October 27, 2022

EWS 13
Groundwater Monitoring Report
Q3 2022

Prepared for:

Expedition Water Solutions
2015 Clubhouse Drive, Suite 201
Greeley, CO 80634
970.381.5005

1301 Academy Ct.
Fort Collins, CO 80524

www.cgrs.com
800.288.2657

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- Figures
  - Site Location Map
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- Table 1 – Groundwater Elevation and Analytical Data
- Attachment A – Laboratory Report and Chain of Custody

1.0 Introduction

This report documents monitoring activities performed by CGRS, Inc. (CGRS) at the Expedition Water Solutions (EWS) EWS 13 Class II disposal facility. The facility is located at 23360 County Road 54, Greeley, Weld County, Colorado, as depicted in the Site Location Map.

1.1 Facility Overview

The facility was constructed in 2009 and provides services for the oil and gas industry. Operations include the collection, storage, treatment, and injection of produced water into an injection well for disposal. The facility design consists of an office, pump house, concrete unloading pad, concrete vault, one Class II injection well, and a concrete secondary containment that houses 9 aboveground storage tanks (ASTs) for the treatment of produced water and storage of recovered oil.

1.2 Scope of Work

Quarterly groundwater monitoring was performed on January 27, 2022. Monitoring activities consisted of collecting groundwater level measurements, measuring in-situ water quality parameters, and collecting water quality samples for laboratory analysis.

2.0 Groundwater Monitoring

2.1 Activities

On September 20, 2022, CGRS conducted groundwater monitoring at the EWS 13 facility. Depth to water was measured in monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7. Depth to water measurements were used to calculate groundwater elevation and well-specific purge volumes. Water quality samples were obtained from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7, and in-situ field parameters consisting of temperature, specific conductance, dissolved oxygen, pH, and oxidation-reduction potential (ORP) were measured and documented after sampling each monitoring well.

Samples collected on September 20, 2022, were submitted to eAnalytics in Loveland, Colorado under chain-of-custody protocol for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), total dissolved solids (TDS), chloride, and sulfate. Laboratory analytical results and chain-of-custody documentation are included in Attachment A, summarized with historical data in Table 1, and depicted in the Groundwater Sample Location Map.

2.2 Results

Depth to groundwater varied between 3.65 feet below top of casing (TOC) in monitoring well MW-7 to 7.2 feet below TOC in monitoring well MW-3 To determine relative groundwater elevation, depth to groundwater was subtracted from surveyed reference elevations, as shown in Table 1. The inferred groundwater flow direction is to the south-southeast at a calculated hydraulic gradient of 6.46E-04 ft/ft, as measured between monitoring wells MW-7 and MW-2. Inferred water table elevation contours are illustrated in the Groundwater Elevation Map.

A review of groundwater analytical data indicates that all BTEX analytes from the groundwater quality samples submitted for analysis were reported to be below the laboratory reporting limit and Colorado Oil and Gas

Conservation Commission (COGCC) maximum contaminant level (MCL). Inorganic analyte concentrations reported for each monitoring well represent normal background water quality conditions historically observed at this facility.

3.0 Conclusion

CGRS will continue the quarterly monitoring program, which will consist of obtaining groundwater level measurements and in-situ field parameters and collecting water quality samples from groundwater monitoring wells. The next quarterly monitoring event is scheduled for December 2022. If you have any questions regarding this report or the project itself, please contact Ms. Drezden Kinnaird at dkinnaird@cgrs.com.

Prepared by:

Jarred King
Staff Scientist

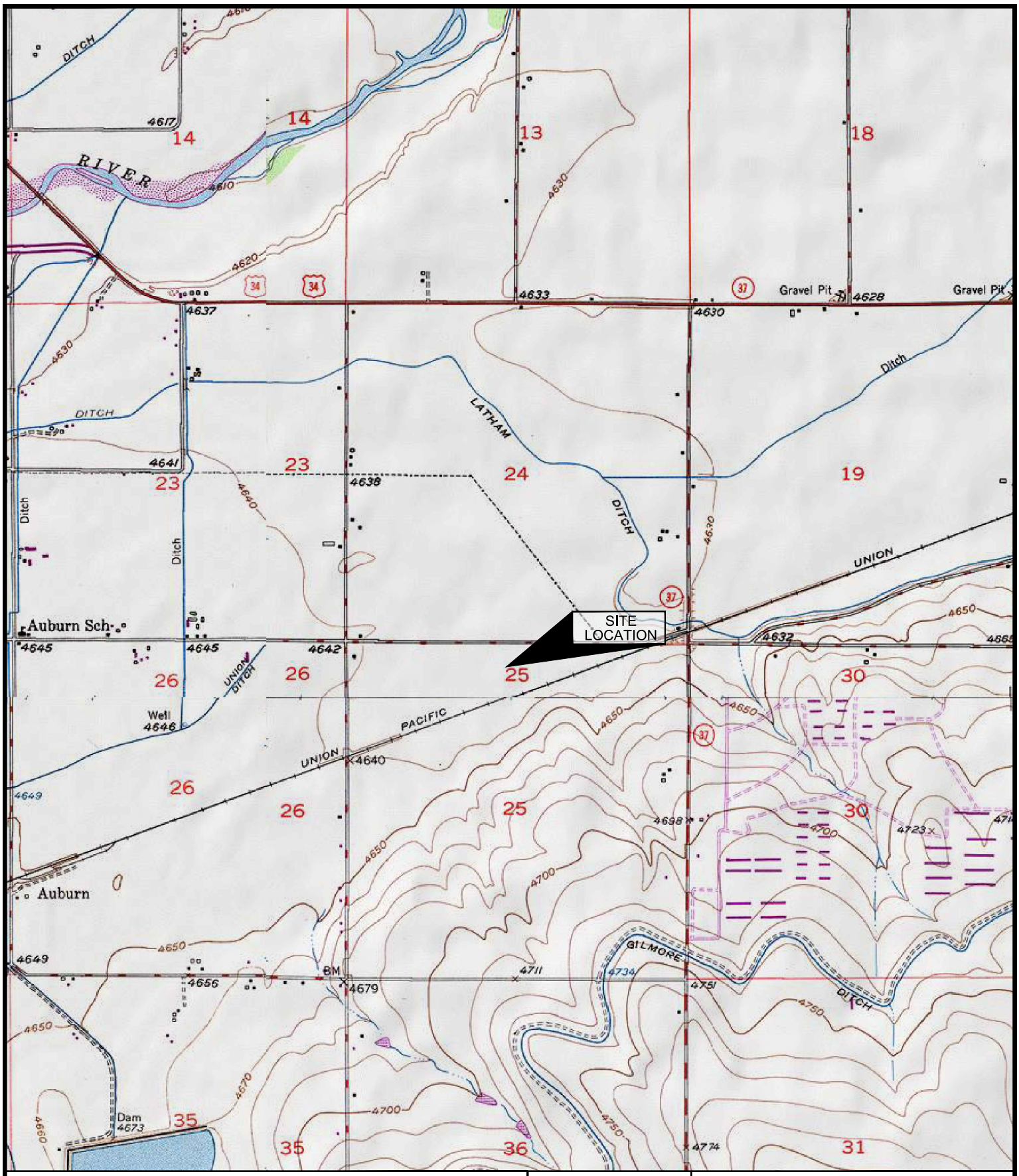
Reviewed by:

