



November 18, 2021

Mrs. Janet Binns
Environmental Protection Specialist
Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

**RE: Annual Hydrology Report
New Horizon North Mine
Permit No. C-2010-089**

Dear Mrs. Binns:

Enclosed please find the Annual Hydrology Report for the 2021 Water Year (October 2020 – September 2021) for Elk Ridge Mining and Reclamation, LLC (Elk Ridge) New Horizon North Mine. Tri-State Generation and Transmission Association, Inc. (Tri-State) is the parent to Elk Ridge, and in accordance with Rule 4.05.13(4)(c) is submitting the Annual Hydrology Report on behalf of the New Horizon North Mine.

If you have any questions about the enclosed report, please contact Tony Tennyson at (970) 326-3560 or ttennyson@tristategt.org.

Sincerely,

DocuSigned by:

A blue ink signature of Chris Gilbreath, written in a cursive style.
D250C711D0BF450...

Chris Gilbreath
Senior Manager,
Remediation and Reclamation

CG:TT:der

Enclosures

cc: Tony Tennyson (via email)
File: G474-11.3(21)b-5

2021 Annual Hydrology Report

Water Year October 1, 2020 to September 30, 2021

Elk Ridge Mining and Reclamation, LLC

New Horizon North Mine

Permit No. C-2010-089

TABLE OF CONTENTS

RULE 4.05.13(4)(C) ANNUAL HYDROLOGY REPORT REQUIREMENTS	2
SURFACE WATER	2
<i>SW-N202 and SW-N207 – Meehan Draw</i>	3
<i>SW-N213 and SW-N214 - Nygren Draw</i>	4
SURFACE WATER DATA INTERPRETATION	4
GROUND WATER	5
<i>Wells GW-N50, GW-N51, and GW-N52</i>	6
<i>Wells GW-N53, GW-N54, and GW-N55</i>	7
<i>Wells GW-N56, GW-N57, and GW-N58</i>	8
GROUNDWATER DATA INTERPRETATION	10
<i>Overburden Aquifer</i>	10
<i>Coal Aquifer</i>	10
<i>Underburden Aquifer</i>	10
Appendix 1 – Surface Water Monitoring Data for the Water Year	
Appendix 2 – Surface Water Monitoring Graphs	
Appendix 3 – Ground Water Monitoring Data for the Water Year	
Appendix 4 – Groundwater Monitoring Graphs	

Rule 4.05.13(4)(c) Annual Hydrology Report Requirements

(i) Water quantity monitoring data for the water year is presented Appendices 1 and 3 of this report.

(ii) Water quality monitoring data for the water year is presented in Appendices 1 and 3 of this report. Discharge monitoring reports (DMR) are submitted to the Colorado Department of Public Health and Environment. Copies of each DMR are provided monthly to the Division during the report year and are included in this report by reference only.

(iii) A written interpretation of the data has been requested by the Division in accordance with Rule 4.05.13(4)(c)(iii) and is included within this annual hydrology report.

The monitoring timeframe for this annual hydrology report is from October 1, 2020 through September 30, 2021.

A description of the surface and ground water monitoring plan including the monitoring frequency is located in Appendix 2.05.6(3)-3. All monitoring locations are shown on Map 2.04-7-1. This information can be located in Permit No. C-2010-089.

Surface Water

Surface water monitoring sites are comprise of several sites, which comprise the current, upstream, and downstream condition and are briefly described below. Please see Map 2.04.7-1 for monitoring locations.

- SW-N202 is located on Meehan Draw and represents the downstream condition below mining.
- SW-N207 is located on Meehan Draw and represents and up gradient condition.
- SW-N213 is located on Nygren Draw and represents the up gradient condition.
- SW-N214 is located on Nygren Draw and represents the down gradient condition.

New Horizon North currently samples each surface water site for a variety of quality parameters. Of all the parameters that are analyzed for, several key indicator parameters have been identified and are addressed annually for the hydrology report. These parameters are laboratory pH, laboratory conductivity, TDS, sulfate, calcium, iron, magnesium, and sodium. Surface water monitoring data for the water year can be found in Appendix 1, and surface water summary graphs of the indicator parameters for all monitoring locations are provided in Appendix 2.

SW-N202 and SW-N207 – Meehan Draw

Data for surface water sites on Meehan Draw, SW-N202 (down gradient) and SW-N207 (up gradient), have been compiled and are shown on the summary tables below and graphically. Summary tables for indicator parameters are provide below for each site and include data from 2008 to the end of September of 2021 if available.

SW-N202							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	7.9	0.4	1.3	8.4	7.1	6/5/19	2/12/15
Lab Cond. (umhos/cm)	1,212	440	1,852	2,050	188	2/24/21	2/18/20
TDS (mg/l)	994	443	1,483	1,920	437	2/24/21	5/22/14
Sulfate (mg/l)	578	369	1,297	1,320	168	2/24/21	5/16/17
Calcium (mg/l)	199	77	245	351	106	3/20/12	5/16/17
Iron (tot rec ug/l)	1,697	1,699	9,520	9,770	250	2/21/18	5/23/16
Magnesium (mg/l)	54	24	83	108	26	3/3/10	5/22/14
Sodium (mg/l)	19	6	21	31	11	2/24/21	5/22/14

SW-N207							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	8.4	0.1	0.6	8.6	8.0	6/16/09	2/11/14
Lab Cond. (umhos/cm)	805	157	548	1,070	522	11/18/15	8/11/12
TDS (mg/l)	540	139	458	774	316	3/29/21	8/23/12
Sulfate (mg/l)	186	76	293	393	100	3/29/21	8/25/20
Calcium (mg/l)	110	22	97	149	53	11/27/12	2/11/14
Iron (tot rec ug/l)	358	328	1,350	1,410	60	6/7/10	12/1/10
Magnesium (mg/l)	38	13	51	65	14	10/23/08	8/14/12
Sodium (mg/l)	14	4	17	23	7	11/27/12	8/14/12

A review of the water year data indicates several maximums values occurred at SW-N202 for laboratory conductivity, TDS, sulfate, and sodium. Maximums values occurred for TDS and sulfate at SW-N207.

SW-N213 and SW-N214 - Nygren Draw

Data for sites SW-N213 (up gradient) and SW-N214 (down gradient) have been compiled and are shown on the summary tables below and graphically. Summary tables for indicator parameters are provide below for each site and include data from 2008 to the end of September of 2021 if available.

SW-N213							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	8.4	0.1	0.8	8.7	7.9	5/24/21	8/11/21
Lab Cond. (umhos/cm)	968	230	839	1,390	551	11/18/15	5/22/14
TDS (mg/l)	671	211	746	1,060	314	11/18/15	5/22/14
Sulfate (mg/l)	263	102	368	472	104	8/11/21	5/22/14
Calcium (mg/l)	127	31	108	186	78	8/11/21	5/22/14
Iron (tot rec ug/l)	136	109	390	400	10	8/21/12	11/26/13
Magnesium (mg/l)	45.3	14.9	67.0	87.4	20.4	11/18/15	5/22/14
Sodium (mg/l)	23.0	8.3	32.2	42.7	10.5	11/18/15	5/22/14

SW-N214							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	8.4	0.1	0.2	8.5	8.3	5/13/11	5/22/14
Lab Cond. (umhos/cm)	964	229	826	1,380	554	11/18/15	5/22/14
TDS (mg/l)	668	207	718	1,040	322	8/25/20	5/22/14
Sulfate (mg/l)	260	98	363	466	103	8/11/21	5/22/14
Calcium (mg/l)	127	30	109	188	79	8/11/21	5/22/14
Iron (tot rec ug/l)	195	164	660	670	10	5/31/13	11/26/13
Magnesium (mg/l)	44.1	15.2	66.4	87.3	20.9	11/18/15	5/22/14
Sodium (mg/l)	22.8	8.3	31.8	42.5	10.7	11/18/15	5/22/14

A review of the water year data indicates maximums for laboratory pH, laboratory conductivity and sulfate occurred at SW-N213. One minimum also occurred at SW-N213 for laboratory pH. Two maximums values occurred at SW-N214 for sulfate and calcium respectively.

Surface Water Data Interpretation

As shown on the graphs in Appendix 2 for the indicator parameters, when comparing the up gradient and down gradient locations, SW-N202 tends to historically trend higher for all the indicator parameters. Both the up gradient and down gradient locations show stable conditions in Meehan Draw with seasonal influences from irrigation.

As shown in Appendix 2 for the indicator parameters, when comparing the up gradient and down gradient locations on Nygren Draw (SW-N213 and SW-N214), they both trend almost identically. This indicates normal natural conditions are occurring in Nygren Draw with seasonal influences from irrigation.

Ground Water

Ground water monitoring sites are comprised of several sites which comprise the aquifers upstream and downstream of mining and reclamation activities and are briefly described below. Please see Map 2.04.7-1 for monitoring locations.

- GW-N50 monitors the underburden aquifer and represents the up gradient condition.
- GW-N51 monitors the Dakota coal aquifer and represents the up gradient condition.
- GW-N52 monitors the overburden aquifer and represents the up gradient condition.
- GW-N53 monitors the underburden aquifer and represents the down gradient condition.
- GW-N54 monitors the Dakota coal aquifer which represents the down gradient condition.
- GW-N55 monitors the overburden aquifer which represents the down gradient condition.
- GW-N56 monitors the underburden aquifer down-dip of the mining area.
- GW-N57 monitors the Dakota coal aquifer down-dip of the mining area.
- GW-N58 monitors the overburden aquifer down-dip of the mining area.

New Horizon currently samples each groundwater site for a variety of quality parameters. Of all the parameters that are analyzed for, several key indicator parameters are identified and are addressed annually for the hydrology report. These are laboratory pH, laboratory conductivity, TDS, sulfate, calcium, iron, magnesium, sodium and elevation. Ground water monitoring data for the water year can be found in Appendix 3, and ground water summary graphs of the indicator parameters for all monitoring locations are provided in Appendix 4.

Wells GW-N50, GW-N51, and GW-N52

GW-N50 monitors the overburden aquifer, GW-N51 monitors the Dakota coal aquifer, and GW-N52 monitors the underburden aquifer. This cluster of wells provides groundwater data representative of the up gradient condition above where mining and reclamation has occurred.

Summary of the indicator parameters for each well are provided as follows:

GW-N50							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	7.7	0.2	0.8	8.1	7.3	6/3/10	8/25/09
Lab Cond. (umhos/cm)	2,534	454	2,337	3,330	993	6/8/20	12/10/20
TDS (mg/l)	2,204	377	1,630	3,020	1,390	6/8/20	9/23/19
Sulfate (mg/l)	1,338	1,186	8,476	9,180	704	9/23/19	5/15/19
Calcium (mg/l)	329	51	198	413	215	3/1/11	11/30/09
Iron (mg/l)*	0.1596	0.1489	0.3448	0.3680	0.0232	9/15/21	5/27/21
Manganese (mg/l)	0.93	0.29	1.08	1.55	0.47	3/3/10	2/14/18
Sodium (mg/l)	118.7	30.1	106.3	163.0	56.7	3/10/20	9/23/19
Magnesium (mg/l)	173	46	228	246	18	6/8/20	12/9/19

*Iron was previously reported at total recoverable ug/l. It is now reported as dissolved mg/l.

GW-N51							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	6.8	0.6	2.3	7.9	5.6	2/20/13	11/15/17
Lab Cond. (umhos/cm)	1,024	132	705	1,410	705	5/22/09	12/8/20
TDS (mg/l)	754	114	562	1,100	538	5/28/09	3/15/21
Sulfate (mg/l)	452	113	469	700	231	5/26/09	5/21/14
Calcium (mg/l)	113	21	100	167	67	8/25/11	3/15/21
Iron (mg/l)*	7.6	5.1	11.3	12.9	1.6	12/8/20	3/15/21
Manganese (mg/l)	0.98	0.40	1.45	1.96	0.52	8/25/11	3/15/21
Sodium (mg/l)	26.6	6.9	35.7	50.3	14.6	5/20/09	2/10/16
Magnesium (mg/l)	50.1	10.0	55.9	85.7	29.8	5/20/09	3/15/21

*Iron was previously reported at total recoverable ug/l. It is now reported as dissolved mg/l.

GW-N52							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	7.7	0.2	1.3	8.3	7.0	8/26/11	11/15/17
Lab Cond. (umhos/cm)	876	139	604	1,250	646	11/23/11	12/7/20
TDS (mg/l)	624	116	600	1,030	430	12/2/11	5/21/12
Sulfate (mg/l)	279	80	412	580	168	12/1/11	5/15/12
Calcium (mg/l)	164	32	162	279	117	11/22/11	8/23/17
Iron (mg/l)*	0.0206	0.0225	0.0467	0.0541	0.0074	3/15/21	5/27/21
Manganese (mg/l)	0.09	0.31	1.43	1.43	0.01	3/15/21	5/28/11
Sodium (mg/l)	7.8	1.6	9.4	15.1	5.7	3/10/20	8/23/17
Magnesium (mg/l)	19.1	5.5	27.1	39.1	12.0	3/10/20	8/23/17

*Iron was previously reported at total recoverable ug/l. It is now reported as dissolved mg/l.

A review of the water year for this series of wells indicates a minimum value for electrical conductivity occurred at GW-N50. Several minimum values for electrical conductivity, TDS, calcium, magnesium, and manganese occurred at GW-N51. Finally, a minimum value for electrical conductivity and one maximum value for manganese occurred at GW-N52.

