GROUNDWATER MONITORING PLAN
FOR
MARCOVICH MINING RESOURCE
DRMS PERMIT NO. M-2024-034
4125 US HIGHWAY 85
WELD COUNTY, COLORADO

Prepared by:

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LIST OF ACRONYMS

ASCI	Asphalt Specialties Co., Inc.
CDSS	Colorado's Decision Support System
DRMS	Division of Reclamation, Mining, and Safety
DWR	Division of Water Resources
ft amsl	feet above mean sea level
ft bgs	feet below ground surface
gpd/ft	gallons per day per foot
HSA	hollow stem auger
POC	Point of Compliance
INS	Interim Narrative Standards
QA/QC	quality assurance/quality control
TDS	total dissolved solids
TR	Technical Revision
WQCC	Water Quality Control Commission

1.0 INTRODUCTION

Asphalt Specialties Co., Inc. (ASCI) has prepared this Groundwater Monitoring Plan (GWMP) for the Marcovich Mining Resource (Site) located at 4125 US Highway 85 in Weld County, Colorado (Figure 1) in general accordance with the requirements set forth in the Construction Materials Rule No. 3, Section 3.1.7 and the Division of Reclamation, Mining, and Safety (DRMS) *Groundwater Monitoring: Sampling and Analysis Plan Guidance. Construction Materials and Hard Rock Sites* (July 2024). Prior to mining, a slurry wall will be installed to hydraulically disconnect the mining operation from groundwater in the surrounding alluvial aquifer. This GWMP summarizes data available to-date from the initial six (6) consecutive quarters of baseline groundwater characterization conducted and details the future monitoring activities that will occur throughout the operational life of the mine. Note: Baseline characterization data will continue to be collected for a minimum of two (2) additional quarters (i.e., 4th Quarter 2024, and 1st Quarter 2025 for a total of eight [8] quarters of data) until the start of activities which impact groundwater at the Site occur (i.e., installation of the slurry wall). The final groundwater characterization data sets used to document the pre-operational baseline conditions will be submitted as a Technical Revision (TR) to DRMS in a Baseline Data Summary Report.

1.1 SITE DESCRIPTION

The Site is former agricultural land that is relatively flat with a topographic slope of 0.0021 ft/ft. Mining activities at the Site will occur within the unconfined alluvial aquifer of the South Platte River. The average thickness of the overburden is approximately three (3) to four (4) feet below ground surface (ft bgs). Beneath the overburden are low terrace alluvial deposits of the South Platte River. The deposits vary from silty sands and gravel in the upper zones to sandy gravels nearer the bedrock. The sand and gravel deposits slightly vary in thickness but are approximately 28 to 30 feet across the Site. Underlying the sand and gravel deposit is the Denver Formation which is a consolidated bedrock stratum composed primarily of generally impermeable shale and claystone approximately 550 – 600 feet thick. Surrounding land uses in the area include agricultural, other sand and gravel mines, oil and gas industry sites, and rangelands. The total affected area is 44.3 acres. Sand and gravel mining operations are anticipated to begin in 2025.

Groundwater in the alluvial aquifer at the Site is approximately 5 ft bgs and generally flows northwest to north-northwest towards the South Platte River. Per the Division of Water Resources (DWR) Colorado's Decision Support System (CDSS) website, the alluvial aquifer has rapid permeability with a transmissivity of approximately 120,000 gallons per day per foot (gpd/ft) and specific yield of 0.2. The estimated coefficient of storage is $1.5x10^{-5}$ to $3.1x10^{-5}$. The Site is located within the City of Fort Lupton Wellfield as classified by the Water Quality Control Commission (WQCC) Regulation 42.

1.2 MONITORING WELL NETWORK

Four (4) monitoring wells (MW-1 through MW-4) have been installed in accordance with DWR standards within the unconsolidated alluvium at the Site to characterize baseline groundwater

conditions. After installation of the slurry wall, monitoring well MW-3 will be located hydraulically up-gradient at the Site and monitoring wells MW-1 and MW-4 will be located cross-gradient. Monitoring well MW-2, which is currently located inside the proposed slurry wall, will be abandoned and replaced by monitoring well MW-2R prior to installation of the slurry wall. As a result, monitoring well MW-2R will be located hydraulically down-gradient once mining operations commence.

Borings were installed utilizing 4-1/4" ID hollow stem auger (HSA) drilling method from ground surface to the top of underlying bedrock. Monitoring wells are constructed of two (2)-inch diameter Schedule 40 PVC with factory slotted 0.010" slot size for the screened portions. The filter packs consist of 10/20 silica sand and a bentonite seal (chips) was installed from the top of the filter pack to ground surface. At the surface, concrete pads were installed along with a four (4)-inch square steel well covering with hinged locking cap to protect the above ground riser. However, existing monitoring well MW-2 is currently located inside the proposed slurry wall and will be abandoned and replaced by monitoring well MW-2R prior to installing the slurry wall. The location of monitoring wells is shown in Figure 2. Monitoring well construction logs are provided in Appendix A.

2.0 BASELINE GROUNDWATER CHARACTERIZATION

This GWMP summarizes available data collected to-date from June 2023 through September 2024 to characterize baseline groundwater conditions. Data collected includes monthly groundwater elevations (for groundwater quantity) and quarterly groundwater sampling event results (for groundwater quality). As ASCI is still conducting baseline groundwater characterization, the final data sets used to document the pre-operational baseline conditions will be submitted in the final Baseline Data Summary Report to DRMS.

2.1 BASELINE GROUNDWATER QUANTITY

Groundwater elevations collected from monitoring wells at the Site are presented in Table 1. The general groundwater flow direction across the Site is northwest to north-northwest towards the South Platte River as shown on the potentiometric maps presented in Figures 3 and 4. A graph depicting the fluctuation in groundwater elevations during the baseline monitoring period to-date is presented in Figure 5.

2.1.1 Groundwater Fluctuation

Groundwater elevations naturally fluctuate throughout the year based on the season but can also be influenced by a variety of unusual conditions at any one time (e.g., persistent rain or drought). Evaluation of groundwater elevation data collected from June 2023 to September 2024 at the Site (a 16-month period) indicates an average fluctuation of 2.45 ft at the Site (i.e., a change of 2.04 ft in MW-1 and 2.85 ft in MW-2). However, the elevated groundwater elevations collected in June and July of 2023 are due to the historic precipitation that occurred during the spring and early-summer of 2023. When evaluating groundwater elevations between August 2023 to September 2024 (a 14-month period), the average fluctuation between groundwater high and low elevations

at the Site is only 0.92 ft (i.e., a change of 1.04 ft in MW-1 and 0.80 ft in MW-2). While the elevated water levels in June and July of 2023 are useful in documenting the pre-operational groundwater high levels at the Site, as discussed in Section 2.1.3, the groundwater elevation data available from August 2023 to September 2024 indicates that the groundwater fluctuation across the Site remained relatively stable with an approximate change of only one (1)-foot during this period.

2.1.2 Groundwater Flow Direction

Given the known hydraulic properties of the homogenous alluvial aquifer at the Site (e.g., an unconfined aquifer, uniform stratigraphy, consistent flow transmissivity as mapped by DWR, etc.) and since groundwater only fluctuated approximately one (1)-foot at the Site between August 2023 to September 2024, the site-specific groundwater elevation data collected from MW-1 can be correlated to MW-3 (both wells are located approx. 1,450 feet ± 100 ft east of the South Platte River) and the site-specific groundwater elevation data collected from MW-2 can be correlated to MW-4 (both wells are located approx. 375 feet ± 50 ft east of the South Platte River). By applying the difference in the September 2024 groundwater elevation vs. the average groundwater elevation for MW-1 (i.e., 0.19 feet) to MW-3 and for MW-2 (i.e., -0.18 feet) to MW-4, an estimate of the average groundwater elevations for MW-3 and MW-4 during the baseline period can be obtained. The following table presents the September 2024 and Average Baseline Groundwater Elevations for each monitoring well used to determine groundwater flow direction at the Site.

