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March 12, 2010

Mr. Brian Sadowski New York State Department of Environmental Conservation 270 Michigan Avenue Buffalo, NY 14203

Subject: 2009 Periodic Review Report

Scajaguada Creek Site (#915141B), Buffalo, NY

Dear Mr. Sadowski,

As you and I discussed on the phone, I have revised the 2009 Periodic Review Report (PRR) for the Scajaquada Creek site based on your comments. Specific revisions include the following:

- The period covered by the report was changed from 2010 to 2009.
- The response to Item 2 in Box 5 of the Institutional and Engineering Controls Certification Form was changed from "not applicable" to "yes." I had originally indicated that this was not applicable because the site does not have a formal IC/EC Plan. Based on our discussion, it is now my understanding that this refers to provisions of the site O&M Plan that address institutional and engineering controls.
- The response to Item 4 in Box 5 of the Institutional and Engineering Controls Certification
  Form was changed from "not applicable" to "yes." I had originally indicated that this was
  not applicable because the site does not have a formal Monitoring Plan. Based on our
  discussion, it is now my understanding that this refers to provisions of the site O&M Plan
  that address monitoring, including non-aqueous phase liquid level measurements.

As we discussed, rather than resubmitting the entire report, I have attached the two pages which require revision. Please substitute these pages for those in the original. Note that I have changed the date of the PRR.

If you have any other questions or comments, please call at 978-589-3707.

Regards,

Thomas P. Clark, P.E. Senior Engineer

Enclosed:

Attachment 1 Revised pages for the 2009 Periodic Review Report for the Scajaquada Creek Site

CC: G. May – NYSDEC, Buffalo J. Clark, T. Alexander – NFG K. Hogan – Phillips Lytle



**AECOM Environment** 

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March 11, 2010

Mr. Glenn May, C.P.G. New York State Department of Environmental Conservation 270 Michigan Avenue Buffalo, NY 14203

Subject: 2009 Periodic Review Report

Scajaquada Creek Site (#915141B), Buffalo, NY

Dear Mr. May,

National Fuel Gas Distribution Corporation (NFG) completed construction on the remedial action for the Scajaquada Creek site in August 2002. Since then, NFG has performed operations and maintenance (O&M) activities for the remedy of the Scajaquada Creek site (the site) in accordance with the 2005 O&M Plan for the project. Those activities have included preparation of semi-annual reports. In a letter dated July 9, 2009, NFG proposed modification to the O&M Plan, which included decreasing the frequency of O&M reporting from semi-annual to annual and decreasing the frequency of DNAPL measurements from quarterly to annually. The New York State Department of Environmental Conservation (NYSDEC) agreed upon these changes in a letter dated December 2, 2009. Because of the changes in NYSDEC reporting requirements, AECOM has prepared this Periodic Review Report (PRR) on behalf of NFG rather than an O&M Report to meet the reporting requirements of the O&M Plan. This PRR summarizes the last semi-annual O&M report dated April 29, 2009 and activities that have occurred from April 2009 to the present.

#### 1.0 Introduction

The Scajaquada Creek site is the riparian portion of the Iroquois Gas/Westwood Pharmaceutical (IG/WP) site which is currently owned by the Westwood Squibb Pharmaceutical Company (WSP) and is in a mixed industrial and residential area of Buffalo, New York. The site comprises a 1,600-foot long reach of Scajaquada Creek. Manufactured gas plant (MGP) operations were conducted on the site from the 1890's to the 1950s and gas storage continued until 1972. Investigations indicated that soil and groundwater were impacted with chemicals associated with gas manufacturing processes and that contaminants were migrating into the Scajaquada Creek. Remedial activities (i.e., sheet pile wall installation, sediment excavation, capping and installation of DNAPL recovery systems) have been performed since 1999 to address these impacts.

This PRR presents and evaluates the results of O&M activities performed at the site over the past year and since the remedial action was completed in 2002. The O&M activities include inspections of the cap, the creek banks and the site restoration elements and maintenance checks on the northern and southern DNAPL systems. Data collection during performance of these activities is presented in Attachment 1 and evaluation of the effectiveness of the remedy is presented below.

The remedial action has been operated in accordance with the provisions of the O&M Plan and engineering controls remain intact and effective. To date, the constructed sediment cap remains intact and the DNAPL recovery program continues and both recovery systems continue to function properly. DNAPL recovery has reduced significantly from original flows at system startup. Review of system recovery data indicated that DNAPL collection reduced from the original flows at system startup,

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approximately 4.4 gallons per day (gpd) for the South system and 0.17 gpd for the North system, to 0.16 gpd and 0.03 gpd, respectively. Changes in DNAPL layer thickness between measurements are too small to be measured accurately. Site inspections have indicated minor maintenance issues, which have all been addressed and resolved.