Wells GW-N53, GW-N54, and GW-N55

GW-N53 monitors the underburden aquifer, GW-N54 monitors the Dakota coal aquifer, and GW-N55 monitors the overburden aquifer. This cluster of wells provides data representative of the down gradient condition below where mining occurred.

Summary of the indicator parameters for each well are provided as follows:

GW-N53							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	8.0	0.1	0.5	8.2	7.7	10/18/08	11/13/13
Lab Cond. (umhos/cm)	3,282	254	1770	3,640	1,870	9/15/21	12/8/20
TDS (mg/l)	2,878	226	700	3,270	2,570	3/4/20	5/28/09
Sulfate (mg/l)	1,589	103	430	1,830	1,400	2/25/15	5/26/09
Calcium (mg/l)	307	19	79	344	265	3/4/20	12/1/10
Iron (mg/l)*	0.0265	0.0150	0.0312	0.0452	0.0140	9/15/21	5/27/21
Manganese (mg/l)	0.056	0.043	0.135	0.140	0.005	11/19/16	12/1/09
Sodium (mg/l)	198	22	73	238	165	8/25/11	11/28/17
Magnesium (mg/l)	249	16	73	281	208	11/23/11	12/1/10

*Iron was previously reported at total recoverable ug/l. It is now reported as dissolved mg/l.

GW-N54							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	7.9	0.1	0.5	8.1	7.6	10/18/08	8/20/14
Lab Cond. (umhos/cm)	4,643	993	4,230	6,100	1,870	8/20/14	12/8/20
TDS (mg/l)	4,708	1,081	5,280	6,940	1,660	2/25/15	12/8/10
Sulfate (mg/l)	2,972	887	4,518	5,030	512	2/25/15	9/16/20
Calcium (mg/l)	4.8	79	333	534	201	11/17/15	9/1/10
Iron (mg/l)*	0.1090	0.0847	0.1710	0.2060	0.0350	3/10/21	5/27/21
Manganese (mg/l)	0.459	0.222	0.740	0.870	0.130	11/13/13	6/2/10
Sodium (mg/l)	169	33	146	213	67	8/24/09	8/31/10
Magnesium (mg/l)	567	146	654	880	226	11/17/15	12/1/10

*Iron was previously reported at total recoverable ug/l. It is now reported as dissolved mg/l.

GW-N55							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	7.8	0.1	0.6	8.1	7.5	2/27/10	3/4/20
Lab Cond. (umhos/cm)	8,996	2,722	10,450	13,000	2,550	9/16/20	12/8/20
TDS (mg/l)	11,551	3,790	10,800	16,500	5,700	9/16/20	8/26/15
Sulfate (mg/l)	7,599	2,994	10,780	12,600	1,820	3/4/20	5/27/21
Calcium (mg/l)	449	25	93	496	403	3/3/10	12/8/20
Iron (mg/l)*	0.1474	0.1768	0.3780	0.4110	0.0330	3/10/21	12/8/20
Manganese (mg/l)	0.41	0.31	1.16	1.17	0.02	9/14/21	8/25/11
Sodium (mg/l)	337	39	156	444	288	8/25/11	12/9/19
Magnesium (mg/l)	1,824	753	2,200	2,840	650	9/16/20	2/18/14

*Iron was previously reported at total recoverable ug/l. It is now reported as dissolved mg/l.

A review of the water year data indicates a maximum and minimum value for electrical conductivity occurred at GW-N53. GW-N54 exhibited one minimum value for electrical conductivity. GW-N55 exhibited one maximum value for manganese and three minimum values for electrical conductivity, sulfate, and calcium during the water year. The minimum value for sulfate at GW-N55 appears to be an outlier for the entire data set for that well.

Wells GW-N56, GW-N57, and GW-N58

GW-N56 monitors the overburden aquifer, GW-N57 monitors the Dakota coal, and GW-N58 monitors the underburden aquifer. This cluster of wells provides groundwater data representative of the up gradient condition above where mining occurred.

Summary of the indicator parameters for each well are provided as follows:

GW-N56							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	7.8	0.1	0.4	8.0	7.6	8/14/13	11/27/12
Lab Cond. (umhos/cm)	4,017	385	2,070	5,000	2,930	9/14/21	12/2/20
TDS (mg/l)	3,852	468	1,920	5,040	3,120	5/25/21	8/29/12
Sulfate (mg/l)	2,322	322	1,360	3,260	1,900	5/21/21	5/26/15
Calcium (mg/l)	482	76	288	606	318	5/17/16	8/29/12
Iron (mg/l)*	0.0552	0.0246	0.0499	0.0849	0.0350	12/2/20	3/9/21
Manganese (mg/l)	0.34	0.26	1.19	1.20	0.01	5/9/18	5/21/14
Sodium (mg/l)	174	45	254	395	141	11/27/12	5/17/16
Magnesium (mg/l)	188	189	507	523	19	9/14/21	8/29/12

*Iron was previously reported at total recoverable ug/l. It is now reported as dissolved mg/l.

GW-N57							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	7.7	0.1	0.5	8.0	7.5	12/11/19	5/17/16
Lab Cond. (umhos/cm)	4,652	361	1,980	5,240	3,260	9/14/21	11/30/20
TDS (mg/l)	4,777	347	1,440	5,280	3,840	9/21/16	5/26/15
Sulfate (mg/l)	3,067	240	1,160	3,650	2,490	9/21/16	5/26/15
Calcium (mg/l)	503	80	493	548	55	7/24/18	12/11/19
Iron (mg/l)*	0.0567	0.0435	0.0871	0.1220	0.0349	11/30/21	9/14/21
Manganese (mg/l)	0.68	0.19	0.73	0.99	0.26	8/9/17	8/20/14
Sodium (mg/l)	146	19	73	174	101	2/17/14	5/26/15
Magnesium (mg/l)	518	40	184	574	390	11/9/16	5/26/15

*Iron was previously reported at total recoverable ug/l. It is now reported as dissolved mg/l.

GW-N58							
Parameter	Mean	Std dev	Range	Max.	Min.	Max at	Min at
Lab pH	7.5	0.3	1.1	7.9	6.8	5/28/18	5/28/13
Lab Cond. (umhos/cm)	8,061	3,123	12,540	16,000	3,460	5/28/13	11/30/20
TDS (mg/l)	9,620	4,213	15,150	20,000	4,850	5/28/13	2/14/18
Sulfate (mg/l)	6,595	3,485	11,940	15,000	3,060	5/28/13	2/14/18
Calcium (mg/l)	468	24	102	532	430	11/27/12	5/21/14
Iron (mg/l)*	0.955	0.508	1.09	1.61	0.516	11/30/20	5/25/21
Manganese (mg/l)	2.07	2.08	5.99	6.15	0.16	11/27/12	5/9/18
Sodium (mg/l)	274	250	1,308	1,460	152	5/28/13	8/29/12
Magnesium (mg/l)	1,476	827	2,636	3,150	514	11/13/13	2/14/18

*Iron was previously reported at total recoverable ug/l. It is now reported as dissolved mg/l.

A review of the water year data indicates maximum values occurred for electrical conductivity, TDS, sulfate, and magnesium at GW-N56. Conversely, a minimum value for electrical conductivity also occurred at GW-N56 for electrical conductivity. A maximum and minimum

values were obtained for electrical conductivity at GW-N57, and one minimum value for electrical conductivity occurred at GW-N58.

Groundwater Data Interpretation

The graphs in Appendix 4 provides the indicator parameters in comparison with the up gradient and down gradient locations with the overburden, coal, and underburden aquifer shown together accordingly.

Overburden Aquifer

When comparing the up gradient (GW-N50) and down gradient wells (GW-N53 and GW-N56) for the overburden aquifer, GW-N50 tends to historically trend lower for most of the indicator parameters versus the two down gradient wells. Although, iron and magnesium historically trend higher at the up-gradient location GW-N50. The overall up-gradient conditions for the overburden aquifer trend in a consistent manner with seasonal influences from local irrigation apparent in the data. The exception to this is manganese and pH as both are slightly trending down overtime.

The down gradient well GW-N53 demonstrates less variability in the data and provides a consistent water quality in the pre-mining and post mining timeframes. Data for down gradient well GW-N56 indicates less stability in the overall water quality in the overburden aquifer with some of the indicator parameters increasing including calcium, magnesium, sulfate, and TDS. Sodium at GW-N56 is trending downward.

Coal Aquifer

When comparing the up gradient (GW-N51) and down gradient wells (GW-N54 and GW-N57) for the coal aquifer, GW-N51 historically trends much lower for most of the indicator parameters versus the two down gradient wells. Although, similar to the overburden aquifer iron historically trends higher at the up-gradient location GW-N51 as well as manganese. Manganese is trending downward up-gradient of the mining and reclamation areas. The overall up-gradient conditions for the coal aquifer trend in a consistent manner with seasonal influences from local irrigation. The exception to this is manganese and pH as both are slightly trending down overtime.

Historically, both GW-N54 and GW-N57 both trend much higher for most the indicator parameters. In general, the data acquired indicates very poor water quality was present prior to the commencement of mining at New Horizon North Mine, and the water quality post mining continues to be of low quality. Both wells exhibit relatively stable trends overtime for all the indicator parameters. Although, manganese is increasing in the coal aquifer down gradient of mining at GW-N57.

Underburden Aquifer

When comparing the up gradient (GW-N52) and down gradient wells (GW-N55 and GW-N58) for the underburden aquifer, GW-N52 historically trends lower for the indicator parameters versus the two down gradient wells. GW-N52 demonstrates for all the indicator parameters

trend in a consistent manner with stable water quality up-gradient of mining and reclamation activities.

Like the coal aquifer, the two down gradient wells, GW-N55 and GW-N58 both trend higher for most the indicator parameters. As a whole, the data acquired from both down gradient wells indicates very poor water quality was present prior to the commencement of mining at New Horizon North Mine, and the water quality post mining continues to be of low quality. TDS levels down-gradient prior to mining at GW-N55 were above 6,000 mg/l, and at GW-N58 TDS levels were above 16,500 mg/l. Further, sulfate at GW-N55 prior to mining was nearly 4,000 mg/l, and at GW-N58 was well above 10,000 mg/l. Electrical conductivity for both down gradient wells was also high at nearly 6,000 umhos/cm (GW-N55) and around 8,000 umhos/cm prior to mining.

At well GW-N55, electrical conductivity since 2009 has been increasing, along with magnesium, sulfate, and TDS. The same indicator parameters at well GW-N58 have been decreasing. Additionally, iron and manganese levels have sharply decreased and appear to be steady state since 2014 at GW-N58.

Appendix 1
Surface Water Monitoring Data

New Horizon North Mine

Analysis Results by Date (column) and Parameter (row)

Date Range: 10/01/2020 to 09/30/2021

Site: SW-N202

	11/17/2020	2/24/2021	5/24/2021	8/11/2021
Al, tot rec, ug/L	123	463	231	464
As, tot rec, ug/L	0.00168*	0.00024*	1.07	2.00
Ca, diss, mg/L	210	328	119	116
Cd, tot rec, ug/L	0.0001*	0.0004*	0.0710	0.0880
Cl, diss, mg/L	8.46	9.39	5.91	4.65
Cu, diss, mg/L	<0.0	<0.0	0.00287	<0.0
Fe, tot rec, ug/L	861	4070	569	828
HCO3, mg/L	162	64.0	**	**
Hg, tot, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
Mg, diss, mg/L	55.8	101.0	32.1	29.1
Mn, diss, mg/L	0.563	1.10	0.0730	0.110
Na, diss, mg/L	20.9	31.3	11.8	11.9
NH3 as N, tot, mg/L	0.09	0.002	<0.05	<0.05
NO2, diss, mg/l	0.0110	<0.0	**	**
NO3, diss, mg/l	0.0800	0.0700	<0.02	<0.02
Pb, tot rec	<0.0001*	<0.0001*	0.770	1.63
pH (field), pH	7.9	7.8	7.7	7.5
pH (lab), pH	8	7.7	8.4	8.3
PO4, tot	0.170	<0.01	0.013	0.016
SAR, ratio	0.330	0.390	0.250	0.260
Se, diss	<0.0	<0.0	0.000290	0.000260
SO4, diss, mg/L	595	1320	235	227
Spec. Cond. (lab), umhos/cm	974	2050	872	755
Spec. Cond. (field), umhos/cm	1322	1989	813	1126
TDS, mg/L	1150	1920	614	554
TSS, mg/L	6.00	11.0	8.00	13.0
Zn, tot rec	0.029*	0.104*	<0.02	<0.02

*Laboratory results were dissolved mg/l

**Due to a laboratory error analytical results were not obtained.

New Horizon North Mine**Analysis Results by Date (column) and Parameter (row)****Date Range: 10/01/2020 to 09/30/2021****Site: SW-N207**