Monitoring Well	September 2024 Groundwater Elevation	Average Baseline Groundwater Elevation
MW-1	4901.47	4901.28
MW-2	4899.33	4899.51
MW-3	4903.29	4903.10*
MW-4	4901.78	4901.96*

Notes:
Elevations in ft amsl
* = Estimated value

Potentiometric maps for September 2024 and the Average Baseline Groundwater Elevations are presented in Figures 3 and 4, respectively. As shown, groundwater generally flows northwest to north-northwest across the Site towards the South Platte River. While seasonal fluctuations may slightly alter groundwater flow direction, groundwater elevations do not change substantially enough to alter the general flow of groundwater in a direction other than towards the South Platte River as would be expected in an unconfined alluvial aquifer adjacent to a river.

2.1.3 Groundwater High and Low Elevations

As discussed in Section 2.1.2, given the known hydraulic properties of the alluvial aquifer and locations of the monitoring wells in relation to the South Platte River, the groundwater high and low elevations for MW-1 and MW-2 between June 2023 to September 2024 can also be correlated

to estimate the groundwater high and low elevations for MW-3 and MW-4. By applying the difference in the September 2024 groundwater elevations against the groundwater high and low elevations for MW-1 (1.28 ft and -0.76 ft, respectively) to MW-3 and for MW-2 (2.55 ft and -0.30 ft, respectively) to MW-4, the following table indicates the pre-operational groundwater high and low elevations for each well during the baseline period to-date. However, as ASCI is still conducting baseline groundwater characterization, the final groundwater elevations used to document the pre-operational baseline conditions will be submitted in the final Baseline Data Summary Report to DRMS.

Monitoring Well	Pre-operational Groundwater High Elevation	Pre-operational Groundwater Low Elevation
MW-1	4902.75	4900.71
MW-2	4901.88	4899.03
MW-3	4904.57*	4902.53*
MW-4	4904.33*	4901.48*

Notes:
Elevations in ft amsl
* = Estimated value

2.2 BASELINE GROUNDWATER QUALITY

2.2.1 Groundwater Quality Benchmarks

The objective of the baseline groundwater period is to document the background groundwater quality for applicable analytes and establish the groundwater quality benchmarks for the Site. Per WQCC Regulation No. 42 *Site-specific Water Quality Classifications and Standards for Groundwater*, the Site is located within the specified area of the City of Fort Lupton Wellfield. The groundwater classifications in this area are Domestic Use-Quality and Agricultural Use-Quality. The groundwater quality standards assigned to confined and unconfined groundwater in the City of Fort Lupton Wellfield is WQCC Regulation 41 Interim Narrative Standards (INS) Tables 1 – 4 (5 CCR 1002-41) which are the same standards utilized by the DRMS. Per Rule 3.1.7(2)(c)(ii) and through correspondence with DRMS, the lowest WQCC Regulation 41 INS Tables 1 – 4 standards for applicable analytes are utilized as the default numeric protection value benchmarks (Table 2), except for analytes where baseline groundwater concentrations exceed these values. For these analytes, the highest concentration reported during the baseline groundwater sampling period will be used as a site-specific groundwater quality benchmark. Site-specific groundwater quality benchmarks will be used for comparison against future groundwater sampling event results to demonstrate protection of existing and reasonably potential future uses of groundwater throughout the operational life of the mine until reclamation has been achieved (i.e., when release of reclamation liability occurs).

2.2.2 Baseline Groundwater Quality Sampling Results

Results of the first six (6) quarters of baseline groundwater sampling events used to determine the groundwater quality benchmarks for the Site are presented in Table 3. Results were compared

against their lowest WQCC Regulation 41 INS Tables 1 – 4 standards. As shown in Table 3, results for six (6) analytes during the baseline monitoring period to-date have exceeded their lowest WQCC Regulation 41 INS Tables 1 – 4 standards (Chloride, Manganese, Nitrate [NO3], Total Nitrate-Nitrite [NO2+NO3], Sulfate, and Uranium). Therefore, the highest concentration reported for these analytes during the baseline groundwater monitoring period will be used as the site-specific groundwater quality benchmark. Results for all other analytes are below their respective WQCC Regulation 41 INS Tables 1 – 4 standards. However, as ASCI is still conducting baseline groundwater characterization, the final groundwater quality benchmarks used to document the pre-operational baseline conditions will be submitted in the final Baseline Data Summary Report to DRMS.

3.0 PREDICTED IMPACTS TO HYDROLOGIC BALANCE

To predict the extent of impacts to the hydrologic balance, groundwater modeling was conducted (see Appendix G-3 of the DRMS Permit Application). The predicted impacts to the hydrologic balance are localized areas of groundwater mounding occurring to the south and east of the slurry wall and groundwater shadowing occurring to the north and west of the slurry wall in the alluvial aquifer. The maximum groundwater mounding predicted by the model is +1.39 feet occurring 100 feet south of the slurry wall. The maximum groundwater shadowing predicted by the modeling is -0.96 feet occurring 100 feet north of the slurry wall. These predicted impacts to the hydrologic balance are within the general range of seasonal fluctuation at the Site and are not anticipated to have an adverse effect to the surrounding area. Since no other slurry walls are near the Site, this slurry wall will not prohibit groundwater from reaching the South Platte River. As the slurry wall will hydraulically separate the mining operation from the surrounding alluvial aquifer, no impacts to groundwater quality are anticipated.

4.0 GROUNDWATER MONITORING PLAN

The following activities will be conducted to monitor groundwater quantity and quality throughout the operational life of the mine until reclamation is complete. The final groundwater characterization data sets used to document the pre-operational baseline conditions will be submitted as a Technical Revision (TR) to DRMS in a Baseline Data Summary Report.

4.1 GROUNDWATER QUANTITY

4.1.1 Groundwater Measurement Schedule

ASCI will continue to collect and evaluate monthly groundwater elevation readings from Site monitoring wells prior to the start of activities which impact groundwater at the Site (i.e., installation of the slurry wall) and for a minimum of 12 months after installation of the slurry wall is complete and mining operations have commenced to monitor for adverse impacts to the hydrologic balance. Any change to the groundwater level monitoring schedule (i.e., reduction in measurement frequency) will be submitted to DRMS via TR for approval prior to implementation.

4.1.2 Groundwater Quantity Data Evaluation and Trigger Levels

The primary trigger for evaluating if impacts to the hydrologic balance occur will be if the groundwater level in any well either increases or decreases two (2) feet above or below the final baseline data set measurements. The current trigger measurements for each well are provided in the following table. However, as ASCI is still conducting baseline groundwater characterization, the final groundwater trigger elevations will be submitted in the final Baseline Data Summary Report to DRMS.

Well ID	Baseline GW Elevation – High	Trigger Elevation for Evaluating High GW Impacts	Baseline GW Elevation – Low	Trigger Elevation for Evaluating Low GW Impacts
MW-1	4902.75	**4904.75**	4900.71	**4898.71**
MW-2	4901.88	**4903.88**	4899.03	**4897.03**
MW-3	4904.57*	**4906.57***	4902.53*	**4900.53***
MW-4	4904.33*	**4906.33***	4901.48*	**4899.48***

Notes:
Elevations in ft amsl
* = Estimated value

4.1.3 Reporting

Groundwater levels collected will be compared against the final baseline data set. Unless groundwater evaluation trigger levels are exceeded, ASCI will report groundwater level data to DRMS as supplemental information with the annual report for the Site each year. Should high or low groundwater evaluation trigger levels be exceeded, ASCI will contact DRMS upon discovery to discuss the path forward. Subsequent actions may potentially include continued/increased monitoring frequency, conduct a groundwater mounding/shadowing evaluation, etc.

