RPM, Inc.

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DIVISION OF RECLAMATION
MINING AND SAFETY

February 8, 2017

Ms. Amy Eschberger
Division of Reclamation, Reclamation, Mining and Safety
1313 Sherman St., Room 215
Denver, CO 80203

RE: Response to adequacy questions, Sugar City Mill, NOI File No. P2017-002

Dear Ms. Eschberger;
In your adequacy letter for the Sugar City Mill, file number P2017-002, you requested we address the following:

(1) "Please register this company (Mount Falcon Processing, LLC) name with the State or submit revised documents to include a company name that is registered with the State."

Response:
We have registered Mount Falcon Processing, LLC with the Colorado Secretary of State. The registration does not yet appear on their website. We will provide the Division verification of our registration, once the Secretary of States concludes its process.

(2) "In Attachment IX- Groundwater Monitoring Program, Table 1- Recommended Water Quality Testing Parameters…The Division will accept the exclusion of Asbestos, Chlorophenol, Odor, and Phenol. However, the Division does not approve of the exclusion of Antimony, Arsenic, and Cyanide from the baseline characterization of the site."

Response:
We have included a revised Table 1 (attached) which shows the requested parameter additions. We request the DRMS consider a revised parameter list if sampling demonstrates certain parameters are either non-detect or significantly below the pertinent water quality standard. We understand adequate sampling must be done in order to establish which parameters might be excluded.

Respectfully,

Bruce Humphries
Consultant for Mount Falcon Processing, LLC

RPM, Inc., 22151 E. Euclid Pl., Aurora, CO 80016 Phone: (303) 854-7499 Email: hlhumphries2@comcast.net

BBA water consultants

BISHOP-BROGDEN ASSOCIATES, INC.

Christopher J. Sanchez
Jeffrey A. Clark
Daniel O. Niemela
Jonathan D. George
Michael A. Sayler
Charles E. Stanzione

February 8, 2017

Robert Blake
Mount Falcon Processing, LLC
33 Sierra Drive
La Junta, CO 81050

RE: Mount Falcon Processing, LLC – Plan for Implementation of Baseline Ground Water Monitoring Program at the Sugar City Mill

Dear Robert:

This letter presents our plan for implementing a ground water monitoring program at the Sugar City Mill in Crowley County, Colorado. The ground water monitoring program will be used to collect baseline water quality and quantity information pertaining to the local hydrology at the site, and to satisfy the baseline ground water monitoring required by the Colorado Division of Reclamation and Mine Safety (DRMS).

Mount Falcon Processing, LLC (Mount Falcon) is preparing to construct a mill that will process up to 7 tons per day under a 110D Limited Impact Operations permit (Limited Impact permit). The mill will process gold, silver, zinc and lead ore using hydrochloric acid, hydrous ammonia, and borax using proprietary techniques. Prior to applying for the Limited Impact permit, Mount Falcon must determine the baseline hydrological conditions for the milling site, including water quality and quantity. To determine the baseline conditions, a ground water monitoring program will be implemented in conjunction with a DRMS Notice of Intent to Conduct Prospecting (DRMS NOI) submittal. The information herein describes the design and implementation plan for the ground water monitoring program to support the DRMS NOI submittal, and ultimately the Limited Impact permit.

Description of Sugar City Mill Site and Hydrology

The mill site is located in Sugar City, Colorado on a 12.5-acre property as shown in Figure 1; however, we understand that the milling permit will occupy only a portion of the overall property that is less than 10 acres. The location is mostly flat and there are no significant drainages or surface water features on the property.

The surface geology at the property consists of slopewash material consisting of silt, sand and gravel of modern flood plains[1]. Slightly to the east, alluvial deposits are mapped, also consisting of silt, sand

[1] Geologic Map of the Lamar Quadrangle, Colorado and Kansas, Sharps, J.A, U.S. Geological Survey Map I-944, 1976 https://ngmdb.usgs.gov/Prodesc/proddesc_9832.htm

and gravel. Based on borehole data from nearby wells, some clay is present in the subsurface material as well.