Drezden Kinnaird, REM
Environmental Scientist
Energy Services Division Manager

Recipients:
Ben Frissell, Weld County Department of Public Health & Environment – bfrissell-durley@weldgov.com
Ryan Fernandez, Weld County Department of Public Health & Environment – rfernandez@weldgov.com
Dave Gage, Expedition Water Solutions – dgage@expedition-water.com
Jim Goddard, Expedition Water Solutions – jgoddard@expedition-water.com

Figures

Site Location Map
Groundwater Elevation Map
Groundwater Sample Location Map



COLORADO

■ QUADRANGLE LOCATION

0 1000 2000

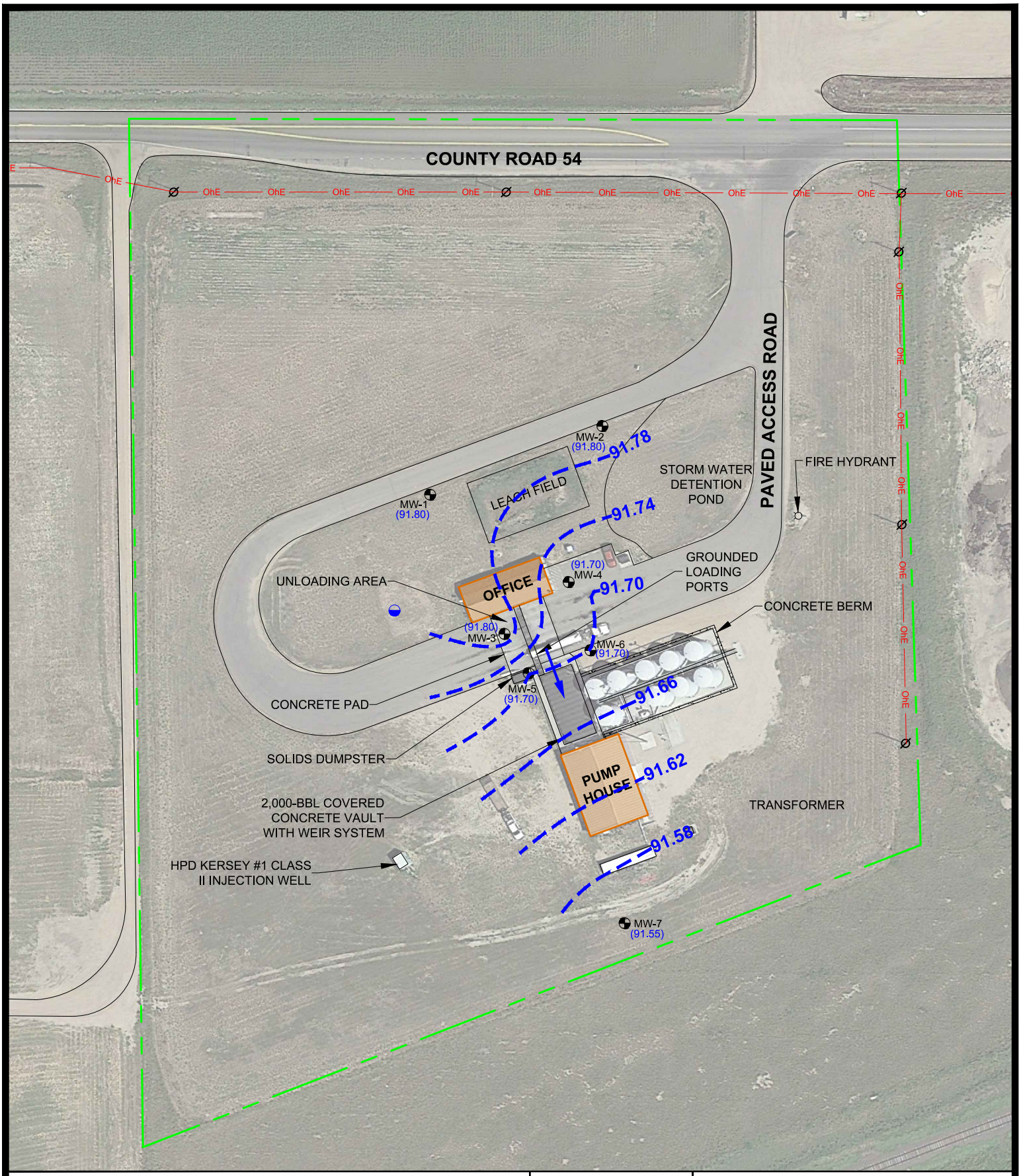
SCALE IN FEET

SITE LOCATION MAP

EXPEDITION WATER SOLUTIONS
EWS #13
23360 COUNTY ROAD 54
GREELEY, COLORADO 80631

PROJECT:	DRAFT:
1-12456-18304aa	CLB
DATE:	REVIEW:
01/28/2020	JAA

CGRS SOLUTIONS DELIVERED



LEGEND

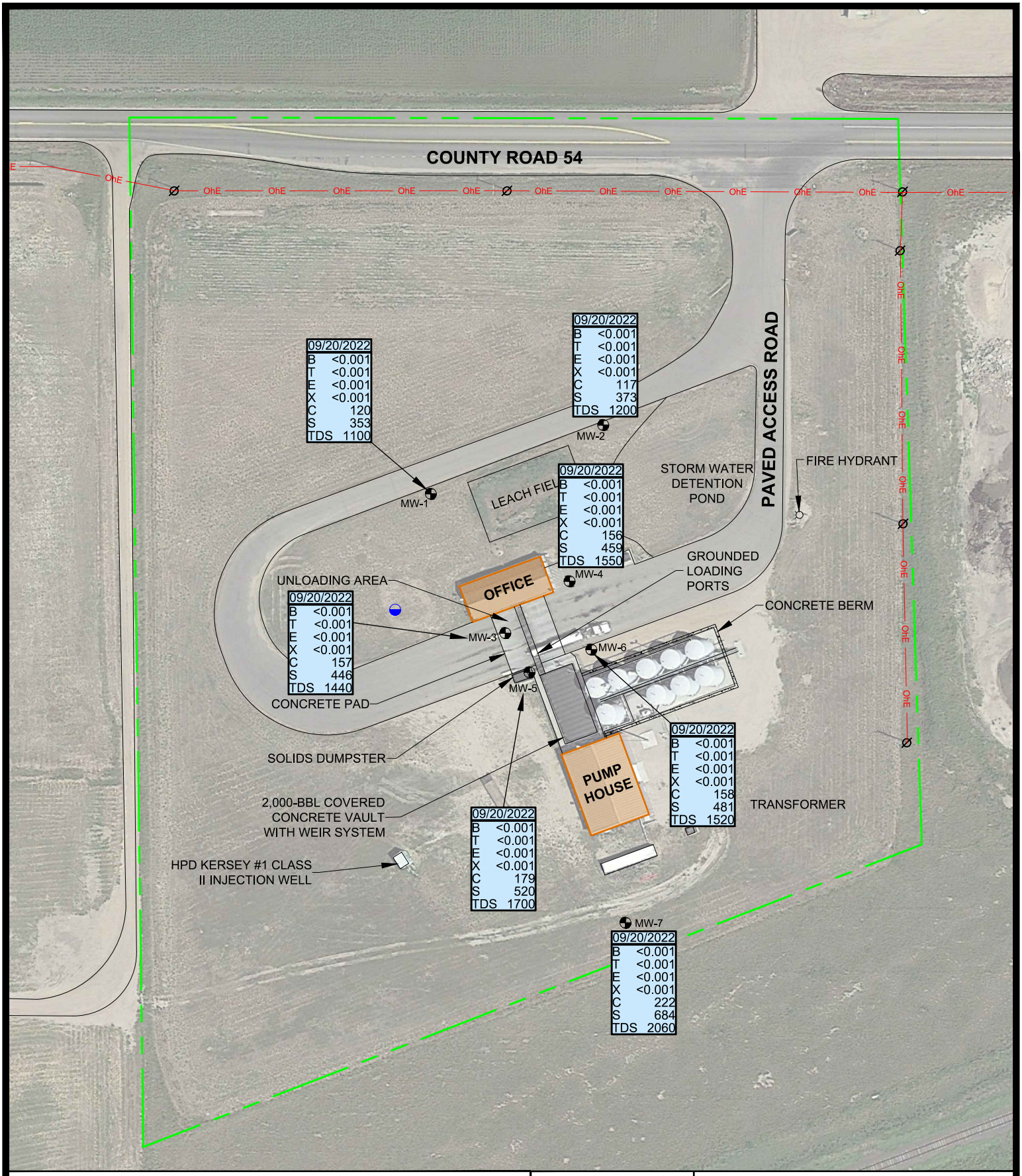
- MW-1 MONITORING WELL
- DOMESTIC WATER WELL
- (87.22) GROUNDWATER ELEVATION (FEET)
- OhE OVERHEAD ELECTRIC
- APPROXIMATE PROPERTY BOUNDARY
- GROUNDWATER ELEVATION CONTOUR
- INFERRED FLOW DIRECTION
- UTILITY POLE

