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Seneca Companies
The Complete Solution

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January 27, 2011

Tami Rice
Iowa Department of Natural Resources
Wallace State Office Building
Des Moines, IA 50319

RE: SUBMITTAL OF 2010 SITE MONITORING REPORT FOR THE FORMER THERMOGAS FACILITY IN BUFFALO CENTER AND WILTON IOWA.

Dear Ms. Rice,

Enclosed you will find a copy of the annual Site Monitoring Reports for the above referenced sites. The following is a brief summary of the interpretations provided in the attached report:

- **Buffalo Center:** Groundwater data was split sampled with the IDNR during July 2010. Concentrations of Metolachlor in MW3, Ammonia Nitrogen in MW4, and Nitrate-Nitrite in MW5 exceed EPA established standards. Due to the limited nature and stability of the Ammonia Nitrogen and Nitrate-Nitrite contaminant plumes and the lack of historical Metolachlor contamination at the site prior to 2009 indicating current Metolachlor concentrations are unrelated to the historical release, Seneca recommends the site be reclassified to No Further Action at this time.

- **Wilton:** Concentrations of three (3) chemicals of concern, Alachlor, Cyanazine, and Nitrate-Nitrite exceed EPA established MCL and/or HAL standards. Ammonia Nitrogen concentrations were less than EPA standards in 2010. The Alachlor and Nitrate-Nitrite contaminant plumes are defined and mainly restricted to the subject property. The maximum Cyanazine concentration is located offsite at MW6a and has no known source. Diesel free product first discovered in 2008 when MW6a was installed is found in three (3) monitoring wells offsite but the IDNR has stated that the petroleum contamination likely originated offsite and no additional petroleum investigation is required. Reclassification is not recommended at this time and Seneca is exploring whether an excavation around MW1 to include the removal of the concrete containment structure and any drains is feasible.

If you have any questions, please do not hesitate to contact me at 515-261-7750.

Sincerely,
Seneca Environmental Services

Jennifer Carpenter, CGP#2057
Project Manager/Geologist

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2010 SITE MONITORING REPORT

Former Thermogas Facility
311 2nd Ave. SW
Buffalo Center, Iowa

Prepared for:

CHS Inc.
5500 Cenex Drive
Inver Grove Heights, MN 55077

January 20, 2011
Seneca Job #6270403

Prepared by:

Seneca Environmental Services
4140 NE 14th Street
Des Moines, Iowa 50313

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2010 Site Monitoring Report
Former Thermogas Facility
311 2nd Avenue SW
Buffalo Center, Iowa

1.0 INTRODUCTION

CHS Inc. retained Seneca Environmental Services to complete a Site Monitoring Report at the above referenced site under the supervision of the Iowa Department of Natural Resources. The following report is intended to provide CHS Inc. and the Iowa Department of Natural Resources with an accurate evaluation of the present risk posed to human health and the environment by groundwater and/or soil contamination discovered during the Phase I/II Site Investigation completed in 1996 by Terracon Environmental, Inc. The monitoring program has been designed to provide an ongoing evaluation of potential changes to human health risk factors.

2.0 SITE HISTORY

2.1 Phase I/II Site Investigation

The site began operation as a propane distributor in the 1950s and began retailing row crop production products in 1975. Storage and handling of liquid fertilizer and pesticide products ceased in 1985. The Phase I/II Site Investigation documents that in 1996 Thermogas Energy operated the site as a retail sale outlet for propane, packaged lawn care products, and lignin. A scaled site map showing the location and current layout of buildings and structures is included in Appendix 1.

During the Phase I/II Site Investigation, soil samples were collected from three (3) borings at depths of two (2) feet and six (6) feet below grade surface (bgs) and analyzed for selected pesticides, Ammonia Nitrogen, and Nitrate-Nitrite. Pesticide concentrations in soils from B-1 and B-3 ranged from below detectable limits (BDL) to 1.7 ppm (mg/kg) for Alachlor. Ammonia Nitrogen concentrations from B-1 and B-2 ranged from 292 ppm to 4,138 ppm and Nitrate-Nitrite levels ranged from <1 ppm to 222 ppm. Action levels for selected pesticides, Ammonia Nitrogen, and Nitrate-Nitrite in soil were not available during the Phase I/II Site Investigation.

A groundwater sample was collected from soil boring, B-3, adjacent to the packaged goods load-in/load-out area during the Phase I/II Site Investigation and analyzed for selected pesticides, Ammonia Nitrogen,

and Nitrate-Nitrite. Concentrations greater than EPA established Maximum Contaminant Level (MCL) and/or Health Advisory Limit (HAL) standards were not identified during the Phase I/II.

2.2 Post Phase I/II Site Activities

2.2.1 Soil Excavation(s)

Thermogas and Cenex agreed to utilize 1,600 ppm as a clean-up level for total nitrogen (Ammonia Nitrogen plus Nitrate-Nitrite) since action levels for soil were not available during the Phase I/II Site Investigation. Excavation of contaminated soils in the vicinity of B-1 where Ammonia Nitrogen ranged from 1,461 ppm to 4,138 ppm was initiated on April 22, 1997. Ninety (90) cubic yards (135 tons) of soil was removed from a pit measuring thirteen (13) feet by fifteen (15) feet by twelve (12) feet. Twenty-one (21) confirmation samples were collected from the floor and walls of the excavation. Six (6) of the confirmation samples indicated total nitrogen concentrations above the 1,600 ppm clean-up level but the excavation was limited to the north by the property boundary, to the east and south by the concrete pad, and to the west by the lignin tanks.

2.2.2 Groundwater Monitoring

Permanent monitoring wells were not installed at the site following the Phase I/II Site Investigation. No historic hydrologic information is available since groundwater flow direction and gradient were not determined during the Phase I/II.

Seneca Companies performed a Chapter 133 Site Assessment in 2003 and installed four (4) monitoring wells (MW1, MW2, MW3, and MW4) in which dissolved phase concentrations of three (3) pesticides, Alachlor, Cyanazine, and Metribuzin, as well as Ammonia Nitrogen and Nitrate-Nitrite exceeded EPA established MCL and/or HAL standards. The Site Assessment identified conditions that were consistent with a Significant Risk status as defined in Chapter 133 of the Iowa Administrative Code. The IDNR reviewed the Site Assessment Report and in a letter dated July 5, 2004 stated that groundwater monitoring should continue with additional investigation to the north and east of the site. Eight (8) additional monitoring wells have been installed to define the contaminant plumes. Biannual monitoring has been completed at the site with the submittal of an annual Site Monitoring Report since the Site Assessment was completed in 2003. The most recent report, the 2009 Site Monitoring Report, was submitted on January 5, 2010. In a letter dated, February 8, 2010, the IDNR stated that continued

biannual monitoring of all wells is required. Following a meeting between the IDNR, CHS, and Seneca on July 15, 2010, the IDNR requested that split sampling occur during the next sampling event.

3.0 CURRENT SITE CONDITIONS AND RECEPTOR SURVEYS

3.1 Water Well Survey

An initial five-hundred (500) foot radius visual survey conducted by Seneca personnel and a one (1) mile radius search conducted by the Iowa Geological Survey Bureau were utilized to identify water well locations in the site vicinity. A current online IDNR Well Search at a radius of one-thousand (1,000) feet and one (1) mile has been completed and is included in Appendix 6. No supply wells are located on-site and only one (1) well was identified within one-thousand (1,000) feet of the site. This well, #4374 is listed as the Price well and is actually located two-thousand (2,000) feet west of the subject property, at a former skating rink. The Price well was sampled in 2004 and all concentrations were less than EPA established standards. All wells identified on the one (1) mile radius search have been previously identified except Well #2143648 installed in 2009 and all are either located up gradient or at a significant distance from the subject property. The Winnebago County Sanitarian, Ron Kvale, was contacted on January 17, 2011 and indicated that no new wells have been installed within one-thousand (1,000) feet of the subject property.

4.0 2010 FIELD ACTIVITIES

4.1 Agricultural Chemical Sampling Procedures

Biannual groundwater monitoring was conducted at the Buffalo Center facility during July and December 2010. Groundwater samples were analyzed for selected pesticides using Method 8141 and nutrients, specifically, Ammonia Nitrogen and Nitrate-Nitrite, using methods SM 4500-NH3 F and EPA 353.2, respectively.

Seneca and the IDNR collected consecutive samples from all monitoring wells onsite following the procedure described below in July 2010. Purging and sampling processes were adopted after U.S. EPA protocols for groundwater sampling and monitoring well purging. The utilized methodology assures minimum risk of cross-contamination and allows for collection of groundwater that is representative of the surrounding geologic medium. Well purging consisted of three (3) casing volumes or until the well was dry. Groundwater was then allowed to recover following purging. Groundwater samples were obtained using clean disposable bailers, poly string, and disposable gloves. The samples were visually

inspected for the presence of emulsions or chemical sheens. The samples were then transferred to laboratory cleaned containers, iced, and shipped to Keystone Laboratories, Inc. for analysis. The IDNR submitted their samples to the University of Iowa Hygienic Laboratory. Analyzed data from both labs in included in the Summary of Groundwater Monitoring Data Table. Data collected by Seneca and sent to Keystone Labs was used to generate the contaminant plume maps included in Appendix 3. The split groundwater samples collected by Seneca and the IDNR and submitted to separate laboratories for analytical verification indicate nearly identical concentrations for all monitoring wells. Analytical concentrations that differ between the two (2) labs were within acceptable limits. It should be noted that data analyzed for MW3 and MW4 by the University of Iowa Hygienic Laboratory had quantification limits that exceeded the EPA established standards for Alachlor and Cyanazine. No additional contaminant plume contouring or trend analysis was completed for either chemical since historical data for both wells indicates concentrations are less than EPA standards.

The chemicals that were historically monitored and/or chemicals that presently exceed EPA established MCL and/or HAL standards are summarized in Table 1 of this report. Complete analytical results for all chemicals in the analytical suite are provided in Appendix 5 of this report.

5.0 DATA COMPILATION AND REPORTING

5.1 Groundwater Plume Definition

The current investigation utilizes the most recent groundwater concentrations from each monitoring well to define the lateral extent of the groundwater contaminant plume(s) at the subject property. Monitoring well MW6 has not been sampled since 2005 because the well was asphalted over when the City of Buffalo Center resurfaced the city hall/garage parking lot located adjacent to the subject property on the north. Groundwater samples have been collected from areas up gradient, cross gradient, and down gradient from the location(s) of the assumed maximum chemical concentration(s) or source area(s) at the site. The maximum Ammonia Nitrogen concentration moved from MW2 to MW4. In previous reports, three (3) Nitrate-Nitrite contaminant plumes were depicted but concentrations are now restricted to MW5 located offsite. Additionally, Metolachlor concentrations in MW3 exceed EPA established MCL and/or HAL standards.

The groundwater flow and contoured contaminant plume maps were generated using Surfer 9, a surface mapping software program developed by Golden Software, Inc. The Surfer software version utilized

does not recognize "less than" values (i.e. <1.0); therefore, all "less than" analytical values were converted to rational numeric values (i.e. <0.1 to 0.1) for the purposes of contaminant plume contouring. It should also be noted that the Surfer program utilizes a mathematical interpolation method to contour the data set for a selected chemical. The contaminant plumes generated by Surfer provide a reasonable representation of contaminant distributions; however, the generated plumes do not account for the effects of groundwater flow direction, chemical attenuation, or biodegradation. Contaminant plume maps for each identified chemical of concern with concentrations greater than EPA established MCL and/or HAL standards are supplied in Appendix 3 of this report.

5.2 Plume Stability and Concentration Trends

Concentrations of Metolachlor, Ammonia Nitrogen, and Nitrate-Nitrate are greater than EPA established MCL and/or HAL standards. In order to evaluate concentration trends, data for chemicals of concern at impacted wells were graphed using Excel, see Appendix 4. Linear interpolation was performed on the graphed data to evaluate historical trends. The following are evaluations of the graphs broken down by chemical of concern.

Metolachlor: The Metolachlor concentration in MW3 (480 ppb) only exceeds the HAL of 100 ppb. Metolachlor concentrations at the Buffalo Center facility never exceeded the HAL standard until November 2009 and are likely the result of current site activities. Linear trend analysis indicates an increasing concentration trend.

Ammonia Nitrogen: Ammonia Nitrogen concentrations exceeding the HAL of 30 ppm were only identified in MW4 (47.5 ppm). Linear trend analysis indicates a stable concentration trend. The contaminant plume for Ammonia Nitrogen is located offsite on the City of Buffalo Center's property. Reviewing contaminant plume maps for the past two (2) years indicates that the Ammonia Nitrogen plume has decreased in size and extent and is restricted to one (1) monitoring well.

Nitrate-Nitrite: Nitrate-Nitrite concentrations exceeding the MCL/HAL of 10 ppm were only identified in MW5 (13.6 ppm). Linear trend analysis indicates a decreasing concentration trend. Reviewing contaminant plume maps for the past two (2) years indicates that the Nitrate-Nitrite contaminant plume has decreased in size and extent and is restricted to one (1) monitoring well located offsite to the west.

6.0 DISCUSSION

6.1 Groundwater Contamination Impacts

Chapter 133 of the Iowa Administrative Code did not establish groundwater clean-up levels; therefore, contaminated sites evaluated under Chapter 133 are regulated under the federal Drinking Water Standards, established by the EPA following enactment of the Safe Drinking Water Act. Preparation of this document utilized the Maximum Contaminant Levels (MCL) and/or Health Advisory Limits (HAL) published by the EPA in the *2002 Edition of the Drinking Water Standards and Health Advisories*. The applicable MCL and/or HAL standards are displayed in Table 1.

Review of the Summary of Groundwater Monitoring Data table and contaminant plume maps indicate that three (3) monitoring wells still have concentrations above the EPA established MCL and/or HAL standards. Contaminant plume maps are provided for the three (3) chemicals of concern, Metolachlor, Ammonia Nitrogen, and Nitrate-Nitrite in Appendix 3. Concentrations of Alachlor, and Metribuzin were less than EPA standards in 2010. Metolachlor concentrations were not present in any monitoring wells prior to sampling in November 2009. The Metolachlor plume is restricted to MW3 and is likely the result of current on-site activities. The maximum Ammonia Nitrogen concentration has moved from MW2 to MW4, located down gradient of the former liquid fertilizer offload area (B2). Nitrate-Nitrite concentrations are restricted to MW5, located offsite to the west. All plumes are defined and restricted to a single monitoring well.

Current groundwater flow maps for the site are included in Appendix 2 of this report. Comparison of groundwater flow maps from 2003 and 2004 with limited groundwater data (four (4) monitoring wells) show that the groundwater flow direction was to the east. Between 2005 when eight (8) additional monitoring wells were installed and 2009, groundwater flow was radial from the center of the site, typically MW1 or MW5. July 2010 sampling was conducted after a rain event and static water levels were very close to ground surface with two (2) wells not sampled because they were located in a puddle. A north-northwesterly flow direction with no groundwater mounding was observed and December 2010 sampling also indicated a north-northwesterly flow direction with a groundwater depression at MW3.

Based on the nature of the known contaminants at the site, Seneca Companies does not believe vertical differentiation of the contaminant plume within the shallow, unconfined, water bearing unit is

occurring. The vertical extent of the plume, for the purposes of this investigation, is considered to extend uniformly throughout the entire thickness of the unconfined strata.

7.0 CONCLUSIONS

Dissolved phase concentrations of Metolachlor, Ammonia Nitrogen, and Nitrate-Nitrite are greater than EPA established MCL and/or HAL standards at the Buffalo Center facility. Current receptor surveys did not reveal any designated use water bodies, drinking water wells, or land use practices in the site vicinity that would constitute an Aggravated Risk condition as defined under Chapter 133 of the Iowa Administrative Code; therefore, the site is considered a Significant Risk. The closest private well, #4374 (Price), located approximately two-thousand (2,000) feet west of the site, was sampled in 2004 and all concentrations were less than EPA established MCL and/or HAL standards. Seneca believes impact on the Price and other down gradient wells is improbable. Due to the limited nature and stability of Ammonia Nitrogen and Nitrate-Nitrite concentrations as well as the lack of historical Metolachlor contamination at the site prior to 2009 indicating current Metolachlor concentration are unrelated to the historical release, Seneca recommends the site be reclassified to No Further Action at this time.

Table 1: Summary of Groundwater Monitoring Data

Buffalo Center Nu Way (Former Thermogas Co. Facility)

Well ID	Date	Top of Casing	Static Water Level	Alachlor	Atrazine	Butylate	Cyanazine	EPTC	Metolachlor	Metribuzin	Pendimethalin	Prometon	Trifluralin	Ammonia Nitrogen (NH_3)	Nitrate-Nitrite (NO_2 + NO_3)
MW-1	6/6/2003	100.00	96.86	<0.1	0.2	<0.1	<0.1	<0.1	0.5	<0.1	<0.5	NA	0.2	<1.0	2
	9/17/2003	100.00	95.60	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	<0.2
	4/28/2004	100.00	93.69	0.5	0.4	<0.1	<0.1	<0.1	0.9	0.2	<0.5	NA	<0.1	<1.0	1.2
	10/20/2004	100.00	95.95	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	5.3	0.3
	10/3/2005	100.00	97.39	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	0.45
	12/13/2005	100.00	95.35	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	1.39
	4/27/2006	100.00	96.84	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	0.1	<0.5	NA	<0.1	<1.0	3.65
	11/7/2006	100.00	93.68	1.3	<0.1	<0.1	<0.1	<0.1	24.8	10.1	0.7	NA	<0.1	16.7	4.42
	5/2/2007	100.00	96.69	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	1.22
	12/5/2007	100.00	95.19	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	3.02
	5/6/2008	100.00	97.82	0.2	<0.1	<0.1	<0.1	<0.1	0.9	<0.1	<0.5	NA	<0.1	<1.0	0.60
	11/11/2008	100.00	95.43	<0.1	0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	<0.20
	5/27/2009	100.00	96.97	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	0.68
	11/3/2009	100.81^	98.51	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	0.45
	7/28/2010	100.81	99.60	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	<0.40
DNR	7/28/2010	100.81	99.60	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	0.31	<0.10
	12/15/2010	100.81	96.86	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	0.50
MW-2	6/6/2003	99.92	96.75	**3.2**	0.9	<0.1	0.8	<0.1	7.7	163	6.3	NA	<0.1	**42.7**	**11.4**
	9/17/2003	99.92	96.61	<0.1	<0.1	<0.1	<0.1	<0.1	2.6	50.2	<0.5	NA	<0.1	**219**	**44.2**
	4/28/2004	99.92	94.20	<0.1	0.5	<0.1	<0.1	<0.1	1.7	11.4	<0.5	NA	<0.1	29.9	**13.1**
	10/20/2004	99.92	97.02	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	16.9	<0.5	NA	<0.1	16	**68.8**
	10/3/2005	99.92	98.14	<0.1	<0.1	<0.1	<0.1	<0.1	1.0	17	<0.5	NA	<0.1	**72.6**	9.54
	12/13/2005	99.92	96.44	<0.1	<0.1	<0.1	<0.1	<0.1	1.3	28.7	<0.5	NA	<0.1	**150**	**14.3**
	4/27/2006	99.92	97.81	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	11.1	<0.5	NA	<0.1	13.5	6.92
	11/7/2006	99.92	95.05	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	31.3	<0.5	NA	<0.1	**106**	9.62
	5/2/2007	99.92	97.67	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	19.3	<0.5	NA	<0.1	29.7	4.63
	12/5/2007	99.92	96.32	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	16.6	<0.5	NA	<0.1	**63.9**	1.89
	5/6/2008	99.92	98.87	<0.1	<0.1	<0.1	<0.1	<0.1	0.7	9.6	7.1	NA	<0.1	**47.5**	**20.9**
	11/11/2008	99.92	96.62	<0.1	<0.1	0.8	<0.1	<0.1	0.6	16.4	<0.5	NA	<0.1	**68.3**	5.18
	5/27/2009	99.92	97.59	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	17.2	19.9	NA	<0.1	**66.9**	9.50
	11/3/2009	99.92	97.67	<0.1	<0.1	<0.1	<0.1	<0.1	2.0	18.4	<0.5	NA	<0.1	**80.4**	4.40
	7/28/2010	Well under water - could not be sampled													
	12/15/2010	99.92	95.72	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	9.7	<0.5	NA	<0.1	24.8	0.83
EPA - Maximum Contaminant Level (MCL)				**2**	**3**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**10**
EPA - Health Advisory Limit (HAL)				**SNA**	**SNA**	**400**	**1**	**SNA**	**100**	**200**	**SNA**	**SNA**	**5**	**30**	**10**