	11/17/2020	3/29/2021	5/24/2021	8/11/2021
Al, tot rec, ug/L	250	<50	77	257
As, tot rec, ug/L	0.00134*	0.64	0.930	1.54
Ca, diss, mg/L	128	146	97.9	95.7
Cd, tot rec, ug/L	<0.00005*	<0.05	<0.05	<0.05
Cl, diss, mg/L	11.9	13.5	4.78	4.38
Cu, diss, mg/L	<0.00005	0.0291	0.00161	<0.00005
Fe, tot rec, ug/L	152	70.9	80.3	147
HCO3, mg/L	298	174	**	**
Hg, tot, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
Mg, diss, mg/L	52.6	40.6	27.2	22.2
Mn, diss, mg/L	0.0390	0.0770	0.0220	0.0330
Na, diss, mg/L	18.8	14.9	9.87	9.41
NH3 as N, tot, mg/L	<0.05	<0.05	<0.05	<0.05
NO2, diss, mg/l	<0.01	<0.01	0.024	**
NO3, diss, mg/l	<0.0	0.0700	0.0240	<0.0
Pb, tot rec	<0.0001*	<0.0001*	0.170	0.220
pH (field), pH	8	8.2	7.9	7.8
pH (lab), pH	8.4	8.3	8.4	8.3
PO4, tot	0.250	0.01	0.023	0.035
SAR, ratio	0.360	0.280	0.230	0.230
Se, diss	0.000620	0.00128	0.000380	0.000460
SO4, diss, mg/L	250	393	161	141
Spec. Cond. (lab), umhos/cm	759	994	728	621
Spec. Cond. (field), umhos/cm	967	991	702	899
TDS, mg/L	760	774	496	432
TSS, mg/L	14.0	<5	<5	6
Zn, tot rec	<0.02	<0.02	<0.02	<0.02

*Laboratory results were dissolved mg/l

**Due to a laboratory error analytical results were not obtained.

New Horizon North Mine

Analysis Results by Date (column) and Parameter (row)

Date Range: 10/01/2020 to 09/30/2021

Site: SW-N213

	11/17/2021	3/29/2021	5/24/2021	8/11/2021
Al, tot rec, ug/L	Dry	Dry	<50	52
As, tot rec, ug/L			1.26	1.18
Ca, diss, mg/L			152	186
Cd, tot rec, ug/L			<0.05	<0.05
Cl, diss, mg/L			14.6	12.9
Cu, diss, mg/L			0.00109	0.000840
Fe, tot rec, ug/L			35.9	72.1
HCO3, mg/L			*	*
Hg, tot, mg/L			<0.0002	<0.0002
Mg, diss, mg/L			52.2	51.1
Mn, diss, mg/L			0.0420	0.0700
Na, diss, mg/L			28.5	32.8
NH3 as N, tot, mg/L			<0.05	<0.05
NO2, diss, mg/l			*	*
NO3, diss, mg/l			<0.02	0.0240
Pb, tot rec			<0.01	<0.01
pH (field), pH			8.7	7.9
pH (lab), pH			8.5	8.4
PO4, tot			0.109	0.068
SAR, ratio			0.510	0.560
Se, diss			0.000350	0.000510
SO4, diss, mg/L			333	472
Spec. Cond. (lab), umhos/cm			1180	1210
Spec. Cond. (field), umhos/cm			1135	1190
TDS, mg/L			876	972
TSS, mg/L			<0.005	<0.005
Zn, tot rec			<0.02	<0.02

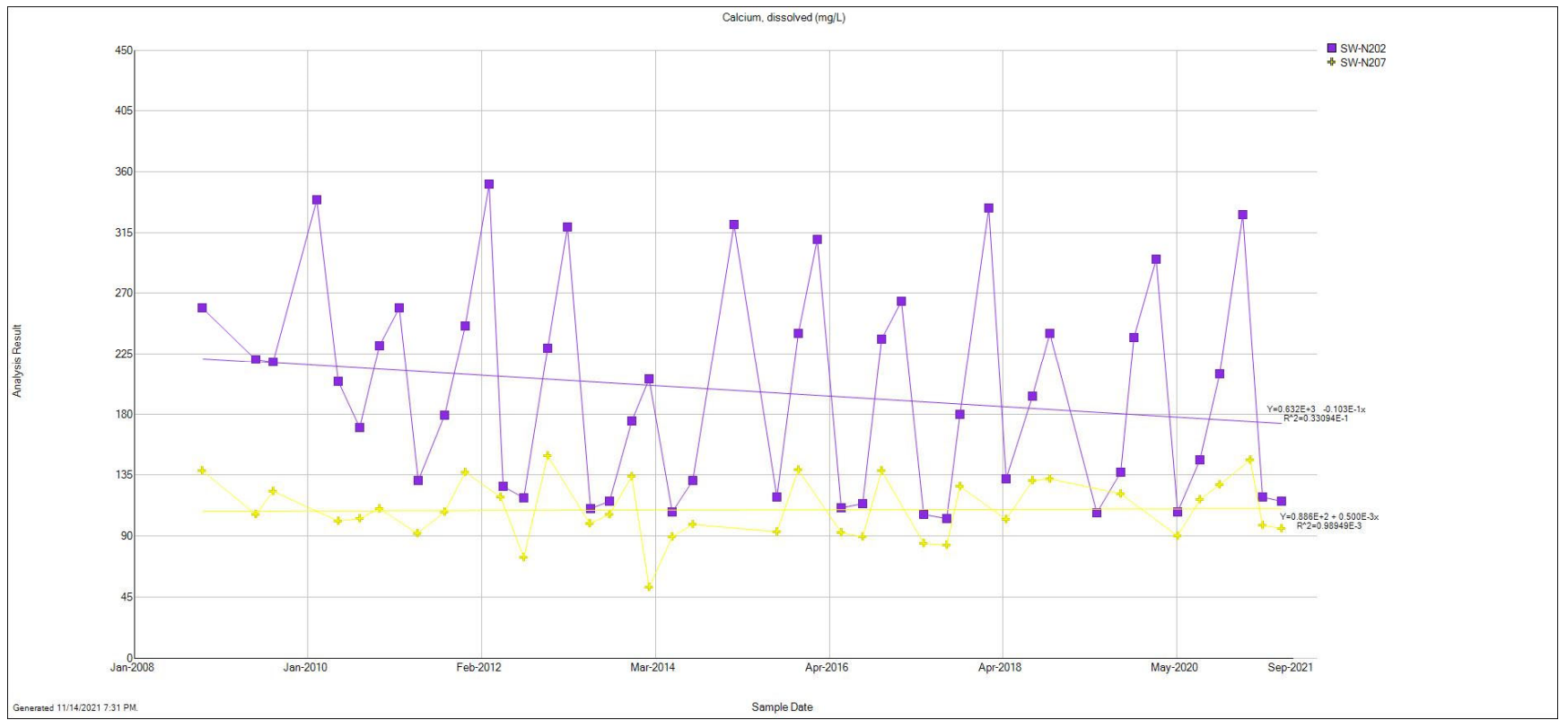
*Due to a laboratory error analytical results were not obtained.

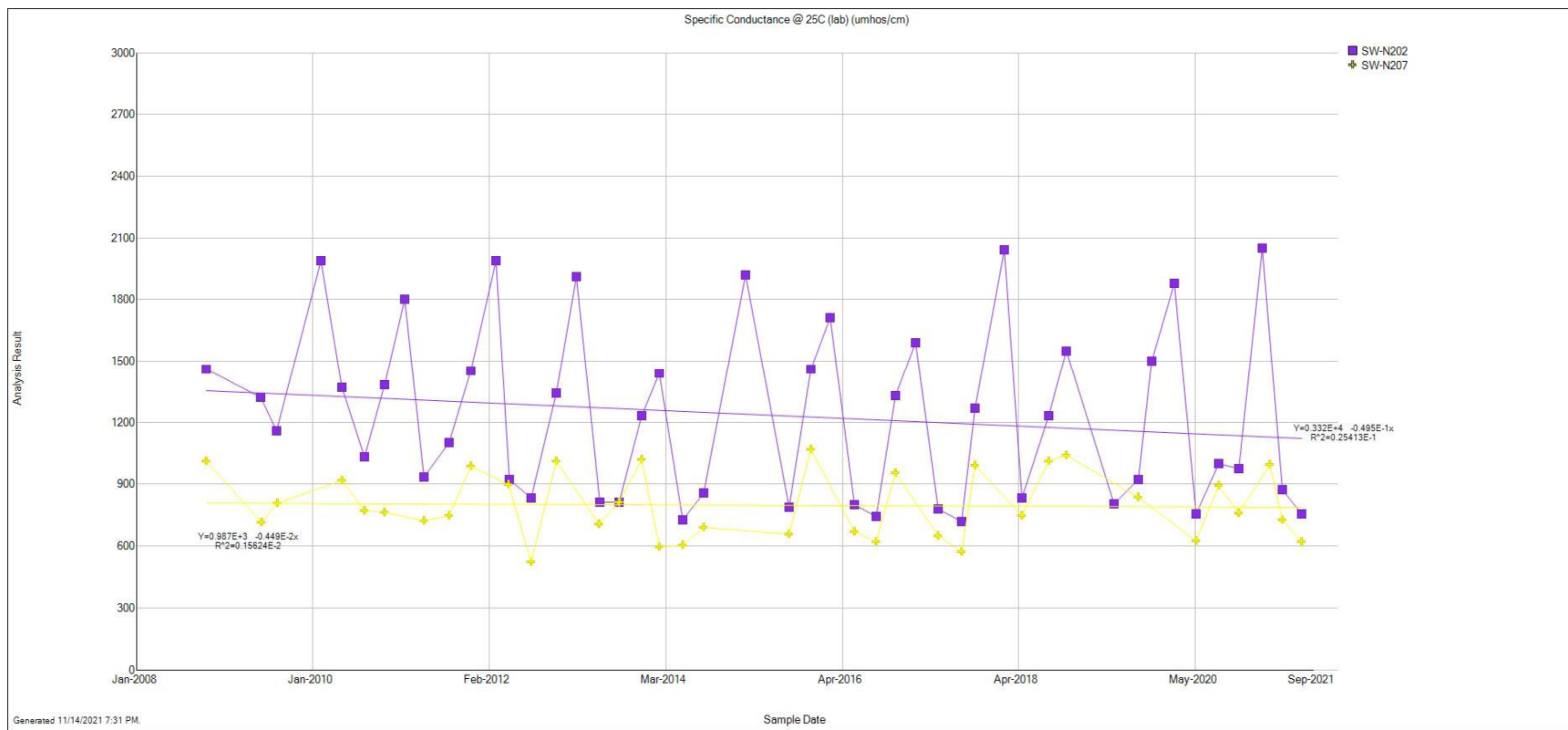
New Horizon North Mine**Analysis Results by Date (column) and Parameter (row)****Date Range: 10/01/2020 to 09/30/2021****Site: SW-N214**

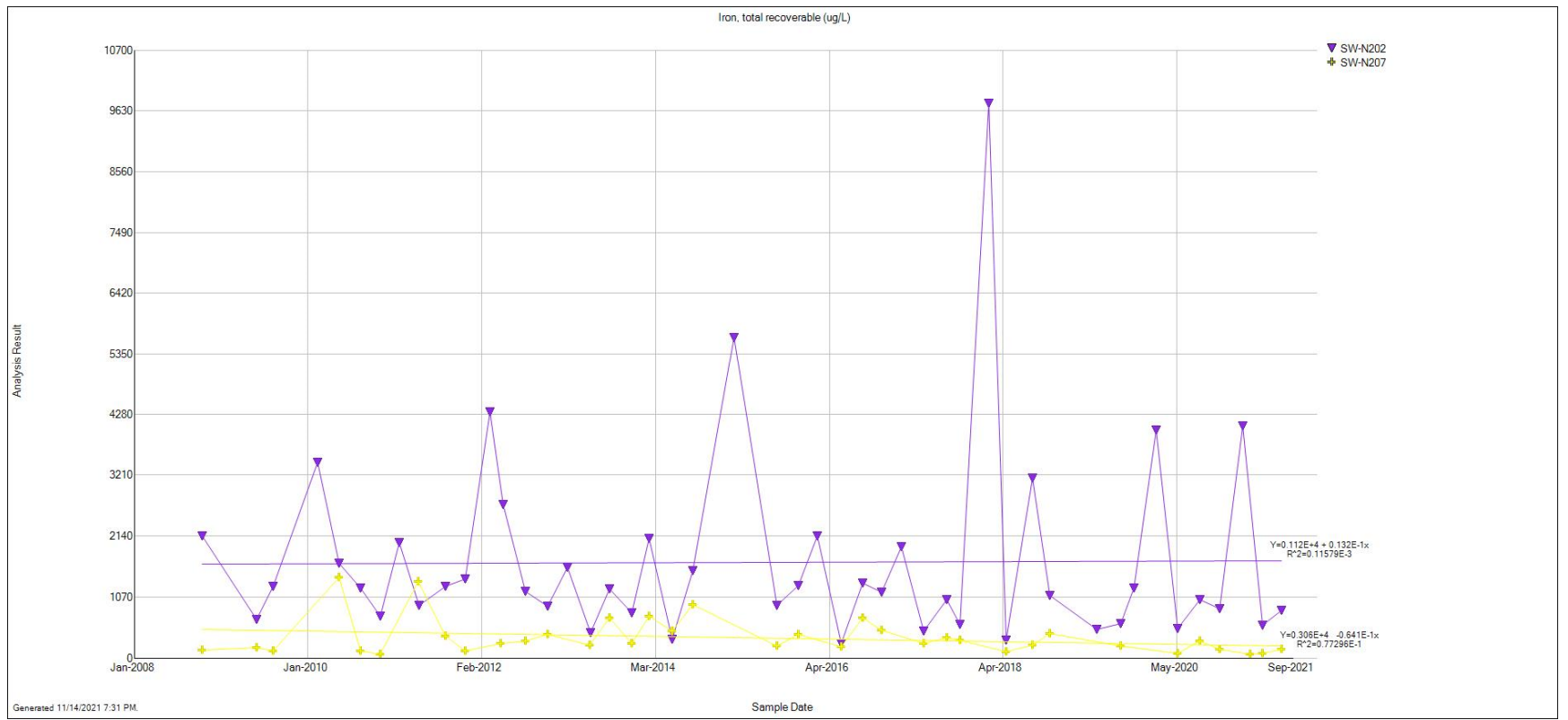
	11/17/2021	3/29/2021	5/24/2021	8/11/2021
Al, tot rec, ug/L	Dry	Dry	<0.05	0.052
As, tot rec, ug/L			1.07	1.1
Ca, diss, mg/L			153	188
Cd, tot rec, ug/L			<0.00005	<0.00005
Cl, diss, mg/L			15.8	12.7
Cu, diss, mg/L			0.00081	<0.0008
Fe, tot rec, ug/L			41.5	61.3
HCO3, mg/L			*	*
Hg, tot, mg/L			<0.0002	<0.0002
Mg, diss, mg/L			52.4	51.6
Mn, diss, mg/L			<0.0	0.04
Na, diss, mg/L			28.8	33.1
NH3 as N, tot, mg/L			<0.05	<0.05
NO2, diss, mg/l			*	*
NO3, diss, mg/l			<0.02	0.022
Pb, tot rec			<0.0001	<0.0001
pH (field), pH			8.7	8.1
pH (lab), pH			8.5	8.4
PO4, tot			0.32	0.069
SAR, ratio			0.52	0.56
Se, diss			0.00039	0.0005
SO4, diss, mg/L			328	466
Spec. Cond. (lab), umhos/cm			1190	1210
Spec. Cond. (field), umhos/cm			1131	1168
TDS, mg/L			876	980
TSS, mg/L			<0.005	<0.005
Zn, tot rec			<0.02	<0.02