#### 2.0 Site Overview

The Scajaquada Creek site lies in an industrial area of Buffalo. The site comprises a 1,600-foot long reach of Scajaquada Creek extending from a location about 400 feet northeast of the former (abandoned) Conrail Railroad Bridge downstream to the West Avenue Bridge. The site comprises an area of about 2.5 acres. Much of the site is bounded by steep banks. Portions of the site are beneath the elevated I-198 Scajaquada Expressway. The Expressway is supported by concrete piers which are set in the creek bed and along the banks.

The creek flows through a zone of active and inactive industrial facilities upstream and downstream of the site. Untreated sewage has been observed flowing into Scajaquada Creek from combined sewers in upstream locations and through the outfall on the east bank of the site. The creek normally flows southwest into the Black rock Canal of the Niagara River, approximately one-half mile downstream. When the level of the Black Rock Canal rises above the creek level, however, the flow direction at the site is reversed.

Tarry and oily residues were observed in soils and present in underground structures during construction of a warehouse in 1985. Investigations indicated that soil and groundwater were impacted with chemicals associated with gas manufacturing processes and that contaminants were migrating into the Scajaquada Creek. Coal-tar like residuals from the manufactured gas production process and separate phase DNAPL were observed during the excavation activities in the creek. Non-MGP wastes were observed during the remedial process including untreated sewage, shoe leather, and other waste material.

In 1996, NFG constructed a sheet pile wall along the southern bank of the creek, adjacent to the Westwood Squibb, Inc. Property. The sheet pile wall was an initial component of the remedial action. NFG conducted the sediment remedial design in 1997/1998 and received approval for the design in June 1998. Remedial excavation and capping was started in July 1998 and completed in May 1999. Installation and startup of the southern DNAPL recovery system was completed in June 1999. Installation and startup of the northern DNAPL recovery system was completed in August 2002. In summary, the components of the selected remedy included:

- Installation of a sheet pile across the 70 foot width of the creek close to West Avenue. Approximately 2,500 square feet of steel sheet piling was installed.
- The excavation of the creek bottom and off-site disposal of 18,976 cubic yards of contaminated sediment and debris. The overall goal of excavation was to remove sediments with concentrations of PAHs greater than 50 mg/kg within the site boundary, taking into account the physical limitations at the site.
- Capping of the creek bottom resulted in a horizontal barrier along the 1,600 foot reach of Scajaquada Creek. The cap consists of geosynthetic clay liner (GCL), angular sand, geotextile and anchoring stone.
- Installation of two DNAPL recovery systems near the West Avenue Bridge and the Railroad Bridge.

No significant changes have been made to the remedy since remedy selection.

# 3.0 Evaluate Remedy Performance, Effectiveness, and Protectiveness

The overall goal of the remedial work at the Scajaquada Creek site was to provide a remedy which:

- Was protective of human health and the environment;
- Did not damage structures or properties; and
- Was financially practicable.

The objectives of the excavation operation were to remove the required sediments without releasing contaminants outside of the work area.

The remedy integrated removal and isolation technologies to achieve this goal.

Preventing human contact with the impacted material was addressed by excavating sediments from the Creek; capping areas where impacted material was left in place; and provide protection for workers. The effectiveness of the remedial action in meeting these objectives is evaluated by performing an annual inspection to verify that engineering controls remain intact and that site use has not changed. The results of this year's inspection, described in the next section, identified routine maintenance issues that need to be addressed, but found that the cap remains in place and are intact and that the remedy is effective and protective.

Preventing leaching of impacted material to the site was addressed by installing a sheet pile wall; capping areas where impacted material was left in place; and installing two DNAPL recovery systems. The effectiveness of the remedial action in meeting these objectives is evaluated by performing an annual inspection on the cap and the recovery systems. As described above, the site inspection found that engineering controls remain intact and effective.

Also, DNAPL volumes collected since the recovery systems have been installed have decreased significantly over time. DNAPL volumes have been collected from June 24, 1999 through January 14, 2010 to date. This data is presented in Attachment 1. DNAPL has reduced from the original flows at system startup, approximately 4.4 gallons per day (gpd) for the South system and 0.17 gpd for the North system, to 0.16 gpd and 0.03 gpd, respectively.

# 4.0 O&M Plan Compliance Report

The components of the O&M program for the Scajaquada Creek site include inspections of the cap and DNAPL recovery systems, maintenance checks on the DNAPL recovery systems, maintenance and repair of engineering controls, field observations and reporting. Details of this program are described in the February 8, 2005 O&M Plan and a letter from NYSDEC dated December 2, 2009 approving changes in the O&M program. An O&M report dated May 27, 2009 was submitted to the NYSDEC for activities that were conducted from June 2008 through April 2009. This report summarizes the activities from June 2008 to the present.

O&M activities completed from June 2008 through December 2009 include:

- An annual site inspection performed on April 8, 2009
- Operation of the DNAPL recovery system
- Performance of general maintenance activities.

