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2009 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 5, 2010
Seneca Job #6270403

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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 report 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.

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 2008 Site Monitoring Report, was submitted on December 30, 2008. In a letter dated, April 23, 2009, the IDNR stated that continued biannual monitoring of all wells is required.

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 DNR 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 and are either located upgradient or at a significant distance from the subject property. The Winnebago County Sanitarian, Ron Kvale, was contacted on December 28, 2009 and indicated that no new wells have been installed within one-thousand (1,000) feet of the subject property.

4.0 2009 FIELD ACTIVITIES

4.1 Agricultural Chemical Sampling Procedures

Biannual groundwater monitoring was conducted at the Buffalo Center facility during May and November 2009. 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.

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 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 is found at MW2 and the contaminant plume is defined but extends offsite to the north and west. Three (3) Nitrate-Nitrite contaminant plumes are depicted; one (1) plume is centered on MW3, one (1) plume is centered on MW5, and the other plume is located offsite and centered on MW10. Additionally, Metolachlor concentrations in MW3 and Alachlor and Metribuzin concentrations in MW4 exceed EPA established MCL and/or HAL standards.

The groundwater flow and contoured contaminant plume maps were generated using the Surfer surface mapping software 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 Alachlor, Metolachlor, Metribuzin, 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.

Alachlor: The Alachlor concentration in MW4 is equal to the MCL of 2 ppb. Although Alachlor concentrations haven't exceeded the MCL since 2006, linear trend analysis indicates an overall decreasing trend. A contoured contaminant plume map was not generated for Alachlor since concentrations are restricted to one (1) monitoring well.

Metolachlor: The Metolachlor concentration in MW3 (375 ppb) exceeds the HAL of 100 ppb. Metolachlor concentrations at the Buffalo Center facility have never exceeded the HAL standard. Linear trend analysis indicates an increasing concentration trend. A contoured contaminant plume map was not generated for Alachlor since concentrations are restricted to one (1) monitoring well.

Metribuzin: The Metribuzin concentration in MW4 (216 ppb) exceeds the HAL of 200 ppb. Although Metribuzin concentrations haven't exceeded the HAL since 2007, linear trend analysis indicates an overall decreasing trend. A contoured contaminant plume map was not generated for Metribuzin since concentrations are restricted to one (1) monitoring well.

Ammonia Nitrogen: Ammonia Nitrogen concentrations exceeding the HAL of 30 ppm were identified in MW2 (80.4 ppm) and MW4 (44.0 ppm). Linear trend analysis indicates a decreasing or stable concentration trend in both wells. The contaminant plume for Ammonia Nitrogen extends offsite to the north and west. Reviewing contaminant plume maps for the past two (2) years shows that the Ammonia Nitrogen plume has remained relatively stable in size and extent.

Nitrate-Nitrite: Nitrate-Nitrite concentrations exceeding the MCL/HAL of 10 ppm were identified in MW3 (10.7 ppm), MW5 (19.8 ppm), and MW10 (22.1 ppm). Linear trend analysis indicates a decreasing or stable concentration trend in monitoring wells MW3 and MW5 and an increasing concentration trend in MW10. Reviewing contaminant plume maps for the past two (2) years shows that the Nitrate-Nitrite contaminant plume has decreased in extent but remains undefined to the north.

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 show that five (5) monitoring wells still have concentrations above the EPA established MCL and/or HAL standards. Contaminant plume maps are provided for two (2) chemicals of concern, Ammonia Nitrogen

and Nitrate-Nitrite in Appendix 3. Concentrations of Alachlor, Metolachlor, and Metribuzin also exceed EPA standards in one (1) monitoring well but plume maps were not generated. The Ammonia Nitrogen contaminant plume is centered on MW2 located to the northwest of the former liquid fertilizer offload area (B2) and extends offsite to the north and west. Three (3) Nitrate-Nitrite contaminant plumes are depicted; one (1) plume is centered on MW3, one (1) plume is centered on MW5, and the other plume is located offsite and centered on MW10. Only the Nitrate-Nitrite contaminant plume is undefined north and west of MW10. However, due to the low Nitrate-Nitrite concentrations identified in MW10, further plume definition northwest of the site is not recommended at this time.

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. Since 2005 when eight (8) additional monitoring wells were installed, groundwater flow has been radial from the center of the site, typically MW1 or MW5.

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 Alachlor, Metolachlor, Metribuzin, 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. Seneca recommends that all available monitoring wells be monitored biannually in 2010 and if trend analysis shows stable or decreasing concentration trends for all chemicals of concern, reclassification of the site will be requested.

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
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
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**
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
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**
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
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
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
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-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**
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
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
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-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
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**

^ - 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

FARMER'S COOP ELEVATOR

MW13

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

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

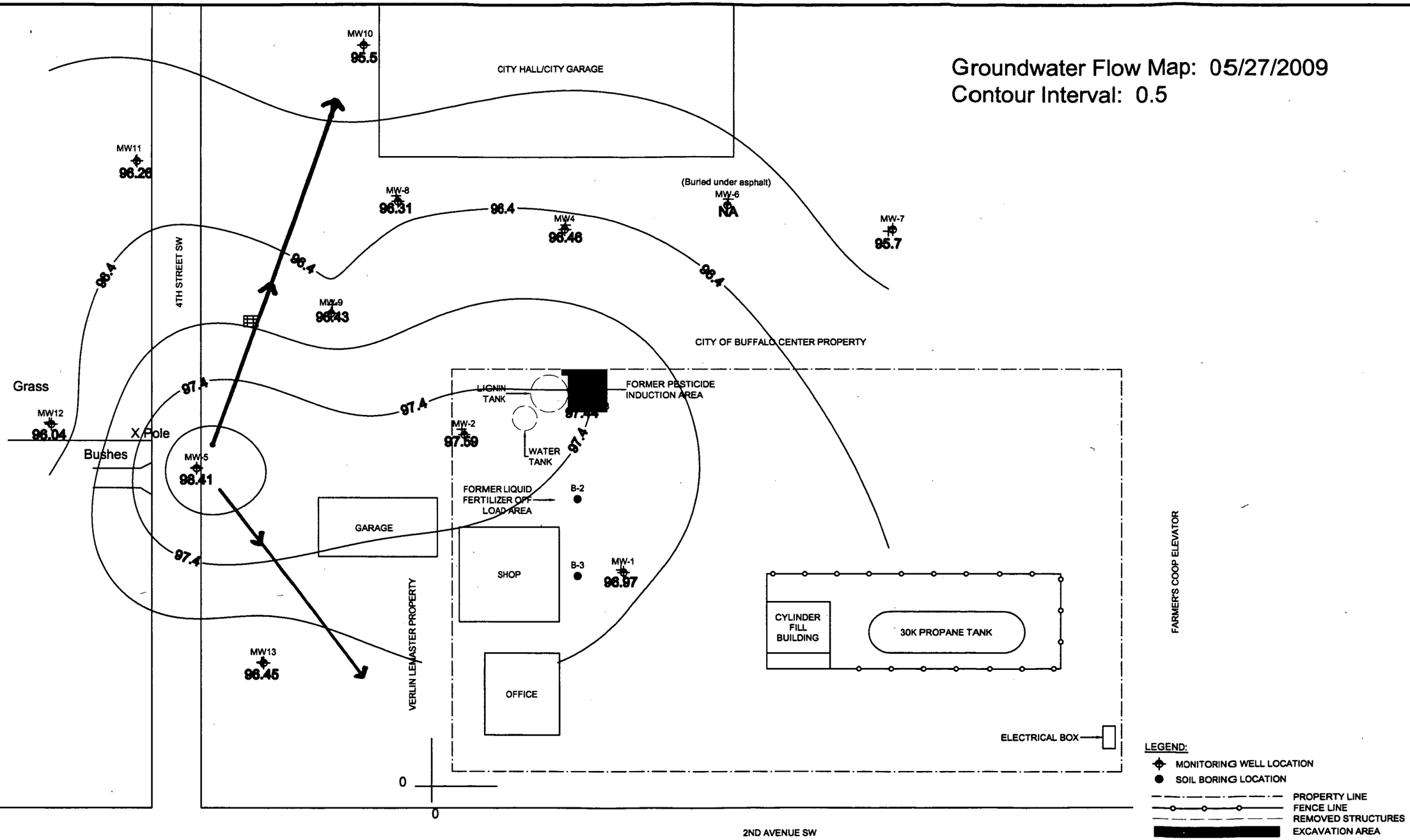
SHEET TITLE: SCALED SITE PLAN

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: 05/27/2009
Contour Interval: 0.5



LEGEND:

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

0 15' 30' 60'

SCALE IN FEET

N W E S

REVISION:	BY:

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

JOB DESCRIPTION: Former Thermogas Facility
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SHEET TITLE: SCALED SITE PLAN

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CHECKED BY: MIKE STEENHOEK
SCALE: 1"=30'
FILENAME: BUFFALO CENTER
PROJECT NO: 6235000
SHEET NO. 1 OF 1

Groundwater Flow Map 11/3/09
Contour Interval = 0.5'

MW10
95.9

CITY HALL/CITY GARAGE

MW11
96.37

MW-8
96.53

(Buried under asphalt)
MW-6
NA

MW4
96.3

MW-7
97.62

96.8

4TH STREET SW

MW-9
97.04

CITY OF BUFFALO CENTER PROPERTY

Grass

MW12
96.55

X Pole

Bushes

MW-5
97.65

LIGNIN TANK

FORMER PESTICIDE INDUCTION AREA

MW-2
97.67

WATER TANK

97.8

FORMER LIQUID FERTILIZER OFF LOAD AREA

B-2

GARAGE

SHOP

B-3

MW-1
98.51

CYLINDER FILL BUILDING

30K PROPANE TANK

MW13
96.57

VERLIN LEMASTER PROPERTY

OFFICE

BUILDING W/ DOCK

ELECTRICAL BOX

FARMER'S COOP ELEVATOR

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

N
W E
S

REVISION:	BY:

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

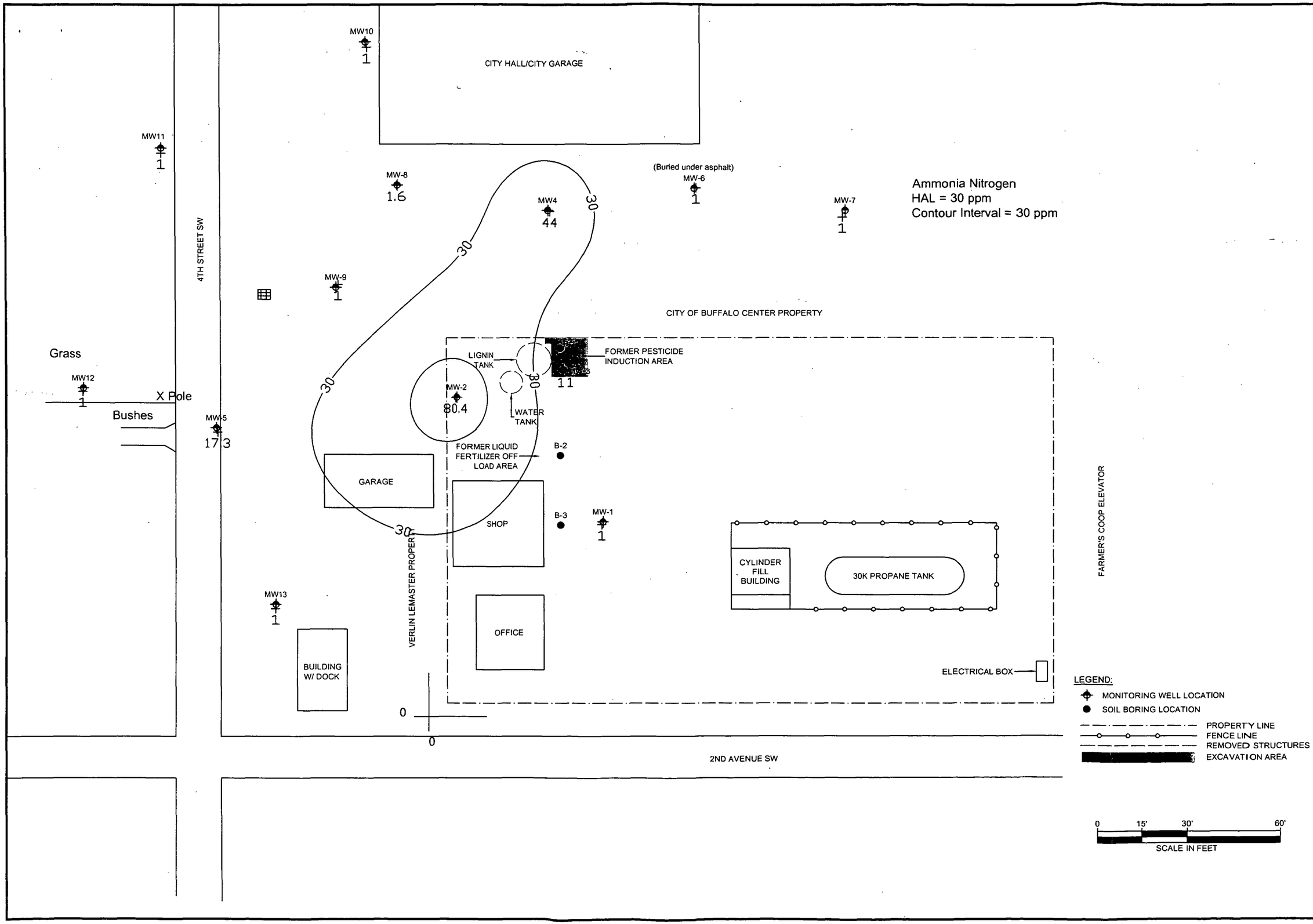
JOB DESCRIPTION: Former Thermogas Facility
CHS INC.
311 2ND AVENUE SW
BUFFALO CENTER, IOWA

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 3

Contaminant Plume Maps



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

MW10
22.1

CITY HALL/CITY GARAGE

10

10

MW11
0.58

MW-8
1.06

(Buried under asphalt)
MW-6
5.1

MW4
1.73

MW-7
1.94

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

4TH STREET SW

MW-9
3.89

CITY OF BUFFALO CENTER PROPERTY

Grass

10

MW12
0.92

X Pole

Bushes

MW-5
19.8

LIGNIN TANK

FORMER PESTICIDE INDUCTION AREA

MW-2
4.4

WATER TANK

FORMER LIQUID FERTILIZER OFF-LOAD AREA

B-2

GARAGE

SHOP

B-3

MW-1
0.45

CYLINDER FILL BUILDING

30K PROPANE TANK

FARMER'S COOP ELEVATOR

10

MW13
2.1

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

N
W E
S

REVISION	BY:

