

**PERMIT MODIFICATION 17-1 TO PERMIT NO. TA005RE  
NO AGUA MINE  
EXISTING MINING OPERATION**

**MINING AND MINERALS DIVISION  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT**

This Permit Modification 17-1 (“Permit Modification”) to Permit No. TA005RE is issued by the Director of the Mining and Minerals Division (“MMD”) of the New Mexico Energy, Minerals and Natural Resources Department to:

Whose correct address is: Imerys Perlite USA Inc. (“Imerys”)  
4200 US Highway 285  
Antonito, CO 81120

(“Permittee”) for the No Agua Mine, located in Taos County, New Mexico.

This Permit Modification:

- A. Approves the updated financial assurance and updated closeout plan for the No Agua Mine. The approved updated financial assurance is \$1,863,272.00. The updated financial assurance for the No Agua Mine closeout plan is in the form of a Surety Bond, as amended, in the amount of \$1,863,272.00 issued by the Federal Insurance Company.

In order to accomplish the approval contemplated by this Modification 17-1, the following subparagraphs are added to Permit No. TA005RE:

**Section 1 (17-1). STATUTES AND REGULATIONS**

- A. This Permit Modification is issued pursuant to the New Mexico Mining Act, NMSA 1978, §69-36-1, et seq. (1993, as amended through 2009) (“Act”) and New Mexico Mining Act Rules, Title 19, Chapter 10 of the New Mexico Administrative Code (“NMAC” or “Rules” or “Regulations”).
- B. This Permit Modification is subject to the Act, the Rules, and any other regulations which are now or hereafter in force under the Act; and all such regulations are made a part of this Permit by this reference.

**Section 1a (17-1). PERMIT APPLICATION PACKAGE**

- A. The permit application package for Modification 17-1 (“17-1 PMP”) consists of a written request from the Permittee, dated March 22, 2017, to update the financial assurance and closeout plan for the No Agua Mine.

- B. Letter from Imerys, dated August 24, 2017, with responses to MMD and other agency comments on the updated financial assurance.
- C. Electronic mail correspondence (“e-mail”) from Todd Whitacre, Lands and Reclamation Manager, Imerys, dated May 31, 2017, with the updated financial assurance cost estimate spreadsheets.
- D. E-mail from Todd Whitacre, dated August 21, 2017, with information regarding No Agua Mine Surface Water Pollution Prevention Plan (“SWPPP”) and the U.S. Environmental Protection Agency (“EPA”) Notice of Intent (“NOI”) regarding the SWPPP
- E. E-mail from Todd Whitacre, dated September 27, 2017, acknowledging MMD comments on the updated financial assurance cost estimate.
- F. E-mail from Todd Whitacre, dated January 5, 2018, with the No Agua Mine SWPPP and the EPA NOI regarding the SWPPP.
- G. E-mail correspondence from Todd Whitacre, dated February 28, 2018, with additional information in support of the 17-1 PMP.
- H. Letter from Imerys, dated May 29, 2018, with an updated financial assurance surety bond rider for Surety Bond No. 82042607 by the Federal Insurance Company to update the sum of the surety bond from \$1,152,687.00 to \$1,863,272.00.

**Section 2 (17-1).**

**PERMIT AREA AND DESIGN LIMITS**

- A. The No Agua Mine permit area encompasses all or portions of Sections 11, 12, 13, 14, 23 and 24, in Township 29 North, Range 9 East in Taos County, New Mexico, New Mexico Prime Meridian (“NMPM”). The approved permit area is approximately 1590 acres and is delineated in Figure 1 of the 17-1 PMP. The approved permit area is on surface lands owned by Imerys. The Permittee is authorized to conduct mining and reclamation operations only within the approved permit area, as set forth in the 17-1 PMP.
- B. The permit area and design limits of the existing mine units are delineated in Figure 1 of the 17-1 PMP. The existing facilities within the mine unit are:
  - 1. North Hill Quarry;
  - 2. South Hill Quarry;
  - 3. West Hill Quarry;
  - 4. East Hill Quarry (future quarry);

