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719-275-8951

**Zephyr Gold USA Ltd.'s**

**Designated Mining Regular (112d) Operation**

**Reclamation Permit Application**

**For**

**Dawson Gold Mine**

**Fremont County, CO**

**Application and Exhibits**

**Submitted June 30, 2021**

**Preliminary Adequacy Submitted February 9, 2022**

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THENCE N0° 13' 10"E, A DISTANCE OF 419.87 FEET TO THE SOUTHERLY RIGHT-OF-WAY LINE OF  
FREMONT COUNTY ROAD 3A, ALSO KNOW AS TEMPLE CANYON ROAD;  
THENCE N84° 13' 02"E, ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 45.25 FEET;  
THENCE S0° 13' 10"W, A DISTANCE OF 524.04 FEET;  
THENCE S89° 29' 52"W, A DISTANCE OF 45.00 FEET TO THE POINT OF BEGINNING;

CONTAINING 3,562,040 SQUARE FEET OR 81.773 ACRES OF LAND, MORE OR LESS.

PREPARED: 06/23/2021  
ON BEHALF OF AND FOR  
RED ROCK LAND SURVEYS, INC.

  
JOHN E. KRATZ  
CO. REG. NO. 20142  
303-994-6300



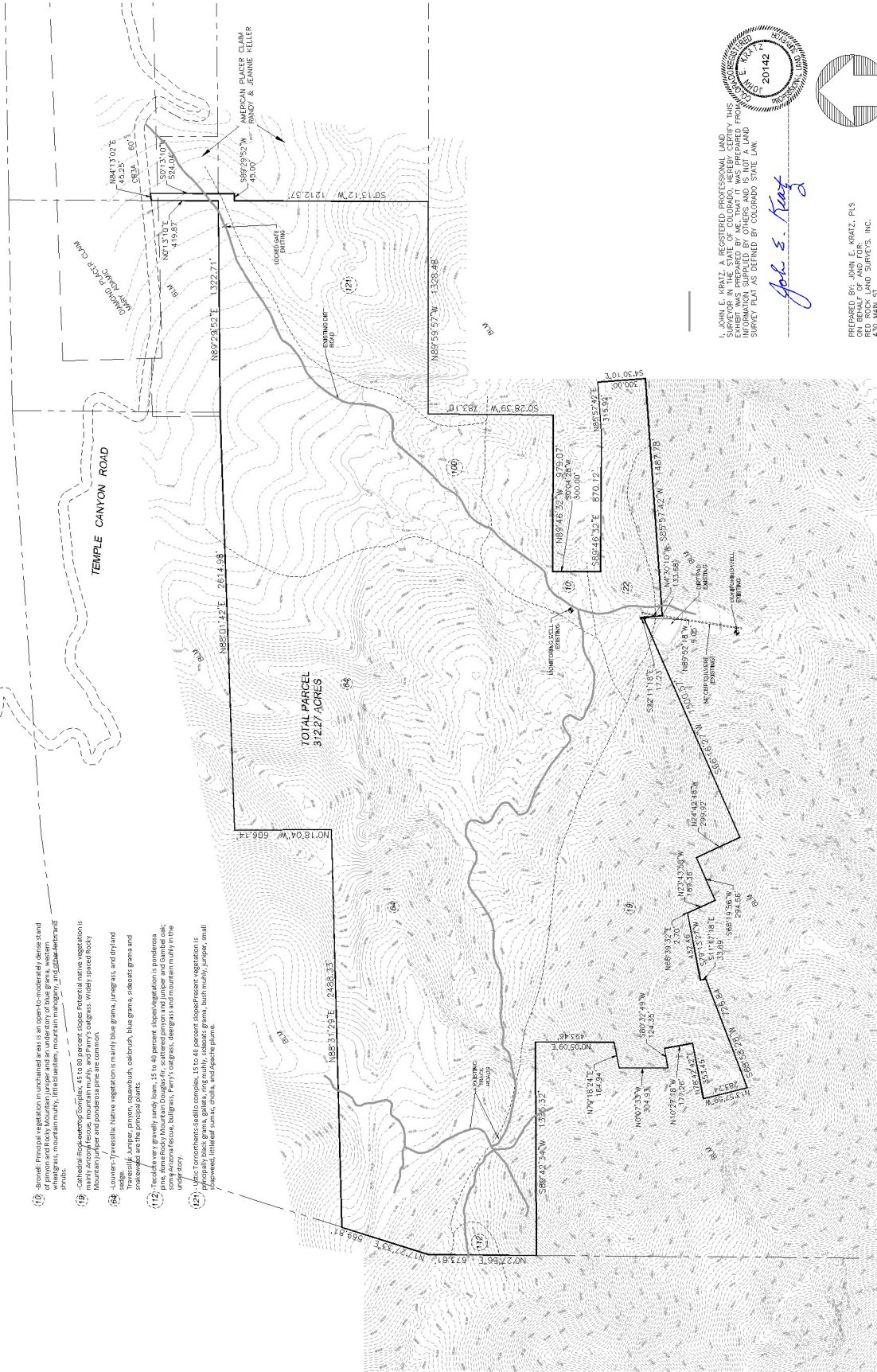
### 2.1.3 Mine Entrance Coordinates

The coordinates for the primary entrance to the permitted area is from Fremont County Road 3A aka Temple Canyon Road; 38.39974 lat; -105.28726 long.

## 2.3 Exhibit C: Pre-Mining and Mining Plan Maps of the Affected Lands

# EXHIBIT C.3.1 DAWSON MINE PRE-MINING MAP OF THE AFFECTED LAND FREMONT COUNTY, COLORADO

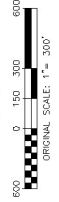
- 10 Principal vegetation in uncharted areas is an open to moderately dense stand of piñon and rocky mountain juniper and an understory of blue grama, western shrubs, mountain mulch, little bluestem, mountain mint, and sagebrush.
- 11 Collected data indicate that the vegetation is a dense forest of piñon and juniper with a thick understory of blue grama, western shrubs, mountain mulch, and Pinyon oaks. Wildfire spaced rocky mountain juniper and ponderosa pine are common.
- 12 Lower-Triassic. Native vegetation is mainly blue grama, juniper, and dryland sagebrush.
- 13 The area is very gravelly sandy loam, 15 to 40 percent slope. Vegetation is ponderosa pine, Rocky Mountain Douglas fir, scattered piñon and juniper and Gambel oak; some Arizona fescue, bulgrass, Pinyon oaks, deergrass and mountain mulch in the lower part.
- 14 The area is very gravelly sandy loam, 15 to 40 percent slope. Vegetation is ponderosa pine, Rocky Mountain Douglas fir, scattered piñon and juniper and Gambel oak; some Arizona fescue, bulgrass, Pinyon oaks, deergrass and mountain mulch in the lower part.



I, JOHN E. KRATZ, A REGISTERED PROFESSIONAL LAND SURVEYOR, HAVE CONDUCTED A PRE-MINING SURVEY OF THE AFFECTED LAND AND HAVE PREPARED THIS EXHIBIT. THIS EXHIBIT WAS PREPARED BY ME, THAT IT WAS PREPARED FROM INFORMATION SUPPLIED BY OTHERS AND IS NOT A LAND SURVEY PLAT AS DEFINED BY COLORADO STATE LAW.

*John E. Kratz*

PREPARED BY: JOHN E. KRATZ, PLS  
ON BEHALF OF AND FOR:  
DAWSON MINE  
430 MAIN ST.  
CARRIZO, CO 81012  
Tel: 719.555.1555  
Email: jkratz@coloradosurvey.com



APPLICANT: ZEPHYR GOLD USA LTD.  
DAWSON MINE  
FREMONT COUNTY, COLORADO

SCALE: VERIFICATION  
DATE: 11/01/2021  
BY: J.E.K.

| NO. | DATE     | BY     | REVISIONS                     |
|-----|----------|--------|-------------------------------|
| 1   | 12/17/21 | J.E.K. | APPLICANT NAME / VERIFICATION |
| 2   |          |        |                               |
| 3   |          |        |                               |
| 4   |          |        |                               |
| 5   |          |        |                               |

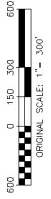
THIS PLAT IS BASED ON THE FOLLOWING INFORMATION:  
1. A SURVEY OF THE AFFECTED LAND BY OTHERS.  
2. A SURVEY OF THE AFFECTED LAND BY OTHERS.  
3. A SURVEY OF THE AFFECTED LAND BY OTHERS.  
4. A SURVEY OF THE AFFECTED LAND BY OTHERS.  
5. A SURVEY OF THE AFFECTED LAND BY OTHERS.



DAWSON MINE MINING PLAN MAP OF THE AFFECTED LAND  
FREMONT COUNTY, COLORADO



THERE ARE NO KNOWN BURIED UTILITY LINES ALONG TEMPLE CANYON ROAD ADJACENT TO OR WITHIN 200 FEET OF THE AFFECTED AREA BOUNDARY SOURCE, COLORADO R11



PRINTED: 02/09/22

APPLICANT: ZEPHYR GOLD USA LTD.  
DAWSON MINE  
FREMONT COUNTY, COLORADO

SCALE VERIFICATION  
SHEET IS 1/4" INCH ON ORIGINAL DRAWING  
0  
IF NOT ONE INCH ON THIS SHEET,  
PLEASE OF DOCUMENT  
THIS PLAT IS CERTIFIED ONLY TO THE PARTIES NAMED HEREON AND  
NO OTHERS. THE PLAT IS NOT TO BE USED FOR ANY OTHER PURPOSE.  
CORRECT THIS PLAT BY OTHER PLAT OR OTHER PLAT. NO  
BOOK LAND SURVEYERS RETAINS THE RIGHT TO REVERSE, DON OR  
REPLACES THE PROPERTY OF RED ROCK LAND SURVEYS, INC. RED

| REVISIONS    |                           | DATE     | BY  |
|--------------|---------------------------|----------|-----|
| NO.          | 1                         | 04/23/21 | JER |
| DESK BY:     | MBOU FOLMERS, LS. CHANCES |          |     |
| CHECKED BY:  | 2                         | 12/17/21 | JER |
| APPROVED BY: | 4                         |          | JER |

## 2.4.3 Surface Facilities

### 2.4.3.1 Ancillary Buildings

An office-mine services complex will be constructed on a 130-foot x 70-foot x 6-inch concrete slab foundation and contain two connected 60-foot x 60-foot sections. The east section will be created from an assembly of prefabricated components and will contain administration and technical staff offices, a mine dry (changing rooms), washroom facilities, lunchroom/meeting room and an emergency response/first aid room. The west section will contain a maintenance shop to provide mechanical, electrical and instrumentation facilities as well as warehouse and parts storage facility. The west section will be constructed with a roof structure supported on sea can walls to provide service bays for mobile equipment as well as storage space.

Assay and metallurgical laboratories will be housed in a portable trailer assembled off-site with all necessary test and safety equipment. The trailer will be hauled to site and placed and secured on blocking near the process plant building to provide daily and shift quality monitoring information on solids and water samples for the safe and efficient operation of the mill and mine.

### 2.4.3.2 Mine Dewatering

Water that accumulates at the active face will be pumped away using a small pneumatic diaphragm pump (Wilden type pump) or a small electric pump, using 2-inch steel or PVC pipe from the face to the sump.

Underground dewatering water will be collected in sumps underground where the water will be allowed to settle. These initial underground sumps will allow settling of suspended solids. The sump system will be designed so that the slimes can be cleaned out periodically. After initial settling, the “clean” water will be pumped in stages, to the surface for clarification and use in the mill.

A permanent pumping station will be constructed at the bottom of the mine that will pump the “clean” water to two storage tanks, approximately 5000 gallons each, on the surface near the portal. At the beginning of each shift, the tank will be opened and checked for a petroleum sheen. In the event a petroleum product sheen is observed in the tank, it will be skimmed off the water surface. This water will be used in the mill, in the mine and for fire mitigation if necessary. The pumping arrangement will be set up as a redundant parallel system, with either side capable of providing mine dewatering without the other.

### 2.4.3.3 Fuel and Oil Storage

Diesel fuel will be stored on site in two 4200-gallon steel tanks located on the north end of the mill pad. This provides easy access to the portal to supply the mobile equipment that will only be used on site. Engine oil and hydraulic oil will be stored in 55 gallon drums stored at the maintenance facility. Secondary containment will be provided for all petroleum products. A Spill Control, Containment, and Contingency (SPCC) Plan will be prepared and implemented for the site in accordance with federal and state regulations, as the total aboveground storage of fuel and oil in containers of 55 gallons or more will exceed 1,320 gallons.

Tailings filter cake at a target moisture content of 15% will be conveyed to a temporary stockpile on a concrete pad immediately outside of the mill building before being hauled by a truck to the FTST for storage as described in Section 2.4.6.4.

#### 2.4.5.5 Volumes of circuits, types of vessels and conveyances and materials to be used in construction

The mill will house various sizes of bins, tanks, conveyors and other major equipment as follows.

| Equipment Description & Type |          | Nominal Capacity      | Size or Model                            | # of |
|------------------------------|----------|-----------------------|--|------|
| Coarse Ore Dump              | Hopper   | 50 t Live             | 322 ft <sup>3</sup> Live                 | 1    |
| Fine Ore                     | Bin      | 300 ton Live          | 22 ft Dia. x 27 ft 6,100 ft <sup>3</sup> | 1    |
| Crushed Ore                  | Conveyor |                       | 20 In x 236 ft                           | 1    |
| Secondary Screen Feed        | Conveyor |                       | 20 In x 173 ft                           | 1    |
| Ball Mill Feed               | Conveyor |                       | 30 In x 40 ft                            | 1    |
| Primary Ball                 | Mill     |                       | 8 ft Dia x 12.33 ft Egl                  | 1    |
| Rougher Flotation            | Cell     | 100 ft <sup>3</sup>   | D-R 30                                   | 9    |
| Regrind Ball                 | Mill     |                       | 1.5 m Dia x 2.7 m Egl                    | 1    |
| Cleaner Flotation            | Cell     | 100 ft <sup>3</sup>   | D-R 30                                   | 4    |
| Concentrate Thickener        | Tank     | 15.4 ton/d solids     | 8.3 ft Dia                               | 1    |
| Concentrate Filter Feed      | Tank     | 225 ft <sup>3</sup>   | 6.6 ft Dia x 8 ft H                      | 1    |
| Tailings Thickener           | Tank     | 360 ton/d solids      | 60 ft Dia                                | 1    |
| Tailings Filter Feed         | Tank     | 2,200 ft <sup>3</sup> | 13.3 ft Dia x 16.6 ft H                  | 1    |
| Tailings Filter Cake         | Conveyor |                       | 36 In x 40 ft                            | 1    |

The following tanks will be located outside the mill building. Each tank will have individualized secondary containment as a berm that will have 110% volume capacity.

- The un-named tank located at the top of drawing 15561-3000-GAD-100 is the tailings thickener tank (4010-THT-002). It will contain final mill tailings slurry prior to filtration.
- The tailings filter feed stock tank (4020-TNK-009) will store densified tailings thickener underflow for intermittent feeding to the tailings filter inside the mill building.
- The tailings filter cake storage is where the tailings after filtration will be stored prior to loading onto trucks for haulage to the tailings storage facility on a shift basis.
- The process water tank (6024-TNK-005) will contain process water received from various areas of the mill, including overflow streams from the tailings and concentrate thickeners, filtrates from both filters.
- The filtered & fire water tank (6025-TNK-006) will contain filtered water suitable for use in mixing reagents in the upper section while the bottom section will be used for firefighting should this be necessary.

#### 2.4.5.6 Reagents

Flotation chemicals for use in the milling operation will be stored on site. The following are the reagents and their consumption rates that will be required for the process:

- Potassium Amyl Xanthate (PAX), a sulphide mineral collecting agent, powder form, 0.25 lb./ton
- Methyl IsoButyl Carbinol (MIBC), a frother, liquid form, 0.1 lb./ton
- A generic anionic emulsion flocculent, liquid form, 0.05 lb./ton

Chemicals will be delivered by trucks to the site, and delivered to their designated storage containers. Approximately a one-month supply of reagents will be stored on site at any given time: 2,250 lbs. of PAX, 900 lbs. of MIBC, and 450 lbs. of the generic flocculent. The reagents will be delivered in metal or steel drums and will be placed in a sea container designed for storage of bulk liquids. PAX is delivered in a plastic lined metal drum because it is a powder. The flocculant will be delivered in 50 lb. bags and will be stored in the sea container also.

Reagents requiring mixing, PAX and flocculent, will be mixed in the respective tanks in the reagents area. The tanks will be equipped with an agitator and then transferred to a head tank for distribution to the appropriate addition points in the mill. Frother (MIBC) will not require mixing and will be fed neat from its isotainer in a loop line. Any spillages within the mill building will be contained and pumped to tailings.

## 2.5 Exhibit E: Reclamation Plan

The Dawson Gold Mine site will be reclaimed to wildlife habitat. After mining is complete and the mill is no longer in operation, final reclamation will begin. During reclamation, the mine portal and all mine openings are sealed, the mill is dismantled, the disturbed areas are stabilized and pre-mining conditions are re-established with contours reflecting elevation changes resulting from the construction of various pads, roads and the FTSF during the LOM.

### 2.5.1 Growth Medium Materials

The soil type at the proposed mill site is Bronell gravelly sandy loam according to USDA NRCS web survey. Gravelly sandy loam may exist up to 16 inches deep. During development of the entire mill facility including FTSF, storage areas, laydown area etc, four to six inches of topsoil (growth medium) will be salvaged. The salvaged growth medium will be maintained in the topsoil stockpile located at the north end of the mill site. It is anticipated that approximately 24,000 yd<sup>3</sup> will be stockpiled during site development.

### 2.5.2 Beneficial Use of Removed Trees

Native vegetation on the mill site includes pinyon and juniper trees. During site development, the trees will be scrubbed and stockpiled. A tree removal contractor will be hired to make the scrubbed trees into firewood or mulch. The end product(s) will be made available to the community through the tree removal contractor.

### 2.5.3 Reclamation Procedure

#### 2.5.3.1 Mill and Building Demolition and Removal

All surface structures and mining equipment will be dismantled and removed from the site to other industrial sites to be reused. Mill components including ore sizing equipment will be transported off-site. Metal buildings will be dismantled and hauled off-site. Manufactured buildings will be transported off-site.

During mill demolition, large equipment and structures that are not moved to other industrial sites will be cut to sizes that can be safely moved by salvage contractors to recycling yards. Concrete building foundations and concrete pads will be demolished using a loader and a bulldozer equipped with a ripper. Concrete debris from slabs and foundations will be broken to sufficient size to be used as backfill to seal the mine portal and ventilation shafts.

#### 2.5.4 Mine Portal and Ventilation Raise Closing

Once mining has been completed, equipment and materials will be brought to surface prior to closure. The portal access will then be backfilled with concrete debris from slabs and mill foundations, and rock fill to ensure the mine entrance and portal face is completely covered. The portal will be sealed with a concrete plug as described in the DRMS AMS handbook. Topsoil will be placed on the concrete plug and sloped for final reclamation.

Once the main ventilation fan has been removed, the ventilation raise will be backfilled and sealed with a concrete plug. The placement of fill will be mounded above the raise opening to allow for possible settling or subsidence over time. The concrete plug will be capped with a topsoil cover for final reclamation.



### 2.5.5 Grading, Backfilling and Ripping

Grading and backfilling will begin once mill structures are removed. Bulldozers and loaders will be used to grade and re-contour areas to blend with surrounding undisturbed topography. Backfilling may be necessary in the building footprints and in drainage areas. As areas are graded and backfilled, final grading will leave areas in a roughened state to enhance surface water penetration between replaced topsoil and subgrade, promoting vegetation growth.

Sediment ponds and drainage structures not necessary during post closure FTSF monitoring will be backfilled, graded and blended with surrounding topography. The contact water pond and contact water discharge channel will remain until the FTSF cap is approved by the Divisions.

The majority of the interior roads will not be reclaimed. The existing access road from CR 3A to the mill site will not be reclaimed as it will be the post-closure property access road. The road leading to the mill building from the main interior road and the interior road from the mill building to the FTSF will be reclaimed, approximately 300 linear feet, or 6000 ft<sup>2</sup>. This road and areas that have been compacted by buildings will be ripped and roughened using a bulldozer equipped with a ripper. Ripped surfaces will be graded to blend with adjoining topography.

### 2.5.6 Growth Medium Replacement

During reclamation, approximately four inches of growth medium material will be placed on graded surface disturbances using bulldozers, loaders or motor grader.

### 2.5.7 Revegetation

Prepared disturbances will be seeded with a USDA NRCS recommended seed mix developed for this specific site. The seed mixture is predominately native species that will establish in the semi-arid non-irrigated location. Re-vegetation will occur either during early spring or late fall. The prepared surfaces will be drill seeded using the NRCS recommended seed mix provided in Table 10.2.5. The site will be mulched with straw at the rate of 4000 lbs./acre and then crimped using a bulldozer.

Table 2.5.6-1: Reclamation Seed Mix

| Plant Species            | Seeding Rate (PLS/acre) |
|--------------------------|-------------------------|
| Blue grama               | 0.25                    |
| Indian ricegrass         | 0.74                    |
| Sand dropseed            | 0.05                    |
| Little bluestem          | 1.34                    |
| Sideoats grama           | 1.82                    |
| Bottlebrush squirreltail | 0.45                    |
| Needleandthread          | 0.54                    |
| Blue flax                | 0.57                    |
| Annual sunflower         | 3.71                    |

### 2.5.8 Reclamation of the FTSF

A vegetative cover system will be constructed over the FTSF. A closure channel will be constructed around the perimeter of the reclaimed FTSF to capture surface water runoff and prevent surface water runoff flow onto the reclaimed FTSF. The final surface of the FTSF will be graded to promote

runoff from direct precipitation to the closure channel. Seepage from the FTSF is expected to be negligible; however, seepage will be monitored and treated if necessary to meet water quality standards of the State of Colorado. Once demonstrated to no longer be necessary for water quality monitoring, the contact water pond will be decommissioned, re-graded to original topography, and re-vegetated.

Regular visual inspections of the FTSF will be conducted during operations in accordance with the Operations, Maintenance and Surveillance (OMS) manual (Appendix F). Settlement and deformation of the FTSF will be monitored using survey monuments installed on the completed slopes. Integrity of the tailings stack will be periodically assessed with Cone Penetration Testing (CPTu) program.