Pierre Shale, or possibly the Niobrara shale, underlies the shallow alluvial and slopewash materials.

Based on borehole data from the Division of Water Resources (DWR) well permit database, the average depth to bedrock is on the order of 40 to 60 feet. The depth to ground water is estimated to be 10 to 15 feet.

An alluvial aquifer system exists within the Horse Creek alluvial drainage which extends to the mill site location. The ground water gradient, shown in Figure 2, generally mimics the ground surface topography and is from northwest to southeast, towards Horse Creek and ultimately towards the Arkansas River. The alluvial aquifer system overlies shale bedrock, and as a result, there is very little local hydraulic interaction between the shallow alluvial aquifer system and the shale bedrock.

Should, in the unlikely situation, contamination occur at the mill site, the contaminants would likely enter the alluvial aquifer system and follow the hydraulic gradient to the southeast. The monitoring program and the location of the proposed monitoring points are intended to capture up-gradient hydraulic influences from the northwest as well as influences, if any, from the mill site down-gradient to the southeast.

Function of Monitoring Program

Prior to applying for the Limited Impact permit for the milling operations, the ground water monitoring program is intended to provide baseline data representative of pre-milling ambient conditions in the alluvial aquifer as required by the DRMS permitting process. The baseline data to be collected include water quantity, measured in the form of depth to water level, and water quality, measured by testing for the presence and/or concentration of various parameters, provided later in this letter.

During operation of the mill, the scope of the monitoring program will be broadened to monitor and identify any changes in alluvial ground water conditions resulting from the milling activity, should changes occur. We do not expect the milling operations to affect alluvial ground water conditions underlying the site. Nonetheless, by monitoring water quantity and quality during operations, the monitoring program will function as an early warning system alerting the site operator if changes in water quality are detected.

Proposed Monitoring Point Locations

Based on our field observations, land use considerations, hydrological and geological research completed for the site, and discussion with DRMS staff, we identified four ground water monitoring points to be installed as shown in Figure 1. Alluvial ground water near the mill site flows from northwest to southeast along Horse Creek, and the four monitoring point locations include two up-gradient locations and two down-gradient locations.

In addition to characterizing the ambient pre-milling ground water conditions at the site, the monitoring points are positioned to be able to identify influences to ground water conditions resulting from nearby up-gradient land uses. We note that there is a cattle feedlot approximately 250 feet north of the milling

site that may affect current ground water quality or cause changes to the ground water conditions in the future.

Installation of Ground Water Monitoring Points

Construction Specifications and Guidelines

Each ground water monitoring point should be constructed as a monitoring well consistent with the State of Colorado's Water Well Construction Rules, 2 CCR 402-2 (Well Construction Rules)[2]. The wells should be constructed to shale bedrock, which is expected to be reached at a depth of approximately 40 to 60 feet, but may be more or less depending on individual site conditions. The borehole size will be approximately 7-inches in diameter, and the wells will be constructed with 2-inch PVC casing perforated in the saturated alluvial aquifer material. Well construction will be dictated by Rule 14 of the Well Construction Rules pertaining to minimum standards for construction of monitoring wells. These standards include, but are not limited to a minimum 20-foot depth of grout seal[3], an appropriate gravel pack to stabilize the borehole and to filter fine grained material from the aquifer, and a stick-up secured wellhead.

Well Construction Process

The four monitoring wells will be constructed by a drilling contractor in accordance with specifications provided by BBA, and consistent with the Well Construction Rules. The wells will be drilled using a portable truck-mounted drilling rig. Additional contractor equipment will include a water truck and two support vehicles. Total time to construct all four monitoring wells is expected to not exceed three days.

The project site is mostly flat and access to the drill sites should not require the grading of any roads or the construction of any drill pads. The contractor's vehicles should be able to access the proposed drill sites by simply driving to the well sites. The wells will be drilled using a mud rotary method, and a small portable mud tank will be used to circulate drilling mud during the drilling of the boreholes and construction of the wells. The portable mud tank will be above-ground; excavation of mud pits will not be necessary. This approach minimizes site disturbances.