5. Perlite Fines Waste Dump;
6. Overburden Waste Dump.
7. Mill and Ancillary Facilities

**Section 3 (17-1).**                      **FINDINGS OF FACT**

*The Permit Application Package*

- A. The PMP is complete and demonstrates that the proposed operation will meet the performance and reclamation standards and requirements of 19.10.5.507.A NMAC.
- B. The Permittee has paid the Permit Modification fee of \$1,000.00 as required by 19.10.2.201.H NMAC.
- C. The application for Permit Modification has been reviewed in accordance with 19.10.5.505 NMAC and has been determined to be a Modification. The application for Permit Modification is complete, accurate, and complies with the requirements for Permit Modifications under 19.10.5.505 NMAC.
- D. The proposed operation and reclamation, as described in the PMP and this Permit, will meet the requirements of reclamation, as identified in 19.10.1.7.R(1) NMAC of the Rules. The reclamation plan, subject to the conditions in the Permit, demonstrates that the reclamation of the disturbed areas within the Permit Area will result in a condition that allows for the establishment of a self-sustaining ecosystem within the Permit Area that is appropriate for the life zone of the surrounding areas.
- E. The approved Post-Mining Land Use is designated as livestock grazing and wildlife habitat.

*Right-To-Enter / Property Access Information*

- F. The Permit does not grant or create any property rights. Nor does MMD, by issuing this Permit or otherwise, make any comment on the surface or mineral rights that the Permittee may or may not have in the area covered by the Permit. Permittee is solely responsible to take whatever steps are necessary to ensure that Permittee has property rights sufficient to support the activities contemplated by the Permit.

*General Information Regarding the Permittee*

- G. The Permittee is not in violation of the terms of another permit issued by the Director or in violation of a substantial environmental law or substantive regulation at another mining operation, has not forfeited or had forfeited financial assurance in connection with another

mining, reclamation or exploration permit, and has not demonstrated a pattern of willful violations of the Act, the Rules or other New Mexico environmental statutes.

- H. The Permittee has signed and certified a statement, provided within the Application, that the Permittee agrees to comply with the requirements of this Permit, the Rules, and the Act, and allows the Director to enter the Permit Area for the purpose of conducting inspections.

*MMD's Request for Comments to the Agencies*

- I. MMD provided the cooperating agencies (the New Mexico Environment Department, the Department of Game & Fish, State Forestry Division, State Historic Preservation Office, and the Office of the State Engineer) with a copy of the Application pursuant to 19.10.5.506.E NMAC and requested comments from the agencies on May 9, 2017.
- J. MMD provided the Permittee with comments provided by the cooperating agencies on July 24, 2017, via hard copy and e-mail.

*Financial Assurance*

- K. The Permittee has provided satisfactory updated financial assurance to complete the closeout plan for the No Agua Mine as required by 19.10.5.506.J.2 NMAC in the form of a Rider to Surety Bond No. 82042607 for financial assurance ("FA"), in accordance with 43 CFR 3809 and 19.10.12.1201.A NMAC, in the amount of \$1,863,272.00 (one million eight hundred sixty-three thousand two hundred seventy two dollars), issued by the Federal Insurance Company.

**Section 5 (17-1). COMPLIANCE REQUIREMENTS**

- A. The Permittee shall conduct mining and reclamation operations only as described in the approved 17-1 PMP, the Permit, and any revisions or modifications approved by the Director.
- B. This Permit Modification is issued pursuant to NMSA 1978, Section 69-36-1 et. seq. and Title 19, Chapter 10 NMAC. Permittee may be required to comply with other federal, State, county or local laws or ordinances before or while undertaking the activity that is the subject of this Permit Modification. MMD does not, by issuing this Permit Modification or otherwise, make any comment on Permittee's compliance with such other laws. It is Permittee's sole responsibility to investigate and comply with the requirements of such other laws.
- C. The approval of this Permit Modification does not relieve Permittee from the

responsibility of complying with other state and federal requirements and standards.