## FREMONT COUNTY WEED MANAGEMENT

1901 East Main St.  
Cañon City, CO 81212  
719-276-7317

[brittany.pierce@fremontco.com](mailto:brittany.pierce@fremontco.com)

### *Integrated Weed Management Plan*

Project/Owner Name: Zypher Gold USA Ltd DATE 12/07/2021

Address (or location of property): 3943000000030, 3943000000001

#### List of Noxious Weeds and Control Plan:

##### *Noxious Weeds Present Control Measures:*

##### Reference "Guideline for Weed Management Plans April 2015"

State Law requires all landowners to manage noxious weed on their property. The following weeds under Colorado Noxious Weed Act, if present, are considered a threat to the economic and environmental value of our state lands. These listed under the Noxious Weed Act shall be managed under the provisions of this article. The following species under this act that have been identified in this county and should be managed in the appropriate manner as mandated throughout the term of the permit and thereafter.

"List A" species - These are rare noxious weed species that are subject to eradication upon confirmed identification during any interval of reclamation to the site. Such List A species confirmed in Fremont County may include, but are not limited to:

\*Myrtle Spurge, \*Japanese Knotweed, \*Giant Reed, \*Elongated Mustard

"List B" species - These are noxious weed species distributed throughout the State of Colorado and are subject to eradication, containment, or suppression in order to halt continued spread. Species identified within Fremont County may include, but are not limited to:

Absinth Wormwood, Black Henbane, Bouncingbet, \*Bull Thistle, \*Canada Thistle, Common Teasel, \*Dalmatian Toadflax, Dame's Rocket, \*Diffuse Knapweed, Eurasian Watermilfoil, \*Hoary Cress, \*Houdstongue, Hybrid Knapweed, Hybrid Toadflax, Jointed Goatgrass, \*Leafy Spurge, \*Musk Thistle, Oxeye Daisy, Perennial Pepperweed, \*Russian Knapweed, Russian-olive, \*Salt Cedar, Scentless Chamomile, Scotch Thistle, \*Spotted Knapweed, \*Yellow Toadflax.

"List C" species - Are well-established noxious weed species and are widespread throughout the State for which control is only recommended. Common species in Fremont County include, but are not limited to:

Chicory, Common Burdock, Common Mullein, Downy Brome, Field Bindweed, Halogeton, Johnsongrass, Perennial Sowthistle, Poison Hemlock, Puncturevine, Redstem Filaree

Identification and treatment can be conducted through Fremont County Weed Management or a recommended partnering agency. Please see Fremont County Weed Control's booklet, "Guideline for Weed Management Plans" for more details such as herbicide rates and specifics about weed control methods.

Fremont County Weed Management is operated by Qualified Licensed Applicators under the Department of Agriculture. Any management or treatment involving chemical treatment should be carried out as indicated on the label. The label is the law. Any information on management planning or about receiving cost share that is available to the public, can be discussed with the department to confirm eligibility.

\*These weed species receive priority for cost share funding.


**Other Required Action:** The vicinity of the proposed planning area is a known location for Scotch thistle, Canada thistle, diffuse knapweed and salt cedars. Other species could present themselves on site during any point of time and should also be addressed as stated in the Control Plan. Heavy traffic and soil disturbances can bring upon the growth of other seeds dormant in the soil. Watching for this type of activity is key to monitoring for this type of occurrence. In the event any 'List A' or large populations of 'List B' species are observed, a site visit would be recommended during peak growing season to discuss further management plans. In order to do this, please consider all factors in choosing a time (such as weather, presence of actively growing plants, and operation plans or activities). Any additional questions or concerns in completing this management plan please contact Fremont County Weed Management to discuss available options. (719-276-7317)

\_\_\_\_\_  
Applicant Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Owner/Manager Signature

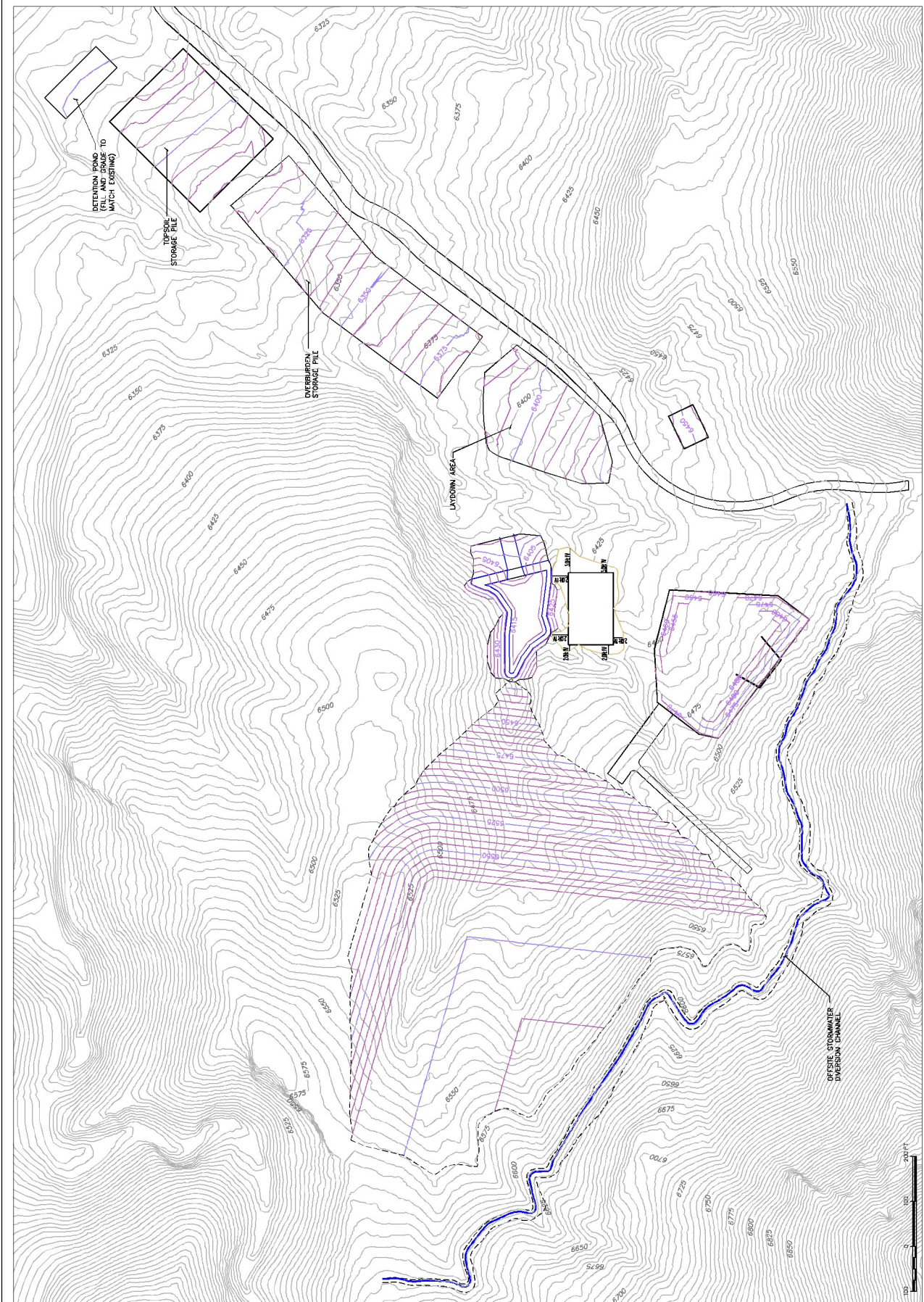
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Brittany Pierce  
Fremont County Weed Management Representative

December 07, 2021  
Date

## 2.6 Exhibit F: Reclamation Plan Map





| NO. | REVISION | APP'D | DATE |
|-----|----------|-------|------|
| 4   |          |       |      |
| 3   |          |       |      |
| 2   |          |       |      |
| 1   |          |       |      |

DAWSON MINEFIELD  
EXHIBIT F  
RECLAMATION PLAN

|             |            |                |
|-------------|------------|----------------|
| DESIGNED BY | CHECKED BY | PROJECT NUMBER |
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| DATE   | 1/25/22 |
| SCALE  |         |
| HORZ : |         |
| VERT : |         |
| SHEET  |         |
| SHEET  | 2 OF 2  |

**Jesik**  
800 W 8th St  
Pueblo, Colorado 81003  
(719) 582-5588  
www.jesik.us





## 2.7 Exhibit G: Water Information

Bishop Brodgen and Associates, Water Consultants, specifically Timothy A. Crawford and Christopher J. Sanchez, prepared the contents of this exhibit on behalf of Zephyr USA.

As discussed below, the proposed mining operation is expected to intercept ground water and has the potential to affect surface or ground water systems at and in the vicinity of the proposed mine location. Provided below is information that describes the surface and ground water systems and provides details regarding potential impact on those systems as a result of the proposed mining. As summarized below, any impact that may result from the mine to ground and surface water systems is expected to be minimal and inconsequential.

### 2.7.1 Property and Water Information Summary

The proposed Zephyr Dawson property gold mine is located as presented in the attached Figure 1 which encompasses the affected land and adjacent land where impacts may potentially be observed. The proposed mine is located in Fremont County approximately 5.9 miles southwest of Canon City, Colorado.

Windy Gulch and Dawson Gulch flow through and around the mine in the immediately vicinity of the property and locally drain the foothills to the south and surrounding the property. These gulches are typically dry and only flow during large precipitation events. Grape Creek is a larger, perennial surface water feature that drains a larger basin to the west and southwest of the property. The surface drainages are located as presented in Figure 1.

The surface geology at the property is mapped as Precambrian granodiorite consisting of massive to foliated, medium to coarse grained granodiorite and lesser amounts of quartz monzonite and quartz diorite (Miscellaneous Investigations Series Map I-869). The subsurface at the property contains part of a thin, but laterally extensive zone of gold and base-metal mineralization that trends east-northeast and dips to the south-southeast. This is the targeted gold seam. To the north of the property, the Precambrian granodiorite material contacts sedimentary bedrock including the Dakota formation and the Morrison Formation along an unnamed east-west, steeply dipping fault. Local terrace deposits (unconsolidated quaternary material) are also mapped in the general vicinity of the property. The mapped surface geology in the vicinity of the site is presented in Figure 2.

Available well data, including data from two monitoring wells at the property, indicate that the Precambrian granodiorite (a fractured hard rock unit, "Precambrian material") and the Dakota formation are locally saturated and transmit water. For the purposes of this summary, the Precambrian material and the Dakota formation are considered aquifers. The extent of the saturation within the aquifer systems may be limited based on observations from the monitoring wells. Other geologic units identified in Figure 2 are not considered to be aquifers. Regional ground water gradients in the aquifers are generally towards the north in the Precambrian material from the mountainous areas south of the mine and towards the east/northeast in the Dakota formation towards the center of the Canon City Embayment.

Local recharge sources are mainly limited to precipitation that infiltrates the formations either as direct recharge or along drainages during runoff where they are present at the surface. Grape Creek to the north of the mine area appears to be in connection with the Precambrian material based on winter base

flow conditions and the perennial nature of the creek. Based on the local topography, Grape Creek appears to be a gaining stream draining the Precambrian material immediately adjacent to it.

The mine will be completed in the Precambrian material, which is saturated below the water table based on nearby borehole data, including monitoring wells associated with the mine. The mine is expected to intercept some ground water within that material and will be dewatered to allow for mining. The Precambrian material beneath the mine has limited primary porosity (pores and spaces intrinsic to the rock unit) and ground water encountered by the mine will be water stored in fractures (secondary porosity) that drain into the mine. Dewatering of ground water encountered by the mine will be required to facilitate mining. The dewatering of the mine will lower the water level within the mine and cause water from nearby, connected fractures to enter the mine. The dewatering of the mine will also result in ground water gradients towards the mine, causing water in the aquifer around the mine to flow into the mine and through the dewatering system. This dewatering will be required over the life of the mine, but could require relatively low dewatering rates depending on the level of interconnectedness between the fracture system around the mine. When dewatering ceases, the fractured rock aquifer system adjacent to the mine is expected to refill to a pre-mining condition.

Any changes in water quality that occur within the mine or the affected area will be mostly captured or at least influenced by the mine dewatering that will cause any impact to the ground water system to be drawn towards and into the mine limiting the potential for changes in water quality to impact aquifers or wells at distance from the mine and the affected area.

Accordingly, the mine does have the potential to impact ground water systems in the vicinity of the proposed mine as a result of the mine dewatering in the form of water level changes in the aquifers. The ground water level changes have the potential to indirectly impact surface water systems in the form of stream depletions. The areas adjacent to the mine in which ground water or surface water could potentially be depleted was determined using a MODFLOW model which was used to simulate dewatering of the mine, ground water level changes in the aquifer system, and depletions to surface streams. Details regarding the MODFLOW modelling are presented in Appendix L. Based on the modelling investigation ground water level impacts potentially resulting from dewatering were limited to no more than 5 feet at a distance of approximately 1.1 miles from the mine assuming interception of ground water and constant dewatering operations over the life of the mine. Wells and surface water features outside of this approximately 1.1-mile radius will essentially not be impacted by ground water level changes caused by the mine dewatering.

Available Division of Water Resources well database information and mapping were used to identify wells located near the property and the results of a MODFLOW model of the mine dewatering were used to identify which of those wells were close enough that their potential for impact should be investigated further. This review identified 5 wells that should be investigated further. Information associated with these nearby wells are summarized in the table below.

| Permit No. | Owner                           | Depth (ft) | Use              | Distance from Underground Workings (ft) | Lithology        |
|------------|---------------------------------|------------|------------------|---|------------------|
| 295711     | Zephyr Gold USA LTD             | 140        | Monitoring       | N/A                                     | Precambrian      |
| 295712     | Zephyr Gold USA LTD             | 220        | Monitoring       | 813                                     | Dakota formation |
| 59631      | Keller Randy & Whited Jeri Jean | 88         | Domestic / Stock | 3,982                                   | Dakota formation |
| 73772      | Joe Spurgin                     | 231        | Household        | 3,821                                   | Precambrian      |
| 99071      | Ronald McClain                  | 60         | Domestic         | 6,142                                   | Precambrian      |

The first two wells are monitoring wells owned by Zephyr Gold USA LTD and are currently used and will continue to be used to monitor actual ground water level changes caused by the mining. The Well Construction and Test Report (GWS-31) are on file with the DWR and provided herein.

There are only two wells located within 1 mile of the mine, Permit No. 59631 (the Keller Well) and Permit No. 73772. These wells are located approximately 3,982 feet and 3,821 from the underground mine workings, respectively. These wells are generally located to the northeast of and downgradient from the mine workings and affected area. As presented, both of these wells are separated from the mine workings by faulting which will limit the potential for any changes in quantity or quality in the wells from the operation of the mine.

#### 2.7.1.1 Permit No. 295712

The well completed under Permit Number 295712 (the North Well) was completed in sedimentary bedrock material. The lithologic log for the well identifies clay, shale, slate and sandstone material. Based on the lithologic log for the well and the available geologic mapping (Miscellaneous Investigations Series Map I-869), the well is completed in the Lytle Sandstone Member of the Dakota Sandstone / Purgatoire Formation.

#### 2.7.1.2 Permit No. 2957111

The well completed under Permit Number 295711 (the South Well) was completed in granitic bedrock material. The lithologic log for the well identifies granite material. Based on the lithologic log for the well and the available geologic mapping, the well is completed in a Quartz Diorite or Migmatic Gneiss material.

#### 2.7.1.3 Permit No. 59631

Permit No. 59631 (the Keller Well) is located to the northeast of the property on the American Placer as shown in Figure 1, was permitted for domestic and stock uses, was constructed in September of 1972 to a total depth of 88 feet with steel casing and perforated sections. The well had an original static water level of 67 feet and reported a pumping rate of 14 gpm. The well is constructed in the sedimentary bedrock material neighboring the Precambrian material and, accordingly, is not completed in the same geologic material as the mine.



This well is located in a location indicated by the modelling that will experience less than 5 feet of water level change as a result of mining. The well is separated from the mine by faulting which may mute the projected impacts. The model conservatively assumed perfect hydraulic communication across the faulting which may not be the case in reality. The fault may act as either a barrier to ground water flow or as a potential source of water to the aquifer. Either condition would reduce the communication of water level changes across the faulting and to the neighboring well.

Although the water level in the aquifer may change slightly at the location of this well, the changes will be small and the well should still be capable of producing its permitted pumping rate. If water level changes do impact the pumping rate from the well (which is not expected) the well could be redrilled to a deeper depth.

The northern monitoring well which is completed in the Dakota and a proposed future downgradient monitoring well will provide insight regarding actual impacts experienced by this well.

The separation of the well from the mine by distance and the local faulting will limit any water quality impacts to the well.

#### 2.7.1.4 Permit No. 73772

Permit No. 73772 is also located to the northeast of the property as shown in Figure 1, was permitted for household uses, was constructed in November of 1974 to a total depth of 231 feet with steel casing and perforated sections. The well had an original static water level of 195 feet and reported a pumping rate of 1 gpm. The lithologic log for the well indicates it is also constructed in Precambrian material similar to the material targeted by the mine, but is located to the north and on the opposite side of the local faulting from the mine.

This well is located in a location indicated by the modelling that will experience less than 5 feet of water level change as a result of mining.

Although the water level in the aquifer will change, the changes will be small and the well should still be capable of producing its permitted pumping rate even during and at the end of mine operations when impacts will be the greatest. If water level changes do impact the pumping rate from the well (which is not expected) the well could be redrilled to a deeper depth.

The separation of the well from the mine by distance and the local faulting will limit any water quality impacts to the well.

#### 2.7.1.5 Permit No. 99071

Permit No. 99071 indicates a location to the west of the property as shown in Figure 1, was permitted for domestic uses and was constructed in June of 1956 (almost 65 years old) to a depth of approximately 60 feet. No construction details are available from the late registration filing for the well. The well would be expected to be constructed in the same the Precambrian material as the mine at the indicated location.

Based on available mapping, this well may be mislocated or may no longer be used. There is no residence at the location of the well indicated by the State's database nor any road to any residence in the general area. This well may not exist at the plotted location.

If the well exists, it is located in a location indicated by the modelling that will experience less than 5 feet of water level change as a result of mining.

Although the water level in the aquifer will change, the well, if it exists, should still be capable of producing its permitted pumping rate even during and at the end of mine operations when impacts will be the greatest. If water level changes do impact the pumping rate from the well (which is not expected) the well could be redrilled to a deeper depth.

## 2.7.2 Potential Surface Water Impacts

Windy Gulch and Dawson Gulch are mostly dry creeks and are separated from the ground water system beneath the mine. Accordingly, these local drainages will not be impacted by the mine operations. Grape Creek which appears to be in connection with the Precambrian material immediately adjacent to the creek, but is located outside of the area of ground water level change impact indicated by the modelling.

Grape Creek generally flows from the south/southwest to the north/northeast and is generally located to the west of the mine workings that will be dewatered. In its upper reaches, Grape Creek flows over Precambrian material and in its lower reaches flows over sedimentary units before discharging to the Arkansas River. The lower reaches of the creek are separated from dewatering activities in the mine due to the different geologic units between the mine and those reaches, but also due to the significant faulting in the area. Certain portions of the upper reaches of the creek may have potential for depletion where mapped faulting is not present between the mine and the creek. For example, depletions may occur in a portion of the creek as it flows through nearby Sections 20 and 16. This reach is located approximately 1.5 to 3 miles from the mine workings.

Grape Creek will not be directly impacted by the changes in water level in the aquifer. Grape Creek is considered a point of connection with the aquifer in the context of water rights in that some surface water feature must be identified as a point of depletion and this is the closest and most likely point of connection between the ground water system and the surface water system. Actual measurable impacts to Grape Creek are unlikely because physical impacts would require the complete interconnectedness of fractures between the mine and Grape Creek to allow for a physical pathway, which is unlikely.

No other springs, stock water ponds, reservoirs or ditches were identified within an approximate 1-mile area. Figure 1 presents the location of the affected property area as well as the locations of the identified tributary water courses and drainages and wells that could potentially be affected by the proposed mining operations.

## 2.7.3 FTSF Leachate

### 2.7.3.1 FTSF Leachate Characterization

Acid base accounting results for the tailings and development rock samples classify all material as non-potentially acid generating. All but one sample had sulfide sulfur at or below the detection limit of 0.01 wt%. One development rock sample had 0.03 wt% sulfide sulfur. All

tailings and development rock samples had a carbonate neutralization to acidity production ratio greater than 4. Material with a ratio greater than 2 is considered non-potentially acid generating. Paste pH for all samples ranged from 6.9 to 9.7, indicating no net acidity is currently being produced.

The FTSF leachate will be dominated by the quality of the tailings filtrate entrained in the tailings. Filtrate from altered and unaltered tailings, generated during the metallurgical testing that produced the tailings, was directly analyzed using ICP-MS. Results were compared to the EPA effluent criteria (40 CFR Part 440 Subpart J), surface water quality standard for Grape Creek (5 CCR 1002-32), groundwater quality standard (5 CCR 1002-41) and baseline groundwater quality at the site. The filtrate meets all three standards and is similar or less than the background groundwater quality, with the following exceptions:

- Nickel and selenium concentrations exceed the surface water quality standard; however, they meet the groundwater quality standard and are similar to background groundwater concentrations
- Manganese concentration exceeds the groundwater standard, but is similar to background groundwater concentrations
- Potassium concentration is greater than background groundwater concentrations; however, there are no surface nor groundwater standards for potassium.

The evolution of tailings leachate quality is currently being assessed through humidity cell testing. These tests are ongoing. To date, many metals have not been detected after the initial filtrate was flushed.

Metal release from development rock was assessed using the shake flask extraction (SFE) test. SFE tests were done on all 5 development rock samples. The SFE test is similar to the Synthetic Precipitation Leaching Procedure (SPLP), the difference being the SFE test is conducted at a 3:1 water to solid ratio for 24 hours whereas the SPLP test is conducted at a 20:1 water to solid ratio for 18 hours. All other aspects of the procedures are the same. The SFE test was chosen because it produces a more concentrated solution (without hitting solubility limits) that enables detection of some elements that could otherwise be missed. This is a more conservative approach to the State of Colorado's leach test requirement.