Table 1: Summary of Groundwater Monitoring Data

Buffalo Center Nu Way (Former Thermogas Co. Facility)

Well ID	Date	Top of Casing	Static Water Level	Alachlor	Atrazine	Butylate	Cyanazine	EPTC	Metolachlor	Metribuzin	Pendimethalin	Prometon	Trifluralin	Ammonia Nitrogen (NH_3)	Nitrate-Nitrite ($NO_2 + NO_3$)
MW-3	6/6/2003	98.95	95.95	0.9	<0.1	<0.1	0.3	<0.1	16.9	6.4	<0.5	NA	<0.1	6.2	**14**
	9/17/2003	98.95	95.58	1.5	0.1	<0.1	0.4	<0.1	21.3	10	<0.5	NA	<0.1	9.9	2.3
	4/28/2004	98.95	93.12	1.7	<0.1	<0.1	0.3	<0.1	18.2	10.8	<0.5	NA	<0.1	12.4	**17.3**
	10/20/2004	98.95	95.84	<0.1	0.1	<0.1	0.8	<0.1	13.7	36.9	<0.5	NA	<0.1	20.4	**28.6**
	10/3/2005	98.95	96.60	1.7	<0.1	<0.1	0.1	<0.1	6.6	17.6	<0.5	NA	<0.1	15.7	0.83
	4/27/2006	98.95	96.85	1.1	<0.1	<0.1	0.1	<0.1	19.5	10.5	0.5	NA	<0.1	8.3	**13.2**
	11/7/2006	98.95	94.26	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	0.49
	5/2/2007	98.95	96.86	0.8	<0.1	<0.1	<0.1	<0.1	48.6	9.2	0.6	NA	0.3	9.9	1.08
	12/5/2007	98.95	94.10	0.9	<0.1	<0.1	<0.1	<0.1	67.1	8.2	<0.5	NA	<0.1	13.6	9.62
	5/6/2008	98.95	97.77	0.7	<0.1	<0.1	<0.1	<0.1	37.3	5.2	12.3	NA	<0.1	10.1	**11.2**
	11/11/2008	98.95	96.80	0.7	0.3	<0.1	<0.1	<0.1	51.2	4.7	1.0	NA	<0.1	11.4	**19.9**
	5/27/2009	98.95	97.44	0.8	<0.1	<0.1	<0.1	<0.1	68.3	4.7	33.4	NA	<0.1	9.4	4.86
	11/3/2009	98.95	97.20	1.2	<0.1	<0.1	<0.1	<0.1	**375**	3.4	2.0	NA	<0.1	11.0	**10.7**
	7/28/2010	98.95	98.70	1.4	<0.1	<0.1	<0.1	<0.1	**422**	3.9	<0.5	NA	<0.1	7.2	4.09
DNR	7/28/2010	98.95	98.70	**<3**	<3	<3	**<3**	<3	**450**	3	NA	<3	<3	6.2	4.8
	12/15/2010	98.95	95.08	1.7	<0.1	<0.1	<0.1	<0.1	**480**	7.5	<0.5	NA	<0.1	9.6	<0.20
MW-4	6/6/2003	100.22	96.32	**3.2**	0.9	<0.1	0.8	<0.1	7.8	164	6.4	NA	<0.1	**42.1**	**17**
	9/17/2003	100.22	95.16	**3.3**	1.2	0.2	**1.3**	<0.1	9.5	**251**	7.7	NA	<0.1	**60.2**	7.3
	4/28/2004	100.22	94.24	**2.1**	0.6	<0.1	0.4	<0.1	5.4	**200**	7.3	NA	<0.1	**36.7**	7
	10/20/2004	100.22	96.19	<0.1	0.3	<0.1	<0.1	<0.1	3.4	**201**	<0.5	NA	<0.1	21.7	5.2
	10/3/2005	100.22	96.64	1.5	0.5	0.1	0.3	<0.1	6.7	**229**	6.6	NA	<0.1	**63.2**	3.1
	12/13/2005	100.22	95.12	<0.1	0.9	0.2	0.8	<0.1	20.7	**332**	18.1	NA	<0.1	**70.6**	3.83
	4/27/2006	100.22	96.62	<0.1	0.5	0.1	<0.1	<0.1	7.2	195	9.7	NA	<0.1	18.2	5.44
	11/7/2006	100.22	94.26	**3.0**	0.7	0.2	0.7	<0.1	11.7	**251**	14.8	NA	<0.1	**55.1**	2.97
	5/2/2007	100.22	96.61	1.6	0.6	0.2	0.4	<0.1	7.1	**239**	14.0	NA	<0.1	**34.8**	5.89
	12/5/2007	100.22	95.19	1.0	0.7	0.2	0.4	<0.1	11.9	**267**	12.5	NA	<0.1	**44.2**	3.60
	5/6/2008	100.22	97.25	1.2	0.6	0.4	0.5	<0.1	15.4	124	16.3	NA	<0.1	27.1	2.07
	11/11/2008	100.22	95.08	0.9	0.4	<0.1	0.3	<0.1	6.6	172	15.1	NA	<0.1	**43.3**	1.06
	5/27/2009	100.22	96.46	0.7	0.5	0.5	0.8	<0.1	14.2	151	206	NA	<0.1	**35.9**	2.27
	11/3/2009	100.22	96.30	**2.0**	0.8	0.7	0.8	0.1	23.0	**216**	33.2	NA	<0.1	**44.0**	1.73
	7/28/2010	100.22	97.08	<0.1	0.8	0.9	0.9	<0.1	29.6	172	<0.5	NA	<0.1	**51.3**	1.34
DNR	7/28/2010	100.22	97.08	<2	<2	<2	**<2**	<2	23	190	NA	<2	<2	**59**	1.3
	12/15/2010	100.22	95.71	<0.1	0.4	0.5	0.4	<0.1	22.2	147	<0.5	NA	<0.1	**47.5**	0.96
EPA - Maximum Contaminant Level (MCL)				**2**	**3**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**10**
EPA - Health Advisory Limit (HAL)				**SNA**	**SNA**	**400**	**1**	**SNA**	**100**	**200**	**SNA**	**SNA**	**5**	**30**	**10**

Table 1: Summary of Groundwater Monitoring Data

Buffalo Center Nu Way (Former Thermogas Co. Facility)

Well ID	Date	Top of Casing	Static Water Level	Alachlor	Atrazine	Butylate	Cyanazine	EPTC	Metolachlor	Metribuzin	Pendimethalin	Prometon	Trifluralin	Ammonia Nitrogen (NH_3)	Nitrate-Nitrite (NO_2 + NO_3)
MW-5	2/15/2005	101.1	97.53	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	8.3	<0.5	NA	<0.1	29.7	**36.5**
	10/3/2005	101.1	98.96	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	7.2	<0.5	NA	<0.1	**36.4**	**43.6**
	12/13/2005	101.1	97.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	9.5	<0.5	NA	<0.1	**40.2**	**38.6**
	4/27/2006	101.1	98.49	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	7.4	<0.5	NA	<0.1	16.3	**29.7**
	11/7/2006	101.1	95.69	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	6.0	<0.5	NA	<0.1	23.4	**29.6**
	5/2/2007	101.1	98.41	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	10.2	<0.5	NA	<0.1	28.7	**32.9**
	12/5/2007	101.1	97.13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	6.8	<0.5	NA	<0.1	27.5	**34.5**
	5/6/2008	101.1	99.08	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	6.3	<0.5	NA	<0.1	**30.1**	**59.8**
	11/11/2008	101.1	97.95	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	3.4	<0.5	NA	<0.1	13.0	**17.2**
	5/27/2009	101.1	98.41	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	5.2	5.3	NA	<0.1	27.0	**36.6**
	11/3/2009	99.38^	97.65	<0.1	<0.1	<0.1	<0.1	<0.1	1.0	5.4	<0.5	NA	<0.1	17.3	**19.8**
	7/28/2010	99.38	99.26	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	5.3	<0.5	NA	<0.1	26.7	**23.0**
DNR	7/28/2010	99.38	99.26	<0.1	<0.1	<0.1	<0.1	<0.1	0.25	5.3	NA	<0.1	<0.1	28	**29**
	12/15/2010	99.38	95.64	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	4.3	<0.5	NA	<0.1	20.5	**13.6**
MW-6	2/15/2005	99.74	94.63	<0.1	0.2	<0.1	0.4	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	5.1
	4/27/2006	No Sample - Asphalted over													
	11/7/2006	No Sample - Asphalted over													
MW-7	2/15/2005	99.22	96.34	0.6	0.3	<0.1	<0.1	<0.1	1.0	0.2	<0.5	NA	<0.1	<1.0	3.1
	10/3/2005	99.22	95.84	0.7	0.3	0.1	<0.1	<0.1	0.5	0.2	<0.5	NA	<0.1	<1.0	0.37
	12/13/2005	99.22	94.24	0.9	0.3	<0.1	<0.1	<0.1	1.4	0.2	<0.5	NA	<0.1	<1.0	0.4
	4/27/2006	99.22	95.74	0.4	0.4	<0.1	<0.1	<0.1	1.0	0.1	<0.5	NA	<0.1	<1.0	1.26
	11/7/2006	99.22	96.22	0.4	0.3	<0.1	<0.1	<0.1	0.7	<0.1	<0.5	NA	<0.1	<1.0	0.72
	5/2/2007	99.22	95.75	0.4	0.1	<0.1	<0.1	<0.1	0.7	0.1	<0.5	NA	<0.1	<1.0	4.62
	12/5/2007	99.22	94.44	0.4	0.2	<0.1	<0.1	<0.1	1.0	0.1	<0.5	NA	<0.1	<1.0	3.98
	5/6/2008	99.22	96.32	0.4	0.2	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	1.1	3.47
	11/11/2008	99.22	94.42	<0.1	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	<0.5	NA	<0.1	<1.0	3.05
	5/27/2009	99.22	95.70	0.4	0.2	<0.1	<0.1	<0.1	1.0	<0.1	<0.5	NA	<0.1	<1.0	2.44
	11/3/2009	100.46^	97.62	0.4	0.2	<0.1	<0.1	<0.1	1.5	0.1	<0.5	NA	<0.1	<1.0	1.94
	7/28/2010	100.46	98.05	0.5	0.2	<0.1	<0.1	<0.1	1.1	<0.1	<0.5	NA	<0.1	<1.0	2.21
DNR	7/28/2010	100.46	98.05	0.26	0.20	<0.1	<0.1	<0.1	0.97	<0.1	NA	0.20	<0.1	0.11	2.2
	12/15/2010	100.46	95.64	0.4	0.2	<0.1	<0.1	<0.1	1.0	<0.1	<0.5	NA	<0.1	<1.0	1.12
EPA - Maximum Contaminant Level (MCL)				**2**	**3**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**10**
EPA - Health Advisory Limit (HAL)				**SNA**	**SNA**	**400**	**1**	**SNA**	**100**	**200**	**SNA**	**SNA**	**5**	**30**	**10**

Table 1: Summary of Groundwater Monitoring Data

Buffalo Center Nu Way (Former Thermogas Co. Facility)

Well ID	Date	Top of Casing	Static Water Level	Alachlor	Atrazine	Butylate	Cyanazine	EPTC	Metolachlor	Metribuzin	Pendimethalin	Prometon	Trifluralin	Ammonia Nitrogen (NH_3)	Nitrate-Nitrite ($NO_2 + NO_3$)
MW-8	2/15/2005	99.90	94.61	**2.1**	0.1	<0.1	0.5	<0.1	3.6	88.9	<0.5	NA	<0.1	6.8	**19**
	10/3/2005	99.90	96.09	1.1	<0.1	<0.1	<0.1	<0.1	3.0	48.5	<0.5	NA	<0.1	4.5	4.87
	12/13/2005	99.90	94.65	<0.1	0.2	<0.1	<0.1	<0.1	3.0	77.9	<0.5	NA	<0.1	8.5	8.07
	4/27/2006	99.90	96.09	**2.1**	0.1	0.2	<0.1	<0.1	4.5	84.3	<0.5	NA	<0.1	10.9	9.99
	11/7/2006	99.90	92.79	1.6	<0.1	<0.1	<0.1	<0.1	3.0	79.3	<0.5	NA	<0.1	11.0	4.54
	5/2/2007	99.90	96.14	1.1	<0.1	0.2	<0.1	<0.1	2.0	77.1	<0.5	NA	<0.1	3.5	6.20
	12/5/2007	99.90	94.73	0.9	<0.1	<0.1	<0.1	<0.1	3.9	90.0	<0.5	NA	<0.1	7.9	2.49
	5/6/2008	99.90	96.83	0.6	0.1	0.2	<0.1	<0.1	2.2	35.0	<0.5	NA	<0.1	4.3	5.08
	11/11/2008	99.90	94.68	0.3	<0.1	<0.1	<0.1	0.1	1.3	23.3	<0.5	NA	<0.1	3.2	1.64
	5/27/2009	99.90	96.31	0.3	<0.1	<0.1	<0.1	<0.1	1.5	26.7	17.5	NA	<0.1	4.7	3.56
	11/3/2009	99.90	96.53	<0.1	<0.1	<0.1	<0.1	<0.1	2.5	7.9	<0.5	NA	<0.1	1.6	1.06
	7/28/2010	99.90	96.61	0.9	<0.1	0.3	<0.1	<0.1	4.5	59.1	<0.5	NA	<0.1	8.4	1.45
DNR	7/28/2010	99.90	96.61	<1	<1	<1	<1	<1	4.0	50	NA	<1	<1	7.9	1.2
	12/15/2010	99.90	94.78	<0.1	0.7	0.3	<0.1	<0.1	6.2	41.1	<0.5	NA	<0.1	8.3	0.87
MW-9	2/15/2005	99.63	94.02	0.5	0.2	<0.1	0.5	<0.1	0.6	4.6	<0.5	NA	<0.1	1.5	**12.4**
	12/13/2005	99.63	94.98	<0.1	0.3	0.2	<0.1	<0.1	0.5	5.3	<0.5	NA	<0.1	1.6	5.69
	4/27/2006	99.63	95.79	1.8	0.1	0.2	<0.1	<0.1	3.9	73.8	<0.5	NA	<0.1	10.0	**10.2**
	11/7/2006	99.63	94.19	<0.1	0.3	0.2	<0.1	<0.1	<0.5	4.8	<0.5	NA	<0.1	1.2	3.58
	5/2/2007	99.63	96.68	0.2	0.2	0.3	<0.1	<0.1	0.6	5.0	<0.5	NA	<0.1	2.2	6.77
	12/5/2007	99.63	95.10	<0.1	0.2	0.2	<0.1	<0.1	0.6	4.7	<0.5	NA	<0.1	1.3	5.77
	5/6/2008	99.63	97.26	<0.1	1.5	<0.1	<0.1	<0.1	<0.5	0.3	<0.5	NA	3.2	1.3	1.42
	11/11/2008	99.63	94.92	<0.1	0.2	0.2	<0.1	<0.1	0.6	5.0	<0.5	NA	<0.1	<1.0	5.54
	5/27/2009	99.63	96.43	0.1	0.2	0.2	<0.1	<0.1	0.5	3.5	<0.5	NA	<0.1	2.5	4.30
	11/3/2009	99.64^	97.04	0.1	0.1	0.3	<0.1	<0.1	1.0	4.3	<0.5	NA	<0.1	1.0	3.89
	7/28/2010	99.64	97.39	<0.1	0.1	0.4	<0.1	<0.1	0.7	4.7	<0.5	NA	<0.1	1.8	4.75
DNR	7/28/2010	99.64	97.39	0.13	0.17	0.29	<0.1	<0.1	0.79	3.9	NA	0.77	<0.1	0.84	4.5
	12/15/2010	99.64	Unable to locate well in snow.												
EPA - Maximum Contaminant Level (MCL)				**2**	**3**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**10**
EPA - Health Advisory Limit (HAL)				**SNA**	**SNA**	**400**	**1**	**SNA**	**100**	**200**	**SNA**	**SNA**	**5**	**30**	**10**

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Buffalo Center Nu Way (Former Thermogas Co. Facility)

Well ID	Date	Top of Casing	Static Water Level	Alachlor	Atrazine	Butylate	Cyanazine	EPTC	Metolachlor	Metribuzin	Pendimethalin	Prometon	Trifluralin	Ammonia Nitrogen (NH_3)	Nitrate-Nitrite ($NO_2 + NO_3$)
MW-10	10/4/2005	100.84	93.07	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	3.1	<0.5	NA	<0.1	<1.0	**17.9**
	12/13/2005	100.84	94.38	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	3.4	<0.5	NA	<0.1	<1.0	**14.2**
	4/27/2006	100.84	95.36	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	3.2	<0.5	NA	<0.1	<1.0	**17.3**
	11/7/2006	100.84	93.73	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	1.9	<0.5	NA	<0.1	<1.0	**10.9**
	5/2/2007	100.84	95.41	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	1.2	<0.5	NA	<0.1	<1.0	**19.4**
	12/5/2007	100.84	94.36	<0.1	<0.1	0.1	<0.1	<0.1	<0.5	0.9	<0.5	NA	<0.1	<1.0	**15.8**
	5/6/2008	100.84	96.01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	0.6	4.3	NA	<0.1	<1.0	**21.9**
	11/11/2008	100.84	94.43	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	0.8	<0.5	NA	<0.1	<1.0	**15.4**
	5/27/2009	100.84	95.50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	0.6	13.0	NA	<0.1	<1.0	**15.8**
	11/3/2009	100.84	95.90	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	1.4	<0.5	NA	<0.1	<1.0	**22.1**
	7/28/2010	100.84	97.06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	3.6	<0.5	NA	<0.1	<1.0	**16.6**
DNR	7/28/2010	100.84	97.06	<1	<1	<1	<1	<1	<1	2.9	NA	<1	<1	<0.05	**16**
	12/15/2010	100.84	94.37	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	3.7	<0.5	NA	<0.1	<1.0	9.52
MW-11	10/4/2005	99.28	92.38	<0.1	0.2	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	3.25
	4/27/2006	99.28	95.77	<0.1	<0.1	<0.1	<0.1	<0.1	<0.6	<0.1	<0.6	NA	<0.1	<1.0	6.02
	11/7/2006	99.28	93.28	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	**14.0**
	5/2/2007	99.28	95.80	<0.1	<0.1	<0.1	<0.1	0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	**26.0**
	12/5/2007	99.28	94.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	**38.1**
	5/6/2008	99.28	96.41	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	1.3	**20.5**
	11/11/2008	99.28	94.58	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	**16.8**
	5/27/2009	99.28	96.26	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	3.47
	11/3/2009	99.28	96.37	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	0.58
	7/28/2010	99.28	96.59	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	<0.40
DNR	7/28/2010	99.28	96.59	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	0.25	<0.1	<0.05	<0.10
	12/15/2010	99.28	94.56	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	<0.20
EPA - Maximum Contaminant Level (MCL)				**2**	**3**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**10**
EPA - Health Advisory Limit (HAL)				**SNA**	**SNA**	**400**	**1**	**SNA**	**100**	**200**	**SNA**	**SNA**	**5**	**30**	**10**

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Well ID	Date	Top of Casing	Static Water Level	Alachlor	Atrazine	Butylate	Cyanazine	EPTC	Metolachlor	Metribuzin	Pendimethalin	Prometon	Trifluralin	Ammonia Nitrogen (NH_3)	Nitrate-Nitrite ($NO_2 + NO_3$)
MW-12	10/4/2005	98.84	84.54	<0.1	0.2	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	5.08
	12/13/2005	98.84	94.54	<0.1	0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	2.94
	4/27/2006	98.84	95.70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	1.76
	11/7/2006	98.84	92.76	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	3.71
	5/2/2007	98.84	95.94	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	0.1	<1.0	1.76
	12/5/2007	98.84	94.56	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	5.20
	5/6/2008	98.84	96.73	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	**12.4**
	11/11/2008	98.84	94.76	<0.1	0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.5	NA	<0.1	<1.0	2.06
	5/27/2009	98.84	96.04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	1.48
	11/3/2009	98.84	96.55	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	0.92
	7/28/2010	98.84	98.84	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	0.61
DNR	7/28/2010	98.84	98.84	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.05	0.55
	12/15/2010	98.84	94.70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	1.53
MW-13	10/4/2005	99.54	96.79	<0.1	<0.1	<0.1	0.1	<0.1	<0.5	3.8	<0.5	NA	<0.1	<1.0	4.69
	12/13/2005	99.54	95.04	<0.1	<0.1	<0.1	0.3	<0.1	<0.5	7.3	<0.5	NA	<0.1	<1.0	4.77
	4/27/2006	99.54	96.78	<0.1	<0.1	<0.1	0.2	<0.1	<0.5	5.8	<0.5	NA	<0.1	<1.0	3.54
	11/7/2006	99.54	93.84	<0.1	<0.1	<0.1	0.2	<0.1	<0.5	6.0	<0.5	NA	<0.1	<1.0	5.65
	5/2/2007	99.54	96.66	0.2	<0.1	<0.1	0.2	<0.1	<0.5	7.1	<0.5	NA	<0.1	<1.0	4.32
	12/5/2007	99.54	95.33	<0.1	<0.1	0.2	0.2	<0.1	<0.5	4.9	<0.5	NA	<0.1	<1.0	2.52
	5/6/2008	99.54	97.39	<0.1	<0.1	<0.1	0.1	<0.1	0.5	4.7	<0.5	NA	<0.1	<1.0	3.11
	11/11/2008	99.54	95.34	<0.1	<0.1	<0.1	0.2	<0.1	0.5	3.8	<0.5	NA	<0.1	<1.0	2.93
	5/27/2009	99.54	96.45	0.2	<0.1	<0.1	0.1	<0.1	<0.5	4.2	4.7	NA	<0.1	<1.0	4.96
	11/3/2009	99.54	96.57	0.2	<0.1	<0.1	0.1	<0.1	1.8	3.6	<0.5	NA	<0.1	<1.0	2.10
	7/28/2010	Well under water - could not be sampled													
	12/15/2010	99.54	95.52	<0.1	<0.1	<0.1	0.1	<0.1	<0.5	3.7	<0.5	NA	<0.1	<1.0	1.52
PW-1 (Price)	10/20/2004	NA	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.5	NA	<0.1	<1.0	0.9
EPA - Maximum Contaminant Level (MCL)				**2**	**3**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**SNA**	**10**
EPA - Health Advisory Limit (HAL)				**SNA**	**SNA**	**400**	**1**	**SNA**	**100**	**200**	**SNA**	**SNA**	**5**	**30**	**10**
IA Statewide Standards (IA SWS)											**280**	**100**			

^ - Top of casing measurements resurveyed in 2009 due to well repairs.

