

From: [Roth, Daniela, EMNRD](#)
To: [Myers, Kevin, EMNRD](#)
Subject: RE: Req. for Review & Comment, Minimal Impact Exploration Permit App., Apache Hills Exploration Project, Hidalgo Co., NM, Permit Tracking No. HI020EM
Date: Friday, April 20, 2018 3:02:45 PM

Dear Kevin Myers:

Thank you for giving me the opportunity to review and comment on the Minimal Impact Exploration Permit Application, Apache Hills Exploration Project, in Hidalgo Co., NM (Permit Tracking No. HI020EM). The Apache Hills area of Hidalgo County is part of the Nachita Valley/Hachita Mountains Important Plant Area (<http://www.emnrd.state.nm.us/SFD/>). The state listed endangered night-blooming cereus (*Peniocereus greggii* var. *greggii*) is known to occur in the Apache Hills (http://nmrareplants.unm.edu/rarelist_single.php?SpeciesID=45). Therefore I highly recommend surveys for this cryptic species during the flowering season, when it is easiest to detect. If plants are found, they should be avoided, or impacts should be minimized through a variety of mitigation measures available.

Please let me know if I can be of further help.

Sincerely,

Daniela Roth

Botany Program Coordinator
EMNRD – Forestry Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3347
<http://www.emnrd.state.nm.us/SFD/>

From: Rodriguez, Stephanie, EMNRD
Sent: Thursday, April 19, 2018 3:21 PM
To: Roth, Daniela, EMNRD <Daniela.Roth@state.nm.us>
Cc: Myers, Kevin, EMNRD <kevin.myers@state.nm.us>
Subject: Req. for Review & Comment, Minimal Impact Exploration Permit App., Apache Hills Exploration Project, Hidalgo Co., NM, Permit Tracking No. HI020EM

Attached is your electronic copy of the April 19, 2018, letter mailed to Daniela Roth, State Forestry Division, from Kevin Myers, Permit Lead, MARP/MMD, regarding the above-referenced subject. Please print copies for your files as needed.

Thank you,
Stephanie J. Rodriguez

Records Manager
Mining Act Reclamation Program
Mining and Minerals Division
stephanie.rodriguez@state.nm.us
505-476-3433



Susana Martinez
Governor

April 23, 2018

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
SANTA FE, NEW MEXICO 87501
PHONE (505) 827-6320 FAX (505) 827-6338



Kevin Myers
Mining Act Reclamation Program
Mining and Minerals Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: New Minimal Impact Exploration Permit Application, Apache Hills Exploration project, Hidalgo County, New Mexico, HI020EM (HPD log 107733)

Dear Mr. Myers,

This letter is in response to the above new minimal impact exploration permit application received at the Historic Preservation Division (HPD) on April 20, 2018. According to the application, the proposed project is within Township 28 South, Range 14 West, Sections 29, 30 33 and 34.

In accordance with rule 19.10.3 NMAC, *Minimal Impact Operations*, I reviewed our records to determine if cemeteries, burial grounds or cultural resources listed on the State Register of Cultural Properties or the National Register of Historic Places exist within or near the permit area. Our records show that there are no cultural resources listed on the National Register or State Register within or near the proposed permit area and no known cemeteries or burial grounds. Although there are no cultural resources listed on the State or National Register, our records show several archaeological surveys within part of the permit area. These surveys identified archaeological sites, which are eligible for listing in the National Register of Historic Places (NHPA).

The application states that the surface and mineral estate owner is the Bureau of Land Management (BLM), Las Cruces District Office (LCDO), which makes the undertaking subject to consultation under Section 306108 of the National Historic Preservation Act (NHPA). Please advise the applicant to consult with the LCDO concerning the need for cultural resource surveys in the project's area of potential effects. The BLM may require avoidance of any eligible archaeological sites and an archaeological monitor to ensure that eligible sites are not affected.

Please do not hesitate to contact me if you have any questions regarding these comments. I can be reached by telephone at (505) 827-4225 or by email at bob.estes@state.nm.us.

Sincerely,

A handwritten signature in blue ink that reads "Bob Estes".

Bob Estes Ph.D.
Archaeologist

Log: 107733

Cc: Tom Holcomb,
Archaeologist, Bureau of Land Management



SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau
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BUTCH TONGATE
Cabinet Secretary

J.C. BORREGO
Deputy Secretary

MEMORANDUM

Date: May 4, 2018

To: Holland Shepherd, Program Manager, Mining Act Reclamation Program

Through: Jeff Lewellin, Mining Act Team Leader, Mining Environmental Compliance Section

From: George Llewellyn, Mining Environmental Compliance Section
John Moeny, Surface Water Quality Bureau
Neal Butt, Air Quality Bureau

Subject: **NMED Comments, 1077615 US, LLC, Apache Hills Minimal Impact
Exploration Project, Hidalgo County, New Mexico, MMD Permit No.
HI020EM**

The New Mexico Environment Department (NMED) received correspondence from the Mining and Minerals Division (MMD) on April 19, 2018 requesting NMED review and provide comments on the above-referenced MMD permitting action. In accordance with 19.10.3.302.G NMAC, NMED is providing comments within the 20 day period prescribed by the regulation. NMED has the following comments.

Background

1077615 US, LLC (Applicant) proposes a minimal impact exploration project to advance 18, four-inch diameter borings to a depth of 500 feet below ground surface. The project is on land managed by the Bureau of Land Management in Sections 29, 30, 33, and 34, T28S, R14W, which is approximately six miles southeast of Hachita, New Mexico. The purpose of the proposed exploration project is to evaluate potential reserves of copper and gold.

Air Quality Bureau

The Air Quality Bureau comments are attached under separate letterhead.

Surface Water Quality Bureau

The Surface Water Quality Bureau comments are attached under separate letterhead.

Mining Environmental Compliance Section

On April 25, 2018 personnel from the Mining Environmental Compliance Section (MECS) performed an investigation of the area associated with the proposed minimal impact exploration project. During the investigation in an area proximal to proposed boring PRC-3, an abandoned vertical mine shaft was observed. The mine shaft contained ground water at a depth estimated to be 30 – 40 feet below the ground surface. Additional ground water information was obtained by the Applicant from a rancher that is in the vicinity in the project. The ground water in the well was indicated to be 40 feet below ground surface and the water quality is assumed to be capable of use for watering livestock. In the likely instance ground water is encountered while advancing the borings to the total depth of 500 feet below ground surface, plugging and abandonment of the borings should comply with New Mexico Office of the State Engineer regulations for wet holes as is indicated in the application. In addition, the applicant must contain any water produced from the exploration holes at the drill site.

NMED Summary Comment

NMED finds that the exploratory project is likely to have a minimal impact to the environment if operated and reclaimed with the approved permits, pollution controls, and the comments above.

