

Southern Silver Exploration Corp. (U.S.)

Responses to Comments to NMMD Permit Application No. LU048EM – Hermanas Project

Joseph Anthony Kizis, Jr.

Consulting Geologist for Southern Silver Exploration (U.S.) Corporation

August 04, 2023

Following are responses to Agency Review Comments and requests for additional information regarding the Hermanas Project NMMD Minimal Impact Permit Application electronically received from the New Mexico Energy, Minerals and Natural Resources Department dated July 14, 2023.

BLM Comments: Southern Silver intends to observe all terms of its Notice NMNM-145443 issued May 06, 2023, including the warning about possible spreading of the noxious and poisonous weed African rue and following standard weed control stipulations. During the field review, a BLM biologist pointed out where the African rue was found. The location is about 400m east of our site C, in an area that won't be affected by our proposed sites. No African rue was identified on our proposed sites or along access to those sites.

Regarding ground water protection, no toxic chemicals are used during drilling and Kizis has contacted Professor Emeritus Fred Phillips (New Mexico Tech) regarding his 1985 study "Report on shallow ground water in Baker Draw, Hermanas, New Mexico" (Consultant's Report, 24 pages for FMC Gold Corp.). Phillips concluded that drilling the 1985 sites, which are near sites proposed by Southern Silver, would not affect the spring. A recent email from Professor Phillips to Kizis is copied below.

From: Fred Phillips <fred.phillips@nmt.edu>
Sent: Thursday, July 27, 2023 4:17 PM
To: Joe Kizis <jkizis@renobravada.com>
Cc: rmacdonald@mnxlt.com
Subject: Re: Corralillo Spring, Hermanas NM

Hi Joe,

Sorry to be slow getting back to you. I did check my files and I could not find a copy of the report. As I mentioned, I got rid of nearly all of those old paper files about 2000 and I'm sure that it got tossed then. All I can do is tell you what I remember.

I was contacted by a representative of the mineral company, apparently Mr. Wheatley, although I don't remember the name. As I recollect they wanted to do exploration drilling in the area and the rancher was concerned about it affecting his wells. I traveled down to the Tres Hermanas and we sampled three water sources, all windmills as I recollect. I think only one well was near where drilling was planned. We went with the rancher to do the sampling. I got geologic maps and looked at the geology in the field.

The three windmills were all getting their water from fairly shallow alluvium, as I recollect. The water quality was not very great, but there was nothing out-of-line about it except that the well of interest had nitrate over the drinking water limit. That was easily explained: the windmill was connected to a cattle watering trough and there was a corral there, and when I sampled the well, cattle were standing all around and cow shit was everywhere. I recommended that the rancher never use that well as a drinking-water source (for people!).

I am sure that I measured TDS in the water samples, but I cannot remember the numbers except that it was on the high side (high for drinking water, that is, not saline). I'm not sure that it would be relevant to any water you might encounter in drilling anyway, since it was alluvial groundwater and I presume that you would be encountering water in the bedrock, which, if there is any, would have had quite a different geochemical history.

Given that the exploration holes were planned to be drilled into the nearby bedrock and that from everything I could see the windmill got its water from infiltration of runoff into shallow alluvium, I did not think that there was much likelihood that the drilling activity would impact the well, and that's what I said in the report. Of that, I am quite sure. If a mine were actually to go in, that would require a reevaluation, of course.