0 20 40 60 80 100
SCALE IN FEET

GROUNDWATER ELEVATION MAP
September 20, 2022
EXPEDITION WATER SOLUTIONS
EWS #13
23360 COUNTY ROAD 54
GREELEY, COLORADO 80631

PROJECT:	DRAFT:
20673	CLB
DATE:	REVIEW:
10/20/2022	

CGRS SOLUTIONS DELIVERED



LEGEND

- MW-1 MONITORING WELL
- DOMESTIC WATER WELL
- UTILITY POLE
- OhE OVERHEAD ELECTRIC
- APPROXIMATE PROPERTY BOUNDARY

SAMPLE DATE	
B	BENZENE (mg/L)
T	TOLUENE (mg/L)
E	ETHYLBENZENE (mg/L)
X	TOTAL XYLENES (mg/L)
C	CHLORIDE (mg/L)
S	SULFATES (mg/L)
TDS	TOTAL DISSOLVED SOLIDS (mg/L)

NOTE: **BOLD** VALUES INDICATE CONCENTRATION EXCEEDS THE APPLICABLE REGULATORY GUIDELINES

0 20 40 60 80 100
SCALE IN FEET

GROUNDWATER SAMPLE LOCATION MAP
September 20, 2022
EXPEDITION WATER SOLUTIONS
EWS #13
23360 COUNTY ROAD 54
GREELEY, COLORADO 80631

PROJECT:	DRAFT:
20673	CLB
DATE:	REVIEW:
10/20/2022	

CGRS SOLUTIONS DELIVERED

Table 1

Groundwater Elevation and Analytical Data

Groundwater Elevation and Analytical Data
Groundwater Monitoring Report
Expedition Water Solutions - EWS #13
23360 County Road 54, Greeley, CO 80631