Drill cuttings will be circulated to the surface and will settle in the portable above-ground tank. Drill cuttings will be spread out and disposed of on site, and will consist of inert sand and clay. Total volume of drill cuttings is not expected to exceed 0.6 cubic yards of material per borehole, based on an assumed 7-inch borehole and a total well depth of 60 feet.

At the completion of the well construction process, four well heads will remain at the well sites. Minimal site disturbances are expected other than the expected ground disturbances associated with

[2] http://water.state.co.us/DWRIPub/Documents/BOE%20Water%20Well%20Construction%20Rules%202%20CCR%20402-2%20_20160901.pdf

[3] If the shallowest ground water zone is encountered at depths shallower than 20 feet, then it may be necessary to obtain a variance from the State Engineer's Office for the construction of the well with a grout seal to a depth of less than 20 feet.

trucks accessing and driving on the property and the minimal ground disturbance associated with the disposal of 0.6 yards of material per well.

We note that a Notice of Intent to Construct Monitoring Holes form (GWS-51) has already been submitted and approved by the DWR. Following construction of the monitoring wells, separate monitoring well permit applications (GWS-46)[4] for each monitoring point will be completed and submitted to the DWR. Additional well completion forms will be completed and submitted as necessary to the DWR for each monitoring well constructed.

Guidelines for Ground Water Observations and Measurements

The monitoring program should include observations of both water quantity and quality, as summarized below.

Water Quantity Observation Guidelines

As part of completing the baseline ground water monitoring, Mount Falcon should collect monthly measurements of depth to water. These water level measurements provide information regarding changes to ground water gradient and flow direction, and are also necessary for ensuring proper purging prior to obtaining water quality samples.

We recommend that water level measurements be made using an electronic water level indicator, however other methods (weighted steel tape, airline or transducer) can be used. Measurements should be taken at each of the monitoring points within the same day within as close a timeframe as possible to ensure compatible readings between wells. Water level measurements should also be made from the same reference point on the well each time a measurement is taken; we recommend using the top of the well casing as the reference point, and marking this location with permanent marker to ensure consistency.

Lastly, changes in conditions within the well may cause the water level to be out of equilibrium prior to removing the well cap. If air rushes in or out of the well after removing the well cap, take multiple measurements (at approximately one per minute) until the water level reaches equilibrium and the difference in consecutive measurements is less than 0.1 feet.

Water Quality Sampling and Testing Guidelines

To establish a baseline characterization of ground water quality at the mill site, Mount Falcon should collect monthly water samples at each monitoring point. Collecting useful water quality data requires proper care and correct sampling procedures. Guidelines are provided in this section to help ensure that acceptable water samples are collected for the monitoring program.

Based on the construction specifications for the monitoring points, water quality samples will need to be collected using either a bailer or a small peristaltic or submersible pump. Water quality samples should be taken at each of the monitoring points on the same day within as close a timeframe as possible to ensure compatible results between wells.

[4] http://water.state.co.us/DWRIPub/Documents/gws-46.pdf

To ensure that a representative water sample is obtained, the well should be thoroughly purged prior to collecting water samples. Purging the well ensures that any stagnant water is evacuated and that representative samples of the ground water are collected. To ensure sufficient purging occurs, a volume of water equal to a minimum 3 times the water column in the bore hole should be evacuated. Care should be taken when purging the well, particularly if using a bailer, to minimize agitation or aeration of the water within the well, as this may cause increased turbidity or chemical changes in the water.

Once the well has been purged, water samples can be collected using a bailer or small pump. As with purging the well, care should also be taken to minimize agitation or aeration of the water when collecting water samples. Samples collected from the monitoring points should be properly sealed and transported under chain of custody procedures and within applicable holding times to a laboratory for analysis.

The DRMS has indicated that the baseline water quality test parameters should initially include the parameters specified in the Domestic Use and Agricultural Use water standards provided in the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission Regulation 41 (5 CCR 1002-41)[5]. These parameters have been consolidated and provided in Table 1. We have excluded certain parameters from the list because it is our opinion that these parameters are not necessary to characterize baseline conditions and because they are not relevant to the proposed activities at the proposed milling operation. The parameters that we have omitted and justification for excluding those parameters are also summarized in Table 1.