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

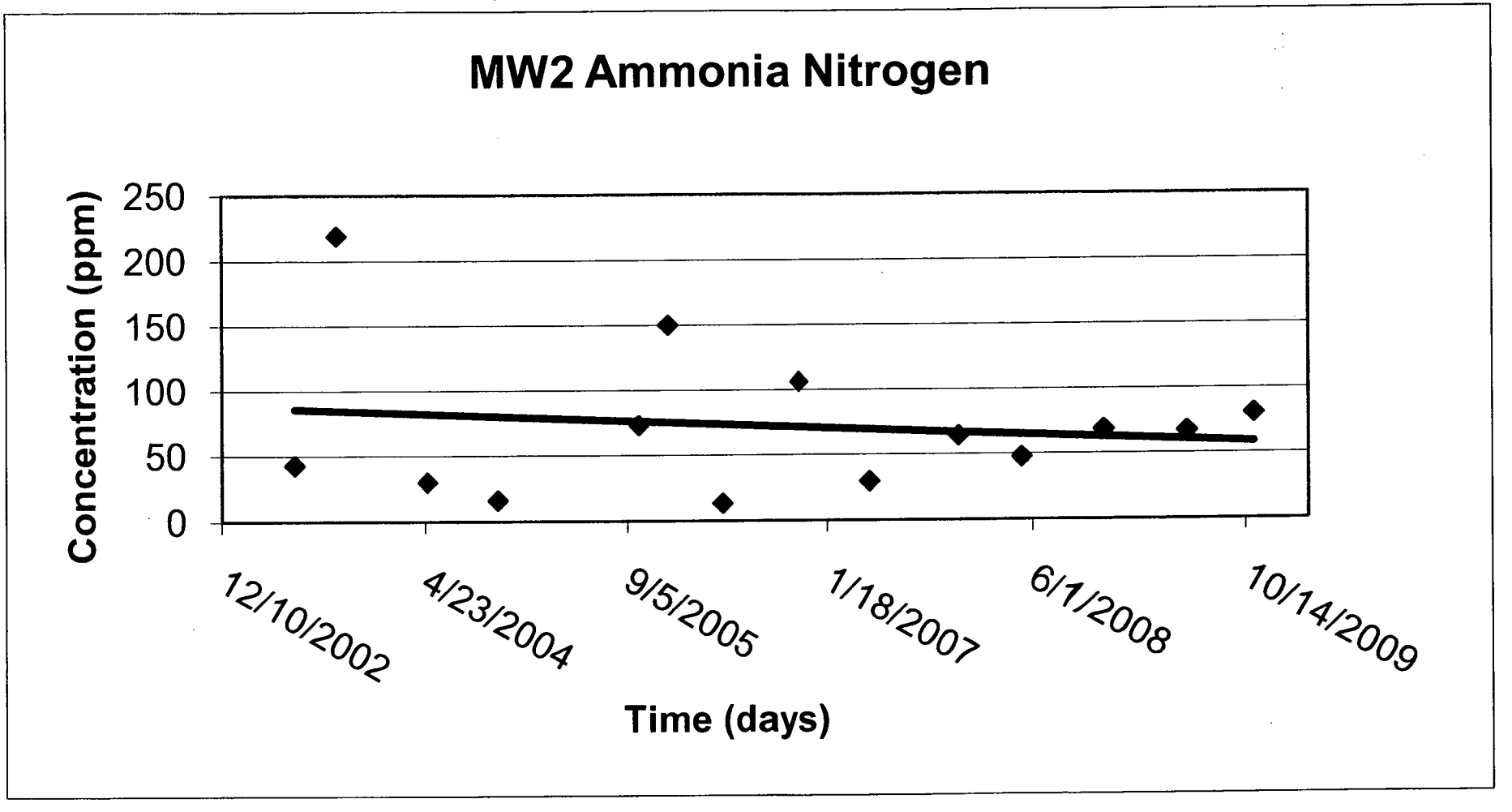
JOB DESCRIPTION: Former Thermogas Facility
CFS Inc.
311 2ND AVENUE SW
BUFFALO CENTER, IOWA

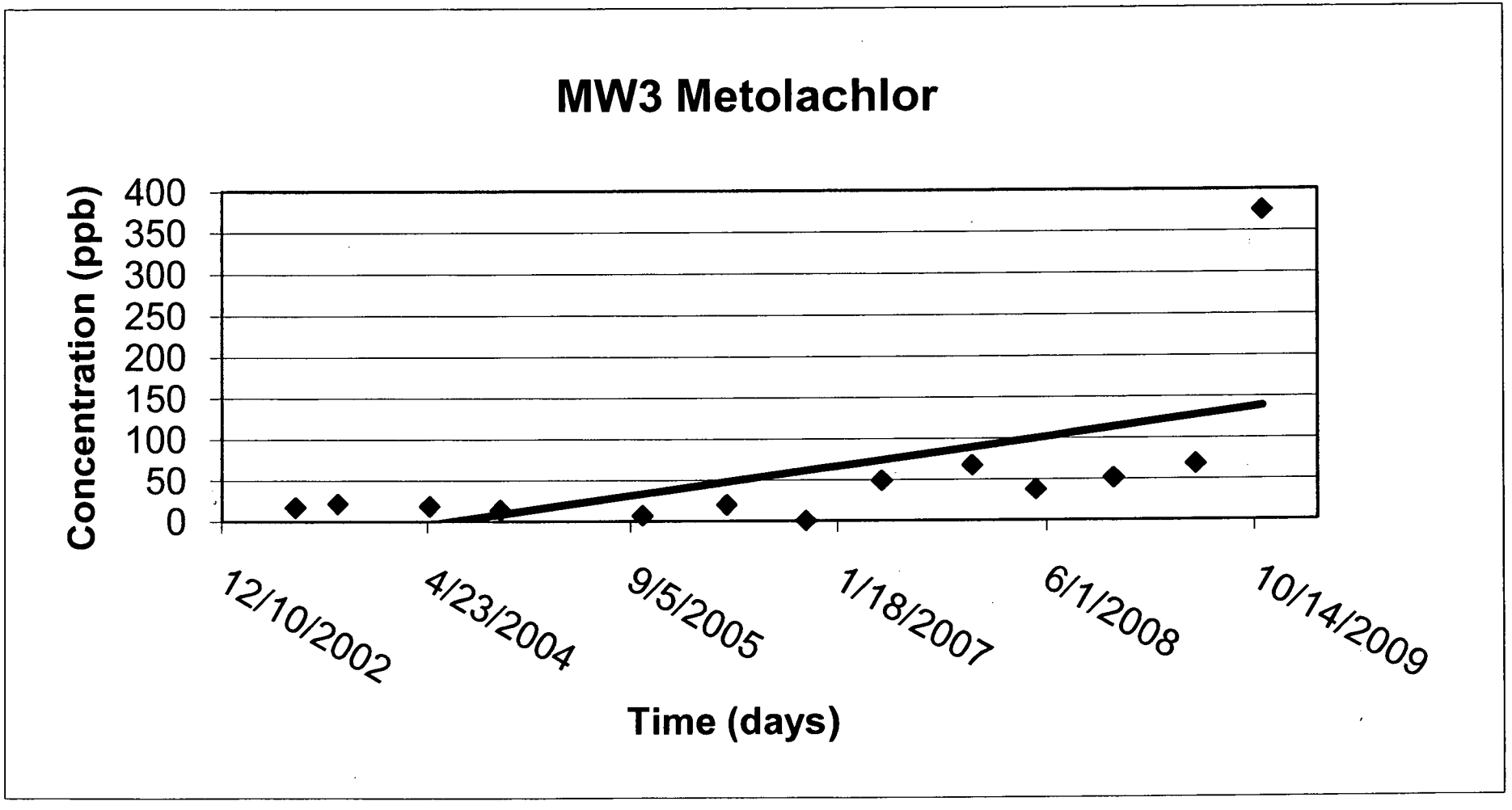
SHEET TITLE: SCALED SITE PLAN

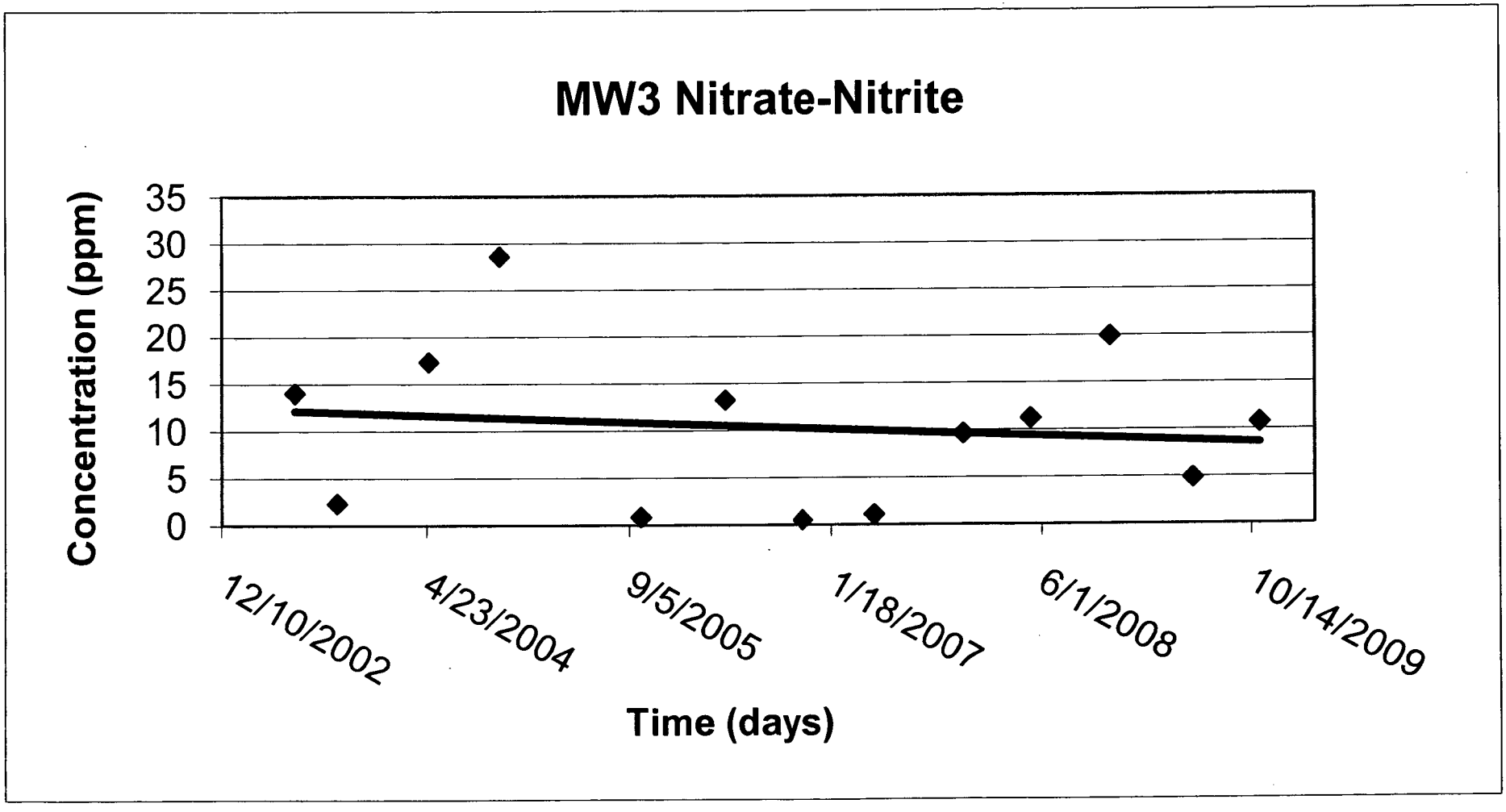
DATE	9/29/03
DRAWN BY	DARRICK WORRALL
CHECKED BY	MIKE STEENHOEK
SCALE	1"=30'
FILENAME	BUFFALO CENTER
PROJECT NO:	6235000
SHEET NO	1 OF 1