Results from the SFE tests show few detectable trace metals. Metals and metalloids detected include aluminum, antimony, arsenic, barium, copper, lead, manganese, molybdenum and uranium. All parameters met the water quality standard for Grape Creek and the groundwater quality standard. The exception is lead, where 3 of the 5 samples exceeded the water quality standard for Grape Creek. Lead concentrations ranged from <0.0005 mg/L to 0.0057 mg/L. The water quality standard for Grape Creek is 0.001 mg/L. All SFE tests produced slightly alkaline pH. No sulfate was detected.

#### 2.7.3.2 FTSF Seepage Quality

The seepage from the FTSF will comprise of filtrate introduced to the facility with the tailings, infiltration water that contacts the tailings and infiltration water that contacts the support buttresses (development rock). The contributions from development rock and tailings were combined in proportion to the tonnage of each material expected in the FTSF, utilising the

seepage volume reported in “Pre-Feasibility Study Report – Dawson Filtered Tailings Storage Facility” (Amec Foster Wheeler, 2016). The estimated seepage quality thus derived was then compared to the groundwater quality standard and the baseline groundwater quality to ascertain its suitability for discharge.

In deriving the seepage quality estimate, a number of assumptions were made:

- All infiltration water contacting the tailings will acquire the quality of filtrate
- Leaching of development rock in the FTSF will occur at a 1:1 water to solid ratio
- The metal release in the SFE tests represent an ongoing release rate as opposed to total soluble metal available
- No elements precipitate out of solution
- The ratio of tailings volume to development rock volume is the same as the ratio of tailings footprint area to buttress footprint area.

The FTSF is expected to contain 500,000 short tons of tailings and 4,200 short tons of development rock. Tailings filtrate quality will dominate the FTSF seepage quality. The predicted seepage quality meets the groundwater quality standard, with the exception for manganese. However, the predicted manganese concentration (0.071 mg/L) is less than the background groundwater concentration (0.14 mg/L). The groundwater quality standard is 0.05 mg/L.

The predicted seepage quality presented herein would be reflective of short term and operating conditions. The seepage quality estimates for the long term will be developed once the kinetic tests on tailings are complete.

Test data and a detailed discussion of the geochemical characterization of the FTSF is provided in Appendix B.

#### 2.7.4 Monitoring Well Network

The following monitoring program, including the QAPP in Appendix M, will be implemented to obtain groundwater quality and water level data for both baseline and during mill/mine operations. Water quality monitoring will occur quarterly and water level data will occur monthly throughout the life of the mine. Analytical results will be compared to the most restrictive groundwater standard in WQCD Regulation No. 41 provided in Tables 2.7.4-1 and 2.7.4-2.

An existing monitoring plan has been implemented at the property including two monitoring wells and two surface monitoring locations. The monitoring plan includes the collection of water levels in the existing wells, observation of surface flow conditions and the collection of water quality samples from both the surface and ground water systems. The existing monitoring plan monitors both of the surface drainages that cross the property and both of the aquifers identified beneath the property. The monitoring of these locations will be performed on a quarterly basis. The locations of the monitoring points have also been shown in Figure 1 (Permit Nos. 296711 and 296712). An additional proposed future downgradient monitoring well is planned for construction to allow for additional monitoring of water level changes in the aquifers.

A new monitoring well network has been proposed with wells located as presented in Figure 3. The newly proposed monitoring well network, as presented, includes:

- Two sets of wells at the upgradient boundary to investigate ground water conditions entering the affected area. For each set of wells, one well will be completed in the Precambrian material upgradient of mapped faulting, and one well will be completed in the sedimentary materials down gradient of mapped faulting. These wells will help define how the existing faulting impacts ground water flow and ground water conditions entering the affected area.
- One well in the relative center of the affected area. This well will be completed in the sedimentary materials and will help investigate how ground water flow and quality may change as it flows through the affected area.
- One well below all of the surface mine workings. This well will be completed in the sedimentary materials and will help investigate the impact of the mine workings on the ground water flow and quality. This will be the last well above the point of compliance well discussed below.

This monitoring well network represents a more robust monitoring network that will provide additional data points (compared to the existing wells) to investigate ground water flows (quantity and quality) beneath the affected area. The wells will provide water level data that can be used to determine flow direction, monitor water level changes as mining progresses and investigate the impact of faulting on ground water flow as well as provide the opportunity for water quality sampling.

The monitoring wells completed in the Precambrian material at the upgradient boundary of the affected area will either be constructed to the total depth of the mine or will be competed such that they can be deepened in the future such that they can be used over the life of the mining (and dewatering) operations. The monitoring wells in the sedimentary wells will be completed to a depth of 200 feet or to fully penetrate the Dakota formation, whichever depth is shallower. This sedimentary well construction will allow for the monitoring of ground water conditions in the productive sedimentary units beneath the affected area throughout the life of the mining operations.

In addition, to monitor potential impacts to Grape Creek, a monitoring location has been located on Grape Creek, as presented in Figure 3. Stream gaging and water quality analyses will be performed at this location to monitor conditions in the creek and potential impacts.

#### 2.7.4.1 Point of Compliance Well(s)

To meet the requirements of Rule 3.1.7(6), one or more down gradient wells shall be established as the location to demonstrate compliance with any condition established to protect ground water. For a new facility, such as the Zephyr Gold Mine, this includes a point of compliance at the hydrologically down gradient limit of the area below the facility potentially impacting ground water.

One point of compliance well location has been identified as presented in Figure 3.

This point of compliance will be sufficient to demonstrate compliance with established ground water protection conditions as ground water will move northwards out of the Precambrian material into the sedimentary material, where ground water will then flow northeast towards the Canyon City Embayment and the identified point of compliance well location. The point of compliance well will be completed in the sedimentary rock units. The presented point of compliance well location is well suited to identify ground water conditions leaving the affected area.

If the point of compliance well exhibits a change in water level that indicates that a nearby domestic well would not be capable of producing a residential supply, the neighboring well owners will be contacted to confirm operating conditions in their well. If their well is exhibiting conditions associated with a decline in performance due to a depressed water level, the Applicant will work with the well owners to investigate the pumping conditions in their well and either 1) lower the pump equipment in the well or 2) replace the neighboring well with a deeper well. A water level change of at least 20 feet would need to be observed in the point of compliance well to indicate that mining operations are causing problematic water level changes in neighboring wells. Because of the distance between the mine and existing wells and the geologic separation between the mine and the wells, we believe that it is extremely unlikely that any such impacts will occur.

If the point of compliance well exhibits an exceedance of ground water quality conditions, the Applicant will contact the neighboring well owners to confirm whether the condition is exceeded in the neighboring wells through water quality testing and a water supply will be delivered to a new cistern at the neighbor's residence for use until the exceedance is no longer present at the compliance well. Water will continue to be delivered until the exceedance is no longer present or until the end of the mining operations.

## 2.7.5 Dewatering and Runoff Pollution Protection Plan

Consistent with CDPHE and DRMS rules, the proposed mining will need to be performed in a manner to prevent unnecessary degradation of the property and adjacent lands.

Protection of the property and adjacent lands from runoff and dewatering / process water discharge impacts and pollution will be managed separately. Stormwater runoff water from surrounding land will be captured in stormwater channels and directed to the natural drainage; flowing from the area at historic rates. Stormwater runoff from the mill site will be channeled to the sedimentation pond/stormwater detention pond at the north end of the overburden stockpiles. Dewatering and process water not reused in the milling process will be discharged to the sedimentation pond.

### 2.7.5.1 Stormwater Sedimentation and Detention Pond

Diversion channels, drainage ditches, culverts and sediment barriers will be implemented at the surface and around roadways to reduce sediment load and slow surface water runoff. All surface runoff will be diverted through sediment control devices such as silt fences, check dams, vegetated swales, rip rap or other appropriate devices before runoff enters any existing drainage.

Clean water will be routed around tailing piles and low seepage rates are expected from tailing pile areas. Tailing pile areas will include buttress and shell placement areas as well as underdrain systems that will capture any seepage from tailing areas and discharged to a geomembrane-lined contact water pond.

It is noted that the drainages that cross the property are mostly dry and flow only during high precipitation events.

A stormwater detention pond is proposed to control stormwater drainage at the property. Based on the Mile High Flood District's Urban Storm Drainage Criteria Manual Volume 2, the stormwater detention pond should be sized to temporarily store a minimum of 10% of the 100-year flood flow to achieve a reduction of 10% of the 100-year flood flow through the structure. The drainage above the property that will flow through the affected area is estimated to be approximately 330 acres in size. The 100-year precipitation event for the property area is estimated to be 4.75 inches over a 24-hour period. Accordingly, the 100-year flood event could introduce approximately 130 acre-feet to the drainage, but a significant portion of this precipitation will infiltrate the subsurface as opposed to flow in the drainages as live flow. Based on a conservative estimation that 50% of the precipitation of a 100-year flood event infiltrates and the remaining 50% results in live stream flow, the stormwater detention pond should be sized for the storage of up to approximately 6.5 acre-feet or 2.1 million gallons should be adequate to control the potential stormwater runoff. There are no stream gages on Windy Gulch or Dawson Gulch to confirm the flow assumptions presented above.

#### 2.7.5.2 Dewatering Tanks

Two 5000 gallon tanks are proposed to receive dewatering water not utilized in the ore processing. Excess water from the tanks, not used in the mill process will be discharged in the natural drainage.

As mentioned above and based on the monitoring well data, saturated fractures exist in the subsurface at the property. As the mine is constructed, the mine workings will intercept and drain those saturated fractures which are hydraulically connected to the mine workings. Water that flows into the mine will be evacuated using a permanent pumping station that will be constructed at the bottom of the mine. Mine inflow water will be connected at the bottom of the mine in a system of overflow pools with connecting drain holes to allow for initial settling of the inflow water with the cleanest water from the last overflow pool being pumped to the surface for clarification and reuse. Water that is not reused will be discharge to a settling pond system at the surface that will further manage sediment from the dewatering.

Dewatering of the mine may initially require dewatering rates as high as 80 gpm. On average, dewatering rates will be approximately 55 gpm based on the modelling. These estimates are conservatively high in that they assumed the immediate dewatering of the mine from the bottom of the mine and assumes that the Precambrian material responds to pumping as a porous media and not a fractured rock aquifer. If the fractures in the Precambrian material are not connected, dewatering rates will be much lower once the fractures drain.

For the purpose of sedimentation pond sizing, the pond should be designed around a discharge rate of 55 gpm.

Based on the Mile High Flood District's Urban Storm Drainage Criteria Manual Volume 3, the sedimentation pond should include a minimum storage volume of approximately 1.8 acre-feet or 600,000 gallons to allow for the sedimentation of the discharge water. This volume represents the water quality capture volume for the property location and should be sufficient to manage the dewatering water and limited ore process discharge if it occurs. The proposed 100-foot by 150-foot sedimentation pond should be adequate for the detainment of discharges from mine dewatering and the ore process.

### 2.7.6 Water Requirements

The proposed mine facilities will require water for 1) drinking water purposes, 2) fire protection, 3) crushing, grinding and gravity separation processes, 4) rougher, clear flotation and regrinding processes, 5) tailings thickening and filtering, 6) gold concentrate thickening and filtering and 7) dust control.

During development, there will be minimal water demand, but during operations, the mine facilities will require approximately 130 gallons per minute when in operation. Water will be provided by the mine dewatering, water recycling and a groundwater well. The mine is proposed to operate 365 days per year and annual demands are estimated at approximately 200 acre-feet during operation. As noted, a significant portion, approximately 90%, of this water demand will be provided by the reuse of water supplies within the mining process so once the reclaim water, filtered water and potable water tanks are full, they will only need to be topped off periodically. This water recycling system reduces the water demand to approximately 20 acre-feet per year.

Dust suppression water will be provided using a truck with spreader bars using approximately 1.0 acre-feet per year.

During reclamation, there will be minimal water requirements at the property.

### 2.7.7 Water Supplies

The water supplies available to the property include 1) water dewatered from the mine and 2) a new water supply well to be constructed on the property. Recycling of the water used for mine processing also provides a significant supply of the water used in the processes. The new water supply well will provide water during the development stage. During mine operation, the water supply well and the dewatering of the mine will provide water to meet water demand. During mine operation, the process will mainly rely on the recycling of water with the water supply well used to top of the potable supply and the reclaim process water tank. The mine dewatering will only be used to top of the reclaim process water tank.

An augmentation plan will be required to address the replacement of lagged stream depletions associated with the dewatering of the mine and the use of a new water supply well at the site. A portion of the dewatering water will return to the ground water system through infiltration of the discharge water. A portion will also be consumed in the potable system and the ore processing. It is feasible to project lagged stream depletions from the proposed mine operations and to identify supplies to replace those lagged stream depletion using both the return flows from the site and additional offsite supplies. As indicated above, Grape Creek will be identified as a point of depletion for augmentation purposes, but actual impacts are unlikely due to the fractured rock geology at the site. The mine operator will implement the augmentation plan, including the acquisition and dedication of any necessary water rights to operate the plan. The augmentation plan will protect senior water rights from injury resulting from depletions to the surface water system.

### 2.7.8 National Pollutant Discharge Elimination System (NPDES) Permit

Although the drainages at the mine are typically dry and best practices will be used to control sediment and discharges from the property including diversion channels, drainage ditches, culverts, sediment barriers and sediment ponds, a National Pollutant Discharge Elimination System (NPDES) Permit will be required in case discharges are made and the drainages do flow. Zephyr will acquire a NPDES permit



from the Water Quality Control Division at the Colorado Department of Health and Environment before operations commence at the property. It would be acceptable for this to be a condition of approval.

Form no.  
GWS - 31  
11/90

**"WELL CONSTRUCTION AND TEST REPORT"**  
**STATE OF COLORADO, OFFICE OF THE STATE ENGINEER**

for office use only

1. **WELL PERMIT NUMBER** 295711

2. **OWNER NAME(S):** ZEPHYR GOLD USA LTD  
**Mailing Address:** 1959 UPPER WATER, STE 1700  
**City, St. Zip:** HALIFAX NS B3J 3N2,  
**Phone:** (902) 446-4189

3. **WELL LOCATION AS DRILLED:** SW 1/4 SE 1/4, Sec.: 14 Twp.: 19S Range: 71W  
**DISTANCES FROM SEC. LINES** 857 ft from SOUTH Sec. line, and 1600 ft from EAST Sec. Line OR  
(south or north) (east or west)  
**SUBDIVISION:** \_\_\_\_\_ **LOT:** \_\_\_\_\_ **BLOCK:** \_\_\_\_\_ **FILING (UNIT):** \_\_\_\_\_  
**STREET ADDRESS AT WELL LOCATION:** **EASTING:** 474083 **NORTHING:** 4249087

4. **GROUND SURFACE ELEVATION:** \_\_\_\_\_ **ft.** **DRILLING METHOD** AIR PERCUSSION  
**DATE COMPLETED:** 9/23/2014 **TOTAL DEPTH:** 140 **ft.** **DEPTH COMPLETED:** 140 **ft.**

5. **GEOLOGIC LOG:**  
**Depth Description of Material** (Type, Size, Color, Water location)

0-37 LOOSE SAND GRAVEL & BOULDERS  
37-140 GRAY & RED GRANITE

**REMARKS:** WATER 105'

| 6. HOLE DIAM. (in.) | From (ft) | To (ft)    |
|---------------------|-----------|------------|
| <u>8 3/4</u>        | <u>0</u>  | <u>40</u>  |
| <u>6.00</u>         | <u>40</u> | <u>140</u> |

| 7. PLAIN CASING | OD (in.)     | Kind         | Wall Size   | From (ft)  | To (ft)    |
|-----------------|--------------|--------------|-------------|------------|------------|
|                 | <u>6 5/8</u> | <u>STEEL</u> | <u>.188</u> | <u>+1</u>  | <u>40</u>  |
|                 | <u>4.5</u>   | <u>PVC</u>   | <u>.214</u> | <u>20</u>  | <u>100</u> |
|                 | <u>4.5</u>   | <u>PVC</u>   | <u>.214</u> | <u>120</u> | <u>140</u> |

**PERF. CASING Screen Slot Size** 3/32"

|              |            |              |            |            |
|--------------|------------|--------------|------------|------------|
| <u>4 1/2</u> | <u>PVC</u> | <u>0.214</u> | <u>100</u> | <u>120</u> |
|--------------|------------|--------------|------------|------------|

| 8. FILTER PACK         | 9. PACKER PLACEMENT |
|------------------------|---------------------|
| <b>Material:</b> _____ | <b>Type:</b> _____  |
| <b>Size:</b> _____     |                     |
| <b>Interval:</b> _____ | <b>Depth:</b> _____ |

| 10. GROUTING RECORD: | Material      | Amount         | Density     | Interval      | Placement       |
|----------------------|---------------|----------------|-------------|---------------|-----------------|
|                      | <u>CEMENT</u> | <u>6 SACKS</u> | <u>15.3</u> | <u>9'-39'</u> | <u>Poured</u>   |
|                      |               |                |             |               | <u>Vibrated</u> |

11. **DISINFECTION, Type** CHLORINE **Amt. Used:** 1 GALLON, WATER INJ., 18 HRS

12. **WELL TEST DATA** ☐ Check box if test data is submitted on supplemental form

**TESTING METHOD:** AIR LIFT

**Static Level:** 65 **ft.** **Date/Time Measured:** 9/23/2014 4:00 **Production Rate** 0 1/2 **gpm.**

**Pumping Level:** 140 **ft.** **Date/Time Measured:** 9/23/2014 5:00 **Test Length (hrs)** 1.00

**Remarks:** \_\_\_\_\_

13. I have read the statements made herein and know the contents thereof, and that they are true to my knowledge.  
(pursuant to section 24-4-104 (13)(a) C.R.S., the making of false statements herein constitutes perjury in the second degree and is punishable as a class 1 misdemeanor.

**CONTRACTOR:** ARKANSAS VALLEY DRILLING

**PHONE:** 719-276-6847

**Lic. No.:** 1305

**Mailing Address:** 600 CANON RIDGE RD. CANON CITY CO. 81212

**Name/Title (please type or print)**

**Signature**

**Date**

Todd Moore

9/26/2014



GWS - 31  
11/90

# "WELL CONSTRUCTION AND TEST REPORT"

STATE OF ( ARKANSAS ) RADO, OFFICE OF THE STATE ENGINEER

for office use only

1. WELL PERMIT NUMBER 295712

2. OWNER NAME(S): ZEPHYR GOLD USA LTD

Mailing Address: 1959 UPPER WATER, STE 1700

City, St. Zip: HALIFAX NS B3J 3N2,

Phone : (902) 446-4189

NORTH MW

3. WELL LOCATION AS DRILLED : NW 1/4 SE 1/4, Sec.: 14 Twp.: 19S Range: 71W

DISTANCES FROM SEC. LINES 1905 ft. from SOUTH Sec. line, and 1413 ft. from EAST Sec. Line OR  
(south or north) (east or west)

SUBDIVISION: LOT: BLOCK: FILING (UNIT):

STREET ADDRESS AT WELL LOCATION: EASTING: 474128 NORTHING: 4249407

4. GROUND SURFACE ELEVATION: ft. DRILLING METHOD AIR PERCUSSION

DATE COMPLETED: 9/22/2014 TOTAL DEPTH: 220 ft. DEPTH COMPLETED: 220 ft.

## 5. GEOLOGIC LOG :

Depth Description of Material (Type, Size, Color, Water location)

0-36 loose sand gravel & boulders

36-43 tan clay

43-68 gray shale

68-70 white slate

70-115 gray shale

115-116 white slate

116-147 gray shale

147-195 tan & white sandstone

195-220 gray sandstone

REMARKS: WATER 190'

| HOLE DIAM. (in.) | From (ft) | To (ft) |
|------------------|-----------|---------|
| 8 3/4            | 0         | 40      |
| 6.00             | 40        | 220     |

## 7. PLAIN CASING

| OD (in) | Kind  | Wall Size | From (ft) | To (ft) |
|---------|-------|-----------|-----------|---------|
| 6 5/8   | STEEL | .188      | 1+        | 40      |
| 4.5     | PVC   | .214      | 20        | 180     |
| 4.5     | PVC   | .214      | 200       | 220     |

PERF. CASING Screen Slot Size 3/32"

|       |     |       |     |     |
|-------|-----|-------|-----|-----|
| 4 1/2 | PVC | 0.214 | 180 | 200 |
|-------|-----|-------|-----|-----|

## 8. FILTER PACK

Material: Type:

Size:

Interval: Depth:

## 9. PACKER PLACEMENT

## 10. GROUTING RECORD :

| Material | Amount  | Density | Interval | Placement |
|----------|---------|---------|----------|-----------|
| CEMENT   | 6 SACKS | 15.3    | 9'-39'   | Poured    |
|          |         |         |          | Vibrated  |

11. DISINFECTION, Type CHLORINE

Amt. Used : 1 GALLON, WATER INJ., 18 HRS

## 12. WELL TEST DATA

☐ Check box if test data is submitted on supplemental form

TESTING METHOD : AIR LIFT

Static Level : 160 ft. Date/Time Measured : 9/22/2014 10:00 Production Rate 1 gpm.

Pumping Level : 220 ft. Date/Time Measured : 9/22/2014 11:00 Test Length (hrs) 1.00

Remarks :

13. I have read the statements made herein and know the contents thereof, and that they are true to my knowledge.

(pursuant to section 24-4-104 (13)(a) C.R.S., the making of false statements herein constitutes perjury in the second degree and is punishable as a class 1 misdemeanor.