Recognizing the potential cost of testing for the wide range of parameters, we recommend revisiting the parameter list after 3-6 months of test data becomes available, and consider initiating further discussion with the DRMS on whether certain parameters may be removed from testing.

If you have questions or comments, please do not hesitate to call. BBA is available to support the implementation of these monitoring points and the monitoring program, if needed.

Very truly yours,

BISHOP-BROGDEN ASSOCIATES, INC.

Christopher J. Sanchez, P.G.
Principal

CJS/PJB/jeb
Enclosures
1632.00

[5] https://www.colorado.gov/pacific/sites/default/files/41_2016%2806%29hdr.pdf

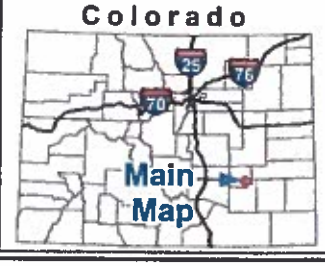
Figure 1
Mount Falcon Processing, LLC
Sugar City Mill
Site Map and Proposed Monitoring Point Locations

Date: 1/6/2017 | Job No. 1632.00

Legend

- Proposed Monitoring Point (Latitude, Longitude)
- Sugar City Mill Site Property Boundary (Approx.)
- PLSS Section

Aerial Photo Date: 9/17/2014
Data Source: Mount Falcon Processing, LLC, Google Earth, CDOT, USGS, BLM