- D. The Permit Modification does not grant or create any water rights. Nor does MMD, by approving this Permit Modification or otherwise, make any comment on the water rights that the Permittee may or may not have available for use in the area covered by the Permit Modification. Permittee is solely responsible and obligated to comply with all State and federal laws related to water rights sufficient to support the activities contemplated by the Permit Modification.
- E. Future submittals required by this Permit shall be presented in electronic form in addition to written form to the Director for approval.

**Section 8 (17-1).**

**GENERAL OBLIGATIONS AND CONDITIONS**

The conditions outlined in this section are required for the Permittee to meet certain requirements of the Rules. The Permittee shall reclaim the quarries, waste dumps, haul roads, abandoned exploration drill holes, monitor wells, ancillary facilities and stabilize the existing and new disturbed areas to mitigate off-site impacts. The conditions for the updated financial assurance and closeout plan are required to mitigate the disturbances within the No Agua Mine and provide for stabilization of the No Agua Mine that will minimize future impact to the environment and protect air and water resources in accordance with 19.10.1.7.R(1) NMAC.

This Permit is subject to the following conditions:

- A. The Area of existing disturbance including processing plant (mill) and support buildings, quarries, waste dumps, access and haul roads, and exploration areas at the No Agua Mine as shown on 1 of the 17-1 PMP, dated March 22, 2017, is subject to the reclamation standard of 19.10.5.507.A NMAC.
- B. The Permittee may be subject to enforcement action according to 19.10.11 NMAC for failing to conduct reclamation and closeout operations as described in the Updated Closure/Closeout Plan; for violation of any of the terms or conditions of the Act, the Rules, the Permit, as revised or modified; or for failing to submit any of the following:
  - 1. annual reports as required by 19.10.5.510 NMAC; and
  - 2. annual fees as required by 19.10.2.202 NMAC.
- C. The Permittee shall include, in the annual reports, information required by 19.10.5.510 NMAC. In addition, the following information shall be included:
  - 1. the status of closeout activities for each unit;
  - 2. any maintenance and repair work conducted for any closeout component;

3. the date the work was done;
4. vegetation monitoring data as described in Appendix A;
5. report on erosion control failures and their mitigation on reclaimed areas; and
6. results of the reclaimed perlite fines and overburden waste dump stability analysis.

D. The Permittee shall notify MMD 30 days prior to performing any permanent closeout/reclamation activities at the mine site.

E. **CONSTRUCTION QUALITY ASSURANCE PLAN**

1. The Permittee shall submit a construction quality assurance (“CQA”) plan to MMD for approval not less than 180 days prior to proposed commencement of reclamation and shall implement the plan after MMD approval. Engineering designs addressing slopes, surface erosion controls and stormwater management structures shall be submitted for MMD approval. The CQA plan shall include: a description of work to be conducted, soil testing results, laboratory analytical reports, and identification of borrow areas, if applicable. Design specifications may be modified during the final engineering design with MMD approval.
2. The CQA plan shall be supplemented to include a final report to be submitted to MMD not more than 180 days after reclamation construction completion. The report shall include a summary of work conducted, as-built drawings and final design specifications for slopes, covers and for stormwater management structures. The final report shall describe, at minimum, as-built drawings, a final topographic map with no greater than two-foot contour intervals for the top surfaces and no greater than five feet for slopes, and construction photographs.

F. **OPEN PITS**

The following conditions apply to the Open Pits (“Quarries”):

The conditions for the North Hill Quarry, South Hill Quarry, West Hill Quarry and East Hill Quarry (possible future disturbance) are required to mitigate the disturbances within the Permit area and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources, in accordance with 19.10.1.7.R(1) NMAC. The conditions are also required to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by 19.10.5.507.A NMAC.