If you have any questions, please contact Jeff Lewellin at (505) 827-1049.

cc: Bruce Yurdin, Division Director, NMED-WPD
Shelly Lemon, Bureau Chief, SWQB
Liz Bisbey-Kuehn, Bureau Chief, AQB
Fernando Martinez, Division Director, EMNRD-MMD
Kevin Myers, Lead Staff, EMNRD-MMD
Kurt Vollbrecht, Program Manager, MECS



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BUTCH TONGATE
Cabinet Secretary
JUAN CARLOS BORREGO
Deputy Cabinet Secretary

MEMORANDUM

DATE: April 27, 2018

TO: Jeff Lewellin, Mining Act Team Leader
Mining Environmental Compliance Section, Ground Water Quality Bureau

FROM: Neal Butt, Environmental Analyst
Control Strategies Section, Air Quality Bureau

RE: Request for Review and Comment, Minimal Impact Exploration Permit
Application, Apache Hills Exploration Project, Hidalgo Co., NM
Permit Tracking No. HI020EM

The New Mexico Air Quality Bureau (AQB) has completed its review of the above-mentioned mining project. Pursuant to the New Mexico Mining Act Rules, the AQB provides the following comments.

Air Quality Permitting History

The AQB has not issued any air quality permits for this operation.

Details

The applicant, "1077615 US LLC" (Scott Burkett, Titan Mining Corp.) proposes to explore for copper and gold; disturbing 1.58 acres; drilling 18 holes to a depth of 500 ft. on Bureau of Land Management land, in Township 28S Range 14 West Sections 29, 30, 33 and 34 located approximately 6 miles southeast of Hachita, in Hidalgo County New Mexico.

Air Quality Requirements

The New Mexico Mining Act of 1993 states that "Nothing in the New Mexico Mining Act shall supersede current or future requirements and standards of any other applicable federal or state law." Thus, the applicant is expected to comply with all requirements of federal and state laws pertaining to air quality. Current requirements which may be applicable in this mining project include, but are not limited to the following:

Paragraph (1) of Subsection A of 20.2.72.200 NMAC, *Application for Construction, Modification, NSPS, and NESHAP - Permits and Revisions*, states that air quality permits must be obtained by:

“Any person constructing a stationary source which has a potential emission rate greater than 10 pounds per hour or 25 tons per year of any regulated air contaminant for which there is a National or New Mexico Ambient Air Quality Standard. If the specified threshold in this subsection is exceeded for any one regulated air contaminant, all regulated air contaminants with National or New Mexico Ambient Air Quality Standards emitted are subject to permit review.”

Further, Paragraph (3) of this subsection states that air quality permits must be obtained by:

“Any person constructing or modifying any source or installing any equipment which is subject to 20.2.77 NMAC, *New Source Performance Standards*, 20.2.78 NMAC, *Emission Standards for Hazardous Air Pollutants*, or any other New Mexico Air Quality Control Regulation which contains emission limitations for any regulated air contaminant.”

Also, Paragraph (1) of Subsection A of 20.2.73.200 NMAC, *Notice of Intent*, states that:

“Any owner or operator intending to construct a new stationary source which has a potential emission rate greater than 10 tons per year of any regulated air contaminant or 1 ton per year of lead shall file a notice of intent with the department.”

In addition, pursuant to Subsection A of 19.10.3.302 NMAC, *Minimal Impact Exploration Operations*:

“A minimal impact exploration operation will not exceed 1000 cubic yards of excavation per permit. Disturbances for constructed roads, drill pads and mud pits shall be no more than 5 acres total and will not be counted in the excavated materials. The type of road construction, the number and type of drill pads, and other disturbances when considered with site specific conditions will be major factors in determining eligibility for minimal impact status which is in the discretion of the director.”

The above is not intended to be an exhaustive list of all requirements that could apply. The applicant should be aware that this evaluation does not supersede the requirements of any current federal or state air quality requirement.

Fugitive Dust

Although fugitive dust is a common problem at mining sites, the AQB does not have a rule that regulates fugitive dust at this time. Meanwhile, we recommend controls to minimize emissions of particulate matter from fugitive dust sources to limit public health and traffic safety impacts. The following control strategies can be included in a comprehensive fugitive dust control plan (from EPA’s *Compilation of Air Pollutant Emission Factors*, AP-42):

Unpaved haul roads and traffic areas: paving of permanent and semi-permanent roads, application of surfactant, watering, and traffic controls, such as speed limits and traffic volume restrictions.

Paved roads: covering of loads in trucks to eliminate truck spillage, paving of access areas to sites, vacuum sweeping, water flushing, and broom sweeping and flushing.

Material handling: wind speed reduction and wet suppression, including watering and application of surfactants (wet suppression should not confound track out problems).

Bulldozing: wet suppression of materials to “optimum moisture” for compaction.

Scraping: wet suppression of scraper travel routes.

Storage piles: enclosure or covering of piles, application of surfactants.

Miscellaneous fugitive dust sources: watering, application of surfactants or reduction of surface wind speed with windbreaks or source enclosures.

Recommendation

The AQB has no objection to the current request for a permit.

The applicant is expected to comply with all requirements of federal and state laws pertaining to air quality. This written evaluation does not supersede the applicability of any forthcoming state or federal regulations.

If you have any questions, please contact me at (505) 476-4317.



SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lt. Governor

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BUTCH TONGATE
Cabinet Secretary

J. C. BORREGO
Deputy Secretary

MEMORANDUM

TO: Jeff Lewellin, Mining Act Team Leader
Mining Environmental Compliance Section
Ground Water Quality Bureau (GWQB)

FROM: John Moeny, Surface Water Quality Bureau

SUBJECT: **Request for Comments, Minimal Impact Exploration Project, 1077615 US LLC, Apache Hills Project, Hidalgo County, MMD Permit No. HI020EM**

DATE: May 3 2018

On April 19, 2018, NMED received a request for comments regarding a minimal impact exploration permit, by 1077615 US LLC (hereafter: "Applicant"). The project is located in Hidalgo County, approximately 4.5 miles southeast of Hachita, NM on public land administered by the Bureau of Land Management.

Summary of Proposed Action

The Applicant intends to drill a minimum of eighteen, four-inch exploratory holes to a depth of 500 feet. Each drill site will have an associated ground disturbance for the sump pit (20'x10'x5' deep) and drill pads (1,250 square feet). Drill cuttings will be collected and buried at each drill location. Access to the drill sites will combine existing roads, Rights-of-Way and grading new roads where necessary. Target minerals for this exploration are silver and copper.

Relevant State and Federal Water Quality Regulations

Intermittent water quality standards under 20.6.4.98 NMAC apply to all unclassified waters of the state including ephemeral drainages in the project area, until a hydrology protocol (HP) survey is conducted and a Use Attainability Analysis (UAA) is approved by the Water Quality Control Commission (WQCC) in accordance with 20.6.4.15 NMAC.

Construction activities in support of the drilling, mining or hauling in ephemeral drainages may require a federal Clean Water Act Section 404 Dredge and Fill Permit and the corresponding

Section 401 State of New Mexico Certification of the federal permit. For details contact the US Army Corps of Engineers Las Cruces Regulatory Office at **575.268.8612**.