* - the relative standard deviation (RSD) for this analyte failed to meet the % RSD acceptance criteria for the initial calibration.

** - Internal standard area outside acceptable QC criteria on duplicate analysis.

Concentrations of pesticides are stated in ppb (ug/L). Concentrations of Ammonia Nitrogen and Nitrate-Nitrite are stated in ppm (mg/L).

NA - Not Analyzed for COC. SNA - Standard not available

Appendix 1

Site Plan Map

MW10

CITY HALL/CITY GARAGE

MW11

(Buried under asphalt)

MW-8

MW-6

MW4

MW-7

4TH STREET SW

MW-9

CITY OF BUFFALO CENTER PROPERTY

Grass

MW12

X Pole

Bushes

MW-5

LIGNIN TANK

FORMER PESTICIDE INDUCTION AREA

MW-2

WATER TANK

FORMER LIQUID FERTILIZER OFF-LOAD AREA

B-2

GARAGE

SHOP

B-3

MW-1

CYLINDER FILL BUILDING

30K PROPANE TANK

MW13

VERLIN LEMASTER PROPERTY

OFFICE

BUILDING W/ DOCK

ELECTRICAL BOX

0

0

2ND AVENUE SW

FARMER'S COOP ELEVATOR

LEGEND:

- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- PROPERTY LINE
- FENCE LINE
- REMOVED STRUCTURES
- EXCAVATION AREA

0 15' 30' 60'

SCALE IN FEET

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REVISION	BY:

N W E S

SENECA
ENVIRONMENTAL SERVICES
DES MOINES, IA 50313 (800) 369-3500

JOB DESCRIPTION: Former Thermogas Facility
CHS Inc.
311 2ND AVENUE SW
BUFFALO CENTER, IOWA

SHEET TITLE: SCALED SITE PLAN

DATE: 9/29/03

DRAWN BY: DARRICK WORRALL

CHECKED BY: MIKE STEENHOEK

SCALE: 1"=30'

FILENAME: BUFFALO CENTER

PROJECT NO: 6235000

SHEET NO: 1 OF 1

Appendix 2

Groundwater Flow Maps

Groundwater Flow Map 7/28/10
Contour Interval = 0.5'

MW10
97.06

CITY HALL/CITY GARAGE

MW11
96.59

MW-8
96.61

(Buried under asphalt)
MW-6

MW4
97.08

MW-7
98.05

97.4

4TH STREET SW

MW-3
97.39

CITY OF BUFFALO CENTER PROPERTY

98.4

Grass

LIGNIN TANK

FORMER PESTICIDE INDUCTION AREA

MW12
98.84

X Pole

Bushes

MW-2

WATER TANK

MW-5
99.26

FORMER LIQUID FERTILIZER OFF-LOAD AREA

B-2

GARAGE

SHOP

B-3

MW-1
99.6

CYLINDER FILL BUILDING

30K PROPANE TANK

MW13

OFFICE

VERLIN LEMASTER PROPERTY

BUILDING W/ DOCK

ELECTRICAL BOX

0

0

2ND AVENUE SW

FARMER'S COOP ELEVATOR

LEGEND:

- MONITORING WELL LOCATION
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- FENCE LINE
- REMOVED STRUCTURES
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0 15' 30' 60'
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CHS Inc.
311 2ND AVENUE SW
BUFFALO CENTER, IOWA

SHEET TITLE:
SCALED SITE PLAN

DATE: 9/29/03
DRAWN BY: DARRICK WORRALL
CHECKED BY: MIKE STEENHOEK
SCALE: 1"=30'
FILENAME: BUFFALO CENTER
PROJECT NO: 6235000
SHEET NO: 1 OF 1

Groundwater Flow Map 12/15/10
Contour Interval = 0.5'

MW10
94.37

CITY HALL/CITY GARAGE

MW11
94.56

MW-8
94.78

95.3

(Buried under asphalt)
MW-6

MW4
95.71

MW-7
95.64

4TH STREET SW

MW-9

95.3

CITY OF BUFFALO CENTER PROPERTY

Grass

95.3

LIGNIN TANK

95.3

FORMER PESTICIDE INDUCTION AREA

95.08

MW12
94.7

X Pole

Bushes

MW-2
95.72

WATER TANK

MW-5
95.84

FORMER LIQUID FERTILIZER OFF LOAD AREA

B-2

96.3

GARAGE

SHOP

B-3

MW-1
96.86

95.3

96.3

CYLINDER FILL BUILDING

30K PROPANE TANK

FARMER'S COOP ELEVATOR

MW13
95.52

VERLIN LEMASTER PROPERTY

OFFICE

BUILDING W/ DOCK

ELECTRICAL BOX

0

0

2ND AVENUE SW

LEGEND:

- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- PROPERTY LINE
- FENCE LINE
- REMOVED STRUCTURES
- EXCAVATION AREA

0 15' 30' 60'

SCALE IN FEET

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JOB DESCRIPTION
Former Thermogas Facility
CHS Inc.
311 2ND AVENUE SW
BUFFALO CENTER, IOWA

SHEET TITLE:
SCALED SITE PLAN

DATE: 9/29/03
DRAWN BY: DARRICK WORRALL
CHECKED BY: MIKE STEENHOEK
SCALE: 1"=30'
FILENAME: BUFFALO CENTER
PROJECT NO: 6235000
SHEET NO: 1 OF 1

Appendix 3

Contaminant Plume Maps

Metolachlor
HAL = 100 ppb
Contour Interval = 200 ppb

MW10 0.5

CITY HALL/CITY GARAGE

MW11 0.5

4TH STREET SW

MW-8 6.2

(Buried under asphalt)
MW-6 0.5

MW4 22.2

MW-7 1

100

100

MW-9 0.79

CITY OF BUFFALO CENTER PROPERTY

Grass

MW12 0.5

X Pole

Bushes

MW-5 0.5

LIGNIN TANK

FORMER PESTICIDE INDUCTION AREA

MW-3 480

MW-2 0.5

100

WATER TANK

FORMER LIQUID FERTILIZER OFF-LOAD AREA

B-2

GARAGE

100

B-3

MW-1 0.5

SHOP

CYLINDER FILL BUILDING

30K PROPANE TANK

FARMER'S COOP ELEVATOR

MW13 0.5

VERLIN LEMASTER PROPERTY

OFFICE

BUILDING W/ DOCK

ELECTRICAL BOX

0

0

2ND AVENUE SW

LEGEND:

- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- PROPERTY LINE
- FENCE LINE
- REMOVED STRUCTURES
- EXCAVATION AREA

0 15' 30' 60'

SCALE IN FEET

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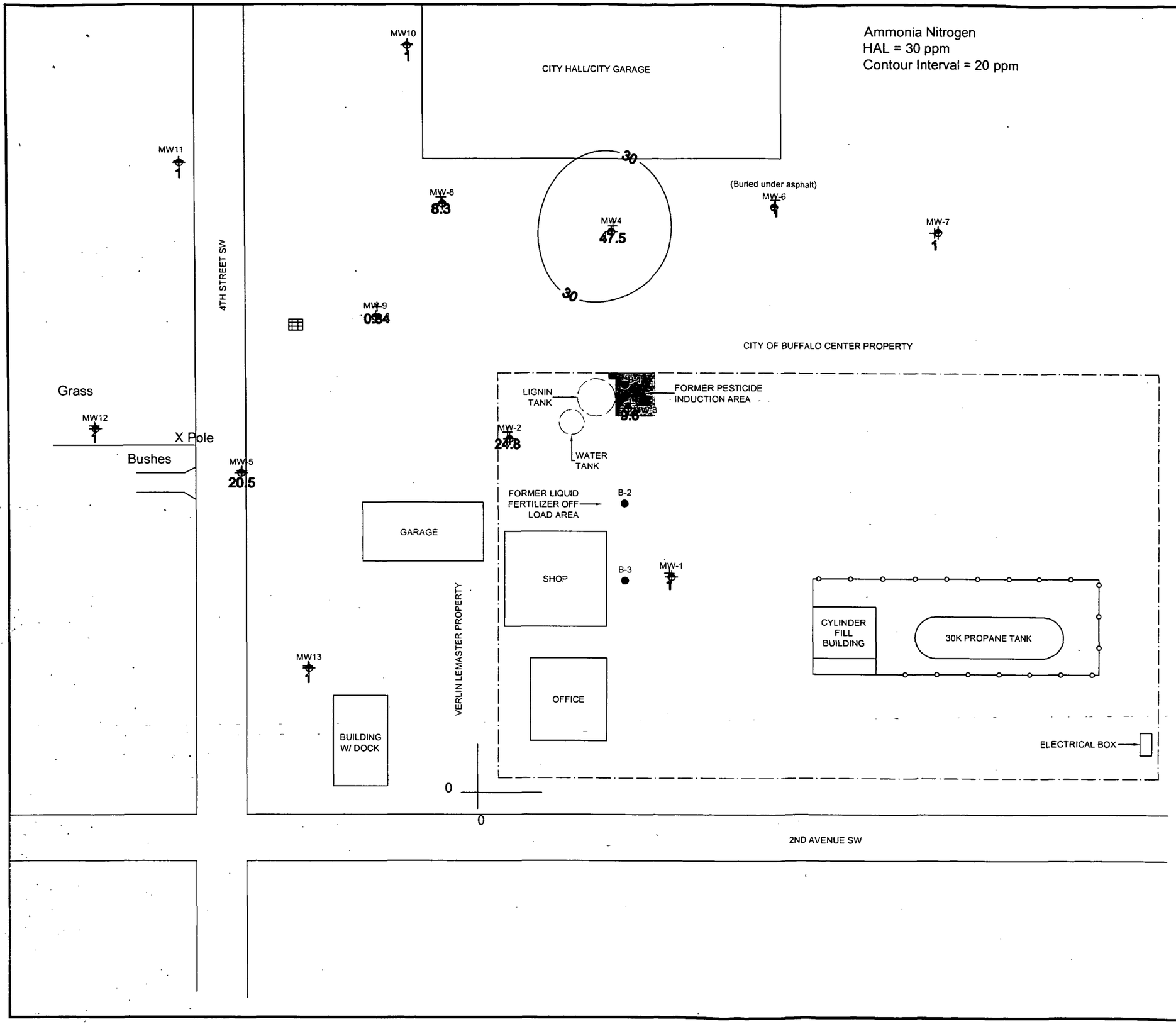
311 2ND AVENUE SW
BUFFALO CENTER, IOWA

SHEET TITLE: SCALED SITE PLAN

DATE: 9/29/03
DRAWN BY: DARRICK WORRALL
CHECKED BY: MIKE STEENHOEK
SCALE: 1"=30'
FILENAME: BUFFALO CENTER
PROJECT NO: 6235000
SHEET NO: 1 OF 1

Ammonia Nitrogen
HAL = 30 ppm
Contour Interval = 20 ppm



LEGEND:

- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- PROPERTY LINE
- FENCE LINE
- REMOVED STRUCTURES
- EXCAVATION AREA

0 15' 30' 60'
SCALE IN FEET

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DATE: 9/29/03
DRAWN BY: DARRICK WORRALL
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SCALE: 1"=30'
FILENAME: BUFFALO CENTER
PROJECT NO: 6235000
SHEET NO: 1 OF 1

Nitrate-Nitrite
MCL/HAL = 10 ppm
Contour Interval = 10 ppm

MW10
9.52

CITY HALL/CITY GARAGE

MW11
0.2

4TH STREET SW

MW-8
0.87

(Buried under asphalt)
MW-6
5.1

MW4
0.96

MW-7
1.12

MW-9
4.5

CITY OF BUFFALO CENTER PROPERTY

Grass

MW12
1.53

X Pole

Bushes

MW-5
13.6

10

LIGNIN TANK

FORMER PESTICIDE INDUCTION AREA

0.2

MW-2
0.83

WATER TANK

FORMER LIQUID FERTILIZER OFF-LOAD AREA

B-2

GARAGE

SHOP

B-3

MW-1
0.5

CYLINDER FILL BUILDING

30K PROPANE TANK

FARMER'S COOP ELEVATOR

MW13
1.52

VERLIN LEMASTER PROPERTY

OFFICE

BUILDING W/ DOCK

ELECTRICAL BOX

0

0

2ND AVENUE SW

LEGEND:

- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- PROPERTY LINE
- FENCE LINE
- REMOVED STRUCTURES
- EXCAVATION AREA

0 15' 30' 60'
SCALE IN FEET

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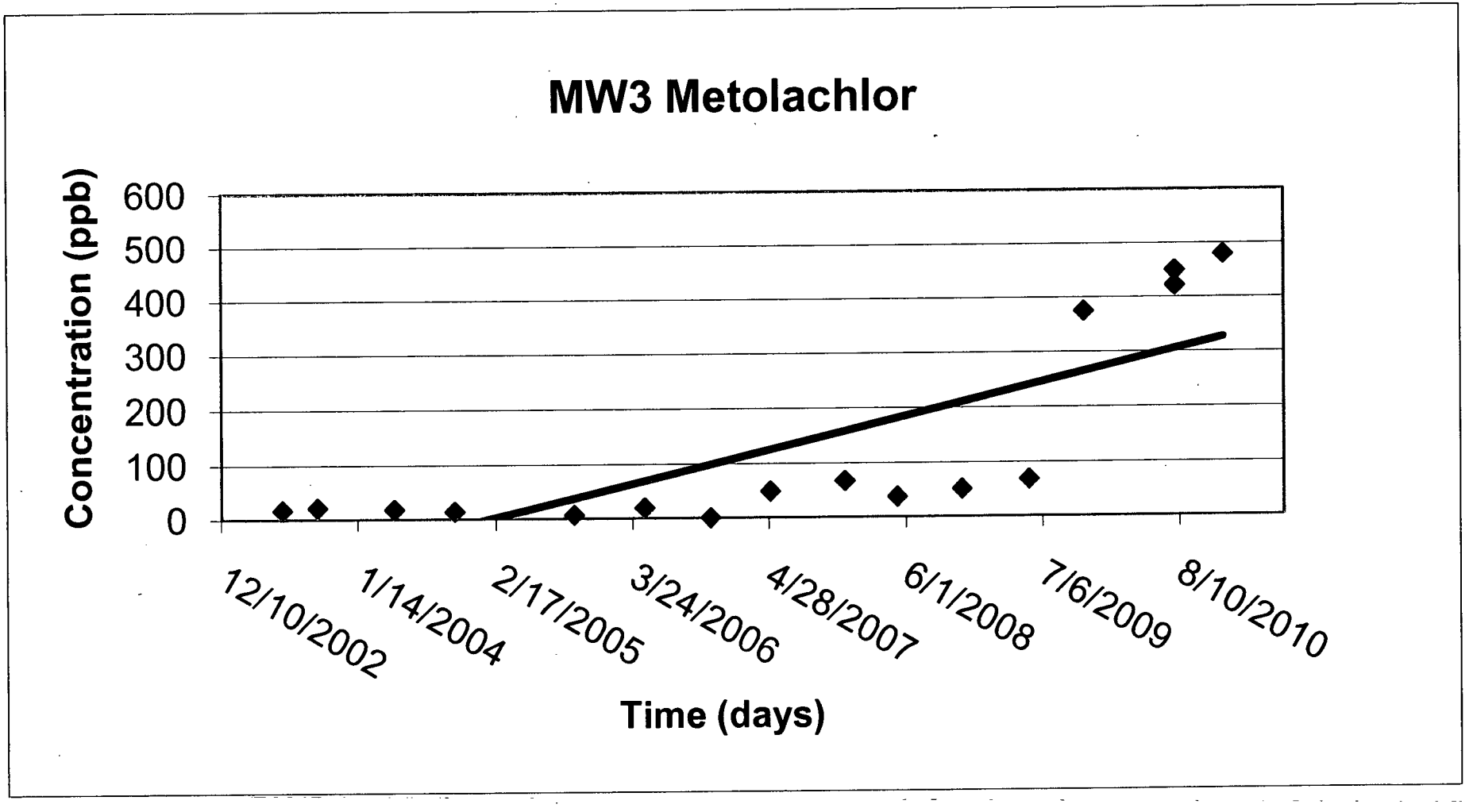
JOB DESCRIPTION: Former Thermogas Facility
CHS Inc
311 2ND AVENUE SW
BUFFALO CENTER, IOWA