4.2 GROUNDWATER QUALITY

4.2.1 Groundwater Sampling Schedule

ASCI will continue to conduct quarterly groundwater sampling events at the Site for a minimum of four (4) consecutive quarters after mining operations have commenced. For each sampling event, groundwater samples will be collected from Site monitoring wells and submitted for laboratory analysis. A duplicate quality assurance/quality control (QA/QC) sample will be collected from one of the monitoring wells per event. Additional QA/QC samples (e.g., method blanks, laboratory control samples, matrix spikes, etc.) will be analyzed by the laboratory during batch analyses with results provided in the final laboratory reports. Any change to the groundwater quality monitoring schedule (i.e., reduction in sampling frequency) will be submitted to DRMS via TR for approval prior to implementation.

4.2.2 Groundwater Sample Collection Procedures

Prior to sampling each well, depth to groundwater and total well depth measurements will be collected using a water level indicator to the nearest 0.01 foot. Groundwater will then be purged

from the well utilizing a submersible pump with dedicated tubing or hand-bailed with a dedicated bailer. All non-dedicated equipment used to collect groundwater samples will be decontaminated with a detergent (e.g., Alconox® Detergent Powder) and distilled water solution prior to use at each monitoring well. Purged water will be collected in five (5) gallon buckets where water quality parameter readings for temperature, pH, specific conductivity, and total dissolved solids (TDS) will be collected. The total purge volume from the well will be recorded. Once groundwater stabilization is achieved (i.e., three consecutive readings within ten percent for each stabilization parameter) and/or a minimum of three (3) well volumes are removed, groundwater will be collected directly into laboratory-supplied containers with the preservative appropriate for the analysis requested, as applicable. Samples will be labeled, placed in a cooler with ice (cooled to 4°C), and stored until delivery to the laboratory accompanied by chain-of-custody documentation.

4.2.3 Laboratory Analysis of Groundwater Samples

Groundwater samples submitted to the laboratory will be analyzed for applicable WQCC Regulation 41 INS Tables 1 – 4 analytes. The following analytical methods (or comparable methods) will be utilized by the laboratory to report water quality results.

- Metals (Dissolved) by EPA Method 200.7 and 200.8
- Inorganic Anions by EPA Method 300.0 + Calculation
- Chromium by Standard Method (SM) 3500-Cr B + Calculation
- pH by SM 4500-H-B
- TDS by SM 2540-C

Any change to the current analyte list for laboratory analysis (e.g., reduction of analytes) will be submitted to DRMS via Technical Revision for approval prior to implementation.

4.2.4 Groundwater Point of Compliance Well

Down-gradient well MW-2R, which will be installed prior to installation of the slurry wall, will serve as the designated “Points of Compliance” (POC) well in accordance with Rule 3.1.7(6)(b)(ii)(A).

4.2.5 Groundwater Quality Data Evaluation and Trigger Levels

ASCI will compare laboratory results against the final groundwater quality benchmarks developed for the Site to determine if any exceedance(s) have occurred. The primary trigger for evaluating if potentially adverse impacts to groundwater have occurred will be if results for any analytes exceed the baseline groundwater quality benchmarks for the Site in POC monitoring well MW-2R.

4.2.6 Reporting

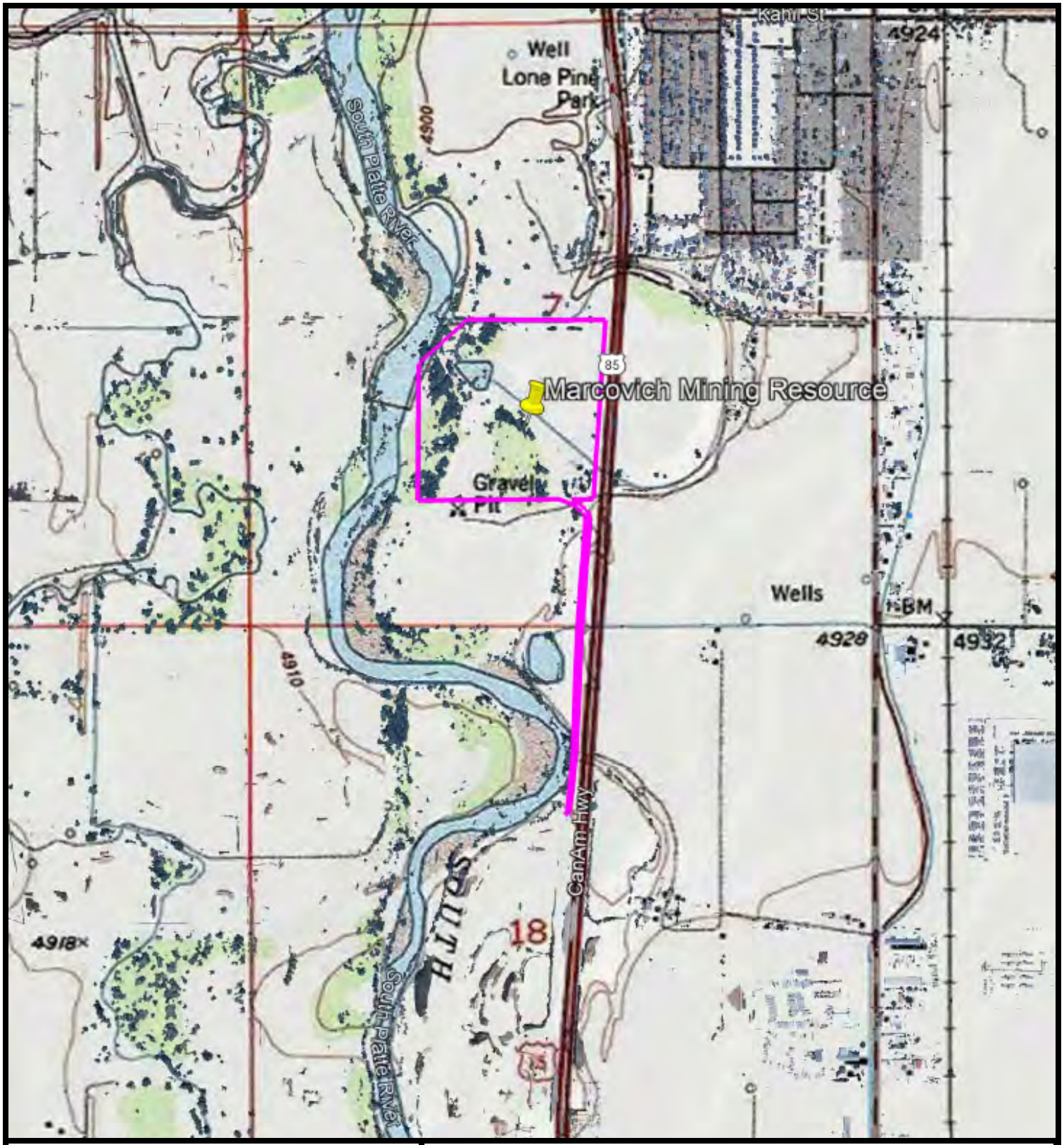
Unless exceedance(s) above baseline groundwater quality benchmarks for the Site occur in POC well MW-2R, ASCI will report groundwater quality monitoring results to DRMS as supplemental information with the annual report for the Site each year. If analyte exceedance(s) of site-specific groundwater quality benchmarks are reported in monitoring wells MW-1, MW-3, and/or MW-4,

this would indicate the impact to groundwater quality is potentially from an off-site source. Should analyte exceedance(s) occur in these wells only, ASCI will monitor results from subsequent groundwater sampling events to determine if elevated concentration(s) of the analyte(s) persist. If exceedance(s) of baseline groundwater quality benchmarks are detected in down-gradient POC well MW-2R, ASCI will contact DRMS upon discovery to discuss the path forward and potential mitigation measures, if appropriate. Potential mitigation measures may include:

- Conduct confirmation sampling of well(s) for the exceeding parameter(s).
- Evaluate the existing data set to determine if any trends are present.
- Increase groundwater sampling event frequency to determine if impacts are anomalous and/or temporary, as applicable. Install additional wells, as necessary, if exceedances persist.
- If exceedances persist, conduct a statistical trend analysis to determine: 1) if exceedances are statistically significant increases over background; and/or 2) if a new site-specific groundwater quality benchmark is appropriate (to be submitted to DRMS as a Technical Revision).