Sample ID	Sample Date	Reference Elevation (ft)	Depth To Water (ft)	Groundwater Elevation (ft)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Xylenes (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Temperature (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)
COGCC MCL	**-**	**-**	**-**	**-**	**0.005**	**1**	**0.7**	**10**	**1.25 x BG**	**1.25 x BG**	**1.25 x BG**	**-**	**-**	**-**	**-**	**-**
MW-1	1/26/2016	96.10	5.66	90.44	<0.001	<0.001	<0.001	<0.001	298	733	2,280	10.13	2,690		7.18	
MW-1	7/26/2016	96.10	4.24	91.86	<0.001	<0.001	<0.001	<0.001	308	845	2,530	17.01	3,322		7.15	
MW-1	1/30/2017	96.10	6.75	89.35	<0.001	<0.001	<0.001	<0.001	340	1,050	1,830	11.74	3,039		7.06	
MW-1	7/24/2017	96.10	4.24	91.86	<0.001	<0.001	<0.001	<0.002	225	617	1,740	16.88	3,289		7.10	
MW-1	1/29/2018	96.10	6.30	89.80	<0.001	<0.001	<0.001	<0.002	382	993	2,320	9.62	3,033		8.50	
MW-1	7/24/2018	96.10	4.95	91.15	<0.001	<0.001	<0.001	<0.002	373	900	1,660	17.95	2,636		7.81	
MW-1	1/30/2019	96.10	6.73	89.37	<0.001	<0.001	<0.001	<0.002	1,280	3,410	1,480	9.40	3,023		7.45	
MW-1	7/29/2019	96.10	5.01	91.09	<0.001	<0.001	<0.001	<0.002	274	670	1,440	16.00	2,938		5.27	
MW-1	1/8/2020	96.10	5.97	90.13	<0.001	<0.001	<0.001	<0.001	321	802	2,250	10.46	3,194	0.38	7.09	151.1
MW-1	4/28/2020	96.10	9.24	86.86	<0.001	<0.001	<0.001	<0.001	342	821	2,140	9.24	3,388	0.31	7.05	128.5
MW-1	7/15/2020	96.10	7.43	88.67	<0.001	<0.001	<0.001	<0.001	369	923	2,310	16.51	2,637	3.85	7.33	145.9
MW-1	10/13/2020	96.10	4.38	91.72	<0.001	<0.001	<0.001	<0.001	223	548	1,580	15..30	2,599	4.15	7.17	114.2
MW-1	1/13/2021	96.10	6.97	89.13	<0.001	<0.001	<0.001	<0.001	296	715	1,980	10.75	2,753	2.47	7.26	121.6
MW-1	4/15/2021	96.10	9.36	86.74	<0.001	<0.001	<0.001	<0.001	309	753	1,980	7.76	2,671	2.65	7.01	197.3
MW-1	7/8/2021	96.10	7.33	88.77	<0.001	<0.001	<0.001	<0.001	338	927	2,210	15.44	2,967	4.86	7.25	115.2
MW-1	11/30/2021	96.10	5.00	91.10	<0.00100	<0.00100	<0.00100	<0.00100	295	685	1,910	12.68	2,821.6	5.20	7.21	94.7
MW-1	1/27/2022	96.10	6.84	89.26	<0.00100	<0.00100	<0.00100	<0.00100	460	728	1,920	11.05	2,359.5	6.07	8.26	-60.4
MW-1	4/21/2022	96.10	8.88	87.22	<0.00100	<0.00100	<0.00100	<0.00100	312	778	1,950	10.16	2,664.3	5.94	8.29	-9.9
MW-1	9/20/2022	96.10	4.3	91.80	<0.001	<0.001	<0.001	<0.001	120	353	1,100	18.95	1,619.5	5.95	7.53	218.3
MW-2	1/26/2016	96.40	6.18	90.22	<0.001	<0.001	<0.001	<0.001	330	801	2,250	10.21	2,780		7.03	
MW-2	7/26/2016	96.40	4.60	91.80	<0.001	<0.001	<0.001	<0.001	292	743	2,330	14.80	3,020		7.14	
MW-2	1/30/2017	96.40	7.31	89.09	<0.001	<0.001	<0.001	<0.001	379	1,200	1,890	11.44	3,152		7.01	
MW-2	7/24/2017	96.40	4.49	91.91	<0.001	<0.001	<0.001	<0.002	228	593	1,780	18.37	1,618		7.13	
MW-2	1/29/2018	96.40	6.86	89.54	<0.001	<0.001	<0.001	<0.002	402	1,090	2,560	10.86	3,322		8.77	
MW-2	7/24/2018	96.40	5.24	91.16	<0.001	<0.001	<0.001	<0.002	406	967	1,720	17.18	2,692		7.74	
MW-2	1/30/2019	96.40	4.27	92.13	<0.001	<0.001	<0.001	<0.002	1,220	3,230	1,500	10.57	3,114		7.43	
MW-2	7/29/2019	96.40	5.40	91.00	<0.001	<0.001	<0.001	<0.002	299	692	1,450	15.32	3,028		5.45	
MW-2	1/8/2020	96.40	6.51	89.89	<0.001	<0.001	<0.001	<0.001	322	851	2,410	11.06	3,302	1.95	7.06	132.0
MW-2	4/28/2020	96.40	9.15	87.25	<0.001	<0.001	<0.001	<0.001	355	831	2,120	9.84	3,475	3.06	6.90	137.5
MW-2	7/15/2020	96.40	7.83	88.57	<0.001	<0.001	<0.001	<0.001	380	953	2,320	16.73	2,766	5.64	7.44	151.0
MW-2	10/13/2020	96.40	4.83	91.57	<0.001	<0.001	<0.001	<0.001	156	411	1,220	15.71	1,922	4.76	7.21	114.5
MW-2	1/13/2021	96.40	7.52	88.88	<0.001	<0.001	<0.001	<0.001	306	749	2,080	11.40	2,986	5.28	7.19	115.8
MW-2	4/15/2021	96.40	9.89	86.51	<0.001	<0.001	<0.001	<0.001	314	767	2,070	8.43	3,125	3.27	7.01	197.4
MW-2	7/8/2021	96.40	INA													
MW-2	11/30/2021	96.40	5.53	90.87	<0.00100	<0.00100	<0.00100	<0.00100	279	685	1,930	13.37	2,539.7	5.98	7.16	94.4
MW-2	1/27/2022	96.40	7.38	89.02	<0.00100	<0.00100	<0.00100	<0.00100	307	779	2,010	11.47	3,086.7	6.92	8.40	-61.9
MW-2	4/21/2022	96.40	9.40	87.00	<0.00100	<0.00100	<0.00100	<0.00100	326	845	2,090	10.64	1,788.8	9.03	8.19	-1.1
MW-2	9/20/2022	96.40	4.6	91.80	<0.001	<0.001	<0.001	<0.001	117	373	1,200	24.42	1,447.2	5.53	7.75	207.0
MW-3	1/26/2016	99.00	8.41	90.59	<0.001	<0.001	<0.001	<0.001	335	734	2,310	10.90	2,775		7.28	
MW-3	7/26/2016	99.00	7.14	91.86	<0.001	<0.001	<0.001	<0.001	298	758	2,410	14.39	3,157		7.10	
MW-3	1/30/2017	99.00	9.54	89.46	<0.001	<0.001	<0.001	<0.001	286	1,090	1,800	11.32	2,963		7.06	
MW-3	7/24/2017	99.00	7.20	91.80	<0.001	<0.001	<0.001	<0.002	235	592	1,800	14.20	3,147		7.07	
MW-3	1/29/2018	99.00	9.10	89.90	<0.001	<0.001	<0.001	<0.002	435	1,210	2,270	10.30	3,060		8.76	
MW-3	7/24/2018	99.00	7.78	91.22	<0.001	<0.001	<0.001	<0.002	382	902	1,690	15.15	2,479		7.67	
MW-3	1/30/2019	99.00	9.51	89.49	<0.001	<0.001	<0.001	<0.002	1,230	3,180	1,570	10.28	3,173		7.29	
MW-3	7/29/2019	99.00	7.99	91.01	<0.001	<0.001	<0.001	<0.002	248	620	1,140	13.62	2,938		7.32	
MW-3	1/8/2020	99.00	8.75	90.25	<0.001	<0.001	<0.001	<0.001	340	853	2,320	10.31	3,296	0.50	7.11	168.8
MW-3	4/28/2020	99.00	11.40	87.60	<0.001	<0.001	<0.001	<0.001	357	803	2,120	9.48	3,451	0.21	7.05	117.0
MW-3	7/15/2020	99.00	9.50	89.50	<0.001	<0.001	<0.001	<0.001	375	938	2,300	14.99	2,532	2.50	7.37	150.8
MW-3	10/13/2020	99.00	7.25	91.75	<0.001	<0.001	<0.001	<0.001	248	613	1,770	16.79	3,034	2.95	7.31	120.1
MW-3	1/13/2021	99.00	9.77	89.23	<0.001	<0.001	<0.001	<0.001	302	741	2,070	11.55	2,885	2.70	6.95	91.2