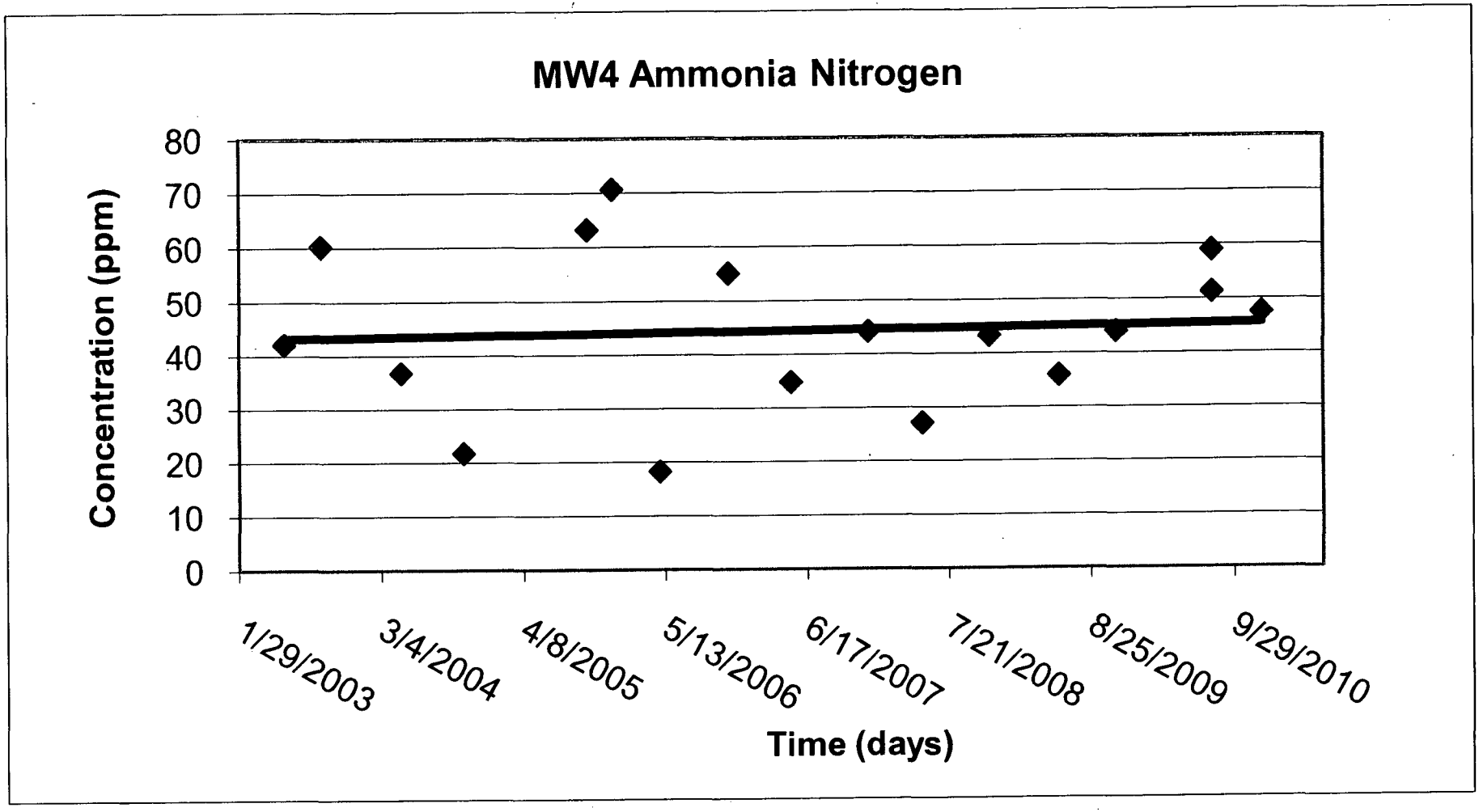
SHEET TITLE: SCALED SITE PLAN

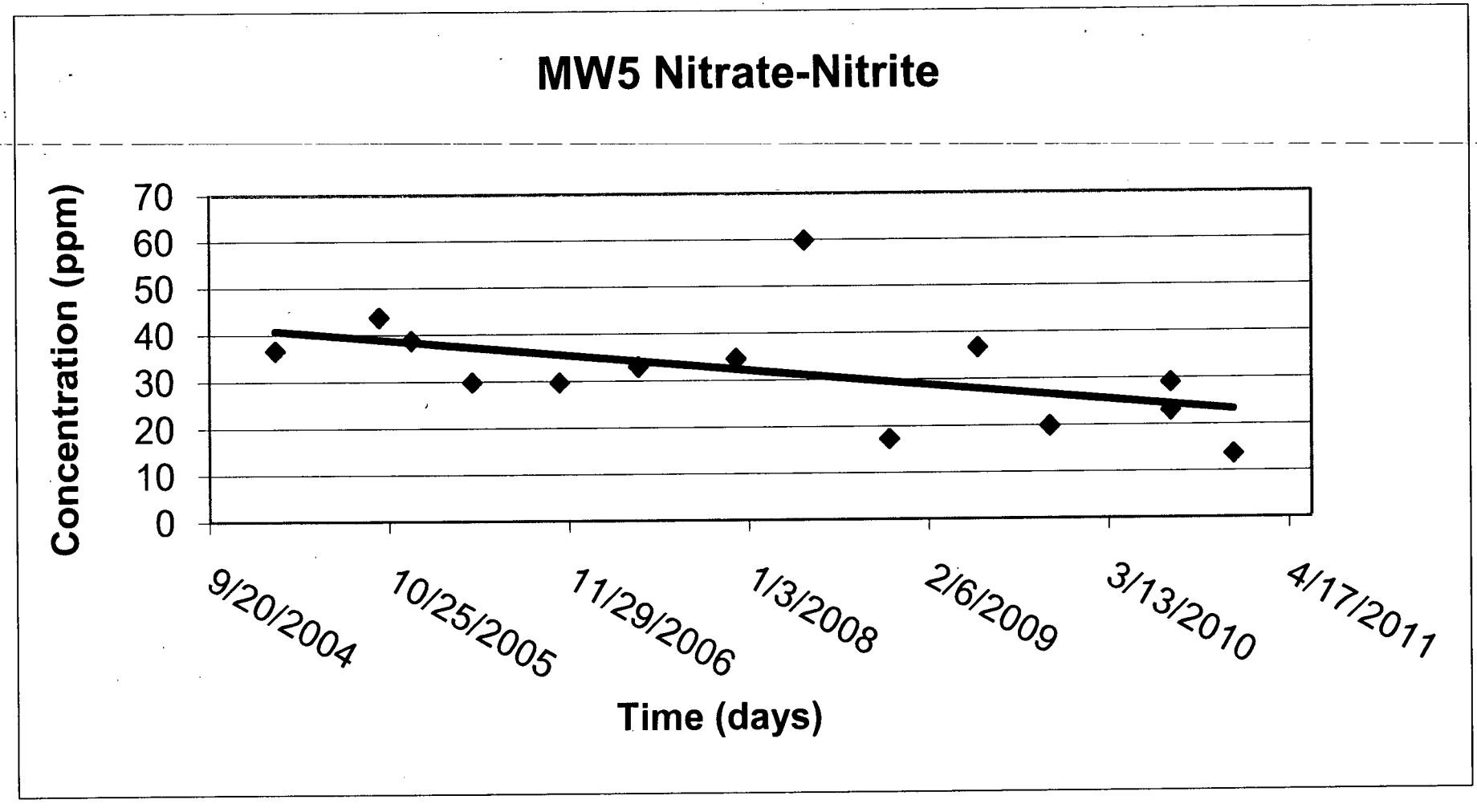
DATE: 9/29/03
DRAWN BY: DARRICK WORRALL
CHECKED BY: MIKE STEENHOEK
SCALE: 1"=30'
FILENAME: BUFFALO CENTER
PROJECT NO: 6235000
SHEET NO: 1 OF 1

Appendix 4

Data Plots/Trend Analysis


MW3 Metolachlor
Concentration (ppb)
600
500
400
300
200
100
0
12/10/2002
1/14/2004
2/17/2005
3/24/2006
4/28/2007
6/1/2008
7/6/2009
8/10/2010
Time (days)


MW4 Ammonia Nitrogen
Concentration (ppm)
80
70
60
50
40
30
20
10
0
1/29/2003
3/4/2004
4/8/2005
5/13/2006
6/17/2007
7/21/2008
8/25/2009
9/29/2010
Time (days)


MW5 Nitrate-Nitrite
Concentration (ppm)
70
60
50
40
30
20
10
0
9/20/2004
10/25/2005
11/29/2006
1/3/2008
2/6/2009
3/13/2010
4/17/2011
Time (days)

Appendix 5

Analytical Results

Keystone
LABORATORIES, INC.

MEMBER ACIL

19 August 2010

Jennifer Carpenter
Seneca Environmental Services
4140 NE. 14th St.
Des Moines, IA 50316

RE: Buffalo Center
6270403

Enclosed are the results of analyses for samples received by the laboratory on 07/30/10 11:20. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW8	10G1710-01	Water	07/28/10 12:00	07/30/10 11:20
MW1	10G1710-02	Water	07/28/10 11:55	07/30/10 11:20
MW7	10G1710-03	Water	07/28/10 12:05	07/30/10 11:20
MW12	10G1710-04	Water	07/28/10 11:45	07/30/10 11:20
MW9	10G1710-05	Water	07/28/10 12:10	07/30/10 11:20
MW3	10G1710-06	Water	07/28/10 12:25	07/30/10 11:20
MW10	10G1710-07	Water	07/28/10 12:20	07/30/10 11:20
MW11	10G1710-08	Water	07/28/10 11:50	07/30/10 11:20
MW5	10G1710-09	Water	07/28/10 12:15	07/30/10 11:20
MW4	10G1710-10	Water	07/28/10 12:30	07/30/10 11:20

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Phone 641-792-8451 600 East 17th Street South Fax 641-792-7989

Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW8

10G1710-01 (Water)

Date Sampled:7/28/2010 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1H00335	08/03/10	08/09/10	EPA 8141	
Butylate	**0.3**	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	08/09/10	"	
Trifluralin	ND	0.1	"	"	"	"	08/09/10	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	**1.4**	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	08/09/10	"	
Alachlor	**0.9**	0.1	"	"	"	"	08/09/10	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	08/09/10	"	
Metolachlor	**4.5**	0.5	"	"	"	"	08/09/10	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	**1.9**	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*98.8 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**8.4**	1.0	mg/l	1	1H00909	08/09/10	08/09/10	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**1.45**	0.40	"	2	1H01706	08/17/10	08/18/10	EPA 353.2	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Phone 641-792-8451 600 East 17th Street South Fax 641-792-7989

Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW8

10G1710-01RE1 (Water)

Date Sampled:7/28/2010 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Metribuzin	**59.1**	0.5	ug/l	5	1H00335	08/03/10	08/15/10	EPA 8141	
Surrogate: 2-Nitro-m-xylene		*75.6 %*	*60-129*		"	"	"	"	

Phone 641-792-8451 600 East 17th Street South Fax 641-792-7989

Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW1

10G1710-02 (Water)

Date Sampled:7/28/2010 11:55:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1H00335	08/03/10	08/09/10	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	08/09/10	"	
Trifluralin	ND	0.1	"	"	"	"	08/09/10	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	08/09/10	"	
Alachlor	ND	0.1	"	"	"	"	08/09/10	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	08/09/10	"	
Metolachlor	ND	0.5	"	"	"	"	08/09/10	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*99.8 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1H00909	08/09/10	08/09/10	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	ND	0.40	"	2	1H01706	08/17/10	08/18/10	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW7

10G1710-03 (Water)

Date Sampled:7/28/2010 12:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1H00335	08/03/10	08/09/10	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	**0.7**	0.1	"	"	"	"	08/09/10	"	
Trifluralin	ND	0.1	"	"	"	"	08/09/10	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	**0.2**	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	08/09/10	"	
Alachlor	**0.5**	0.1	"	"	"	"	08/09/10	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	08/09/10	"	
Metolachlor	**1.1**	0.5	"	"	"	"	08/09/10	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*94.1 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1H00909	08/09/10	08/09/10	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**2.21**	0.20	"	"	1H01706	08/17/10	08/18/10	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW12

10G1710-04 (Water)

Date Sampled:7/28/2010 11:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1H00335	08/03/10	08/09/10	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	**0.3**	0.1	"	"	"	"	08/09/10	"	
Trifluralin	ND	0.1	"	"	"	"	08/09/10	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	**0.1**	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	08/09/10	"	
Alachlor	ND	0.1	"	"	"	"	08/09/10	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	08/09/10	"	
Metolachlor	ND	0.5	"	"	"	"	08/09/10	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*94.5 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1H00909	08/09/10	08/09/10	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**0.61**	0.20	"	"	1H01706	08/17/10	08/18/10	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW9

10G1710-05 (Water)

Date Sampled:7/28/2010 12:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1H00335	08/03/10	08/09/10	EPA 8141	
Butylate	**0.4**	0.1	"	"	"	"	"	"	
Propachlor	**0.5**	0.1	"	"	"	"	08/09/10	"	
Trifluralin	ND	0.1	"	"	"	"	08/09/10	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	**0.1**	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	08/09/10	"	
Alachlor	ND	0.1	"	"	"	"	08/09/10	"	
Metribuzin	**4.7**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	08/09/10	"	
Metolachlor	**0.7**	0.5	"	"	"	"	08/09/10	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*100 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**1.8**	1.0	mg/l	1	1H00909	08/09/10	08/09/10	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**4.75**	2.00	"	10	1H01706	08/17/10	08/18/10	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW3

10G1710-06 (Water)

Date Sampled:7/28/2010 12:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1H00335	08/03/10	08/09/10	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	08/09/10	"	
Trifluralin	ND	0.1	"	"	"	"	08/09/10	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	08/09/10	"	
Alachlor	**1.4**	0.1	"	"	"	"	08/09/10	"	
Metribuzin	**3.9**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	08/09/10	"	
Pendimethalin	ND	0.5	"	"	"	"	08/09/10	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*88.4 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**7.2**	1.0	mg/l	1	1H00909	08/09/10	08/09/10	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**4.09**	2.00	"	10	1H01706	08/17/10	08/18/10	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW3

10G1710-06RE1 (Water)

Date Sampled:7/28/2010 12:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Metolachlor	**422**	25.0	ug/l	50	1H00335	08/03/10	08/15/10	EPA 8141	
Surrogate: 2-Nitro-m-xylene		*%*	*60-129*		"	"	"	"	*S-01*

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW10

10G1710-07 (Water)

Date Sampled:7/28/2010 12:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1H00335	08/03/10	08/09/10	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	08/09/10	"	
Trifluralin	ND	0.1	"	"	"	"	08/09/10	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	08/09/10	"	
Alachlor	ND	0.1	"	"	"	"	08/09/10	"	
Metribuzin	**3.6**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	08/09/10	"	
Metolachlor	ND	0.5	"	"	"	"	08/09/10	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*95.6 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1H00909	08/09/10	08/09/10	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**16.6**	2.00	"	10	1H01706	08/17/10	08/18/10	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW11

10G1710-08 (Water)

Date Sampled:7/28/2010 11:50:00AM

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1H00335	08/03/10	08/09/10	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	08/09/10	"	
Trifluralin	ND	0.1	"	"	"	"	08/09/10	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	08/09/10	"	
Alachlor	ND	0.1	"	"	"	"	08/09/10	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	08/09/10	"	
Metolachlor	ND	0.5	"	"	"	"	08/09/10	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*90.3 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1H00909	08/09/10	08/09/10	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	ND	0.40	"	2	1H01706	08/17/10	08/18/10	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW5

10G1710-09 (Water)

Date Sampled:7/28/2010 12:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1H00335	08/03/10	08/09/10	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	08/09/10	"	
Trifluralin	ND	0.1	"	"	"	"	08/09/10	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	08/09/10	"	
Alachlor	ND	0.1	"	"	"	"	08/09/10	"	
Metribuzin	**5.3**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	08/09/10	"	
Metolachlor	ND	0.5	"	"	"	"	08/09/10	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*85.0 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**26.7**	1.0	mg/l	1	1H00909	08/09/10	08/09/10	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**23.0**	2.00	"	10	1H01706	08/17/10	08/18/10	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW4

10G1710-10 (Water)

Date Sampled:7/28/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1H00335	08/03/10	08/09/10	EPA 8141	
Butylate	**0.9**	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	08/09/10	"	
Trifluralin	ND	0.1	"	"	"	"	08/09/10	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	**0.8**	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	08/09/10	"	
Alachlor	ND	0.1	"	"	"	"	08/09/10	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	08/09/10	"	
Pendimethalin	ND	0.5	"	"	"	"	08/09/10	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	**0.9**	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*99.3 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**51.3**	1.0	mg/l	1	1H00909	08/09/10	08/09/10	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**1.34**	0.20	"	"	1H01706	08/17/10	08/18/10	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

MW4

10G1710-10RE1 (Water)

Date Sampled:7/28/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Metribuzin	**172**	2.0	ug/l	20	1H00335	08/03/10	08/15/10	EPA 8141	
Metolachlor	**29.6**	10.0	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*74.1 %*	*60-129*		"	"	"	"	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Determination of Nitrogen/Phosphorus Herbicides & Insecticides - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 10H1601 - 1H00335										
Calibration Check (10H1601-CCV1)				Prepared & Analyzed: 08/08/10						
EPTC	1.27		ug/l	1.20000		106	80-120			
Butylate	1.25		"	1.20000		104	80-120			
Trifluralin	1.31		"	1.20000		109	80-120			
Terbufos	1.36		"	1.20000		113	80-120			
Atrazine	1.20		"	1.20000		100	80-120			
Simazine	1.24		"	1.20000		103	80-120			
Alachlor	1.26		"	1.21680		103	80-120			
Metribuzin	1.23		"	1.20000		102	80-120			
Metolachlor	1.30		"	1.20000		108	80-120			
Pendimethalin	1.23		"	1.20000		102	80-120			
Butachlor	1.20		"	1.20000		100	80-120			
Cyanazine	1.35		"	1.20000		113	80-120			
Acetochlor	1.26		"	1.20000		105	80-120			
Surrogate: 2-Nitro-m-xylene	*1.04*		"	*0.984800*		*105*	*80-120*			
Calibration Check (10H1601-CCV2)				Prepared: 08/08/10 Analyzed: 08/09/10						
EPTC	1.00		ug/l	1.20000		83.1	80-120			
Butylate	1.00		"	1.20000		83.4	80-120			
Propachlor	1.17		"	1.20000		97.6	80-120			
Trifluralin	1.06		"	1.20000		88.2	80-120			
Terbufos	1.28		"	1.20000		107	80-120			
Atrazine	1.11		"	1.20000		92.6	80-120			
Simazine	1.01		"	1.20000		84.3	80-120			
Alachlor	1.04		"	1.21680		85.6	80-120			
Metribuzin	0.98		"	1.20000		81.9	80-120			
Metolachlor	1.03		"	1.20000		85.8	80-120			
Pendimethalin	1.17		"	1.20000		97.3	80-120			
Butachlor	1.05		"	1.20000		87.3	80-120			
Cyanazine	1.08		"	1.20000		89.8	80-120			
Acetochlor	1.06		"	1.20000		88.7	80-120			
Surrogate: 2-Nitro-m-xylene	*0.810*		"	*0.984800*		*82.3*	*80-120*			

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Seneca Environmental Services	Project: Buffalo Center	Reported
4140 NE. 14th St.	Project Number: 6270403	08/19/10 10:13
Des Moines IA, 50316	Project Manager: Jennifer Carpenter	

Determination of Nitrogen/Phosphorus Herbicides & Insecticides - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 10H1623 - 1H00447										
Calibration Check (10H1623-CCV1)				Prepared & Analyzed: 08/15/10						
EPTC	1.14		mg/kg wet	1.20000		94.9	80-120			
Butylate	1.11		"	1.20000		92.2	80-120			
Propachlor	1.20		"	1.20000		100	80-120			
Trifluralin	1.07		"	1.20000		89.2	80-120			
Terbufos	1.15		"	1.20000		95.8	80-120			
Atrazine	1.28		"	1.20000		107	80-120			
Simazine	1.07		"	1.20000		89.3	80-120			
Alachlor	1.12		"	1.21680		92.0	80-120			
Metribuzin	1.20		"	1.20000		100	80-120			
Metolachlor	1.11		"	1.20000		92.2	80-120			
Pendimethalin	1.18		"	1.20000		98.6	80-120			
Butachlor	1.12		"	1.20000		93.5	80-120			
Cyanazine	1.21		"	1.20000		101	80-120			
Acetochlor	1.10		"	1.20000		91.5	80-120			
Surrogate: 2-Nitro-m-xylene	*0.908*		"	*0.984800*		*92.2*	*80-120*			
Calibration Check (10H1623-CCV2)				Prepared: 08/15/10 Analyzed: 08/16/10						
EPTC	1.13		mg/kg wet	1.20000		93.9	80-120			
Butylate	1.11		"	1.20000		92.5	80-120			
Trifluralin	1.04		"	1.20000		86.8	80-120			
Terbufos	1.17		"	1.20000		97.7	80-120			
Atrazine	1.20		"	1.20000		99.8	80-120			
Simazine	1.09		"	1.20000		91.0	80-120			
Alachlor	1.03		"	1.21680		84.8	80-120			
Metribuzin	1.09		"	1.20000		91.2	80-120			
Metolachlor	1.07		"	1.20000		88.8	80-120			
Pendimethalin	1.18		"	1.20000		98.7	80-120			
Butachlor	1.13		"	1.20000		94.2	80-120			
Cyanazine	1.18		"	1.20000		98.5	80-120			
Acetochlor	1.04		"	1.20000		86.8	80-120			
Surrogate: 2-Nitro-m-xylene	*0.887*		"	*0.984800*		*90.1*	*80-120*			