ASCI will work with DRMS to address impacts identified in POC wells and implement mitigation measures, as appropriate, based upon the situation encountered at that time.

FIGURES



Legend

N
W E
S

DRMS Permit Boundary

SCALE (approx.)

0 1,225 ft 2,450 ft

FIGURE 1 - SITE LOCATION MAP

4125 US HIGHWAY 85
WELD COUNTY, CO 80621

MARCOVICH MINING RESOURCE
GROUNDWATER MONITORING AND MITIGATION PLAN
ASPHALT SPECIALTIES CO., INC.

DATE: 9/24/2024

Legend

- DRMS Permit Boundary
- Slurry Wall (Approx.)
- POC Monitoring Well
- Up/Cross-gradient Monitoring Well
- Monitoring Well To Be Removed

N
W E
S

Scale: 0 315 630 feet

FIGURE 2

MONITORING WELL NETWORK MAP

MARCOVICH MINING RESOURCE
GROUNDWATER MONITORING PLAN
ASPHALT SPECIALTIES CO., INC.

DATE: 11/2/2024

Legend

N
W E
S

DRMS Permit Boundary

Monitoring Well

4902 Groundwater Potentiomeitrc Contour Line (ft amsl)

Flow Direction Arrow

4901.47 GW Elevation (ft amsl)

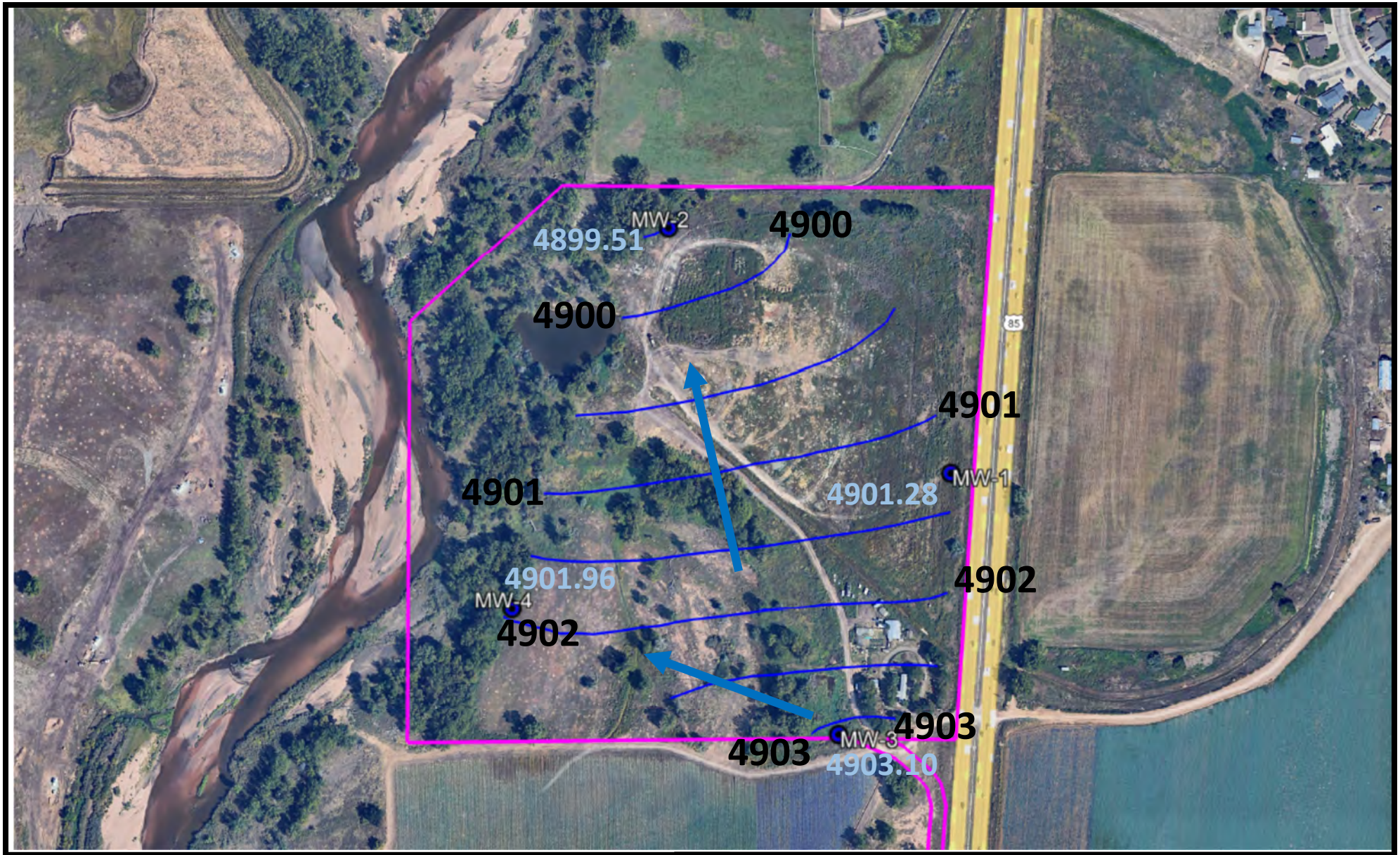
Scale: 0 300 600 feet

FIGURE 3

SEPTEMBER 2024 GROUNDWATER POTENTIOMETRIC MAP

MARCOVICH MINING RESOURCE
GROUNDWATER MONITORING PLAN
ASPHALT SPECIALTIES CO., INC.

DATE: 9/20/2024



Legend

N
W E
S

DRMS Permit Boundary Monitoring Well

4902 Groundwater Potentiomeitrc Contour Line (ft amsl)

Flow Direction Arrow 4901.28 GW Elevation (ft amsl)