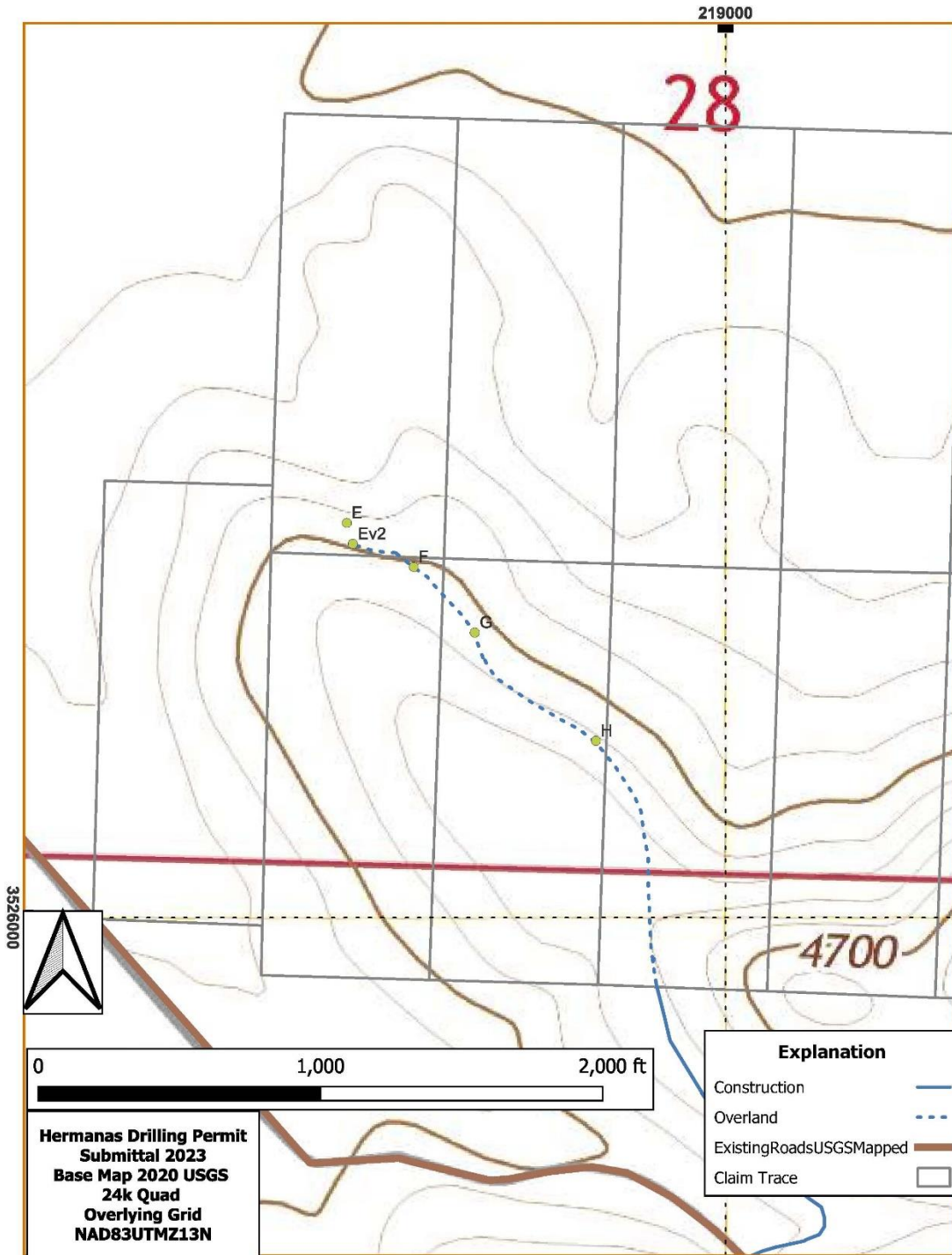
This is all that I can dredge up from my mind about that little study almost 40 years ago. I hope it is of some use to you.

With my best wishes,

Fred Phillips

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NMMD Comments: Request for new map of proposed activities and revised estimate of acreage disturbance: A map showing the 8 drill sites was attached to the permit, and a slight reduction in access from Pad E to Pad E2 is shown below. The new pad E2 is 233 feet from site F, 50 feet closer than the original site and will require less disturbance. That reduction in acreage is slightly more than acreage added to avoid a cholla cactus (figure farther below), so no revision to estimated acreage is necessary. Site E2 is located at UTM NAD 83 Zone 13: 218,597E 3,526,404N.



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NMED Mining Environment Compliance Section, Ground Water Quality Bureau Comments:

Three wells were identified in an internet search for the area; however, no TDS data was found to determine values in ground water. See Professor Phillips' comment in the email above that his testing many years ago showed the water on the Johnson Ranch had "high TDS" compared to drinking water but was not saline. Because no ground water encountered during exploration drilling will be released from the mud sumps, there shouldn't be a need for ground water sampling of the water from drilling. Any ground water that might seep through the walls and pit of the unlined sumps will not have any toxic fluids introduced because no toxic fluids are used during drilling. Any anomalously high concentrations of metals naturally occurring in the ground water should be removed effectively by adsorption onto abundant clays and iron/manganese oxides in the desert soil. MSDS fact sheets for all fluids utilized on site will be available on the drill rig.

To avoid excess water overflowing the sumps, a trash pump and hose will be available to distribute water to a nearby drill site or a second mud sump can be constructed within the permitted drill pad. There will be significant room on the pads to construct an additional mud sump if necessary.

Sumps as described in the permit will hold approximately 5,700 gallons when full after evaporation and leakage into the pit floor and walls.