#### **Constructed Sediment Cap Observations**

A site inspection was conducted on April 8, 2009 by Thomas Clark, P.E., of AECOM. No significant areas of cap disruption or erosion were noted. In one location, about 150 feet south of the railroad bridge on the west bank of the river, a small patch of geotextile was observed on the ground surface about 10 feet from the water surface. There did not appear to be any significant disruption in that area. On June 8, 2009, soil beneath the geotextile was removed and stone was placed on top to hold it in place. The armored expressway runoff channels were all intact.

### **DNAPL Systems Operations**

The Northern and Southern DNAPL collection systems were checked by National Fuel Gas staff on August 7<sup>th</sup> 2008, September 18<sup>th</sup> 2008, December 4<sup>th</sup> 2008, December 12<sup>th</sup> 2008, December 31<sup>st</sup> 2008, January 22<sup>nd</sup> 2009, March 4<sup>th</sup> 2009, March 25<sup>th</sup> 2009, May 21<sup>st</sup> 2009, June 18<sup>th</sup> 2009, July 10<sup>th</sup> 2009, August 20<sup>th</sup> 2009, September 23<sup>rd</sup> 2009, October 5<sup>th</sup> 2009, November 13<sup>th</sup> 2009, January 14, 2010. During these visits the automatic timer was adjusted to maximize the flow of DNAPL while minimizing the flow of groundwater, and tubing was advanced as needed to optimize the performance of the System's peristaltic pump.

The Southern DNAPL collection system was observed to function properly from June 2008 to January 2010. The flexible tubing that runs through the peristaltic pump was changed December 4, 2008 and December 12, 2008. Pumping run time was changed from 30 minutes to 45 minutes on January 22, 2009; from 45 minutes to 30 minutes on Jun 18, 2009; from 30 minutes to 20 minutes on July 10, 2009; from 20 minutes to 40 minutes on August 20, 2009; from 40 minutes to 1 hour on September 23, 2009; and from 1 hour to 40 minutes on January 14, 2010.

The Northern DNAPL collection system was observed to function properly from June 2008 to December 4<sup>th</sup>, 2008. Electrical service to the Northern DNAPL collection system was interrupted between December 4<sup>th</sup> and December 31<sup>st</sup>. This was likely due to the outside electric meter being broken. Electrical service was restored to the Northern system on December 31<sup>st</sup>. The system was restarted and was observed to function properly between December 31<sup>st</sup>, 2008 and January 13, 2010. The pumping run time was changed from 45 minutes to 30 minutes on September 23, 2009. The air vent hose was repaired on January 14, 2010.

A large dead tree was removed along the west bank of the creek by Tree Care of Western New York on March 4<sup>th</sup>, 2009. The tree was removed to avoid damage to the cap.

On June 8, 2009, three loads of angular stone were used to cover exposed fabric on the bank and inside the creek.

On September 23, 2009, debris was removed along the creek bank near the Southern DNAPL collection system.

The volumes of DNAPL recovered from June 2008 to March 2009 (49 gallons in the Southern System and 9 gallons in the Northern System) and April 2009 to January 2010 (108 gallons in the Southern System and zero gallons in the Northern System) were calculated by taking measurements in the tanks with an oil/water interface probe. The volumes of DNAPL recovered to date were determined to be approximately 1485 gallons by the Southern System and 392 gallons by the Northern System. System monitoring logs are included in Attachment 1.

#### Conclusions

The constructed sediment cap is intact. The DNAPL recovery program continues and both systems are functioning properly.

## 5.0 Overall PRR Conclusions and Recommendations

As discussed above, the O&M program is being implemented in accordance with the provisions of the O&M Plan. The results of the site inspection indicate that engineering and institutional controls remain intact and continue to be effective in meeting remedial objectives.

As the DNAPL measurements described above indicate, no significant quantity of DNAPL is currently being recovered by the Northern DNAPL recovery system. Since the system continues to operate effectively, this change is caused by the reduction in recoverable DNAPL in the subsurface. For that reason, NFG proposes to reduce the frequency of DNAPL pumping in the Northern system from weekly to monthly. Once a month the system will be run for at least half an hour and until no significant additional quantity of DNAPL is recovered.

As previously discussed, future PRR submittals will occur on an annual basis.

Please call Thomas Clark with questions at 978-589-3707.