Scale: 0 315 630 feet

FIGURE 4

AVERAGE BASELINE GROUNDWATER POTENTIOMETRIC MAP

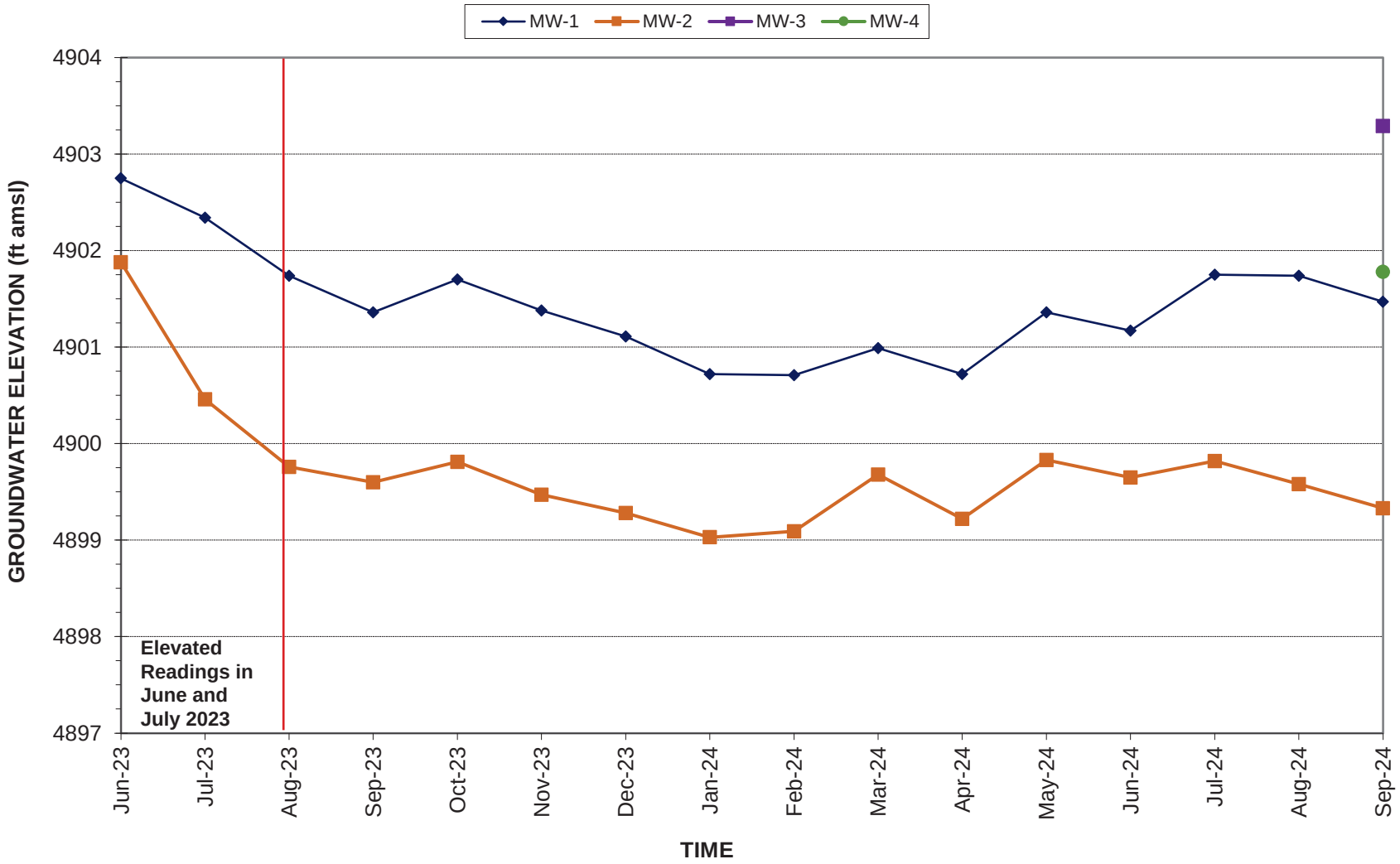
MARCOVICH MINING RESOURCE

GROUNDWATER MONITORING PLAN

ASPHALT SPECIALTIES CO., INC.

DATE: 9/20/2024

Figure 5 - Marcovich Mining Resource
Baseline Groundwater Well Elevations
June 2023 - September 2024



TABLES

Table 1

Marcovich Mining Resource
Groundwater Monitoring Plan
Baseline Groundwater Elevations (To-Date)
June 2023 to September 2024

Well Consturction Information	MW-1	MW-2	MW-3	MW-4
Latitude / Longitude	40.063479° / -104.819044°	40.065363° / -104.821855°	40.061470° / -104.820161°	40.062438° / -104.823413°
TOC (ft amsl)	4909.34	4907.55	4910.47	4910.6
Ground (ft amsl)	4906.5	4904.4	4907.6	4907.7
Screen (Top)	4.38	4.64	5.16	4.96
Screen (Bottom)	29.38	34.64	25.16	24.96
Screen (Length)	25	30	20	20
Total Depth from TOC	32.22	37.79	28.03	27.86
Total Depth (ft bgs)	29.38	34.64	25.16	24.96

Month & Year	MW-1			MW-2			MW-3			MW-4		
	SWL TOC (ft)	SWL (ft bgs)	GW Elev. (ft amsl)	SWL TOC (ft)	SWL (ft bgs)	GW Elev. (ft amsl)	SWL TOC (ft)	SWL (ft bgs)	GW Elev. (ft amsl)	SWL TOC (ft)	SWL (ft bgs)	GW Elev. (ft amsl)
Baseline Collection Period To-Date : August 2023 to September 2024												
June 2023*	*6.59*	*3.75*	***4902.75***	*5.67*	*2.52*	***4901.88***	Well Not Installed			Well Not Installed		
July 2023*	*7.00*	*4.16*	***4902.34***	*7.09*	*3.94*	***4900.46***	Well Not Installed			Well Not Installed		
August 2023	7.60	4.76	**4901.74**	7.79	4.64	**4899.76**	Well Not Installed			Well Not Installed		
September 2023	7.98	5.14	**4901.36**	7.95	4.80	**4899.60**	Well Not Installed			Well Not Installed		
October 2023	7.64	4.80	**4901.70**	7.74	4.59	**4899.81**	Well Not Installed			Well Not Installed		
November 2023	7.96	5.12	**4901.38**	8.08	4.93	**4899.47**	Well Not Installed			Well Not Installed		
December 2023	8.23	5.39	**4901.11**	8.27	5.12	**4899.28**	Well Not Installed			Well Not Installed		
January 2024	8.62	5.78	**4900.72**	8.52	5.37	**4899.03**	Well Not Installed			Well Not Installed		
February 2024	8.63	5.79	**4900.71**	8.46	5.31	**4899.09**	Well Not Installed			Well Not Installed		
March 2024	8.35	5.51	**4900.99**	7.87	4.72	**4899.68**	Well Not Installed			Well Not Installed		
April 2024	8.62	5.78	**4900.72**	8.33	5.18	**4899.22**	Well Not Installed			Well Not Installed		
May 2024	7.98	5.14	**4901.36**	7.72	4.57	**4899.83**	Well Not Installed			Well Not Installed		
June 2024	8.17	5.33	**4901.17**	7.90	4.75	**4899.65**	Well Not Installed			Well Not Installed		
July 2024	7.59	4.75	**4901.75**	7.73	4.58	**4899.82**	Well Not Installed			Well Not Installed		
August 2024	7.60	4.76	**4901.74**	7.97	4.82	**4899.58**	Well Not Installed			Well Not Installed		
September 2024	7.87	5.03	**4901.47**	8.22	5.07	**4899.33**	7.18	4.31	**4903.29**	8.82	5.92	**4901.78**
Average Groundwater Elevation (ft amsl) =**	**4901.28**			**4899.51**			**4903.10**			**4901.96**		

Notes:

** = Elevated readings due to persistent rains during spring and early-summer of 2023*

** = Inferred elevations for MW-3 and MW-4

ags = above ground surface

amsl = above mean sea level

bgs = below ground surface

ft = feet

SWL = Static Water Level

TOC = Top of Casing

Marcovich Mining Resource
Groundwater Monitoring Plan
WQCC Regulation 41 Interim Narrative Standards (INS) Tables 1 – 4