This Project will disturb one or more acres and storm water discharges may be covered under either the U.S. Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) or under the Multi-Sector General Permit (MSGP) under Sector G Metal Mining.

Among other things, a SWPPP must be prepared for the site and that appropriate Best Management Practices (BMPs) be installed and maintained both during and after construction to prevent, to the extent practicable, pollutants (primarily sediment, oil & grease and construction materials from construction sites) in storm water runoff from entering waters of the U.S. This permit also requires that permanent stabilization measures (revegetation, paving, etc.), and permanent storm water management measures (storm water detention/retention structures, velocity dissipation devices, etc.) be implemented post construction to minimize, in the long term, pollutants in storm water runoff from entering these waters.

Operators of certain small construction activity (disturbance of one to five acres) may be waived from permit requirements under limited circumstances. To be eligible for this waiver, operators must certify to EPA that they are eligible (see Section 9 Appendix C of the CGP). Waivers are only available to stormwater discharges associated with small construction activities (i.e., 1-5 acres). If this Project transitions into mining activities, MSGP coverage would be required at that time.

The CGP was re-issued January 11, 2017 and is effective February 16, 2017. The CGP and the eReporting tool (NeT-CGP) to apply for coverage or waivers is available at: <https://www.epa.gov/npdes/2017-construction-general-permit-cgp>. The MSGP was re-issued effective June 4, 2015, that Permit information is available at <https://www.epa.gov/npdes/stormwater-discharges-industrial-activities>

In addition to the regulations above, the following best management practices are recommended to protect surface water quality.

- Fuel, oil, hydraulic fluid, lubricants, and other petrochemicals must have a secondary containment system to prevent spills.
- Ground water sump pits may not be used as disposal locations for hydraulic fluids, oils, contaminated drilling mud or other materials that may pose a pollution risk to surface and ground water.
- Ground water sump pits must be lined and setback from drainages by a minimum of 100 feet or as far as practicable if 100 feet is not feasible given site conditions.
- Appropriate spill clean-up materials such as absorbent pads must be available on-site at all times during road construction, site preparations, drilling and reclamation to address potential spills.

- Report all spills immediately to the NMED as required by the New Mexico Water Quality Control Commission regulations (20.6.2.1203 NMAC). For non-emergencies during normal business hours, call 505-428-2500. For non-emergencies after hours, call 866-428-6535 or 505-428-6535 (voice mail, twenty-four hours a day). For emergencies only, call 505-827-9329 twenty-four hours a day (NM Dept of Public Safety).

Impacts to Surface Water Quality

The SWQB finds the Applicant's proposed exploration is likely to have a minimal impact to surface waters if operated and reclaimed with the approved permits and pollution controls and the comments above.

If you have any questions, please phone me at (575) 956-1545.



SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

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BUTCH TONGATE
Cabinet Secretary

J.C. BORREGO
Deputy Secretary

MEMORANDUM

Date: May 4, 2018

To: Holland Shepherd, Program Manager, Mining Act Reclamation Program

Through: Jeff Lewellin, Mining Act Team Leader, Mining Environmental Compliance Section

From: George Llewellyn, Mining Environmental Compliance Section
John Moeny, Surface Water Quality Bureau
Neal Butt, Air Quality Bureau

Subject: **NMED Comments, 1077615 US, LLC, Apache Hills Minimal Impact
Exploration Project, Hidalgo County, New Mexico, MMD Permit No.
HI020EM**

The New Mexico Environment Department (NMED) received correspondence from the Mining and Minerals Division (MMD) on April 19, 2018 requesting NMED review and provide comments on the above-referenced MMD permitting action. In accordance with 19.10.3.302.G NMAC, NMED is providing comments within the 20 day period prescribed by the regulation. NMED has the following comments.

Background

1077615 US, LLC (Applicant) proposes a minimal impact exploration project to advance 18, four-inch diameter borings to a depth of 500 feet below ground surface. The project is on land managed by the Bureau of Land Management in Sections 29, 30, 33, and 34, T28S, R14W, which is approximately six miles southeast of Hachita, New Mexico. The purpose of the proposed exploration project is to evaluate potential reserves of copper and gold.

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The Air Quality Bureau comments are attached under separate letterhead.

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NMED Summary Comment

NMED finds that the exploratory project is likely to have a minimal impact to the environment if operated and reclaimed with the approved permits, pollution controls, and the comments above.

If you have any questions, please contact Jeff Lewellin at (505) 827-1049.

cc: Bruce Yurdin, Division Director, NMED-WPD
Shelly Lemon, Bureau Chief, SWQB
Liz Bisbey-Kuehn, Bureau Chief, AQB
Fernando Martinez, Division Director, EMNRD-MMD
Kevin Myers, Lead Staff, EMNRD-MMD
Kurt Vollbrecht, Program Manager, MECS



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BUTCH TONGATE
Cabinet Secretary
JUAN CARLOS BORREGO
Deputy Cabinet Secretary

MEMORANDUM

DATE: April 27, 2018

TO: Jeff Lewellin, Mining Act Team Leader
Mining Environmental Compliance Section, Ground Water Quality Bureau

FROM: Neal Butt, Environmental Analyst
Control Strategies Section, Air Quality Bureau

RE: Request for Review and Comment, Minimal Impact Exploration Permit
Application, Apache Hills Exploration Project, Hidalgo Co., NM
Permit Tracking No. HI020EM

The New Mexico Air Quality Bureau (AQB) has completed its review of the above-mentioned mining project. Pursuant to the New Mexico Mining Act Rules, the AQB provides the following comments.

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Air Quality Requirements

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Paragraph (1) of Subsection A of 20.2.72.200 NMAC, *Application for Construction, Modification, NSPS, and NESHAP - Permits and Revisions*, states that air quality permits must be obtained by:

“Any person constructing a stationary source which has a potential emission rate greater than 10 pounds per hour or 25 tons per year of any regulated air contaminant for which there is a National or New Mexico Ambient Air Quality Standard. If the specified threshold in this subsection is exceeded for any one regulated air contaminant, all regulated air contaminants with National or New Mexico Ambient Air Quality Standards emitted are subject to permit review.”

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In addition, pursuant to Subsection A of 19.10.3.302 NMAC, *Minimal Impact Exploration Operations*:

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Fugitive Dust

Although fugitive dust is a common problem at mining sites, the AQB does not have a rule that regulates fugitive dust at this time. Meanwhile, we recommend controls to minimize emissions of particulate matter from fugitive dust sources to limit public health and traffic safety impacts. The following control strategies can be included in a comprehensive fugitive dust control plan (from EPA's *Compilation of Air Pollutant Emission Factors*, AP-42):

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Storage piles: enclosure or covering of piles, application of surfactants.

Miscellaneous fugitive dust sources: watering, application of surfactants or reduction of surface wind speed with windbreaks or source enclosures.

Recommendation

The AQB has no objection to the current request for a permit.

The applicant is expected to comply with all requirements of federal and state laws pertaining to air quality. This written evaluation does not supersede the applicability of any forthcoming state or federal regulations.

If you have any questions, please contact me at (505) 476-4317.