Regards,

Thomas P. Clark, P.E. Senior Engineer

#### Attachments:

Attachment 1 - System Monitoring Logs

Attachment 2 - Enclosure 1 from NYSDEC PRR General Guidance

CC: B. Sadowski – NYSDEC, Buffalo J. Clark, T. Alexander – NFG

K. Hogan - PLHB&B

	Scajaquada	Creek DNA	APL System	Monitoring	Loc
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#### NORTHERN SYSTEM

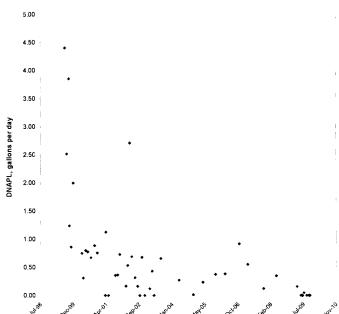
		Field Mea	asurements	(by OWI p	orobe)	Calculation	ons (total ta	nk contents	s) *	Calculatio	ns (this pe	riod recove	ry)				
Date	Initials	Manhole rim to top of LNAPL (ft)	Manhole rim to top of Water (ft) (estimated)	Manhole rim to top of DNAPL (ft)	Manhole rim to bottom of Tank (ft)	LNAPL (gal)	Water (gal)	DNAPL (gal)	Total (gal)	Water Increase (gal)	NAPL Increase (gal)	% NAPL	NAPL (gpd)	Total Flow (gpd)	Operator's Notes	Transporter	Disposal Facility
28-Nov-01	mrh/cd	8 89	8.89	8 89	8.89	0	0	0	0	0	0	0%	0.00	0.0	Develop well with hand operated diaphragm pump. Measurements are approximate.	-	_
7-Feb-02	hs/jc	8.62	8 62	8 85	8.89	0	71	12	83	71	12	15%	0.17	1.2	Pump well by hand.		
8-Mar-02	hs/jc	8 61	8 61	8 85	8.89	0	74	12	86	3	0	0%	0.00	0.1	Pump well by hand.	_	
10-Apr-02		8 59	8 59	8 84	8.89	0	77	15	93	3	3	50%	0.09	0.2	Pump well by hand.	-	
7-May-02	hs/jc	8.51	8 51	8 83	8.89	0	99	19	117	22	3	12%	0.11	0.9	Hand pump not working well.		
25-Jun-02	CO CO	8.51 8.51	8 51 8 51	8 83 8 83	8.89	0	99	19	117 117	0	0	0% 0%	0.00	0.0	Hand pump not working. Discarded.		
2-Aug-02 8-Oct-02		7 43	7 44	8 55	8.89 8.89	3	343	19 105	451	244	90	27%	1.34	5.0	Begin peristaltic startup. Setting #6 5, 2hr 15 min per day  Additional system checks/adjustments made by J Clark on 8/15, 8/21, 8/27, 9/09, and 9/12		
4-Feb-03		7.36	7 37	8 52	8.89	3	355	114	472	12	9	43%	0.08	0.2	Numbers approximate. Surface of contents frozen. Turn on heat.		
10-Apr-03	mrh/jc	7 28	7.29	8 50	8.89	3	374	120	497	19	6	25%	0.10	0.4	Pumping mostly water, changed timer to 30 min/week.		
23-Jul-03	mrh	7.05	7.06	8 49	8 89	3	442	124	568	68	3	4%	0.03	0.7	Additional system checks/adjustments made by J Clark on 5/5, 5/20, 6/12, and 6/24.		
23-Apr-04	:mrh	6 90	6 91	8 42	8 89	3	466	145	614	25	22	47%	0.08	0.2	Additional system checks/adjustments made by NFG on 8/01, 8/06, 9/05, 9/08, 9/11, 9/17, 9/25, 10/30, 11/18.	_	
24-Nov-04	jl jc	6 66	6 67	8 41	8.89	3	537	148	689	71	3	4%	0.01	03	O/W interface probe not working accurately, depth of DNAPL is estimated	_	
19-Apr-05	mh jc jl sh	6.45	6 46	8 39	8.89	3	596	154	753	59	6	10%	0.04	0.4	Additional system checks/adjustments made by J Clark on 11/24, 1/20/2005, 3/7, 3/11, 4/12, 4/18.		
26-Oct-05	mrh. jc	6 33	6 34	8 30	8.89	3	605	182	790	9	28	75%	0.15	0.2	New OWI probe, but readings inconsistent with previous readings. System checks by NFG 5/11, 6/24, 7/28, 8/25, 10/06.		
22-Mar 06	mrh. jc	6 20	6 21	8 23	8 89	3	624	204	831	19	22	54%	0.15	0.3	Additional system checks by NFG 10/26/05, 12/14/05, 1/6/06, 2/24/06.		-
24-Oct-06	mrh, jc	5 20	5 21	7 89	8.89	3	828	309	1139	204	105	34%	0 49	1.4	Depth to NAPL reading is approximate. Additional system checks by NFG 5/11, 6/29, 7/26, 9/07		-
25-Apr-07		4 90	4 91	7 80	8 89	3	892	337	1232	65	28	30%	0 15	0.5	Depth to NAPL reading is approximate. Additional system checks by NFG 10/31/2006, 11/16/2006, 3/02/2007.		
30-Oct-07	dms jc	4 68	4 69	7 70	8.89	3	929	367	1300	37	31	45%	0.16	0.4	Depth to NAPL reading is approximate. Tubing changed out.		
13-May-08		3.46 8.75	3 47 8 76	7 65 8 87	8.89	3	1291	383	1677	361 34	15 9	4% 20%	0.08	0.1	Depth of DNAPL is estimated. Additional system checks by NFG on 1/08/08, 3/20/08 and 5/08/08. Tank pumped out.		
25-Mar-09 8-Jun-09	-	0/0	075	- 001	8.89	3	- 34	6	43	_	_	20%	0.03	0.1	O/W interface probe is working accurately  Covered exposed fabric on the bank and on the creek bed with angular stone.		
10-Jul-09		8.46	8 47	8 88	8.89	3	127	3	133	93	-3		-0 03	0.8	O/W interface probe is working accurately. J Clark repositioned pump tubing. Visual inspection of liner indicated geotextile remains covered		
23-Sep-09	JС			-	8.89	-	-	-	_	-	-	-	-	-	J Clark changed pump run time from 45 minutes to 30 minutes.		-
6-Oct-09	tr. jc	8 08	8 09	3 88	8.89	3	244	3	250	117	0	0%	0.00	1.3	A skim of LNAPL and DNAPL were present, the thickness (not measureable) is estimated to be 0.01 ft.		
14-Jan-10	jc	-	-		8.89		-	_		-	_	-	-		J Clark repared air vent hose.		
Various	јс		-		8.89		-	<u> </u>	-	-	-	-	-		Additional system checks by J Clark on 5/21, 6/18, 8/20, 11/13. No adjustments made.	-	
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Input values	S							Cumulative	e gallons ·	1535 Water	392 NAPI	J					ons per foot of tank heigh

