water level measurements and well soundings were taken. Table 1 presents the water level information in addition to comparing the sounded depths to the installed depths.

GROUNDWATER MONITORING

A total of seven monitoring wells were visited during this sampling round. Monitoring well MW-3 had minimal water and was purged dry; the remaining six wells had sufficient recharge to purge three to five well volumes. Monitoring well MW-3 recovered enough for a full sample to be collected.

Purging of wells was accomplished by the use of either a battery operated submersible pump or Teflon bailer. Samples were obtained with a dedicated bottom loading Teflon bailer. Table 2 provides the pertinent groundwater data.

WELL INSPECTIONS

Well inspections were performed at each of the monitoring wells. No problems were noted during this round.

FUTURE MONITORING

The next scheduled groundwater sampling round will be performed in September 2010.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on the sample results, supporting QA/QC and raw data provided.

Holding Time Period And Sample Analysis

The holding time periods are presented in the analytical methods. All samples were properly preserved and cooled to 4°C (±2°C) after collection. All samples were prepared and analyzed within the method-required holding times.

Gas Chromatography/Mass Spectrometer (GC/MS) Mass Calibration

Prior to analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the volatile organic compound (VOC) method requires the analysis of the specific tuning compound bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Instrument tuning data were reviewed. The tuning compound was analyzed at the required frequency throughout the VOC analysis periods. All tuning criteria were met for the analyses, indicating proper optimization of the instrumentation.

Initial Calibration - GC/MS Analyses

To quantify compounds of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a minimum of a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range.

Calibration data were reviewed for all samples. Linearity of the calibration curve and instrument sensitivity were evaluated against the following criteria:

i) all relative response factors (RRFs) for the GC/MS must be greater than or equal to 0.05; and

ii) percent relative standard deviation (%RSD) values for the GC/MS must not exceed 30 percent, or if linear regression is used, the correlation coefficient (R^2) value must be at least 0.990.

Initial calibration standards were analyzed as required and the data showed acceptable sensitivity and linearity.

Initial Calibration - Metals Analyses

To calibrate the inductively coupled plasma (ICP), a calibration blank and at least one standard must be analyzed at each wavelength to establish the analytical curve. After calibration, an initial calibration verification (ICV) standard must be analyzed to verify the analytical accuracy of the calibration curves within a method-specific percent recovery of the accepted or true value. A Contract Required Detection Limit (CRDL) standard is analyzed before and after sample analyses to verify instrument sensitivity.

A review of the data showed that all metals calibration curves, ICVs and CRDL were analyzed at the proper frequencies and were within the acceptance criteria.

Initial Calibration - General Chemistry Analyses

The general chemistry analyses of ammonia, nitrite, and TKN were calibrated in accordance with the methods and all calibration criteria were met.

Continuing Calibration - GC/MS

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

i) all RRF values for the GC/MS must be greater than or equal to 0.05; and

ii) percent difference (%D) values must not exceed 25 percent.

Continuing calibration standards were analyzed at the required frequency and the results met the above criteria for instrument sensitivity and linearity of response.

Continuing Calibration - Inorganics

Continuing calibration criteria for inorganic analyses were the same criteria as used for assessing the initial calibration data. All continuing calibration verification data were within the acceptance criteria.

Surrogate Compound Recoveries

Surrogates were added to all samples, blanks, and QC samples prior to analysis of VOCs. All recoveries met the method criteria, with the exception of a low surrogate recovery for one sample. All associated results were qualified as estimated based on the indicated low bias (see Table 3).

Method Blank Samples

Method blanks were analyzed for all parameters. All results were non-detect, indicating that contamination during analysis was not a concern.

Laboratory Control Sample (LCS) Analysis

The LCS serves as a measure of overall analytical performance. LCSs are prepared with all analytes of interest and analyzed with each sample batch.

LCSs were prepared and analyzed for all parameters at the proper frequency. The LCS recoveries were within the control limits for all analytes of interest, indicating acceptable analytical accuracy.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

The recoveries of MS analyses are used to assess the analytical accuracy achieved on individual sample matrices. MS/MSD analyses were performed on the sample submitted for analysis, as shown in Table 1. The MS/MSD recoveries were within laboratory control limits for all analytes of interest, indicating good analytical accuracy and precision.

Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Analysis

To verify that proper inter-element and background correction factors have been established by the laboratory, ICSs are analyzed. These samples contain high concentrations of aluminum, calcium, magnesium, and iron and are analyzed at the beginning and end of each sample analysis period.

ICS analysis results were evaluated for all samples. All ICS recoveries were within the established control limits of 80 to 120 percent.

Serial Dilution - Metals Analyses

The serial dilution determines whether significant physical or chemical interferences exist due to sample matrix. A minimum of one per 20 investigative samples is analyzed at a five-fold dilution. For samples with sufficient analyte concentrations, the serial dilution results must agree within 10 percent of the original results.

Serial dilution analysis was performed on the sample chosen for MS/MSD analyses and all results were within the method criteria.

Internal Standard (IS) Summaries

To correct for changes in GC/MS response and sensitivity, IS compounds are added to investigative samples and QC samples prior to VOC analyses. All results are calculated as a ratio of the IS response. The criteria by which the IS results are assessed are as follows:

i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard; and

ii) the retention time of the IS must not vary more than ±30 seconds from the associated calibration standard.

All sample IS results met the above criteria and were correctly used to calculate sample results.

Trip Blanks - VOCs

Trip blanks are transported, stored, and analyzed with the investigative samples to identify potential cross-contamination of VOCs. A trip blank was collected as shown on Table 1. All results were non-detect for the analytes of interest, indicating that contamination during transport and storage was not an issue.

Field Duplicates

Samples were collected in duplicate as summarized in Table 1 and submitted "blind" to the laboratory for analysis. All sample results outside of estimated ranges of detection showed acceptable sampling and analytical precision with the exception of the zinc result for the dissolved metals analysis. The associated result was qualified as estimated based on the indicated variability (see Table 4).

CONCLUSION

Based on the preceding assessment, the data were acceptable for use with the qualifications noted.