

braun

Braun Environmental, Inc.

355 S. Teller St., Suite 200, Lakewood, Colorado 80226

Office: 303-988-7697

888-988-7697

Fax: 303-697-2140

August 28, 2013

Tim Cazier
Colorado Division of Reclamation, Mining and Safety (DRMS)
1313 Sherman St., Room 215
Denver, Colorado 80203

RE: Providence Mining 110 Permit

Dear Mr. Cazier;

Attached are my responses to your latest comments in your two August 16, 2013 letters. As far as I can see, we now have all of them addressed. There is one issue that you and I will need to work out in the future concerning the details of your orders on pH related testing. You and I will need to have a better focused discussion on the pH issue before we actually do any real testing, as I feel that you need to have more information on the chemical and practical side. I would rather not start spending the client's money on testing that will be no use to either DRMS or him.

I have also attached two copies each of: the sealed storm water drawing; the assay report showing that the rock sampled is not ore; and stickers to attach to Exhibits E-1A and E-5. Due to budget cuts, I do not have sufficient money to reproduce these two drawings, and would appreciate your help in attaching the stickers to the map copies you already have.

Call me with any questions or comments.

Sincerely,
BRAUN ENVIRONMENTAL, INC.



C. A. Braun

cc S Murphy
enc

CAB/rlb

RECEIVED

AUG 30 2013

DIVISION OF RECLAMATION
MINING AND SAFETY

Responses to Division of Mining Reclamation and Safety Adequacy Review of Two Letters Dated

August 16, 2013

By C. A. Braun – August 27, 2013

First Letter –Environmental Protection Plan

Comment 1 Storm water design standards are to be taken from NOAA Atlas 14.

Response:

The numbers presented in our last response were taken from USDOC and NOAA documents which have been based on historic data. Your order to use the new NOAA Atlas 14 data as the source is fine. However, it needs to be pointed out that the Atlas has a couple of basic technical flaws, that if not recognized can lead to erroneous designs. The first issue is the increase in predicted rainfall amounts it exhibits over the previous literature. The 10-year event shows only a small increase, but the 100-year event has grown by nearly one-third over the older published value. I am not familiar with any storm events in that area occurring between the time of the new publications and that of the older documents that would cause a model supported by a factual database to show such a large increase. Historically, the largest recorded rainfall I have been able to find in the area during the last 100 years was about 3 inches. It makes you wonder how 100 years of factual data can support a number that is 40 percent larger. The next issue is a statistical problem involving source data density. Using the online location tool, I obtained 100-year rainfall amounts that varied from a low of 3.95 inches to a high of 4.72 inches within a distance of a couple of miles and having small elevation differences. It leads one to wonder how sufficient detailed data could have been generated from a large enough number of gauge stations to allow this amount of variation. From an engineering standpoint, that wide of variation for a large area project can be costly, both on the economic side and from the amount of damage caused by an actual storm if miscalculated. This high variation of nearly an inch of rainfall over a distance of a couple of miles appears to be sloppy on the modeler's side. However, the data has been made so easy to use, it is likely that it will be blindly adopted and the erroneous results will never be questioned. This is especially bad on the regulatory side if the regulators do not have sufficient knowledge of Colorado weather.

Per your orders, the design we produced is for 2.48 inches and 4.20 inches of rainfall over a 24 hour period. We disagree with the value, but since the size of the project is so small, this larger than life amount makes little difference in the designs.

Comment 1a . . . DRMS is concerned about runoff from up-gradient becoming impacted . . .

Response:

This has been addressed in the design.

Comment 1ai Please provide analysis/ test to demonstrate that no ore has been found to date

Response:

An assay sheet from American Assay in Sparks, Nevada, is attached that shows the rock that was hoped to be ore was sampled and was indeed found to not be ore. The mine is still in the reopening and exploration stage and ore has not been found. As a result, no testing of ore can be done until some is found.

Comment 1b DRMS requires a stamped drawing showing encircling berm construction dimensions, basic specifications, etc.

Response:

A stamped drawing is included.

Comment 2 Proposed permit boundary and existing storm water pond response is adequate

Response:

No response required.

Comment 3 Based on responses to original comment #1 a storm water management plan is required to demonstrate adequate run-on control

Response:

An engineering drawing is attached showing a complete design. Recall that the size of the operational footprint is quite small, and that the grassland surface above the mine is also not very large. Therefore the only significant engineering features pertaining to storm water include a diversion for the small anticipated flow from the hillside and upper road, and the temporary retention of the waters that might be generated from inside the working area. The only new storm water that would be anticipated to be

generated from current activities, including impermeable roofs and concrete pads requires permitting. Retention of the historical run-off due to previous historical activity is not part of a permit. Per your instructions, the water from the historical disturbed footprint is to also be retained since there is a chance that the use of its surface might generate additional sediment. The primary retention area has a capacity of approximately 10 times the volume that was calculated to be sourced from the improvements and a capacity of over 3 times the volume that is calculated to be generated from the entire work area during the 10-year storm event. The location of an oxide ore stockpile (no sulfide ore is currently intended to be stored on surface, nor does any exist at this time) is shown on the map. It is completely confined within the work area secondary containment dike and is also up-gradient of the primary containment dike, which is also designed to detain the volume of water coming off of that area. All storm water could be retained from this area during the 10-year event. The design drawing contains the rational for the calculations which use the USSCS method, peak flow calculations for the diversion, and the runoff for the hypothetical stockpile area is conservatively calculated with the same CN as the work surface.