#### SOUTHERN SYSTEM

National Fuel Gas The RETEC Group NFGD 1-02111-750

		Field Mea	surements	(by OWI p	robe)	Calculatio	ns (total ta	nk contents	) * ]	Calculation	ns (this pe	riod recove	ry)			-	
Date	Initials	Manhole rim to top of LNAPL (ft)	Manhole rim to top of Water (ft) (estimated)	Manhole rim to top of DNAPL (ff)	Manhole rim to bottom of Tank (ft)	LNAPL (gal)	Water (gal)	DNAPL (gal)	Total (gal)	Water increase (gal)	NAPL Increase (gal)	% NAPL	NAPL (gpd)	Total Flow (gpd)	Operator's Notes	Transporter	Disposal Facility
24-Jun-99	mrh	9 05	9 05	9 05	9.05	0	0	0	0	0	0	0%		0	90% construction complete, begin initial testing		
29-Jun-99 23-Jul-99	mrh/day	6 80 6 80	6 80 6 80	9.05	9.05 9.05	0	695 695	0	695 695	695	0	0%		139	Complete initial system test, PW2003 has silt damage		
30-Jul-99	mrh/day day	6.34	6 34	8.95	9.05	0	806	31	837	111	31	22%	4 41	20	Recommence shakedown with penstaltic pump Shakedown, flow adjustment		
26-Aug-99	jhe	5.90	5 90	8 73	9.05	0	874	99	973	68	68	50%	2.52	5	Routine system check, slow drip from tank bung noted (0.5 gpd?)		
16-Sep-99	mrh-bdc	5 79	5.80	8 75	9.05	3	911	93	1007	37	-3			2	Significant (2 gpd?) DNAPL loss through bung drip, PW2003 reinstalled		
28-Sep-99	mrh/cc	3 30	3 32	8 6 1	9.05	6	1633	136	1775	723	46	6%	3 86	64	Tank emptied (was full, pump off), bung replaced,	IWR / BFC	Research Oil
28-Sep-99 3-Oct-99	mrh/ec mrh	9 05 8.75	9 05 8 75	9.03	9.05 9.05	0	0 86	0	93	0 86	6	0% 7%	1.24	19	vault cleaned, flow setting reduced to 4.5		
11-Oct-99	cc	8.75	8 75	9.03	9.05	0	86	6	93	0	0	0%	1.24	0	Measurements are visual estimates only, flow setting reduced to 3.5  No flow observed, flow setting increased to 5.0		
29-Oct-99	сс	6.81	6.81	8 98	9.05	0	670	22	692	584	15	3%	0.86	33	Flow setting decreased to 4.0		***
2-Dec-99	mrh/day	6 09	6.10	8 77	9.05	3	824	86	914	154	68	31%	2.00	7	Flow setting increased to 4.7 (24 gpd), timer installed/set for 1pm to 2pm operation		
16-Dec-99	CE		0.10	2.00											Pump running but no flow, Timer reset for 3 hr per day operation		
9-Mar-00 11-Apr-00		6 09	6 10 4 73	8 89	9.05 9.05	3 6	861 1263	49 71	914 1340	37 401	-37 25	6%	0.75	13	PW2000 running but no flow, Peristaltic installed (2 hr/day), DNAPL thickened over time  New peristaltic purchased/installed. Flow setting #7 (for 2 hr/day).	***	
1-May-00	mrhidims	4 62	4 64	8.80	9.05	6	1284	77	1368	22	6	22%	0.31	1	No flow (tubing collapsed) Repaired.		
4-May-00	day/jc	4 62	4 64	8 80	9.05	6	1284	77	1368	0	0	0%		0	No flow (tubing leak). Tank emptied. System turned off.	IWR / BFC	Puretech Systems
8-May-00	mrn/jtf	9 05	9 05	9 05	9.05	0	0	0	0	0	0	0%		0	Original tubing replaced with silicon. System restarted at flow setting #3 (for 2 hr/day).		
8-Jun-00	-	8 55	8 56	8 98	9.05	3	130	22	154	130	25	16%	0 80	5	Backfill settled around vault. Total depth shallow; measurements estimated Tubing adjusted.		
10-Jul-00 25-Aug-00	nirh/dnis	3 10	8 11 7 31	8 90 8 80	9.05 9.05	3	244 460	46 77	293 540	114 216	25 31	18% 12%	0.77 0.67	5	Tubing was worn; adjusted.	***	