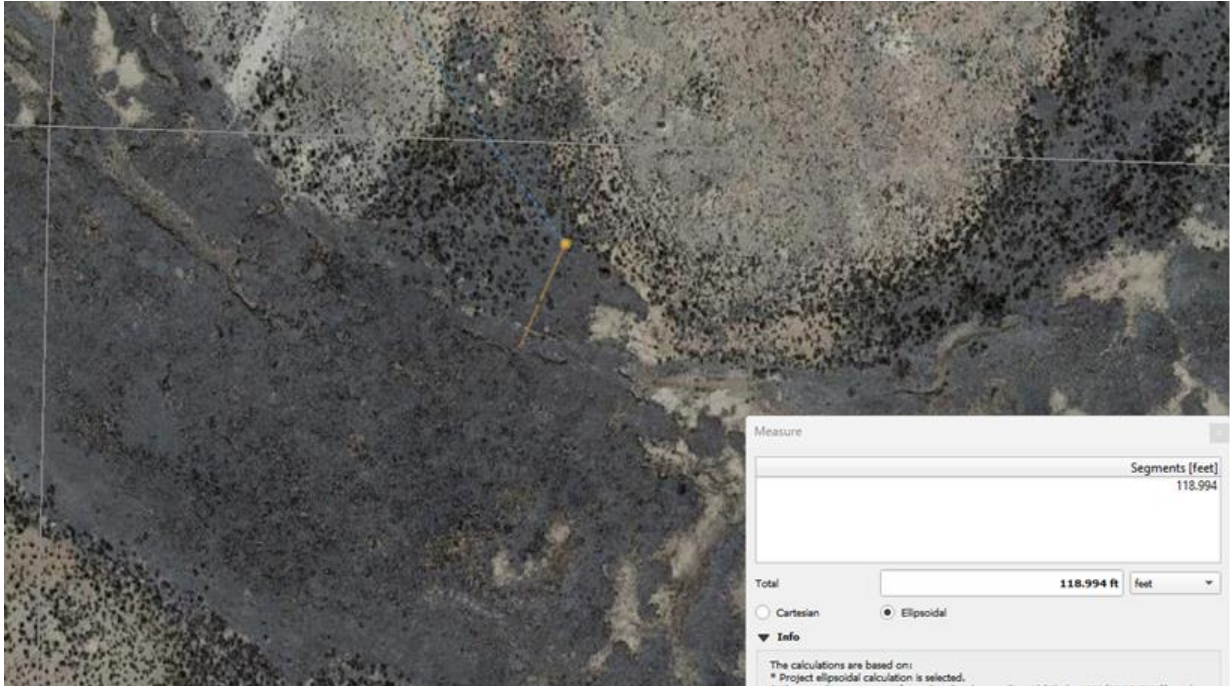
It is possible that more than one drill hole will be drilled from one or more sites by angling or wedging; thereby minimizing degradation to the public land by eliminating the construction of additional sites. Southern Silver will submit appropriate permits for drilling and plugging to the Office of the State Engineer, including WR-07 and WR-08 (submitted with a copy of the permit attached to the end of this memo). Post-Drilling Reports of Hole Abandonment procedures and Well Records will also be provided to the NMOSE. It is understood that all holes will encounter ground water and wet drilling abandonment procedures will be permitted and performed.

NMED Surface Water Quality Bureau Comments: The practices recommended to protect surface water quality are acknowledged and are standard operating procedure for reputable drill contractors. A Southern Silver representative at the sites will monitor compliance and will ensure that any spills will be reported immediately to the NMED, as required by New Mexico Water Quality Control Commission regulations (20.6.2.1203 NMAC).

Recommendation for containment of petrochemicals will be followed and spill clean-up materials will be available on sites during construction and drilling.

All sites are 100 feet or more from existing drainages, including site C, which is shown as the orange dot in the screenshot below as being 119 feet from the edge of the drainage. Note that the Hydrology Bureau commented in their May 2nd letter, *"After further examination, while multiple ephemeral waterways are within the bounds of the project area, the NMOSE Hydrology Bureau agrees that none of the proposed drilling is to occur with the channel, or within 100 feet of the channel, of any of these ephemeral waterways."*

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NMED Air Quality Bureau Comments: Southern Silver acknowledges the comments made by NMED concerning air quality. No blade work or scraping is planned except for local washout areas in which case only sufficient leveling will be done for very short stretches of less than 100 feet or so and only to the extent to permit safe passage of persons and equipment. The soil is generally gravel-rich, and dust is not expected to be a problem. However, the area may be used by ranching and recreational drivers, and Southern Silver has no control over those activities. Wetting (water dispersal on roads) and covering of material related to the disturbance activities will be done if a problem develops.