Groundwater Elevation and Analytical Data
Groundwater Monitoring Report
Expedition Water Solutions - EWS #13
23360 County Road 54, Greeley, CO 80631

Sample ID	Sample Date	Reference Elevation (ft)	Depth To Water (ft)	Groundwater Elevation (ft)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Xylenes (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Temperature (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)
COGCC MCL	**-**	**-**	**-**	**-**	**0.005**	**1**	**0.7**	**10**	**1.25 x BG**	**1.25 x BG**	**1.25 x BG**	**-**	**-**	**-**	**-**	**-**
MW-3	4/15/2021	99.00	12.13	86.87	<0.001	<0.001	<0.001	<0.001	318	762	2,000	8.84	3,113	2.09	7.07	178.0
MW-3	7/8/2021	99.00	10.30	88.70	<0.001	<0.001	<0.001	<0.001	325	821	2,070	14.52	2,878	4.18	7.29	112.1
MW-3	11/30/2021	99.00	7.90	91.10	<0.00100	0.00101	<0.00100	<0.00100	293	702	1,980	14.15	2,716.3	4.26	6.99	42.2
MW-3	1/27/2022	99.00	9.62	89.38	<0.00100	0.00101	<0.00100	<0.00100	291	714	1,920	12.55	1,863.5	7.30	8.21	-74.8
MW-3	4/21/2022	99.00	11.66	87.34	<0.00100	0.00101	<0.00100	<0.00100	312	762	2,050	10.81	3,095.4	6.12	8.41	-91.4
MW-3	9/20/2022	99.00	7.2	91.80	<0.001	<0.001	<0.001	<0.001	157	446	1,440	19.55	1,997.9	4.92	7.58	224.5
MW-4	1/26/2016	98.70	8.33	90.37	<0.001	<0.001	<0.001	<0.001	322	751	2,250	11.70	2,718		7.29	
MW-4	7/26/2016	98.70	6.97	91.73	<0.001	<0.001	<0.001	<0.001	302	722	2,190	13.80	2,901		7.31	
MW-4	1/30/2017	98.70	9.44	89.26	<0.001	<0.001	<0.001	<0.001	352	1,100	1,770	12.07	2,872		7.12	
MW-4	7/24/2017	98.70	6.98	91.72	<0.001	<0.001	<0.001	<0.002	248	620	1,770	13.50	2,909		7.27	
MW-4	1/29/2018	98.70	8.98	89.72	<0.001	<0.001	<0.001	<0.002	428	1,180	2,400	11.20	3,138		8.40	
MW-4	7/24/2018	98.70	8.10	90.60	0.0017	0.0015	<0.001	<0.002	439	1,020	1,730	15.42	2,484		7.62	
MW-4	1/30/2019	98.70	9.41	89.29	<0.001	<0.001	<0.001	<0.002	1,300	3,340	1,580	10.78	3,220		7.31	
MW-4	7/29/2019	98.70	7.82	90.88	<0.001	<0.001	<0.001	<0.002	276	670	1,450	12.64	3,013		6.98	
MW-4	1/8/2020	98.70	8.65	90.05	<0.001	<0.001	<0.001	<0.001	330	818	2,280	11.94	3,182	0.16	7.04	174.8
MW-4	4/28/2020	98.70	11.29	87.41	<0.001	<0.001	<0.001	<0.001	308	232	2,180	9.61	3,522	0.09	6.97	114.8
MW-4	7/15/2020	98.70	9.28	89.42	<0.001	<0.001	<0.001	<0.001	373	949	2,310	15.09	2,515	2.36	7.26	152.1
MW-4	10/13/2020	98.70	7.11	91.59	<0.001	<0.001	<0.001	<0.001	237	590	1,630	16.46	2,821	2.52	7.24	115.9
MW-4	1/13/2021	98.70	9.68	89.02	<0.001	<0.001	<0.001	<0.001	318	770	2,110	11.64	3,053	3.86	7.07	103.2
MW-4	4/15/2021	98.70	12.03	86.67	<0.001	<0.001	<0.001	<0.001	322	766	2,010	8.74	2,833	2.37	7.05	183.1
MW-4	7/8/2021	98.70	10.16	88.54	<0.001	<0.001	<0.001	<0.001	316	786	2,000	14.03	2,682	3.55	7.29	110.5
MW-4	11/30/2021	98.70	7.75	90.95	<0.00100	<0.00100	<0.00100	<0.00100	295	710	1,980	14.52	2,882.9	4.60	7.08	62.5
MW-4	1/27/2022	98.70	9.52	89.18	<0.00100	<0.00100	<0.00100	<0.00100	299	739	1,960	11.77	2,946.5	4.03	8.16	-66.1
MW-4	4/21/2022	98.70	11.55	87.15	<0.00100	<0.00100	<0.00100	<0.00100	316	778	1,940	10.90	2,563.0	6.00	8.40	-65.6
MW-4	9/20/2022	98.70	7.0	91.70	<0.001	<0.001	<0.001	<0.001	156	459	1,550	21.19	1,947.2	4.57	7.52	203.5
MW-5	1/26/2016	99.00	8.41	90.59	<0.001	<0.001	<0.001	<0.001	313	722	2,110	9.31	2,658		7.20	
MW-5	4/26/2016	99.00	10.07	88.93	<0.001	<0.001	<0.001	<0.001	371	725	2,290	8.33	2,991		6.68	
MW-5	7/26/2016	99.00	7.16	91.84	<0.001	<0.001	<0.001	<0.001	270	650	2,250	15.29	2,939		7.21	
MW-5	10/31/2016	99.00	6.87	92.13	<0.001	<0.001	<0.001	<0.001	382	1,050	1,800	16.20	3,364		7.39	
MW-5	1/30/2017	99.00	9.50	89.50	<0.001	<0.001	<0.001	<0.001	362	1,070	1,760	11.29	2,960		7.09	
MW-5	4/27/2017	99.00	11.21	87.79	<0.001	<0.001	<0.001	<0.002	423	933	2,410	8.95	3,146		7.26	
MW-5	7/24/2017	99.00	7.22	91.78	<0.001	<0.001	<0.001	<0.002	207	498	1,780	14.65	2,950		7.17	
MW-5	10/27/2017	99.00	5.48	93.52	<0.001	<0.001	<0.001	<0.002	283	830	2,510	14.81	3,317		7.68	
MW-5	1/29/2018	99.00	9.09	89.91	<0.001	<0.001	<0.001	<0.002	454	1,270	2,460	9.78	3,243		8.30	
MW-5	4/12/2018	99.00	11.00	88.00	<0.001	<0.001	<0.001	<0.002	362	1,100	2,570	8.41	3,337		7.34	
MW-5	7/24/2018	99.00	8.00	91.00	0.0012	<0.001	<0.001	<0.002	505	1,160	1,780	15.96	2,648		7.64	
MW-5	10/29/2018	99.00	6.10	92.90	<0.001	<0.001	<0.001	<0.002	316	683	1,720	16.21	3,061		7.26	
MW-5	1/30/2019	99.00	9.46	89.54	0.0019	0.0021	<0.001	<0.002	1,130	2,910	1,580	10.27	3,190		7.70	
MW-5	4/29/2019	99.00	11.30	87.70	<0.001	<0.001	<0.001	<0.002	227	488	1,580	7.41	3,240		7.19	
MW-5	7/29/2019	99.00	8.03	90.97	<0.001	<0.001	<0.001	<0.002	< 6.00	319	1,400	13.55	2,935		7.33	
MW-5	1/8/2020	99.00	8.71	90.29	<0.001	<0.001	<0.001	<0.001	336	836	2,310	10.66	3,301	0.71	7.08	172.5
MW-5	4/28/2020	99.00	11.35	87.65	<0.001	<0.001	<0.001	<0.001	367	829	2,200	8.88	3,538	1.66	6.99	123.0
MW-5	7/15/2020	99.00	9.60	89.40	<0.001	<0.001	<0.001	<0.001	346	831	2,220	15.94	2,506	1.24	7.01	146.8
MW-5	10/13/2020	99.00	7.25	91.75	0.0016	0.0016	<0.001	<0.001	284	693	1,880	15.39	3,203	3.79	7.13	116.6
MW-5	1/13/2021	99.00	9.74	89.26	<0.001	<0.001	<0.001	<0.001	306	755	2,040	11.41	2,946	3.76	6.96	69.3
MW-5	4/15/2021	99.00	12.08	86.92	<0.001	<0.001	<0.001	<0.001	331	790	2,100	7.78	3,239	3.33	7.06	168.5
MW-5	7/8/2021	99.00	10.36	88.64	<0.001	<0.001	<0.001	<0.001	305	720	2,000	14.64	2,715	3.08	7.25	104.1
MW-5	11/30/2021	99.00	7.85	91.15	<0.00100	0.00112	<0.00100	<0.00100	298	725	2,050	14.14	3,355.1	4.80	7.07	80.5
MW-5	1/27/2022	99.00	9.60	89.40	<0.00100	<0.00100	<0.00100	<0.00100	307	762	1,980	11.51	1,963.8	5.85	8.18	-56.7
MW-5	4/21/2022	99.00	11.62	87.38	<0.00100	<0.00100	<0.00100	<0.00100	328	790	2,060	10.22	2,742.5	7.08	8.31	-33.4
MW-5	9/20/2022	99.00	7.3	91.70	<0.001	<0.001	<0.001	<0.001	179	520	1,700	21.06	2,174.8	5.06	7.56	200.9