20-Aag-10 20-Oct-00	day	6 25	6 26	8 64	9.05	3	735	127	865	275	49	15%	0.87	6	Tubing adjusted. Tubing worn; adjusted.		
30-Nov-00	mrh	5 75	5 77	8 55	9 05	6	858	154	1019	124	31	20%	0 75	4	Tubing worn; adjusted. Flow rate setting reduced from 3 0 to 1.5; timer not changed.		
18-Jan-01	mrh	5 75	5 77	8 55	9 05	6	858	154	1019	0	0			0	Pump starts rough and sounds bad. Pump removed and sent in for repairs.		
7-Fep-01	mrh/hs	5.75	5.77	3 55	9.05	6	858	154	1019	0	0	0%		0	Temporary FloJet pump installed but insufficient NPSH due to low creek elevation.		
30-Mar-01 10-Apr-01	mrh	5.75 5.70	5 77 5 72	8 55 8.51	9.05 9.05	6	858 861	154	1019 1034	0	0	0%	4.40	0	Peristaltic (geopump) installed, full speed, 600 rpm, system OK. NAPL is hi viscocity/settled.		
18-May-01	mrh dms/ic	5.65	5 68	8 52	9.05	9	877	167 164	1050	3 15	12 0	80%	1.12 0.00	0.4	3/16" id tubing replaced with 3/8" id tubing. Float switch replaced (plus relay).  Tubing worn and soft; adjusted.		
30-Aug-01	mrh/hs	5 53	5 55	8 39	9.05	6	877	204	1087	0	37	100%	0.36	0.4	NAPL appears to be accumulated in well. Timer set to 3 hrs/day. Original peristaltic re-installed.		
3-Oct-01	hs/jc	5 46	5.48	8 36	9.05	6	886	216	1108	9	12	57%	0.36	06	NAPL may still be accumulated in well. Timer increased to 4 hrs/day.	**-	
6-Nov-01	ns/jc	5 30	5.32	8 27	9.05	6	911	241	1158	25	25	50%	0 73	1.5	Additional NAPL purged from well after readings taken. Timer decreased to 3 hrs/day.		
7-Feb-02 8-Mar-02	hs/jc hs/jc	3 69	3 91 3 83	8.22 8.17	9.05 9.05	6	1331 1340	256 272	1593 1618	420 9	15 15	4% 62%	0.17 0.53	4.7 0.9	Adjusted peristaltic tubing.		
10-Apr-02	mrn	3.43	3 45	7.88	9.05	6	1368	361	1735	28	90	76%	2.71	3.6	Adjusted peristaltic tubing.  Adjusted tubing. Installed piston pump for one day test (then removed). Timer increased to 4 hrs.		
7-May-02	hs/jc	3 15	3 17	7 82	9.05	6	1436	380	1822	68	19	21%	0.69	3.2	Tank full.	Frank's Vacuum	Chemtron
7-May-02		9 05	9.05	9 05	9 05	0	0	0	0						Tank pumped out.		
25-Jun-02 2-Aug-02	ed mrhije	6 00 3 15	6.02 3.17	9 02 9 00	9.05 9.05	6	926 1800	9 15	942 1822	926 874	15 6	2% 1%	0.32	19 2 23.2	Depth's estimated. Pump set at #4, 3 hrs/day  Tank full, mostly water.		
6-Sep-02	IC IC	3.15	3 17	9 00	9.05	6	1800	15	1822	0	0	0%	0.10	0.0	Tank Emptied.	Frank's Vacuum	Clean Harbors, MD
6-Sep-02		9.05	9 05	9.05	9.05	0	0	0	0						, and the second		ĺ
8-Oct-02	mrh/jc	8.98	8 98	8 98	9.05	0	0	22	22	0	22	100%	0.68	0.7	Pump removed for repair		
18-Nov-02		8 98	8.98	8 98	9.05	0	0	22	22	0	0	0%	2.10	0.0	Pump reinstalled		
4-Feb-03 4-Feb-03	mrh/jc	4 32 9.05	4.32 9.05	8 95 9 05	9.05 9.05	0	1430	31 0	1460 0	1430	9	1%	0.12	18.4	Tank again full of mostly water (timer was left on manual?). Tank emptied.	Frank's Vacuum	Clean Harbors, MD
12-Mar-03	lc	9 00	9 00	9 00	9.05	0	0	15	15	0	15	100%	0.43	0 4	Pump running fast, so removed for evaluation/repair.		
10-Apr-03		9.00	9 00	9 00	9.05	0	0	15	15	0	0	0%		0.0	Pump reinstalled: runs fast/variable with no load, runs OK with flow load. Timer set to 30 min/day, speed 8.		