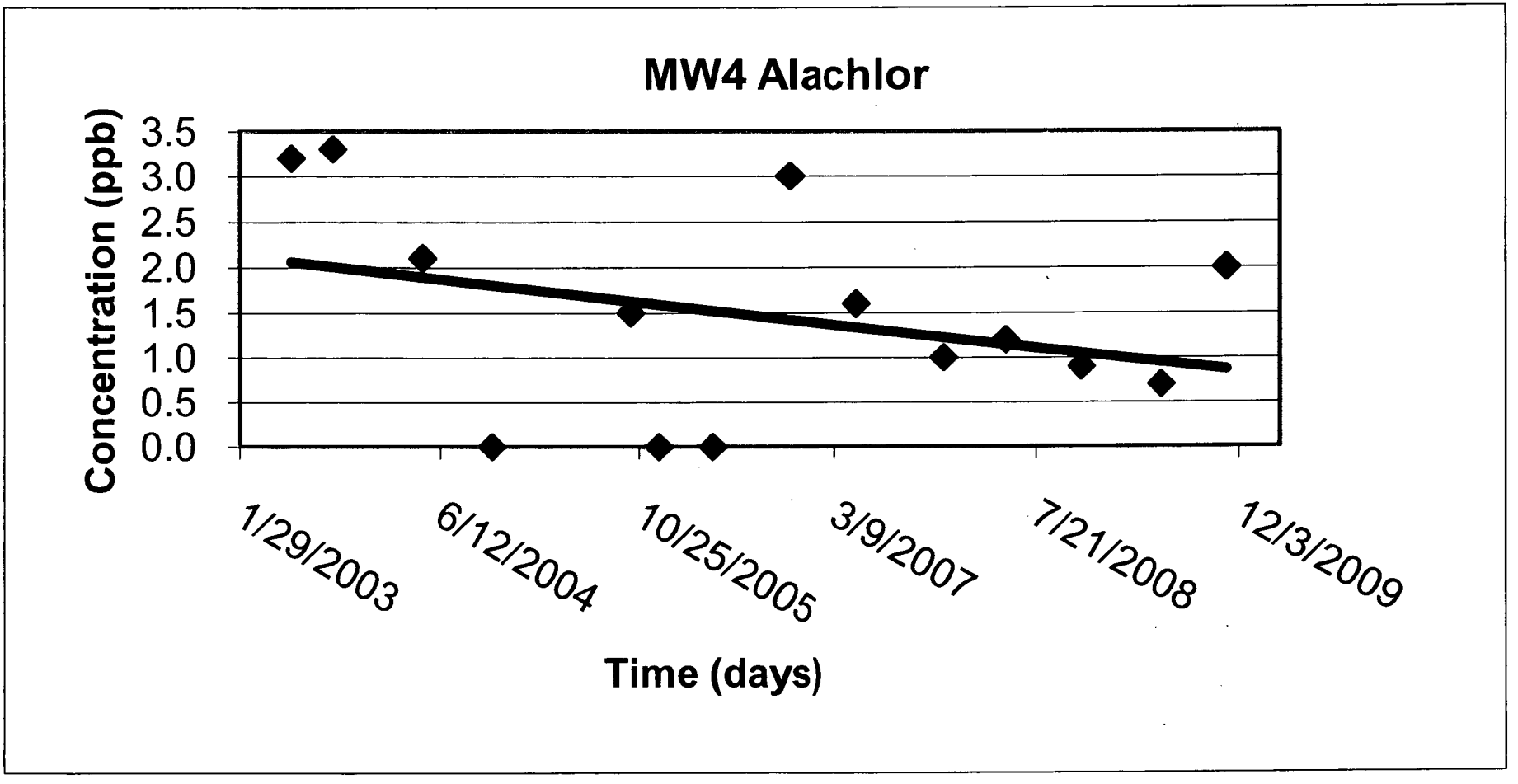
Appendix 4

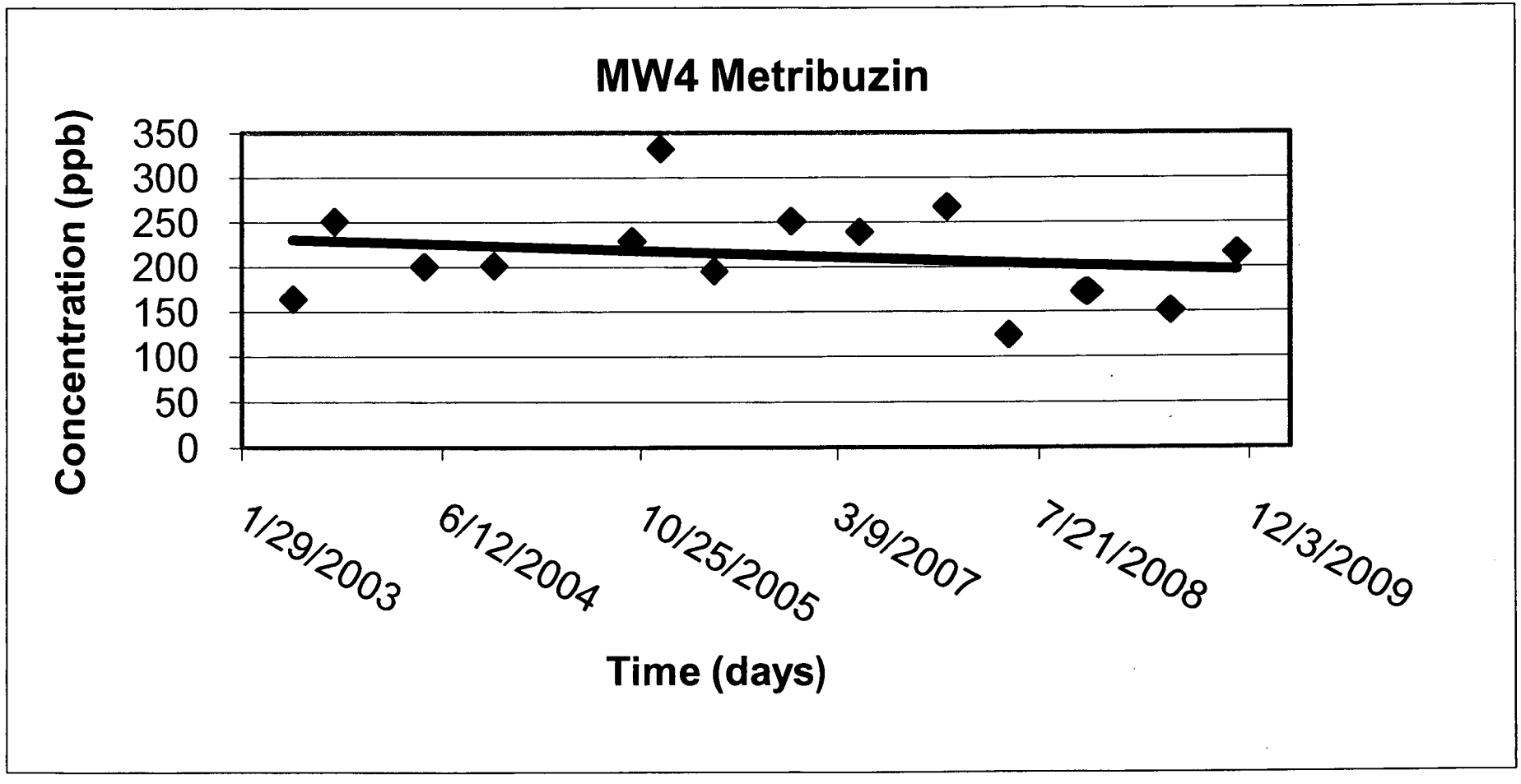
Data Plots/Trend Analysis

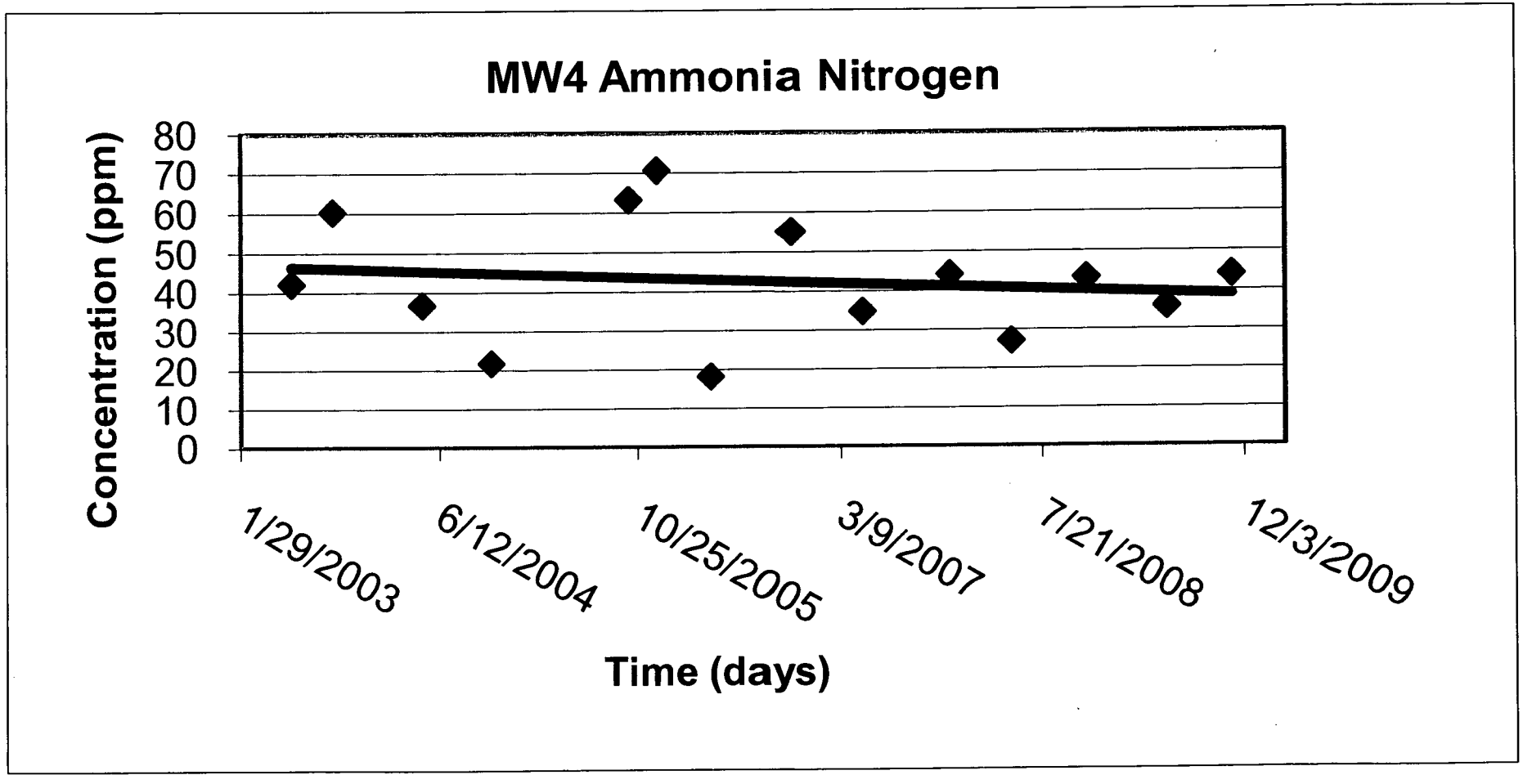

MW2 Ammonia Nitrogen
Concentration (ppm)
250
200
150
100
50
0
12/10/2002
4/23/2004
9/5/2005
1/18/2007
6/1/2008
10/14/2009
Time (days)

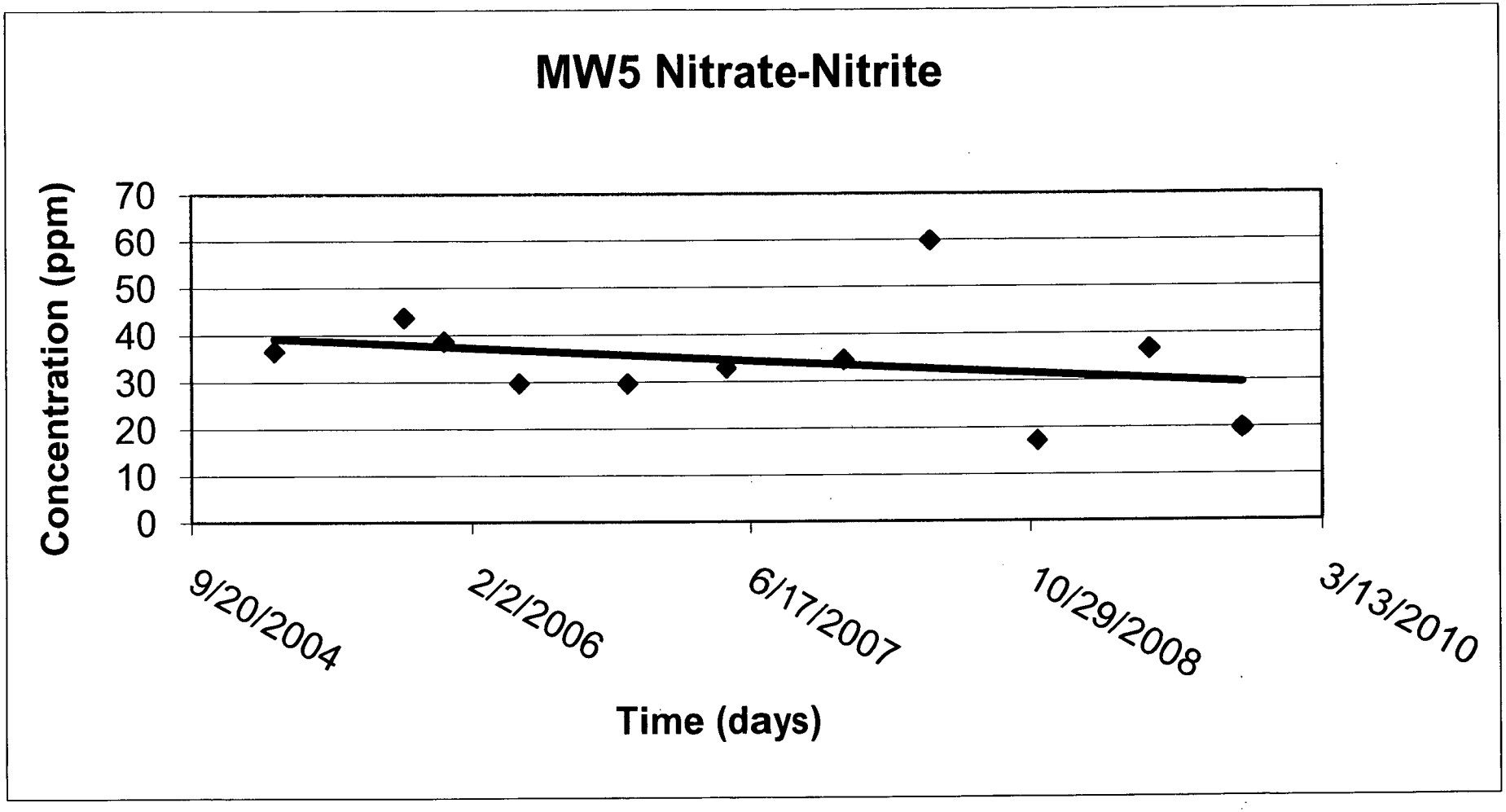

MW3 Metolachlor
Concentration (ppb)
400
350
300
250
200
150
100
50
0
12/10/2002
4/23/2004
9/5/2005
1/18/2007
6/1/2008
10/14/2009
Time (days)

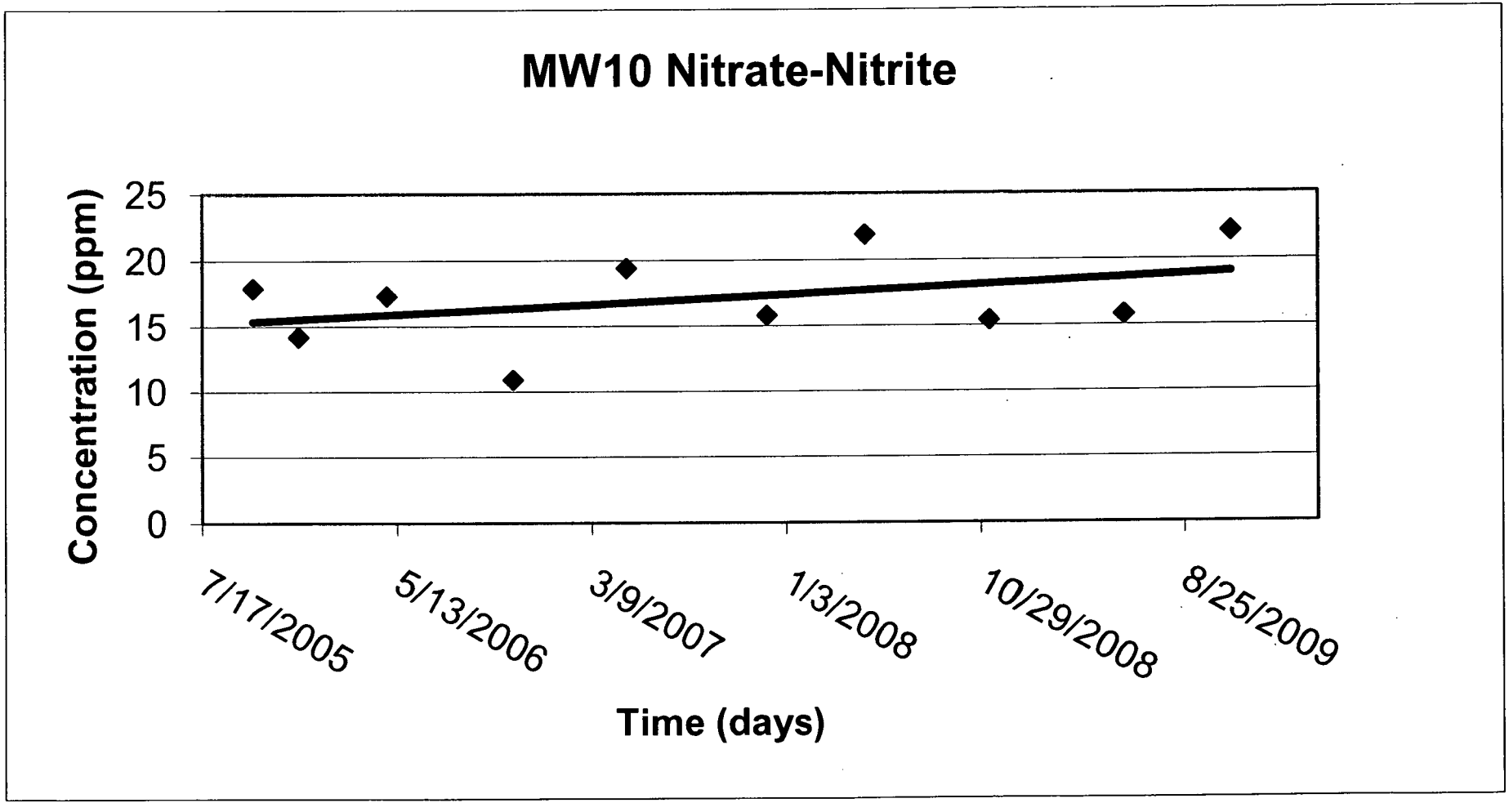

MW3 Nitrate-Nitrite
Concentration (ppm)
35
30
25
20
15
10
5
0
12/10/2002
4/23/2004
9/5/2005
1/18/2007
6/1/2008
10/14/2009
Time (days)


MW4 Alachlor
Concentration (ppb)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1/29/2003
6/12/2004
10/25/2005
3/9/2007
7/21/2008
12/3/2009
Time (days)


MW4 Metribuzin
Concentration (ppb)
350
300
250
200
150
100
50
0
1/29/2003
6/12/2004
10/25/2005
3/9/2007
7/21/2008
12/3/2009
Time (days)


MW4 Ammonia Nitrogen
Concentration (ppm)
80
70
60
50
40
30
20
10
0
1/29/2003
6/12/2004
10/25/2005
3/9/2007
7/21/2008
12/3/2009
Time (days)


MW5 Nitrate-Nitrite
Concentration (ppm)
70
60
50
40
30
20
10
0
9/20/2004
2/2/2006
6/17/2007
10/29/2008
3/13/2010
Time (days)


MW10 Nitrate-Nitrite
Concentration (ppm)
25
20
15
10
5
0
7/17/2005
5/13/2006
3/9/2007
1/3/2008
10/29/2008
8/25/2009
Time (days)

Appendix 5

Analytical Results

Keystone
LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

16 June 2009

JUN 18 2009

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 05/29/09 11:00. 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	19E1370-01	Water	05/27/09 15:35	05/29/09 11:00
MW8	19E1370-02	Water	05/27/09 15:40	05/29/09 11:00
MW1	19E1370-03	Water	05/27/09 15:45	05/29/09 11:00
MW7	19E1370-04	Water	05/27/09 15:50	05/29/09 11:00
MW12	19E1370-05	Water	05/27/09 15:55	05/29/09 11:00
MW9	19E1370-06	Water	05/27/09 16:00	05/29/09 11:00
MW3	19E1370-07	Water	05/27/09 16:05	05/29/09 11:00
MW10	19E1370-08	Water	05/27/09 16:10	05/29/09 11:00
MW2	19E1370-09	Water	05/27/09 16:15	05/29/09 11:00
MW5	19E1370-10	Water	05/27/09 16:20	05/29/09 11:00
MW11	19E1370-11	Water	05/27/09 16:25	05/29/09 11:00
MW4	19E1370-12	Water	05/27/09 16:30	05/29/09 11:00

Phone 641-792-8451
600 East 17th Street South
Newton, IA 50208
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 06/16/09 12:45

Sincerely,

Keystone Laboratories, Inc.