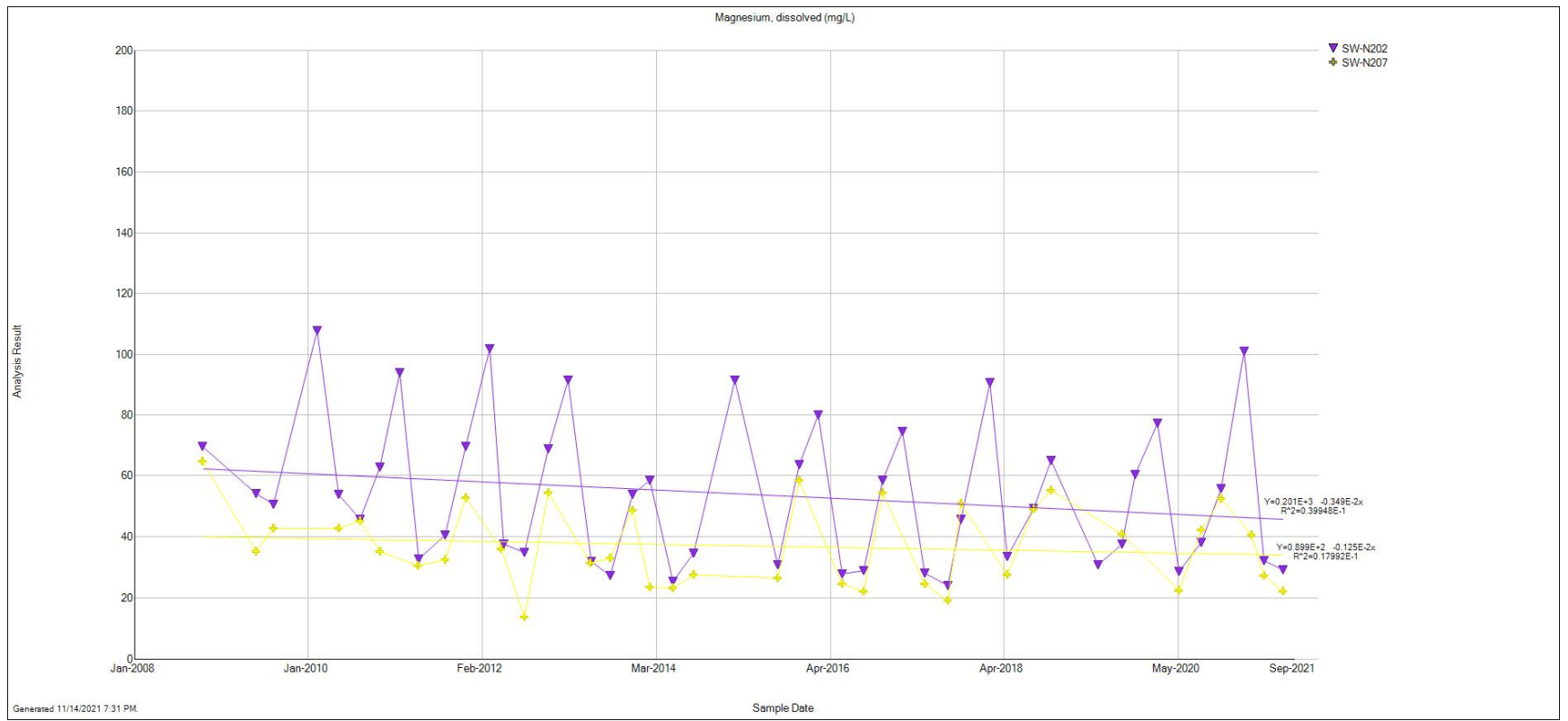
*Due to a laboratory error analytical results were not obtained.

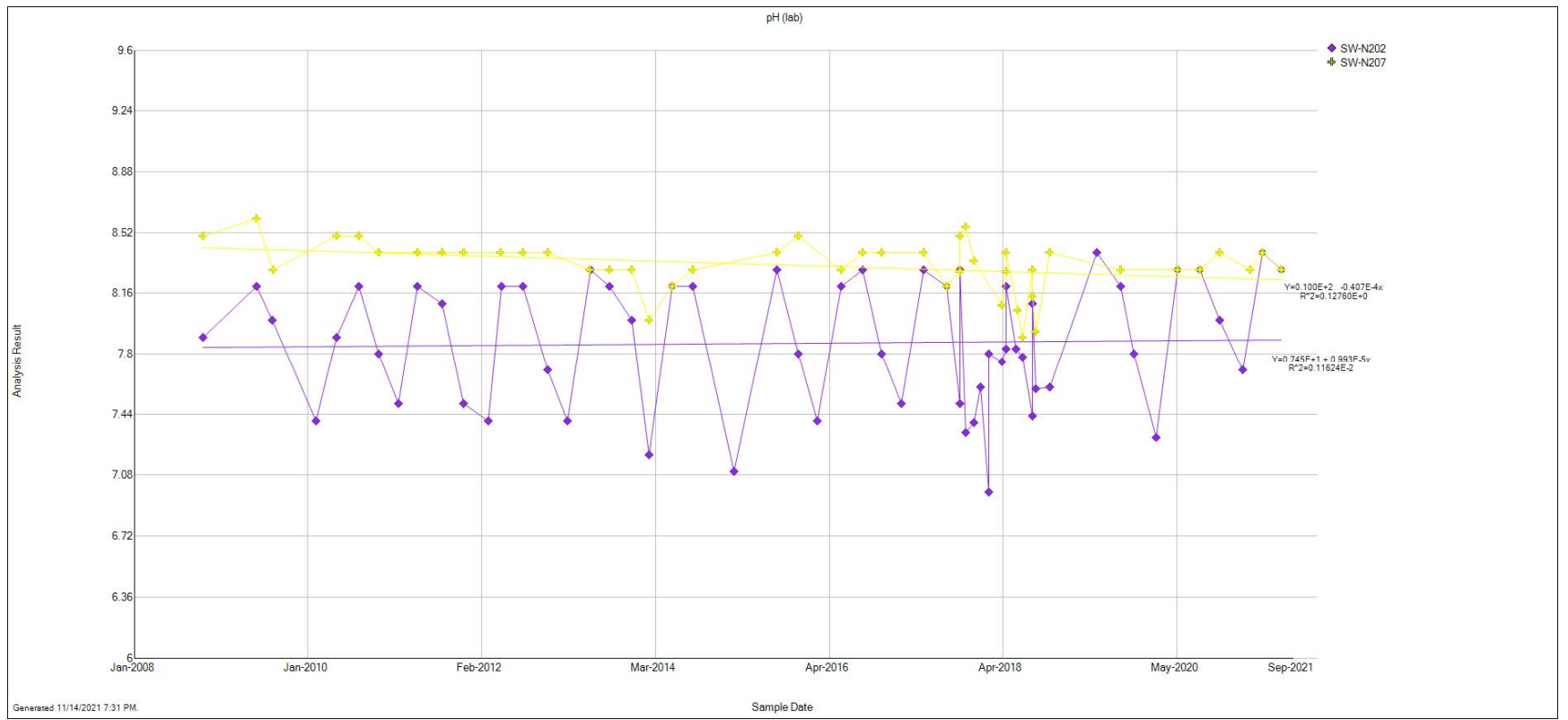
Appendix 2
Surface Water Monitoring Graphs