CONTRACTOR : ARKANSAS VALLEY DRILLING

PHONE: 719-276-6847

Lic. No. : 1305

Mailing Address : 600 CANON RIDGE RD. CANON CITY CO. 81212

Name/Title (please type or print)

Signature

Date

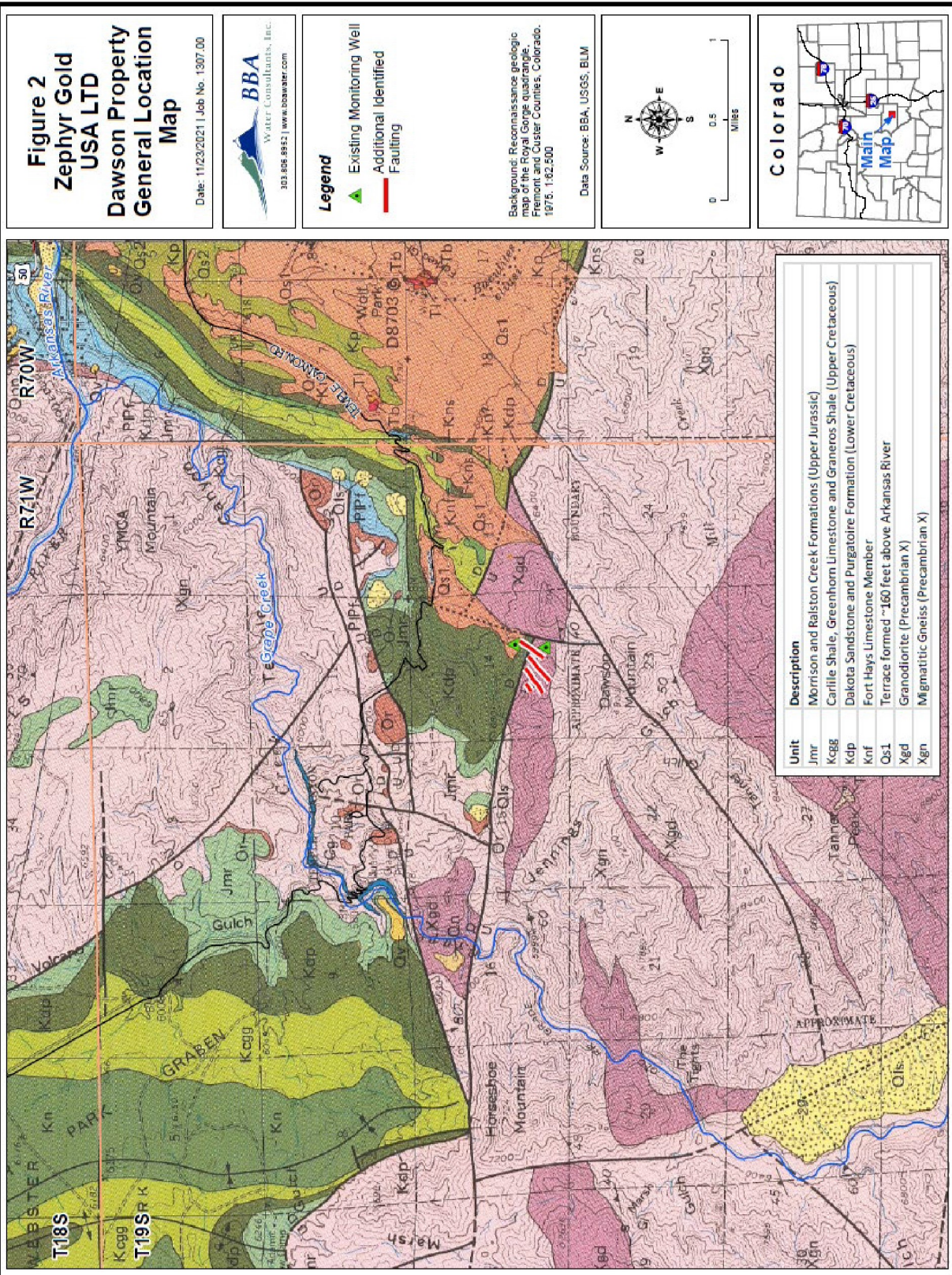
Todd Meales

9/26/2014











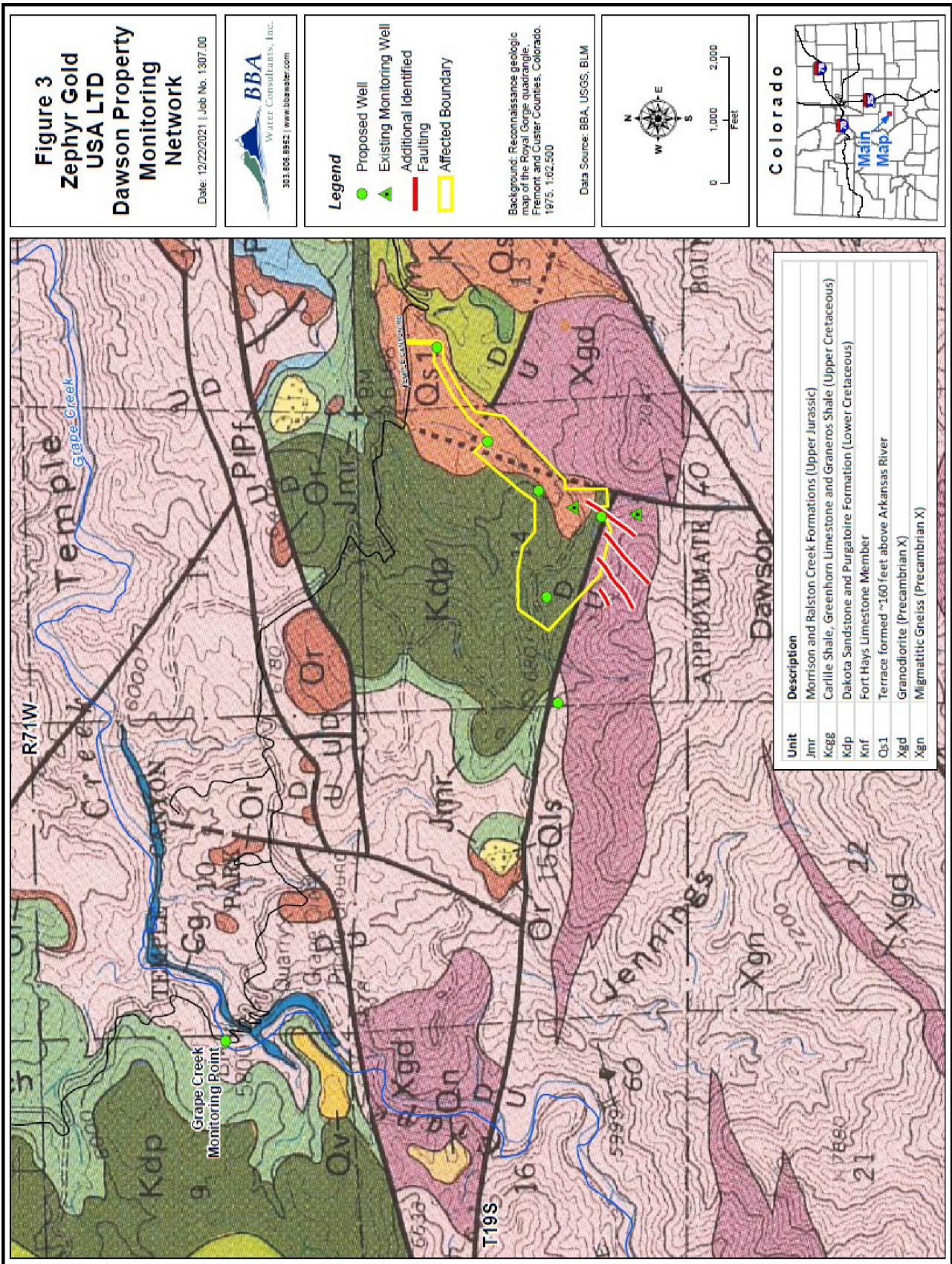


Table 2.7-1: Water Level Data

| North Well |       |                   |   | South Well |                   |       |
|------------|-------|-------------------|---|------------|-------------------|-------|
| Date       | Time  | Water Level (ft)* | Notes   | Time       | Water Level (ft)* | Notes |
| 10/1/2014  | 9:30  | 176               |   | 10:00      | 45                |       |
| 11/4/2014  | 10:30 | 163               |   | 10:36      | 36                |       |
| 12/1/2014  | 9:54  | 170               |   | 10:04      | 37                |       |
| 1/5/2015   | 10:48 | 173               |   | 11:23      | 55                |       |
| 2/3/2015   | 14:00 | 175               |   | 14:06      | 46                |       |
| 3/11/2015  | 11:22 | 42                | Severe cold weather. Believe probe was freezing to the interior of the well casing. | 11:34      | 51                |       |
| 4/1/2015   | 9:15  | 172               |   | 9:39       | 55                |       |
| 5/4/2015   | 14:38 | 168               |   | 14:45      | 55                |       |
| 6/2/2015   | 8:47  | 174               |   | 8:53       | 28                |       |
| 7/1/2015   | 8:42  | 173               |   | 9:06       | 27                |       |
| 8/12/2015  | 9:23  | 173               |   | 9:30       | 34                |       |
| 9/1/2015   | 9:05  | 171               |   | 9:13       | 37                |       |
| 10/1/2015  | 9:03  | 168               |   | 9:22       | 29                |       |
| 11/5/2015  | 9:05  | 169               |   | 9:12       | 39                |       |
| 12/10/2015 | 8:49  | 169               |   | 8:45       | 40                |       |
| 3/9/2021   | 13:48 | 178               |   | 13:57      | 55                |       |
| 3/29/2021  | 9:00  | 178               | Wells sampled   | 9:13       | 55                |       |
| 4/27/2021  | 14:35 | 178               |   | 15:11      | 55                |       |
| 5/27/2021  | 11:30 | 178               |   | 11:36      | 55                |       |
| 6/24/2021  | 8:49  | 178               | Wells sampled   | 9:05       | 55                |       |
| 7/27/2021  | 15:57 | 177               |   | 16:04      | 55                |       |
| 8/18/2021  | 9:08  | 178               |   | 9:14       | 55                |       |
| 9/16/2021  | 11:05 | 177               |   | 12:26      | 45                |       |
| 10/20/2021 | 11:53 | 178               |   | 11:59      | 55                |       |



| Table 2.7-2 Groundwater Quality Data   |            |           |           |           |            |           |           |           |  |            |           |           |           |            |           |           |           |
|--|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|--|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|
| Zephyr Gold USA  |            |           |           |           |            |           |           |           |  |            |           |           |           |            |           |           |           |
| Dawson Gold Mine, Fremont County, CO   |            |           |           |           |            |           |           |           |  |            |           |           |           |            |           |           |           |
| Baseline Groundwater Quality Data  |            |           |           |           |            |           |           |           |  |            |           |           |           |            |           |           |           |
| unless otherwise noted   | North Well |           |           |           |            |           |           |           | Groundwater Quality Concentration **** | South Well |           |           |           |            |           |           |           |
|  | 10/2014 Q1 | 1/2015 Q2 | 4/2015 Q3 | 7/2015 Q4 | 10/2015 Q5 | 3/2021 Q1 | 6/2021 Q2 | 9/2021 Q3 |  | 10/2014 Q1 | 1/2015 Q2 | 4/2015 Q3 | 7/2015 Q4 | 10/2015 Q5 | 3/2021 Q1 | 6/2021 Q2 | 9/2021 Q3 |
| Aluminum   | <0.2       | <0.2      | 0.28      | <0.2      | 0.26       | ND        | 0.57      | BD        | 5                                      | <0.2       | <0.2      | <0.2      | 0.54      | 0.36       | ND        | ND        | ND        |
| Arsenic  | <0.01      | <0.01     | <0.01     | <0.01     | <0.01      | ND        | ND        | ND        | 0.01                                   | <0.01      | <0.01     | <0.01     | <0.01     | <0.01      | ND        | ND        | ND        |
| Beryllium  | <0.005     | <0.005    | <0.005    | <0.005    | <0.005     | ND        | ND        | ND        | 0.004                                  | <0.005     | <0.005    | <0.005    | <0.005    | <0.005     | ND        | ND        | ND        |
| Boron  | 0.26       | 0.15      | 0.13      | 0.15      | 0.12       | 0.1       | 0.11      | ND        | 0.75                                   | <0.1       | <0.1      | <0.1      | <0.1      | <0.1       | ND        | ND        | 0.13      |
| Cadmium  | <0.005     | <0.005    | <0.005    | <0.005    | <0.005     | ND        | ND        | ND        | 0.005                                  | <0.005     | <0.005    | <0.005    | <0.005    | <0.005     | ND        | ND        | ND        |
| Calcium  | 52         | 61        | 63        | 72        | 67         | 58        | 59        | 57        | No Standard                            | 67         | 66        | 66        | 70        | 76         | 68        | 67        | 54        |
| Chromium   | <0.01      | <0.01     | <0.01     | <0.01     | <0.01      | ND        | ND        | ND        | 0.1                                    | <0.01      | <0.01     | <0.01     | <0.01     | <0.01      | ND        | ND        | ND        |
| Cobalt   | <0.01      | <0.01     | <0.01     | <0.01     | <0.01      | ND        | ND        | ND        | 0.05                                   | <0.01      | <0.01     | <0.01     | <0.01     | <0.01      | ND        | ND        | ND        |
| Copper   | <0.01      | <0.01     | <0.01     | <0.01     | 0.018      | ND        | ND        | 0.016     | 0.2                                    | 0.012      | <0.01     | <0.01     | <0.01     | 0.02       | ND        | ND        | 0.036     |
| Iron   | <0.1       | <0.1      | <0.1      | <0.1      | 0.13       | ND        | 0.3       | ND        | 0.1                                    | <0.1       | <0.1      | <0.1      | <0.1      | 0.52       | ND        | ND        | ND        |
| Lead   | <0.003     | <0.003    | <0.003    | <0.003    | <0.003     | ND        | ND        | ND        | 0.05                                   | <0.003     | <0.003    | <0.003    | <0.003    | <0.003     | ND        | ND        | ND        |
| Lithium  | 0.051      | 0.038     | 0.032     | 0.033     | 0.034      | 0.028     | 0.027     | ND        | 2.5                                    | 0.013      | <0.01     | <0.01     | <0.01     | <0.01      | ND        | ND        | 0.036     |
| Magnesium  | 20         | 24        | 23        | 28        | 23         | 24        | 24        | 16        | No Standard                            | 19         | 19        | 16        | 21        | 21         | 19        | 19        | 22        |
| Manganese  | 0.1        | 0.089     | 0.11      | 0.17      | 0.072      | ND        | 0.037     | ND        | 0.05                                   | 0.036      | 0.013     | 0.014     | 0.029     | 0.023      | ND        | ND        | 0.12      |
| Mercury  | <0.0002    | <0.0002   | <0.0002   | <0.0002   | <0.0002    | ND        | ND        | ND        | 0.002                                  | <0.0002    | <0.0002   | <0.0002   | <0.0002   | <0.0002    | ND        | ND        | ND        |
| Nickel   | <0.02      | <0.02     | 0.02      | 0.037     | <0.02      | ND        | ND        | ND        | 0.1                                    | <0.02      | <0.02     | <0.02     | 0.038     | <0.02      | ND        | ND        | ND        |
| Potassium  | 6.2        | 5.6       | 5.3       | 5.3       | 5.1        | 5.3       | 6.6       | 3.6       | No Standard                            | 4.9        | 4         | 3.7       | 3.5       | 3.5        | 4.3       | 4.9       | 5.1       |
| Selenium   | <0.005     | <0.005    | <0.005    | <0.005    | <0.005     | ND        | ND        | ND        | 0.02                                   | <0.005     | <0.005    | <0.005    | <0.005    | <0.005     | ND        | ND        | ND        |
| Sodium   | 80         | 36        | 5.3       | 19        | 19         | 18        | 19        | 15        | No Standard                            | 27         | 15        | 14        | 14        | 15         | 16        | 17        | 19        |
| Vanadium   | <0.01      | <0.01     | <0.01     | <0.01     | <0.01      | ND        | ND        | ND        | 0.1                                    | <0.01      | <0.01     | <0.01     | <0.01     | <0.01      | ND        | ND        | ND        |
| Zinc   | 0.025      | 0.11      | 0.03      | 0.12      | 0.057      | ND        | 0.17      | 0.17      | 2                                      | 0.091      | 0.12      | <0.02     | 0.023     | <0.02      | ND        | 0.3       | 0.54      |
| Bicarbonate as CaCO <sub>3</sub>   | 260        | 230       | 230       | 220       | 210        | 200       | 190       | 210       | Reflected in pH                        | 220        | 210       | 210       | 200       | 210        | 210       | 210       | 200       |
| Carbonate as CaCO <sub>3</sub>   | <20        | <20       | <20       | <20       | <20        | ND        | ND        | ND        | Reflected in pH                        | <20        | <20       | <20       | <20       | <20        | ND        | ND        | ND        |
| Total Alkalinity as CaCO <sub>3</sub>  | 260        | 230       | 230       | 220       | 210        | 200       | 190       | 210       | Reflected in pH                        | 220        | 220       | 210       | 200       | 210        | 210       | 210       | 200       |
| pH(lab)  | 7.85       | 7.86      | 7.73      | 7.77      | 7.92       | 8.31      | 8.22      | 7.44      | 6.5-8.5                                | 7.7        | 7.85      | 7.64      | 8.23      | 7.91       | 8.09      | 8.16      | 7.49      |
| pH(field)  | 8.63       | 7.37      | 8.62      | 7.38      | 8.7        | 7.95      | 7.9       | 7.78      | 6.5-8.5                                | 8.33       | 7.72      | 7.97      | 7.81      | 8.54       | 7.6       | 7.61      | 7.29      |
| Temperature °C (field)   | 13.5       | 12.7      | 13.4      | 14.8      | 13.7       | 11.3      | 14.1      | 16.8      | No Standard                            | 13         | 11.8      | 12.9      | 14.3      | 12.6       | 11.8      | 14.3      | 16.2      |
| specific conductivity (lab)**  | 779        | 653       | 621       | 567       | 561        | 504       | 555       | 527       | No Standard                            | 591        | 531       | 521       | 537       | 533        | 495       | 506       | 497       |
| electric conductivity (field)***   | 627        | 578       | 414       | 502       | 453        | 568       | 541       | 611       | No Standard                            | 433        | 406       | 459       | 468       | 449        | 541       | 571       | 538       |
| Total dissolved solids   | 480        | 450       | 380       | 370       | 350        | 690       | 350       | 350       | 10,000                                 | 360        | 330       | 310       | 350       | 340        | 310       | 330       | 310       |
| Fluoride   | 2.4        | 1.9       | 2         | 1.8       | 2.1        | 1.6       | 1.5       | 1.7       | 4                                      | 1.8        | 1.5       | 1.6       | 2         | 2.1        | 1.5       | 1.8       | 1.8       |
| Chloride   | 25         | 16        | 12        | 5.8       | 5.9        | 5.3       | 5.5       | 7.1       | 250                                    | 12         | 8.2       | 8.6       | 3.1       | 4.6        | 7.2       | 7.5       | 7.4       |
| Nitrite  | <0.1       | <0.1      | <0.1      | <0.1      | <0.1       | ND        | ND        | 1.7       | 1                                      | <0.1       | <0.1      | <0.1      | <0.1      | <0.1       | ND        | ND        | 1.7       |
| Nitrate/Nitrite as N   | <0.1       | <0.1      | <0.1      | 0.21      | <0.1       | ND        | 0.18      | 1.9       | 10                                     | <0.1       | <0.1      | <0.1      | 1.6       | 1.5        | 0.26      | 0.3       | 1.9       |
| Nitrate as N   | <0.2       | <0.2      | <0.2      | 0.21      | <0.2       | ND        | 0.18      | 0.25      | 10                                     | <0.2       | <0.2      | <0.2      | 1.6       | 1.5        | 0.26      | 0.31      | 0.22      |
| Sulfate  | 110        | 92        | 88        | 82        | 81         | 77        | 76        | 83        | 250                                    | 66         | 56        | 57        | 74        | 71         | 58        | 60        | 59        |
| Depth to Groundwater (ft from top of collar)   | 175        | 173       | 172       | 173       | 168        | 178       | 178       | 177       |  | 45         | 55        | 55        | 27        | 29         | 55        | 55        | 45        |
| * pH measured in water at 25° Celsius  |            |           |           |           |            |           |           |           |  |            |           |           |           |            |           |           |           |
| ** Units in umhos/cm   |            |           |           |           |            |           |           |           |  |            |           |           |           |            |           |           |           |
| *** uS/cm  |            |           |           |           |            |           |           |           |  |            |           |           |           |            |           |           |           |
| **** The accepted standard is the most restrictive concentration/level in Regulation 41. |            |           |           |           |            |           |           |           |  |            |           |           |           |            |           |           |           |



Table 2.7.4-1 Reg No. 41 Most Restrictive Groundwater Standards

**Most Restrictive Values - Regulation No. 41 Ground Water Standards**

| Parameter  | Standard                 | Value Source* |
|--|--------------------------|---------------|
| Coliforms, Total (30 day average)                          | 2.2 org/100 ml           | TABLE 1       |
| Aluminum (Al)  | 5 mg/l                   | TABLE 3       |
| Antimony (Sb)  | 0.006 mg/l               | TABLE 1       |
| Asbestos   | 7,000,000 fibers/Liter   | TABLE 1       |
| Arsenic (As)   | 0.01 mg/l                | TABLE 1       |
| Barium (Ba)  | 2.0 mg/l                 | TABLE 1       |
| Beryllium (Be)   | 0.004 mg/l               | TABLE 1       |
| Beta and Photon Emitters                                   | 4 mrem/year              | TABLE 1       |
| Boron (B)  | 0.75 mg/l                | TABLE 3       |
| Cadmium (Cd)   | 0.005 mg/l               | TABLE 1       |
| Chlorophenol   | 0.0002 mg/l              | TABLE 2       |
| Chloride (Cl)  | 250 mg/l                 | TABLE 2       |
| Chromium (Cr)  | 0.1 mg/l                 | TABLE 1       |
| Cobalt (Co)  | 0.05 mg/l                | TABLE 3       |
| Color  | 15 color units           | TABLE 2       |
| Copper (Cu)  | 0.2 mg/l                 | TABLE 3       |
| Corrosivity  | Noncorrosive             | TABLE 2       |
| Cyanide [Free] (CN)  | 0.2 mg/l                 | TABLE 1       |
| Fluoride (F)   | 2 mg/l                   | TABLE 3       |
| Foaming Agents   | 0.5 mg/l                 | TABLE 2       |
| Gross Alpha Particle Activity                              | 15 pCi/l                 | TABLE 1       |
| Iron (Fe)  | 0.3 mg/l                 | TABLE 2       |
| Lead (Pb)  | 0.05 mg/l                | TABLE 1       |
| Lithium (Li)   | 2.5 mg/l                 | TABLE 3       |
| Manganese (Mn)   | 0.05 mg/l                | TABLE 2       |
| Mercury (inorganic) (Hg)                                   | 0.002 mg/l               | TABLE 1       |
| Molybdenum (Mo)  | 0.21 mg/l                | TABLE 1       |
| Nickel (Ni)  | 0.1 mg/l                 | TABLE 1       |
| Nitrate (NO <sub>3</sub> )                                 | 10.0 mg/l as N           | TABLE 1       |
| Nitrite (NO <sub>2</sub> )                                 | 1.0 mg/l as N            | TABLE 1       |
| Nitrate+Nitrite, Total (NO <sub>2</sub> +NO <sub>3</sub> ) | 10.0 mg/l as N           | TABLE 1       |
| Odor   | 3 threshold odor numbers | TABLE 2       |
| pH   | 6.5 - 8.5                | TABLE 2       |
| Phenol   | 0.3 mg/l                 | TABLE 2       |
| Selenium (Se)  | 0.02 mg/l                | TABLE 3       |
| Silver (Ag)  | 0.05 mg/l                | TABLE 1       |
| Sulfate (SO <sub>4</sub> )                                 | 250 mg/l                 | TABLE 2       |
| TDS, Background  | 400 mg/l                 | TABLE 4       |
| Thallium (Tl)  | 0.002 mg/l               | TABLE 1       |
| Uranium (U)  | 0.0168 mg/l              | TABLE 1       |
| Vanadium (V)   | 0.1 mg/l                 | TABLE 3       |
| Zinc (Zn)  | 2 mg/l                   | TABLE 3       |