SUSANA MARTINEZ
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JOHN A. SANCHEZ
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BUTCH TONGATE
Cabinet Secretary

J. C. BORREGO
Deputy Secretary

MEMORANDUM

TO: Jeff Lewellin, Mining Act Team Leader
Mining Environmental Compliance Section
Ground Water Quality Bureau (GWQB)

FROM: John Moeny, Surface Water Quality Bureau

SUBJECT: **Request for Comments, Minimal Impact Exploration Project, 1077615 US LLC, Apache Hills Project, Hidalgo County, MMD Permit No. HI020EM**

DATE: May 3 2018

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Relevant State and Federal Water Quality Regulations

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Construction activities in support of the drilling, mining or hauling in ephemeral drainages may require a federal Clean Water Act Section 404 Dredge and Fill Permit and the corresponding

Section 401 State of New Mexico Certification of the federal permit. For details contact the US Army Corps of Engineers Las Cruces Regulatory Office at **575.268.8612**.

This Project will disturb one or more acres and storm water discharges may be covered under either the U.S. Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) or under the Multi-Sector General Permit (MSGP) under Sector G Metal Mining.

Among other things, a SWPPP must be prepared for the site and that appropriate Best Management Practices (BMPs) be installed and maintained both during and after construction to prevent, to the extent practicable, pollutants (primarily sediment, oil & grease and construction materials from construction sites) in storm water runoff from entering waters of the U.S. This permit also requires that permanent stabilization measures (revegetation, paving, etc.), and permanent storm water management measures (storm water detention/retention structures, velocity dissipation devices, etc.) be implemented post construction to minimize, in the long term, pollutants in storm water runoff from entering these waters.

Operators of certain small construction activity (disturbance of one to five acres) may be waived from permit requirements under limited circumstances. To be eligible for this waiver, operators must certify to EPA that they are eligible (see Section 9 Appendix C of the CGP). Waivers are only available to stormwater discharges associated with small construction activities (i.e., 1-5 acres). If this Project transitions into mining activities, MSGP coverage would be required at that time.

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In addition to the regulations above, the following best management practices are recommended to protect surface water quality.

- Fuel, oil, hydraulic fluid, lubricants, and other petrochemicals must have a secondary containment system to prevent spills.
- Ground water sump pits may not be used as disposal locations for hydraulic fluids, oils, contaminated drilling mud or other materials that may pose a pollution risk to surface and ground water.
- Ground water sump pits must be lined and setback from drainages by a minimum of 100 feet or as far as practicable if 100 feet is not feasible given site conditions.
- Appropriate spill clean-up materials such as absorbent pads must be available on-site at all times during road construction, site preparations, drilling and reclamation to address potential spills.

- Report all spills immediately to the NMED as required by the New Mexico Water Quality Control Commission regulations (20.6.2.1203 NMAC). For non-emergencies during normal business hours, call 505-428-2500. For non-emergencies after hours, call 866-428-6535 or 505-428-6535 (voice mail, twenty-four hours a day). For emergencies only, call 505-827-9329 twenty-four hours a day (NM Dept of Public Safety).

Impacts to Surface Water Quality

The SWQB finds the Applicant's proposed exploration is likely to have a minimal impact to surface waters if operated and reclaimed with the approved permits and pollution controls and the comments above.

If you have any questions, please phone me at (575) 956-1545.


MEMORANDUM


OFFICE OF THE STATE ENGINEER

Hydrology Bureau

DATE: May 9, 2018

TO: Kevin Myers, Permit Lead, Mining Act Reclamation Program ("MARF")/MMD
Lloyd Valentine, District III Manager, WRD, Deming

THROUGH: Ghassan Musharrafieh, Ph.D., P.E., Chief, Hydrology Bureau 

FROM: Steve Acheampong, Ph.D., Hydrologist, Hydrology Bureau 

SUBJECT: Review and Comments, Minimal Impact Exploration Permit Application, Apache Hills Exploration Project, Hidalgo County, NM; Permit Tracking No. HI020EM

I. Introduction

On April 19, 2018, State of New Mexico Energy, Minerals and Natural Resources Department (EMNRD) requested the Hydrology Bureau of the Office of the State Engineer (OSE) to review and comment on Minimal Impact Exploration Operation Permit Application submitted by 1077615 US LLC for its Apache Hills Exploration Project for copper and gold in Hidalgo County, New Mexico.

The applicant, 1077615 US LLC proposes to drill eighteen test holes on land owned by the Bureau of Land Management (BLM) located approximately 6 miles southeast of Hachita, NM in Hidalgo County, New Mexico (see attached map). The proposed project will disturb a total of up to 1.58 acres of land. The proposed test holes will be 4.0 inches in diameter and will be drilled to depths of up to 500 feet below ground level (bgl) using rotary mud/fluid drilling method. Eighteen mud/fluid pits measuring 20 feet by 10 feet by 5 feet are also proposed to be dug. The reported estimated depth to groundwater by the applicant based on information from a local rancher and data from the New Mexico Office of the State Engineer (NMOSE) ranges from 40 to 400 feet bgl. No available information on the water quality in terms of major ions and total dissolved solids (TDS) concentrations of the groundwater in the area was provided by the applicant. The test holes will be plugged upon completion and the evaluation of the mineral resources by 1077615 US LLC. The applicant has partially completed Forms WR-07 and WD-08

and submitted them to the NMOSE in accordance with Subsection C of NMAC 19.27.4.30, as revised on 6/30/2017.

II. Comments

The Hydrology Bureau has completed a review of the project application and provides the following comments:

II. A. Surface Water

The proposed exploration drilling will be conducted in an area with no nearby permanent surface water body. Also there are no springs observed in the project area.

II. B. Groundwater

In section 6C of the application the applicant contends that groundwater is anticipated to be encountered during the exploration but went ahead and selected option 4 under dry hole abandonment. NMOSE agrees with the applicant's selection if a dry hole is encountered. The applicant intends to use high density bentonite clay (QUIK GROUT) for the abandonment of dry holes should one be encountered, presumably in compliance with Mining and Minerals Division NMAC 19.10.3.302.L regulations. NMOSE Well Plugging Handbook states that if the well does not penetrate a water bearing strata, the well must be filled to within 10 feet of the ground surface with clean fine sand or clean native fill and the remaining 10 feet of the well to ground surface with an approved sealant by the State Engineer.

The applicant states that depth to groundwater ranges from 40 to 400 feet below ground level (bgl). This is supported by data from the OSE NMWRRS website for three nearby wells whose depths to water range from 130 to 425 feet bgl (see attached). No information on the quality of the groundwater was available from any of these wells.