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Determination of Nitrogen/Phosphorus Herbicides & Insecticides - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H00335 - 3510C NP/OC Sep Fnl										
Blank (1H00335-BLK1)				Prepared: 08/03/10 Analyzed: 08/09/10						
EPTC	ND	0.1	ug/l							
Butylate	ND	0.1	"							
Propachlor	ND	0.1	"							
Trifluralin	ND	0.1	"							
Terbufos	ND	0.1	"							
Atrazine	ND	0.1	"							
Simazine	ND	0.1	"							
Atrazine Desethyl	ND	0.2	"							
Alachlor	ND	0.1	"							
Metribuzin	ND	0.1	"							
Metolachlor	ND	0.5	"							
Atrazine Desisopropyl	ND	0.2	"							
Pendimethalin	ND	0.5	"							
Butachlor	ND	0.5	"							
Cyanazine	ND	0.1	"							
Acetochlor	ND	0.2	"							
Surrogate: 2-Nitro-m-xylene	*8.22*		"	*9.84800*		*83.5*	*60-129*			
LCS (1H00335-BS1)				Prepared: 08/03/10 Analyzed: 08/09/10						
EPTC	2.50	0.1	ug/l	2.50000		99.8	60-123			
Butylate	2.48	0.1	"	2.51850		98.3	60-119			
Propachlor	2.12	0.1	"	2.50000		84.8	60-135			
Trifluralin	2.42	0.1	"	2.50000		97.0	60-123			
Terbufos	3.18	0.1	"	2.50000		127	60-140			
Atrazine	2.38	0.1	"	2.46300		96.4	60-129			
Simazine	2.53	0.1	"	2.47500		102	60-133			
Alachlor	2.90	0.1	"	2.53500		114	60-126			
Metribuzin	2.30	0.1	"	2.50000		92.2	60-121			
Metolachlor	2.59	0.5	"	2.50000		104	60-131			
Pendimethalin	2.43	0.5	"	2.51750		96.5	60-127			
Butachlor	2.40	0.5	"	2.50000		96.0	60-140			
Cyanazine	2.36	0.1	"	2.50000		94.4	60-129			
Acetochlor	2.59	0.2	"	2.50000		104	60-130			
Surrogate: 2-Nitro-m-xylene	*9.26*		"	*9.84800*		*94.0*	*60-129*			

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Seneca Environmental Services	Project: Buffalo Center	Reported
4140 NE. 14th St.	Project Number: 6270403	08/19/10 10:13
Des Moines IA, 50316	Project Manager: Jennifer Carpenter	

Determination of Nitrogen/Phosphorus Herbicides & Insecticides - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H00335 - 3510C NP/OC Sep Fnl										
LCS Dup (1H00335-BSD1)				Prepared: 08/03/10 Analyzed: 08/09/10						
EPTC	2.24	0.1	ug/l	2.50000		89.4	60-123	11.0	30	
Butylate	2.22	0.1	"	2.51850		88.1	60-119	10.9	30	
Propachlor	2.42	0.1	"	2.50000		97.0	60-135	13.4	30	
Trifluralin	2.19	0.1	"	2.50000		87.6	60-123	10.2	30	
Terbufos	3.07	0.1	"	2.50000		123	60-140	3.52	30	
Atrazine	2.09	0.1	"	2.46300		84.9	60-129	12.8	30	
Simazine	2.90	0.1	"	2.47500		117	60-133	13.5	30	
Alachlor	2.64	0.1	"	2.53500		104	60-126	9.40	24	
Metribuzin	2.14	0.1	"	2.50000		85.8	60-121	7.19	30	
Metolachlor	2.32	0.5	"	2.50000		92.6	60-131	11.2	30	
Pendimethalin	2.47	0.5	"	2.51750		98.1	60-127	1.63	30	
Butachlor	2.22	0.5	"	2.50000		88.6	60-140	8.02	30	
Cyanazine	2.31	0.1	"	2.50000		92.4	60-129	2.14	30	
Acetochlor	2.86	0.2	"	2.50000		114	60-130	9.73	30	
Surrogate: 2-Nitro-m-xylene	*8.52*		"	*9.84800*		*86.5*	*60-129*			
Reference (1H00335-SRM1)				Prepared: 08/03/10 Analyzed: 08/09/10						
EPTC	2.32	0.1	ug/l	2.50000		93.0	70-130			
Butylate	2.33	0.1	"	2.51850		92.5	70-130			
Propachlor	2.69	0.1	"	2.50000		108	70-130			
Trifluralin	2.14	0.1	"	2.50000		85.4	70-130			
Terbufos	3.16	0.1	"	2.50000		126	70-130			
Atrazine	2.05	0.1	"	2.46300		83.2	70-130			
Simazine	2.47	0.1	"	2.47500		99.8	70-130			
Alachlor	2.34	0.1	"	2.53500		92.3	70-130			
Metribuzin	2.16	0.1	"	2.50000		86.4	70-130			
Metolachlor	2.28	0.5	"	2.50000		91.2	70-130			
Pendimethalin	2.56	0.5	"	2.51750		101	70-130			
Butachlor	2.20	0.5	"	2.50000		88.2	70-130			
Cyanazine	2.56	0.1	"	2.50000		103	70-130			
Acetochlor	2.20	0.2	"	2.50000		88.0	70-130			
Surrogate: 2-Nitro-m-xylene	*9.03*		"	*9.84800*		*91.7*	*60-129*			

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 10H0903 - 1H00909										
Calibration Check (10H0903-CCV1)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.39		mg/l	5.00000		108	90-110			
Calibration Check (10H0903-CCV2)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.41		mg/l	5.00000		108	90-110			
Calibration Check (10H0903-CCV3)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.44		mg/l	5.00000		109	90-110			
Calibration Check (10H0903-CCV4)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.41		mg/l	5.00000		108	90-110			
Calibration Check (10H0903-CCV5)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.37		mg/l	5.00000		107	90-110			
Calibration Check (10H0903-CCV6)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.48		mg/l	5.00000		110	90-110			
Calibration Check (10H0903-CCV7)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.39		mg/l	5.00000		108	90-110			
Calibration Check (10H0903-CCV8)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.33		mg/l	5.00000		107	90-110			
Calibration Check (10H0903-CCV9)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.22		mg/l	5.00000		104	90-110			
Calibration Check (10H0903-CCVA)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.48		mg/l	5.00000		110	90-110			

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 10H0903 - 1H00909										
Calibration Check (10H0903-CCVB)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.37		mg/l	5.00000		107	90-110			
Initial Cal Check (10H0903-ICV1)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.33		mg/l	5.00000		107	90-110			
Batch 10H1819 - 1H01846										
Calibration Blank (10H1819-CCB1)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	-0.10		mg/l							
Calibration Blank (10H1819-CCB2)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	0.01		mg/l							
Calibration Blank (10H1819-CCB3)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	-0.07		mg/l							
Calibration Blank (10H1819-CCB4)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	0.06		mg/l							
Calibration Blank (10H1819-CCB5)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	-0.03		mg/l							
Calibration Blank (10H1819-CCB6)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	0.06		mg/l							
Calibration Blank (10H1819-CCB7)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	-0.007		mg/l							

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 10H1819 - 1H01846										
Calibration Blank (10H1819-CCB8)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	0.04		mg/l							
Calibration Blank (10H1819-CCB9)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	0.07		mg/l							
Calibration Blank (10H1819-CCBA)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	-0.02		mg/l							
Calibration Blank (10H1819-CCBB)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	0.002		mg/l							
Calibration Blank (10H1819-CCBC)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	0.04		mg/l							
Calibration Blank (10H1819-CCBD)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	0.03		mg/l							
Calibration Blank (10H1819-CCBE)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	0.01		mg/l							
Calibration Blank (10H1819-CCBF)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	-0.03		mg/l							
Calibration Blank (10H1819-CCBG)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	-0.02		mg/l							
Calibration Blank (10H1819-CCBH)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	-0.12		mg/l							

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 10H1819 - 1H01846										
Calibration Blank (10H1819-CCBI)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	-0.06		mg/l							
Calibration Blank (10H1819-CCBJ)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	-0.18		mg/l							
Calibration Blank (10H1819-CCBK)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	0.08		mg/l							
Calibration Check (10H1819-CCV1)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.66		mg/l	3.93600		93.0	90-110			
Calibration Check (10H1819-CCV2)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.81		mg/l	3.93600		96.9	90-110			
Calibration Check (10H1819-CCV3)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.88		mg/l	3.93600		98.5	90-110			
Calibration Check (10H1819-CCV4)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	4.02		mg/l	3.93600		102	90-110			
Calibration Check (10H1819-CCV5)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.82		mg/l	3.93600		96.9	90-110			
Calibration Check (10H1819-CCV6)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.97		mg/l	3.93600		101	90-110			
Calibration Check (10H1819-CCV7)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.81		mg/l	3.93600		96.8	90-110			

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 10H1819 - 1H01846										
Calibration Check (10H1819-CCV8)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.95		mg/l	3.93600		100	90-110			
Calibration Check (10H1819-CCV9)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.93		mg/l	3.93600		99.8	90-110			
Calibration Check (10H1819-CCVA)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.90		mg/l	3.93600		99.1	90-110			
Calibration Check (10H1819-CCVB)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.94		mg/l	3.93600		100	90-110			
Calibration Check (10H1819-CCVC)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.88		mg/l	3.93600		98.6	90-110			
Calibration Check (10H1819-CCVD)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	4.10		mg/l	3.93600		104	90-110			
Calibration Check (10H1819-CCVE)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	4.12		mg/l	3.93600		105	90-110			
Calibration Check (10H1819-CCVF)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	4.07		mg/l	3.93600		104	90-110			
Calibration Check (10H1819-CCVG)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	4.32		mg/l	3.93600		110	90-110			
Calibration Check (10H1819-CCVH)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	4.04		mg/l	3.93600		103	90-110			

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 10H1819 - 1H01846										
Calibration Check (10H1819-CCVI)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.78		mg/l	3.93600		96.1	90-110			
Calibration Check (10H1819-CCVJ)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.93		mg/l	3.93600		99.8	90-110			
Calibration Check (10H1819-CCVK)				Prepared & Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	4.00		mg/l	3.93600		102	90-110			
Batch 1H00909 - Wet Chem Preparation										
Blank (1H00909-BLK1)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	ND	1.0	mg/l							
Blank (1H00909-BLK2)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	ND	1.0	mg/l							
Blank (1H00909-BLK3)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	ND	1.0	mg/l							
Blank (1H00909-BLK4)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	ND	1.0	mg/l							
Blank (1H00909-BLK5)				Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	ND	1.0	mg/l							
Matrix Spike (1H00909-MS1)		**Source: 10G1710-01**		Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	13.3	1.0	mg/l	5.00000	8.36	98.8	86-140			

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H00909 - Wet Chem Preparation										
Matrix Spike (1H00909-MS2)		**Source: 10G1714-01**		Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.84	1.0	mg/l	5.00000	1.70	82.8	86-140			
Matrix Spike (1H00909-MS3)		**Source: 10G1715-07**		Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.39	1.0	mg/l	5.00000	ND	108	86-140			
Matrix Spike (1H00909-MS4)		**Source: 10H0229-03**		Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.65	1.0	mg/l	5.00000	ND	113	86-140			
Matrix Spike (1H00909-MS5)		**Source: 10H0231-07**		Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.93	1.0	mg/l	5.00000	1.18	95.0	86-140			
Matrix Spike Dup (1H00909-MSD1)		**Source: 10G1710-01**		Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	13.7	1.0	mg/l	5.00000	8.36	107	86-140	2.96	10	
Matrix Spike Dup (1H00909-MSD2)		**Source: 10G1714-01**		Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.41	1.0	mg/l	5.00000	1.70	74.2	86-140	7.64	10	
Matrix Spike Dup (1H00909-MSD3)		**Source: 10G1715-07**		Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.44	1.0	mg/l	5.00000	ND	109	86-140	0.923	10	
Matrix Spike Dup (1H00909-MSD4)		**Source: 10H0229-03**		Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.59	1.0	mg/l	5.00000	ND	112	86-140	1.07	10	
Matrix Spike Dup (1H00909-MSD5)		**Source: 10H0231-07**		Prepared & Analyzed: 08/09/10						
Nitrogen, Ammonia	5.63	1.0	mg/l	5.00000	1.18	89.0	86-140	5.19	10	
Batch 1H01706 - Wet Chem Preparation										
Blank (1H01706-BLK1)				Prepared: 08/17/10 Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	ND	0.20	mg/l							

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Phone 641-792-8451 600 East 17th Street South Fax 641-792-7989

Seneca Environmental Services	Project: Buffalo Center	Reported
4140 NE. 14th St.	Project Number: 6270403	08/19/10 10:13
Des Moines IA, 50316	Project Manager: Jennifer Carpenter	

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1H01706 - Wet Chem Preparation										
Blank (1H01706-BLK2)				Prepared: 08/17/10 Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	ND	0.20	mg/l							
LCS (1H01706-BS1)				Prepared: 08/17/10 Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.77	0.40	mg/l	4.00000		94.4	77-113			
LCS (1H01706-BS2)				Prepared: 08/17/10 Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	3.70	0.40	mg/l	4.00000		92.5	77-113			
Matrix Spike (1H01706-MS1)		Source: 10G1710-04		Prepared: 08/17/10 Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	2.46	0.20	mg/l	2.04082	0.61	90.9	60-126			
Matrix Spike (1H01706-MS2)		Source: 10G1714-07		Prepared: 08/17/10 Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	6.15	0.20	mg/l	2.04082	4.31	89.8	60-126			
Matrix Spike Dup (1H01706-MSD1)		Source: 10G1710-04		Prepared: 08/17/10 Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	2.43	0.20	mg/l	2.04082	0.61	89.5	60-126	1.17	10	
Matrix Spike Dup (1H01706-MSD2)		Source: 10G1714-07		Prepared: 08/17/10 Analyzed: 08/18/10						
Nitrogen, Nitrate+Nitrite	5.97	0.20	mg/l	2.04082	4.31	81.4	60-126	2.85	10	

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Phone 641-792-8451 600 East 17th Street South Fax 641-792-7989

Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Certified Analyses Included in This Report

Method/Matrix	Analyte	Certifications
EPA 353.2 in Sludge		
	Nitrogen, Nitrate+Nitrite	SIA1X
EPA 353.2 in Water		
	Nitrogen, Nitrate+Nitrite	IA-NT,KS-NT,NELAC
EPA 8141 in Soil		
	Trifluralin	SIA1X
	Terbufos	SIA1X
	Atrazine	IA-NT,KS-NT
	Simazine	KS-NT
	Atrazine Desethyl	SIA1X
	Alachlor	SIA1X
	Metribuzin	SIA1X
	Atrazine Desisopropyl	SIA1X
	Metolachlor	SIA1X
	Cyanazine	SIA1X
	Acetochlor	SIA1X
EPA 8141 in Water		
	Trifluralin	SIA1X
	Terbufos	SIA1X
	Atrazine	IA-NT,KS-NT
	Simazine	KS-NT
	Atrazine Desethyl	SIA1X
	Alachlor	SIA1X
	Metribuzin	SIA1X
	Atrazine Desisopropyl	SIA1X
	Metolachlor	SIA1X
	Cyanazine	SIA1X
	Acetochlor	SIA1X
SM 4500-NH3 F in Water		
	Nitrogen, Ammonia	SIA1X

Code	Certifying Authority	Certificate Number	Expires
KS-NT	Kansas Department of Health and Environment	E-10287	10/31/2010
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2010
SIA1X	Iowa Department of Natural Resources	95	10/31/2010

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Phone 641-792-8451 600 East 17th Street South Fax 641-792-7989

Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Notes and Definitions

S-07	The surrogate recovery for this sample is outside of established control limits.
S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate (CLP E-flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Phone 641-792-8451 600 East 17th Street South Fax 641-792-7989

Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 08/19/10 10:13

Sue Thompson

Sue Thompson
Project Manager I

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Phone 641-792-8451 600 East 17th Street South Fax 641-792-7989

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.
600 East 17th Street South
Newton, IA 50208
641-792-8451

PO # 238534CL

Printed: 7/15/2010 1:22:27PM
www.keystonelabs.c

SITE INFORMATION
Sampler: Cole
Project: Buffalo Center
6270403

REPORT TO
Jennifer Carpenter
Seneca Environmental Services
4140 NE. 14th St.
Des Moines, IA 50316

INVOICE TO
Gayle Tate
Seneca Environmental Services - Billing
P.O. Box 3360
Des Moines, IA 50313

SPECIAL INSTRUCTIONS
None

Turn Around Time
☑ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY
Work Order 10G1710
Temperature
Turn-Cooler: No

☐ Custody Seal
☐ Containers Intact
☐ COC/Labels Agree
☐ Preservation Confirmed
☐ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
~~01-001~~	~~MW13~~	~~Water~~	~~GRAB~~	/ /			~~nh3-probe-4500~~ 8141-103	~~nox-353.2~~	
02-001	MW8	Water	GRAB	7/29/10	12:00	2	nh3-probe-4500 8141-103	nox-353.2	01
03-001	MW1	Water	GRAB	/ /	11:55		nh3-probe-4500 8141-103	nox-353.2	02
04-001	MW7	Water	GRAB	/ /	12:05		nh3-probe-4500 8141-103	nox-353.2	03
05-001	MW12	Water	GRAB	/ /	11:45		nh3-probe-4500 8141-103	nox-353.2	04
06-001	MW9	Water	GRAB	/ /	12:10		nh3-probe-4500 8141-103	nox-353.2	05
07-001	MW3	Water	GRAB	/ /	12:25		nh3-probe-4500 8141-103	nox-353.2	06

J. Carpenter 7/30/10 9a
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Dee 7/30/10 11:20 Am
Received for Lab By Date/Time

Remarks:

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.
600 East 17th Street South
Newton, IA 50208
641-792-8451

PO# 238534CL

Printed: 7/15/2010 1:22:27PM
www.keystonelabs.com

SITE INFORMATION
Sampler: CL
Project: Buffalo Center
6270403

REPORT TO
Jennifer Carpenter
Seneca Environmental Services
4140 NE. 14th St.
Des Moines, IA 50316

INVOICE TO
Gayle Tate
Seneca Environmental Services - Billing
P.O. Box 3360
Des Moines, IA 50313

SPECIAL INSTRUCTIONS
None

Turn Around Time
☑ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY
Work Order 10G-1710
Temperature
Turn-Cooler: No

☐ Custody Seal
☐ Containers Intact
☐ COC/Labels Agree
☐ Preservation Confirmed
☐ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
08-001	MW10	Water	GRAB	7/28/10	12:20	2	nh3-probe-4500 8141-103	nox-353.2	07
~~09-001~~	~~MW2~~	~~Water~~	~~GRAB~~	/ /			~~nh3-probe-4500 8141-103~~	~~nox-353.2~~	
10-001	MW11	Water	GRAB	7/28/10	11:50	2	nh3-probe-4500 8141-103	nox-353.2	08
11-001	MW5	Water	GRAB	/ /	12:15		nh3-probe-4500 8141-103	nox-353.2	09
12-001	MW4	Water	GRAB	/ /	12:30		nh3-probe-4500 8141-103	nox-353.2	10

Relinquished By — Date/Time: 7/30/10 9a
Received By — Date/Time
Relinquished By — Date/Time
Received for Lab By: Bill — Date/Time: 7/30/10 11:20 AM

Remarks:

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

Hygienic Laboratory

The University of Iowa

Date of report: 08-17-2010

TAMI RICE
IDNR CONTAMINATED SITES
502 EAST NINTH STREET

DES MOINES IA 50319-0034

Sample Number	**2010028025**
Date Received	07-29-2010
Project	WMSF
Date Collected	07-28-2010 11:18
Collection Site	mw-12
Collection Town	Buffalo Center
Description	water
Reference	THERMOGAS BUFFALO CT
Collector	RICE TAMI S.
Phone	(515) 281-4420
Purchase Order	19745

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Nitrogen or Phosphorous Pesticides

Analyte	Concentration ug/L	Quantitation Limit ug/L
Atrazine	<0.1	0.1
Cyanazine	<0.1	0.1
Metolachlor	<0.1	0.1
Alachlor	<0.1	0.1
Metribuzin	<0.1	0.1
Butylate	<0.1	0.1
Trifluralin	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1
Simazine	0.11	0.1
Ametryn	<0.1	0.1
EPTC	<0.1	0.1
Prometon	<0.1	0.1
Propachlor	<0.1	0.1
Propazine	<0.1	0.1
Dimethenamid	<0.1	0.1
Butachlor	<0.1	0.1
Bromacil	1.0	0.1

Date Analyzed: 08-05-2010
Method: EPA 8141
Date Prepared: 07-30-2010

Analyzed at: Iowa City

Analyst: PB
Verified: VR
Analyst: KB
Verified: GJ

Page 1 - Continued on next page

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Michael A. Pentella, Ph.D.
Associate Directors

102 Oakdale Campus, #101 OH
Iowa City, Iowa 52242-5002
319/335-4500 Fax: 319/335-4555

http://www.uhl.uiowa.edu

Iowa Laboratories Complex
2220 S. Ankeny Blvd. Ankeny, Iowa 50023
515/725-1600 Fax: 515/725-1642

Nitrate + Nitrite as Nitrate N (Water)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Nitrate + Nitrite Nitrogen as N	0.55	0.10

Date Analyzed: 08-06-2010 Analyzed at: Ankeny Analyst: JE
Method: EPA 353.2 Verified: DS

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	<0.05	0.05

Date Analyzed: 08-04-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter ug/L - Micrograms per Liter
Quant Limit - Lowest concentration reliably measured

The results of this report relate only to the items analyzed. This report shall not be reproduced except in full without the written approval of the laboratory.