Groundwater Elevation and Analytical Data
Groundwater Monitoring Report
Expedition Water Solutions - EWS #13
23360 County Road 54, Greeley, CO 80631

Sample ID	Sample Date	Reference Elevation (ft)	Depth To Water (ft)	Groundwater Elevation (ft)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Xylenes (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Temperature (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)
COGCC MCL	**-**	**-**	**-**	**-**	**0.005**	**1**	**0.7**	**10**	**1.25 x BG**	**1.25 x BG**	**1.25 x BG**	**-**	**-**	**-**	**-**	**-**
MW-6	1/26/2016	98.80	8.28	90.52	0.0039	0.0022	<0.001	<0.001	312	718	2,250	11.78	2,692		7.24	
MW-6	4/26/2016	98.80	9.98	88.82	<0.001	<0.001	<0.001	<0.001	371	751	2,200	9.80	3,059		7.45	
MW-6	7/26/2016	98.80	7.00	91.80	<0.001	<0.001	<0.001	<0.001	264	550	2,340	13.40	3,068		7.16	
MW-6	10/31/2016	98.80	6.72	92.08	<0.001	<0.001	<0.001	<0.001	60	204	1,700	15.38	3,283		7.38	
MW-6	1/30/2017	98.80	9.42	89.38	0.0018	0.0018	<0.001	<0.001	387	1,110	1,780	12.26	2,957		7.17	
MW-6	4/27/2017	98.80	11.12	87.68	<0.001	<0.001	<0.001	<0.002	358	812	2,350	10.69	3,030		7.35	
MW-6	7/24/2017	98.80	7.03	91.77	<0.001	<0.001	<0.001	<0.002	236	564	1,800	13.18	3,014		7.09	
MW-6	10/27/2017	98.80	5.38	93.42	0.0019	0.0012	<0.001	<0.002	69	167	2,510	16.91	3,338		7.73	
MW-6	1/29/2018	98.80	9.00	89.80	<0.001	<0.001	<0.001	<0.002	526	1,470	2,510	13.65	3,294		8.45	
MW-6	4/12/2018	98.80	10.97	87.83	<0.001	<0.001	<0.001	<0.002	390	1,130	2,540	11.86	3,347		7.27	
MW-6	7/24/2018	98.80	7.92	90.88	0.015	0.014	<0.001	0.0028	451	1,070	1,840	16.80	2,790		7.73	
MW-6	10/29/2018	98.80	6.00	92.80	<0.001	<0.001	<0.001	<0.002	269	602	1,720	19.39	3,026		7.26	
MW-6	1/30/2019	98.80	9.38	89.42	0.001	<0.001	<0.001	<0.002	989	2,520	1,560	13.82	3,219		7.30	
MW-6	4/29/2019	98.80	11.24	87.56	<0.001	<0.001	<0.001	<0.002	233	570	1,570	9.66	3,211		7.16	
MW-6	7/29/2019	98.80	7.88	90.92	<0.001	<0.001	<0.001	<0.002	258	647	1,540	14.99	2,999		7.38	
MW-6	1/8/2020	98.80	8.64	90.16	<0.001	<0.001	<0.001	<0.001	331	821	2,340	12.38	3,299	0.65	7.04	173.2
MW-6	4/28/2020	98.80	11.28	87.52	<0.001	<0.001	<0.001	<0.001	358	804	2,170	10.42	3,482	1.24	6.93	113.5
MW-6	7/15/2020	98.80	9.40	89.40	Unable to Perform Groundwater Monitoring Due to Obstruction in Well											
MW-6	10/13/2020	98.80	7.13	91.67	<0.001	<0.001	<0.001	<0.001	263	673	1,910	14.85	3,355	3.14	7.28	121.0
MW-6	1/13/2021	98.80	9.64	89.16	<0.001	<0.001	<0.001	<0.001	313	771	2,100	11.80	2,909	2.19	7.11	111.3
MW-6	4/15/2021	98.80	12.02	86.78	<0.001	<0.001	<0.001	<0.001	335	791	2,080	8.66	2,936	2.54	7.01	191.1
MW-6	7/8/2021	98.80	10.23	88.57	<0.001	<0.001	<0.001	<0.001	344	821	2,110	14.58	2,677	3.66	7.22	109.3
MW-6	11/30/2021	98.80	7.76	91.04	**0.0368**	<0.00100	<0.00100	<0.00100	303	744	2,050	15.34	3,001.7	5.88	7.00	77.4
MW-6	1/27/2022	98.80	9.51	89.29	<0.00100	<0.00100	<0.00100	<0.00100	302	750	1,990	13.53	2,021.7	4.55	8.12	-61.9
MW-6	4/21/2022	98.80	11.53	87.27	<0.00100	<0.00100	<0.00100	<0.00100	330	798	2,060	11.97	2,490.7	5.43	8.26	-48.6
MW-6	9/20/2022	98.80	7.1	91.70	<0.001	<0.001	<0.001	<0.001	158	481	1,520	21.15	2,047.1	3.68	7.37	236.3
MW-7	7/26/2016	95.20	3.45	91.75	<0.001	<0.001	<0.001	<0.001	306	674	2,630	13.50	3,424		6.60	
MW-7	1/30/2017	95.20	5.43	89.77	<0.001	<0.001	<0.001	<0.001	318	988	1,730	8.60	2,912		6.85	