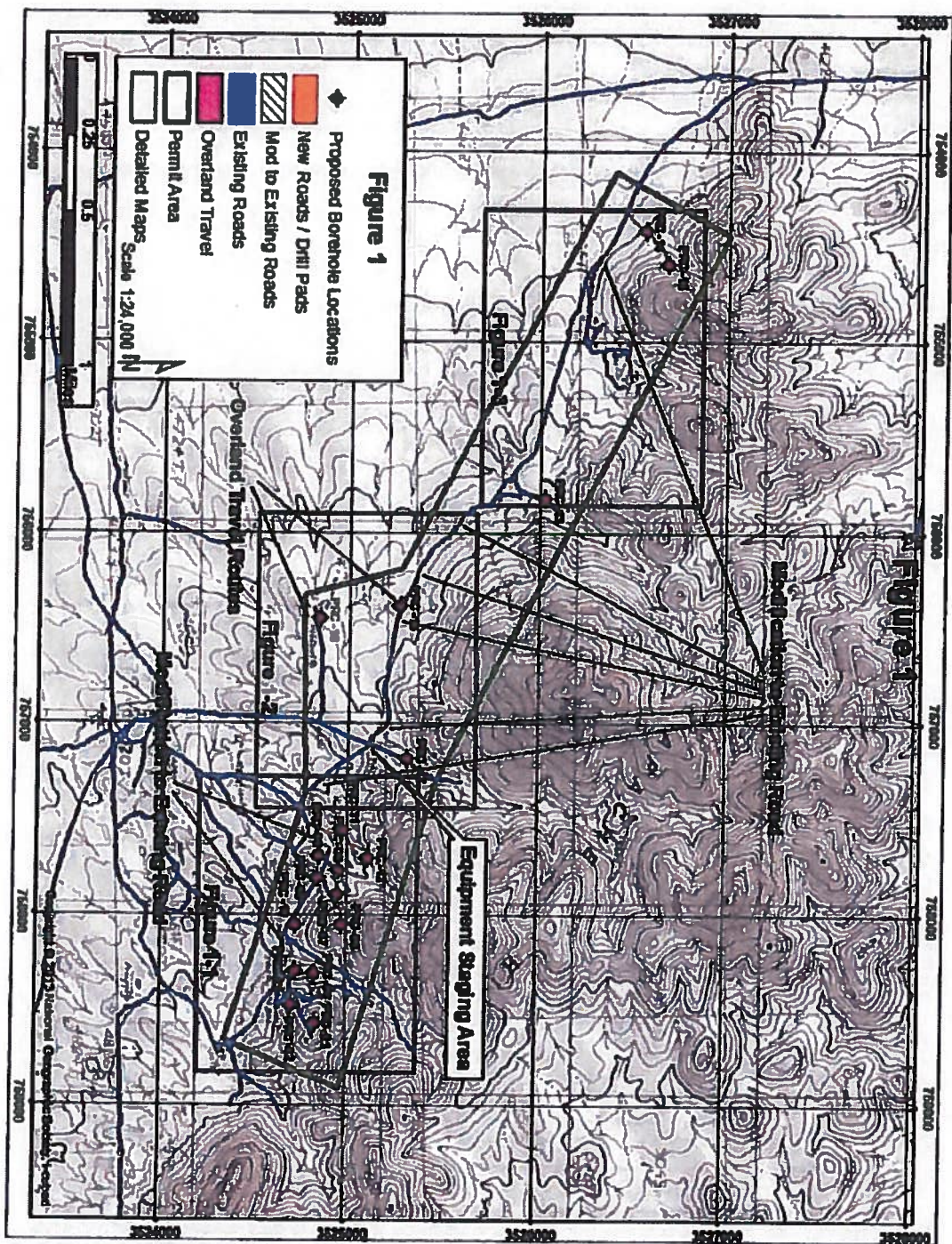
The applicant selected option 2 under Section 6 D, Wet Hole abandonment, which states that "High density bentonite clay (\geq 20% active solids; i.e. QUIK-GROUT manufactured by Baroid Industrial Products), mixed according to manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 12 feet of the original ground surface, followed by 10 feet of neat cement, followed by 2 feet of topsoil/topdressing." In a copy of partially completed NMOSE Form WD-08 attached to the application in accordance with Subsection C of NMAC 19.27.4.30, as revised 6/30/2017, prior to initiating drilling of the proposed test wells, the applicant proposes under section VI Plugging and Sealing Materials, numbers 3 and 4 to use Portland neat cement and plug from the total depth of 500 feet to 20 feet bgl. There is a difference in the sealing material and a slight difference in the stated upper limit of depth of placement.

The discrepancy notwithstanding, the methodology selected by the applicant for the abandonment of dry holes appears appropriate. It is however, recommended that Portland neat cement be used to plug the wet wells from the total depth to 2 feet bgl due to the lack of information on the chemistry of the groundwater in the area and the area's proximity to the Lordsburg playa. Portland neat cement performs better in high salinity water than bentonite. Salinity has deleterious effect on the swelling rate of compacted bentonite.

In the event that artesian conditions are encountered during drilling resulting in the free flow of water to the surface, drilling operations should cease immediately and the District 3 Office of the Water Rights Division of the New Mexico Office of the State Engineer in Deming should be contacted. The well shall be plugged from the bottom upwards with an Office of the State Engineer approved sealant in accordance with Subsection A of 19.27.4.31 NMAC. The well plugging shall be witnessed by an authorized representative of the state engineer.

Attached is the General Concerns List. The Mining and Minerals Division exploratory application and associated filings can be found at:

http://www.emnrd.state.nm.us/MMD/MARP/Application_ApacheHillsTitan_HI020EM.html



3-16813 8/20

NEW MEXICO OFFICE OF THE STATE ENGINEER
DECLARATION OF OWNER OF UNDERGROUND WATER RIGHT

1. DECLARANT

Name: Ace Peterson or Kay Peterson Work Phone: _____
Contact: _____ Home Phone: _____
Address: P.O. Box 51
City: Hachita State: NM Zip: 88040

2. LOCATION OF WELL (A, B, C, or D required, E or F if know)

A. SE 1/4 SE 1/4 SE 1/4 Section: 32 Township: 28S Range: 14W N.M.P.M.
in Hidalgo County.
B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
Zone in the _____ Grant.
U.S.G.S. Quad Map _____
C. Latitude: 31 d 49 m 19.0 s Longitude: 108 d 17 m 6.9 s
D. East _____ (m), North _____ (m), UTM Zone 13, NAD _____ (27 or 83)
E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey
F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.
G. Other: _____
H. On land owned by (required): Ace Peterson

3. DESCRIPTION OF WELL

Date drilled: 1950's Driller: ?
Depth: 150 feet. Outside diameter of casing 6 inches;
Original capacity 10 gal. per min.; Present capacity 7 gal. per min.;
Pumping lift: 140 feet; Static water level: 130 feet (above) (below) land
surface; Make of pump: Aermeter; Type of pump: windm.??
Make, type, horsepower, etc., of power plant: wind powered
Fractional or percentage interest claimed in well: 100%

4. QUANTITY

Consumptive Use: _____ acre-feet per annum
Diversion Amount: 3.0 acre-feet per annum

5. PURPOSE OF USE

Domestic: _____ Livestock: X Irrigation: _____ Municipal: _____ Industrial: _____
Commercial: _____ Other (specify): _____
Specific use: _____

6. PLACE OF USE

_____ acres of land described as follows:

Subdivision of Section (District or Hydrographic Survey)	Section (Map No.)	Township (Tract No.)	Range	Acres
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Who is the owner of the land? Ace Peterson

File Number: _____

Trn Number: _____

2008 OCT - 1 AM 11:31
OFFICE OF THE
STATE ENGINEER
DEMING, NM

7. WATER WAS FIRST APPLIED TO BENEFICIAL USE ON: _____ (date)
and since that time has been used fully and continuously for all of the above
described purposes except as follows:

8. ADDITIONAL STATEMENTS OR EXPLANATIONS:

ACKNOWLEDGEMENT FOR NATURAL PERSONS

(I, We) Ace Peterson affirm that the
(Please Print)
foregoing statements are true to the best of my knowledge and belief.