\* TABLE 1 - Domestic Water Supply – Human Health Standards

TABLE 2 - Domestic Water Supply – Drinking Water Standards

TABLE 3 - Agricultural Standards

TABLE 4 - TDS Water Quality Standards

Table 2.4.7-2 Reg. 32 Stream Classification and Water Quality Standards

Water Quality Control Commission

5 CCR 1002-32

**REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS**  
**Upper Arkansas River Basin**

| 14e. All tributaries to the Arkansas River, including wetlands, which are not on National Forest lands from the Chaffee/Fremont County line to immediately below the confluence with Chandler Creek (38.407024, -105.137940). Newlin Creek (except for listings in segment 15b), Mineral Creek, Adobe Creek, and Oak Creek, including all tributaries and wetlands which are not on National Forest Service Land. |                |                                    |                  |                         |                 |               |         |
|---|----------------|------------------------------------|------------------|-------------------------|-----------------|---------------|---------|
| COARUA14E   |                | Classifications                    |                  | Physical and Biological |                 | Metals (ug/L) |         |
| Designation   | Agriculture    |                                    | DM               | MWAT                    |                 | acute         | chronic |
| Reviewable  | Aq Life Cold 1 | Temperature °C                     | CS-II            | CS-II                   | Arsenic         | 340           | —       |
|   | Recreation E   |                                    | acute            | chronic                 | Arsenic(T)      | —             | 100     |
| Qualifiers:   |                | D.O. (mg/L)                        | —                | 6.0                     | Cadmium         | TVS           | TVS     |
| Other:  |                | D.O. (spawning)                    | —                | 7.0                     | Chromium III    | TVS           | TVS     |
|   |                | pH                                 | 6.5 - 9.0        | —                       | Chromium III(T) | —             | 100     |
|   |                | chlorophyll a (mg/m <sup>2</sup> ) | —                | 150*                    | Chromium VI     | TVS           | TVS     |
|   |                | E. Coli (per 100 mL)               | —                | 126                     | Copper          | TVS           | TVS     |
|   |                |                                    | Inorganic (mg/L) |                         | Iron(T)         | —             | 1000    |
|   |                |                                    | acute            | chronic                 | Lead            | TVS           | TVS     |
|   |                | Ammonia                            | —                | —                       | Manganese       | TVS           | TVS     |
|   |                | Boron                              | —                | 0.75                    | Mercury(T)      | —             | 0.01    |
|   |                | Chloride                           | —                | —                       | Molybdenum(T)   | —             | 150     |
|   |                | Chlorine                           | 0.019            | 0.011                   | Nickel          | TVS           | TVS     |
|   |                | Cyanide                            | 0.005            | —                       | Selenium        | TVS           | TVS     |
|   |                | Nitrate                            | 100              | —                       | Silver          | TVS           | TVS     |
|   |                | Nitrite                            | 0.05             | —                       | Uranium         | varies*       | varies* |
|   |                | Phosphorus                         | —                | 0.11*                   | Zinc            | TVS           | TVS     |
|   |                | Sulfate                            | —                | —                       |                 |               |         |
|   |                | Sulfide                            | —                | 0.002                   |                 |               |         |

All metals are dissolved unless otherwise noted.  
T = total recoverable  
t = total

D.O. = dissolved oxygen  
DM = daily maximum  
MWAT = maximum weekly average temperature

## 2.9 Exhibit I: Soils Information

The mine's facility and tailings storage will be developed at the toe of Greenhorn Mountain, in the vicinity of the historic Copper King Mine. According to the NRCS web survey (Appendix H), soils in the area of interest include Bronell gravelly sandy loam, Cathedral-Rock outcrop, Coaldale very gravelly sandy loam, Louviers-Travessilla complex and Sedillo cobbly sandy loam. With the exception of Cathedral, the soils are well drained sandy loam with moderately high to high water transmissivity on or near mountain slopes or terraces. The Cathedral soil is the unweathered mountain bedrock. The NRCS map unit description is provided in Exhibit H.

Development will be primarily on Bronell and Louviers-Travessilla complex soils. These soil groups are suitable for reclamation activities. During development, Zephyr will salvage an average of four to six inches of suitable plant growth medium. The salvaged soil will be stockpiled for use during final reclamation. The actual depth of salvaged soil will vary as geotechnical studies in the area indicate elluvium soils overlay sandstone and shale. The shallowest soil depths are on the upper slopes and deepest at the toe of the slope.

## 2.10 Exhibit J: Vegetation Information

Consistent with the NRCS soil description, native vegetation in the proposed facility area is pinyon and juniper with understory of Scribner needlegrass, wester wheatgrass, blue grama, sideoats grama, Gambel oak and mountain mahogany. Noxious weeds have not established because very little disturbance exists and historic disturbances are old enough to have revegetated successfully. Mr. Rick Romano of the US Department of Agriculture, NRCS, Fremont County office visited the site on November 17, 2014. The vegetation inventory is provided in Exhibit H.

The CNHP Potential Conservation Area included the following vegetation description.

Grape Creek is a long, perennial drainage that winds through rugged, granitic, lower montane hills west of the north end of the Wet Mountains. The steep canyon slopes above the stream are sparsely covered with rocky pinon - juniper woodland (*Pinus edulis* - *Juniperus* spp.) with mountain mahogany (*Cercocarpus montanus*) and Gambel oak (*Quercus gambelii*) groves. There are small prospect mines in the hills of the stream valley. This perennial stream is recovering from intensive land use in the past (grazing, railroad corridor). It previously washed out annually during high energy spring flooding once water flow resumed after being much reduced in winter by Deweese Reservoir upstream. This repeatedly stripped all vegetation out of the riparian corridor until recent years when the streambank vegetation has held. Intensive land use has been curbed and the riparian vegetation is recovering. Currently, the predominant vegetation within the corridor is the graminoid-dominated streambanks that have been gradually expanding. The entire reach is dotted with Rocky Mountain juniper (*Juniperus scopulorum*) and one seed juniper (*Juniperus monosperma*) individuals interspersed with groves of narrowleaf cottonwood (*Populus angustifolia*) and/or plains cottonwood (*Populus deltoides*). There are some groves of mature cottonwoods where the ground has significant woody debris as well as areas of regenerating cottonwoods that likely will replace the junipers as canopy dominants in the future. Shrubs are sparse along the reach, but show signs of establishment and regeneration in many places. Coyote willow (*Salix exigua*) is the most common, although peachleaf willow (*Salix amygdaloides*) saplings are also present. The herbaceous cover is lush along the banks. Dominant graminoids include pasture grasses like quackgrass (*Elymus repens*) and Kentucky bluegrass (*Poa pratensis*), although native Nebraska sedge (*Carex nebrascensis*), common spikerush (*Eleocharis palustris*), and scouring rush horsetail (*Equisetum hyemale*) are common and abundant. There are scattered forbs throughout, including wild mint (*Mentha arvensis*), water horehound (*Lycopus americana*), and others. Vines such as riverbank grape (*Vitis riparia*) and clematis (*Clematis ligusticifolia*) crawl up and cover rock outcrops and juniper and cottonwood trees in several areas. Tributaries of Grape Creek are moderate to high gradient sandy washes with ephemeral to intermittent flow. Tree canopies, where present, are mixed evergreen-deciduous woodlands, often with sporadic cover.

## 2.12 Exhibit L: Reclamation Costs

## COST SUMMARY WORK

Task Description: Reclamation cost estimate  
Site: Dawson Gold Mine

### **TASK LIST (Direct costs)**

| <b>TASK</b> | <b>Description</b>                              | <b>Task Hours</b> | <b>Cost</b>   |
|-------------|---|-------------------|---------------|
| 001         | Backfill and grade facilities area              | 24.47             | \$ 10,992.44  |
| 001A        | Constructing Engineered Cover for FTSF          | 132.89            | \$ 80,292.36  |
| 002         | Rip facilities area                             | 7.67              | \$ 2,078.97   |
| 003         | Rip access and interior road prior to regrading | 0.33              | \$ 90.39      |
| 004         | Regrade access and interior road                | 0.40              | \$ 100.77     |
| 005         | Finish grade disturbed area                     | 5.00              | \$ 479.40     |
| 006         | Replace topsoil from stockpile to mill site     | 14.86             | \$ 3,717.24   |
| 007         | Replace topsoil from stockpile to haul road     | 0.48              | \$ 120.12     |
| 008         | Seal portal and vent shafts                     | 95.00             | \$ 20,716.03  |
| 009         | Plug and seal monitoring wells                  | 18.00             | \$ 6,051.90   |
| 010         | Reseed facilities area and haul road            | 36                | \$ 47,375.84  |
| 011         | Demolish and remove all structures              | 250               | \$ 136,624.60 |
| 012         | Mobilize and demobilize                         | 7.78              | \$ 7,758.67   |

Hours Total: 592.87

**Direct Costs Total: \$ 316,398.73**

### **INDIRECT COSTS**

#### **OVERHEAD AND PROFIT**

Liability insurance: 2.02% \$ 6,391.25

Performance bond: 1.05% \$ 3,417.11

Job superintendent 200 hours \$ 15,000.00

Profit: 5% \$ 15,819.94

CONTRACT AMOUNT (DIRECT AND O&P) \$ 357,027.03

#### **LEGAL-ENGINEERING-PROJECT MANAGEMENT**

Engineering work and/or contract/bid preparation 5.00% \$ 17,851.35

Reclamation management and/or administration 4.50% \$ 16,066.22

**TOTAL BOND AMOUNT \$ 390,944.60**

Task Description: Constructing Engineered Cover for FTSF Task # 001A  
 Site: Dawson Gold Mine

HOURLY EQUIPMENT COST

|                  |                            |                |             |                         |
|------------------|----------------------------|----------------|-------------|-------------------------|
| Basic Machine:   | C730 Truck (2)             | CAT 950 Loader | CatD8 Dozer | 2500 gallon water truck |
| Unit Cost/Hour:  | \$ 129.72                  | \$ 259.44      | \$ 95.37    | \$ 191.83               |
| Unit Production: | 18.06 LCY                  |                |             |                         |
|                  | 108.36 LCY/Hr              | 528.59 LCY/Hr  |             |                         |
|                  | 216.72 LCY/HR for 2 trucks |                |             |                         |

CAP ACREAGE 11 acres

MATERIAL QUANTITIES

Sand and gravel layer purchased from 3rd party

|                  |               |
|------------------|---------------|
| Layer thickness  | 6 inches      |
| Quantity         | 14,400 tons   |
| Cost per ton FOB | \$ 8.00       |
| Subtotal cost    | \$ 115,200.00 |

Topsoil purchased from 3rd party

|                  |               |
|------------------|---------------|
| Layer thickness  | 6             |
| Quantity         | 14,400        |
| Cost per ton FOB | \$ 12.00      |
| Subtotal cost    | \$ 172,800.00 |

TRAVEL TIME

|                  |            |
|------------------|------------|
| Haul distance    | 2000 ft    |
| Total cycle time | 10 minutes |

JOB TIME AND COST

|                  |  |
|------------------|--|
| Fleet size:      | 2 trucks, 1 loader, 1 dozer, 1 water truck |
| Total job time:  | 132.89                                     |
| Fleet cost /hour | 604.20                                     |
| Total job cost:  | \$ 80,292.36                               |

## 2.13 Exhibit M: Other Application Submissions

Zephyr USA will be submitting an application for a CUP for mining from Fremont County Department of Planning and Zoning (FCPZ). This application will provide information pertaining to compatibility with area land use, traffic analysis, driveway access permit, lighting plan and fire prevention plan.

Colorado Department of Public Health and Environment (CDPHE) will receive two applications: (1) An Air Pollution Emissions Notice (APEN) will be submitted to the Air Pollution Control Division (APCD) for construction and operation of the mine and; (2) A mine discharge application will be submitted to the Water Quality Control Division (WQCD).

The Colorado Department of Natural Resources, State Engineers Office (SEO) will also receive applications as follows: (1) Additional monitoring well permit applications will be submitted for construction of the proposed monitoring wells. (2) Mine dewatering will be necessary; thus an application will be submitted for anticipated dewatering as well as addressing mill needs along with a Substitute Water Supply Plan and proof of water. This application will likely be amended as the mine develops. Zephyr respects Colorado's effort to be protective and fair regarding water consumption and will maintain an open dialogue with SEO throughout LOM.



## 2.14 Exhibit N: Source of Legal Right to Enter

Zephyr USA's source of legal right to enter exists as owner of private land, owner of patented claims and as easements with adjoining property owners.

Appendix J contains copies of the following documents:

Adamic Diamond Placer Claim Easement

Adamic Harris Tract Agreement

Keller Grant of Nonexclusive Easement

Copper Boy Patented Claim

Copper King Patented Claim

Copperopolis Patented Claim

Fremont Placer Patented Claim

Last Show Patented Claim

Mike Sutton Patented Claim

Sentinel Patented Claim

Judith Placer Warranty Deed

## 2.15 Exhibit O: Owners of Record of Affected Land and Owners of Substance to be Mined

Zephyr USA is owner of record of affected land and substance to be mined.

Appendix J contains copies of the following documents:

Adamic Diamond Placer Claim Easement

Adamic Harris Tract Agreement

Keller Grant of Nonexclusive Easement

Copper Boy Patented Claim

Copper King Patented Claim

Copperopolis Patented Claim

Fremont Placer Patented Claim

Last Show Patented Claim

Mike Sutton Patented Claim

Sentinel Patented Claim

Judith Placer Warranty Deed

### **3.0 EXHIBIT U: DESIGNATED MINING OPERATION ENVIRONMENTAL PROTECTION PLAN**

#### **6.4.21 Summary**

The purpose of this Environmental Protection Plan (EPP) is to assure compliance with the Act and Rules that are protective of environmental areas that have the potential to be affected by designated chemicals, toxic or acid-forming materials or acid mine drainage. In addition, the EPP includes implementation and commitment to appropriate wildlife protective measures recommended by CPW.

The DGM was evaluated to determine the potential to generate toxic or acid forming materials. Three aspects of the project were identified: the FTST, waste rock piles and temporary stockpiles. The mill will use two reagents in GMR processing. DGM does not include leach facilities, heap leach pads, impoundments, or land application sites.

#### **6.4.21(1)(c)(iii) The EPP for FTST**

As described in the mine plan, mill tailings will be produced at the rate of 300 tpd and placed in the FTST as filtered or “dry stack” tailings with a maximum dry density of approximately 15%. Geotechnical classification and geochemical characterization of tailings did not identify carbonate or sulfide minerals in the tailings samples. Minerals detected by XRD include quartz (67.5%) and numerous aluminosilicates, including feldspars (potassium and plagioclase 6.1%) and mafic aluminosilicates (21.4%), as well as magnetite (0.2%) and goethite (4.8%).

Geochemical characterization of tailings and supporting buttress material was undertaken in 2021. Details and results of the program are given in GEM Services’ report “Tailings Geochemistry Characterization and Seepage Quality Estimate”, provided in Appendix B of Zephyr Minerals’ mine permit application.

In summary, a tailings and tailings filtrate sample from the processing of altered and unaltered ore were subjected to acid base accounting (tailings solids) and water quality analysis (tailings filtrate) to determine their potential to produce acidic drainage and to release metals. Test results indicate both tailings types are non-potentially acid generating (non-PAG). The tailings filtrate quality meets the groundwater quality standard and is less than the background groundwater quality at the site.

The tailings samples are currently undergoing kinetic testing to assess the long term metal leaching potential during post-closure. To date, leachates from the humidity cells are maintaining slightly alkaline pH with decreasing concentrations in sulfate, acidity and metals.

Development rock expected to be used as supporting buttress material in the FTST was also characterized. Five samples were subjected to acid base accounting and short term leach tests (shake flask extraction testing). All samples are classified as non-PAG material. Results from the SFE tests show few detectable trace metals. Metals and metalloids detected include aluminium, antimony, arsenic, barium, copper, lead, manganese, molybdenum and uranium. All parameters met the groundwater quality standard. All SFE tests produced slightly alkaline pH. No sulfate was detected.

Tailings from the rougher/scavenger flotation and cleaner scavenger flotation will be combined in the thickener to recover process water that will be recycled in the mill. The thickener solids will be pumped to a filter feed stock tank and treated with a generic anionic emulsion flocculant to aid settling. Again,

any filtrate water will be sent back to the mill for reuse and the tailings filter cake with a target moisture content of 15% will be conveyed to a temporary stockpile on a concrete pad immediately outside the mill building.

Tailings will be hauled by truck to the FTSF. Tailings that meet the moisture content target will be placed in the Shell Placement Area in 12 inch lifts. Tailings that do not meet the moisture content target due to inclement weather or upset conditions at the plant will be placed in the General Placement Area target moisture content is met. Tailings will be stacked at an overall slope of 3H:1V.

The FTSF will be monitored for compaction, moisture content and large scale integrity testing. Compaction assessment will be performed once every two weeks to insure tailings are stacked to required density. Grab samples will be taken from placed tailings and tested for moisture content twice per week. Overall integrity of the FTSF will be assessed by the cone penetration test every three years.

Stormwater diversion channels will be constructed upgradient of the FTSF to divert clean water away from the FTSF. Low seepage rates are anticipated in the compacted filtered tailings stack but an underdrain will be constructed in case seepage occurs. The underdrain will convey seepage and any surface runoff from the dry stack to the geomembrane lined contact water pond. Water collected in the contact water pond will be tested for pH to verify it meets discharge criteria. The water will be returned to the mill, allowed to evaporated or released.

The combination of dry stack tailings, stormwater diversion channels, the geomembrane lined contact water pond, stack monitoring and the semi-arid climate of the area will contribute to achieving a FTSF that will be inert and not susceptible to oxidation over time.

#### **6.4.21(1)(c)(iv) The EPP for Waste Rock**

Waste rock, primarily granite, will be temporarily stockpiled during initial underground mine development in the north end of the footprint of the FTSF. This rock will be readily available during site development. Waste rock will be used to construct the FTSF embankment and mill structure foundation construction.

In the event PAG and NAG waste rock is encountered, it will be stockpiled separately in the FTSF footprint and managed to prevent comingling. Water collection channels around the perimeter of these stockpiles will divert water runoff to the contact water pond.

All temporary waste rock piles will be constructed in 5 ft lifts to a maximum height of 15 ft. above ground surface. Approximately 30,000 tons will be generated during the first year of site development with a maximum of 50,000 tons will be total produced by year 3. After the ramp is fully constructed and the mine is operating, waste rock will remain underground being used for backfilling.

#### **6.4.21(2) Maps**

Exhibit C and Appendix C contain site development and mill figures.

#### **6.4.21(3) Identification of Jurisdictional Agencies**

Colorado Department of Public Health and Environment (CDPHE)'s Water Quality Control Division (WQCD) and Air Pollution Control Division (APCD) will require permits.

Fremont County Department of Transportation (FCDOT) will require an access permit.

Fremont County Department of Planning and Zoning will require a Conditional Use Permit for the mining operation.

#### **6.4.21(4)(a and b) Other Permits and Licenses**

WQCD will require a storm water and process water discharge permit.

APCD will require Air Pollution Emission Notices (APEN) for GMR sizing equipment, facility fugitive dust and mine fans.

FCDOT's access permit will require an access with a perpendicular approach to County Road 3A. It is also likely improvements to County Road 3A will be required.

#### **6.4.21(5) and (6) Designated Chemical Evaluation**

Two designated chemicals and one generic flocculant will be stored on site that aid in flotation. MSDS is provided in Appendix D.

Potassium Amyl Xanthate (PAX) is a sulphide mineral collecting agent in powder form. It will be used at a rate of 0.25 lb./ton. Approximately 2,250 lbs. of PAX will be stored on site at any given time.

Methyl IsoButyl Carbinol (MIBC) is a frother in liquid form. It will be used at a rate of 0.1 lb./ton. Approximately 900 lbs. of MIBC will be stored on site at any one time.

A generic anionic emulsion flocculant in liquid form will be used at a rate of 0.05 lb./ton. Approximately 450 lbs. of frother will be stored on site at any one time.

#### **6.4.21 (6)(a) and (b) Designated Chemical Handling**

A one-month's supply of the chemicals will be stored on site in tanks at any one time. The reagents will be delivered in metal or steel drums and will be placed in a sea container designed for storage of bulk liquids. PAX is delivered in a plastic lined metal drum because it is a powder. The flocculant will be delivered in 50 lb. bags and will be stored in the sea container also. Reagent mixing will occur inside the mill building where any spillage will be contained and managed appropriately.

During periods of cessation and commencement of closure, a third party chemical disposal contractor will be engaged to appropriate package, transport and dispose of any remaining reagents.

#### **6.4.21(6)(c) Assessment of Potential Acid Mine Drainage**

Baseline groundwater monitoring indicates that groundwater will be encountered during ramp development. Ground water was encountered at 55 ft below ground surface on the south side of the permitted area and 175 ft. below ground surface in the vicinity of the mill building. During mine development in the unmineralized granite, in the event groundwater is encountered it will be pumped to one of the 5000-gallon groundwater storage tanks. Since the groundwater will be in the unmineralized granite, water quality is anticipated to align with baseline water quality data. The captured groundwater will be tested for quality prior to release into the natural drainage.