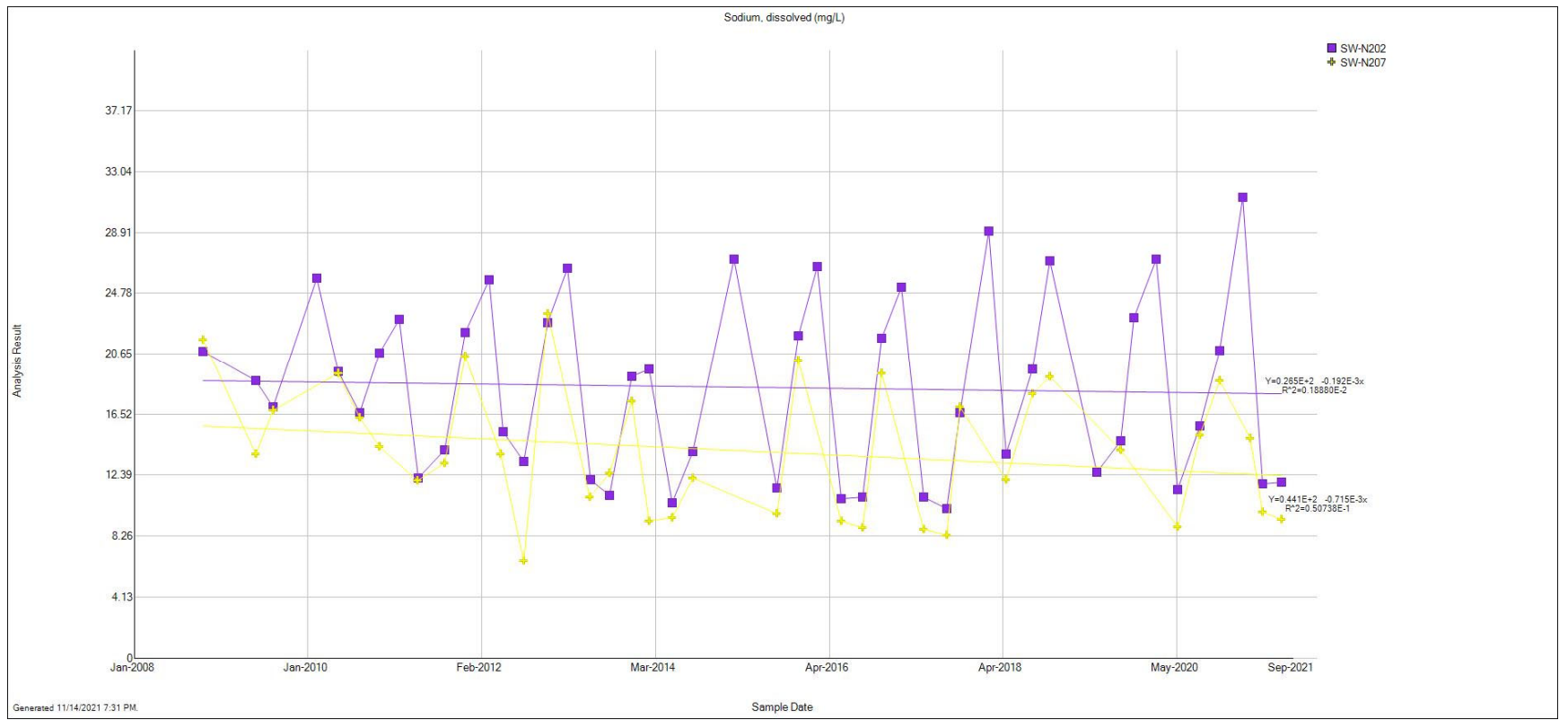


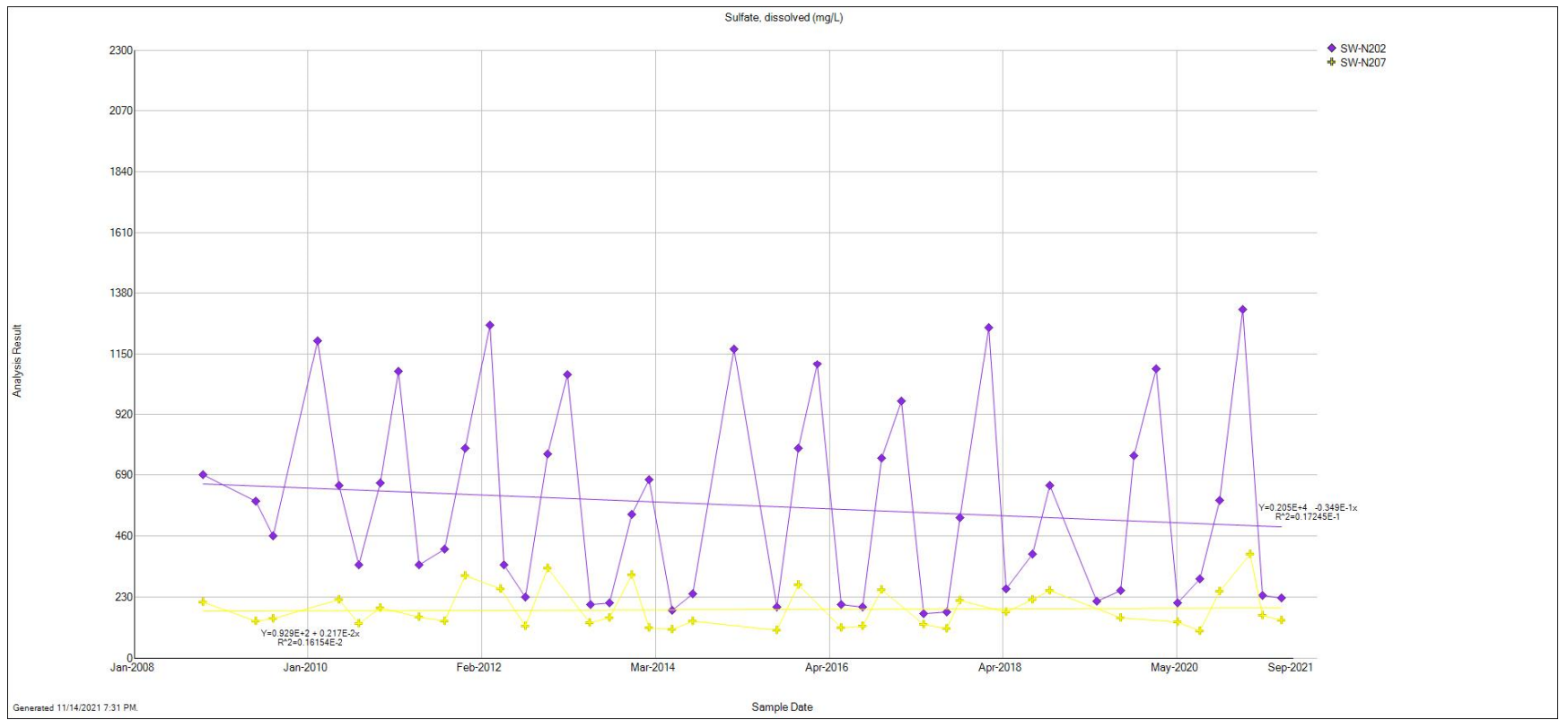


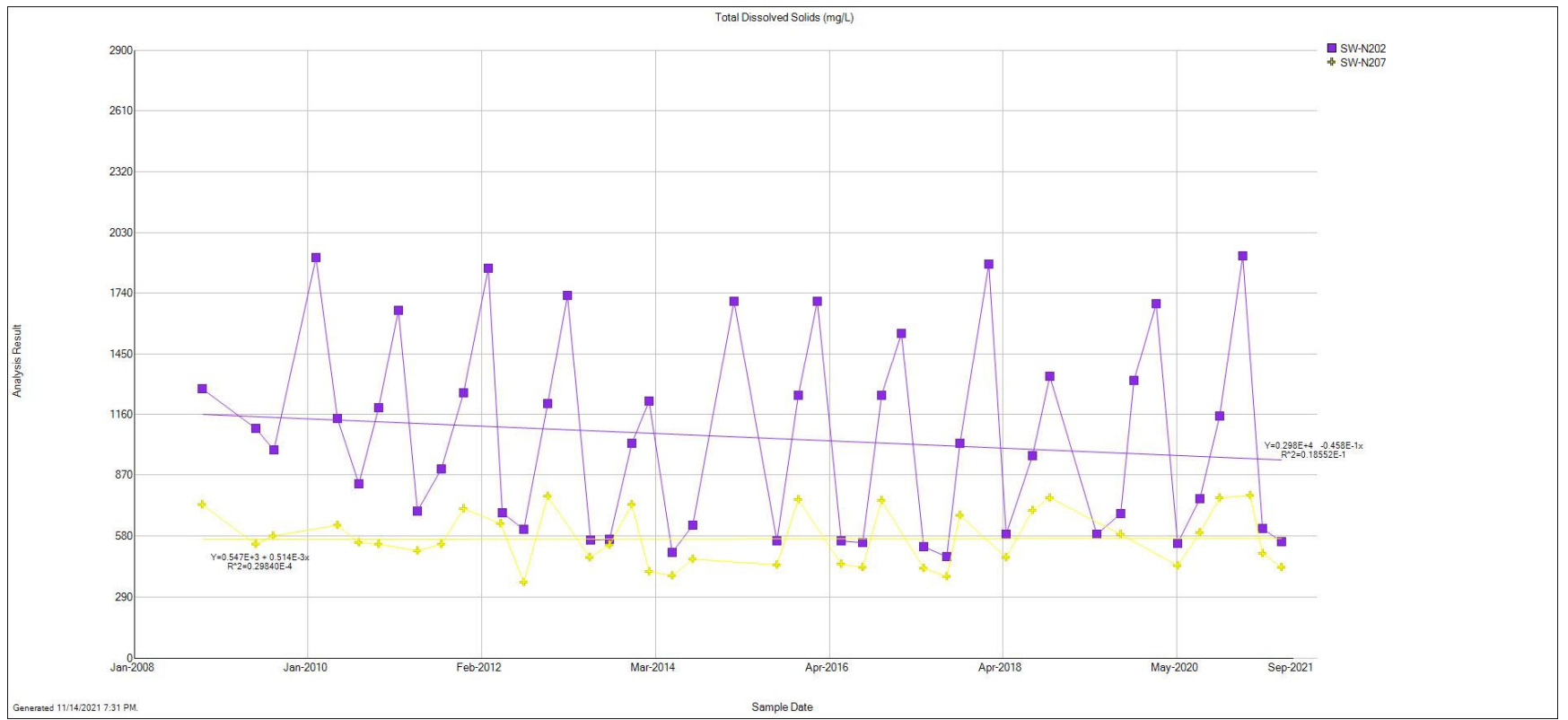


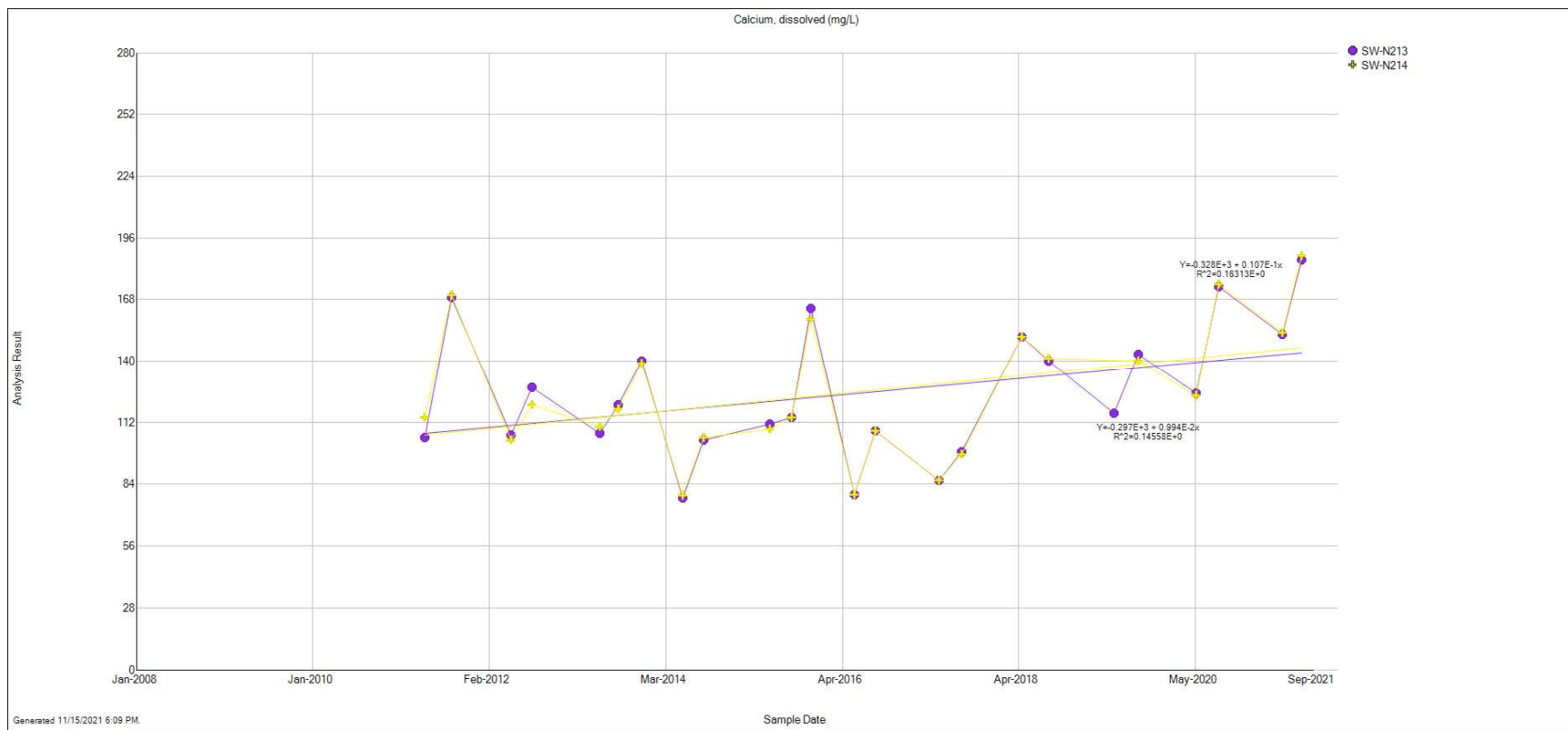


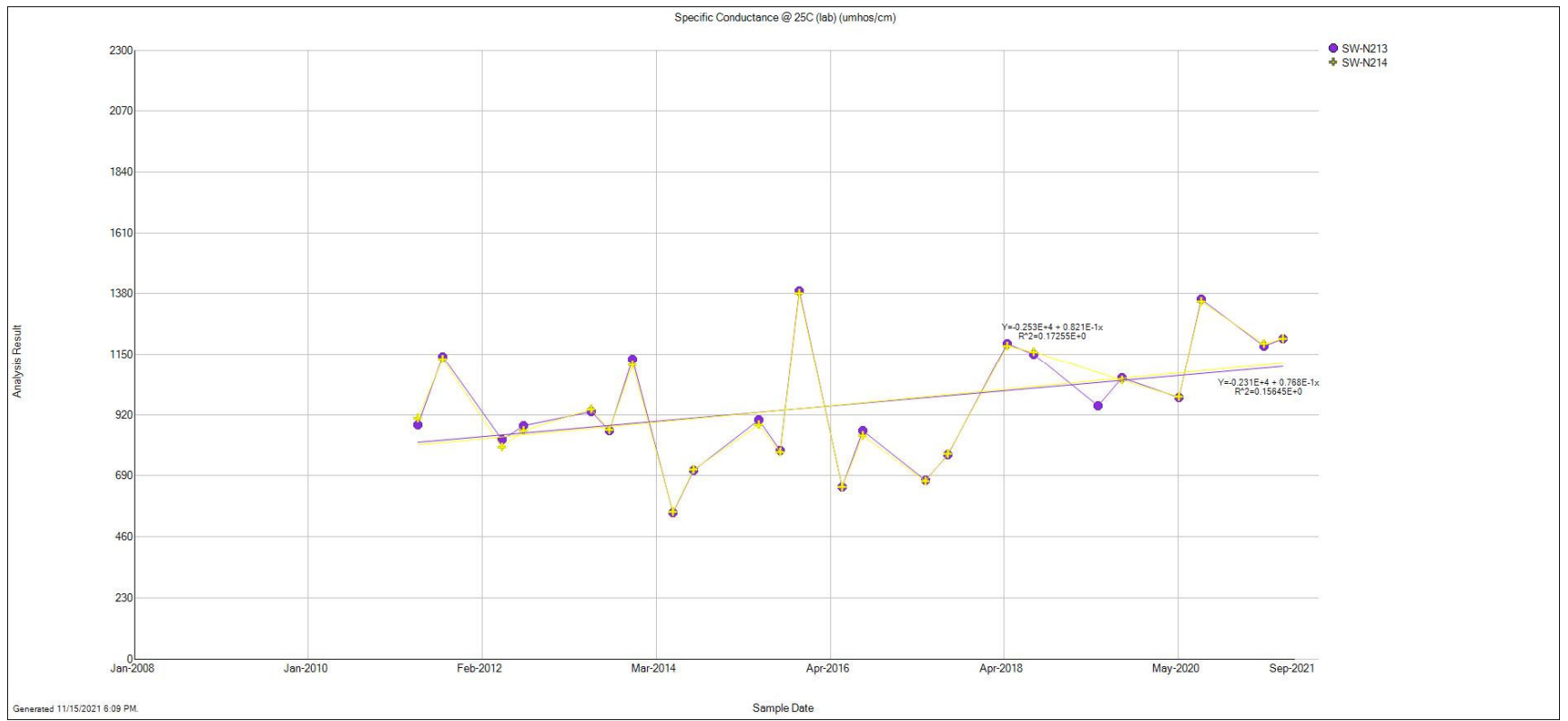


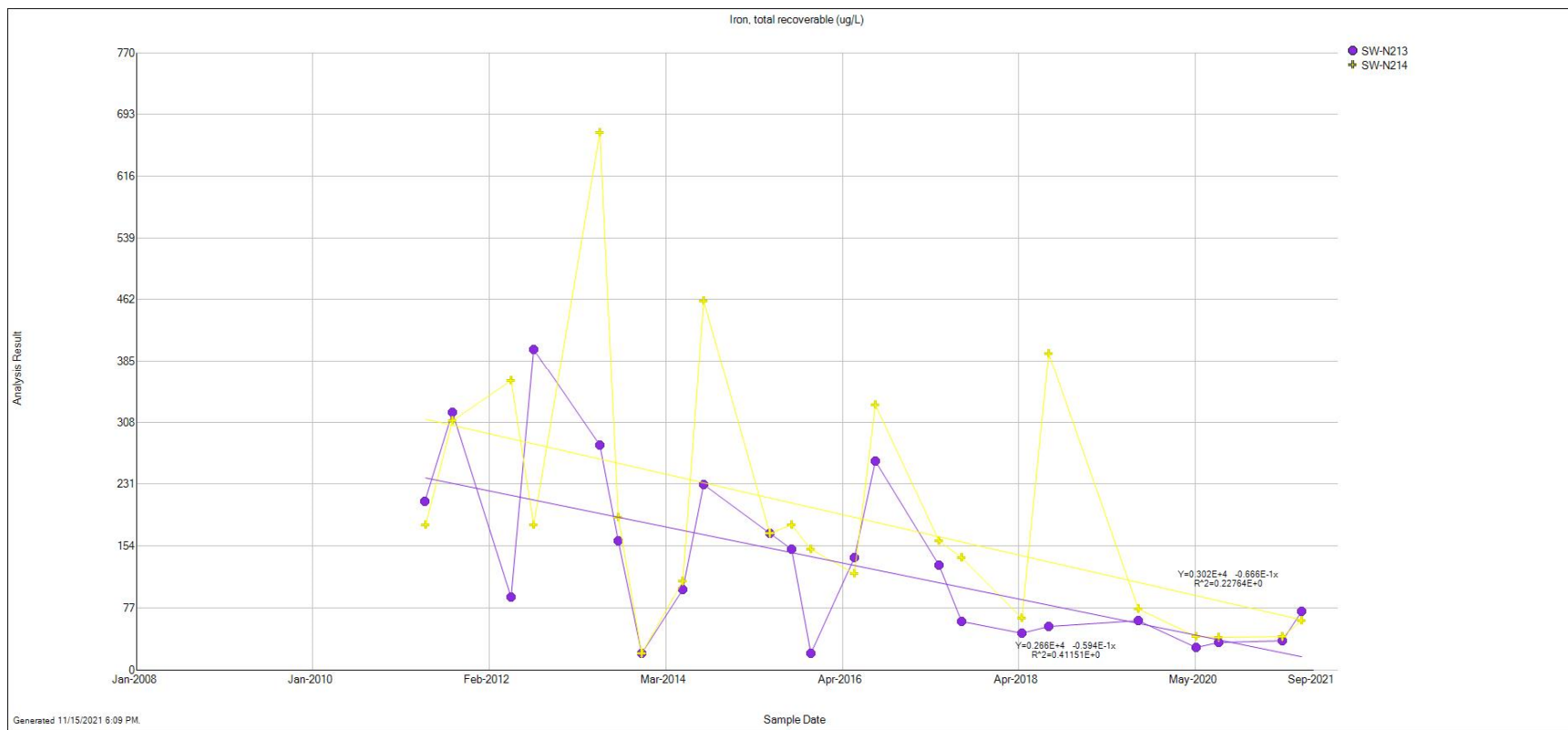


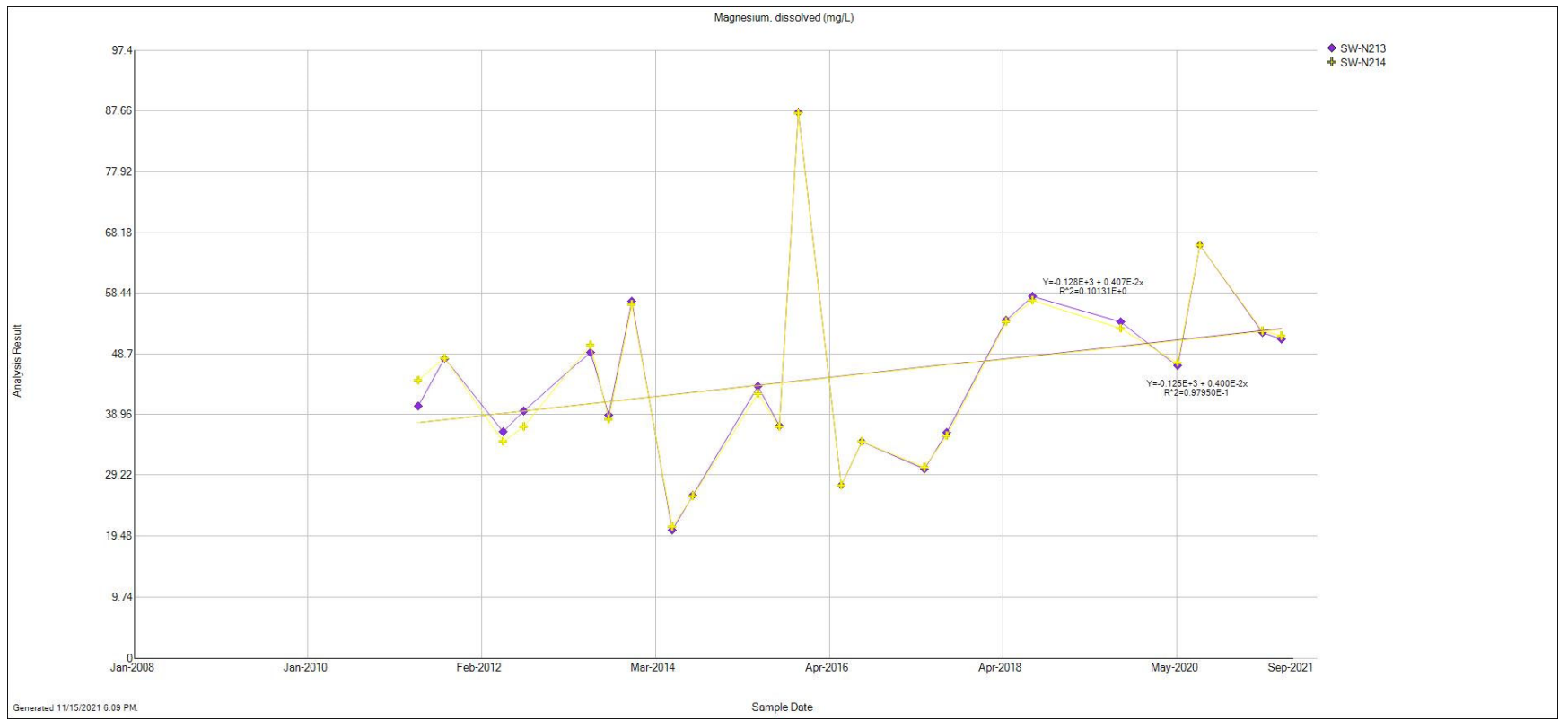


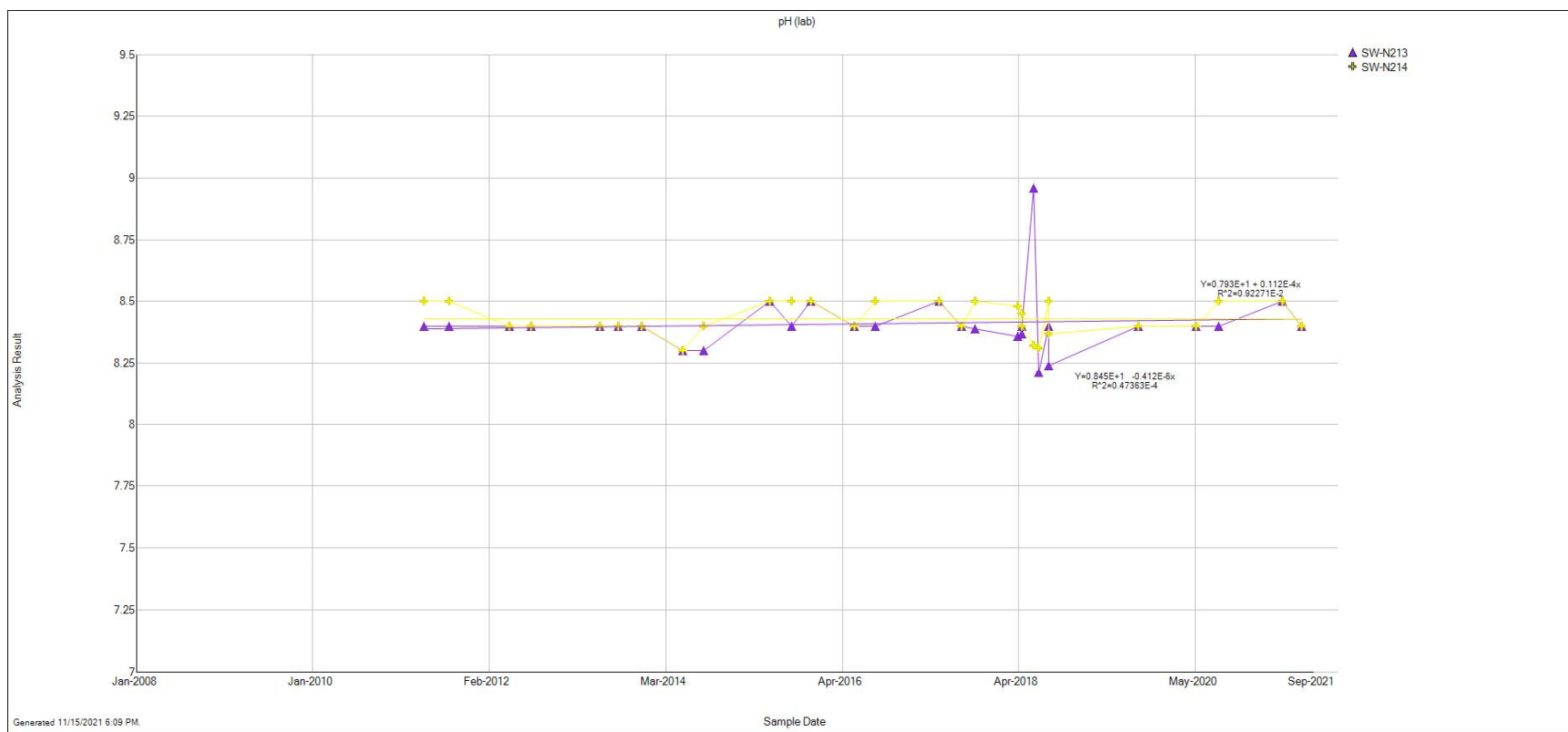


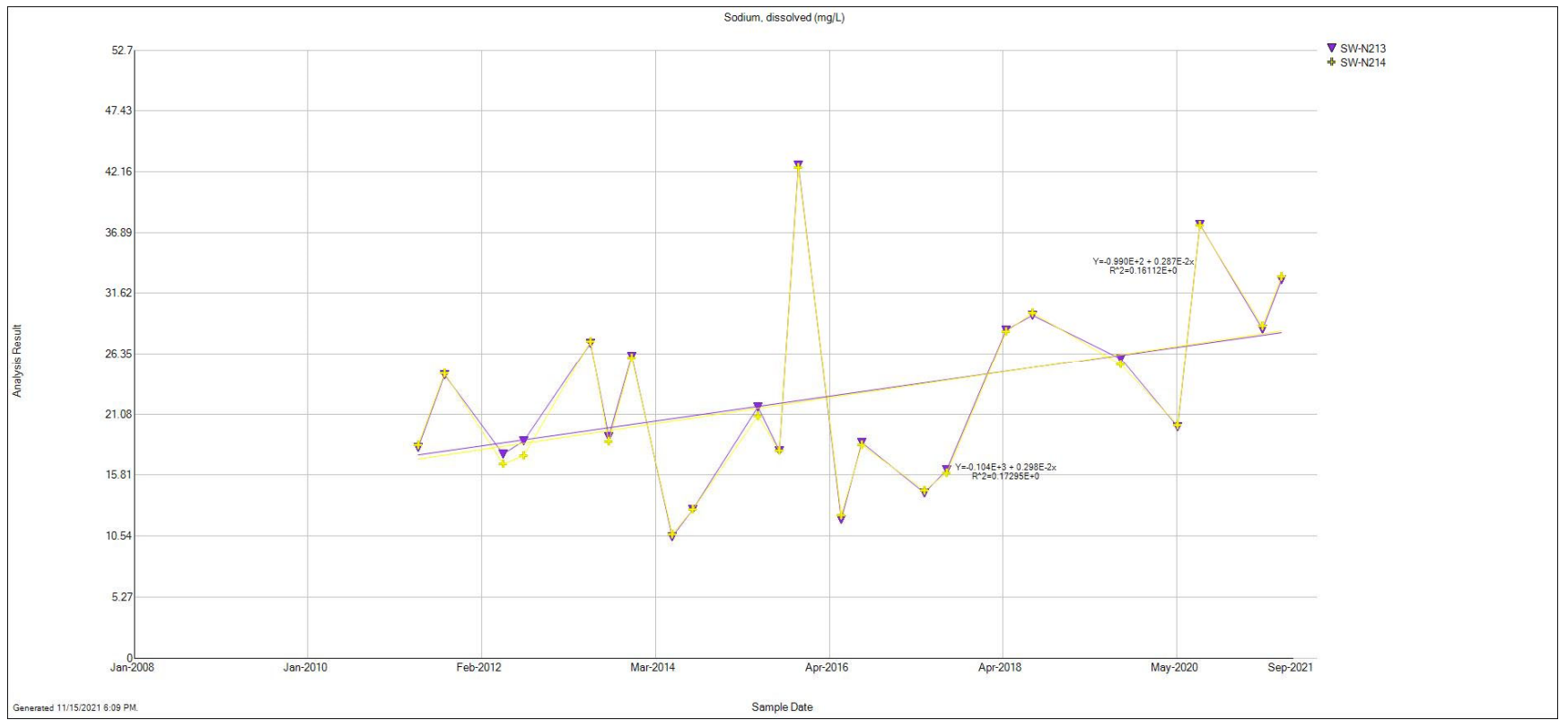


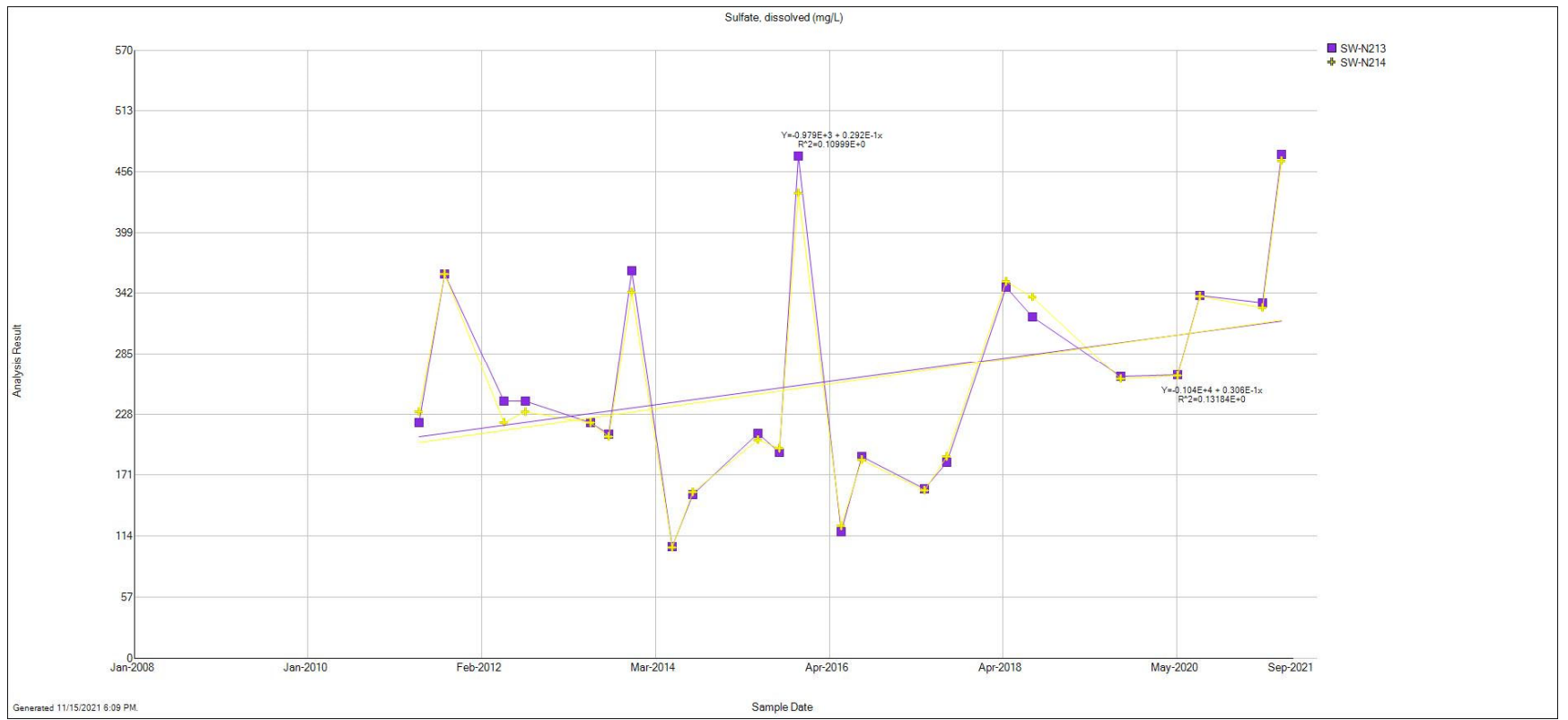


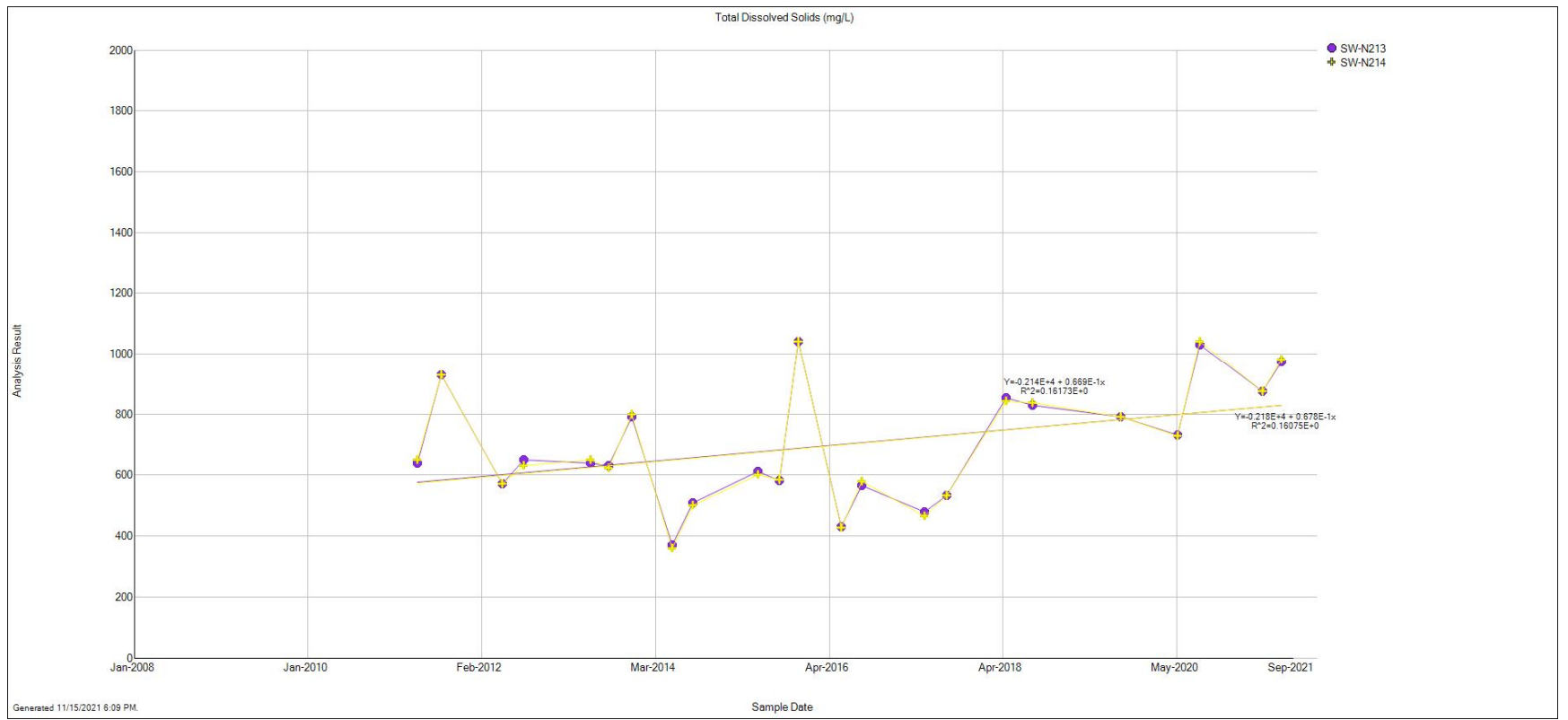












Appendix 3
Groundwater Monitoring Data

New Horizon North Mine**Analysis Results by Date (column) and Parameter (row)****Date Range: 10/01/2020 to 09/30/2021****Well: GW-N50**

	12/10/2020	3/15/2021	5/27/2021	9/15/2021
Al, diss, mg/L	<0.05	<0.05	<0.05	<0.05
Alkalinity, lab, mg/L	361	393	523	514
As, diss, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
Ca, diss, mg/L	240	236	304	291
Cation-Anion Bal, %	0.0	4.3	1.4	-1.5
Cl, diss, mg/L	24.4	22.2	42.0	34.0
CO3, mg/L	<2.0	<2.0	<2.0	<2.0
Fe, diss, mg/L	0.154	0.0928	0.0232	0.368
HCO3, mg/L	361	393	523	514