Ace Peterson
Ace Peterson

Declarant Signature

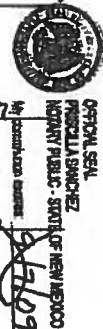
NOTARY

This instrument was acknowledged before me this 1st day of October

A.D., 2008 By Ace Peterson
Name of Applicant

My commission expires 9/7/09

Priscilla Sanchez
Notary Public



ACCEPTANCE OF STATE ENGINEER

This Declaration form is hereby accepted for filing in accordance
with NMSA-1978 (1985), as amended.
The acceptance by the State Engineer Office does not constitute validation
of the right claimed.

John R. D'Antonio, Jr., P.E., State Engineer

INSTRUCTIONS

Charles L. Jackson, MPA
District 3 Manager
February 3, 2011

1. Declaration shall be executed (preferably typewritten) in triplicate and must be accompanied by a \$1.00 filing fee. Each of triplicate copies must be properly signed and attested.
2. A separate declaration must be filed for each well in use.
3. All blanks shall be filled out fully. Required information which cannot be sworn to by declarant shall be supplied by affidavit of person or persons familiar with the facts and shall be submitted herewith.
4. Secs. 1-3 Complete all blanks.
5. Sec. 4 Fill out all blanks applicable as fully as possible.
6. Sec. 5 Irrigation use shall be stated in acre feet of water per acre per year applied on the land. If used for domestic, municipal, or other purposes, state total quantity in acre feet used annually.
7. Sec. 6 Describe only the acreage actually irrigated. When necessary to clearly define irrigated acreages, describe to nearest 2 1/4 acre subdivision. If located on unsurveyed lands, describe by legal subdivision "as projected" from the nearest government survey corners, or describe by meets and bounds and tie survey to some permanent, easily-located natural object.
8. Sec. 7 Explain and give dates as nearly as possible of any years when all or part of acreage claimed was not irrigated.
9. Sec. 8 If well irrigates or supplies supplemental water to any other land that that described above, or if land is also irrigated from any other source, explain under this section. Give any other data necessary to fully describe water right.

If additional space is necessary, use a separate sheet or sheets and attach securely hereto.

Old Well

File Number: HA-37

3-10813 #120

NEW MEXICO OFFICE OF THE STATE ENGINEER
DECLARATION OF OWNER OF UNDERGROUND WATER RIGHT

1. DECLARANT

Name: Ace Peterson Work Phone: _____
Contact: _____ Home Phone: _____
Address: P.O. Box 51
City: Hachita State: NM Zip: 88040

2. LOCATION OF WELL (A, B, C, or D required, E or F if know)

A. 1/4 NE 1/4 SE 1/4 Section: 5 Township: 29S Range: 14W N.M.P.M.
in Hidalgo County.
B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
Zone in the _____ Grant.
U.S.G.S. Quad Map _____
C. Latitude: 31 d 48 m 45.5 s Longitude: 108 d 16 m 47.8 s
D. East _____ (m), North _____ (m), UTM Zone 13, NAD _____ (27 or 83)
E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey
F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.
G. Other: _____
H. On land owned by (required): BLM

3. DESCRIPTION OF WELL

Date drilled: 1990 Driller: ?
Depth: 200 feet. Outside diameter of casing _____ inches;
Original capacity 10 gal. per min.; Present capacity 10 gal. per min.;
Pumping lift: _____ feet; Static water level: _____ feet (above) (below) land
surface; Make of pump: _____; Type of pump: _____
Make, type, horsepower, etc., of power plant: _____
Fractional or percentage interest claimed in well: 100%

4. QUANTITY

Consumptive Use: _____ acre-feet per annum
Diversion Amount: 3.0 acre-feet per annum

5. PURPOSE OF USE

Domestic: _____ Livestock: X Irrigation: _____ Municipal: _____ Industrial: _____
Commercial: _____ Other (specify): _____
Specific use: _____

6. PLACE OF USE

_____ acres of land described as follows:

Subdivision of Section (District or Hydrographic Survey)	Section (Map No.)	Township (Tract No.)	Range	Acres
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Who is the owner of the land? BLM

File Number: _____ Trn Number: _____

form: wr-03

page 1 of 2

2000 OCT - 1 AM 11:32
OFFICE OF THE
STATE ENGINEER
DEMING, NM

7. WATER WAS FIRST APPLIED TO BENEFICIAL USE ON: 1990 (date)
and since that time has been used fully and continuously for all of the above
described purposes except as follows:

8. ADDITIONAL STATEMENTS OR EXPLANATIONS:

ACKNOWLEDGEMENT FOR NATURAL PERSONS

(I, We) Ace Peterson (Please Print) affirm that the
foregoing statements are true to the best of my knowledge and belief.

Ace Peterson
Ace Peterson

Declarant Signature

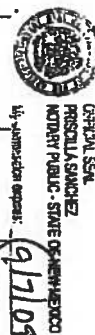
NOTARY

This instrument was acknowledged before me this 1st day of October

A.D., 2002 By Ace Peterson
Name of Applicant

My commission expires 9/7/09

Trinidad Sanchez
Notary Public



ACCEPTANCE OF STATE ENGINEER

This Declaration form is hereby accepted for filing in accordance
with NMSA-1978 (1985), as amended.
The acceptance by the State Engineer Office does not constitute validation
of the right claimed.

John R. D'Antonio, Jr., P.E., State Engineer

INSTRUCTIONS

Charles L. Jackson, MPA
District 3 Manager
August 17, 2009

1. Declaration shall be executed (preferably typewritten) in triplicate and must be accompanied by a \$1.00 filing fee. Each of triplicate copies must be properly signed and attested.
2. A separate declaration must be filed for each well in use.
3. All blanks shall be filled out fully. Required information which cannot be sworn to by declarant shall be supplied by affidavit of person or persons familiar with the facts and shall be submitted herewith.
4. Secs. 1-3 Complete all blanks.
5. Sec. 4 Fill out all blanks applicable as fully as possible.
6. Sec. 5 Irrigation use shall be stated in acre feet of water per acre per year applied on the land. If used for domestic, municipal, or other purposes, state total quantity in acre feet used annually.
7. Sec. 6 Describe only the acreage actually irrigated. When necessary to clearly define irrigated acreages, describe to nearest 2 1/2 acre subdivision. If located on unsurveyed lands, describe by legal subdivision "as projected" from the nearest government survey corners, or describe by meets and bounds and tie survey to some permanent, easily-located natural object.
8. Sec. 7 Explain and give dates as nearly as possible of any years when all or part of acreage claimed was not irrigated.
9. Sec. 8 If well irrigates or supplies supplemental water to any other land that that described above, or if land is also irrigated from any other source, explain under this section. Give any other data necessary to fully describe water right.