Table 2

Analytes	CAS No.	Units	INS Table 1 Domestic Water Supply: Human Health Standards	INS Table 2 Domestic Water Supply: Drinking Water Standards	INS Table 3 Agricultural Standards	INS Table 4 TDS Water Quaity Standards	Lowest INS Tables 1 - 4 Groundwater Quality Benckmark
Dissolved							
Aluminum	7429-90-5	mg/L	--	--	5	--	**5**
Antimony	7440-36-0	mg/L	0.006	--	--	--	**0.006**
Arsenic	7440-38-2	mg/L	0.01	--	0.1	--	**0.01**
Barium	7440-39-3	mg/L	2	--	--	--	**2**
Beryllium	7440-41-7	mg/L	0.004	--	0.1	--	**0.004**
Boron	7440-42-8	mg/L	--	--	0.75	--	**0.75**
Cadmium	7440-43-9	mg/L	0.005	--	0.01	--	**0.005**
Chloride	16887-00-6	mg/L	--	250	--	--	**250**
Chromium (Total) [Cr(III) + Cr(VI)]	7440-47-3	mg/L	0.1	--	0.1	--	**0.1**
Cobalt	7440-48-4	mg/L	--	--	0.05	--	**0.05**
Copper	7440-50-8	mg/L	--	1	0.2	--	**0.2**
Flouride	16984-48-8	mg/L	4	--	2	--	**2**
Iron	7439-89-6	mg/L	--	0.3	5	--	**0.3**
Lead	7439-92-1	mg/L	0.05	--	0.1	--	**0.05**
Lithium	7439-93-2	mg/L	--	--	2.5	--	**2.5**
Manganese	7439-96-5	mg/L	--	0.05	0.2	--	**0.05**
Molybdenum	7439-98-7	mg/L	0.21	--	--	--	**0.21**
Nickel	7440-02-0	mg/L	0.1	--	0.2	--	**0.1**
Nitrate (NO3)	14797-55-8	mg/L	10	--	--	--	**10**
Nitrite (N02)	14797-65-0	mg/L	1	--	10	--	**1**
Nitrate-Nitrite, Total (NO2 +NO3)	--	mg/L	10	--	100	--	**10**
Selenium	7782-49-2	mg/L	0.05	--	0.02	--	**0.02**
Silver	7440-22-4	mg/L	0.05	--	--	--	**0.05**
Sulfate	14808-79-8	mg/L	--	250	--	--	**250**
Thallium	7440-28-0	mg/L	0.002	--	--	--	**0.002**
Total Dissolved Solids (TDS)	10-33-3	mg/L	--	--	--	Based on Result	**Based on Result**
Uranium	7440-61-1	mg/L	0.03	--	--	--	**0.03**
Vanadium	7440-62-2	mg/L	--	--	0.1	--	**0.1**
Zinc	7440-66-6	mg/L	--	5	2	--	**2**
Other							
pH	--	mg/L	--	6.5 - 8.5	6.5 - 8.5	--	**6.5 - 8.5**

Notes:

= Lowest INS Table Standard per Parameter

All samples are filtered through 0.45 micron filter prior to preservation

Parameters Excluded from Groundwater Monitoring Program:

INS Table 1	INS Table 2	INS Table 3	INS Table 4
Total Coliforms (30 day average)	Chlorophenol	Mercury	None
Total Coliforms (max in 30 days)	Color		
Asbestos	Corrosivity		
Cyanide [Free]	Foaming Agents		
Mercury	Odor		
Gross Alpha Particle Activity	Phenol		
Beta and Photon Emitters			

Marcovich Mining Resource
Groundwater Monitoring Plan
Baseline Groundwater Quality Results (To-Date)
2nd Quarter 2023 - 3rd Quarter 2024

Table 3

Analyte/Parameters	CAS No.	Sample Event:	1st Quarter Background Sampling Event			2nd Quarter Background Sampling Event			3rd Quarter Background Sampling Event			4th Quarter Background Sampling Event			5th Quarter Background Sampling Event			6th Quarter Background Sampling Event					Lowest INS Tables 1 - 4 Groundwater Quality Standards	Marcovich Site-Specific Groundwater Quality Benchmarks (To-Date)
		Sample ID:	MW-1	MW-1D	MW-2	MW-1	MW-2	MW-2D	MW-1	MW-1D	MW-2	MW-1	MW-2	MW-2D	MW-1	MW-1D	MW-2	MW-1	MW-2	MW-3	MW-3D	MW-4		
		Date:	6/30/2023	6/30/2023	6/30/2023	9/27/2023	9/27/2023	9/27/2023	12/14/2023	12/14/2023	12/14/2023	3/28/2024	3/28/2024	3/28/2024	6/25/2024	6/25/2024	6/25/2024	9/17/2024	9/17/2024	9/17/2024	9/17/2024	9/17/2024		
		Type:	Grab	QA/QC	Grab	Grab	Grab	QA/QC	Grab	QA/QC	Grab	Grab	Grab	QA/QC	Grab	QA/QC	Grab	Grab	Grab	Grab	QA/QC	Grab		
		Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		
Dissolved																								
Aluminum	7429-90-5	mg/L	**0.017**	**0.019**	**0.015**	**0.003**	**0.002**	**0.003**	**0.004**	**0.004**	**0.008**	**0.003**	**0.003**	**0.004**	**0.009**	**0.005**	**0.002**	**0.003**	**0.005**	**0.012**	**0.011**	**0.011**	**5**	**5**
Antimony	7440-36-0	mg/L	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	**0.006**	**0.006**
Arsenic	7440-38-2	mg/L	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	0.0006 U	**0.0008**	**0.0008**	0.0006 U	**0.01**	**0.01**
Barium	7440-39-3	mg/L	**0.0867**	**0.086**	**0.0886**	**0.0955**	**0.1046**	**0.1052**	**0.0986**	**0.0942**	**0.0738**	**0.0958**	**0.0769**	**0.0782**	**0.0916**	**0.0975**	**0.0817**	**0.0969**	**0.0929**	**0.1047**	**0.1024**	**0.0964**	**2**	**2**
Beryllium	7440-41-7	mg/L	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	**0.004**	**0.004**
Boron	7440-42-8	mg/L	**0.33**	**0.32**	**0.3**	**0.29**	**0.27**	**0.28**	**0.2**	**0.2**	**0.16**	**0.28**	**0.21**	**0.2**	**0.29**	**0.29**	**0.24**	**0.25**	**0.23**	**0.16**	**0.16**	**0.21**	**0.75**	**0.75**
Cadmium	7440-43-9	mg/L	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	**0.0001**	**0.0001**	**0.0003**	**0.005**	**0.005**
Chloride	16887-00-6	mg/L	**201.2**	**201.99**	**223.45**	**201**	**274**	**274**	**200**	**203**	**201**	**213**	**200**	**200**	**198**	**215**	**173**	**227**	**224**	**147**	**142**	**166**	**250**	**274**
Chromium (Total) [Cr(III) + Cr(VI)]	7440-47-3	mg/L	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	**0.1**	**0.1**
Cobalt	7440-48-4	mg/L	**0.0003**	**0.0002**	**0.0011**	**0.0002**	**0.0004**	**0.0004**	**0.0002**	**0.0002**	**0.0003**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0006**	**0.0002**	**0.0003**	**0.0003**	**0.0003**	**0.0026**	**0.05**	**0.05**
Copper	7440-50-8	mg/L	**0.0018**	**0.002**	**0.0019**	**0.0016**	**0.0017**	**0.0018**	**0.0017**	**0.0015**	**0.0015**	**0.0011**	**0.0012**	**0.0013**	**0.0011**	**0.0014**	**0.0019**	**0.0016**	**0.0019**	**0.0096**	**0.0081**	**0.0034**	**0.2**	**0.2**
Flouride	16984-48-8	mg/L	**1.18**	**1.18**	**1.25**	**1.26**	**1.14**	**1.16**	**1.11**	**1.14**	**1.01**	**1.16**	**1.06**	**1.05**	**1.09**	**1.21**	**0.98**	**1.03**	**0.94**	**1.5**	**1.47**	**0.99**	**2**	**2**
Iron	7439-89-6	mg/L	0.005 U	0.005 U	**0.009**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.006**	0.005 U	0.005 U	**0.005**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.3**	**0.3**
Lead	7439-92-1	mg/L	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	**0.05**	**0.05**
Lithium	7439-93-2	mg/L	**0.033**	**0.033**	**0.028**	**0.046**	**0.042**	**0.045**	**0.039**	**0.039**	**0.032**	**0.037**	**0.028**	**0.028**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**2.5**	**2.5**
Manganese	7439-96-5	mg/L	**0.0144**	**0.0148**	**0.0041**	0.0008 U	**0.0025**	**0.0027**	0.0008 U	0.0008 U	**0.0015**	0.0008 U	**0.0009**	0.0008 U	**0.0008**	0.0008 U	**0.0023**	0.0008 U	**0.0014**	**0.0043**	**0.0037**	**0.1128**	**0.05**	**0.1128**
Molybdenum	7439-98-7	mg/L	**0.0099**	**0.0102**	**0.004**	**0.0058**	**0.0033**	**0.0036**	**0.0056**	**0.0056**	**0.0024**	**0.004**	**0.0024**	**0.0023**	**0.0036**	**0.0033**	**0.0032**	**0.0052**	**0.0026**	**0.0119**	**0.0113**	**0.0112**	**0.21**	**0.21**
Nickel	7440-02-0	mg/L	**0.0029**	**0.003**	**0.0027**	**0.0021**	**0.0024**	**0.0026**	**0.002**	**0.002**	**0.0018**	**0.0019**	**0.0017**	**0.0016**	**0.002**	**0.002**	**0.002**	**0.0021**	**0.0021**	**0.0019**	**0.0017**	**0.0037**	**0.1**	**0.1**
Nitrate (NO3)	14797-55-8	mg/L	**19.37**	**19.48**	**14.96**	**15.3**	**13.8**	**13.6**	**15.5**	**15.9**	**12**	**11.9**	**14.6**	**14.5**	**9.28**	**9.79**	**6.56**	**12.5**	**12**	**3.34**	**3.34**	**2.41**	**10**	**19.48**
Nitrite (NO2)	14797-65-0	mg/L	0.3 U	0.3 U	0.3 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	**1**	**1**
Nitrate-Nitrite, Total (NO2+NO3)	--	mg/L	**19.37**	**19.48**	**14.96**	**15.3**	**13.8**	**13.6**	**15.5**	**15.9**	**12**	**11.9**	**14.6**	**14.5**	**9.28**	**9.79**	**6.56**	**12.5**	**12**	**3.34**	**3.34**	**2.41**	**10**	**19.48**
Selenium	7782-49-2	mg/L	**0.0033**	**0.0041**	**0.0037**	**0.0023**	**0.0039**	**0.0035**	**0.0025**	**0.0023**	**0.002**	**0.001**	**0.0016**	**0.0013**	**0.0023**	**0.0021**	**0.0023**	**0.002**	**0.002**	**0.002**	**0.002**	**0.0011**	**0.02**	**0.02**
Silver	7440-22-4	mg/L	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	**0.05**	**0.05**
Sulfate	14808-79-8	mg/L	**249.51**	**251.21**	**286.72**	**264**	**292**	**290**	**236**	**240**	**223**	**579**	**210**	**210**	**215**	**243**	**176**	**246**	**218**	**151**	**144**	**183**	**250**	**579**
Thallium	7440-28-0	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	**0.0005**	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	**0.002**	**0.002**
Total Dissolved Solids (TDS)	10-33-3	mg/L	**1160**	**1187**	**1087**	**1006**	**1254**	**1192**	**1150**	**1112**	**904**	**1142**	**956**	**964**	**1254**	**1373**	**1193**	**1123**	**966**	**675**	**631**	**730**	**1716.25** [a]	**1716.25**
Uranium	7440-61-1	mg/L	**0.0199**	**0.019**	**0.0219**	**0.0159**	**0.0104**	**0.0115**	**0.0114**	**0.0091**	**0.0049**	**0.0185**	**0.0072**	**0.009**	**0.0309**	**0.0321**	**0.0102**	**0.0153**	**0.0041**	**0.0043**	**0.0041**	**0.0063**	**0.03**	**0.0321**
Vanadium	7440-62-2	mg/L	0.001 U	0.001 U	**0.001**	**0.001**	**0.001**	**0.001**	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	**0.001**	0.001 U	**0.001**	**0.001**	0.001 U	**0.1**	**0.1**
Zinc	7440-66-6	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	**0.001**	**0.001**	0.001 U	0.001 U	0.001 U	**0.001**	**0.002**	**0.003**	**0.002**	**0.004**	**2**	**2**
Other																								
pH	--	su	**7.0**	**7.0**	**6.9**	**7.3**	**7.0**	**7.0**	**6.9**	**7.0**	**6.7**	**7.0**	**6.8**	**6.8**	**7.2**	**7.2**	**7.1**	**7.1**	**6.8**	**7.1**	**7.1**	**6.9**	**6.5 - 8.5**	**6.5 - 8.5**