Hg, diss, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
K, diss, mg/L	16.7	16.1	21.6	20.3
Mg, diss, mg/L	116	108	170	150
Mn, diss, mg/L	1.10	1.12	0.609	0.634
Mo, diss, mg/L	<0.02	<0.02	<0.02	<0.02
Na, diss, mg/L	69.8	66.3	106.	98.9
NH3 as N, diss, mg/L	1.42	0.977	1.55	1.74
NO2, diss, mg/L	0.0260	0.0300	0.0120	<0.0
NO3, diss, mg/L	0.960	1.29	0.380	0.502
Orthophosphate, diss, mg/L	0.0434	<0.03	<0.01	0.04
Pb, diss, mg/L	<0.0001	<0.0001	0.000270	<0.0001
pH (field), pH	7.5	6.7	7	6.7
pH (lab), pH	7.9	8	7.9	8
Se, diss, mg/L	<0.0001	<0.0001	<0.0002	<0.0002
SO4, diss, mg/L	830	655	1080	1030
Spec. Cond. (lab), umhos/cm	993	1950	2300	2530
Spec. Cond. (field), umhos/cm	1500	2146	2570	2384
TDS, mg/L	1600	1640	2300	2130
Zn, diss, mg/L	<0.02	<0.02	<0.02	<0.02

New Horizon North Mine**Analysis Results by Date****Date Range: 10/01/2020 to 09/30/2021****Well: GW-N51**

	12/8/2020	3/15/2021	5/27/2021	9/15/2021
Al, diss, mg/L	0.420	0.138	<0.05	0.113
Alkalinity, lab, mg/L	20.2	45.7	73.3	39.5
As, diss, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
Ca, diss, mg/L	82.4	66.8	116	93.1