The GMR is in a granite deposit with nominal sulfur containing mineralization. In this area, ground water makes its way to the Arkansas River via underground fissures. Baseline water quality data indicates that should sufficient water reach the surface and ultimately to the Arkansas River, the water quality of the Arkansas River would not be impacted.

Also due to the nominal sulfur containing mineralization and based on tailings characterization performed to date, toxic or acid forming material is not anticipated. Since the GMR has very low sulfur concentrations, acidic leachate is not likely to form thus mobilization of heavy metals is also not likely. None the less, to be especially protective of the environment, a contact water pond will be constructed at the toe of the tailings embankment that will serve as a collection point for all water generated or that comes in contact with tailings. The contact water pond was sized to be effective during a 100-year storm event. The contents of the pond will be monitored and mostly likely released to the natural waterway. In the event upset conditions are discovered, the water will not be released but rather treated and reused in the mill.

#### **6.4.21(7) Facilities Evaluation**

##### **(b) Designated Chemicals**

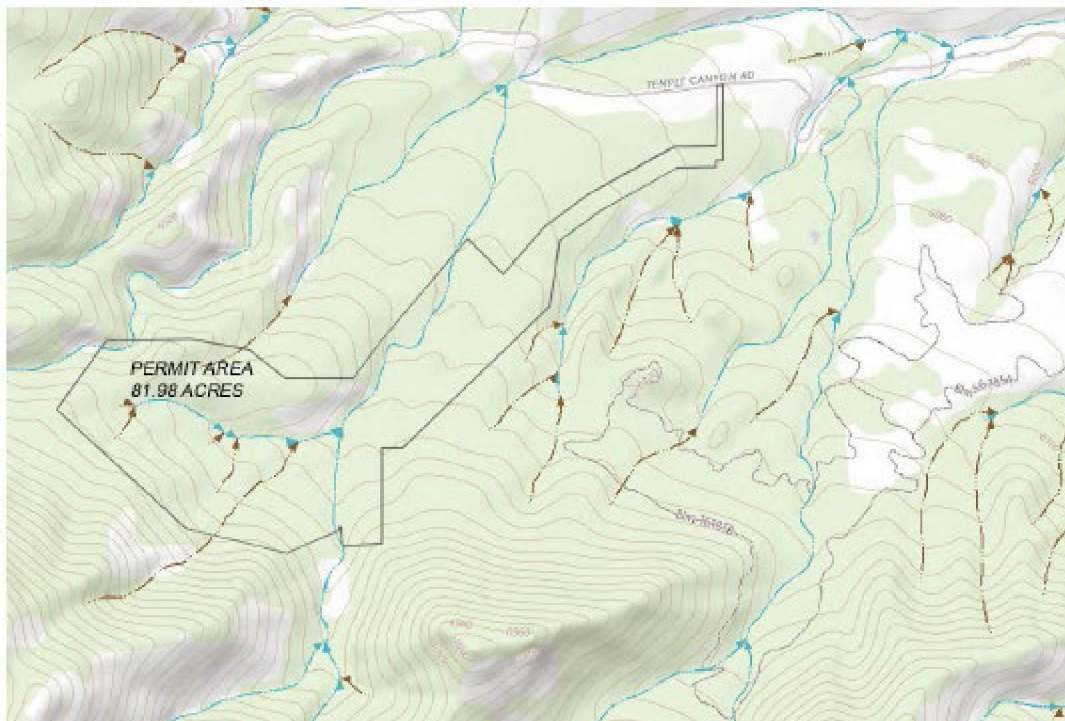
Designated chemicals handling is described in Section 6.4.21(6) (b) and (c) above.

##### **(c) Naturally Occurring Geological and Geochemical Conditions**

The project is in Fremont County, Colorado, ½ mile north of Fremont County Road 3, also known as Temple Canyon Road, and 1 ½ miles west of the Dawson Ranch subdivision near Canon City, Colorado. The proposed project limits encompass about 82 acres. The project and natural drainage way the project will discharge into does not enter the Dawson Ranch community to the east. The project lies 1.4 miles south of Grape Creek. Surface water flows into an unnamed natural drainage at the site then northeasterly for about 2 ½ miles before it discharges into Grape Creek. The permit boundary and project location are shown below as Figure 6.4.21(7) Vicinity and Drainage Map.



Figure 6.4.21(7) Vicinity and Drainage Map



#### **(d) Monitoring System**

Section 2.7.4 Monitoring Well System provides detail of the monitoring system, proposed monitoring locations, sample parameters, frequency of sampling.

The AMEC OMS Manual (Appendix F), Section 5.0 is the monitoring program for the DGM, specifically the FTSF. Both groundwater quality and FTSF seepage quantities from the underdrain system will be monitored regularly. The manual includes maps, monitoring frequency and parameters. Groundwater wells will be installed upgradient and downgradient of the FTSF. Monitoring will occur quarterly during operations and at least eight quarters post-closure. Groundwater quality parameters are provided in Table 3 of the OMS Manual. The underdrain will be equipped with a weir or flume to measure the seepage flow rate. The flow rate and pH of the contact water pond will be recorded weekly. Seepage water quality will be tested quarterly and at least eight quarters post-closure. Standpipe piezometers will be installed in the FTSF. Water level monitoring will reveal if a phreatic surface develops with the FTSF.

#### **(e) Release Response Procedures and “Backup” Measures**

Appendix E is the AMEC FTSF Design Report that includes design criteria, secondary containment or liner system, Sub-Appendix F “Technical Specifications and Construction Quality Assurance for Quality Assurance Controls” and engineer diagrams for the underdrain system, starter buttresses in Zone 1 and Zone 2 and the contact water pond.

Appendix N is the Jesik Dawson Mine Surface Water Management Report that includes design criteria and engineer diagrams for all stormwater control structures and surface water diversion channels.

**(f) Secondary Containment Facilities**

A Spill Prevention Control and Countermeasure Plan (SPCC) will be prepared upon approval of the Exhibits C and D of the application.

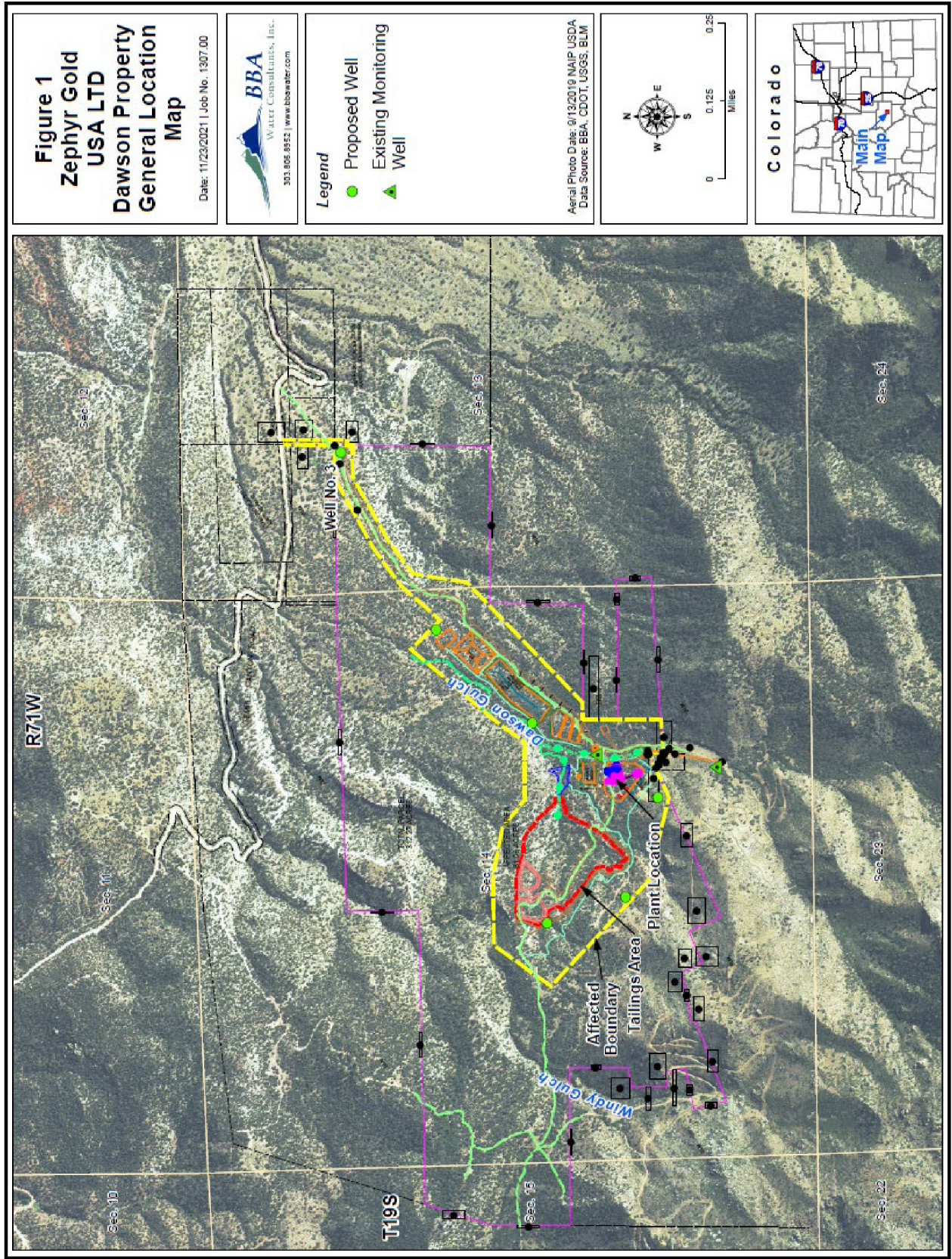
**6.4.21(8) Ground Water Information**

The Dawson Property mine dewatering is estimated to potentially be as high as approximately 80 gpm initially, but will more likely only be on the order of 55 gpm, especially once the total depth of the mine has been reached and dewatered using ongoing dewatering operations. These projected rates may overestimate required dewatering rates if the fractures encountered by the mine are not significantly connected. If there is limited interconnectedness of fractures encountered by the mine, dewatering rates may be significantly less. Mine water will accumulate in the bottom portions of the mine and be pumped to the Dawson Property mine portal. This discharge will mostly be used within the mine facilities, but some will be discharged to the surface and is subject to Colorado Department of Public Health and Environment (CDPHE) discharge permits. Water pumped from the mine will ultimately be discharged to surface drainage systems after flowing through a sedimentation pond. The local stream drainages the sedimentation pond overflows to is a dry gulch locally named Dawson Gulch. Dawson Gulch is tributary to Grape Creek and the Arkansas River, but rarely flows with flow mostly limited to during and immediately after large precipitation events.

Ground water quality samples have been collected as part of the planning efforts for the proposed mine. The quality of the ground water is generally favorable with regular exceedances of the accepted standard reported for only Manganese in the North Well. No water quality samples have been collected from the surface water monitoring locations as part of the monitoring because there has been no flow at the sampling location since the monitoring locations were established. The locations of the ground and surface water monitoring locations are presented in Figure 1. An additional monitoring well is proposed for the monitoring program as presented.

Water quality samples have been collected from the North and South Monitoring Wells which were analyzed for a partial suite of water quality parameters for four quarters between October 2014 and October 2015 to provide a full year of water quality data. Quarterly water quality sampling has again been resumed starting in March of 2021 to confirm whether water quality conditions have changed over time (which would not be expected as mining has not occurred and the site has not changed). No surface water quality samples were collected over either period as the drainages did not run during that monitoring period. The water quality results are presented in Appendix K.







The only water quality parameter that is detected regularly in the ground water monitoring wells as an exceedance of the Regulation 41 limits is manganese. Iron and pH have also exceeded Regulation 41 standards, but only periodically. The manganese exceedance was only observed in the North Well.

Manganese is very common in soils and sediments and is commonly found with iron as a mineral oxide. When water interacts with these oxides they are dissolved and mobilized by the water. At the levels identified by the monitoring program, the water quality will likely result in aesthetic staining but not health concerns.

Ground water in the geologic material to be mined at the Dawson property mine is contained almost entirely in fractures in the bedrock material. The ground water flows through these minute fractures from the infiltration of local precipitation or regional underflow. This ground water system is contained in the Precambrian material targeted by the mine. No sedimentary geologic material will be mined during the mining process, but areas over sedimentary units will be disturbed. The Dakota formation has locally been identified as a saturated aquifer. The Precambrian ground water system will be strongly influenced by the dewatering of the mine once ground water is encountered and dewatering commences. The ground water that enters the mine will enter through the fractures that intersect the mine workings and inflows will be controlled by the characteristics of those fractures. The neighboring sedimentary aquifer will be impacted to a lesser extent due to the distance and separation from the mine dewatering by local faulting.

Regional ground water gradients in the ground water aquifer systems are generally towards the north in the Precambrian material from the mountainous areas south of the mine and towards the east/northeast in the Dakota formation towards the center of the Canon City Embayment.

Local recharge sources to the ground water systems are mainly limited to precipitation that infiltrates the formations either as direct recharge or along drainages during runoff where they are present at the surface. Windy and Dawson Gulch appear to be out of connection with the ground water system, but Grape Creek to the north of the mine area appears to be locally in connection with the Precambrian material draining the Precambrian material immediately adjacent to it.

Three ground water wells were identified within approximately 1 mile of the mine workings. One of the wells may be mislocated, one is completed in the Precambrian material but is separated from the mine workings by faulting and one is completed in the Dakota separated from the mine workings by faulting. Based on the locations of the wells and the regional faulting, the drawdown required for the mining should not impact the nearby ground water wells.

#### **6.4.21(9) Ground Water Quality Data**

Ground water quality samples have been collected as part of the planning efforts for the proposed mine. Two monitoring wells (North Well and South Well) were constructed at the proposed mine site to allow for the observation of water levels over time and the collection of water quality samples. The monitoring wells are located as presented in Figure 1. Water quality samples of mine inflow have not been directly sampled because the mine does not exist at this time, but will be in the future.

Water quality samples have been collected from the North and South Monitoring Wells which were analyzed for a suite of water quality parameters for four quarters between October 2014 and October 2015 to provide a full year of water quality data. Quarterly water quality sampling has again been

resumed starting in March of 2021 to confirm whether water quality conditions have changed over time (which would not be expected as mining has not occurred and the site has not changed).

The only water quality parameter that is detected regularly in the ground water monitoring wells as an exceedance of the Regulation 41 limits is manganese. Iron and pH have also exceeded Regulation 41 standards, but only periodically. The manganese exceedance was only observed in the North Well.

Manganese is very common in soils and sediments and is commonly found with iron as a mineral oxide. When water interacts with these oxides they are dissolved and mobilized by the water. At the levels identified by the monitoring program, the water quality will likely result in aesthetic staining but not health concerns. Levels of manganese in the ground water can be reduced with ion exchange treatment, oxidation and filtration.

Table 2.7-2 presents the available water quality results from the two wells and a comparison of the result to accepted standards. It is noted that the accepted standards apply to stream segments and not the raw water from the mine and since the dewatering water will be captured in sediment ponds before leaving the site, the indicated levels of dissolved metals will not impact live stream flow.

#### **6.4.21(10 and 11) Surface Water Information**

Windy Gulch and Dawson Gulch which flow through and around the mine property locally drain the foothills to the south and surrounding the proposed mine property. These gulches are typically dry and only flow during large precipitation events. The drainage area above the mine contributing to these two gulches is estimated to be approximately 330 acres in area. Climate data collected at the Canon City weather station from 1948 through 2006 indicates that the area typically receives an average of 12.77 inches of precipitation each year with a maximum recorded annual precipitation of 23.18 inches and a maximum 1-day precipitation event of 3.21 inches. On average, the Windy Gulch and Dawson Gulch drainage received approximately 351.75 acre-feet per year combined or an average of approximately 0.98 acre-feet per day based on the weather station data and the approximate size of the drainage basin. Based on observations of flow, this average precipitation is not sufficient for the gulches to flow through the property. The maximum 1-day precipitation event introduced approximately 88.28 acre-feet into the drainage. This maximum precipitation event occurred in 1999 and there are no observations available to confirm whether the gulches flowed during this event, but it is assumed that the gulches did flow. The 100-year rain event for the property area is estimated to be 4.75 inches over a 24-hour period equating to an introduction of approximately 130.63 acre-feet into the drainage. The projected water usage at the mine would be as high as approximately 200 acre-feet per year without reuse without the ore process, which is only 57 percent of the estimated average annual flow in these drainages. Actual use will be much lower due to the reuse of water in the ore process.

Grape Creek is a larger surface water feature that drains a larger basin to the west and southwest of the property. The infiltration of local precipitation and regional underflow are likely sources for the mine inflow and dewatering discharges. Grape Creek does not flow through the property and does not contribute to the site water balance.

Accordingly, there is an average of approximately 351.75 acre-feet per year of precipitation that falls in the drainage above the property. The majority of this precipitation infiltrates the ground water system and the drainages that cross the property are mainly dry and, accordingly, the water flows through the property as underflow through the Precambrian material.

Exhibit G presents a discussion of the surface and ground water systems in more detail. A MODFLOW ground water model was used to investigate changes to the water balance as a result of the mine development and dewatering and indicates dewatering rates ranging from approximately 80 to 55 gpm. Actual dewatering rates will likely vary with precipitation, will be impacted by the local geology and these rates should be considered potential average dewatering rates from the mine. It is expected that dewatering rates will be higher when the mine is developed, encounters ground water and dewatering operations are initiated. Dewatering rates are expected to decline as the mining and dewatering continues. If the fractures encountered by the mine are not connected or have a low level of interconnectedness, the fractures may drain over time and the dewatering rates could drop to minimal amounts.

Dewatering rates of 80 to 55 gpm equate to discharges of approximately 0.35 to 0.24 acre-feet per day. These discharge rates are lower than the average precipitation amounts which are not adequate to sustain live flow in the dry creeks so the discharge of mine dewatering water is not expected to result in live flow conditions in the gulches during mine operation. Mine discharge will infiltrate the gulch streambeds back to the ground water system downstream from the mine property.

No water quality samples have been collected from the surface water monitoring locations on Windy and Dawson Gulch as part of the monitoring because there has been no flow to sample since the monitoring locations were established. The locations of the ground and surface water monitoring locations are presented in Figure 1. Baseline water quality data is provided in Appendix K.

#### **6.4.21(12) Water Quality Monitoring Plan**

The AMEC OMS Manual in Appendix F includes water quality monitoring plan specific to the FTSF.

The water quality constituent that has regularly been identified as exceeding water quality standards at the site is manganese from the ground water system, based on the past water quality testing from the monitoring wells. There is the potential that, once dewatering commences, the water quality of the discharge water could be different than indicated by the monitoring wells. We will not know the actual quality of the mine dewatering water until the mining and dewatering operations commence.

Zephyr will continue to monitor the water quality at the surface monitoring points on each of the drainages that cross the property and ground the water monitoring points in both of the identified aquifers beneath the property as mining commences and progresses. Future results will be compared to the baseline quality already collected and currently being collected. The water quality of the mine discharge will also periodically be tested.

Water quality monitoring results will be reported in annual reports including 1) the location of sampling, 2) a water level or description of flow conditions and 3) the results of the water quality testing. Water quality monitoring is currently and will continue to be performed on a quarterly basis throughout the mine life and continue for at least 8 quarters after mine closure unless water quality parameters drop to a level such that a lesser frequency is justified.

The water quality monitoring plan includes / will include surface and ground water monitoring points both up and down gradient from the mine site so that all impacts can be monitored.

#### **6.4.21(13) Climate**

The mill does not have liquid containment systems open to the environment. Climate information is provided in Exhibit K and Appendix I. The exhibit includes weather data from the local weather station in Cañon City, CO. The mountain foothills are typically a degree or two cooler than in town temperatures. Site specific wind data is not available.

#### **6.4.21(14) Geochemical Data and Analysis**

The seepage from the FTSF will comprise of filtrate introduced to the facility with the tailings and infiltration water that contacts the tailings and the support buttresses (development rock). During mining operations, infiltration water contacting the tailings will likely take on the filtrate quality, due to continuing additions of fresh tailings and entrained filtrate. The shake flask extraction results, adjusted for dilution affects (please see Appendix B for a description of how the test results were adjusted), were assumed to represent the quality of infiltration water contacting the development rock. The FTSF seepage quality was estimated by combining the contributions from development rock and tailings on a mass balance basis.

The predicted FTSF seepage quality, compared with background groundwater quality and groundwater quality standards, is presented in Table 1. For details regarding the calculations and the assumptions made, the reader is directed to Appendix B. The predicted seepage quality is dominated by the tailings contact water quality. Seepage is predicted to meet the groundwater quality standard, with the exception for manganese. However, the predicted manganese concentration (0.071 mg/L) is less than the background groundwater concentration (0.14 mg/L). The groundwater quality standard is 0.05 mg/L.

The predicted seepage quality presented herein would be reflective of short term and operating conditions. The seepage quality estimates for the long term will be developed once the kinetic tests on tailings are complete. However, based on humidity cell data to date, it is expected the seepage quality will improve over time.

#### **Implications for Contact Water Management**

The contact water pond will be comprised of FTSF seepage and surface runoff water from the FTSF. As discussed above, the seepage quality is expected to meet groundwater quality standards. The surface runoff quality will at worst be similar to the tailings filtrate quality. Given that runoff water will likely have a shorter contact time with tailings compared to infiltration water, it is reasonable to expect runoff quality to be better than filtrate quality. As noted in Section 1 above, tailings filtrate meets the groundwater quality standard and is less than the background groundwater quality. Contact water in the contact water pond is expected to meet groundwater quality standards and, therefore, will not require treatment prior to discharge.

Based on the seepage quality estimate, contact water can be discharged from the contact water pond through one or a combination of the following:

1. Recycle to the mineral process plant
2. Direct discharge via an exfiltration pond

Evaporation within the contact pond. The report is provided in Appendix B.



#### **6.4.21(15) Construction Schedule Information**

No less than 30 days prior to commencement of GMR milling, the FTSF and ancillary structures will be constructed. The structures ancillary to the FTSF include the stormwater diversion channel that diverts stormwater from running into the FTSF area, FTSF monitoring wells and the contact water pond.