Sue Thompson

Sue Thompson

Project Manager I

Phone 641-792-8451

600 East 17th Street South
Newton, IA 50208

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 06/16/09 12:45

MW13

19E1370-01 (Water)

Date Sampled:5/27/2009 3:35:00PM

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	1F90124	06/01/09	06/09/09	EPA 8141	
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	**0.2**	0.1	"	"	"	"	"	"	
Metribuzin	**4.2**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Metolachlor	ND	0.5	"	"	"	"	"	"	
Pendimethalin	**4.7**	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	**0.1**	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*103 %*	*60-140*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**4.96**	0.20	"	"	1F90833	06/08/09	06/10/09	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
Newton, IA 50208

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 06/16/09 12:45

MW8

19E1370-02 (Water)

Date Sampled:5/27/2009 3:40:00PM

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	1F90124	06/01/09	06/09/09	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	**1.4**	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Alachlor	**0.3**	0.1	"	"	"	"	"	"	
Metribuzin	**26.7**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Metolachlor	**1.5**	0.5	"	"	"	"	"	"	
Pendimethalin	**17.5**	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*148 %*	*60-140*		"	"	"	"	*S-07*
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**4.7**	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**3.56**	0.20	"	"	1F90833	06/08/09	06/10/09	EPA 353.2	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record.
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Phone 641-792-8451

600 East 17th Street South
Newton, IA 50208

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 06/16/09 12:45

MW1

19E1370-03 (Water)

Date Sampled:5/27/2009 3:45:00PM

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	1F90124	06/01/09	06/09/09	EPA 8141	
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	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Metolachlor	ND	0.5	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*158 %*	*60-140*		"	"	"	"	*S-07*
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**0.68**	0.20	"	"	1F90833	06/08/09	06/10/09	EPA 353.2	

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Phone 641-792-8451 | 600 East 17th Street South, Newton, IA 50208 | 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 06/16/09 12:45

MW7

19E1370-04 (Water)

Date Sampled:5/27/2009 3:50:00PM

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	1F90124	06/01/09	06/09/09	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	**0.2**	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Alachlor	**0.4**	0.1	"	"	"	"	"	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Metolachlor	**1.0**	0.5	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*155 %*	*60-140*		"	"	"	"	*S-07*
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**2.44**	0.20	"	"	1F90833	06/08/09	06/10/09	EPA 353.2	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record.
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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 06/16/09 12:45

MW12

19E1370-05 (Water)

Date Sampled:5/27/2009 3:55:00PM

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	1F90124	06/01/09	06/09/09	EPA 8141	
Butylate	ND	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Simazine	**0.1**	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Alachlor	ND	0.1	"	"	"	"	"	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Metolachlor	ND	0.5	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*172 %*	*60-140*		"	"	"	"	*S-07*
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**1.48**	0.40	"	2	1F90833	06/08/09	06/10/09	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
Newton, IA 50208

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 06/16/09 12:45

MW9

19E1370-06 (Water)

Date Sampled:5/27/2009 4:00:00PM

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	1F90124	06/01/09	06/09/09	EPA 8141	
Butylate	**0.2**	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	**0.2**	0.1	"	"	"	"	"	"	
Simazine	**0.5**	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Alachlor	**0.1**	0.1	"	"	"	"	"	"	
Metribuzin	**3.5**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Metolachlor	**0.5**	0.5	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*172 %*	*60-140*		"	"	"	"	*S-07*
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**2.5**	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**4.30**	0.20	"	"	1F90833	06/08/09	06/10/09	EPA 353.2	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record.
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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 06/16/09 12:45

MW3

19E1370-07 (Water)

Date Sampled:5/27/2009 4:05:00PM

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	1F90124	06/01/09	06/09/09	EPA 8141	
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	**0.8**	0.1	"	"	"	"	"	"	
Metribuzin	**4.7**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	**0.4**	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*161 %*	*60-140*		"	"	"	"	*S-07*
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**9.4**	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**4.86**	0.40	"	2	1F90833	06/08/09	06/10/09	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 06/16/09 12:45

MW3

19E1370-07RE1 (Water)

Date Sampled:5/27/2009 4:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Metolachlor	**68.3**	2.5	ug/l	5	1F90124	06/01/09	06/12/09	EPA 8141	
Pendimethalin	**33.4**	2.5	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*158 %*	*60-140*		"	"	"	"	*S-07*

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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 06/16/09 12:45

MW10

19E1370-08 (Water)

Date Sampled:5/27/2009 4:10:00PM

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	1F90124	06/01/09	06/09/09	EPA 8141	
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	**0.6**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Metolachlor	ND	0.5	"	"	"	"	"	"	
Pendimethalin	**13.0**	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*136 %*	*60-140*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**15.8**	1.00	"	5	1F90833	06/08/09	06/10/09	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 06/16/09 12:45

MW2

19E1370-09 (Water)

Date Sampled:5/27/2009 4:15:00PM

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	1F90124	06/01/09	06/09/09	EPA 8141	
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	**17.2**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Metolachlor	**0.9**	0.5	"	"	"	"	"	"	
Pendimethalin	**19.9**	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*172 %*	*60-140*		"	"	"	"	*S-07*
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**66.9**	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**9.50**	1.00	"	5	1F90833	06/08/09	06/10/09	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 06/16/09 12:45

MW5

19E1370-10 (Water)

Date Sampled:5/27/2009 4:20:00PM

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	1F90124	06/01/09	06/09/09	EPA 8141	
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	**5.2**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Metolachlor	ND	0.5	"	"	"	"	"	"	
Pendimethalin	**5.3**	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*164 %*	*60-140*		"	"	"	"	*S-07*
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**27.0**	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**36.6**	2.00	"	10	1F90833	06/08/09	06/10/09	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 06/16/09 12:45

MW11

19E1370-11 (Water)

Date Sampled:5/27/2009 4:25:00PM

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	1F90133	06/01/09	06/10/09	EPA 8141	
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	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Metolachlor	ND	0.5	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
Acetochlor	ND	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*75.8 %*	*60-140*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**3.47**	1.00	"	5	1F90833	06/08/09	06/10/09	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 06/16/09 12:45

MW4

19E1370-12 (Water)

Date Sampled:5/27/2009 4:30:00PM

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	1F90133	06/01/09	06/10/09	EPA 8141	
Butylate	**0.5**	0.1	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Atrazine	**0.5**	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Alachlor	**0.7**	0.1	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Metolachlor	**14.2**	0.5	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Cyanazine	**0.8**	0.1	"	"	"	"	"	"	
Acetochlor	**0.4**	0.2	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*76.5 %*	*60-140*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**35.9**	1.0	mg/l	1	1F90508	06/05/09	06/05/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**2.27**	0.20	"	"	1F90833	06/08/09	06/10/09	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 06/16/09 12:45

MW4

19E1370-12RE1 (Water)

Date Sampled:5/27/2009 4:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Metribuzin	**151**	1.0	ug/l	10	1F90133	06/01/09	06/12/09	EPA 8141	
Pendimethalin	**206**	5.0	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*76.3 %*		*60-140*		"	"	"	

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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 06/16/09 12:45

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 19F1014 - 1F90124										
Calibration Check (19F1014-CCV1)				Prepared & Analyzed: 06/08/09						
EPTC	1.15		ug/l	1.20000		95.6	80-120			
Butylate	1.15		"	1.20000		95.6	80-120			
Propachlor	1.08		"	1.20000		89.7	80-120			
Trifluralin	1.16		"	1.20000		96.8	80-120			
Terbufos	1.19		"	1.20000		99.0	80-120			
Atrazine	1.16		"	1.20000		97.0	80-120			
Simazine	1.16		"	1.20000		96.8	80-120			
Alachlor	1.15		"	1.20000		95.5	80-120			
Metribuzin	1.16		"	1.20000		96.4	80-120			
Metolachlor	1.13		"	1.20000		94.2	80-120			
Pendimethalin	1.20		"	1.20000		99.7	80-120			
Butachlor	1.17		"	1.20000		97.2	80-120			
Cyanazine	1.17		"	1.20000		97.6	80-120			
Acetochlor	1.15		"	1.20000		95.5	80-120			
Surrogate: 2-Nitro-m-xylene	*0.955*		"	*0.982400*		*97.2*	*80-120*			
Batch 19F1102 - 1F90124										
Calibration Check (19F1102-CCV1)				Prepared & Analyzed: 06/09/09						
EPTC	1.13		ug/l	1.20000		94.0	80-120			
Butylate	1.14		"	1.20000		95.2	80-120			
Propachlor	1.25		"	1.20000		104	80-120			
Trifluralin	1.17		"	1.20000		97.8	80-120			
Terbufos	1.20		"	1.20000		100	80-120			
Atrazine	1.16		"	1.20000		96.9	80-120			
Simazine	1.17		"	1.20000		97.3	80-120			
Alachlor	1.13		"	1.20000		94.3	80-120			
Metribuzin	1.17		"	1.20000		97.4	80-120			
Metolachlor	1.09		"	1.20000		90.7	80-120			
Pendimethalin	1.18		"	1.20000		98.2	80-120			
Butachlor	1.15		"	1.20000		95.7	80-120			
Cyanazine	1.27		"	1.20000		106	80-120			
Acetochlor	1.14		"	1.20000		95.1	80-120			
Surrogate: 2-Nitro-m-xylene	*1.00*		"	*0.982400*		*102*	*80-120*			

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Seneca Environmental Services	Project: Buffalo Center	Reported
4140 NE. 14th St.	Project Number: 6270403	06/16/09 12:45
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 19F1102 - 1F90124										
Calibration Check (19F1102-CCV2)				Prepared: 06/09/09 Analyzed: 06/10/09						
EPTC	1.14		ug/l	1.20000		95.4	80-120			
Butylate	1.16		"	1.20000		96.6	80-120			
Propachlor	0.94		"	1.20000		78.1	80-120			C-18
Trifluralin	1.19		"	1.20000		99.1	80-120			
Terbufos	1.21		"	1.20000		101	80-120			
Atrazine	1.18		"	1.20000		98.1	80-120			
Simazine	1.18		"	1.20000		98.0	80-120			
Alachlor	1.15		"	1.20000		95.5	80-120			
Metribuzin	1.18		"	1.20000		98.2	80-120			
Metolachlor	1.08		"	1.20000		90.4	80-120			
Pendimethalin	1.22		"	1.20000		102	80-120			
Butachlor	1.16		"	1.20000		96.7	80-120			
Cyanazine	1.51		"	1.20000		126	80-120			C-17
Acetochlor	1.16		"	1.20000		96.9	80-120			
Surrogate: 2-Nitro-m-xylene	*1.00*		"	*0.982400*		*102*	*80-120*			
Batch 19F1211 - 1F90133										
Calibration Check (19F1211-CCV1)				Prepared & Analyzed: 06/11/09						
EPTC	1.19		ug/l	1.20000		99.4	80-120			
Butylate	1.20		"	1.20000		99.8	80-120			
Propachlor	1.13		"	1.20000		93.9	80-120			
Trifluralin	1.19		"	1.20000		98.9	80-120			
Terbufos	1.20		"	1.20000		100	80-120			
Atrazine	1.20		"	1.20000		99.9	80-120			
Simazine	1.20		"	1.20000		99.8	80-120			
Alachlor	1.18		"	1.20000		98.7	80-120			
Metribuzin	1.20		"	1.20000		99.8	80-120			
Metolachlor	1.14		"	1.20000		94.7	80-120			
Pendimethalin	1.17		"	1.20000		97.2	80-120			
Butachlor	1.16		"	1.20000		97.0	80-120			
Cyanazine	1.20		"	1.20000		100	80-120			
Acetochlor	1.16		"	1.20000		97.1	80-120			
Surrogate: 2-Nitro-m-xylene	*1.00*		"	*0.982400*		*102*	*80-120*			

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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 06/16/09 12:45

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 19F1211 - 1F90133										
Calibration Check (19F1211-CCV2)				Prepared: 06/11/09 Analyzed: 06/12/09						
EPTC	1.19		ug/l	1.20000		99.5	80-120			
Butylate	1.19		"	1.20000		98.9	80-120			
Trifluralin	1.20		"	1.20000		99.8	80-120			
Terbufos	1.17		"	1.20000		97.5	80-120			
Atrazine	1.20		"	1.20000		100	80-120			
Simazine	1.20		"	1.20000		100	80-120			
Alachlor	1.21		"	1.20000		101	80-120			
Metribuzin	1.20		"	1.20000		100	80-120			
Metolachlor	1.15		"	1.20000		95.8	80-120			
Pendimethalin	1.17		"	1.20000		97.3	80-120			
Butachlor	1.20		"	1.20000		99.8	80-120			
Cyanazine	1.19		"	1.20000		99.4	80-120			
Acetochlor	1.20		"	1.20000		100	80-120			
Surrogate: 2-Nitro-m-xylene	*1.00*		"	*0.982400*		*102*	*80-120*			
Batch 1F90124 - 3510C NP/OC Sep Fnl										
Blank (1F90124-BLK1)				Prepared: 06/01/09 Analyzed: 06/08/09						
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	*5.44*		"	*4.91200*		*111*	*60-140*			