MW-7	7/24/2017	95.20	3.68	91.52	<0.001	<0.001	<0.001	<0.002	267	573	1,800	13.92	3,475		6.60	
MW-7	1/29/2018	95.20	5.02	90.18	<0.001	<0.001	<0.001	<0.002	576	1,440	2,610	8.34	3,403		8.91	
MW-7	7/24/2018	95.20	4.75	90.45	<0.001	<0.001	<0.001	<0.002	400	851	1,850	13.95	2,630		8.12	
MW-7	1/30/2019	95.20	5.39	89.81	<0.001	<0.001	<0.001	<0.002	835	1,900	1,640	7.92	3,361		7.36	
MW-7	7/29/2019	95.20	4.39	90.81	<0.001	<0.001	<0.001	<0.002	210	541	1,590	13.12	3,216		7.44	
MW-7	1/8/2020	95.20	4.65	90.55	<0.001	<0.001	<0.001	<0.001	358	808	2,200	9.42	3,238	0.16	7.04	96.1
MW-7	4/28/2020	95.20	7.28	87.92	<0.001	<0.001	<0.001	<0.001	398	870	2,310	10.70	3,597	0.00	6.22	158.1
MW-7	7/15/2020	95.20	6.22	88.98	<0.001	<0.001	<0.001	<0.001	450	986	2,320	16.50	2,625	0.41	6.76	170.1
MW-7	10/13/2020	95.20	3.41	91.79	<0.001	<0.001	<0.001	<0.001	343	795	2,200	14.17	3,627	1.06	7.39	125.5
MW-7	1/13/2021	95.20	5.67	89.53	<0.001	<0.001	<0.001	<0.001	336	809	2,180	11.53	3,007	2.95	7.08	7.8
MW-7	4/15/2021	95.20	8.01	87.19	<0.001	<0.001	<0.001	<0.001	397	866	2,310	8.72	3,392	0.73	7.04	140.9
MW-7	7/8/2021	95.20	6.79	88.41	<0.001	<0.001	<0.001	<0.001	357	1,010	2,010	14.15	2,416	2.69	7.34	102.8
MW-7	11/30/2021	95.20	3.87	91.33	<0.00100	<0.00100	<0.00100	<0.00100	316	748	2,100	12.86	2,804.4	5.53	7.17	94.5
MW-7	1/27/2022	95.20	5.57	89.63	<0.00100	<0.00100	<0.00100	<0.00100	316	768	2,000	9.83	2,602.1	6.09	8.36	-49.9
MW-7	4/21/2022	95.20	7.60	87.60	<0.00100	<0.00100	<0.00100	<0.00100	379	835	2,190	9.93	3,043.9	6.95	8.19	-18.6
MW-7	9/20/2022	95.20	3.65	91.55	<0.001	<0.001	<0.001	<0.001	222	684	2,060	22.59	2,468.6	2.98	7.46	210.9

Groundwater Elevation and Analytical Data
Groundwater Monitoring Report
Expedition Water Solutions - EWS #13
23360 County Road 54, Greeley, CO 80631

Sample ID	Sample Date	Reference Elevation	Depth To Water	Groundwater Elevation	Benzene	Toluene	Ethyl-Benzene	Xylenes	Chloride	Sulfate	TDS	Temperature	Specific Conductance	Dissolved Oxygen	pH	ORP
		(ft)	(ft)	(ft)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(^{o}C)	(µS/cm)	(mg/L)		(mV)
COGCC MCL	**-**	**-**	**-**	**-**	**0.005**	**1**	**0.7**	**10**	**1.25 x BG**	**1.25 x BG**	**1.25 x BG**	**-**	**-**	**-**	**-**	**-**

Notes
A blank data box indicates that the analysis or measurement was not completed during the specified monitoring event.
COGCC MCL references groundwater quality standards from COGCC Table 915-1 *(January 15, 2021)* .
COGCC MCL of inorganic compounds is defined as a concentration below 250 mg/L (chloride, sulfate) or less than 1.25 x local background (chloride, sulfate, TDS).
Bold values indicate concentration at or in excess of COGCC MCL.

BG = background concentration
COGCC = Colorado Oil and Gas Conservation Commission
MCL = maximum contaminant level
INA = monitoring well inaccessible
ORP = oxidation reduction potential
TDS = total dissolved solids

Attachment A

Laboratory Report and Chain of Custody

Test Report

eANALYTICS
LABORATORY

October 4, 2022

Client:	CGRS, Inc.
Project:	EWS 13
Lab ID:	8220
Date Samples Received:	9/20/2022
Sample Condition:	The samples arrived intact and in appropriate sample containers. The samples were received within the temperature range specified in the test method(s) and/or with thermal preservation in process.
Comments:	

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you.