Notes:

	= Marcovich Site-Specific Groundwater Quality Benchmark value per Baseline sampling results (to-date)
	= Marcovich Groundwater Quality Benchmark value based on lowest applicable INS Tables 1 - 4 standard
	= Background concentration result exceeds lowest applicable INS Tables 1 - 4 standard
	= Highest Background TDS value
Bold	= Concentration detected above reporting limit
[a]	= Calculated Value (Per WQCC Regulation No. 41, for Background TDS Value between 501 - 10,000 mg/L, the Maximum Allowable TDS Concentration is 1.25 times the background value)
BKG	= Background
INS	= Interim Narrative Standard
mg/L	= milligrams per liter
POC	= Point of Compliance
su	= standard unit
U	= Analyte not detected above reporting limit
WQCC	= Water Quality Control Commission

APPENDIX A
MONITORING WELL CONSTRUCTION LOGS

ASPHALT SPECIALTIES CO.

345 W. 62nd Ave.
Denver, CO 80216
Phone: 303-289-8555

Asphalt Specialties Co., Inc.

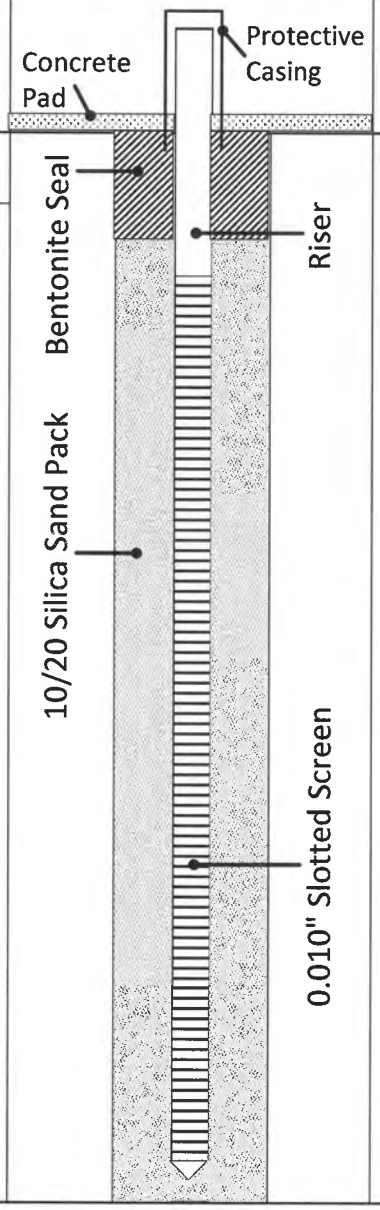
Marcovich Mining Resource

Monitoring Well Construction Log: MW-1

Date: 6/29/2023
Drilling Company: Terracon
Drilling Method: Hollow Stem Auger (HSA)

Well Material: 2" Schedule 40 PVC
Well Lat. / Long.: 40.063479° / -104.819044°
Ground Elevation: 4,906.5 ft amsl

DEPTH (ft bgs)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
0		**Ground Surface**
1–2		Sandy silt/clay, brown, dry (Overburden)
3–30		Sand and gravel, tan, dry (Alluvium) moisture present at ~3 ft bgs (% gravel increasing w/ depth) wet at ~ 4 ft bgs
30		Total Depth of Boring 30 feet bgs



APPROX. DEPTH TO WATER (Drilling): 6 ft bgs

Elevation (ft amsl)
4,910
4,909
4,908
4,907
4,906
4,905
4,904
4,903
4,902
4,901
4,900
4,899
4,898
4,897
4,896
4,895
4,894
4,893
4,892
4,891
4,890
4,889
4,888
4,887
4,886
4,885
4,884
4,883
4,882
4,881
4,880
4,879
4,878
4,877

ASPHALT SPECIALTIES CO.