Iowa Environmental Laboratory IDs are: Ankeny #397, Iowa City #027, Lakeside #393.

If you have any questions please call Client Services at 800/421-IOWA (4692) or 319/335-4500. Thank you.

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515/725-1600 Fax: 515/725-1642

Hygienic Laboratory

The University of Iowa

Date of report: 08-17-2010

TAMI RICE
IDNR CONTAMINATED SITES
502 EAST NINTH STREET

DES MOINES IA 50319-0034

Sample Number	**2010028026**
Date Received	07-29-2010
Project	WMSF
Date Collected	07-28-2010 11:25
Collection Site	mw-11
Collection Town	Buffalo Center
Description	water
Reference	THERMOGAS BUFFALO CT
Collector	RICE TAMI S.
Phone	(515) 281-4420
Purchase Order	19745

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Nitrogen or Phosphorous Pesticides

Analyte	Concentration ug/L	Quantitation Limit ug/L
Atrazine	<0.1	0.1
Cyanazine	<0.1	0.1
Metolachlor	<0.1	0.1
Alachlor	<0.1	0.1
Metribuzin	<0.1	0.1
Butylate	<0.1	0.1
Trifluralin	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1
Simazine	0.13	0.1
Ametryn	<0.1	0.1
EPTC	<0.1	0.1
Prometon	0.25	0.1
Propachlor	<0.1	0.1
Propazine	<0.1	0.1
Dimethenamid	<0.1	0.1
Butachlor	<0.1	0.1
Bromacil	4.6	1

Date Analyzed: 08-05-2010
Method: EPA 8141
Date Prepared: 07-30-2010

Analyzed at: Iowa City

Analyst: PB
Verified: VR
Analyst: KB
Verified: GJ

Page 1 - Continued on next page

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2220 S. Ankeny Blvd, Ankeny, Iowa 50023
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Nitrate + Nitrite as Nitrate N (Water)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Nitrate + Nitrite Nitrogen as N	<0.10	0.10

Date Analyzed: 08-06-2010 Analyzed at: Ankeny Analyst: JE
Method: EPA 353.2 Verified: DS

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	<0.05	0.05

Date Analyzed: 08-04-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter ug/L - Micrograms per Liter
Quant Limit - Lowest concentration reliably measured

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Hygienic Laboratory

The University of Iowa

Date of report: 08-17-2010

TAMI RICE
IDNR CONTAMINATED SITES
502 EAST NINTH STREET

DES MOINES IA 50319-0034

Sample Number	**2010028027**
Date Received	07-29-2010
Project	WMSF
Date Collected	07-28-2010 11:34
Collection Site	mw-1
Collection Town	Buffalo Center
Description	water
Reference	THERMOGAS BUFFALO CT
Collector	RICE TAMI S.
Phone	(515) 281-4420
Purchase Order	19745

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Nitrogen or Phosphorous Pesticides

Analyte	Concentration ug/L	Quantitation Limit ug/L
Atrazine	<0.1	0.1
Cyanazine	<0.1	0.1
Metolachlor	<0.1	0.1
Alachlor	<0.1	0.1
Metribuzin	<0.1	0.1
Butylate	<0.1	0.1
Trifluralin	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1
Simazine	<0.1	0.1
Ametryn	<0.1	0.1
EPTC	<0.1	0.1
Prometon	<0.1	0.1
Propachlor	<0.1	0.1
Propazine	<0.1	0.1
Dimethenamid	<0.1	0.1
Butachlor	<0.1	0.1

Date Analyzed: 08-05-2010
Method: EPA 8141
Date Prepared: 07-30-2010

Analyzed at: Iowa City

Analyst: PB
Verified: VR
Analyst: KB
Verified: GJ

Page 1 - Continued on next page

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Iowa Laboratories Complex
2220 S. Ankeny Blvd. Ankeny, Iowa 50023
515/725-1600 Fax: 515/725-1642

Nitrate + Nitrite as Nitrate N (Water)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Nitrate + Nitrite Nitrogen as N	<0.10	0.10

Date Analyzed: 08-03-2010 Analyzed at: Ankeny Analyst: JE
Method: EPA 353.2 Verified: DS

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	0.31	0.05

Date Analyzed: 08-04-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter ug/L - Micrograms per Liter
Quant Limit - Lowest concentration reliably measured

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515/725-1600 Fax: 515/725-1642

Hygienic Laboratory

The University of Iowa

Date of report: 08-17-2010

TAMI RICE
IDNR CONTAMINATED SITES
502 EAST NINTH STREET

DES MOINES IA 50319-0034

Sample Number	**2010028028**
Date Received	07-29-2010
Project	WMSF
Date Collected	07-28-2010 11:39
Collection Site	mw-8
Collection Town	Buffalo Center
Description	water
Reference	THERMOGAS BUFFALO CT
Collector	RICE TAMI S.
Phone	(515) 281-4420
Purchase Order	19745

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Nitrogen or Phosphorous Pesticides

Analyte	Concentration ug/L	Quantitation Limit ug/L
Atrazine	<1	1
Cyanazine	<1	1
Metolachlor	4.0	1
Alachlor	<1	1
Metribuzin	50	10
Butylate	<1	1
Trifluralin	<1	1
Acetochlor	<1	1
Desethyl Atrazine	<1	1
Desisopropyl Atrazine	<1	1
Simazine	1.5	1
Ametryn	<1	1
EPTC	<1	1
Prometon	<1	1
Propachlor	<1	1
Propazine	<1	1
Dimethenamid	<1	1
Butachlor	<1	1
Bromacil	47	10

Comments: *The quantitation limit is adjusted for dilution of the sample. A dilution was necessary in order to bring the response of requested analytes into the calibration range.*

Date Analyzed: 08-05-2010
Method: EPA 8141
Date Prepared: 07-30-2010

Analyzed at: Iowa City

Analyst: PB
Verified: VR
Analyst: KB
Verified: GJ

Page 1 - Continued on next page

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Iowa Laboratories Complex
2220 S. Ankeny Blvd, Ankeny, Iowa 50023
515/725-1600 Fax: 515/725-1642

Nitrate + Nitrite as Nitrate N (Water)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Nitrate + Nitrite Nitrogen as N	1.2	0.10

Date Analyzed: 08-06-2010 Analyzed at: Ankeny Analyst: JE
Method: EPA 353.2 Verified: DS

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	7.9	0.05

Date Analyzed: 08-12-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter ug/L - Micrograms per Liter
Quant Limit - Lowest concentration reliably measured

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Associate Directors

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Iowa Laboratories Complex
2220 S. Ankeny Blvd. Ankeny, Iowa 50023
515/725-1600 Fax: 515/725-1642

Hygienic Laboratory

The University of Iowa

Date of report: 08-17-2010

TAMI RICE
IDNR CONTAMINATED SITES
502 EAST NINTH STREET

DES MOINES IA 50319-0034

Sample Number	**2010028029**
Date Received	07-29-2010
Project	WMSF
Date Collected	07-28-2010 11:45
Collection Site	mw-7
Collection Town	Buffalo Center
Description	water
Reference	THERMOGAS BUFFALO CT
Collector	RICE TAMI S.
Phone	(515) 281-4420
Purchase Order	19745

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Nitrogen or Phosphorous Pesticides

Analyte	Concentration ug/L	Quantitation Limit ug/L
Atrazine	0.20	0.1
Cyanazine	<0.1	0.1
Metolachlor	0.97	0.1
Alachlor	0.26	0.1
Metribuzin	<0.1	0.1
Butylate	<0.1	0.1
Trifluralin	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	0.13	0.1
Simazine	<0.1	0.1
Ametryn	<0.1	0.1
EPTC	<0.1	0.1
Prometon	0.20	0.1
Propachlor	<0.1	0.1
Propazine	<0.1	0.1
Dimethenamid	<0.1	0.1
Butachlor	<0.1	0.1
Bromacil	6.7	1

Date Analyzed: 08-05-2010
Method: EPA 8141
Date Prepared: 07-30-2010

Analyzed at: Iowa City

Analyst: PB
Verified: VR
Analyst: KB
Verified: GJ

Page 1 - Continued on next page

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Iowa Laboratories Complex
2220 S. Ankeny Blvd. Ankeny, Iowa 50023
515/725-1600 Fax: 515/725-1642

Nitrate + Nitrite as Nitrate N (Water)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Nitrate + Nitrite Nitrogen as N	2.2	0.10

Date Analyzed: 08-06-2010 Analyzed at: Ankeny Analyst: JE
Method: EPA 353.2 Verified: DS

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	0.11	0.05

Date Analyzed: 08-04-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter ug/L - Micrograms per Liter
Quant Limit - Lowest concentration reliably measured

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Hygienic Laboratory

The University of Iowa

Date of report: 08-17-2010

TAMI RICE
IDNR CONTAMINATED SITES
502 EAST NINTH STREET

DES MOINES IA 50319-0034

Sample Number	**2010028030**
Date Received	07-29-2010
Project	WMSF
Date Collected	07-28-2010 11:51
Collection Site	mw-9
Collection Town	Buffalo Center
Description	water
Reference	THERMOGAS BUFFALO CT
Collector	RICE TAMI S.
Phone	(515) 281-4420
Purchase Order	19745

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Nitrogen or Phosphorous Pesticides

Analyte	Concentration ug/L	Quantitation Limit ug/L
Atrazine	0.17	0.1
Cyanazine	<0.1	0.1
Metolachlor	0.79	0.1
Alachlor	0.13	0.1
Metribuzin	3.9	0.1
Butylate	0.29	0.1
Trifluralin	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1
Simazine	0.13	0.1
Ametryn	<0.1	0.1
EPTC	<0.1	0.1
Prometon	0.77	0.1
Propachlor	<0.1	0.1
Propazine	<0.1	0.1
Dimethenamid	<0.1	0.1
Butachlor	<0.1	0.1
Bromacil	0.54	0.1

Date Analyzed: 08-05-2010
Method: EPA 8141
Date Prepared: 07-30-2010

Analyzed at: Iowa City

Analyst: PB
Verified: VR
Analyst: KB
Verified: GJ

Page 1 - Continued on next page

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Hygienic Laboratory

The University of Iowa

Nitrate + Nitrite as Nitrate N (Water)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Nitrate + Nitrite Nitrogen as N	4.5	0.10

Date Analyzed: 08-06-2010 Analyzed at: Ankeny Analyst: JE
Method: EPA 353.2 Verified: DS

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	0.84	0.05

Date Analyzed: 08-04-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter ug/L - Micrograms per Liter
Quant Limit - Lowest concentration reliably measured

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Hygienic Laboratory

The University of Iowa

Date of report: 08-17-2010

TAMI RICE
IDNR CONTAMINATED SITES
502 EAST NINTH STREET

DES MOINES IA 50319-0034

Sample Number	**2010028031**
Date Received	07-29-2010
Project	WMSF
Date Collected	07-28-2010 11:57
Collection Site	mw-5
Collection Town	Buffalo Center
Description	water
Reference	THERMOGAS BUFFALO CT
Collector	RICE TAMI S.
Phone	(515) 281-4420
Purchase Order	19745

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Nitrogen or Phosphorous Pesticides

Analyte	Concentration ug/L	Quantitation Limit ug/L
Atrazine	<0.1	0.1
Cyanazine	<0.1	0.1
Metolachlor	0.25	0.1
Alachlor	<0.1	0.1
Metribuzin	5.3	1
Butylate	<0.1	0.1
Trifluralin	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1
Simazine	<0.1	0.1
Ametryn	<0.1	0.1
EPTC	<0.1	0.1
Prometon	<0.1	0.1
Propachlor	<0.1	0.1
Propazine	<0.1	0.1
Dimethenamid	<0.1	0.1
Butachlor	<0.1	0.1

Date Analyzed: 08-05-2010
Method: EPA 8141
Date Prepared: 07-30-2010

Analyzed at: Iowa City

Analyst: PB
Verified: VR
Analyst: KB
Verified: GJ

Page 1 - Continued on next page

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Nitrate + Nitrite as Nitrate N (Water)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Nitrate + Nitrite Nitrogen as N	29	0.10

Date Analyzed: 08-06-2010 Analyzed at: Ankeny Analyst: JE
Method: EPA 353.2 Verified: DS

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	28	0.05

Date Analyzed: 08-12-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter ug/L - Micrograms per Liter
Quant Limit - Lowest concentration reliably measured

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Hygienic Laboratory

The University of Iowa

Date of report: 08-17-2010

TAMI RICE
IDNR CONTAMINATED SITES
502 EAST NINTH STREET

DES MOINES IA 50319-0034

Sample Number	**2010028032**
Date Received	07-29-2010
Project	WMSF
Date Collected	07-28-2010 12:04
Collection Site	mw-10
Collection Town	Buffalo Center
Description	water
Reference	THERMOGAS BUFFALO CT
Collector	RICE TAMI S.
Phone	(515) 281-4420
Purchase Order	19745

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Nitrogen or Phosphorous Pesticides

Analyte	Concentration ug/L	Quantitation Limit ug/L
Atrazine	<1	1
Cyanazine	<1	1
Metolachlor	<1	1
Alachlor	<1	1
Metribuzin	2.9	1
Butylate	<1	1
Trifluralin	<1	1
Acetochlor	<1	1
Desethyl Atrazine	<1	1
Desisopropyl Atrazine	<1	1
Simazine	<1	1
Ametryn	<1	1
EPTC	<1	1
Prometon	<1	1
Propachlor	<1	1
Propazine	<1	1
Dimethenamid	<3	3
Butachlor	<1	1
Bromacil	130	10

Comments: *The quantitation limit is adjusted for dilution of the sample. A dilution was necessary in order to bring the response of requested analytes into the calibration range.*

Date Analyzed: 08-05-2010
Method: EPA 8141
Date Prepared: 07-30-2010

Analyzed at: Iowa City

Analyst: PB
Verified: VR
Analyst: KB
Verified: GJ

Page 1 - Continued on next page

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Nitrate + Nitrite as Nitrate N (Water)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Nitrate + Nitrite Nitrogen as N	16	0.10

Date Analyzed: 08-06-2010 Analyzed at: Ankeny Analyst: JE
Method: EPA 353.2 Verified: DS

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	<0.05	0.05

Date Analyzed: 08-04-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter ug/L - Micrograms per Liter
Quant Limit - Lowest concentration reliably measured

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Hygienic Laboratory

The University of Iowa

Date of report: 08-17-2010

TAMI RICE
IDNR CONTAMINATED SITES
502 EAST NINTH STREET

DES MOINES IA 50319-0034

Sample Number	**2010028033**
Date Received	07-29-2010
Project	WMSF
Date Collected	07-28-2010 12:11
Collection Site	mw-3
Collection Town	Buffalo Center
Description	water
Reference	THERMOGAS BUFFALO CT
Collector	RICE TAMI S.
Phone	(515) 281-4420
Purchase Order	19745

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Nitrogen or Phosphorous Pesticides

Analyte	Concentration ug/L	Quantitation Limit ug/L
Atrazine	<3	3
Cyanazine	<3	3
Metolachlor	450	30
Alachlor	<3	3
Metribuzin	3	3
Butylate	<3	3
Trifluralin	<3	3
Acetochlor	<3	3
Desethyl Atrazine	<3	3
Desisopropyl Atrazine	<3	3
Simazine	<3	3
Ametryn	<3	3
EPTC	<3	3
Prometon	<3	3
Propachlor	<3	3
Propazine	<3	3
Dimethenamid	3.4	3
Butachlor	<3	3

Comments: *The quantitation limit is adjusted for dilution of the sample. A dilution was necessary in order to bring the response of requested analytes into the calibration range.*
Please note the results reported for Metribuzin and Dimethenamid in this sample are estimated due to co-elution issues.

Date Analyzed: 08-05-2010
Method: EPA 8141
Date Prepared: 07-30-2010

Analyzed at: Iowa City

Analyst: PB
Verified: VR
Analyst: KB
Verified: GJ

Page 1 - Continued on next page

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515/725-1600 Fax: 515/725-1642

Nitrate + Nitrite as Nitrate N (Water)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Nitrate + Nitrite Nitrogen as N	4.8	0.10

Date Analyzed: 08-06-2010 Analyzed at: Ankeny Analyst: JE
Method: EPA 353.2 Verified: DS

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	6.2	0.05

Date Analyzed: 08-12-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter ug/L - Micrograms per Liter
Quant Limit - Lowest concentration reliably measured

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Hygienic Laboratory

The University of Iowa

Date of report: 08-17-2010

TAMI RICE
IDNR CONTAMINATED SITES
502 EAST NINTH STREET

DES MOINES IA 50319-0034

Sample Number	**2010028034**
Date Received	07-29-2010
Project	WMSF
Date Collected	07-28-2010 12:16
Collection Site	mw-4
Collection Town	Buffalo Center
Description	water
Reference	THERMOGAS BUFFALO CT
Collector	RICE TAMI S.
Phone	(515) 281-4420
Purchase Order	19745

Comments: *Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.*

Results of Analyses

Nitrogen or Phosphorous Pesticides

Analyte	Concentration ug/L	Quantitation Limit ug/L
Atrazine	<2	2
Cyanazine	<2	2
Metolachlor	23	2
Alachlor	<2	2
Metribuzin	190	20
Butylate	<2	2
Trifluralin	<2	2
Acetochlor	<2	2
Desethyl Atrazine	<2	2
Desisopropyl Atrazine	<2	2
Simazine	<2	2
Ametryn	<2	2
EPTC	<2	2
Prometon	<2	2
Propachlor	<2	2
Propazine	<2	2
Dimethenamid	<2	2
Butachlor	<2	2
Bromacil	6.8	2

Comments: *The quantitation limit is adjusted for dilution of the sample. A dilution was necessary in order to bring the response of requested analytes into the calibration range.*

Date Analyzed: 08-05-2010
Method: EPA 8141
Date Prepared: 07-30-2010

Analyzed at: Iowa City

Analyst: PB
Verified: VR
Analyst: KB
Verified: GJ

Page 1 - Continued on next page

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Nitrate + Nitrite as Nitrate N (Water)

Analyte	Concentration mg/L	Quantitation Limit mg/L
Nitrate + Nitrite Nitrogen as N	1.3	0.10

Date Analyzed: 08-06-2010 Analyzed at: Ankeny Analyst: JE
Method: EPA 353.2 Verified: DS

Ammonia as N

Analyte	Concentration mg/L	Quantitation Limit mg/L
Ammonia Nitrogen as N	59	0.05

Date Analyzed: 08-13-2010 Analyzed at: Ankeny Analyst: JE
Method: LAC10-107-06-1J Verified: DS

Description of units used within this report

mg/L - Milligrams per Liter ug/L - Micrograms per Liter
Quant Limit - Lowest concentration reliably measured

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WMSF

Hygienic Laboratory

The University of Iowa

CHAIN-OF-CUSTODY

Purchase Order #: 19745

Project Name and/or Number: Thermogas-Buffalo Center (3814)

Collector's Phone #: 515-281-4420

Print Collector's Name: Tami S. Rice

Collector's Signature: [signature]

Contact Name	Phone	Fax
Tami Rice	515-281-4420	
Company		
IDNR Contaminated Sites		515-281-8895

Address	City	State	Zip
502 E. 9th Street	Des Moines	IA	50319

Analysis Requested: Nitrate-Nitrite Nitrogen; Ammonia Nitrogen; Common Herbicides

Sample ID/Description	Date	Time	W	S	Other	Nitrate-Nitrite Nitrogen	Ammonia Nitrogen	Common Herbicides
1. MW-12	7/28/10	11:18Am	✓			✓	✓	✓
2. MW-11	|	11:25Am	✓			✓	✓	✓
3. MW-1	|	11:34Am	✓			✓	✓	✓
4. ~~MW~~ MW-8	|	11:39Am	✓			✓	✓	✓
5. MW-7	|	11:45Am	✓			✓	✓	✓
6. MW-9	|	11:51Am	✓			✓	✓	✓
7. MW-5	|	11:57Am	✓			✓	✓	✓
8. MW-6		12:04Am	✓			✓	✓	✓

Sample labels:
2010028025 AK
2010028026 AK
2010028027 AK
2010028028 AK
2010028029 AK
2010-07-29 15:57

Comments/UHL Sample Number:
2010028030 AK
2010-07-29 15:57
2010028031 AK
2010028032 AK
2010-07-29 15:57

Relinquished by	Date	Time
[signature]	7/29/10	3:50 pm

Relinquished by	Date	Time	Comments
			8-#1S-DC 8-#2-ND

Sample receiving custodian	Date	Time	Sample Receipt Comments
[signature]	7-29-10	1553	T=3.8 pH<2

7-30-10 · 1-18 [illegible]

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Blue - Client Copy

61945/1-07

Hygienic Laboratory

The University of Iowa

CHAIN-OF-CUSTODY

WMSF

Purchase Order #
19745
Project Name and/or Number
Thermogas - Buffalo Center (3914)
Collector's Phone #
515-281-4420
Print Collector's Name
Tami S. Rice
Collector's Signature
Tami S. Rice
Comments/UHL Sample Number

Contact Name	Phone
Tami Rice	515-281-4420
Company	**Fax**
IDNR - Contaminated Sites	515-281-8895
Address	
502 E. 9th Street	
City	**State**	**Zip**
Des Moines	IA	50319

Sample ID/Description	Date	Time	Sample Matrix W	S	Other	Nitrate-Nitrite Nitrogen	Ammonia Nitrogen	Common Herbicides
1. MW-3	7/28/10	12:11pm	✓			✓	✓	✓
2. MW-4	7/28/10	12:16pm	✓			✓	✓	✓
3.								
4.								
5.								
6.								
7.								
8.								