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Phone 641-792-8451

600 East 17th Street South
Newton, IA 50208

Fax 641-792-7989

Seneca Environmental Services	Project: Buffalo Center	Reported
4140 NE. 14th St.	Project Number: 6270403	06/16/09 12:45
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 1F90124 - 3510C NP/OC Sep Fnl										
LCS (1F90124-BS1)				Prepared: 06/01/09 Analyzed: 06/10/09						
EPTC	2.53	0.1	ug/l	2.50000		101	60-123			
Butylate	2.56	0.1	"	2.50000		103	60-115			
Propachlor	2.50	0.1	"	2.50000		100	60-140			
Trifluralin	2.48	0.1	"	2.50000		99.4	60-122			
Terbufos	2.76	0.1	"	2.50000		110	60-140			
Atrazine	2.75	0.1	"	2.50000		110	60-131			
Simazine	2.98	0.1	"	2.50000		119	60-137			
Alachlor	2.66	0.1	"	2.53500		105	60-127			
Metribuzin	2.72	0.1	"	2.50000		109	60-123			
Metolachlor	2.57	0.5	"	2.50000		103	60-136			
Pendimethalin	2.76	0.5	"	2.50000		110	60-127			
Butachlor	2.91	0.5	"	2.50000		116	60-140			
Cyanazine	2.22	0.1	"	2.50000		89.0	60-116			
Acetochlor	2.72	0.2	"	2.50000		109	60-137			
Surrogate: 2-Nitro-m-xylene	*6.20*		"	*4.91200*		*126*	*60-140*			
LCS Dup (1F90124-BSD1)				Prepared: 06/01/09 Analyzed: 06/10/09						
EPTC	2.31	0.1	ug/l	2.50000		92.4	60-123	9.09	30	
Butylate	2.35	0.1	"	2.50000		94.0	60-115	8.75	30	
Propachlor	2.48	0.1	"	2.50000		99.2	60-140	1.00	30	
Trifluralin	2.34	0.1	"	2.50000		93.6	60-122	6.01	30	
Terbufos	2.52	0.1	"	2.50000		101	60-140	8.89	30	
Atrazine	2.50	0.1	"	2.50000		100	60-131	9.32	30	
Simazine	2.70	0.1	"	2.50000		108	60-137	9.84	30	
Alachlor	2.37	0.1	"	2.53500		93.5	60-127	11.5	20	
Metribuzin	2.38	0.1	"	2.50000		95.2	60-123	13.2	30	
Metolachlor	2.32	0.5	"	2.50000		92.6	60-136	10.4	30	
Pendimethalin	2.46	0.5	"	2.50000		98.4	60-127	11.5	24	
Butachlor	2.48	0.5	"	2.50000		99.4	60-140	15.8	30	
Cyanazine	2.42	0.1	"	2.50000		96.6	60-116	8.19	30	
Acetochlor	2.44	0.2	"	2.50000		97.6	60-137	11.0	30	
Surrogate: 2-Nitro-m-xylene	*5.87*		"	*4.91200*		*120*	*60-140*			

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Seneca Environmental Services	Project: Buffalo Center	Reported
4140 NE. 14th St.	Project Number: 6270403	06/16/09 12:45
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 1F90124 - 3510C NP/OC Sep Fnl										
Reference (1F90124-SRM1)				Prepared: 06/01/09 Analyzed: 06/10/09						
EPTC	2.60	0.1	ug/l	2.50000		104	70-130			
Butylate	2.63	0.1	"	2.50000		105	70-130			
Propachlor	2.63	0.1	"	2.50000		105	70-130			
Trifluralin	2.26	0.1	"	2.50000		90.6	70-130			
Terbufos	2.77	0.1	"	2.50000		111	70-130			
Atrazine	2.68	0.1	"	2.50000		107	70-130			
Simazine	2.96	0.1	"	2.50000		118	70-130			
Alachlor	2.58	0.1	"	2.53500		102	70-130			
Metribuzin	2.62	0.1	"	2.50000		105	70-130			
Metolachlor	2.55	0.5	"	2.50000		102	70-130			
Pendimethalin	2.66	0.5	"	2.50000		107	70-130			
Butachlor	2.62	0.5	"	2.50000		105	70-130			
Cyanazine	3.22	0.1	"	2.50000		129	70-130			
Acetochlor	2.61	0.2	"	2.50000		104	70-130			
Surrogate: 2-Nitro-m-xylene	*7.18*		"	*4.91200*		*146*	*60-140*			*S-07*
Batch 1F90133 - 3510C NP/OC Sep Fnl										
Blank (1F90133-BLK1)				Prepared: 06/01/09 Analyzed: 06/10/09						
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	"							
Atrazine Desisopropyl	ND	0.2	"							
Metolachlor	ND	0.5	"							
Pendimethalin	ND	0.5	"							
Butachlor	ND	0.5	"							
Cyanazine	ND	0.1	"							
Acetochlor	ND	0.2	"							
Surrogate: 2-Nitro-m-xylene	*8.57*		"	*9.82400*		*87.2*	*60-140*			

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Seneca Environmental Services	Project: Buffalo Center	Reported
4140 NE. 14th St.	Project Number: 6270403	06/16/09 12:45
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 1F90133 - 3510C NP/OC Sep Fnl										
LCS (1F90133-BS1)				Prepared: 06/01/09 Analyzed: 06/10/09						
EPTC	2.40	0.1	ug/l	2.50000		96.0	60-123			
Butylate	2.47	0.1	"	2.50000		98.8	60-115			
Propachlor	2.06	0.1	"	2.50000		82.6	60-140			
Trifluralin	2.50	0.1	"	2.50000		99.8	60-122			
Terbufos	2.78	0.1	"	2.50000		111	60-140			
Atrazine	2.68	0.1	"	2.50000		107	60-131			
Simazine	2.90	0.1	"	2.50000		116	60-137			
Alachlor	2.60	0.1	"	2.53500		102	60-127			
Metribuzin	2.62	0.1	"	2.50000		105	60-123			
Metolachlor	2.52	0.5	"	2.50000		101	60-136			
Pendimethalin	2.79	0.5	"	2.50000		112	60-127			
Butachlor	2.72	0.5	"	2.50000		109	60-140			
Cyanazine	3.37	0.1	"	2.50000		135	60-116			QS-04
Acetochlor	2.66	0.2	"	2.50000		107	60-137			
Surrogate: 2-Nitro-m-xylene	*8.16*		"	*9.82400*		*83.0*	*60-140*			
LCS Dup (1F90133-BSD1)				Prepared: 06/01/09 Analyzed: 06/10/09						
EPTC	2.31	0.1	ug/l	2.50000		92.4	60-123	3.82	30	
Butylate	2.38	0.1	"	2.50000		95.0	60-115	3.92	30	
Propachlor	1.86	0.1	"	2.50000		74.4	60-140	10.4	30	
Trifluralin	2.30	0.1	"	2.50000		91.8	60-122	8.35	30	
Terbufos	2.72	0.1	"	2.50000		109	60-140	2.19	30	
Atrazine	2.57	0.1	"	2.50000		103	60-131	4.00	30	
Simazine	2.76	0.1	"	2.50000		110	60-137	4.96	30	
Alachlor	2.52	0.1	"	2.53500		99.4	60-127	2.93	20	
Metribuzin	2.54	0.1	"	2.50000		101	60-123	3.11	30	
Metolachlor	2.47	0.5	"	2.50000		98.8	60-136	2.20	30	
Pendimethalin	2.70	0.5	"	2.50000		108	60-127	3.46	24	
Butachlor	2.68	0.5	"	2.50000		107	60-140	1.48	30	
Cyanazine	2.92	0.1	"	2.50000		117	60-116	14.5	30	QS-04
Acetochlor	2.61	0.2	"	2.50000		104	60-137	2.09	30	
Surrogate: 2-Nitro-m-xylene	*7.76*		"	*9.82400*		*79.0*	*60-140*			

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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 06/16/09 12:45

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 1F90133 - 3510C NP/OC Sep Fnl										
Reference (1F90133-SRM1)				Prepared: 06/01/09 Analyzed: 06/10/09						
EPTC	2.64	0.1	ug/l	2.50000		105	70-130			
Butylate	2.68	0.1	"	2.50000		107	70-130			
Propachlor	2.14	0.1	"	2.50000		85.4	70-130			
Trifluralin	2.29	0.1	"	2.50000		91.6	70-130			
Terbufos	2.93	0.1	"	2.50000		117	70-130			
Atrazine	2.75	0.1	"	2.50000		110	70-130			
Simazine	3.02	0.1	"	2.50000		121	70-130			
Alachlor	2.76	0.1	"	2.53500		109	70-130			
Metribuzin	2.74	0.1	"	2.50000		110	70-130			
Metolachlor	2.82	0.5	"	2.50000		113	70-130			
Pendimethalin	2.86	0.5	"	2.50000		114	70-130			
Butachlor	2.88	0.5	"	2.50000		115	70-130			
Cyanazine	3.78	0.1	"	2.50000		151	70-130			QR-06
Acetochlor	2.80	0.2	"	2.50000		112	70-130			
Surrogate: 2-Nitro-m-xylene	*9.16*		"	*9.82400*		*93.2*	*60-140*			

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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 06/16/09 12:45

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 19F0503 - 1F90508										
Calibration Check (19F0503-CCV1)				Prepared & Analyzed: 06/05/09						
Nitrogen, Ammonia	5.44		mg/l	5.00000		109	90-110			
Calibration Check (19F0503-CCV2)				Prepared & Analyzed: 06/05/09						
Nitrogen, Ammonia	4.91		mg/l	5.00000		98.2	90-110			
Calibration Check (19F0503-CCV3)				Prepared & Analyzed: 06/05/09						
Nitrogen, Ammonia	4.68		mg/l	5.00000		93.6	90-110			
Calibration Check (19F0503-CCV4)				Prepared & Analyzed: 06/05/09						
Nitrogen, Ammonia	4.66		mg/l	5.00000		93.2	90-110			
Initial Cal Check (19F0503-ICV1)				Prepared & Analyzed: 06/05/09						
Nitrogen, Ammonia	5.46		mg/l	5.00000		109	90-110			
Batch 19F1001 - 1F90833										
Calibration Check (19F1001-CCV1)				Prepared & Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	3.90		mg/l	3.93600		99.0	90-110			
Calibration Check (19F1001-CCV2)				Prepared & Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	4.06		mg/l	3.93600		103	90-110			
Calibration Check (19F1001-CCV3)				Prepared & Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	3.80		mg/l	3.93600		96.6	90-110			
Calibration Check (19F1001-CCV4)				Prepared & Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	3.92		mg/l	3.93600		99.7	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 O6/16/09 12:45

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 19F1001 - 1F90833										
Calibration Check (19F1001-CCV5)				Prepared & Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	3.75		mg/l	3.93600		95.4	90-110			
Calibration Check (19F1001-CCV6)				Prepared & Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	3.76		mg/l	3.93600		95.6	90-110			
Calibration Check (19F1001-CCV7)				Prepared & Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	4.12		mg/l	3.93600		105	90-110			
Batch 1F90508 - Wet Chem Preparation										
Blank (1F90508-BLK1)				Prepared & Analyzed: 06/05/09						
Nitrogen, Ammonia	ND	1.0	mg/l							
Blank (1F90508-BLK2)				Prepared & Analyzed: 06/05/09						
Nitrogen, Ammonia	ND	1.0	mg/l							
Matrix Spike (1F90508-MS1)		**Source: 19E1370-04**		Prepared & Analyzed: 06/05/09						
Nitrogen, Ammonia	5.84	1.0	mg/l	5.00000	ND	117	66-136			
Matrix Spike (1F90508-MS2)		**Source: 19E1371-03**		Prepared & Analyzed: 06/05/09						
Nitrogen, Ammonia	5.76	1.0	mg/l	5.00000	ND	115	66-136			
Matrix Spike Dup (1F90508-MSD1)		**Source: 19E1370-04**		Prepared & Analyzed: 06/05/09						
Nitrogen, Ammonia	5.90	1.0	mg/l	5.00000	ND	118	66-136	1.02	10	
Matrix Spike Dup (1F90508-MSD2)		**Source: 19E1371-03**		Prepared & Analyzed: 06/05/09						
Nitrogen, Ammonia	5.82	1.0	mg/l	5.00000	ND	116	66-136	1.04	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 06/16/09 12:45

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 1F90833 - Wet Chem Preparation										
Blank (1F90833-BLK1)				Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	ND	0.20	mg/l							
Blank (1F90833-BLK2)				Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	ND	0.20	mg/l							
Blank (1F90833-BLK3)				Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	ND	0.20	mg/l							
LCS (1F90833-BS1)				Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	3.56	0.40	mg/l	4.00000		88.9	81-110			
LCS (1F90833-BS2)				Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	3.61	0.40	mg/l	4.00000		90.3	81-110			
LCS (1F90833-BS3)				Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	3.81	0.40	mg/l	4.00000		95.2	81-110			
Matrix Spike (1F90833-MS1)		**Source: 19E1367-01**		Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	2.27	0.20	mg/l	2.04082	0.45	89.3	68-122			
Matrix Spike (1F90833-MS2)		**Source: 19E1370-06**		Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	6.01	0.20	mg/l	2.04082	4.30	84.2	68-122			
Matrix Spike (1F90833-MS3)		**Source: 19F0080-01**		Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	1.90	0.20	mg/l	2.04082	0.23	81.5	68-122			
Matrix Spike Dup (1F90833-MSD1)		**Source: 19E1367-01**		Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	2.28	0.20	mg/l	2.04082	0.45	89.5	68-122	0.224	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 06/16/09 12:45

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 1F90833 - Wet Chem Preparation										
Matrix Spike Dup (1F90833-MSD2)	**Source: 19E1370-06**			Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	6.33	0.20	mg/l	2.04082	4.30	99.7	68-122	5.12	10	
Matrix Spike Dup (1F90833-MSD3)	**Source: 19F0080-01**			Prepared: 06/08/09 Analyzed: 06/10/09						
Nitrogen, Nitrate+Nitrite	1.90	0.20	mg/l	2.04082	0.23	81.5	68-122	0.00	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	IA-NT
	Terbufos	IA-NT
	Atrazine	IA-NT,KS-NT
	Simazine	KS-NT
	Atrazine Desethyl	IA-NT
	Alachlor	IA-NT
	Metribuzin	IA-NT
	Atrazine Desisopropyl	IA-NT
	Metolachlor	IA-NT
	Cyanazine	IA-NT
	Acetochlor	IA-NT
SM 4500-NH3 F in Water		
	Nitrogen, Ammonia	IA-NT

Code	Certifying Authority	Certificate Number	Expires
IA-NT	Iowa Department of Natural Resources	095	02/01/2010
KS-NT	Kansas Department of Health and Environment	E-10287	07/31/2009
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2009

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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 06/16/09 12:45

Notes and Definitions

S-07	The surrogate recovery for this sample is outside of established control limits.
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.
QS-04	The blank spike recovery was above established acceptance limits.
QR-06	The reference standard was outside of established control limits.
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).
C-18	The CCV was outside of acceptance limits. However the data was accepted on the basis of acceptable SRM recovery.
C-17	The CCV recovery was outside established QC acceptance limits.
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.
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Phone 641-792-8451

600 East 17th Street South
Newton, IA 50208

Fax 641-792-7989

CHAIN OF CUSTODY RECORD

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

Printed: 5/14/2009 9:51:39AM
www.keystonelabs.co

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 19E1370
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	5/27/09	15:35	2	nh3-probe-4500 nox-353.2 8141-103	01
02-001	MW8	Water		/ /	15:40		nh3-probe-4500 nox-353.2 8141-103	02
03-001	MW1	Water		/ /	15:45		nh3-probe-4500 nox-353.2 8141-103	03
04-001	MW7	Water		/ /	15:50		nh3-probe-4500 nox-353.2 8141-103	04
05-001	MW12	Water		/ /	15:55		nh3-probe-4500 nox-353.2 8141-103	05
06-001	MW9	Water		/ /	16:00		nh3-probe-4500 nox-353.2 8141-103	06
07-001	MW3	Water		/ /	16:05		nh3-probe-4500 nox-353.2 8141-103	07