If additional space is necessary, use a separate sheet or sheets and attach securely hereto.



FILE NUMBER	HA 00059	POD NUMBER	1	TRN NUMBER	427787
LOCATION	28.15.24.244	500K			PAGE 1 OF 2

5. SEAL AND PUMP	TYPE OF PUMP: <input type="checkbox"/> SUBMERSIBLE <input type="checkbox"/> JET <input checked="" type="checkbox"/> NO PUMP - WELL NOT EQUIPPED <input type="checkbox"/> TURBINE <input type="checkbox"/> CYLINDER <input type="checkbox"/> OTHER - SPECIFY _____						
	ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT)		BOTH HOLES DIA (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CU FT)	METHOD OF PLACEMENT
		FROM	TO				
		0	20	14 3/4	Concrete	14	Tremie Pipe

6. GEOLOGIC LOG OF WELL	DEPTH (FT)		THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?	
	FROM	TO				
		0	3	3	Top Soil	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		3	12	9	Claylike	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		12	24	12	Clay with rocks	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		24	48	24	Solid Rock	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		48	80	32	Fractured Rock (Limestone)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		80	240	160	Solid Rock	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		240	360	120	Rock with cracks "	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		360	420	60	Solid Rock "	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		420	460	30	Fractured Rock	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
		460	520	60	Solid Rock	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		520	530	10	Rock with cracks	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
		530	560	30	Solid Rock	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		560	585	25	Broken formation	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
		585	620	35	Solid Rock	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
	620	652	32	Sand	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL

7. TEST & ADDITIONAL INFO	WELL TEST	METHOD: <input type="checkbox"/> BAILER <input type="checkbox"/> PUMP <input checked="" type="checkbox"/> AIR LIFT <input type="checkbox"/> OTHER - SPECIFY _____ TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD
	ADDITIONAL STATEMENTS OR EXPLANATIONS	

8. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING	
	<u>Edward Elbrock</u> SIGNATURE OF DRILLER	<u>10-12-09</u> DATE

FOR OSL INTERNAL USE:

FILE NUMBER	POD NUMBER	WELL RECORD & LOG (Version 6/9/08)
LOCATION		TRN NUMBER
		PAGE 2 OF 2

General Concerns Related to NMOSE Regulation of Exploratory Borehole Drilling Encountering Groundwater and Associated Plugging of those Borings

Well drilling activities, including exploratory borehole drilling (drilling of “mine drill holes”) that penetrate a water-bearing stratum and well plugging, are regulated in part under 19.27.4 NMAC (New Mexico Administrative Code) promulgated 6/30/2017, which requires any person engaged in the business of well drilling within New Mexico to obtain a Well Driller License issued by the NMOSE (New Mexico Office of the State Engineer). Therefore, a New Mexico licensed Well Driller shall perform the drilling and plugging of exploratory boreholes that encounter groundwater.

Additionally, all onsite well drilling activities, including but not limited to exploratory borehole drilling encountering groundwater and plugging of such water-bearing boreholes shall be conducted under the supervision of the New Mexico licensed Well Driller or a NMOSE-registered Drill Rig Supervisor under the direction of the licensed Well Driller.

Plugging of exploratory boreholes that encounter groundwater will occur under joint jurisdiction of the NMOSE and MMD (Mining and Minerals Division). Filing and acceptance of the NMOSE Well Plugging Plan of Operations (http://www.ose.state.nm.us/STST/Forms/WD-08%20Well%20Plugging%20Plan%20of%20Operations_2016-01-20_final.pdf) in conjunction with filing NMOSE Applications for Permit to Drill a Well with no Consumptive Use of Water (http://www.ose.state.nm.us/WR/Forms/WR-07%20Application%20for%20Permit%20to%20Drill%20a%20Well%20with%20No%20Consumptive%20Use_2012-06-14_final.pdf) are required where it is expected water-bearing stratum/strata may be penetrated by project boreholes.

Additional NMOSE filings will be required where it is requested that an exploratory borehole be converted to a water well. The well design and construction shall be subject to the provisions of 19.27.4 NMAC Regulations. Appropriation of water from such a conversion may require a water right. **The MMD may disallow the conversions of exploratory borings to water wells if not permitted specifically in the MMD permit.**

Any exploration drilling where a water-bearing stratum is encountered will be subject to pertinent sections of those rules and regulations contained in 19.27.4 NMAC (6/30/2017), including but not limited to Sections 19.27.4.30.C NMAC for plugging and abandonment of non artesian wells; 19.27.4.31 NMAC for artesian wells; and 19.27.4.36 NMAC for mine drill holes that encounter water. A complete version of the NMOSE 19.27.4 NMAC regulations can be found on the NMOSE website at: <http://164.64.110.239/nmac/parts/title19/19.027.0004.htm>

Use/extraction of Temporary Casing

When drilling through caving overburden or unconsolidated geologic units, use of temporary casing may be desired. Any temporary casing should be inserted into a borehole of sufficiently large diameter to allow easy extraction upon termination of all drilling. To help prevent deleterious fall-in or drainage of cuttings/sediments into the annulus outside the temporary casing, the top of the annulus should be made appropriately fluid-tight.

If the temporary casing becomes stuck in-place, difficulties in the proper plugging of the borehole and resultant potential for commingling of aquifers or surface water drainage may occur via an

unsealed annulus. When setting of temporary casing occurs or is expected, appropriate detail of the proposed casing extraction and borehole clean-out process prior to plugging will be required in the NMOSE Well Plugging Plan of Operations if the borehole encounters a water-bearing stratum. Should casing be left in a water-bearing boring, 19.27.4 NMAC provisions apply, including those requiring an appropriate type and extent of annular seal surrounding the well casing.

Exploratory Borehole Plugging

Terms of borehole plugging will be established jointly by the evaluation of the NMOSE Well Plugging Plan of Operations and the review of the relevant MMD application for water-bearing boreholes. Approved high-solids bentonite abandonment-grade sealants and/or approved cement slurries will be required for plugging as deemed hydrogeologically appropriate by the agencies. If the exploratory borings do not encounter groundwater, MMD plugging regulations (19.10.3 NMAC) prevail over those of 19.27.4 NMAC.

NMOSE well plugging regulations require tremie placement of the column of well sealant, which shall extend from the bottom of the borehole to ground surface. The NMOSE defers to the discretion of the MMD for the choice of sealant versus natural fill in the upper ten to twelve feet of a borehole plug to facilitate site restoration.

Required plugging of water-bearing exploratory borings shall occur within the timeframe specified by either the NMOSE or MMD. The MMD may enforce a plugging time frame that would minimize cave-in and the potential for incomplete plugging due to blockages in the borehole.