Cation-Anion Bal, %	1	-0.7	0	0
Cl, diss, mg/L	5.69	6.16	9.87	7.36
CO3, mg/L	<2.0	<2.0	<2.0	<2.0
Fe, diss, mg/L	12.9	1.61	5.31	10.7
HCO3, mg/L	20.2	45.7	73.3	39.5
Hg, diss, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
K, diss, mg/L	5.74	5.34	6.03	6.16
Mg, diss, mg/L	42.3	29.8	49.6	43.5
Mn, diss, mg/L	0.609	0.515	1.02	0.774
Mo, diss, mg/L	<0.02	<0.02	<0.02	<0.02
Na, diss, mg/L	23.1	20.2	26.8	25.2
NH3 as N, diss, mg/L	3.37	3.48	3.18	3.55
NO2, diss, mg/L	<0.01	<0.01	0.0120	<0.01
NO3, diss, mg/L	<0.02	0.590	<0.02	<0.02
Orthophosphate, diss, mg/L	0.0220	<0.03	0.0190	0.0527
Pb, diss, mg/L	0.000120	0.000160	<0.0001	<0.0001
pH (field), pH	6.4	5.8	6.3	5.8
pH (lab), pH	6.2	7	7.1	6.7
Se, diss, mg/L	<0.002	<0.0001	<0.0001	<0.0001
SO4, diss, mg/L	431	296	503	443
Spec. Cond. (lab), umhos/cm	705	714	1100	993
Spec. Cond. (field), umhos/cm	927	743	1053	976
TDS, mg/L	748	538	872	728
Zn, diss, mg/L	0.546	0.308	0.335	0.477

New Horizon North Mine**Analysis Results by Date (column) and Parameter (row)****Date Range: 10/01/2020 to 09/30/2021****Well: GW-N52**