Comment 4 Based on the response to Comment #4, specifically the SCS curve discussion,. . . the rational method may be better suited to prediction runoff peak flows. . . Provide information on stockpile berm, channel locations and design, and hydraulic analysis.

Response:

The engineering drawing contains the requested information. Note that the size of the site is such that the volume of water generated on the work area and topographically up-gradient of it quite small. A review of the footprint of the site also shows that there is very little room on which to construct ditches, basins and sub-basins, diversions, containment ponds, and berms. If all those items were to be represented on this site, there would be no room left for the operators to work. In response to the reviewer's comments, an area having dimensions of 20 feet by 25 feet has been shown on the engineering drawing which is designated "Temp Ore Storage". As discussed in the response to Comment #3 above, the area is completely contained within the secondary containment and is also topographically up-gradient of the primary containment area so any storm water associated with it would be contained. A Manning number of 0.05 was used for the diversion instead of the numbers listed in the August 16, 2013 DRMS letter. Those numbers for a value of 0.025 produce a calculated flow velocity of 11 fps for the water traveling down the channel (road surface). This is not a reasonable number for this setting, nor can a velocity that high be generated by field test methods. Alternatively, at the rate and shallow depth of flow, the flow regime will be turbulent and the channel will contain pools and falls, with numerous hydraulic jumps that will dissipate energy, thus slowing the velocity into the actual range of 2 to 3 fps.

General Response to issue not addressed in August 16 letter:

To conform to DRMS Comment 10 in the DRMS June 26, 2013 letter, the main storm water map has been produced at a scale of 1 inch equals 50 feet. However we did not find it possible to produce the sections at that scale and still be able to make them useful. The result is that they are out of compliance. Please advise, if DRMS wants them reduced to the required scale of 1 inch equals 50 feet and, if so, the modifications will be noted and made.

Second Letter –General Issues

Comment 1 No response necessary

Comment 2 No response necessary

Comment 3 No response necessary

Comment 4 No response necessary

Comment 5 No response necessary

Comment 6 No response necessary

Comment 7 **DRMS requested sulfide tests**

Response:

The previous letter indicated that testing of ores was required and the response was that no ores could be tested until ore was intercepted. This comment now has a requirement for testing waste rock. Both SPLP and MWMP are useful methods. As you know, in this instance, the question is not how much sulfide is in the rock, but how much is available for leaching. EPA Method 1312 calls for grinding the sample, thus making the material different from conditions that would be expected if an outside ore pile were exposed to weather. The SPLP method is commonly used in the design for waste repositories, some of which you should see my name as design engineer within the State of Colorado. As you also know the MWMP method (ASTM Standard 2242) is the preferred method as it would more mimic the conditions that might be expected at a temporary ore pile. A working mineralogical knowledge of the compounds that have the ability to decrease pH and the basic chemistry of the chemical reaction could also lead to the same result. The company will have no issue with performing an annual test. I suggest the method be to collect a grab sample from the dump area for the waste rock. The ore pile will be sampled if and when any ore is ever stockpiled. Based on the wording of the order to do testing, it

appears that it is being given blindly with no thought of whether the task is even applicable, or how the results might lead to protection of the environment. The procedures for the testing are well laid out, but the sampling and results will require some interaction between DRMS and the engineer. It would be best that DRMS and the engineer discuss the issues in more detail near the time when sampling is to be conducted. That will allow work to best conform to the conditions found at the site at that particular time and might allow the results to be more meaningful and useful to both the regulators and the operators.

Comment 8 No response necessary

Comment 9 **Rule 6.3.4(1)(c)(iii) requires applicant state the grasses, form, shrub and tree species to be planted and specify quantity of pure live seed per acre and to control noxious weeds**

Response: The list shown on page 2 of Exhibit D is only an acceptable seed list for the area, and was not intended to be a specific reclamation list. A specific list was given in our response to the original Comment 9, and is the seed mix I have been using on the site in the past. Even with the drought conditions, it has produced good results. We will stick to this list unless a better mix is recommended by knowledgeable persons. If a better mix becomes available, DRMS will be notified and they can approve the modification at that time.