23-Jul-03		8 78	8 78	8.78	9.05	0	0	83	83	0	68	100%	0.65	0.7	Additional system checks/adjustments made by J Clark on 5/5, 5/20, 6/12, and 6/24.		
23-Apr-04 24-Nov-04	-	8 05 7 31	8.06 7.32	8 55 8 54	9.05 9.05	3	151 377	154 157	309 537	151 225	74	33% 1%	0.27	0.8	Additional system checks/adjustments made by NFG on 8/01, 8/06, 9/05, 9/08, 9/11, 9/17, 9/25, 10/30, 11/18.  O/W Interface probe not acting precisely, actual DNAPL volume probably greater.		
19-Apr-05	+ ' '	7 19	7 20	8 43	9.05	3	380	191	574	3	34	92%	0.01	0.3	Additional system checks/adjustments made by J Clark on 11/24, 1/20/2005, 3/7, 3/11, 4/12, 4/18.		
27-Oct-05		6.96	6 97	3.20	9.05	3	380	262	645	0	71	100%	0.37	0.4	New OWI probe, but readings inconsistent with previous readings. System checks by NFG 5/11, 6/24, 7/28, 8/25, 10/06.		
22-Mar-06		6.78	6 79	8 02	9.05	3	380	318	701	0	56	100%	0.38	0.4	Additional system checks by NFG 10/26/05, 12/14/05. 1/6/06, 2/24/06.		
24-Oct-06		4.90	4.91	7 38	9.05	3	763	516	1281	383	198	34%	0.91	2.7	Depth to NAPL reading is approximate. Additional system checks by NFG 5/11, 6/29, 7/26, 9/07.		
2-Mar-07 23-Jun-07	<del>-</del> -	3 36 9 05	3 37 9.05	7 15 9 05	9.05 9.05	3 0	1167	587 0	1757 0	404	71	15%	0.55	3.7	Pump turned off 3/02/07 because tank near full. Readings taken 4/25/07. Depth to DNAPL reading is approximate.  Tank pumped out.		
30-Oct-07		8 55	8.56	9 0 1	9.05	3	139	12	154	139	15	10%	0.12	1.2	Depth to DNAPL reading is approximate.		
13-May-08		5.79	5 81	8 80	9.05	6	923	77	1007	784	68	8%	0.35	4.3	Depth to DNAPL reading is approximate. System checks/timer adjustments by NFG on 01/08/08, 3/20/08, and 05/08/08. Tank pumped out		
25-Mar-09	,	7.90	7 91	8.90	9.05	3	306	46	355	306	49	13%	0.16	1.1	O/W interface probe is working accurately		
21-May-09					9.05	<u> </u>									System check/adjustment by J Clark Relocated tubing on pump to capture liquid.		
8-Jun-09 18-Jun-09	<u> </u>				9.05										Covered exposed fabric on the bank and on the creek bed with angular stone.  System check/adjustment by J Clark. Sampled water with slight NAPL film (not measureable). Reset system to run 30 minutes.		
10-Jul-09		7 73	7 74	8 71	9.05	3	300	105	408	300	108	27%	0.05	0.2	O/W interface probe is working accurately  J Clark reset pump timer to run for 20 minutes daily.		
20-Aug-09					9.05							-			System check/adjustment by J Clark. Increased pumping time to 40 minutes.		
23-Sep-09					9.05					-					System check/adjustment by J Clark. Increased pumping time to 60 minutes and cleaned up debris along creek bank.		
6-Oct-09		7 23	7 24	9 04	9.05	3	556	3	562	556	-9			0.2	A skim of LNAPL and DNAPL were present, the thickness (not measureable) is estimated to be 0.01 ft.		
13-Nov-09 14-Jan-10					9.05										System check/adjustment by J Clark. Adjusted pump tubing to produce flow.  System check/adjustment by J Clark. Decreased pumping time to 40 minutes		
Input value					T		<u> </u>	Cumulative	gallons	10835	1485					-	ons per foot of tank height
										Water	NAPL				fe	rojects/NEGD102111/dnan	system\systemmonitoringlog.exl