2010028033 AK
2010-07-29 15:57

2010028034 AK
2010-07-29 15:57

Relinquished by	Date	Time	Comments
Tami S. Rice	7/29/10	3:50pm	
Relinquished by	**Date**	**Time**	**Comments**
			2-#18-NC 2-#2-ND
Sample receiving custodian	**Date**	**Time**	**Sample Receipt Comments**
Robin Eckler	7-29-10	1450	1=28 pH<2

DKH 7-30-10

Rec'd 1-15 Emi IC

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Keystone
LABORATORIES, INC.

MEMBER ACIL

05 January 2011

Jennifer Carpenter
Seneca Environmental Services
4140 NE. 14th St.
Des Moines, IA 50316

JAN 12 2011

RE: Buffalo Center
6270403

Enclosed are the results of analyses for samples received by the laboratory on 12/17/10 14:20. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW13	10L0964-01	Water	12/15/10 11:55	12/17/10 14:20
MW8	10L0964-02	Water	12/15/10 12:30	12/17/10 14:20
MW1	10L0964-03	Water	12/15/10 11:45	12/17/10 14:20
MW7	10L0964-04	Water	12/15/10 11:50	12/17/10 14:20
MW12	10L0964-05	Water	12/15/10 11:30	12/17/10 14:20
MW3	10L0964-06	Water	12/15/10 12:15	12/17/10 14:20
MW10	10L0964-07	Water	12/15/10 12:10	12/17/10 14:20
MW2	10L0964-08	Water	12/15/10 12:30	12/17/10 14:20
MW11	10L0964-09	Water	12/15/10 11:35	12/17/10 14:20
MW5	10L0964-10	Water	12/15/10 12:00	12/17/10 14:20
MW4	10L0964-11	Water	12/15/10 12:20	12/17/10 14:20

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW13

10L0964-01 (Water)

Date Sampled:12/15/2010 11:55:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1L02045	12/20/10	.2/29/10 16:0	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	**0.4**	0.1	"	"	"	"	12/30/10 00:29	"	
Trifluralin	ND	0.1	"	"	"	"	.2/29/10 16:0	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	.2/30/10 00:2	"	
Alachlor	ND	0.1	"	"	"	"	.2/29/10 16:0	"	
Metribuzin	**3.7**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	**0.4**	0.2	"	"	"	"	12/30/10 00:29	"	
Metolachlor	ND	0.5	"	"	"	"	.2/29/10 16:0	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	**0.1**	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*78.6 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1L02805	12/28/10	.2/28/10 10:5	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**1.52**	0.20	"	"	1L03013	12/30/10	12/30/10 18:00	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW8

10L0964-02 (Water)

Date Sampled:12/15/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1L02045	12/20/10	12/29/10 16:40	EPA 8141	
Butylate	**0.3**	0.1	"	"	"	"	"	"	
Propachlor	**2.7**	0.1	"	"	"	"	12/30/10 01:08	"	
Trifluralin	ND	0.1	"	"	"	"	12/29/10 16:40	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	**0.7**	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	12/30/10 01:08	"	
Alachlor	ND	0.1	"	"	"	"	12/29/10 16:40	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	12/30/10 01:08	"	
Metolachlor	**6.2**	0.5	"	"	"	"	12/29/10 16:40	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*87.5 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**8.3**	1.0	mg/l	1	1L02805	12/28/10	12/28/10 10:52	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**0.87**	0.20	"	"	1L03013	12/30/10	12/30/10 18:00	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW8

10L0964-02RE1 (Water)

Date Sampled:12/15/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Metribuzin	**41.1**	0.5	ug/l	5	1L02045	12/20/10	01/04/11 15:35	EPA 8141	
Surrogate: 2-Nitro-m-xylene		*68.9 %*	*60-129*		"	"	"	"	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW1

10L0964-03 (Water)

Date Sampled:12/15/2010 11:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1L02045	12/20/10	2/29/10 17:1	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	2/30/10 01:4	"	
Trifluralin	ND	0.1	"	"	"	"	2/29/10 17:1	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	2/30/10 01:4	"	
Alachlor	ND	0.1	"	"	"	"	2/29/10 17:1	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	2/30/10 01:4	"	
Metolachlor	ND	0.5	"	"	"	"	2/29/10 17:1	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*84.2 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1L02805	12/28/10	2/28/10 10:5	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**0.50**	0.20	"	"	1L03013	12/30/10	12/30/10 18:00	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW7

10L0964-04 (Water)

Date Sampled:12/15/2010 11:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1L02045	12/20/10	12/29/10 17:5	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	12/30/10 02:2	"	
Trifluralin	ND	0.1	"	"	"	"	12/29/10 17:5	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	**0.2**	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	12/30/10 02:2	"	
Alachlor	**0.4**	0.1	"	"	"	"	12/29/10 17:58	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	12/30/10 02:2	"	
Metolachlor	**1.0**	0.5	"	"	"	"	12/29/10 17:58	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*88.0 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1L02805	12/28/10	12/28/10 10:5	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**1.12**	0.20	"	"	1L03013	12/30/10	12/30/10 18:00	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW12

10L0964-05 (Water)

Date Sampled:12/15/2010 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1L02045	12/20/10	.2/29/10 18:3'	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	.2/30/10 03:0:	"	
Trifluralin	ND	0.1	"	"	"	"	.2/29/10 18:3'	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	.2/30/10 03:0:	"	
Alachlor	ND	0.1	"	"	"	"	.2/29/10 18:3'	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	.2/30/10 03:0:	"	
Metolachlor	ND	0.5	"	"	"	"	.2/29/10 18:3'	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*89.1 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1L02805	12/28/10	.2/28/10 10:5:	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**1.53**	0.20	"	"	1L03013	12/30/10	12/30/10 18:00	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW3

10L0964-06 (Water)

Date Sampled:12/15/2010 12:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1L02045	12/20/10	12/29/10 19:1'	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	12/30/10 03:4	"	
Trifluralin	ND	0.1	"	"	"	"	12/29/10 19:1'	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	12/30/10 03:4	"	
Alachlor	**1.7**	0.1	"	"	"	"	12/29/10 19:17	"	
Metribuzin	**7.5**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	12/30/10 03:4	"	
Pendimethalin	ND	0.5	"	"	"	"	12/29/10 19:1'	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*98.5 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**9.6**	1.0	mg/l	1	1L02805	12/28/10	12/28/10 10:52	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	ND	0.20	"	"	1L03013	12/30/10	12/30/10 18:0	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW3

10L0964-06RE1 (Water)

Date Sampled:12/15/2010 12:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Metolachlor	**480**	25.0	ug/l	50	1L02045	12/20/10	01/03/11 10:18	EPA 8141	
Surrogate: 2-Nitro-m-xylene		*%*	*60-129*		"	"	"	"	*S-01*

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW10

10L0964-07 (Water)

Date Sampled:12/15/2010 12:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1L02045	12/20/10	12/29/10 19:5(	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	12/30/10 04:2:	"	
Trifluralin	ND	0.1	"	"	"	"	12/29/10 19:5(	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	12/30/10 04:2:	"	
Alachlor	ND	0.1	"	"	"	"	12/29/10 19:5(	"	
Metribuzin	**3.7**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	12/30/10 04:2:	"	
Metolachlor	ND	0.5	"	"	"	"	12/29/10 19:5(	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*95.9 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1L02805	12/28/10	12/28/10 10:5:	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**9.52**	2.00	"	10	1L03013	12/30/10	12/30/10 18:00	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW2

10L0964-08 (Water)

Date Sampled:12/15/2010 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1L02045	12/20/10	12/29/10 20:3:	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	12/30/10 05:0:	"	
Trifluralin	ND	0.1	"	"	"	"	12/29/10 20:3:	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	12/30/10 05:0:	"	
Alachlor	ND	0.1	"	"	"	"	12/29/10 20:3:	"	
Metribuzin	**9.7**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	12/30/10 05:0:	"	
Metolachlor	ND	0.5	"	"	"	"	12/29/10 20:3:	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*86.5 %*		*60-129*	"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**24.8**	1.0	mg/l	1	1L02805	12/28/10	12/28/10 10:52	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**0.83**	0.20	"	"	1L03013	12/30/10	12/30/10 18:00	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW11

10L0964-09 (Water)

Date Sampled:12/15/2010 11:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1L02045	12/20/10	.2/29/10 21:1	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	.2/30/10 05:4	"	
Trifluralin	ND	0.1	"	"	"	"	.2/29/10 21:1	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	.2/30/10 05:4	"	
Alachlor	ND	0.1	"	"	"	"	.2/29/10 21:1	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	.2/30/10 05:4	"	
Metolachlor	ND	0.5	"	"	"	"	.2/29/10 21:1	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*87.7 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1L02805	12/28/10	.2/28/10 10:5	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	ND	0.20	"	"	1L03013	12/30/10	.2/30/10 18:0	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW5

10L0964-10 (Water)

Date Sampled:12/15/2010 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1L02045	12/20/10	2/29/10 21:5	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	2/30/10 06:2	"	
Trifluralin	ND	0.1	"	"	"	"	2/29/10 21:5	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	2/30/10 06:2	"	
Alachlor	ND	0.1	"	"	"	"	2/29/10 21:5	"	
Metribuzin	**4.3**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	2/30/10 06:2	"	
Metolachlor	ND	0.5	"	"	"	"	2/29/10 21:5	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*83.4 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**20.5**	1.0	mg/l	1	1L02805	12/28/10	12/28/10 10:52	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**13.6**	2.00	"	10	1L03013	12/30/10	12/30/10 18:00	EPA 353.2	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW4

10L0964-11 (Water)

Date Sampled:12/15/2010 12:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
EPTC	ND	0.1	ug/l	1	1L02045	12/20/10	12/29/10 22:3	EPA 8141	
Butylate	**0.5**	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	12/30/10 06:5	"	
Trifluralin	ND	0.1	"	"	"	"	12/29/10 22:3	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	**0.4**	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	12/30/10 06:5	"	
Alachlor	ND	0.1	"	"	"	"	12/29/10 22:3	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	12/30/10 06:5	"	
Metolachlor	**22.2**	0.5	"	"	"	"	12/29/10 22:32	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	**0.4**	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*94.1 %*	*60-129*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**47.5**	1.0	mg/l	1	1L02805	12/28/10	12/28/10 10:52	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**0.96**	0.20	"	"	1L03013	12/30/10	12/30/10 18:00	EPA 353.2	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

MW4

10L0964-11RE1 (Water)

Date Sampled:12/15/2010 12:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Metribuzin	**147**	1.0	ug/l	10	1L02045	12/20/10	01/03/11 10:54	EPA 8141	
Surrogate: 2-Nitro-m-xylene		*77.3 %*	*60-129*		"	"	"	"	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

Determination of Nitrogen/Phosphorus Herbicides & Insecticides - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L02045 - 3510C NP/OC Sep Fnl										
Blank (1L02045-BLK1)				Prepared: 12/20/10 Analyzed: 12/29/10						
EPTC	ND	0.1	ug/l							
Butylate	ND	0.1	"							
Propachlor	ND	0.1	"							
Trifluralin	ND	0.1	"							
Terbufos	ND	0.1	"							
Atrazine	ND	0.1	"							
Simazine	ND	0.1	"							
Atrazine Desethyl	ND	0.2	"							
Alachlor	ND	0.1	"							
Metribuzin	ND	0.1	"							
Metolachlor	ND	0.5	"							
Atrazine Desisopropyl	ND	0.2	"							
Pendimethalin	ND	0.5	"							
Butachlor	ND	0.5	"							
Cyanazine	ND	0.1	"							
Acetochlor	ND	0.2	"							
Surrogate: 2-Nitro-m-xylene	*7.74*		"	*9.83200*		*78.7*	*60-129*			
LCS (1L02045-BS1)				Prepared: 12/20/10 Analyzed: 12/30/10						
EPTC	2.74	0.1	ug/l	2.50000		110	60-123			
Butylate	2.75	0.1	"	2.50000		110	60-119			
Propachlor	2.47	0.1	"	2.50000		98.8	60-135			
Trifluralin	2.74	0.1	"	2.50000		110	60-123			
Terbufos	2.92	0.1	"	2.50000		117	60-140			
Atrazine	2.79	0.1	"	2.50000		112	60-129			
Simazine	2.49	0.1	"	2.50000		99.6	60-133			
Alachlor	2.82	0.1	"	2.50000		113	60-126			
Metribuzin	2.62	0.1	"	2.50000		105	60-121			
Metolachlor	2.94	0.5	"	2.50000		117	60-131			
Pendimethalin	2.90	0.5	"	2.50000		116	60-127			
Butachlor	2.88	0.5	"	2.50000		115	60-140			
Cyanazine	2.24	0.1	"	2.50000		89.6	60-129			
Acetochlor	2.83	0.2	"	2.50000		113	60-130			
Surrogate: 2-Nitro-m-xylene	*9.22*		"	*9.83200*		*93.7*	*60-129*			

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

Determination of Nitrogen/Phosphorus Herbicides & Insecticides - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L02045 - 3510C NP/OC Sep Fnl										
LCS Dup (1L02045-BSD1)				Prepared: 12/20/10 Analyzed: 12/30/10						
EPTC	2.58	0.1	ug/l	2.50000		103	60-123	6.39	30	
Butylate	2.54	0.1	"	2.50000		102	60-119	7.74	30	
Propachlor	2.74	0.1	"	2.50000		109	60-135	10.2	30	
Trifluralin	2.57	0.1	"	2.50000		103	60-123	6.40	30	
Terbufos	2.70	0.1	"	2.50000		108	60-140	7.66	30	
Atrazine	2.70	0.1	"	2.50000		108	60-129	3.09	30	
Simazine	2.52	0.1	"	2.50000		101	60-133	1.40	30	
Alachlor	2.66	0.1	"	2.50000		106	60-126	6.20	24	
Metribuzin	2.50	0.1	"	2.50000		100	60-121	4.69	30	
Metolachlor	2.78	0.5	"	2.50000		111	60-131	5.24	30	
Pendimethalin	2.68	0.5	"	2.50000		107	60-127	7.53	30	
Butachlor	2.66	0.5	"	2.50000		106	60-140	8.30	30	
Cyanazine	2.72	0.1	"	2.50000		109	60-129	19.5	30	
Acetochlor	2.65	0.2	"	2.50000		106	60-130	6.57	30	
Surrogate: 2-Nitro-m-xylene	*8.40*		"	*9.83200*		*85.4*	*60-129*			
Reference (1L02045-SRM1)				Prepared: 12/20/10 Analyzed: 12/29/10						
EPTC	2.44	0.1	ug/l	2.50000		97.8	70-130			
Butylate	2.48	0.1	"	2.50000		99.4	70-130			
Propachlor	3.23	0.1	"	2.50000		129	70-130			
Trifluralin	2.58	0.1	"	2.50000		103	70-130			
Terbufos	2.71	0.1	"	2.50000		108	70-130			
Atrazine	2.70	0.1	"	2.50000		108	70-130			
Simazine	2.56	0.1	"	2.50000		103	70-130			
Alachlor	2.70	0.1	"	2.50000		108	70-130			
Metribuzin	2.66	0.1	"	2.50000		106	70-130			
Metolachlor	2.86	0.5	"	2.50000		114	70-130			
Pendimethalin	2.81	0.5	"	2.50000		112	70-130			
Butachlor	2.86	0.5	"	2.50000		114	70-130			
Cyanazine	3.02	0.1	"	2.50000		121	70-130			
Acetochlor	2.65	0.2	"	2.50000		106	70-130			
Surrogate: 2-Nitro-m-xylene	*8.05*		"	*9.83200*		*81.9*	*60-129*			

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L02805 - Wet Chem Preparation										
Blank (1L02805-BLK1)				Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	ND	1.0	mg/l							
Blank (1L02805-BLK2)				Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	ND	1.0	mg/l							
Blank (1L02805-BLK3)				Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	ND	1.0	mg/l							
Blank (1L02805-BLK4)				Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	ND	1.0	mg/l							
Blank (1L02805-BLK5)				Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	ND	1.0	mg/l							
Blank (1L02805-BLK6)				Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	ND	1.0	mg/l							
Matrix Spike (1L02805-MS1)		Source: 10L0961-01		Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	5.42	1.0	mg/l	5.00000	ND	108	86-140			
Matrix Spike (1L02805-MS2)		Source: 10L0964-11		Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	53.8	1.0	mg/l	5.00000	47.5	126	86-140			
Matrix Spike (1L02805-MS3)		Source: 10L0968-07		Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	5.49	1.0	mg/l	5.00000	ND	110	86-140			
Matrix Spike (1L02805-MS4)		Source: 10L1169-06		Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	5.47	1.0	mg/l	5.00000	1.12	87.0	86-140			

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L02805 - Wet Chem Preparation										
Matrix Spike (1L02805-MS5)	**Source: 10L1183-07**			Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	5.47	1.0	mg/l	5.00000	ND	109	86-140			
Matrix Spike (1L02805-MS6)	**Source: 10L1199-07**			Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	7.38	1.0	mg/l	5.00000	2.24	103	86-140			
Matrix Spike Dup (1L02805-MSD1)	**Source: 10L0961-01**			Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	5.47	1.0	mg/l	5.00000	ND	109	86-140	0.918	10	
Matrix Spike Dup (1L02805-MSD2)	**Source: 10L0964-11**			Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	53.8	1.0	mg/l	5.00000	47.5	126	86-140	0.00	10	
Matrix Spike Dup (1L02805-MSD3)	**Source: 10L0968-07**			Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	5.54	1.0	mg/l	5.00000	ND	111	86-140	0.907	10	
Matrix Spike Dup (1L02805-MSD4)	**Source: 10L1169-06**			Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	5.54	1.0	mg/l	5.00000	1.12	88.4	86-140	1.27	10	
Matrix Spike Dup (1L02805-MSD5)	**Source: 10L1183-07**			Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	5.44	1.0	mg/l	5.00000	ND	109	86-140	0.550	10	
Matrix Spike Dup (1L02805-MSD6)	**Source: 10L1199-07**			Prepared & Analyzed: 12/28/10						
Nitrogen, Ammonia	7.57	1.0	mg/l	5.00000	2.24	107	86-140	2.54	10	
Batch 1L03013 - Wet Chem Preparation										
Blank (1L03013-BLK1)				Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	ND	0.20	mg/l							

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L03013 - Wet Chem Preparation										
Blank (1L03013-BLK2)				Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	ND	0.20	mg/l							
Blank (1L03013-BLK3)				Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	ND	0.20	mg/l							
LCS (1L03013-BS1)				Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	4.02	0.40	mg/l	4.00000		101	77-113			
LCS (1L03013-BS2)				Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	4.00	0.40	mg/l	4.00000		100	77-113			
LCS (1L03013-BS3)				Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	4.02	0.40	mg/l	4.00000		100	77-113			
Matrix Spike (1L03013-MS1)		**Source: 10L1195-02**		Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	2.14	0.20	mg/l	2.04082	0.17	96.9	60-126			
Matrix Spike (1L03013-MS2)		**Source: 10L1208-01**		Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	4.25	0.20	mg/l	2.04082	2.29	95.8	60-126			
Matrix Spike (1L03013-MS3)		**Source: 10L0964-04**		Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	3.02	0.20	mg/l	2.04082	1.12	93.2	60-126			
Matrix Spike Dup (1L03013-MSD1)		**Source: 10L1195-02**		Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	2.18	0.20	mg/l	2.04082	0.17	98.7	60-126	1.74	10	
Matrix Spike Dup (1L03013-MSD2)		**Source: 10L1208-01**		Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	4.23	0.20	mg/l	2.04082	2.29	94.8	60-126	0.481	10	