Drill Rig Fuels, Oils and Fluids

Drill rigs contain and consume fuels, oil, and hydraulic fluids, and are subject to leaks. The rig often remains in-place longer than other pieces of exploration equipment onsite, are frequently running, and are positioned immediately above and adjacent to the open borehole. As a standard practice to prevent contamination and reduce site cleanup activities, it may be beneficial to use bermed, impermeable ground sheeting under the drill rig. Consideration of bermed containment volume sufficient to accommodate a high-intensity precipitation event is also a good practice.

GOVERNOR
Susana Martinez



DIRECTOR AND SECRETARY
TO THE COMMISSION
Alexandra Sandoval

DEPUTY DIRECTOR
Donald L. Jaramillo

STATE OF NEW MEXICO DEPARTMENT OF GAME & FISH

One Wildlife Way, Santa Fe, NM 87507

Post Office Box 25112, Santa Fe, NM 87504

Tel: (505) 476-8000 | Fax: (505) 476-8123

For information call: (888) 248-6866

www.wildlife.state.nm.us

STATE GAME COMMISSION

PAUL M. KIENZLE III
Chairman
Albuquerque

BILL MONTOYA
Vice-Chairman
Alto

CRAIG PETERSON
Farmington

RALPH RAMOS
Las Cruces

BOB RICKLEFS
Cimarron

ELIZABETH A. RYAN
Roswell

THOMAS "DICK" SALOPEK
Las Cruces

11 May 2018

Kevin Myers, Permit Lead
Permit Lead, Mining Act Reclamation Program
Mining and Minerals Division (MMD)
1220 South St. Francis Drive
Santa Fe, NM 87505

***RE: Minimal Impact Exploration Permit Application, Apache Hills Exploration Project,
HI020EM; NMDGF Project No. 18421***

Dear Mr. Myers,

Titan Mining Corporation (TMC) is proposing to drill 18 exploratory holes, each to a depth of approximately 500 feet. The drilling sites will be located in Township 28S, Range 14W, Sections 29, 30, 33, and 34. The New Mexico Department of Game and Fish (Department) has reviewed the project referenced above, and provides the following comments.

In order to eliminate potential impacts to wildlife from exposure to mud pits the Department recommends the use of closed loop drilling systems. Closed loop systems eliminate the need to build fences or install netting to exclude wildlife, reduce the amount of surface disturbance associated with the well pad site, and can significantly reduce water consumption. If a closed loop system is not used, drilling pits should be covered or netted to exclude flying and terrestrial animals. Extruded, knit, or woven netting material is preferred. Monofilament netting should not be used due to its tendency to ensnare wildlife and cause injury or death. All materials should be UV and corrosion resistant. The Department recommends a mesh size of $\frac{3}{8}$ inch to exclude smaller animals. Netting material must be held taught over a rigid and adequately supportive frame in order to prevent sagging.

Migratory birds are protected against direct take under the federal Migratory Bird Treaty Act (16 U.S.C. Sections 703-712) and New Mexico State Statutes (17-2-13 and 17-2-14 NMSA). To prevent impacts to migratory bird nests, eggs or nestlings, the Department recommends that ground disturbance and vegetation removal activities be conducted outside of the breeding season for songbirds and raptors (1 March – 1 September). If ground disturbing and clearing activities during the breeding season cannot be avoided, the area should be surveyed for active nest sites prior to disturbance. For any active nests, an adequate buffer zone should be established to minimize disturbance to nesting birds. Buffer distances should be ≥ 100 feet from songbird and raven nests, and 0.25 mile from raptor nests. Active nest sites in trees or shrubs that must be removed should be mitigated by qualified biologists or wildlife rehabilitators. Department biologists are available for consultation regarding nest site mitigation, and can facilitate contact with qualified personnel.

The permit application does not specify a reclamation seed mix but states that the seeds to be used for reclamation will be a mix specified by the Bureau of Land Management. The Department recommends utilizing a seed mix and mulch that is comprised of native species and is certified weed-free. The Department also recommends requesting seed test results from the vendor to avoid inadvertently introducing exotic species to the reclamation site. Any alternate seeds used to substitute for primary plant species that are unavailable at the time of reclamation should also be native. When possible, the Department recommends using seeds that are sourced from the same region and habitat type as the proposed disturbance area.

The Apache Hills Exploration project area is located in known habitat for the plant species night-blooming cereus (*Peniocereus greggii*), which is designated as state Endangered and a BLM Sensitive species. The Department recommends that TMC contact the New Mexico Endangered Plant Program (<http://www.emnrd.state.nm.us/SFD/ForestMgt/Endangered.htm>), under the Energy, Minerals, and Natural Resources Department's Forestry Division, to identify and implement conservation measures for this species.

Thank you for the opportunity to review and comment on the proposed project. If you have any questions, please contact Ron Kellermueller Mining and Energy Habitat Specialist, at (505) 476-8159 or ronald.kellermueller@state.nm.us.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Wunder", written over a horizontal line.

Matt Wunder, Ph.D.
Chief, Ecological and Environmental Planning Division

cc: USFWS NMES Field Office



Timothy L. Nuvangyaoma
CHAIRMAN

Clark W. Tenakhongva
VICE-CHAIRMAN



May 1, 2018

Fernando Martinez, Director, Mining and Minerals Division
Attention: Kevin Meyers
New Mexico Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Mr. Martinez,

This letter is in response to your correspondence dated April 19, 2018, regarding an application from 1077615 US LLC to conduct explorations consisting of 18 drill holes at its Apache Hills Project located approximately 6 miles southeast of Hachita in Hildago County, permit tracking number HI020EM. The Hopi Tribe claims cultural affiliation to prehistoric cultural groups in New Mexico. The Hopi Cultural Preservation Office supports identification and avoidance of prehistoric archaeological sites and Traditional Cultural Properties, and we consider the archaeological sites that are habitations of our ancestors to be "footprints" and Hopi Traditional Cultural Properties. Therefore, we appreciate your solicitation of our input and your efforts to address our concerns.

As you know from our previous letters, the Hopi Cultural Preservation Office requests consultation on any proposal in New Mexico that has the potential to effect prehistoric cultural resources, including review of the cultural resources survey of the area of potential effect. Therefore, to enable us to determine if there are known cultural resources in the vicinity of this project that are significant to the Hopi Tribe, we hereby request a copy of the cultural resources survey of the project area of potential effect for review and comment.

In addition, we recommend that if any cultural features or deposits are encountered during project activities, these activities must be discontinued in the immediate area of the remains, and the State Historic Preservation Office must be consulted to evaluate their nature and significance. If any Native American human remains or funerary objects are discovered during project activities they must be immediately reported as required by law. Should you have any questions or need additional information, please contact Terry Morgart at tmorgart@hopi.nsn.us. Thank you for your consideration.

Respectfully,

Stewart B. Koyiyumptewa, Interim Manager
Hopi Cultural Preservation Office

xc: New Mexico State Historic Preservation Office