NMDG&F Comments: Southern Silver acknowledges the comments by NMDG&F. In past programs in New Mexico, it has been noted that if the entire sump (that contains the drill fluids) is surrounded by fencing, cattle break down the fence to drink the surface water floating on the non-toxic drill mud. This action may leave the steeper portions of the sump without a barrier and may allow entry into the steeper walls of the trench from which escape is more difficult. It was decided in discussions with previous New Mexico Wildlife Personnel that leaving the shallow end of the sloped sump open provided easy access to water the cattle desire and allowed easy access only to the safer, sloped end of the sump. Barbed wire was tried, but cattle tore it down and the ensuing tangle was a hazard. A shorter, finer mesh will be constructed around the sumps to prevent entry by reptiles and small animals.

Southern Silver acknowledges the potential adverse impact to migratory birds and will conduct appropriate surveys prior to any ground disturbance during the noted migration seasons.

The male thread of drill pipe is always capped, but the female thread is not and usually blocked from entry by animals when stacked upright and when loaded onto the pipe truck because that end of the pipe is up against metal. The dual-pipe used by reverse-circulation drill rigs has a very small opening, so only mouse-

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size creatures can enter. When the uncapped end of drill pipe is not blocked from entry, such as being stacked on the ground, the uncapped end will be blocked from entry by a tarp.

A cholla cactus with an unoccupied cactus wren nest was identified at approximately 218,920E/3,525,955N (UTM 13R), and the access route was modified during the field exam as shown in light orange color in the figure below. Kangaroo rat mounds as noted during the field exam will be avoided as recommended.



NMOSE Comments: NMOSE comments are acknowledged.

NMEMNR Comments: Night-blooming cactus was identified approximately 4 miles away from the Hermanas project, but none were found on the proposed sites or access routes. Southern Silver's team is familiar with the plants due to their presence on a nearby project that the company is exploring and will be vigilant to avoid disturbing any night-blooming cactus discovered.

NMHDP Comments: The BLM has issued a Decision Letter and does not recommend a cultural resource survey for this program; however, Southern Silver will be following BLM guidelines should such resources be identified.

White Mountain Apache Tribe Comments: No issues of concern were raised.

File No. _____



NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL A WELL WITH NO WATER RIGHT



(check applicable box):

For fees, see State Engineer website: <http://www.ose.state.nm.us/>

Purpose:	<input type="checkbox"/> Pollution Control And/Or Recovery	<input type="checkbox"/> Ground Source Heat Pump
<input type="checkbox"/> Exploratory Well*(Pump test)	<input type="checkbox"/> Construction Site/Public Works Dewatering	<input checked="" type="checkbox"/> Other(Describe):
<input type="checkbox"/> Monitoring Well	<input type="checkbox"/> Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.
 *New Mexico Environment Department-Drinking Water Bureau (NMED-DWB) will be notified if a proposed exploratory well is used for public water supply.

<input checked="" type="checkbox"/> Temporary Request - Requested Start Date: 10/1/2023	Requested End Date: 10/1/2024
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Plugging Plan of Operations Submitted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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1. APPLICANT(S)

Name: Peter O'Byrne	Name: Joe Kizis
Contact or Agent: <input type="checkbox"/> check here if Agent <input checked="" type="checkbox"/>	Contact or Agent: <input type="checkbox"/> check here if Agent <input checked="" type="checkbox"/>
Contact	
Mailing Address: 550 W Plumb In Suite B #141	Mailing Address: 4790 Caughlin Parkway, # 207
City: Reno	City: Reno
State: Nevada Zip Code: 89509	State: Nevada Zip Code: 89519-0907
Phone: (775)304-0957 <input type="checkbox"/> Home <input checked="" type="checkbox"/> Cell	Phone: <input type="checkbox"/> Home <input checked="" type="checkbox"/> Cell
Phone (Work):	Phone (Work): 775-772-8746
E-mail (optional): peterobyne@targetsynthesis.com	E-mail (optional): jkizis@renobravada.com

FOR OSE INTERNAL USE Application for Permit, Form WR-07, Rev 07/12/22

File No.:	Trn. No.:	Receipt No.:
Trans Description (optional):		
Sub-Basin:	PCW/LOG Due Date:	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84). District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