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

Determination of Conventional Chemistry Parameters - Quality Control

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1L03013 - Wet Chem Preparation										
Matrix Spike Dup (1L03013-MSD3)		**Source: 10L0964-04**		Prepared & Analyzed: 12/30/10						
Nitrogen, Nitrate+Nitrite	3.01	0.20	mg/l	2.04082	1.12	93.0	60-126	0.135	10	

Certified Analyses Included in This Report

Method/Matrix	Analyte	Certifications
EPA 353.2 in Water		
	Nitrogen, Nitrate+Nitrite	IA-NT,KS-NT,NELAC
EPA 8141 in Water		
	Trifluralin	SIA1X
	Terbufos	SIA1X
	Atrazine	IA-NT,KS-NT
	Simazine	KS-NT
	Atrazine Desethyl	SIA1X
	Alachlor	SIA1X
	Metribuzin	SIA1X
	Atrazine Desisopropyl	SIA1X
	Metolachlor	SIA1X
	Cyanazine	SIA1X
	Acetochlor	SIA1X
SM 4500-NH3 F in Water		
	Nitrogen, Ammonia	SIA1X

Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2011
KS-NT	Kansas Department of Health and Environment	E-10287	10/30/2011
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2011
SIA1X	Iowa Department of Natural Resources	95	02/01/2012

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

Notes and Definitions

S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

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Seneca Environmental Services 4140 NE. 14th St. Des Moines IA, 50316	Project: Buffalo Center Project Number: 6270403 Project Manager: Jennifer Carpenter	Reported 01/05/11 16:18

Sue Thompson

Sue Thompson
Project Manager I

Phone 641-792-8451 600 East 17th Street South Fax 641-792-7989

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.
600 East 17th Street South
Newton, IA 50208
641-792-8451

Z41923CV

Printed: 11/23/2010 7:18:35PM
www.keystonelabs.c

SITE INFORMATION
Sampler: Brady Knudson
Project: Buffalo Center
6270403

REPORT TO
Jennifer Carpenter
Seneca Environmental Services
4140 NE. 14th St.
Des Moines, IA 50316

INVOICE TO
Gayle Tate
Seneca Environmental Services - Billing
P.O. Box 3360
Des Moines, IA 50313

SPECIAL INSTRUCTIONS
None

Turn Around Time
☒ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY
Work Order 10L0964
Temperature
Turn-Cooler: No

☐ Custody Seal
☐ Containers Intact
☐ COC/Labels Agree
☐ Preservation Confirmed
☐ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
01-001	MW13	Water	GRAB	12/15/10	1155	2	nh3-probe-4500 8141-103	nox-353.2	01
02-001	MW8	Water	GRAB	12/15/10	1230		nh3-probe-4500 8141-103	nox-353.2	02
03-001	MW1	Water	GRAB	〃	1145		nh3-probe-4500 8141-103	nox-353.2	03
04-001	MW7	Water	GRAB	〃	1150		nh3-probe-4500 8141-103	nox-353.2	04
05-001	MW12	Water	GRAB	〃	1130		nh3-probe-4500 8141-103	nox-353.2	05
~~06-001~~	~~MW9~~	~~Water~~	~~GRAB~~	〃			~~nh3-probe-4500~~ 8141-103	~~nox-353.2~~	~~06~~
07-001	MW3	Water	GRAB	〃	1215	4	nh3-probe-4500 8141-103	nox-353.2	07

Relinquished By _____ Date/Time 12/17/10 1420
Received By _____ Date/Time
Relinquished By _____ Date/Time
Received for Lab By M. Main Date/Time 12-17-10 2:20

Remarks:

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.
600 East 17th Street South
Newton, IA 50208
641-792-8451

241923CL

Printed: 11/23/2010 7:18:35PM
www.keystonelabs.c

SITE INFORMATION
Sampler: Brady Knudson
Project: Buffalo Center
6270403

REPORT TO
Jennifer Carpenter
Seneca Environmental Services
4140 NE. 14th St.
Des Moines, IA 50316

INVOICE TO
Gayle Tate
Seneca Environmental Services - Billing
P.O. Box 3360
Des Moines, IA 50313

SPECIAL INSTRUCTIONS
None

Turn Around Time
☒ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY
Work Order 10L09964
Temperature
Turn-Cooler: No

☐ Custody Seal
☐ Containers Intact
☐ COC/Labels Agree
☐ Preservation Confirmed
☐ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
08-001	MW10	Water	GRAB	12/15/10	1210	2	nh3-probe-4500 8141-103	nox-353.2	07
09-001	MW2	Water	GRAB	〃	1230	〃	nh3-probe-4500 8141-103	nox-353.2	08
10-001	MW11	Water	GRAB	〃	1135	〃	nh3-probe-4500 8141-103	nox-353.2	09
11-001	MW5	Water	GRAB	〃	1200	〃	nh3-probe-4500 8141-103	nox-353.2	10
12-001	MW4	Water	GRAB	〃	1220	〃	nh3-probe-4500 8141-103	nox-353.2	11

Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

M. Main 12-17-10 2:20
Received for Lab By Date/Time

Remarks:

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

Appendix 6

Water Well Results

Re-Start **Well Search** Print | Help | Log Off

Well Search Report ?

Search Method: By City/Map

Subject: XY UTM Coordinates: 423025/4804048
Search Radius(ft.): 1000

Date: 1/13/2011

Prepared By: Carpenter, Jennifer

Included in search	No. of wells	Database
X	1	IGS well database General well database maintained by IGS, location accuracy varies 3,730 to 25 ft., last updated 8/2005.
X	0	Public wells Muncipal and nonmunicipal public well databases maintained by IGS, location varies 3,730 to 25 ft., under development.
X	0	SDWIS public wells Public well database developed from the Safe Drinking Water Information System database maintained by IDNR, estimated locational accuracy varies from 15m. to 3300m. Created from 5/2005 data.
X	0	Private well tracking system IDNR database management system for Grants-to-counties-covered wells. Locational accuracy unknown, assumed to be +/- 17 m., Last update 7/2005.
X	0	Wells registered for testing Wells tested under Grant-to-Counties program. Locational accuracy varies 1150 to 150 m.; Last update 9/2001, no future updates planned.
X	0	Permitted private wells Wells permitted under Grant-to-Counties program. Locational accuracy varies 1150 to 150 m.; Last update 9/2001, no future updates planned.
X	0	Registered abandoned wells Wells abandoned under Grant-to-Counties program. Locational accuracy varies 1150 to 150 m.; Last update 9/2001, no future updates planned.
X	0	Water use facilities Wells used by facilities permitted to withdraw >25,000 gallons per day, locational accuracy is +/-20m to 1150 m. Created from 7/2005 data.
X	0	Municipal wells and intakes Locational accuracy 220 m., last updated 8/96.
X	0	Ag drainage wells Locational accuracy 100 m., last updated 4/98.

Well Search Detail

Subject: XY UTM Coordinates: 423025/4804048
Search Radius (ft.): 1000

IGS Well Database

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
60975	4374	T. 99N., R. 26W., Sec. 17, SW, SW, SE	Calc. +/- 140 m.	213 (m)	148		Price	Bedrock depth: 120; Well type: Unknown

Public Wells

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
No records found from this data source								

SDWIS public wells

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
No records found from this data source								

Private Well Tracking System

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
No records found from this data source								

Wells Registered For Testing

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
No records found from this data source								

Permitted Private Wells

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
No records found from this data source								

Abandoned Wells (plugged)

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
No records found from this data source								

Water Use Facilities

Map	Well	Location	Accuracy	Dist.	Well	Construction/	Owner/Permittees	Other

ID	No.	From Point	Depth	Permit Date	Information
No records found from this data source					

Municipal Wells And Intakes

Map ID	Well No.	Location Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
No records found from this data source							

Ag Drainage Wells

Map ID	Well No.	Location Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
No records found from this data source							

Well Search Buffered Map

Subject: XY UTM Coordinates: 423025/4804048
Search Radius (ft.): 1000

Map Notes:

- UST
- LUST
- Please refer to the Accuracy column in Well Search Detail.
- Since multiple points can be at the same spot (as those located to the center of a quarter section), points were randomly dispersed within 10 meters around that spot so all points can be seen.
- Aerial photos were flown in 2002.

Search by Interactive Map

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Re-Start **Well Search** Print | Help | Log Off

Well Search Report ?

Search Method: By City/Map

Subject: XY UTM Coordinates: 423025/4804048
Search Radius(ft.): 5280

Date: 1/13/2011

Prepared By: Carpenter, Jennifer

Included in search	No. of wells	Database
X	9	IGS well database General well database maintained by IGS, location accuracy varies 3,730 to 25 ft., last updated 8/2005.
X	3	Public wells Muncipal and nonmunicipal public well databases maintained by IGS, location varies 3,730 to 25 ft., under development.
X	2	SDWIS public wells Public well database developed from the Safe Drinking Water Information System database maintained by IDNR, estimated locational accuracy varies from 15m. to 3300m. Created from 5/2005 data.
X	3	Private well tracking system IDNR database management system for Grants-to-counties-covered wells. Locational accuracy unknown, assumed to be +/- 17 m., Last update 7/2005.
X	4	Wells registered for testing Wells tested under Grant-to-Counties program. Locational accuracy varies 1150 to 150 m.; Last update 9/2001, no future updates planned.
X	0	Permitted private wells Wells permitted under Grant-to-Counties program. Locational accuracy varies 1150 to 150 m.; Last update 9/2001, no future updates planned.
X	3	Registered abandoned wells Wells abandoned under Grant-to-Counties program. Locational accuracy varies 1150 to 150 m.; Last update 9/2001, no future updates planned.
X	2	Water use facilities Wells used by facilities permitted to withdraw >25,000 gallons per day, locational accuracy is +/-20m to 1150 m. Created from 7/2005 data.
X	0	Municipal wells and intakes Locational accuracy 220 m., last updated 8/96.
X	0	Ag drainage wells Locational accuracy 100 m., last updated 4/98.

Well Search Detail

Subject: XY UTM Coordinates: 423025/4804048
Search Radius (ft.): 5280

IGS Well Database

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
61247	2341	T. 99N., R. 26W., Sec. 20, NW, NE, SW	Calc. +/- 140 m.	468 (m)	147		Buckholt, Mrs.	Bedrock depth: 125; Well type: Unknown
61342	5103	T. 99N., R. 26W., Sec. 17, SW, SE, SE, SW	Calc. +/- 70 m.	532 (m)	190		Buffalo Center Creamery	Bedrock depth: 120; Well type: Unknown
60595	16406	T. 99N., R. 26W., Sec. 18, SE, NE, SW, SE, SW	Meas. +/- 35 m.	536 (m)	465	03/22/1964	Buffalo Center, City Of	Bedrock depth: 120; Well type: Municipal
60603	10664	T. 99N., R. 26W., Sec. 18, SE, NE, SW, SE, SE	Meas. +/- 35 m.	500 (m)	500	01/01/1959	Buffalo Center, City Of	Bedrock depth: 120; Well type: Municipal
61137	36958	T. 99N., R. 26W., Sec. 17, SW, SE, NW, SW	Meas. +/- 70 m.	447 (m)	425	01/01/1925	Buffalo Center, City Of	Well type: Municipal
60015	16100	T. 99N., R. 26W., Sec. 18, SW, SE, SE, NE	Calc. +/- 70 m.	951 (m)	155	11/16/1963	Meyers, W.	Bedrock depth: 125; Well type: Unknown
60975	4374	T. 99N., R. 26W., Sec. 17, SW, SW, SE	Calc. +/- 140 m.	213 (m)	148		Price	Bedrock depth: 120; Well type: Unknown
60934	22081	T. 99N., R. 26W., Sec. 20, SW, SW, SW, NW	Calc. +/- 70 m.	1441 (m)	180	06/26/1969	Wessels, Marvin	Bedrock depth: 110; Well type: Private
61697	16496	T. 99N., R. 26W., Sec. 20, NE, SW, SW, SE	Calc. +/- 70 m.	1107 (m)	147	02/28/1964	Wessels, Raymond	Bedrock depth: 120; Well type: Unknown

Public Wells

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
60585	16406	T. 99N., R. 26W., Sec. 18,	Meas. +/- 35 m.	536 (m)	465	03/22/1964	Buffalo Center, City Of	Local name: Buffalo Center

		SW NE SE SW SE						#2; Status:
60604	**10664**	T. 99N., R. 26W., Sec. 18, SW NE SE SW SW	Meas. +/- 35 m.	500 (m)	500	01/01/1959	Buffalo Center, City Of	Local name: Buffalo Center #1; Status:
61168	**36958**	T. 99N., R. 26W., Sec. 17, SE SW NW SE	Meas. +/- 70 m.	447 (m)	425	01/01/1925	Buffalo Center, City Of	Local name: Buffalo Center #1; Status:

SDWIS public wells

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
60578	2411492	T99N, R26W, Sec. 18, SE, NE, SE	+/- 25 m.	501 (m)	500	01/01/1959	Buffalo Center Muni Water Dept	Well # 1 (1959); PWSID: 9506052; Status: active
60606	2411689	T99N, R26W, Sec. 18, SE, NE, SE	+/- 25 m.	537 (m)	465	03/01/1964	Buffalo Center Muni Water Dept	Well # 2 (1964); PWSID: 9506052; Status: active

Private Well Tracking System

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
61578	2081066	T. 99 N., R. 26W., Sec. 17, SW, SE, SE, SE, NE	nom. +/- 25m.	770 (m)	125	03/22/1944	Hutchins, Alana	Status: Plugged; Well use: Household
61975	2143648	T. 99 N., R. 26W., Sec. 17, SW, SW, NE, NW, SE	nom. +/- 25m.	1351 (m)	165	09/11/2009	Klukow, Doug	Status: Active Log; Well use: Household, Livestock
59973	2117921	T. 99 N., R. 26W., Sec. 18, SE, SW, SW, NW, SW	nom. +/- 25m.	993 (m)	0		Meyers, Bruce	Status: Retired; Well use: Household

Wells Registered For Testing

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
59642	66487	T. 99 N., R. 26 W., Sec. 19, NW, NW	Calc. +/- 285m.	1466 (m)	unkn	unkn	Hasebrook, Hasley	Drilling method: Steel; Well depth is uncertain
60731	66462	T. 99 N., R. 26 W., Sec. 19, SE, SE	Calc. +/- 285m.	1431 (m)	176	1978	Hofbauer, Alvin L.	Drilling method: Drilled; Known well depth

60217	66489	T. 99 N., R. 26 W., Sec. 18, SE, SW	Calc. +/- 285m.	741 (m)	unkn	unkn	Venteicher, Bruce	Drilling method: Steel; Well depth is uncertain
60152	83042	T. 99 N., R. 26 W., Sec. 19	Calc. +/- 1135m.	1180 (m)	15	unkn	Wessels, Denny	Drilling method: Unknown; Estimated well depth

Permitted Private Wells

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
No records found from this data source								

Abandoned Wells (plugged)

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
61445	21648	T. 99 N., R. 26 W., Sec. 20, NW, NE, NE	Calc. +/- 140m.	586 (m)	100	n.a.	Hassebroek, Robert A.	Well plugged: 10/13/1995; Well type: < 18" dia.
61452	21649	T. 99 N., R. 26 W., Sec. 20, NW, NE, NE	Calc. +/- 140m.	588 (m)	80	n.a.	Hassebroek, Robert A.	Well plugged: 10/13/1995; Well type: not reported
61208	9760	T. 99 N., R. 26 W., Sec. 17, --, SW, NE	Calc. +/- 140m.	783 (m)	20	n.a.	Winnebago County, Winnebago County	Well plugged: 8/11/1992; Well type: < 18" dia.

Water Use Facilities

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
61408	8369	T99N, R26W, Sec. 17	+/- 1140 m.	1067 (m)	500		Buffalo Center, City Of	Water Use Permit #6386; Primary use: Municipal
61432	8370	T99N, R26W, Sec. 17	+/- 1140 m.	1067 (m)	500		Buffalo Center, City Of	Water Use Permit #6386; Primary use: Municipal

Municipal Wells And Intakes

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
No records found from this data source								

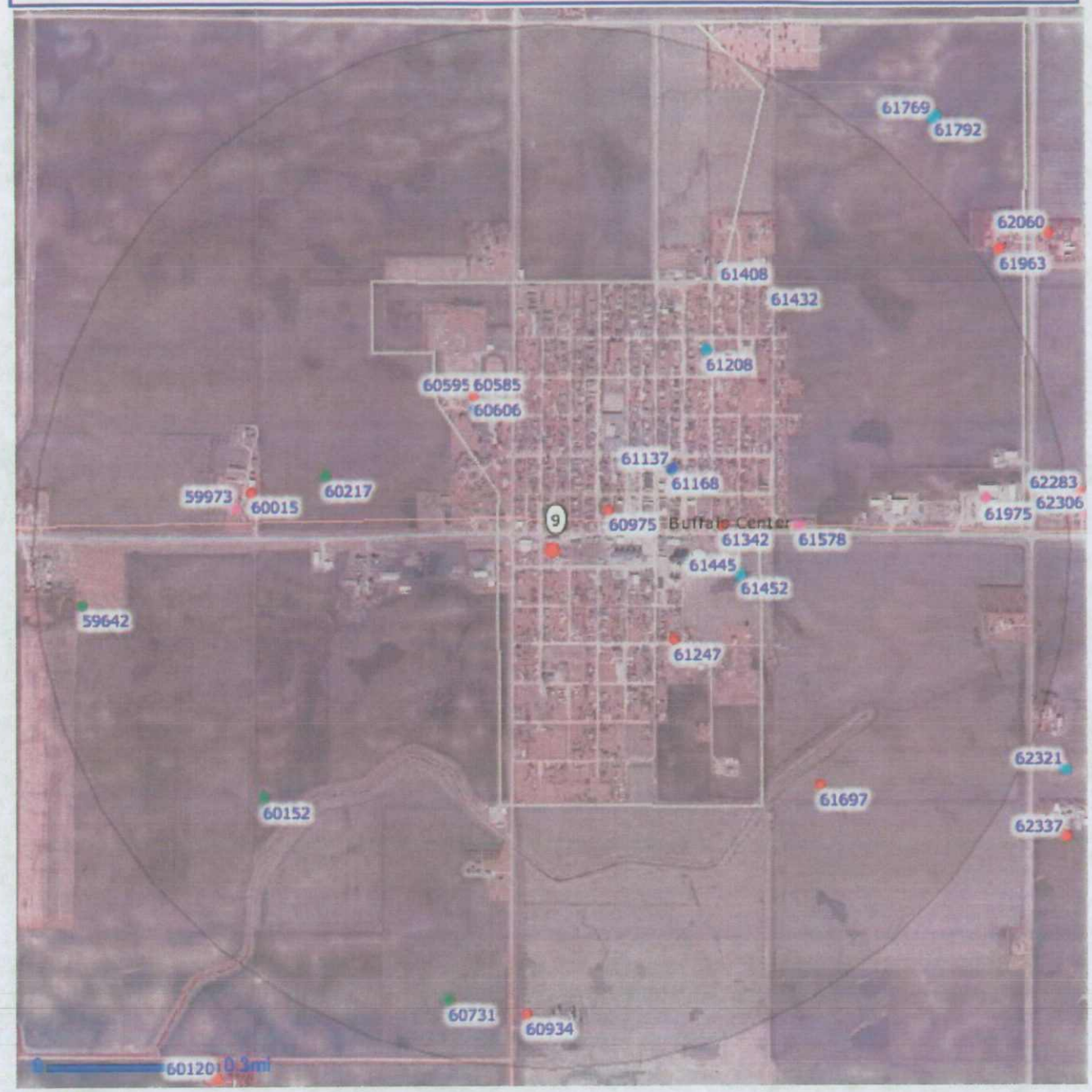
Ag Drainage Wells

Map	Well	Location	Accuracy	Dist.	Well	Construction/	Owner/Permittees	Other

ID	No.	From Point	Depth	Permit Date	Information
No records found from this data source					

Well Search Buffered Map

Subject: XY UTM Coordinates: 423025/4804048
Search Radius (ft.): 5280



Map Notes:

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- LUST
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Search by Interactive Map

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