	12/7/2020	3/15/2021	5/27/2021	9/15/2021
Al, diss, mg/L	<0.05	<0.05	<0.05	<0.05
Alkalinity, lab, mg/L	226	274	195	187
As, diss, mg/L	<0.0002	0.000620	<0.0002	0.000320
Ca, diss, mg/L	153	166.	152	134
Cation-Anion Bal, %	-1.6	0	0.5	-1.8
Cl, diss, mg/L	7.96	5.68	5.16	4.67
CO3, mg/L	<2.0	<2.0	<2.0	<2.0
Fe, diss, mg/L	0.00760	0.0541	0.00740	0.0133
HCO3, mg/L	226	274	195	187
Hg, diss, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
K, diss, mg/L	0.730	2.46	1.00	0.920
Mg, diss, mg/L	17.5	39.1	17.8	14.2
Mn, diss, mg/L	0.0190	1.43	<0.01	<0.01
Mo, diss, mg/L	<0.02	<0.02	<0.02	<0.02
Na, diss, mg/L	8.30	14.6	7.23	7.52
NH3 as N, diss, mg/L	<0.05	1.19	<0.05	<0.05
NO2, diss, mg/L	<0.01	<0.01	<0.01	<0.01
NO3, diss, mg/L	<0.02	0.0900	0.120	0.0460
Orthophosphate, diss, mg/L	0.01	<0.03	0.0100	0.0372
Pb, diss, mg/L	0.00101	0.000100	<0.001	<0.001
pH (field), pH	7.1	6.8	7.5	6.9
pH (lab), pH	7.7	7.9	7.8	8
Se, diss, mg/L	0.000280	0.000290	0.000850	0.000890
SO4, diss, mg/L	240	281	248	219
Spec. Cond. (lab), umhos/cm	646	1060	838	776
Spec. Cond. (field), umhos/cm	821	1131	787	769
TDS, mg/L	638	792	624	546
Zn, diss, mg/L	0.0390	<0.02	<0.02	<0.02

New Horizon North Mine**Analysis Results by Date (column) and Parameter (row)****Date Range: 10/01/2020 to 09/30/2021****Well: GW-N53**

	12/8/2020	3/10/2021	5/27/2021	9/15/2021
Al, diss, mg/L	<0.05	<0.05	<0.05	<0.05
Alkalinity, lab, mg/L	521	544	540	532
As, diss, mg/L	0.000510	0.000680	0.000800	0.000610
Ca, diss, mg/L	322	328	329	334
Cation-Anion Bal, %	0.000	-1.100	-4.100	-1.000
Cl, diss, mg/L	64.9	67.3	70.0	71.2
CO3, mg/L	<2	<2	<2	<2
Fe, diss, mg/L	0.0321	0.0147	<0.014	0.0452
HCO3, mg/L	521	544	540	532
Hg, diss, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
K, diss, mg/L	34.1	33.6	33.7	35.3
Mg, diss, mg/L	273	267	268	271
Mn, diss, mg/L	0.0600	0.0660	0.0380	0.0500
Mo, diss, mg/L	<0.02	<0.04	<0.04	<0.02
Na, diss, mg/L	174	177	172	188
NH3 as N, diss, mg/L	2.43	2.82	2.86	2.65
NO2, diss, mg/L	0.202	0.193	0.210	0.194
NO3, diss, mg/L	0.0900	0.180	0.140	0.194
Orthophosphate, diss, mg/L	0.0130	<0.03	0.0200	0.0682
Pb, diss, mg/L	<0.0001	<0.0001	<0.0001	0.000310
pH (field), pH	7.8	7	7.1	7
pH (lab), pH	7.9	7.9	8	8.1
Se, diss, mg/L	<0.002	0.000210	<0.002	0.000220
SO4, diss, mg/L	1660	1670	1810	1750
Spec. Cond. (lab), umhos/cm	1870	3350	3560	3640
Spec. Cond. (field), umhos/cm	3470	3616	3415	3497
TDS, mg/L	3230	3200	3270	3240
Zn, diss, mg/L	<0.02	<0.04	<0.04	<0.02

New Horizon North Mine**Analysis Results by Date (column) and Parameter (row)****Date Range: 10/01/2020 to 09/30/2021****Well: GW-N54**

	12/8/2020	3/10/2021	5/27/2021	9/14/2021
Al, diss, mg/L	<0.05	<0.05	<0.05	<0.05
Alkalinity, lab, mg/L	510	506	500	498
As, diss, mg/L	<0.0002	<0.001	<0.001	<0.001
Ca, diss, mg/L	446	448	457	471
Cation-Anion Bal, %	0.000	0.700	-3.400	-7.500
Cl, diss, mg/L	71.8	75.9	75.9	65.7
CO3, mg/L	<2	<2	<2	<2
Fe, diss, mg/L	0.0410	0.206	<0.0	0.154
HCO3, mg/L	510	506	500	498
Hg, diss, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
K, diss, mg/L	27.3	26.1	27.1	28.4
Mg, diss, mg/L	504	480	493	510
Mn, diss, mg/L	0.182	0.216	0.171	0.189
Mo, diss, mg/L	<0.02	<0.04	<0.04	<0.02
Na, diss, mg/L	172	168	167	180
NH3 as N, diss, mg/L	2.43	2.59	<0.05	2.80
NO2, diss, mg/L	0.0420	<0.01	0.0120	0.0120
NO3, diss, mg/L	0.440	0.120	0.140	0.0410
Orthophosphate, diss, mg/L	<0.01	<0.03	0.0140	<0.01
Pb, diss, mg/L	<0.0001	<0.0005	<0.0005	0.000510
pH (field), pH	7.7	7.2	7.0	7.0
pH (lab), pH	7.9	7.8	8.0	7.9
Se, diss, mg/L	<0.0005	<0.0005	<0.0005	0.000640
SO4, diss, mg/L	2830	2710	3020	3510
Spec. Cond. (lab), umhos/cm	1870	4400	4770	4940
Spec. Cond. (field), umhos/cm	4320	4980	4522	4860
TDS, mg/L	4740	4740	4870	4760
Zn, diss, mg/L	<0.02	0.0550	<0.04	<0.02

New Horizon North Mine**Analysis Results by Date (column) and Parameter (row)****Date Range: 10/01/2020 to 09/30/2021****Well: GW-N55**

	12/8/2020	3/10/2021	5/27/2021	9/14/2021
Al, diss, mg/L	<0.05	<0.05	<0.05	<0.05
Alkalinity, lab, mg/L	743	732	716	748
As, diss, mg/L	<0.002	<0.002	<0.002	<0.002
Ca, diss, mg/L	403	427	430	415
Cation-Anion Bal, %	1.9	4.5	61.4	-3.5
Cl, diss, mg/L	57.1	164.	173	145
CO3, mg/L	<2	<2	<2	<2
Fe, diss, mg/L	0.0330	0.411	<0.07	0.0754
HCO3, mg/L	743	732	716	748
Hg, diss, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
K, diss, mg/L	32.8	32.6	32.8	30.7
Mg, diss, mg/L	2850	2540	2470	2560
Mn, diss, mg/L	0.870	0.762	0.515	1.17
Mo, diss, mg/L	<0.02	<0.02	<0.02	<0.02
Na, diss, mg/L	288	296	289	292
NH3 as N, diss, mg/L	2.43	2.52	<0.05	2.87
NO2, diss, mg/L	<0.01	<0.01	0.0150	<0.01
NO3, diss, mg/L	0.230	0.410	0.370	0.183
Orthophosphate, diss, mg/L	<0.01	<0.03	0.0140	<0.01
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001
pH (field), pH	7.5	7.1	7.0	7.1
pH (lab), pH	7.8	7.7	7.9	7.9
Se, diss, mg/L	<0.001	<0.001	<0.001	0.00131
SO4, diss, mg/L	11,500	9,720	1,820	11,600
Spec. Cond. (lab), umhos/cm	2,550	10,000	11,700	12,000
Spec. Cond. (field), umhos/cm	11,680	11,940	10,850	11,190
TDS, mg/L	16,200	15,400	14,800	13,400
Zn, diss, mg/L	<0.02	<0.02	<0.02	<0.02

New Horizon North Mine**Analysis Results by Date (column) and Parameter (row)****Date Range: 10/01/2020 to 09/30/2021****Well: GW-N56**

	12/2/2020	3/9/2021	5/25/2021	9/14/2021
Al, diss, mg/L	<0.05	<0.05	<0.05	<0.05
Alkalinity, lab, mg/L	600	605	608	622
As, diss, mg/L	0.000260	<0.0001	<0.0001	<0.0001
Ca, diss, mg/L	433	502	524	499
Cation-Anion Bal, %	-2.3	-2.0	-3.1	-1.9
Cl, diss, mg/L	42.8	44.6	40.2	38.7
CO3, mg/L	<2	<2	<2	<2
Fe, diss, mg/L	0.0849	<0.035	<0.035	0.0657
HCO3, mg/L	600	605	608	622
Hg, diss, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
K, diss, mg/L	29.0	30.4	30.4	30.2
Mg, diss, mg/L	435	493	522	526
Mn, diss, mg/L	0.580	0.630	0.798	0.753
Mo, diss, mg/L	<0.02	<0.02	<0.02	<0.02
Na, diss, mg/L	152	156	159	163
NH3 as N, diss, mg/L	2.18	2.87	3.19	2.88
NO2, diss, mg/L	<0.01	<0.01	<0.01	<0.01
NO3, diss, mg/L	<0.02	<0.02	<0.02	<0.02
Orthophosphate, diss, mg/L	0.0260	0.0403	0.0130	0.0130
Pb, diss, mg/L	<0.0001	<0.0005	<0.0005	<0.0005
pH (field), pH	7.1	6.9	6.9	6.7
pH (lab), pH	7.7	7.8	7.8	7.9
Se, diss, mg/L	0.000100	<0.0005	<0.0005	<0.0005
SO4, diss, mg/L	2600	2980	3260	3100
Spec. Cond. (lab), umhos/cm	2930	4440	4890	5000
Spec. Cond. (field), umhos/cm	4390	4738	4654	4860
TDS, mg/L	4760	4680	5040	4770
Zn, diss, mg/L	<0.02	<0.02	<0.02	<0.02

New Horizon North Mine**Analysis Results by Date (column) and Parameter (row)****Date Range: 10/01/2020 to 09/30/2021****Well: GW-N57**

	11/30/2020	3/8/2021	5/25/2021	9/14/2021
Al, diss, mg/L	<0.25	<0.25	<0.25	<0.25
Alkalinity, lab, mg/L	612	614	643	632
As, diss, mg/L	<0.01	<0.01	<0.01	<0.01
Ca, diss, mg/L	511	527	546	513
Cation-Anion Bal, %	0.0	-0.6	-3.5	0.0
Cl, diss, mg/L	31.4	33.9	32.3	30.9
CO3, mg/L	<2	<2	<2	<2
Fe, diss, mg/L	0.122	<0.035	<0.035	0.349
HCO3, mg/L	612	614	643	632
Hg, diss, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
K, diss, mg/L	25.5	27.9	28.9	28.6
Mg, diss, mg/L	496	546	568	570
Mn, diss, mg/L	0.616	0.693	0.722	0.703
Mo, diss, mg/L	<0.01	<0.01	<0.01	<0.01
Na, diss, mg/L	146	151	157	161
NH3 as N, diss, mg/L	3.42	3.16	3.33	2.79
NO2, diss, mg/L	<0.01	<0.01	<0.01	<0.01
NO3, diss, mg/L	<0.02	<0.02	0.140	<0.02
Orthophosphate, diss, mg/L	<0.01	0.0496	<0.01	<0.01
Pb, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005
pH (field), pH	6.9	6.7	6.9	6.8
pH (lab), pH	7.7	7.7	7.8	7.9
Se, diss, mg/L	<0.0005	0.000800	<0.0005	<0.0005
SO4, diss, mg/L	2890	3160	3510	3230
Spec. Cond. (lab), umhos/cm	3260	4800	5050	5240
Spec. Cond. (field), umhos/cm	4910	5131	4747	5070
TDS, mg/L	4950	5170	5250	5240
Zn, diss, mg/L	<0.02	0.188	<0.02	<0.02

New Horizon North Mine**Analysis Results by Date (column) and Parameter (row)****Date Range: 10/01/2020 to 09/30/2021****Well: GW-N58**

	11/30/2020	3/9/2021	5/25/2021	9/14/2021
Al, diss, mg/L	<0.25	<0.25	<0.25	<0.25
Alkalinity, lab, mg/L	552	566	574	575
As, diss, mg/L	<0.001	<0.001	<0.001	<0.001
Ca, diss, mg/L	444	461	475	462
Cation-Anion Bal, %	1.7	1.1	1.0	-1.1
Cl, diss, mg/L	36.3	40.7	38.0	36.0
CO3, mg/L	<2	<2	<2	<2
Fe, diss, mg/L	1.61	1.10	0.516	0.592
HCO3, mg/L	552	566	574	575
Hg, diss, mg/L	<0.0002	<0.0002	<0.0002	<0.0002
K, diss, mg/L	21.8	24.3	25.0	24.2
Mg, diss, mg/L	721	795	832	701
Mn, diss, mg/L	0.925	1.01	1.08	0.896
Mo, diss, mg/L	<0.1	<0.1	<0.1	<0.1
Na, diss, mg/L	161	159	160	166
NH3 as N, diss, mg/L	2.17	2.08	2.32	1.87
NO2, diss, mg/L	<0.01	<0.01	<0.01	<0.01
NO3, diss, mg/L	<0.02	<0.02	<0.02	<0.02
Orthophosphate, diss, mg/L	<0.01	0.0600	0.0130	<0.01
Pb, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005
pH (field), pH	6.9	6.6	6.6	6.7
pH (lab), pH	7.6	7.7	7.7	7.8
Se, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005
SO4, diss, mg/L	3540	3880	4060	3720
Spec. Cond. (lab), umhos/cm	3460	5420	5910	5570
Spec. Cond. (field), umhos/cm	5340	5915	5828	5423
TDS, mg/L	5790	6180	6340	5700
Zn, diss, mg/L	<0.02	<0.02	<0.02	<0.02

Appendix 4
Groundwater Monitoring Graphs