345 W. 62nd Ave.
Denver, CO 80216
Phone: 303-289-8555

Asphalt Specialties Co., Inc.

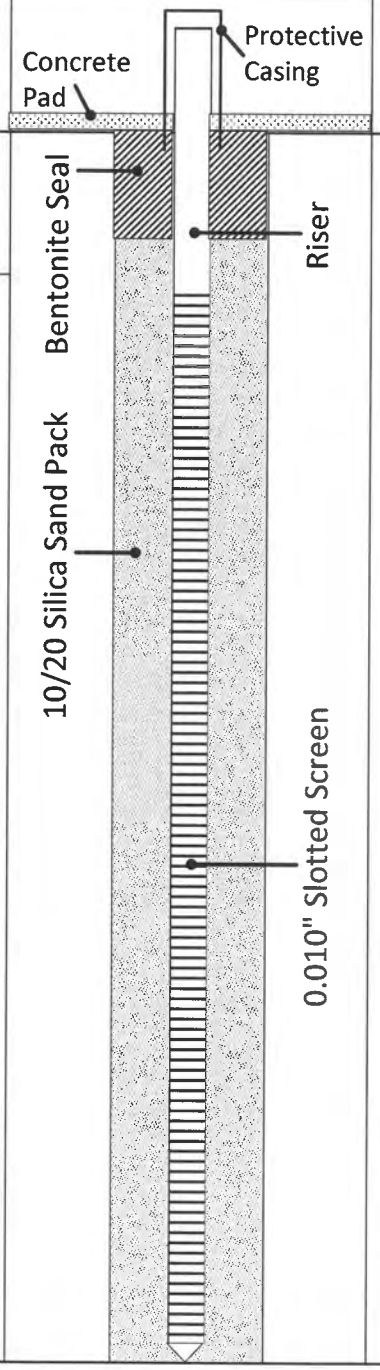
Marcovich Mining Resource

Monitoring Well Construction Log: MW-2

Date: 6/22/2023
Drilling Company: Terracon
Drilling Method: Hollow Stem Auger (HSA)

Well Material: 2" Schedule 40 PVC
Well Lat. / Long.: 40.065363° / -104.821855°
Ground Elevation: 4,904.4 ft amsl

DEPTH (ft bgs)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
0		**Ground Surface**
1–4		Sandy clay/silt, brown, dry (Overburden)
5–33		Sand and gravel, tan, dry (Alluvium) moisture present at ~5 ft bgs wet at ~ 6 ft bgs % gravel increasing w/ depth
34		Top of Shale encountered at 34.5 feet bgs (Bedrock)



APPROX. DEPTH TO WATER (Drilling): 5 ft bgs

Elevation (ft amsl): 4,907 – 4,906 – 4,905 – 4,904 – 4,903 – 4,902 – 4,901 – 4,900 – 4,899 – 4,898 – 4,897 – 4,896 – 4,895 – 4,894 – 4,893 – 4,892 – 4,891 – 4,890 – 4,889 – 4,888 – 4,887 – 4,886 – 4,885 – 4,884 – 4,883 – 4,882 – 4,881 – 4,880 – 4,879 – 4,878 – 4,877 – 4,876 – 4,875 – 4,874 – 4,873 – 4,872 – 4,871 – 4,870

ASPHALT SPECIALTIES CO.

345 W. 62nd Ave.
Denver, CO 80216
Phone: 303-289-8555

Asphalt Specialties Co., Inc.

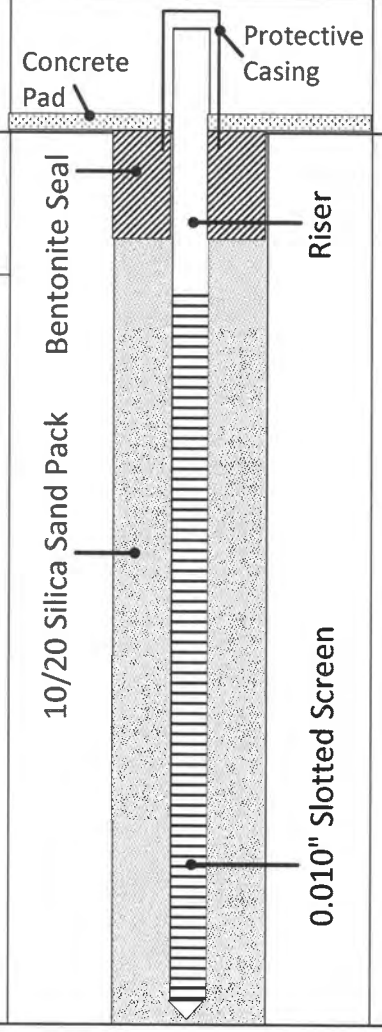
Marcovich Mining Resource

Monitoring Well Construction Log: MW-3

Date: 9/5/2024
Drilling Company: Terracon
Drilling Method: Hollow Stem Auger (HSA)

Well Material: 2" Schedule 40 PVC
Well Lat. / Long.: 40.061470° / -104.820161°
Ground Elevation: 4,907.6 ft amsl

DEPTH (ft bgs)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	WELL CONSTRUCTION	APPROX. DEPTH TO WATER (Drilling)	Elevation (ft amsl)
-3					4,911
-2					4,910
-1					4,909
0		Ground Surface			4,908
1		Sandy clay/silt, brown, dry (Overburden)			4,907
2					4,906
3					4,905
4					4,904
5		Sand with gravel, tan, dry (Alluvium)			4,903
6		moisture present at ~5 ft bgs			4,902
7		wet at ~ 6 ft bgs		6 ft bgs	4,901
8					4,900
9					4,899
10					4,898
11					4,897
12					4,896
13					4,895
14		% gravel increasing w/ depth			4,894
15					4,893
16					4,892
17					4,891
18					4,890
19					4,889
20					4,888
21					4,887
22					4,886
23					4,885
24					4,884
25					4,883
		Total Depth of Boring 25 feet bgs			



ASPHALT SPECIALTIES CO.

345 W. 62nd Ave.
Denver, CO 80216
Phone: 303-289-8555

Asphalt Specialties Co., Inc.

Marcovich Mining Resource

Monitoring Well Construction Log: MW-4

Date: 9/5/2024
Drilling Company: Terracon
Drilling Method: Hollow Stem Auger (HSA)
Well Material: 2" Schedule 40 PVC
Well Lat. / Long.: 40.062438° / -104.823413°
Ground Elevation: 4,907.7 ft amsl

DEPTH (ft bgs)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	APPROX. DEPTH TO WATER (Drilling)	Elevation (ft amsl)
0		Ground Surface		4,908
1–4		Sandy clay/silt, brown, dry (Overburden)		4,907–4,904
5–7		Sand with gravel, tan, dry (Alluvium) wet at ~ 6 ft bgs	6 ft bgs	4,903–4,901
8–16		% gravel increasing w/ depth		4,900–4,892
17–23		Sandy Gravel ~ 22 ft bgs		4,891–4,885
24–25		Total Depth of Boring 25 feet bgs		4,884–4,883