My interpretation of 8 CCR 1206-2 is that cheatgrass is on the C-list found in the Colorado Noxious Weed Act meaning that the plant is on a list that control is advisory only at this time. Control of the grass appears to be recommended at this time and is more under the jurisdiction of the County government than of DRMS. As good stewards of the land, the mining company has a responsibility to not bring noxious weeds to the site, but has no say in eradicating weeds in Teller County. This would be the responsibility of the landowner instead of the tenant. It is possible that the owner might actually want the cheatgrass as temporary cover in areas when nothing else will grow. Ranchers, in certain instances, will use it as feed, and personally, I was able to get livestock on early feed using it to save feeding some hay. Further, It should also be noted that eradication of a species is dependent on all neighbors and diligence by one will do little if all of the neighbors are not part of the project and no way for DRMS to enforce their will on the property owners, State, or County governments. We will let DRMS point out the species next time they do an inspection and we can then discuss what can be done.

Comment 10 No response necessary

Comment 11 No response necessary

Comment 12 No response necessary

Comment 13 **Either show entire permit boundary or add a note indicating that no reclamation is planned for areas not shown on map**

Response:

A comment has been added to the Exhibit Map E-5 map. However due to a tight funding, I am unable to reproduce replacement maps, and have included a sticker that I request you attach to your copies.

Comment 14 No response necessary

Comment 15 No response necessary

Comment 16 No response necessary

Comment 17 No response necessary

Comment 18 No response necessary

Comment 19 No response necessary

Comment 20

Response:

The silt trenches have been added to the Exhibit Map E-5 map. However due to a tight funding, I am unable to reproduce replacement maps, and have included a sticker that I request you attach to your copies.

American Assay
 Laboratories Inc.
 1500 GLENDALE AVE.
 SPARKS, NV USA 89431-5902
 Ph.(775)356-0606, Fax.(775)356-1413
 EMAIL: aallabs@nvbell.net

SP098695
FINAL REPORT

CLIENT : MURPHY MINING & EXPLORATION
 PROJECT : TENDERFOOT (ICP-2D)
 REFERENCE : 041712-1 THRU 041712-6
 REPORTED : 1-Jun-2012

SAMPLES	Dry Wt	Au	Ag
	Weight	FA30	D2A
	0.01 lbs	0.001 OPT	0.006 OPT
041712-1	3.00	0.008	0.143
041712-1-X		0.008	0.155
041712-2	4.00	0.003	0.063
041712-2-X		0.002	0.061
041712-3	1.00	0.023	0.980
041712-3-X		0.022	0.957
041712-4	1.00	0.068	0.773
041712-4-X		0.068	0.808
041712-5	1.00	-0.001	0.018
041712-5-X		-0.001	0.015
BLANK		-0.001	-0.006
041712-6	1.00	0.032	0.271
041712-6-X		0.035	0.248
STD - Si42		0.050	
STD - AAL10			2.820

American Assay
 Laboratories Inc.
 1500 GLENDALE AVE.
 SPARKS, NV USA 89431-5902
 Ph.(775)356-0606, Fax.(775)356-1413
 EMAIL: aallabs@nvbell.net

SP098695
FINAL REPORT

CLIENT : MURPHY MINING & EXPLORATION
 PROJECT : TENDERFOOT (ICP-2D)
 REFERENCE : 041712-1 THRU 041712-6
 REPORTED : 1-Jun-2012

	Dry Wt	Au	Ag
	Weight	FA30	D2A
	0.01	0.001	0.006
SAMPLES	lbs	OPT	OPT
041712-1	3.00	0.008	0.143
041712-1-X		0.008	0.155
041712-2	4.00	0.003	0.063
041712-2-X		0.002	0.061
041712-3	1.00	0.023	0.980
041712-3-X		0.022	0.957
041712-4	1.00	0.068	0.773
041712-4-X		0.068	0.808
041712-5	1.00	-0.001	0.018
041712-5-X		-0.001	0.015
BLANK		-0.001	-0.006
041712-6	1.00	0.032	0.271
041712-6-X		0.035	0.248
STD - Si42		0.050	
STD - AAL10			2.820

RECLAMATION NOTES:

Special Note: All areas anticipated to require reclamation within permit boundary are shown on maps

Historical Aspects - Reclamation of the disturbed areas will occur following completion of the mining operation. The area is currently zoned as A-1 (agricultural) with the Cripple Creek Mining Overlay District (CCMOD) located adjacent to the south and east. It is also located near the Cripple Creek Historic District and is part of the view from it, thus the mining heritage of the site should be preserved. Additionally, the neighboring tourist mine has historically shared ventilation with portions of the property and the closure of the portal and air raise will be taken into consideration. By virtue of the site's setting, the area will have scenic attraction along with some limited use as rangeland and wildlife habitat.

RECLAMATION NOTES:

Special Note: All areas anticipated to require reclamation within permit boundary are shown on maps

Historical Aspects - Reclamation of the disturbed areas will occur following completion of the mining operation. The area is currently zoned as A-1 (agricultural) with the Cripple Creek Mining Overlay District (CCMOD) located adjacent to the south and east. It is also located near the Cripple Creek Historic District and is part of the view from it, thus the mining heritage of the site should be preserved. Additionally, the neighboring tourist mine has historically shared ventilation with portions of the property and the closure of the portal and air raise will be taken into consideration. By virtue of the site's setting, the area will have scenic attraction along with some limited use as rangeland and wildlife habitat.