Relinquished By: [signature] Date/Time: 5/29/09 8:30
Received By: ___ Date/Time: ___
Relinquished By: ___ Date/Time: ___
Received for Lab By: [signature] 5/29/09 11:00 Date/Time: ___

Remarks:
PO#: 231987CL

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

Printed: 5/14/2009 9:51:39AM
www.keystonelabs.com

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: 19E1370
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	5/27/09	16:10	2	nh3-probe-4500 nox-353.2 8141-103	08
09-001	MW2	Water		/ /	16:15		nh3-probe-4500 nox-353.2 8141-103	09
10-001	MW5	Water		/ /	16:20		nh3-probe-4500 nox-353.2 8141-103	10
11-001	MW11	Water		/ /	16:25		nh3-probe-4500 nox-353.2 8141-103	11
12-001	MW4	Water		/ /	16:30		nh3-probe-4500 nox-353.2 8141-103	12

CL — 5/29/09 8:30
Relinquished By — Date/Time

Relinquished By — Date/Time

Received By — Date/Time

Bill — 5/29/09 11:00 Am
Received for Lab By — Date/Time

Remarks:
PO#: 231987CL

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Keystone
LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

19 November 2009

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

NOV 25 2009

RE: Buffalo Center
6270403

Enclosed are the results of analyses for samples received by the laboratory on 11/06/09 14:45. 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	19K0343-01	Water	11/03/09 16:30	11/06/09 14:45
MW8	19K0343-02	Water	11/03/09 16:40	11/06/09 14:45
MW1	19K0343-03	Water	11/03/09 16:50	11/06/09 14:45
MW7	19K0343-04	Water	11/03/09 17:00	11/06/09 14:45
MW12	19K0343-05	Water	11/03/09 17:10	11/06/09 14:45
MW9	19K0343-06	Water	11/03/09 17:20	11/06/09 14:45
MW3	19K0343-07	Water	11/03/09 17:30	11/06/09 14:45
MW10	19K0343-08	Water	11/03/09 17:40	11/06/09 14:45
MW2	19K0343-09	Water	11/03/09 17:50	11/06/09 14:45
MW11	19K0343-10	Water	11/03/09 18:00	11/06/09 14:45
MW5	19K0343-11	Water	11/03/09 17:55	11/06/09 14:45
MW4	19K0343-12	Water	11/03/09 18:10	11/06/09 14:45

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600 East 17th Street South
Newton, IA 50208
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 11/19/09 10:35

MW13

19K0343-01 (Water)

Date Sampled:11/3/2009 4:30:00PM

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K90923	11/09/09	11/16/09	EPA 8141	
Alachlor	**0.2**	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	ND	0.1	"	"	"	"	"	"	
Cyanazine	**0.1**	0.1	"	"	"	"	"	"	
EPTC	ND	0.1	"	"	"	"	"	"	
Metolachlor	**1.8**	0.5	"	"	"	"	"	"	
Metribuzin	**3.6**	0.1	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*86.1 %*	*60-140*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**2.10**	0.20	"	"	1K91248	11/12/09	11/13/09	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 11/19/09 10:35

MW8

19K0343-02 (Water)

Date Sampled:11/3/2009 4:40:00PM

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K90923	11/09/09	11/17/09	EPA 8141	
Alachlor	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	ND	0.1	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
EPTC	ND	0.1	"	"	"	"	"	"	
Metolachlor	**2.5**	0.5	"	"	"	"	"	"	
Metribuzin	**7.9**	0.1	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	**0.6**	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*85.2 %*	*60-140*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**1.6**	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**1.06**	0.20	"	"	1K91248	11/12/09	11/13/09	EPA 353.2	

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Newton, IA 50208

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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 11/19/09 10:35

MW1

19K0343-03 (Water)

Date Sampled:11/3/2009 4:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K90923	11/09/09	11/17/09	EPA 8141	
Alachlor	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	ND	0.1	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
EPTC	ND	0.1	"	"	"	"	"	"	
Metolachlor	ND	0.5	"	"	"	"	"	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*73.6 %*		*60-140*	"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**0.45**	0.20	"	"	1K91248	11/12/09	11/13/09	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 11/19/09 10:35

MW7

19K0343-04 (Water)

Date Sampled:11/3/2009 5:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K90923	11/09/09	11/17/09	EPA 8141	
Alachlor	**0.4**	0.1	"	"	"	"	"	"	
Atrazine	**0.2**	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	ND	0.1	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
EPTC	ND	0.1	"	"	"	"	"	"	
Metolachlor	**1.5**	0.5	"	"	"	"	"	"	
Metribuzin	**0.1**	0.1	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*79.4 %*		*60-140*	"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**1.94**	0.20	"	"	1K91248	11/12/09	11/13/09	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 11/19/09 10:35

MW12

19K0343-05 (Water)

Date Sampled:11/3/2009 5:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K90923	11/09/09	11/17/09	EPA 8141	
Alachlor	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	ND	0.1	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
EPTC	ND	0.1	"	"	"	"	"	"	
Metolachlor	ND	0.5	"	"	"	"	"	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*80.9 %*		*60-140*	"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**0.92**	0.20	"	"	1K91248	11/12/09	11/13/09	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 11/19/09 10:35

MW9

19K0343-06 (Water)

Date Sampled:11/3/2009 5:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K90923	11/09/09	11/17/09	EPA 8141	
Alachlor	**0.1**	0.1	"	"	"	"	"	"	
Atrazine	**0.1**	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	**0.3**	0.1	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
EPTC	ND	0.1	"	"	"	"	"	"	
Metolachlor	**1.0**	0.5	"	"	"	"	"	"	
Metribuzin	**4.3**	0.1	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*82.3 %*	*60-140*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**1.0**	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**3.89**	0.20	"	"	1K91248	11/12/09	11/13/09	EPA 353.2	

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Newton, IA 50208

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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 11/19/09 10:35

MW3

19K0343-07 (Water)

Date Sampled:11/3/2009 5:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K90923	11/09/09	11/17/09	EPA 8141	
Alachlor	**1.2**	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	ND	0.1	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
EPTC	ND	0.1	"	"	"	"	"	"	
Metribuzin	**3.4**	0.1	"	"	"	"	"	"	
Pendimethalin	**2.0**	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*92.8 %*		*60-140*	"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**11.0**	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**10.7**	0.40	"	2	1K91248	11/12/09	11/13/09	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 11/19/09 10:35

MW3

19K0343-07RE1 (Water)

Date Sampled:11/3/2009 5:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Metolachlor	**375**	10.0	ug/l	20	1K90923	11/09/09	11/18/09	EPA 8141	
Surrogate: 2-Nitro-m-xylene		*129 %*	*60-140*		"	"	"	"	

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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 11/19/09 10:35

MW10

19K0343-08 (Water)

Date Sampled:11/3/2009 5:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K90923	11/09/09	11/17/09	EPA 8141	
Alachlor	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	ND	0.1	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
EPTC	ND	0.1	"	"	"	"	"	"	
Metolachlor	ND	0.5	"	"	"	"	"	"	
Metribuzin	**1.4**	0.1	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*92.5 %*		*60-140*	"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**22.1**	0.40	"	2	1K91248	11/12/09	11/13/09	EPA 353.2	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record.
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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 11/19/09 10:35

MW2

19K0343-09 (Water)

Date Sampled:11/3/2009 5:50:00PM

Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K90923	11/09/09	11/17/09	EPA 8141	
Alachlor	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	ND	0.1	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
EPTC	ND	0.1	"	"	"	"	"	"	
Metolachlor	**2.0**	0.5	"	"	"	"	"	"	
Metribuzin	**18.4**	0.1	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*92.4 %*		*60-140*	"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**80.4**	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**4.40**	0.20	"	"	1K91248	11/12/09	11/13/09	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 11/19/09 10:35

MW11

19K0343-10 (Water)

Date Sampled:11/3/2009 6:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K91046	11/10/09	11/17/09	EPA 8141	
Alachlor	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	ND	0.1	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
EPTC	ND	0.1	"	"	"	"	"	"	
Metolachlor	ND	0.5	"	"	"	"	"	"	
Metribuzin	ND	0.1	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	**0.1**	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*99.2 %*		*60-140*	"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	ND	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**0.58**	0.20	"	"	1K91248	11/12/09	11/13/09	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 11/19/09 10:35

MW5

19K0343-11 (Water)

Date Sampled:11/3/2009 5:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K91046	11/10/09	11/17/09	EPA 8141	
Alachlor	ND	0.1	"	"	"	"	"	"	
Atrazine	ND	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	ND	0.1	"	"	"	"	"	"	
Cyanazine	ND	0.1	"	"	"	"	"	"	
EPTC	ND	0.1	"	"	"	"	"	"	
Metolachlor	**1.0**	0.5	"	"	"	"	"	"	
Metribuzin	**5.4**	0.1	"	"	"	"	"	"	
Pendimethalin	ND	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	ND	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*101 %*	*60-140*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**17.3**	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**19.8**	1.00	"	5	1K91248	11/12/09	11/13/09	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 11/19/09 10:35

MW4

19K0343-12 (Water)

Date Sampled:11/3/2009 6:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Acetochlor	ND	0.2	ug/l	1	1K91046	11/10/09	11/18/09	EPA 8141	
Alachlor	**2.0**	0.1	"	"	"	"	"	"	
Atrazine	**0.8**	0.1	"	"	"	"	"	"	
Atrazine Desethyl	ND	0.2	"	"	"	"	"	"	
Atrazine Desisopropyl	ND	0.2	"	"	"	"	"	"	
Butachlor	ND	0.5	"	"	"	"	"	"	
Butylate	**0.7**	0.1	"	"	"	"	"	"	
Cyanazine	**0.8**	0.1	"	"	"	"	"	"	
EPTC	**0.1**	0.1	"	"	"	"	"	"	
Metolachlor	**23.0**	0.5	"	"	"	"	"	"	
Propachlor	ND	0.1	"	"	"	"	"	"	
Simazine	**0.1**	0.1	"	"	"	"	"	"	
Terbufos	ND	0.1	"	"	"	"	"	"	
Trifluralin	ND	0.1	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*105 %*	*60-140*		"	"	"	"	
Determination of Conventional Chemistry Parameters									
Nitrogen, Ammonia	**44.0**	1.0	mg/l	1	1K91812	11/18/09	11/18/09	SM 4500-NH3 F	
Nitrogen, Nitrate+Nitrite	**1.73**	0.20	"	"	1K91248	11/12/09	11/13/09	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 11/19/09 10:35

MW4

19K0343-12RE1 (Water)

Date Sampled:11/3/2009 6:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Keystone Laboratories, Inc. - Newton									
Determination of Nitrogen/Phosphorus Herbicides & Insecticides									
Metribuzin	**216**	1.0	ug/l	10	1K91046	11/10/09	11/18/09	EPA 8141	
Pendimethalin	**33.2**	5.0	"	"	"	"	"	"	
Surrogate: 2-Nitro-m-xylene		*115 %*		*60-140*	"	"	"	"	

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Seneca Environmental Services	Project: Buffalo Center	Reported
4140 NE. 14th St.	Project Number: 6270403	11/19/09 10:35
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 19K1902 - 1K90923										
Calibration Check (19K1902-CCV1)				Prepared & Analyzed: 11/16/09						
EPTC	1.15		ug/l	1.15000		100	80-120			
Butylate	1.16		"	1.15000		101	80-120			
Propachlor	1.16		"	1.15000		101	80-120			
Trifluralin	1.18		"	1.15000		103	80-120			
Terbufos	1.09		"	1.15000		94.6	80-120			
Atrazine	1.17		"	1.15000		102	80-120			
Simazine	1.30		"	1.15000		113	80-120			
Alachlor	1.14		"	1.16610		97.5	80-120			
Metribuzin	1.11		"	1.15000		96.9	80-120			
Metolachlor	1.11		"	1.15000		96.5	80-120			
Pendimethalin	1.14		"	1.15000		99.2	80-120			
Butachlor	1.12		"	1.15000		97.8	80-120			
Cyanazine	1.23		"	1.15000		107	80-120			
Acetochlor	1.14		"	1.15000		99.2	80-120			
Surrogate: 2-Nitro-m-xylene	*1.06*		"	*0.982400*		*108*	*80-120*			
Calibration Check (19K1902-CCV2)				Prepared: 11/16/09 Analyzed: 11/17/09						
EPTC	1.33		ug/l	1.15000		116	80-120			
Butylate	1.32		"	1.15000		115	80-120			
Propachlor	1.36		"	1.15000		118	80-120			
Trifluralin	1.36		"	1.15000		118	80-120			
Terbufos	0.98		"	1.15000		85.0	80-120			
Atrazine	1.31		"	1.15000		114	80-120			
Simazine	1.36		"	1.15000		118	80-120			
Alachlor	1.28		"	1.16610		110	80-120			
Metribuzin	1.23		"	1.15000		107	80-120			
Metolachlor	1.29		"	1.15000		112	80-120			
Pendimethalin	1.31		"	1.15000		114	80-120			
Butachlor	1.35		"	1.15000		117	80-120			
Cyanazine	1.35		"	1.15000		118	80-120			
Acetochlor	1.31		"	1.15000		114	80-120			

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Seneca Environmental Services	Project: Buffalo Center	Reported
4140 NE. 14th St.	Project Number: 6270403	11/19/09 10:35
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 19K1904 - 1K91046										
Calibration Check (19K1904-CCV1)				Prepared: 11/16/09 Analyzed: 11/17/09						
EPTC	1.21		ug/l	1.15000		105	80-120			
Butylate	1.22		"	1.15000		106	80-120			
Propachlor	1.30		"	1.15000		113	80-120			
Trifluralin	1.28		"	1.15000		112	80-120			
Terbufos	1.10		"	1.15000		95.2	80-120			
Atrazine	1.23		"	1.15000		107	80-120			
Simazine	1.24		"	1.15000		108	80-120			
Alachlor	1.23		"	1.16610		105	80-120			
Metribuzin	1.16		"	1.15000		101	80-120			
Metolachlor	1.24		"	1.15000		108	80-120			
Pendimethalin	1.23		"	1.15000		107	80-120			
Butachlor	1.21		"	1.15000		105	80-120			
Cyanazine	1.28		"	1.15000		111	80-120			
Acetochlor	1.24		"	1.15000		108	80-120			
Surrogate: 2-Nitro-m-xylene	*1.13*		"	*0.982400*		*115*	*80-120*			
Batch 19K1910 - 1K91229										
Calibration Check (19K1910-CCV1)				Prepared & Analyzed: 11/18/09						
EPTC	1.25		ug/l	1.15000		109	80-120			
Butylate	1.27		"	1.15000		110	80-120			
Propachlor	1.37		"	1.15000		119	80-120			
Trifluralin	1.36		"	1.15000		118	80-120			
Terbufos	1.04		"	1.15000		90.2	80-120			
Atrazine	1.26		"	1.15000		109	80-120			
Simazine	1.33		"	1.15000		115	80-120			
Alachlor	1.29		"	1.16610		110	80-120			
Metribuzin	1.22		"	1.15000		106	80-120			
Metolachlor	1.27		"	1.15000		110	80-120			
Pendimethalin	1.34		"	1.15000		116	80-120			
Butachlor	1.37		"	1.15000		119	80-120			
Cyanazine	1.35		"	1.15000		117	80-120			
Acetochlor	1.30		"	1.15000		113	80-120			

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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 11/19/09 10:35