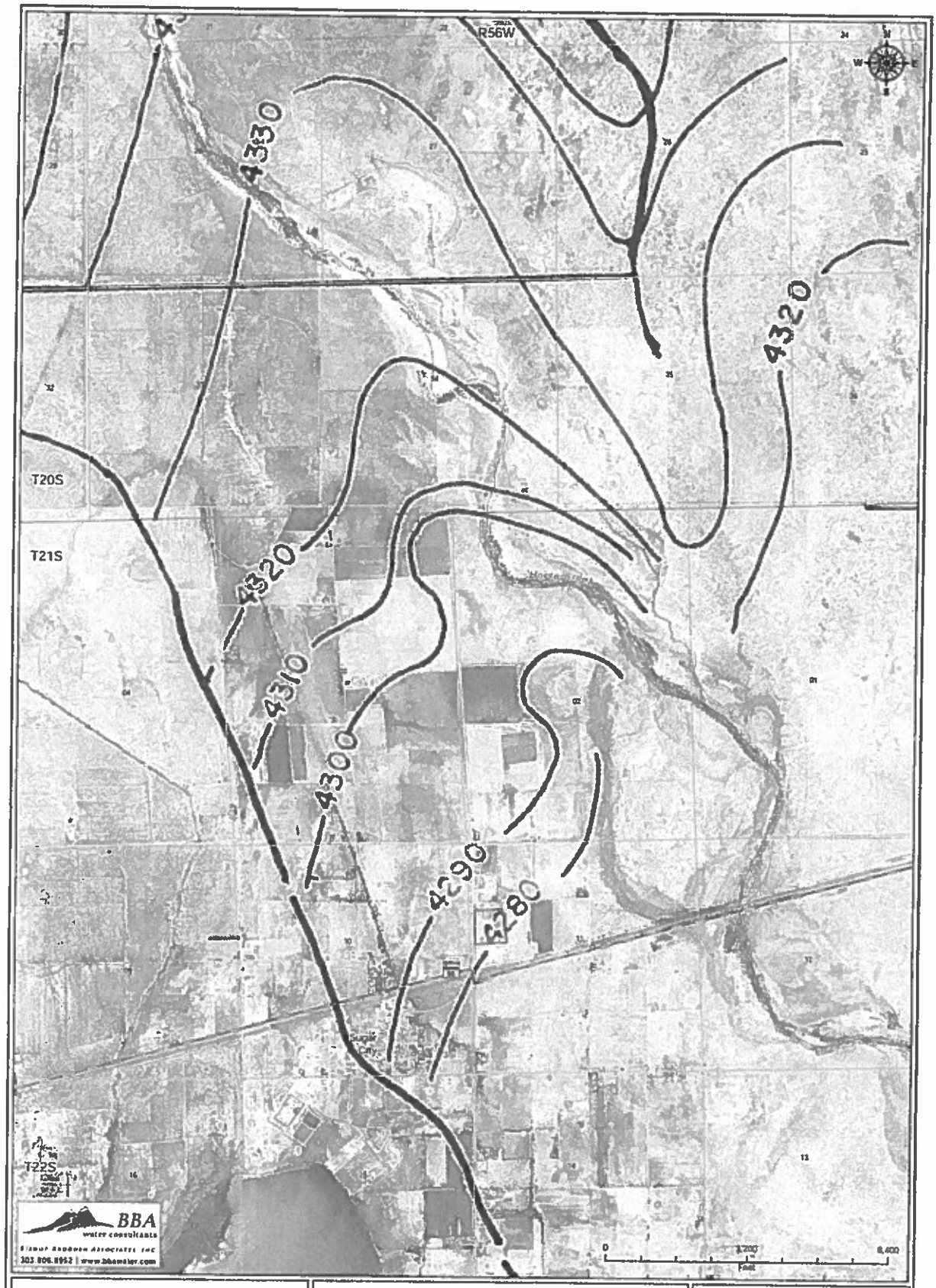


Figure 2
Mount Falcon
Processing, LLC
Sugar City Mill
Alluvial Aquifer Water Table

Date: 1/6/2017 | Job No. 1632.00

Legend

Sugar City Mill Site Property Boundary (Approx.)

Water Table Elevation

Aerial Photo Date: 09/13/2015
Data Source: USGS, CDSS, CDOT, BLM
Ground Water Contours: SEO & DWR Horse Creek Basin Study 3/1989

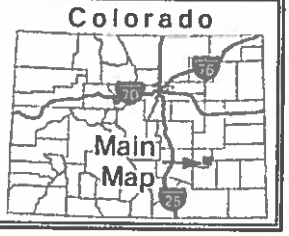


Table 1
Mount Falcon Processing, LLC
Sugar City Mill - Ground Water Monitoring Program
Recommended Water Quality Testing Parameters

Parameter	CDPHE Regulation 41 Table Reference
Total Coliforms	1
Antimony (Sb)	1
Asbestos	1
Arsenic (As)	1, 3
Barium (Ba)	1
Beryllium (Be)	1, 3
Cadmium (Cd)	1, 3
Chromium (Cr)	1, 3
Cyanide (CN)	1
Fluoride (F)	1, 3
Lead (Pb)	1, 3
Mercury (Hg)	1, 3
Molybdenum (Mo)	1
Nickel (Ni)	1, 3
Nitrate (NO3)	1
Nitrite (NO2)	1, 3
Nitrate + Nitrite (NO2+NO3-N)	1,3
Selenium (Se)	1, 3
Silver (Ag)	1
Thallium (TI)	1
Uranium (U)	1
Gross Alpha Particle Activity	1
Beta and Photon Emitters	1
Chloride (Cl)	2
Color	2
Copper (Cu)	1, 2
Corrosivity	2
Foaming Agents	2
Iron (Fe)	1, 2
Manganese (Mn)	1, 2
pH	1, 2
Sulfate (SO4)	2
Zinc (Zn)	1, 2
Aluminum (Al)	3
Boron (B)	3
Cobalt (Co)	3
Lithium (Li)	3
Vanadium (V)	3
Total Dissolved Solids (TDS)	4

Notes:

- Parameters based on CDPHE WQCC 5 CCR 1002-41 regulation for basic standards for ground water quality.

1 Table 1 - Domestic Water Supply - Human Health Standards
2 Table 2 - Domestic Water Supply - Drinking Water Standards
3 Table 3 - Agricultural Standards
4 Table 4 - TDS Water Quality Standards

The following parameters are included on one of Tables 1 through 4 referenced above, but are not recommended for the monitoring program because they are not applicable to the milling operation and are not necessary to characterize the local ground water system.

Chlorophenol
Odor
Phenol