#### **6.4.21(16) Quality Assurance and Quality Control (QAQC)**

Mill development will be supervised by licensed engineers and contractors. A licensed professional engineer who specializes in mine facility development will be on site during construction and will conduct inspections. Mill and mine development will occur with engineering oversight that will ensure the mine and facility, including the mill, are constructed in accordance with approved designs and specifications. The engineer will prepare a certified report for the installation of the contact water pond, FTSF underdrain, stormwater detention pond, mill and diversion ditches.

#### **6.4.21(17) Plant Growth Medium**

Suitable plant growth medium is present within the proposed affected area. Plant growth medium will be salvaged from the mill facility and the footprint of the FTSF prior to installation of the underdrain. Because the mill site is located at the toe of a mountain range, ample plant growth medium is present in the canyons and ravines. Information regarding plant growth medium to be used is in Exhibit I: Soils Information.

#### **6.4.21(18) Wildlife Protection**

Colorado Natural Heritage Program and Colorado Parks and Wildlife provided wildlife information and harm prevention guidance. The reports are provided in Exhibit H and Appendix G.

The mill site is primarily native undisturbed wildlife habitat that may be frequented by hikers and off road vehicle enthusiasts albeit as trespassers since the proposed affected area is privately owned property. Other than historic mountain trails and internal dirt roads, the proposed mill site is undisturbed.

Public lands owned by BLM, USFS and SLB surround the proposed permit area with the exception of a portion of the east and northeast boundary. The area is known for mule deer and bighorn sheep to the north and northwest. Whereas raptor nesting and other transitory wildlife might be present, raptor nesting sites are not present in the Project area. The area was surveyed by Raquel Wertsbaugh, CPW representative, for Townsend big-eared bats in January 2013. No bats were encountered and the attractive abandoned adits will be permanently sealed to prevent habitation.

The CNHP identified the Grape Creek Water Gap as a high biodiversity area. This area is more than two miles west of the proposed affected area boundary. The Bott's Pocket gopher was identified as the only rare and/or imperiled mammal in the vicinity. It was observed in Township 18 South, Range 70 West, beyond the boundary of the proposed mine.

Wildlife protection measures will begin with an affected area boundary wildlife fence. The contact water pond is located in what will be a very active area of the surface facility. In addition to the perimeter fence, 24 hour/7 days a week site activity will discourage mule deer from being present on the site. As mentioned above in Section 6.4.21(14), based on geochemistry analysis of tailings, the

contact water pond water quality will likely meet discharge standards, thus will not be harmful to wildlife should any drink from the pond.

#### **6.4.21(19) Disposal of Tailings and Sludge in Mine Workings**

Mine tailings will not be disposed of in the mine workings.

## **5.0 RULE 8: EMERGENCY RESPONSE PLAN (ERP)**

### **8.1 Situations That Require Emergency Notification by the Operator**

Zephyr USA accepts the requirement that the Office be notified, as soon as reasonably practicable, but no later than 24 hours, after the Operator has knowledge of a failure or imminent failure of the FTSF embankment, stockpile, retaining wall, or secondary containment structures that poses a reasonable potential for danger to human health, property of the environment.

### **8.2 Operator's General Notification Responsibilities for Reporting Emergency Conditions**

#### **8.2.1 Emergency Reporting Procedure**

Telephone notice shall be given to the Office staff as follows:

- a) during regular business hours (8:00 am to 5:00 pm, on working days) the notice shall be given to the Office.
- b) outside regular business hours, or if the Office cannot be contacted, notice shall be given to the CDPHE 24-hour Colorado Emergency and Incident Reporting Line. Specify to this agency, that the emergency authority is coordinated through the DRMS and to activate that Division's response network.

#### **8.2.2 Emergency Notification Information Required**

Notice required pursuant to this Rule 8 shall contain the following information (to the extent known at the time of the notice, and so long as no delay occurs in reporting results):

- a) that this is notification of an emergency condition as required by Rule 8;
- b) the nature of the condition including any chemicals and toxic or acid producing materials involved;
- c) an estimate of the quantity of any chemical, toxic or acid-forming material that has been or could be released;
- d) the time and duration of the occurrence and if it is on-going, or urgency of the pending situation;
- e) any known or anticipated impacts to human health, property or the environment;
- f) precautions and corrective actions taken by the Operator; and
- g) the Operator's name(s) and contact number(s) for persons to be contacted for further information and response by the Office.

#### **8.2.3 Follow-up Notice Requirements**

As soon as practicable after an emergency situation or condition is reported and addressed, but no later than 5 working days, the Operator shall provide a written report of the event to the Office. The report shall provide a description of:

- a) actions taken to respond to and correct the emergency situation or condition;
- b) any known or anticipated adverse impacts to human health, property or the environment;

- c) name(s), address(es), telephone number(s) and email address(es) of the Operator's contact person for additional information and follow-up by the Office:
- d) monitoring and analysis that are necessary to evaluate the situation and corrective actions, copies of all pertinent data; and
- e) results of the Operator's investigation to assess the conditions or circumstances that created the emergency situation, and what corrective or protective measures will be taken to prevent a similar event from occurring in the future.

### **8.3 Emergency Response Plan**

This ERP is being drafted prior to ground breaking of mine development. The mine Health and Safety Department personnel hierarchy is yet to be determined, therefore the following is an anticipated ERP and will be updated as the mine develops. The mine's Health and Safety Manager will develop an ERP that is compliant with US Mine Safety and Health Administration (MSHA). In addition, Fremont County Planning and Zoning Department require a Fire Protection Plan as a component of the Conditional Use Permit application.

#### **8.3.2(a) Designated Personnel**

Mine personnel and hierarchy are speculative as of the date of this application. Anticipated personnel responsible for responding to an emergency may include the Mine/Mill Manager, Mine Foreman, Health and Safety Manager and Underground Mine Manager. The names and contact information will be provided upon determination.

#### **8.3.2(b) Emergency Response Procedure**

Any emergency situation will be successfully resolved by a phased response consisting of notification, operations, and remediation. These three phases will be implemented in concert or sequentially depending upon the specific situation and available personnel.

##### **Phase 1: Notification**

The first person to arrive at the location of an emergency situation becomes the First Responder to the incident and assumes responsibility for the subsequent emergency response until they are relieved by an Emergency Coordinator, or voluntarily relinquish their authority to a more qualified person. The First Responder can be any DGM employee or contractor's employee (e.g. chemical delivery contractor).

The primary responsibility of the First Responder in an emergency situation is the prompt notification of other site personnel. The First Responder shall immediately relay an incident evaluation to at least one other person prior to initiating the operations phase during an emergency response. The incident evaluation must include the following information, at a minimum.

- a) The location of the incident.
- b) The nature of the incident.
- c) The extent of injury, if applicable.
- d) The type of material spilled, if known and applicable.
- e) The physical extent of the spill area, if applicable.

- f) The First Responder's intended course of action.
- g) Available communication devices, if communication must be maintained.

#### *Phase 1.1 Internal Notification*

The first person contacted by a First Responder notes the information provided in the incident evaluation and is then responsible for notifying the Mine Foreman. Notification procedures for work hours and off shift are detailed below.

##### Work Hours

During normal mine operating hours, internal notification by the First Responder shall be made directly in person, or by utilizing the onsite communication system, if available.

The first person contacted by the First Responder shall notify the Mine Foreman and then ensure that the emergency alarm horn (Fire Alarm) is sounded to notify all other personnel at the mine that an emergency situation exists.

##### Off-Work Hours

Off-hours notification of response personnel is initiated by the First Responder, who notifies the Mine Manager and any other available response personnel. The Mine Manager carries a cell phone and is on call for responding to abnormal process system conditions.

##### Incident Command

The first Emergency Coordinator shall assume the responsibility of Incident Command until officially relieved by someone of higher authority. The Incident Commander shall ensure that the Emergency Alarm Horn is sounded to alert all mine personnel that an emergency situation exists. The Incident Commander shall then proceed to the designated response assembly point to coordinate field operations.

Note: Once a response operation is under way, a change in Incident Command should only occur if the change would significantly improve the response to the emergency situation.

##### Emergency Coordinator

The Mine Manager should be the first and foremost to act as the Emergency Coordinator during an emergency situation at the DGM facility. The Emergency Coordinator will perform the following duties:

- a) Maintain contact with and coordinate site operations and personnel with the incident response operation.
- b) Evaluate the incident on an ongoing basis and coordinate the site incident response operation with Corporate Management and any outside emergency response organizations, such as medical and fire services, responding to the mine site.
- c) Designate a suitable alternate during their absence.

#### *Phase 1.2 Notification and Coordination with External Agencies*

Notification and coordination with external emergency response organizations, potentially affected off-site entities, and regulatory agencies may be necessary during an emergency situation. The Emergency Coordinator will evaluate the need for assistance from external emergency response organizations, such as medical and fire services, at the earliest possible moment during an incident response.

The current external medical and fire service organizations available for assistance during an emergency situation at the DRG are listed in below.

- MSHA Mine Emergency (800) 746-1553
- Fremont County Emergency Management (719) 276-7422
- Cañon City Area Fire Protection District (719) 275-8666
- Centura Health Urgent Care (719) 285-2888
- St Thomas More Hospital (719) 285-2000
- Fremont County Sheriff's Office (719) 276-5555
- American Medical Response Ambulance Service 911

In the case of an emergency requiring mine rescue, DGM will enter into an agreement with an emergency mine rescue firm.

The Mine Manager will evaluate the emergency on an ongoing basis to determine whether the notification of non-emergency response off-site entities or regulatory agencies is necessary. The Mine Manager will be responsible for the notification of non-emergency off-site entities or regulatory agencies, when necessary.

The following is a list of off-site entities and regulatory agencies that may be notified during an emergency situation. Those agencies that must be notified within 24-Hours of the occurrence are noted as such.

For Reportable Quantity (RQ) spills under five gallons:

- Colorado Division of Reclamation, Mining, and Safety (24-hour) (303) 866-3567
- Colorado Department of Public Health and Environment (24-hour) (303) 692-3500

For Reportable Quantity (RQ) spills over five gallons:

- The State of Colorado Emergency Management Unit (24-hour) (720) 852-6600
- The USEPA National Response Center (24-hour) (800) 424-8802
- Fremont County Public Health Department (24-hour) (719) 276-7450
- CDPHE Water Quality Control Division (303) 692-3500

For any fire at the DGM

- Cañon City Area Fire Protection District ***(Immediately)*** (719) 275-8666 or 911
- US Mine Safety and Health Administration (within 2 hours) (303) 234-5465
- Fremont County (Situation dependent) (719) 276-5555

## Phase 2 Operations

On-site personnel involved in responding to an emergency scene must carefully evaluate the situation prior to committing themselves and others to action. The severity of any injury, the quantity and concentration of any hazardous material released, the presence or absence of fire and/or energized electrical circuits, and the location of the incident are some of the primary factors used in determining an operations strategy both before and during an incident response. Responders should always perform a thorough initial and ongoing incident evaluation that accounts for these factors, and adjust their actions accordingly. A thorough incident evaluation should include the following aspects:

- a) The presence of physical and electrical hazards, or hazardous materials.
- b) The physical layout of the incident area.
- c) The extent of injury, if applicable.
- d) The type and quantity of materials spilled, if any.
- e) Any actions already taken.
- f) The number and skills of available personnel.
- g) The type and quantity of available equipment and supplies.
- h) The type and availability of both internal and external support.
- i) Alternate courses of action.

Response operations will usually occur in two distinct, but often overlapping, stages once the incident evaluation and subsequent notification is complete. The first stage consists of those actions taken by the First Responder immediately after the notification phase. The second stage of operations consists of coordinated site-wide actions taken to successfully resolve a situation by multiple response personnel or external support services. Actions taken by the First Responder may or may not, successfully resolve the emergency at the Stage 1 level of operations. If the First Responder can successfully resolve the situation, then the second stage of operations will not be necessary.

### *2.1 Stage 1 Operations: First Responder*

The first person to arrive at the location of an emergency situation becomes the First Responder to the incident and assumes responsibility for the subsequent emergency response until they are relieved by a more qualified person. The First Responder can be any mine employee or a contractor's employee. Stage 1 response operations are coordinated individual operations undertaken by a single person upon encountering an emergency situation. The First Responder will proceed through the two distinct activity phases of Notification and Field Response Action when responding to an emergency situation.

#### Stage 1 Notification

The primary responsibility of the first responder in an emergency situation is the prompt notification of the emergency to other site personnel. The First Responder shall immediately relay an incident evaluation to one other person prior to taking any other action during an emergency response.

#### Stage 1 Field Action



After making the initial notification of the emergency, the First Responder will proceed to the Field Action Phase of response. The type of action taken by the First Responder during an emergency situation will depend on an ongoing evaluation of the incident and the First Responder's capability to respond.

First Responders should always make an initial response to incidents that are within the capabilities of a single person to correct or control until help arrives. Generally, a single person can successfully correct or control small fires, small hazardous materials or designated chemicals spills, and minor accidents that do not represent an unwarranted health hazard to a single responder. The First Responder must always be prepared to retreat and monitor the situation from a safe distance until help arrives if the initial incident evaluation, or the responder's ongoing evaluation, indicates that an unwarranted hazard exists or may develop.

#### *Stage 2 Operations: Multiple Responders*

Stage 2 response operations are coordinated site-wide operations involving multiple personnel. Stage 2 response operations are initiated during the notification phase of any emergency response and proceed through the three distinct Stage 2 activity phases of Alert, Mobilization, and Field Actions.

#### Stage 2 Alert

Sounding of the Emergency Alarm Horn (Fire Alarm) during the Notification Phase of an emergency situation constitutes the Alert phase of a Stage 2 response operation and signals the beginning of a Stage 2 site response. All EFR and non-EFR personnel are to immediately proceed to a designated assembly point when the Emergency Alarm Horn (Fire Alarm) is sounded.

#### Stage 2 Mobilization

Mobilization for Stage 2 response operations consists of the assembly and organization of site surface personnel for coordinated response operations and will terminate at the end of mobilization if the emergency situation is successfully resolved at the First Responder level. The site will demobilize and the Remediation Phase of the Emergency Response Plan will be executed if the situation is resolved at the First Responder level.

#### Mobilization: Assembly

All surface personnel are required to report to a designated assembly point when the alert signal is sounded. The primary assembly point for EFR personnel during an emergency situation will be determined. The primary assembly point for non-EFR personnel will be determined.

#### Mobilization: Basic PPE Requirements

All personnel reporting for Stage 2 response operations will don hard hats, safety glasses, and steel-toed safety shoes if not already donned. This is the minimum personnel protective equipment (PPE) required during response operations. EFR

personnel who are not wearing the minimum PPE listed above will be restricted to support functions only during Stage 2 operations.

#### Mobilization: Mine Foreman or Key Individual (Emergency Coordinator EC) Action

- Provide an initial situation report to all response personnel at the primary assembly point.
- Review the incident evaluation, determine a preliminary course of action, and delegate specific duties to response personnel.
- Establish an incident command post at a secure location near the incident location.
- Establish a site command post with secure communication links to off-site entities at a location unaffected by the incident and ensure that communications with the incident command post and off-site entities are functional.
- Organize response personnel for deployment based upon the initial situation report and the projected course of action. Response organization will include the assignment of responsibilities or duties; the provision of proper PPE; the collection of specialized equipment; and the establishment of a support base, including communications.
- Establish a preliminary field response plan based upon the initial situation report and the projected course of action.

#### Stage 2: Field Action

Stage 2 Field Action occurs when an emergency situation cannot be successfully resolved at the First Responder level. Stage 2 Field Actions consist of operations undertaken in the field by multiple personnel that are designed and implemented in order to control or abate an emergency situation. A coordinated Stage 2 field response operation will continue until the situation has been successfully resolved.

General guidelines for responding to incidents that involve specific hazardous materials or accident scenarios are provided below. The specific course of action taken during a Stage 2 Field Action will be determined by the ongoing incident evaluation. Rescue is the primary duty of any field response. Emergency response equipment locations will be determined.

After notification the Responder will proceed to the Operations Phase of response. The type of action taken in the operations phase will depend on the incident and the Responder's capability. All other site personnel have response training and should immediately begin Stage 2 operations when notification is complete. The quantity and concentration of hazardous material released and the presence or absence of fire will be the primary factor in determining operations strategy. Proper PPE is mandatory during response operations. Choice of PPE will depend on the type of material involved and the potential for contact with the material.

Suggested operational strategies and PPE requirements are listed below for potential hazardous material incidents. Every effort should be made, that does not involve an

unwarranted risk to responders, to eliminate ongoing leak or spill sources prior to beginning operations.

- Corrosives (No Fire)

PPE: Chemical splash protection; respirator required; face-shield; rubber gloves; and rubber boots.

Response:

- Evaluate situation.
- Secure area.
- Rescue & First Aid, if necessary & possible.
- Dam or dike ahead of the spill; heavy equipment is available for earthmoving.
- Cleanup with water is allowed; contain all runoff, excavate an emergency catch basin, if possible.

Remediation:

- Evaluate situation.
- Absorb spilled materials, if possible, with earth or other suitable material.
- Transport contaminated soils to the Revenue waste pile storage area for temporary storage until a permanent disposal site is determined.

- Corrosives (fire)

PPE: Full-coverage acid suit; self-contained breathing apparatus (alternately full-face respirator with combination cartridges for very small fires that can be quickly knocked down); face-shield; rubber gloves and boots.

Response:

- Evaluate situation.
- Secure area.
- All electrical equipment must be de-energized.
- Rescue & First Aid, if necessary & possible.
- For a small fire use available dry-chemical fire extinguishers to knock down the fire. Do not use water.
- For large fire, concentrate on protecting adjacent structures and slowly flood area with water from a safe distance.
- Direct extinguishing agent in a manner to avoid splashing spilled material.
- Dam and dike at a safe distance to control runoff, excavate an emergency catch basin, if possible.
- Perform overhaul, if spilled material can be avoided.

Remediation:

- Evaluate situation.
- Certify fire was extinguished.
- Absorb spilled materials, if possible, with earth or other suitable material.

- Transport contaminated soils to the Whirlwind Waste Dump storage area for temporary storage until a permanent disposal site is determined.

- Flammable Materials (No Fire)

PPE: Work clothes; rubber gloves; and rubber boots (chemical cartridge air- purifying respirator if available)

Response:

- Evaluate situation.
- Secure area.
- Rescue & First Aid, if necessary & possible.
- Remove ignition sources
- Locate fire extinguisher and keep near at hand.
- Dam or dike to contain material.
- Watch for flammable or explosive vapors.
- Coat surface of spilled liquid with dry chemical extinguishing agent, if enough is available. Save enough extinguishing agent for firefighting.
- Do not add water.

Remediation:

- Evaluate situation.
- Do not add water.
- Pick up liquids if proper equipment is available, or absorb spilled materials with compatible material if liquid retrieval is not possible.
- Transport contaminated soils to the Whirlwind Waste Dump storage area for temporary storage until an appropriate permanent disposal method and site is determined.

- Flammable Materials (Fire)

PPE: Work clothes; self-contained breathing apparatus (alternatively, no respirator or full-face respirator for small fires that can be quickly knocked down); eye protection; gloves; and boots (rubber is best)

Response:

- Evaluate situation.
- Secure area.
- De-energize electrical equipment.
- Rescue & First Aid, if necessary & possible.
- For small fire use available dry-chemical fire extinguishers to knock down the fire as quickly as possible. Avoid water for small fires, if possible.
- Keep area well ventilated.
- For a large fire, protect adjacent structures, use water from a safe distance.
- Remember water can be used as a barrier.
- Direct extinguishing agent in a manner to avoid splashing spilled material.

- Dam and dike at a safe distance to control runoff. Contain collected runoff locally, when possible. Perform overhaul.

Remediation:

- Evaluate situation.
- Certify fire was extinguished.
- Absorb spilled materials, if possible, with earth or other suitable material.
- Transport contaminated soils to the Whirlwind Waste Dump storage area for temporary storage until an appropriate permanent disposal method and site is determined.

*Field Action: Specified Personnel Duties*

The Emergency Coordinator will be the only member of the emergency response team who will have specific duties listed in the Operations Phase section of the Emergency Response Plan. The Emergency Coordinator can be the initial First Responder or the person of higher authority who relieves the First Responder of Incident Command. The Mine Foreman will usually be the Emergency Coordinator for the DGM.

The Emergency Coordinator shall:

- Act first and foremost to prevent unwarranted occupational and environmental exposures from occurring during emergency incidents involving hazardous materials.
- Monitor response activities and suspend any response activity that creates, or may create, an unwarranted exposure risk.
- Oversee and coordinate all field response actions until the emergency situation is successfully resolved.
- Perform an ongoing incident evaluation and determine an appropriate course of action for the response activity, in coordination with other relevant personnel.
- Coordinate incident response activities with external emergency responders when they are deployed in the field.
- Ensure that communications with the incident command post and off-site entities are maintained.
- Ensure that the incident response action is provided with resources that are adequate to sustain the response activity.
- Coordinate on-site response actions with off-site response activities.
- Ensure that site response personnel are in a condition suitable for field operations, including the provision of proper PPE, sufficient quality and quantities of equipment, and adequate numbers of personnel for both operations and back-up.

Phase 3 Remediation

A successful resolution to the operations phase of an emergency situation at DGM will be followed by remediation actions designed to both mitigate the adverse effects of the emergency and reduce the potential for a recurrence of a similar situation. Remediation actions consist of

clean-up activities at fire and spill locations, and formal and informal reviews of the emergency and the emergency response plan implementation.

#### Clean Up

The General Manager immediately upon the successful conclusion of field response operations will perform evaluation of cleanup requirements at any fire or spill site. This evaluation will include the following considerations, at a minimum:

- Type of material spilled.
- Type of material(s) or structures affected by the incident.
- Affected area (physical extent of contamination).
- Physical configuration of the spill or fire area.
- Personnel requirements and availability.
- Equipment requirements and availability.
- Disposal requirements.

#### Review

The final stage in any emergency response activity is a complete review of the circumstances leading to the emergency, all response actions taken during the emergency and post-response remediation activities. The General Manager will coordinate the requisite review and issue a report to corporate management summarizing the findings, including any necessary corrective actions. The Safety Director shall be responsible for preparing any requisite reports to the Federal Mine Safety & Health Administration. The General Manager will prepare any necessary five or thirty day post- incident reviews for distribution and review to corporate management and all relevant government agencies.