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 19K1910 - 1K91229										
Calibration Check (19K1910-CCV2)				Prepared: 11/18/09 Analyzed: 11/19/09						
EPTC	1.19		ug/l	1.15000		103	80-120			
Butylate	1.19		"	1.15000		103	80-120			
Propachlor	1.21		"	1.15000		105	80-120			
Trifluralin	1.30		"	1.15000		113	80-120			
Terbufos	1.15		"	1.15000		99.7	80-120			
Atrazine	1.20		"	1.15000		104	80-120			
Simazine	1.33		"	1.15000		116	80-120			
Alachlor	1.19		"	1.16610		102	80-120			
Metribuzin	1.16		"	1.15000		101	80-120			
Metolachlor	1.23		"	1.15000		107	80-120			
Pendimethalin	1.24		"	1.15000		108	80-120			
Butachlor	1.19		"	1.15000		104	80-120			
Cyanazine	1.31		"	1.15000		114	80-120			
Acetochlor	1.21		"	1.15000		105	80-120			
Surrogate: 2-Nitro-m-xylene	*1.11*		"	*0.982400*		*113*	*80-120*			
Batch 1K90923 - 3510C NP/OC Sep Fnl										
Blank (1K90923-BLK1)				Prepared: 11/09/09 Analyzed: 11/16/09						
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	*8.34*		"	*9.82400*		*84.8*	*60-140*			

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Seneca Environmental Services	Project: Buffalo Center	Reported
4140 NE. 14th St.	Project Number: 6270403	11/19/09 10:35
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 1K90923 - 3510C NP/OC Sep Fnl										
LCS (1K90923-BS1)				Prepared: 11/09/09 Analyzed: 11/17/09						
EPTC	2.51	0.1	ug/l	2.87500		87.3	60-123			
Butylate	2.49	0.1	"	2.87500		86.6	60-115			
Propachlor	2.59	0.1	"	2.87500		90.1	60-140			
Trifluralin	2.60	0.1	"	2.87500		90.6	60-122			
Terbufos	2.13	0.1	"	2.87500		74.1	60-140			
Atrazine	2.60	0.1	"	2.87500		90.4	60-131			
Simazine	2.82	0.1	"	2.87500		97.9	60-137			
Alachlor	2.60	0.1	"	2.91525		89.2	60-127			
Metribuzin	2.40	0.1	"	2.87500		83.3	60-123			
Metolachlor	2.78	0.5	"	2.87500		96.9	60-136			
Pendimethalin	2.74	0.5	"	2.87500		95.3	60-127			
Butachlor	3.12	0.5	"	2.87500		108	60-140			
Cyanazine	2.52	0.1	"	2.87500		87.5	60-116			
Acetochlor	2.60	0.2	"	2.87500		90.6	60-137			
Surrogate: 2-Nitro-m-xylene	*8.56*		"	*9.82400*		*87.2*	*60-140*			
LCS Dup (1K90923-BSD1)				Prepared: 11/09/09 Analyzed: 11/17/09						
EPTC	2.80	0.1	ug/l	2.87500		97.6	60-123	11.1	30	
Butylate	2.82	0.1	"	2.87500		97.9	60-115	12.3	30	
Propachlor	2.88	0.1	"	2.87500		100	60-140	10.8	30	
Trifluralin	3.00	0.1	"	2.87500		104	60-122	13.9	30	
Terbufos	2.50	0.1	"	2.87500		86.8	60-140	15.8	30	
Atrazine	2.96	0.1	"	2.87500		103	60-131	12.8	30	
Simazine	3.04	0.1	"	2.87500		106	60-137	7.85	30	
Alachlor	3.03	0.1	"	2.91525		104	60-127	15.3	20	
Metribuzin	2.64	0.1	"	2.87500		91.8	60-123	9.73	30	
Metolachlor	2.90	0.5	"	2.87500		101	60-136	3.87	30	
Pendimethalin	2.96	0.5	"	2.87500		103	60-127	7.89	24	
Butachlor	3.22	0.5	"	2.87500		112	60-140	3.31	30	
Cyanazine	2.43	0.1	"	2.87500		84.5	60-116	3.44	30	
Acetochlor	3.04	0.2	"	2.87500		106	60-137	15.4	30	
Surrogate: 2-Nitro-m-xylene	*9.44*		"	*9.82400*		*96.1*	*60-140*			

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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 11/19/09 10:35

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 1K90923 - 3510C NP/OC Sep Fnl										
Reference (1K90923-SRM1)				Prepared: 11/09/09 Analyzed: 11/17/09						
EPTC	3.13	0.1	ug/l	2.87500		109	70-130			
Butylate	3.10	0.1	"	2.87500		108	70-130			
Propachlor	3.20	0.1	"	2.87500		111	70-130			
Trifluralin	2.91	0.1	"	2.87500		101	70-130			
Terbufos	2.56	0.1	"	2.87500		89.2	70-130			
Atrazine	3.17	0.1	"	2.87500		110	70-130			
Simazine	3.46	0.1	"	2.87500		121	70-130			
Alachlor	3.06	0.1	"	2.91525		105	70-130			
Metribuzin	2.94	0.1	"	2.87500		102	70-130			
Metolachlor	3.32	0.5	"	2.87500		115	70-130			
Pendimethalin	3.24	0.5	"	2.87500		113	70-130			
Butachlor	3.10	0.5	"	2.87500		108	70-130			
Cyanazine	3.42	0.1	"	2.87500		119	70-130			
Acetochlor	3.14	0.2	"	2.87500		109	70-130			
Surrogate: 2-Nitro-m-xylene	*10.8*		"	*9.82400*		*110*	*60-140*			
Batch 1K91046 - 3510C NP/OC Sep Fnl										
Blank (1K91046-BLK1)				Prepared: 11/10/09 Analyzed: 11/17/09						
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	*9.12*		"	*9.82400*		*92.9*	*60-140*			

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record.
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Phone 641-792-8451 | 600 East 17th Street South, Newton, IA 50208 | 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 11/19/09 10:35

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 1K91046 - 3510C NP/OC Sep Fnl										
LCS (1K91046-BS1)				Prepared: 11/10/09 Analyzed: 11/18/09						
EPTC	3.16	0.1	ug/l	2.87500		110	60-123			
Butylate	3.20	0.1	"	2.87500		111	60-115			
Propachlor	3.58	0.1	"	2.87500		125	60-140			
Trifluralin	3.39	0.1	"	2.87500		118	60-122			
Terbufos	2.57	0.1	"	2.87500		89.4	60-140			
Atrazine	3.45	0.1	"	2.87500		120	60-131			
Simazine	3.66	0.1	"	2.87500		127	60-137			
Alachlor	3.54	0.1	"	2.91525		121	60-127			
Metribuzin	3.10	0.1	"	2.87500		108	60-123			
Metolachlor	3.76	0.5	"	2.87500		131	60-136			
Pendimethalin	3.45	0.5	"	2.87500		120	60-127			
Butachlor	3.36	0.5	"	2.87500		117	60-140			
Cyanazine	3.03	0.1	"	2.87500		105	60-116			
Acetochlor	3.52	0.2	"	2.87500		122	60-137			
Surrogate: 2-Nitro-m-xylene	*10.4*		"	*9.82400*		*106*	*60-140*			
LCS Dup (1K91046-BSD1)				Prepared: 11/10/09 Analyzed: 11/18/09						
EPTC	2.88	0.1	ug/l	2.87500		100	60-123	9.10	30	
Butylate	2.91	0.1	"	2.87500		101	60-115	9.49	30	
Propachlor	3.23	0.1	"	2.87500		112	60-140	10.4	30	
Trifluralin	3.12	0.1	"	2.87500		109	60-122	8.29	30	
Terbufos	2.28	0.1	"	2.87500		79.5	60-140	11.7	30	
Atrazine	3.20	0.1	"	2.87500		111	60-131	7.36	30	
Simazine	3.51	0.1	"	2.87500		122	60-137	4.05	30	
Alachlor	3.05	0.1	"	2.91525		105	60-127	14.9	20	
Metribuzin	2.88	0.1	"	2.87500		100	60-123	7.52	30	
Metolachlor	3.20	0.5	"	2.87500		111	60-136	16.1	30	
Pendimethalin	3.21	0.5	"	2.87500		112	60-127	7.21	24	
Butachlor	3.31	0.5	"	2.87500		115	60-140	1.35	30	
Cyanazine	3.19	0.1	"	2.87500		111	60-116	5.14	30	
Acetochlor	3.16	0.2	"	2.87500		110	60-137	10.5	30	
Surrogate: 2-Nitro-m-xylene	*9.49*		"	*9.82400*		*96.6*	*60-140*			

Phone 641-792-8451 | 600 East 17th Street South, Newton, IA 50208 | 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 11/19/09 10:35

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 1K91046 - 3510C NP/OC Sep Fnl										
Reference (1K91046-SRM1)				Prepared: 11/10/09 Analyzed: 11/18/09						
EPTC	3.31	0.1	ug/l	2.87500		115	70-130			
Butylate	3.32	0.1	"	2.87500		115	70-130			
Propachlor	3.48	0.1	"	2.87500		121	70-130			
Trifluralin	3.26	0.1	"	2.87500		114	70-130			
Terbufos	2.46	0.1	"	2.87500		85.6	70-130			
Atrazine	3.36	0.1	"	2.87500		117	70-130			
Simazine	3.66	0.1	"	2.87500		127	70-130			
Alachlor	3.33	0.1	"	2.91525		114	70-130			
Metribuzin	3.08	0.1	"	2.87500		107	70-130			
Metolachlor	3.19	0.5	"	2.87500		111	70-130			
Pendimethalin	3.56	0.5	"	2.87500		124	70-130			
Butachlor	3.30	0.5	"	2.87500		115	70-130			
Cyanazine	3.58	0.1	"	2.87500		125	70-130			
Acetochlor	3.35	0.2	"	2.87500		117	70-130			
Surrogate: 2-Nitro-m-xylene	*11.6*		"	*9.82400*		*118*	*60-140*			

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record.
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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 11/19/09 10:35

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 19K1316 - 1K91249										
Calibration Check (19K1316-CCV1)				Prepared & Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	3.91		mg/l	3.93600		99.3	90-110			
Calibration Check (19K1316-CCV2)				Prepared & Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	3.98		mg/l	3.93600		101	90-110			
Calibration Check (19K1316-CCV3)				Prepared & Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	4.08		mg/l	3.93600		104	90-110			
Calibration Check (19K1316-CCV4)				Prepared & Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	4.02		mg/l	3.93600		102	90-110			
Calibration Check (19K1316-CCV5)				Prepared & Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	4.03		mg/l	3.93600		102	90-110			
Calibration Check (19K1316-CCV6)				Prepared & Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	4.11		mg/l	3.93600		104	90-110			
Calibration Check (19K1316-CCV7)				Prepared & Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	4.28		mg/l	3.93600		109	90-110			
Calibration Check (19K1316-CCV8)				Prepared & Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	4.09		mg/l	3.93600		104	90-110			
Calibration Check (19K1316-CCV9)				Prepared & Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	4.13		mg/l	3.93600		105	90-110			
Batch 19K1805 - 1K91812										
Calibration Check (19K1805-CCV1)				Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.33		mg/l	5.00000		107	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 11/19/09 10:35

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 19K1805 - 1K91812										
Calibration Check (19K1805-CCV2)				Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.40		mg/l	5.00000		108	90-110			
Calibration Check (19K1805-CCV3)				Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.28		mg/l	5.00000		106	90-110			
Calibration Check (19K1805-CCV4)				Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.09		mg/l	5.00000		102	90-110			
Calibration Check (19K1805-CCV5)				Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.06		mg/l	5.00000		101	90-110			
Calibration Check (19K1805-CCV6)				Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.18		mg/l	5.00000		104	90-110			
Initial Cal Check (19K1805-ICV1)				Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.38		mg/l	5.00000		108	90-110			
Batch 1K91248 - Wet Chem Preparation										
Blank (1K91248-BLK1)				Prepared: 11/12/09 Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	ND	0.20	mg/l							
Blank (1K91248-BLK2)				Prepared: 11/12/09 Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	ND	0.20	mg/l							
Blank (1K91248-BLK3)				Prepared: 11/12/09 Analyzed: 11/13/09						
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 11/19/09 10:35

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 1K91248 - Wet Chem Preparation										
LCS (1K91248-BS1)				Prepared: 11/12/09 Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	3.74	0.40	mg/l	4.00000		93.4	81-110			
LCS (1K91248-BS2)				Prepared: 11/12/09 Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	3.66	0.40	mg/l	4.00000		91.5	81-110			
LCS (1K91248-BS3)				Prepared: 11/12/09 Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	3.67	0.40	mg/l	4.00000		91.8	81-110			
Matrix Spike (1K91248-MS1)		Source: 19K0062-01		Prepared: 11/12/09 Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	1.91	0.20	mg/l	2.04082	ND	93.5	68-122			
Matrix Spike (1K91248-MS2)		Source: 19K0343-05		Prepared: 11/12/09 Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	2.76	0.20	mg/l	2.04082	0.92	90.1	68-122			
Matrix Spike (1K91248-MS3)		Source: 19K0345-01		Prepared: 11/12/09 Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	6.72	0.20	mg/l	2.04082	5.05	81.7	68-122			
Matrix Spike Dup (1K91248-MSD1)		Source: 19K0062-01		Prepared: 11/12/09 Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	1.92	0.20	mg/l	2.04082	ND	94.2	68-122	0.693	10	
Matrix Spike Dup (1K91248-MSD2)		Source: 19K0343-05		Prepared: 11/12/09 Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	2.75	0.20	mg/l	2.04082	0.92	89.9	68-122	0.185	10	
Matrix Spike Dup (1K91248-MSD3)		Source: 19K0345-01		Prepared: 11/12/09 Analyzed: 11/13/09						
Nitrogen, Nitrate+Nitrite	6.86	0.20	mg/l	2.04082	5.05	88.5	68-122	2.06	10	
Batch 1K91812 - Wet Chem Preparation										
Blank (1K91812-BLK1)				Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	ND	1.0	mg/l							

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Seneca Environmental Services	Project: Buffalo Center	Reported
4140 NE. 14th St.	Project Number: 6270403	11/19/09 10:35
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 1K91812 - Wet Chem Preparation										
Blank (1K91812-BLK2)				Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	ND	1.0	mg/l							
Blank (1K91812-BLK3)				Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	ND	1.0	mg/l							
Matrix Spike (1K91812-MS1)	**Source: 19K0344-08**			Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.86	1.0	mg/l	5.00000	ND	117	86-140			
Matrix Spike (1K91812-MS2)	**Source: 19K0350-04**			Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.24	1.0	mg/l	5.00000	ND	105	86-140			
Matrix Spike (1K91812-MS3)	**Source: 19K0363-04**			Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.46	1.0	mg/l	5.00000	ND	109	86-140			
Matrix Spike Dup (1K91812-MSD1)	**Source: 19K0344-08**			Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.79	1.0	mg/l	5.00000	ND	116	86-140	1.20	10	
Matrix Spike Dup (1K91812-MSD2)	**Source: 19K0350-04**			Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.21	1.0	mg/l	5.00000	ND	104	86-140	0.574	10	
Matrix Spike Dup (1K91812-MSD3)	**Source: 19K0363-04**			Prepared & Analyzed: 11/18/09						
Nitrogen, Ammonia	5.38	1.0	mg/l	5.00000	ND	108	86-140	1.48	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 11/19/09 10:35

Certified Analyses Included in This Report

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

Code	Certifying Authority	Certificate Number	Expires
IA-NT	Iowa Department of Natural Resources	095	02/01/2010
KS-NT	Kansas Department of Health and Environment	E-10287	07/31/2010
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2010

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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 11/19/09 10:35

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

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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 11/19/09 10:35

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.
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Newton, IA 50208
Fax 641-792-7989

CHAIN OF CUSTODY RECORD

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

PO: 234614 CL

Printed: 10/26/2009 3:18:13PM
www.keystonelabs.com

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 19K0343
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	11/3/09	1630	2	nh3-probe-4500 nox-353.2 8141-103	01
02-001	MW8	Water	GRAB	/ /	1640		nh3-probe-4500 nox-353.2 8141-103	02
03-001	MW1	Water	GRAB	/ /	1650		nh3-probe-4500 nox-353.2 8141-103	03
04-001	MW7	Water	GRAB	/ /	1700		nh3-probe-4500 nox-353.2 8141-103	04
05-001	MW12	Water	GRAB	/ /	1710		nh3-probe-4500 nox-353.2 8141-103	05
06-001	MW9	Water	GRAB	/ /	1720		nh3-probe-4500 nox-353.2 8141-103	06
07-001	MW3	Water	GRAB	/ /	1730		nh3-probe-4500 nox-353.2 8141-103	07

Relinquished By: [signature] Date/Time: 11/6/09 1500
Received By: Date/Time:
Relinquished By: Date/Time:
Received for Lab By: JDouglas Date/Time: 11/10/09 1445

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: 234614 CL

Printed: 10/26/2009 3:18:13PM
www.keystonelabs.co

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 19K0343
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	11/3/09	1740	2	nh3-probe-4500 nox-353.2 8141-103	08
09-001	MW2	Water	GRAB	11/3/09	1750		nh3-probe-4500 nox-353.2 8141-103	09
10-001	MW11	Water	GRAB	11	1800		nh3-probe-4500 nox-353.2 8141-103	10
11-001	MW5	Water	GRAB	11	1755		nh3-probe-4500 nox-353.2 8141-103	11
12-001	MW4	Water	GRAB	11	1810		nh3-probe-4500 nox-353.2 8141-103	12

Relinquished By — Date/Time: 11/6/09 1500
Received By — Date/Time
Relinquished By — Date/Time
Received for Lab By: JDouglas — Date/Time: 11/6/09 1445

Remarks:

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

Appendix 6

Water Well Results

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

Well Search Report ?