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



Sit	e No.	915141	В	Site Det	ails		Box 1		
Sit	e Name	Iroquo	is Gas/Westwoo	od Pharm. Riparia	n				
Cit Co Alle Sit	y/Town: unty: Eri owable l	Buffalo ie Jse(s) (if ge: <del>1.0</del>	applicable, does	pstream of West A	-	Zip Code: 14213			
Re	porting F	Period: -	<del>June 01, 2007 to</del>	February 15, 2010	• January 1,	2009 to Dec	ember	31	, 2009
				Verification of	Site Details			Вс	ox 2
							YE	S	NO
1.	Is the i	nformatio	on in Box 1 corre	ct?					×
	If NO,	are chan	ges handwritten	above or included	on a separate she	eet?	Ø		nanges are oped above
2.				erty been sold, sub Reporting Period?		or undergone a			<b>2</b>
			mentation or evid ded with this cert	ence that documer ification?	ntation has been	previously			
3.				ocal permits (e.g., Reporting Period?	building, discharg	ge) been issued			⊠
			mentation (or evided with this cer	dence that docume tification?	ntation has been	previously			
4.	If use o		e is restricted, is	the current use of t	he site consistent	t with those	No	t a	applicable
	If NO,	is an exp	lanation included	with this certificati	ion?				
5.	has an	y new inf	formation revealed	field Cleanup Prog ed that assumptions ntamination are no	s made in the Qu			t a	applicable
			ew information or ded with this Cer	evidence that new tification?	information has	been previously			
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							
			ive years)?						
	If NO,	are chan	ges in the asses	sment included with	n this certification	?			

SITE NO. 915141B Box 3

**Description of Institutional Controls** 

Parcel

Institutional Control

S\_B\_L Image:

O&M Plan

#### **Description of Engineering Controls**

Box 4

<u>Parcel</u>

**Engineering Control** 

S\_B\_L Image:

Cover System
Pump & Treat
Subsurface Barriers

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

#### Control Description for Site No. 915141B

#### Parcel:

In March 1994, a Record of Decision (ROD) was issued for this site. The remedial action at this site was completed between 1998 and 2001. Engineering controls for a section of Scajaquada Creek include: (1) an 18-inch thick stream bed cap consisting of a geo-synthetic clay liner overlain by sand, geotextile and stone; and (2) two NAPL extraction wells to recover NAPL from the substrata of the creek. Post-closure maintenance of the cap and pumping systems are required to ensure long term effectiveness of the remedy. There is no SBL identification for this parcel.

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	Periodic Review Report (PRR) Certification Statements		
1.	I certify by checking "YES" below that:		
	<ul> <li>a) the Periodic Review report and all attachments were prepared under the direction reviewed by, the party making the certification;</li> </ul>	n of, and	
	<ul> <li>to the best of my knowledge and belief, the work and conclusions described in the are in accordance with the requirements of the site remedial program, and generally</li> </ul>		
	are in accordance with the requirements of the site remedial program, and generally	YES	NO
		<b>3</b>	
2.	If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for early or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that a following statements are true:		utional
	the Institutional Control and/or Engineering Control(s) employed at this site is unchanged at this site is unchanged at this site is unchanged at the Department;	d since th	e date that the
	nothing has occurred that would impair the ability of such Control, to protect public health environment;	n and	
(c) eva	access to the site will continue to be provided to the Department, to evaluate the remedy luate the continued maintenance of this Control;	, includin	g access to
	nothing has occurred that would constitute a violation or failure to comply with the Site M ntrol; and	anageme	ent Plan for this
(e) and	if a financial assurance mechanism is required by the oversight document for the site, the sufficient for its intended purpose established in the document.	e mechar	nism remains valid
		YES	NO
		$\boxtimes$	
3.	If this site has an Operation and Maintenance (O&M) Plan (or equivalent as required in the	ne Decisio	on Document);
	I certify by checking "YES" below that the O&M Plan Requirements (or equivalent as requirement) are being met.	uired in th	ne
		<b>2</b> 4	
4.	If this site has a Monitoring Plan (or equivalent as required in the remedy selection documents)	nent);	
	I certify by checking "YES" below that the requirements of the Monitoring Plan (or equivalent the Passisian Passisia	ent as re	quired
	in the Decision Document) is being met.	YES	NO
		X	

#### IC CERTIFICATIONS SITE NO. 915141B

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.

James D. Ramsdell at 6363 Main Street, Williamsville, NY print name print business address
Sr. Vice President am certifying as National Fuel Gas Distribution Corp. (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
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.
Thomas P. Clark P.E. at AECOM, 2 Technology Park Dr., Westford, MA 01886 print name print business address
am certifying as a Qualified Environmental Professional for the National Fuel Gas Distribution Corp
(Owner or Remedial Party) for the Site named in the Site Details Section of this form.

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (if Required)

2/9/10 Date