Chris Dieken
QA Manager

Todd Rhea
Lab Manager

Chain of Custody

eANALYTICS LABORATORY

Chain of Custody Form

eANALYTICS LABORATORY

4130 Clydesdale Parkway Loveland CO 80538 (970) 667-6975 www.eAnalyticsLab.com

Client Information (New Clients please fill out completely)

Company:	CGRS
Project:	EWS 13
Send Report & Invoice To:	dkinnaird@cgrs.com
Sampler:	Matt Rusch
Phone/Email:	970-493-7780
Address:	1301 Academy Ct. Fort Collins, CO 80524

Analysis Information (Select analysis by checking box on corresponding sample line)

Lab ID	Sample Name	Sampling Date	Number of Containers	Matrix: (S) Soil (W) Water (V) Vapor (A) Air	BTEX	TVPH	TEPH (EPA8015)	Chloride	Sulfate	TDS
1	MW-1			W	X			X	X	X
2	MW-2			W	X			X	X	X
3	MW-3			W	X			X	X	X
4	MW-4			W	X			X	X	X
5	MW-5			W	X			X	X	X
6	MW-6			W	X			X	X	X
7	MW-7			W	X			X	X	X

Comments:

Turnaround Time (Business Days)

- ☒ Standard (5-10 Days)
- ☐ 3 Day (1.5X)
- ☐ 1-2 Day (2X)
- ☐ Same Day (3X)

If possible please inform eAnalytics Lab in advance for rush analysis

Record of Custody

Relinquished by:	MATT RUSCH	Date	9/20/22
Company:	CGRS	Time	4:30 AM/PM
Received by:		Date	
Company:		Time	AM/PM
Relinquished by:		Date	
Company:		Time	AM/PM
Received by:		Date	9/20/22
Company:	eAnalytics Laboratory	Time	430 AM/PM

For eAnalytics Use

Sample Conditions Upon Arrival

Intact? Yes / No

*On Ice? Yes / No

*Or with thermal preservation in process

Lab ID # 8220

eAnalytics Laboratory
4130 Clydesdale Parkway Loveland CO 80538
(970) 667-6975

Page_____of_____

Water

Sample Analysis

eANALYTICS LABORATORY

Client:	CGRS, Inc.	Lab ID:	8220
Project:	EWS 13		
Analysis:	Volatile Organics - BTEX	Method:	EPA8260

Sample Name	Benzene mg/L	Toluene mg/L	Ethyl-Benzene mg/L	Total Xylenes mg/L	Date Sampled	Date Analyzed	Lab ID
MW-1	<0.001	<0.001	<0.001	<0.001	09/20/22	09/22/22	8220 1
MW-2	<0.001	<0.001	<0.001	<0.001	09/20/22	09/22/22	8220 2
MW-3	<0.001	<0.001	<0.001	<0.001	09/20/22	09/22/22	8220 3
MW-4	<0.001	<0.001	<0.001	<0.001	09/20/22	09/22/22	8220 4
MW-5	<0.001	<0.001	<0.001	<0.001	09/20/22	09/22/22	8220 5
MW-6	<0.001	<0.001	<0.001	<0.001	09/20/22	09/22/22	8220 6
MW-7	<0.001	<0.001	<0.001	<0.001	09/20/22	09/22/22	8220 7

Water

Sample Analysis

eANALYTICS LABORATORY

Client:	CGRS, Inc.	Lab ID:	8220
Project:	EWS 13		
Analysis:	Total Dissolved Solids (TDS)	Method:	EPA160.1/SM2540C

Sample Name	TDS mg/L	Date Sampled	Date Analyzed	Lab ID
MW-1	1100	09/20/22	09/27/22	8220 1
MW-2	1200	09/20/22	09/27/22	8220 2
MW-3	1440	09/20/22	09/27/22	8220 3
MW-4	1550	09/20/22	09/27/22	8220 4
MW-5	1700	09/20/22	09/27/22	8220 5
MW-6	1520	09/20/22	09/27/22	8220 6
MW-7	2060	09/20/22	09/27/22	8220 7

Water

Sample Analysis

eANALYTICS LABORATORY

Client:	CGRS, Inc.	Lab ID:	8220
Project:	EWS 13		
Analysis:	Anion-Chloride	Method:	EPA300.0 / SM4500-Cl C

Sample Name	Chloride mg/L	Date Sampled	Date Analyzed	Lab ID
MW-1	120	09/20/22	09/28/22	8220 1
MW-2	117	09/20/22	09/28/22	8220 2
MW-3	157	09/20/22	09/28/22	8220 3
MW-4	156	09/20/22	09/28/22	8220 4
MW-5	179	09/20/22	09/28/22	8220 5
MW-6	158	09/20/22	09/28/22	8220 6
MW-7	222	09/20/22	09/28/22	8220 7

Water

Sample Analysis

October 4, 2022

eANALYTICS LABORATORY

Client:	CGRS, Inc.	Lab ID:	8220
Project:	EWS 13		
Analysis:	Anion-Sulfate	Method:	EPA300.0 / EPA375.4

Sample Name	Sulfate-SO4 mg/L	Date Sampled	Date Analyzed	Lab ID
MW-1	353	09/20/22	10/04/22	8220 1
MW-2	373	09/20/22	10/04/22	8220 2
MW-3	446	09/20/22	10/04/22	8220 3
MW-4	459	09/20/22	10/04/22	8220 4
MW-5	520	09/20/22	10/04/22	8220 5
MW-6	481	09/20/22	10/04/22	8220 6
MW-7	684	09/20/22	10/04/22	8220 7

Water

Quality Control - Surrogate Recoveries

eANALYTICS LABORATORY

Client:	CGRS, Inc.	Lab ID:	8220
Project:	EWS 13	Method:	EPA8260

Sample Name	Dibromo-fluoromethane % Recovery	1,2 Dichloro-ethane-D4 % Recovery	Toluene-D8 % Recovery	4-Bromo-fluorobenzene % Recovery	Date Sampled	Date Analyzed	Lab ID	
MW-1	105	98	100	98	09/20/22	09/22/22	8220	1
MW-2	104	98	102	98	09/20/22	09/22/22	8220	2
MW-3	101	97	101	98	09/20/22	09/22/22	8220	3
MW-4	103	98	101	97	09/20/22	09/22/22	8220	4
MW-5	101	99	102	100	09/20/22	09/22/22	8220	5
MW-6	102	98	101	98	09/20/22	09/22/22	8220	6
MW-7	102	96	101	90	09/20/22	09/22/22	8220	7

eANALYTICS LABORATORY

Client: CGRS, Inc. Lab ID: 8220

Project: EWS 13

Water		Benzene	Toluene	Ethyl-Benzene	Total Xylenes	QC Start Date
Method Blank		<0.001	<0.001	<0.001	<0.001	
		mg/L	mg/L	mg/L	mg/L	
Lab Control Sample	70%-130%	101	105	109	100	09/21/22