Search Method: By City/Map

Subject: XY UTM Coordinates: 423027/4804043
Search Radius(ft.): 1000

Date: 1/7/2010

Prepared By: jcarpenter

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: 423027/4804043
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
11369	4374	T. 99 N., R. 26 W., Sec. 17, SW, SW, SE	Calc. +/- 140m.	212 (m)	148	unkn	Price	Bedrock depth 120 ft.

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

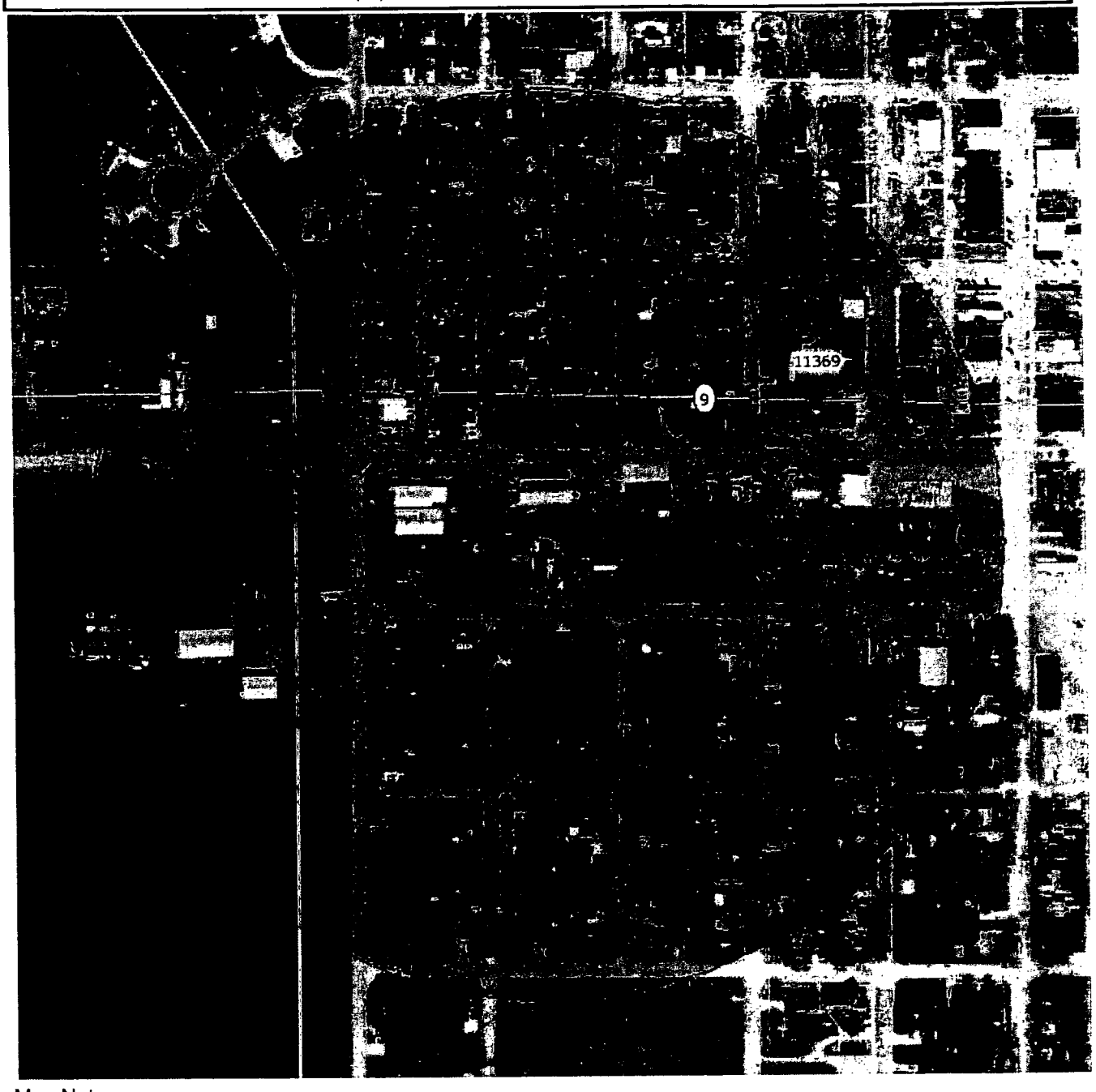
Map ID	Well No.	Location Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
No records found from this data source							

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: 423027/4804043
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

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

Well Search Report ?

Search Method: By City/Map

Subject: XY UTM Coordinates: 423027/4804043
Search Radius(ft.): 5280

Date: 1/7/2010

Prepared By: jcarpenter

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	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	2	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	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	2	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: 423027/4804043
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
11769	2341	T. 99 N., R. 26 W., Sec. 20, NW, NE, SW	Calc. +/- 140m.	470 (m)	147	unkn	Buckholt, Mrs.	Bedrock depth 125 ft.
11401	5103	T. 99 N., R. 26 W., Sec. 17, SW, SE, SE, SW	Calc. +/- 70m.	540 (m)	190	unkn	Buffalo Center Creamery	Bedrock depth 120 ft.
11238	36958	T. 99 N., R. 26 W., Sec. 17, SW, SE, NW, SW	Calc. +/- 70m.	458 (m)	425	1/01/1925	Buffalo Center, City Of	Bedrock depth unkn
11118	10664	T. 99 N., R. 26 W., Sec. 18, SE, NE, SW, SE, SE	Calc. +/- 35m.	508 (m)	500	1/01/1959	Buffalo Center, City Of	Bedrock depth 120 ft.
11072	16406	T. 99 N., R. 26 W., Sec. 18, SE, NE, SW, SE, SW	Calc. +/- 35m.	552 (m)	465	3/22/1964	Buffalo Center, City Of	Bedrock depth 120 ft.
11312	16100	T. 99 N., R. 26 W., Sec. 18, SW, SE, SE, NE	Calc. +/- 70m.	949 (m)	155	11/16/1963	Meyers, W.	Bedrock depth 125 ft.
11369	4374	T. 99 N., R. 26 W., Sec. 17, SW, SW, SE	Calc. +/- 140m.	212 (m)	148	unkn	Price	Bedrock depth 120 ft.
12907	22081	T. 99 N., R. 26 W., Sec. 20, SW, SW, SW, NW	Calc. +/- 70m.	1428 (m)	180	6/26/1969	Wessels, Marvin	Bedrock depth 110 ft.
12176	16496	T. 99 N., R. 26 W., Sec. 20, NE, SW, SW, SE	Calc. +/- 70m.	1106 (m)	147	2/28/1964	Wessels, Raymond	Bedrock depth 120 ft.

Public Wells

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
11246	36958	T. 99 N., R. 26 W., Sec. 17, SW, SE, NW, SW	Calc. +/- 70m.	449 (m)	425	1/01/1925	Buffalo Center, City Of	Bedrock depth unkn; Well status: Inactive; Local id: #1
11119	10664	T. 99 N., R. 26 W., Sec. 18, SE, NE, SW, SE, SE	Calc. +/- 35m.	506 (m)	500	1/01/1959	Buffalo Center, City Of	Bedrock depth: 120; Well status: Active; Local id: #1
11088	16406	T. 99 N., R. 26	Calc. +/-	542	465	3/22/1964	Buffalo Center,	Bedrock depth:

		W., Sec. 18, SE, NE, SW, SE, SW	35m.	(m)			City Of	120; Well status: Active; Local id: #2

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
11407	2081066	T. 99 N., R. 26 W., Sec. 17, SE SW SW SW NE	nom. +/- 25m.	768 (m)	125	3/22/1944	Hutchins, Alana	Status: Plugged Use: Household
11354	2117921	T. 99 N., R. 26 W., Sec. 18, SW SE SE NW SE	nom. +/- 25m.	989 (m)	unkn	unkn	Meyers, Bruce	Status: Permitted Use: Household

Wells Registered For Testing

Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
11656	66487	T. 99 N., R. 26 W., Sec. 19, NW, NW	Calc. +/- 285m.	1468 (m)	unkn	unkn	Hasebrook, Hasley	Drilling method: Steel; Well depth is uncertain
12804	66462	T. 99 N., R. 26 W., Sec. 19, SE, SE	Calc. +/- 285m.	1411 (m)	176	1978	Hofbauer, Alvin L.	Drilling method: Drilled; Known well depth
11273	66489	T. 99 N., R. 26 W., Sec. 18, SE, SW	Calc. +/- 285m.	726 (m)	unkn	unkn	Venteicher, Bruce	Drilling method: Steel; Well depth is uncertain
12213	83042	T. 99 N., R. 26 W., Sec. 19	Calc. +/- 1135m.	1182 (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

11568	21648	T. 99 N., R. 26 W., Sec. 20, NW, NE, NE	Calc. +/- 140m.	583 (m)	100	n.a.	Hassebroek, Robert A.	Well plugged: 10/13/1995; Well type: < 18" dia.
11569	21649	T. 99 N., R. 26 W., Sec. 20, NW, NE, NE	Calc. +/- 140m.	577 (m)	80	n.a.	Hassebroek, Robert A.	Well plugged: 10/13/1995; Well type: not reported
10992	9760	T. 99 N., R. 26 W., Sec. 17, --, SW, NE	Calc. +/- 140m.	782 (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
No records found from this data source								

Municipal Wells And Intakes

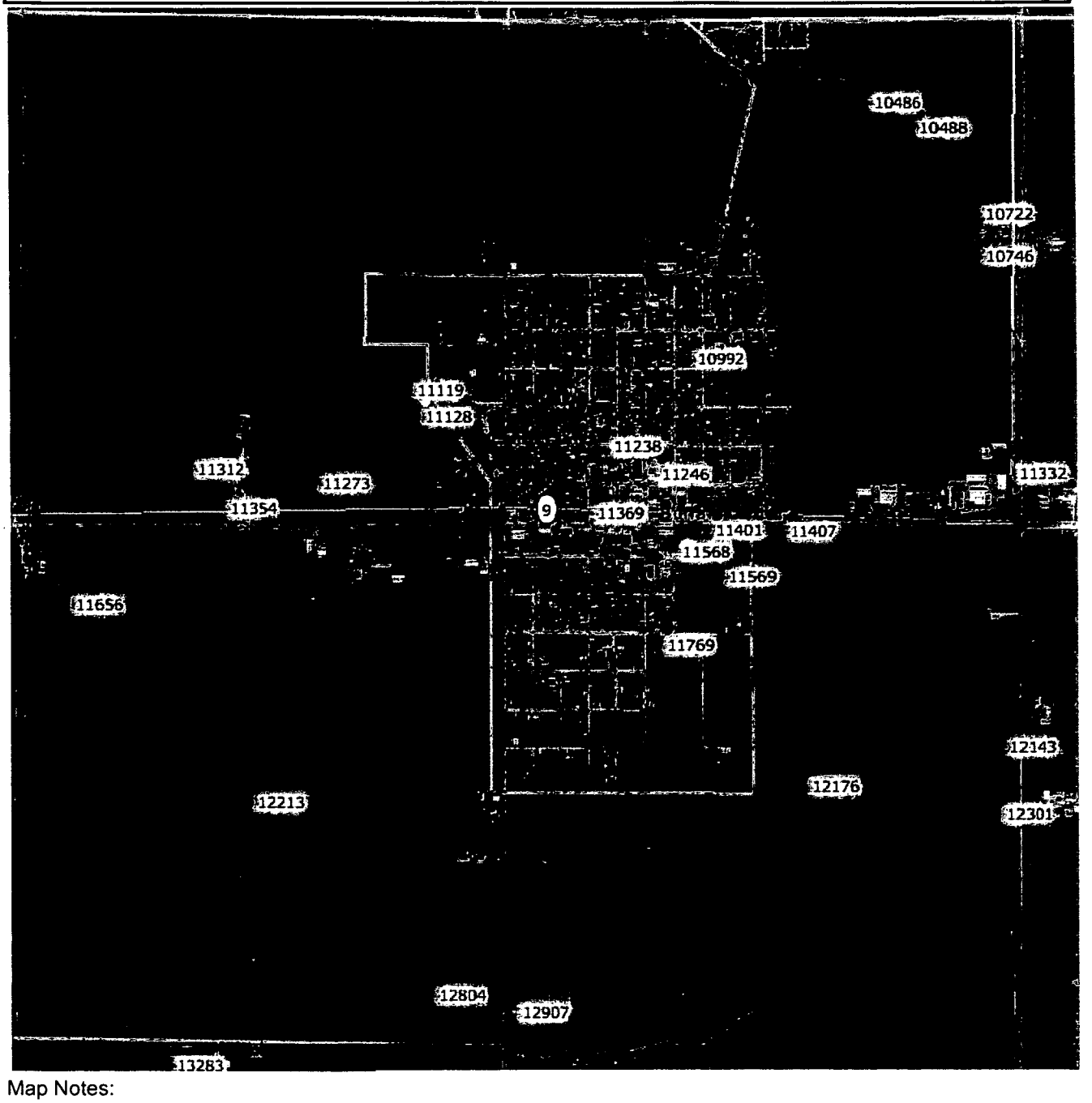
Map ID	Well No.	Location	Accuracy	Dist. From Point	Well Depth	Construction/ Permit Date	Owner/Permittees	Other Information
11109	6386	T99N, R26W, Sec. 18	Calc. +/- 1135m.	580 (m)	n.a.	n.a.	Buffalo Center	n.a.
11128	6386	T99N, R26W, Sec. 18	Calc. +/- 1135m.	574 (m)	n.a.	n.a.	Buffalo Center	n.a.

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: 423027/4804043
Search Radius (ft.): 5280



Map Notes:

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- ★ LUST
- Please refer to the Accuracy column in Well Search Detail.
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Search by Interactive Map