### **8.3.2(c) Designated Chemicals**

Three chemicals will be stored on site that aid in flotation. MSDS is provided in Appendix D. A one-month's supply of the chemicals will be stored on site in tanks at any one time. The reagents will be delivered in metal or steel drums and will be placed in a sea container designed for storage of bulk liquids. PAX is delivered in a plastic lined metal drum because it is a powder. The flocculant will be delivered in 50 lb. bags and will be stored in the sea container also.

- Potassium Amyl Xanthate (PAX) is a sulphide mineral collecting agent in powder form. It will be used at a rate of 0.25 lb./ton. Approximately 2,250 lbs. of PAX will be stored on site at any given time.
- Methyl IsoButyl Carbinol (MIBC) is a frother in liquid form. It will be used at a rate of 0.1 lb./ton. Approximately 900 lbs. of MIBC will be stored on site at any one time.
- A generic anionic emulsion flocculent in liquid form will be used at a rate of 0.05 lb./ton. Approximately 450 lbs. of frother will be stored on site at any one time.

### **8.3.2(d) Response and Clean Up Material**

This list contains the potential equipment that will be on site that may be used in responding to an emergency situation.

Medical equipment:

- First aid kit (w/stretchers)

Chemical Handling Equipment:

- PVC Rain Suits
- Respirators (Half & Full-face)
- Rubber Gloves
- Steel-Toed Rubber Boots
- Hydrocarbon Absorbent Booms

Fire-fighting Equipment:

- Fire Extinguishers (dry chemical, manual IO & 20 lbs)
- Equipment for fire line clearing (includes all earthmoving equipment)

Earthmoving Equipment:

- Wheel Loader
- Skid Steer Loader
- 3 to 10 Ton Haul Trucks
- Hand Tools (Picks, Shovels, etc.)



NOTICE OF FILING APPLICATION  
FOR COLORADO MINED LAND RECLAMATION PERMIT  
FOR **REGULAR (112d) DESIGNATED MINING OPERATION**

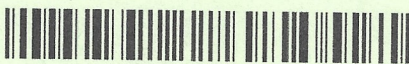
NOTICE TO THE BOARD OF COUNTY COMMISSIONERS  
Fremont COUNTY

Zephyr Gold USA Ltd (the "Applicant/Operator") has applied for a Regular (112d) Designated Mining Operation reclamation permit from the Colorado Mined Land Reclamation Board (the "Board") to conduct mining operations in Fremont County. The attached information is being provided to notify you of the location and nature of the proposed operation. The entire application is on file with the Division of Reclamation, Mining and Safety (the "Division") and the local county clerk and recorder.

The applicant/operator proposes to reclaim the affected land to wildlife habitat use. Pursuant to Section 34-32-116(7)(j), C.R.S., the Board is required to confer with the local Board of County Commissioners before approving of the post-mining land use. Accordingly, the Board would appreciate your comments on the proposed operation. Please note that, in order to preserve your right to a hearing before the Board on this application, you must submit written comments on the application within twenty (20) days of the date of the applicant's last newspaper publication.

If you would like to discuss the proposed post-mining land use, or any other issue regarding this application, please contact the Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, Colorado 80203, (303) 866-3567.

**NOTE TO APPLICANT/OPERATOR:** You must attach a copy of the application form to this notice. If this is a notice of a change to a previously filed application you must either attach a copy of the changes, or attach a complete and accurate description of the change.

| SENDER: COMPLETE THIS SECTION  |  | COMPLETE THIS SECTION ON DELIVERY  |  |
|--|--|--|--|
| <div style="background-color: #008000; color: white; padding: 5px; text-align: center;"><b>U.S. Postal Service</b><br/><b>CERTIFIED MAIL</b><br/><i>Domestic Mail Only</i></div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>For delivery information, visit</b><br/><u>Canon City, CO 81202</u></div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>Certified Mail Fee</b> \$3.60</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>Extra Services &amp; Fees (check box, add fee)</b><br/><input type="checkbox"/> Return Receipt (hardcopy) \$<br/><input type="checkbox"/> Return Receipt (electronic) \$<br/><input type="checkbox"/> Certified Mail Restricted Delivery \$<br/><input type="checkbox"/> Adult Signature Required \$<br/><input type="checkbox"/> Adult Signature Restricted Delivery \$</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>Postage</b> \$1.40</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>Total Postage</b> \$7.85</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>Sent To</b><br/><u>Fremont Co</u></div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>Street and Apt.</b><br/><u>615 Macon</u></div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>City, State, ZIP</b><br/><u>Cañon City</u></div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>PS Form 3800</b></div> |  | <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>1. Article Addressed to:</b><br/><br/><u>Fremont County</u><br/><u>County Commissioners</u><br/><u>615 Macon Avenue</u><br/><u>Cañon City, CO 81212</u></div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px; text-align: center;"><br/>9590 9402 3000 7124 4762 84</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>2. Article Number (Transfer from service label)</b><br/><u>7018 1130 0000 4537 1511</u></div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><b>3. Service Type</b><br/><input type="checkbox"/> Adult Signature<br/><input type="checkbox"/> Adult Signature Restricted Delivery<br/><input checked="" type="checkbox"/> Certified Mail®<br/><input type="checkbox"/> Certified Mail Restricted Delivery<br/><input type="checkbox"/> Collect on Delivery<br/><input type="checkbox"/> Collect on Delivery Restricted Delivery<br/><input type="checkbox"/> Insured Mail<br/><input type="checkbox"/> Priority Mail Express®<br/><input type="checkbox"/> Registered Mail™<br/><input type="checkbox"/> Registered Mail Restricted Delivery<br/><input type="checkbox"/> Return Receipt for Merchandise<br/><input type="checkbox"/> Signature Confirmation™<br/><input type="checkbox"/> Signature Confirmation Restricted Delivery</div> |  |
| <b>PS Form 3811, July 2015 PSN 7530-02-000-9053</b>  |  | <b>Domestic Return Receipt</b>   |  |



NOTICE OF FILING APPLICATION  
FOR COLORADO MINED LAND RECLAMATION PERMIT  
FOR **REGULAR (112d) DESIGNATED MINING OPERATION**

NOTICE TO THE BOARD OF SUPERVISORS  
OF THE LOCAL CONSERVATION DISTRICT


Fremont County DISTRICT

Zephyr Gold USA Ltd (the "Applicant/Operator") has applied for a Regular (112d) Designated Mining Operation reclamation permit from the Colorado Mined Land Reclamation Board (the "Board") to conduct mining operations in Fremont County. The attached information is being provided to notify you of the location and nature of the proposed operation. The entire application is on file with the Division of Reclamation, Mining and Safety (the "Division") and the local county clerk and recorder.

The applicant/operator proposes to reclaim the affected land to wildlife habitat use. Pursuant to Section 34-32-116(7)(j), C.R.S., the Board is required to confer with the local Conservation Districts before approving of the post-mining land use. Accordingly, the Board would appreciate your comments on the proposed operation. Please note that, in order to preserve your right to a hearing before the Board on this application, you must submit written comments on the application within twenty (20) days of the date of the applicant's last newspaper publication.

If you would like to discuss the proposed post-mining land use, or any other issue regarding this application, please contact the Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, Colorado 80203, (303) 866-3567.

**NOTE TO APPLICANT/OPERATOR:** You must attach a copy of the application form to this notice. If this is a notice of a change to a previously filed application you must either attach a copy of the changes, or attach a complete and accurate description of the change.

|  |   |
|--|---|
| <div style="text-align: right; font-weight: bold; font-size: 1.2em;">7018 1130 0000 4537 1528</div> <div style="text-align: center;"><b>U.S. Postal Service™</b><br/><b>CERTIFIED MAIL® RETURN RECEIPT</b><br/><small>Domestic Mail Only</small></div> <div style="text-align: center; font-weight: bold; font-size: 1.5em; margin: 10px 0;">OFFICIAL</div> <div style="text-align: center; font-size: 0.8em;">For delivery information, visit our website at <a href="http://usps.com">usps.com</a></div> <div style="border: 1px solid black; padding: 5px;"><div style="display: flex; justify-content: space-between;"><span>Certified Mail Fee</span><span>\$</span></div><div style="display: flex; justify-content: space-between;"><span>Extra Services &amp; Fees (check box, add fee as appropriate)</span><span></span></div><div style="display: flex; justify-content: space-between;"><input type="checkbox"/> Return Receipt (hardcopy)</div><div style="display: flex; justify-content: space-between;"><input type="checkbox"/> Return Receipt (electronic)</div><div style="display: flex; justify-content: space-between;"><input type="checkbox"/> Certified Mail Restricted Delivery</div><div style="display: flex; justify-content: space-between;"><input type="checkbox"/> Adult Signature Required</div><div style="display: flex; justify-content: space-between;"><input type="checkbox"/> Adult Signature Restricted Delivery</div><div style="display: flex; justify-content: space-between;"><span>Postage</span><span>\$</span></div><div style="display: flex; justify-content: space-between;"><span>Total Postage and Fees</span><span>\$</span></div><div style="display: flex; justify-content: space-between;"><span>Sent To</span><span><b>Fremont Conserv</b></span></div><div style="display: flex; justify-content: space-between;"><span>Street and Apt. No.</span><span><b>248 Dozier Avenue</b></span></div><div style="display: flex; justify-content: space-between;"><span>City, State, ZIP+4</span><span><b>Cañon City, CO</b></span></div></div> <div style="text-align: center; font-weight: bold; font-size: 1.2em;">PS Form 3800, July 2015</div> | <div style="background-color: #f0f0f0; padding: 5px;"><b>SENDER: COMPLETE THIS SECTION</b></div> <div style="padding: 5px;"><div style="display: flex; justify-content: space-between;"><div><input checked="" type="checkbox"/> Complete items 1, 2, and 3.<br/><input checked="" type="checkbox"/> Print your name and address on the reverse so that we can return the card to you.<br/><input checked="" type="checkbox"/> Attach this card to the back of the mailpiece, or on the front if space permits.</div><div></div></div><div style="border: 1px solid black; padding: 5px; margin-top: 10px;"><div style="text-align: center; font-weight: bold; font-size: 1.2em;">Fremont Conservation District</div><div style="text-align: center; font-weight: bold; font-size: 1.2em;">248 Dozier Avenue</div><div style="text-align: center; font-weight: bold; font-size: 1.2em;">Cañon City, CO 81212</div></div><div style="text-align: center; margin-top: 10px;"><br/>9590 9402 3000 7124 4762 77</div><div style="border: 1px solid black; padding: 5px; margin-top: 10px;"><div style="display: flex; justify-content: space-between;"><span>2. Article Number (Transfer from service label)</span><span></span></div><div style="text-align: center; font-weight: bold; font-size: 1.2em;">7018 1130 0000 4537 1528</div></div></div> |
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**COMPLETE THIS SECTION ON DELIVERY**

A. Signature☐ Agent  
☐ Addressee

CA

B. Received by (Printed Name)C. Date of Delivery

6/28/14

D. Is delivery address different from item 1?☐ Yes  
☒ No

If YES, enter delivery address below:

3. Service Type

☐ Adult Signature  
☐ Adult Signature Restricted Delivery  
☒ Certified Mail®  
☐ Certified Mail Restricted Delivery  
☐ Collect on Delivery  
☐ Collect on Delivery Restricted Delivery

☐ Priority Mail Express®  
☐ Registered Mail™  
☐ Registered Mail Restricted Delivery  
☐ Return Receipt for Merchandise  
☐ Signature Confirmation™  
☐ Signature Confirmation Restricted Delivery



7018 1130 0000 4537 1542

# U.S. Postal Service™ CERTIFIED MAIL® Domestic Mail Only

For delivery information, visit our

OFFICIAL

Certified Mail Fee

Extra Services &amp; Fees (check box, add fee as ap

- ☐ Return Receipt (hardcopy) \$  
☐ Return Receipt (electronic) \$  
☐ Certified Mail Restricted Delivery \$  
☐ Adult Signature Required \$  
☐ Adult Signature Restricted Delivery \$

Postage

Total Postage and

Sent To

Street and Apt. No

City, State, ZIP+4

PS Form 3800, A

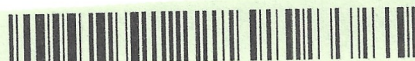
Fremont Co  
County Cor  
615 Macon  
Cañon City

## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Fremont County  
County Commissioners  
615 Macon Avenue  
Cañon City, CO 81212



9590 9402 3000 7124 4769 70

2. Article Number (Transfer from service label)

7018 1130 0000 4537 1542

PS Form 3811, July 2015 PSN 7530-02-000-9053

## COMPLETE THIS SECTION ON DELIVERY

A. Signature

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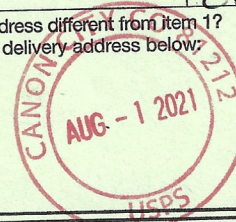
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B. Received by (Printed Name)

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C. Date of Delivery

8-2-21

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature  
☐ Adult Signature Restricted Delivery  
☒ Certified Mail®  
☐ Certified Mail Restricted Delivery  
☐ Collect on Delivery  
☐ Collect on Delivery Restricted Delivery  
☐ Mail Restricted Delivery
- ☐ Priority Mail Express®  
☐ Registered Mail™  
☐ Registered Mail Restricted Delivery  
☐ Return Receipt for Merchandise  
☐ Signature Confirmation™  
☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

7018 1130 0000 4537 1559

# U.S. Postal Service™ CERTIFIED MAIL® Domestic Mail Only

For delivery information, visit our

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Certified Mail Fee

Extra Services &amp; Fees (check box, add fee as ap

- ☐ Return Receipt (hardcopy) \$  
☐ Return Receipt (electronic) \$  
☐ Certified Mail Restricted Delivery \$  
☐ Adult Signature Required \$  
☐ Adult Signature Restricted Delivery \$

Postage

Total Postage and

Sent To

Street and Apt. No

City, State, ZIP+4

PS Form 3800, A

US BLM  
3028 E. Ma  
Cañon City

## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

US BLM  
3028 E. Main Street  
Cañon City, CO 81212



9590 9402 3000 7124 4769 63

2. Article Number (Transfer from service label)

7018 1130 0000 4537 1559

PS Form 3811, July 2015 PSN 7530-02-000-9053

## COMPLETE THIS SECTION ON DELIVERY

A. Signature

X TJPool

☐ Agent☐ Addressee

B. Received by (Printed Name)

Covid/19 Covid 07/29/21

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature  
☐ Adult Signature Restricted Delivery  
☐ Certified Mail®  
☐ Certified Mail Restricted Delivery  
☐ Collect on Delivery  
☐ Collect on Delivery Restricted Delivery  
☐ Mail Restricted Delivery
- ☐ Priority Mail Express®  
☐ Registered Mail™  
☐ Registered Mail Restricted Delivery  
☐ Return Receipt for Merchandise  
☐ Signature Confirmation™  
☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt



7018 1130 0000 4537 1566

**U.S. Postal Service**  
**CERTIFIED MAIL**  
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For delivery information, visit [usps.com](http://usps.com)**OFFICIAL**

Certified Mail Fee

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Extra Services &amp; Fees (check box, add fee as indicated)

- ☐ Return Receipt (hardcopy)  
☐ Return Receipt (electronic)  
☐ Certified Mail Restricted Delivery  
☐ Adult Signature Required  
☐ Adult Signature Restricted Delivery

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No.

City, State, ZIP+4

PS Form 3800, July 2015 PSN 7530-02-000-9053

 Mary and Lonnie Adamic  
 860 Chantilly Lane  
 Idaho Falls, ID 83402
**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

 Mary and Lonnie Adamic  
 860 Chantilly Lane  
 Idaho Falls, ID 83402


9590 9402 3000 7124 4769 56

2. Article Number (Transfer from service label)

7018 1130 0000 4537 1566

PS Form 3811, July 2015 PSN 7530-02-000-9053

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

M Adamic

☐ Agent☐ Addressee

B. Received by (Printed Name)

M Adamic

C. Date of Delivery

8/2/21

 D. Is delivery address different from item 1? ☐ Yes  
 If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature  
☐ Adult Signature Restricted Delivery  
☒ Certified Mail®  
☐ Certified Mail Restricted Delivery  
☐ Collect on Delivery  
☐ Collect on Delivery Restricted Delivery  
☐ Mail Restricted Delivery

- ☐ Priority Mail Express®  
☐ Registered Mail™  
☐ Registered Mail Restricted Delivery  
☐ Return Receipt for Merchandise  
☐ Signature Confirmation™  
☐ Signature Confirmation Restricted Delivery

(over \$500)

Domestic Return Receipt

7018 1130 0000 4537 1535

**U.S. Postal Service**  
**CERTIFIED MAIL**  
 Domestic Mail Only
For delivery information, visit [usps.com](http://usps.com)**OFFICIAL**

Certified Mail Fee

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Extra Services &amp; Fees (check box, add fee as indicated)

- ☐ Return Receipt (hardcopy) \$  
☐ Return Receipt (electronic) \$  
☐ Certified Mail Restricted Delivery \$  
☐ Adult Signature Required \$  
☐ Adult Signature Restricted Delivery \$

Postage

\$

Total Postage and Fees

\$

Sent To

Street and Apt. No.

City, State, ZIP+4

PS Form 3800, July 2015 PSN 7530-02-000-9053

 Jeri and Randy Keller  
 P.O. Box 1347  
 Cañon City, CO 81215
**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

 Jeri and Randy Keller  
 P.O. Box 1347  
 Cañon City, CO 81215


9590 9402 3000 7124 4768 88

2. Article Number (Transfer from service label)

7018 1130 0000 4537 1535

PS Form 3811, July 2015 PSN 7530-02-000-9053

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

Jeri Keller

☐ Agent☐ Addressee

B. Received by (Printed Name)

Jeri Keller

C. Date of Delivery

 D. Is delivery address different from item 1? ☐ Yes  
 If YES, enter delivery address below: ☐ No

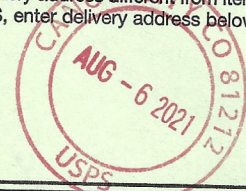
3. Service Type

- ☐ Adult Signature  
☐ Adult Signature Restricted Delivery  
☒ Certified Mail®  
☐ Certified Mail Restricted Delivery  
☐ Collect on Delivery  
☐ Collect on Delivery Restricted Delivery  
☐ Mail Restricted Delivery

- ☐ Priority Mail Express®  
☐ Registered Mail™  
☐ Registered Mail Restricted Delivery  
☐ Return Receipt for Merchandise  
☐ Signature Confirmation™  
☐ Signature Confirmation Restricted Delivery

(over \$500)

Domestic Return Receipt





Public Notice

Zephyr Gold USA Ltd, whose address and telephone number are 1959 Upper Water Street, Suite 1300, Halifax, Nova Scotia, Canada B3J 3N2, (902) 446-4189, has filed an application for a Regular (112d) Designated Mining Reclamation Permit with the Colorado Mined Land Reclamation Board under provisions of the Colorado Mined Land Reclamation Act to conduct an underground mining and reclamation operation. The proposed mine is known as the Dawson Gold Mine File No.M-2021-046 and is located at or near Section 14, Township 19 South, Range71 West of the 6th Principle Meridian. The proposed date of commencement is January 1, 2023 and the proposed date of completion is December 31, 2034.

The proposed future use of the land is wildlife habitat. Additional information and the tentative application decision date may be obtained from the Division of Reclamation, Mining, and Safety at 1313 Sherman Street, Room 215, Denver, Colorado 80203, by telephone at (303) 866-3567, on the website at <https://drms.colorado.gov/information/permitting-actions-currently-under-review>, or by email at [drms\\_info@state.co.us](mailto:drms_info@state.co.us). Alternately, additional information can be found at the Fremont County Clerk and Recorder's office; 615 Macon Avenue, Cañon City, CO 812212 or from the above-named applicant.

Comments on the application must be submitted in writing via the electronic form at: <https://dnrlaserfiche.state.co.us/Forms/DRMS>. Comment and must be received by the Division of Reclamation, Mining and Safety by 4:00 p.m. on (Final Date for Comments) September 1, 2021.

Please note that under the provisions of C.R.S. 34-32-101 et seq., comments related to noise, truck traffic, hours of operation, visual impacts, effects on property values, and other social or economic concerns are issues not subject to this Office's jurisdiction. These subjects, and similar ones, are typically addressed by your local governments, rather than the Division of Reclamation, Mining and Safety or the Colorado Mined Land Reclamation Board.

Published: Canon City Daily Record July 22, 29, August 5, 12, 2021-1817791

Prairie Mountain Media, LLC

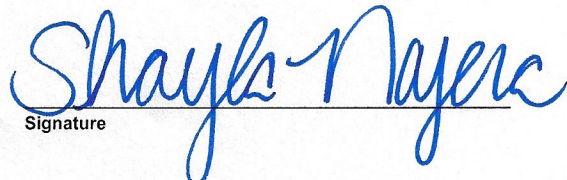
PUBLISHER'S AFFIDAVIT

County of Fremont  
State of Colorado

The undersigned, Shayla Najera, being first duly sworn under oath, states and affirms as follows:

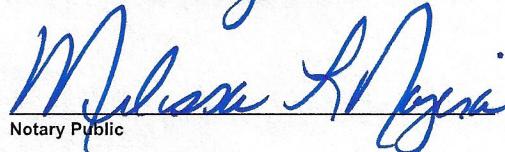
1. He/she is the legal Advertising Reviewer of Prairie Mountain Media LLC, publisher of the *Canon City Daily Record*.
2. The *Canon City Daily Record* is a newspaper of general circulation that has been published continuously and without interruption for at least fifty-two weeks in Fremont County and meets the legal requisites for a legal newspaper under Colo. Rev. Stat. 24-70-103.
3. The notice that is attached hereto is a true copy, published in the *Canon City Daily Record* in Fremont County on the following date(s):

Jul 22, 29 and Aug 5, 12, 2021

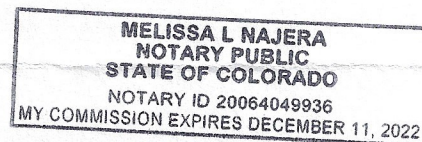
  
Signature

Subscribed and sworn to me before me this

12<sup>th</sup> day of August, 2021.

  
Notary Public

(SEAL)



Account: 1062036  
Ad Number: 1817791  
Fee: \$126.42