NM State Plane (NAD83) (Feet) UTM (NAD83) (Meters) Lat/Long (WGS84) (to the nearest 1/10th of second)
 NM West Zone Zone 12N Zone 13N
 NM East Zone Zone 13N
 NM Central Zone

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
HER-001	218557	3528382	N1/2, NW1/4, SW1/4 S21 R28S T11W
HER-002	218557	3528382	N1/2, NW1/4, SW1/4 S21 R28S T11W
HER-003	218470	3528318	N1/2, NW1/4, SW1/4 S21 R28S T11W
HER-004	218470	3528318	N1/2, NW1/4, SW1/4 S21 R28S T11W
HER-005	218470	3528318	N1/2, NW1/4, SW1/4 S21 R28S T11W

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
 Additional well descriptions are attached: Yes No If yes, how many 9

Other description relating well to common landmarks, streets, or other:

Well is on land owned by: All wells are located on BLM land

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? Yes No
 If yes, how many 1

Approximate depth of well (feet): See attachment for depths of all 14 Outside diameter of well casing (inches): 4.5

Driller Name: Unknown Driller License Number: Unknown

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

all wells are being drilled for no diversionary exploration purposes. See attached spreadsheet for all well locations.

FOR OSE INTERNAL USE

Application for Permit, Form WR-07 Version 07/12/22

File No.:

Trn No.:



NEW MEXICO OFFICE OF THE STATE ENGINEER



ATTACHMENT 1 POINT OF DIVERSION DESCRIPTIONS

This Attachment is to be completed if more than one (1) point of diversion is described on an Application or Declaration.

a. Is this a: <input type="checkbox"/> Move-From Point of Diversion(s) <input type="checkbox"/> Move-To Point of Diversion(s)		b. Information on Attachment(s): Number of points of diversion involved in the application: <u>14</u> Total number of pages attached to the application: <u>1</u>	
<input type="checkbox"/> Surface Point of Diversion OR <input checked="" type="checkbox"/> Well			
Name of ditch, acequia, or spring:		UK	
Stream or water course:		UK	
Tributary of:		UK	
c. Location (Required): Required: Move to POD location coordinate must be either New Mexico State Plane (NAD 83), UTM (NAD 83), <u>or</u> Lat/Long (WGS84)			
NM State Plane (NAD83) (feet) NM West Zone <input type="checkbox"/> NM Central Zone <input type="checkbox"/> NM East Zone <input type="checkbox"/>	UTM (NAD83) (meters) Zone 13N <input checked="" type="checkbox"/> Zone 12N <input type="checkbox"/>	<input type="checkbox"/> Lat/Long- (WGS84) 1/10 th of second	OTHER (allowable only for move-from descriptions - see application form for format) <input checked="" type="checkbox"/> PLSS (quarters, section, township, range) <input type="checkbox"/> Hydrographic Survey, Map & Tract <input type="checkbox"/> Lot, Block & Subdivision <input type="checkbox"/> Grant
POD Number: HER-006	X or Longitude 218663	Y or Latitude 3526379	Other Location Description: N1/2, SE1/4, SW1/4 S28 R28S T11W
POD Number: HER-007	X or Longitude 218591	Y or Latitude 3526433	Other Location Description: N1/2, SE1/4, SW1/4 S28 R28S T11W
POD Number: HER-008	X or Longitude 219696	Y or Latitude 3528134	Other Location Description: S1/2, NE1/4, SE1/4 S21 R28S T11W
POD Number: HER-009	X or Longitude 219696	Y or Latitude 3528134	Other Location Description: S1/2, NE1/4, SE1/4 S21 R28S T11W
POD Number: HER-010	X or Longitude 218860	Y or Latitude 3526191	Other Location Description: S1/2, SE1/4, SW1/4 S28 R28S T11W
POD Number: HER-011	X or Longitude 218579	Y or Latitude 3528135	Other Location Description: S1/2, NE1/4, SW1/4 S21 R28S T11W
POD Number: HER-012	X or Longitude 218579	Y or Latitude 3528135	Other Location Description: S1/2, NE1/4, SW1/4 S21 R28S T11W
POD Number: HER-013	X or Longitude 218729	Y or Latitude 3526308	Other Location Description: N1/2, SE1/4, SW1/4 S28 R28S T11W
POD Number: HER-014	X or Longitude 218663	Y or Latitude 3526379	Other Location Description: N1/2, SE1/4, SW1/4 S28 R28S T11W

FOR OSE INTERNAL USE

Form wr-08
POD DESCRIPTIONS - ATTACHMENT 1

File Number:	Trn Number:
Trans Description (optional):	