1. **Public Health and Safety**

The Permittee shall ensure that the Open Pit areas do not pose a current or future hazard

to public health or safety and will take measures to limit future access to the Open Pit areas only to authorized personnel by implementing the following conditions at closeout:

- a) Where practicable, to restrict access by unauthorized personnel and provide for public safety, a berm and/or fence shall be placed or the existing approved fence and/or berm shall be maintained around the perimeter of the Open Pit where highwalls exist;
- b) signage posted, on fencing at approved intervals and at all access points, warning of potential hazards present;
- c) annual visual inspections to monitor stability of the Open Pit walls and to identify potential failure areas which may adversely impact the environment and public health or safety. If potential failure areas are identified through monitoring, the Permittee shall propose measures to mitigate the hazard caused by the potential failure areas within 30 days of identification for MMD approval; and
- d) to allow Open Pit access for maintenance activities by authorized personnel, locked gates may be placed at appropriate locations in association with the berm/fence combination.

## **2. Surface Shaping and Stormwater Management**

- a) The Permittee shall place a one-foot thick layer of overburden and topsoil over the quarry bottoms for use as a revegetation cover.
- b) Alternate closeout actions for the quarries, as determined by MMD, to allow for the establishment of a self-sustaining ecosystem, and/or-meet the requirements of reclamation defined under 19.10.1.7.R.(1) NMAC, may require that the Permittee modify or revise the Permit in accordance with 19.10.5.504.B and 19.10.5.505.B NMAC pending the results of the Test Plot Work Plan (Cover Design Evaluation), as amended.
- c) The Permittee shall implement and maintain best management practices described in the No Agua Mine Surface Water Pollution Prevention Plan.

## **3. Revegetation Plan**

Quarry bottoms, haul roads and safely accessible benches in the Open Pit shall be revegetated in accordance with revegetation standards set forth in Appendix A.

## **4. Post-Mining Land Use**

The Post Mining Land-Use (“PMLU”) for the quarries shall be wildlife habitat. Compliance with 19.10.5.507.A NMAC shall be achieved by the following:

- a) Areas to be revegetated within the Open Pit shall meet approved MMD revegetation standards and shall be monitored in accordance with Appendix A; and
- b) the Permittee shall construct or maintain existing fencing around the perimeter of the reclaimed areas that excludes livestock and is protective of wildlife. Fencing located around the rim of the quarries shall remain in place for public safety and shall be maintained until the financial assurance for the reclaimed areas is released under 19.10.12 NMAC.

**G. PERLITE FINES and OVERBURDEN WASTE DUMPS**

The conditions in this permit Modification for the Perlite Fines and Overburden Waste Dumps are required to mitigate the disturbances within the Permit area and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources, in accordance with 19.10.1.7.R.(1) NMAC. The conditions are also required to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by 19.10.5.507.A NMAC.

The following conditions apply to the Perlite Fines Waste Dump:

**1. Surface Shaping and Stormwater Management**

- a) The Permittee shall regrade the Perlite Fines Waste Dump in a manner that ensures positive drainage and eliminates, to the extent practicable, ponding on the top surfaces and final regraded surfaces.
- b) Terrace benching (if necessary) on the Perlite Fines Waste Dump shall be constructed at slope lengths of no greater than 200 feet. If terrace benches are constructed, each individual slope segment shall be no steeper than 3H:1V (horizontal:vertical) and terrace benches shall be a maximum of 50 feet wide, inclined 1% to 5% towards the interior portion of the slope face immediately above it, and have a longitudinal gradient of no greater than 5%. The Permittee shall implement and maintain best management practices described in the No Agua Mine Surface Water Pollution Prevention Plan. The Permittee shall provide MMD with detailed plans for stormwater management and best management practices for erosion control, for MMD approval, at least 180 days before proposed implementation of reclamation, construction activities and shall implement the plans after MMD approval. The Permittee may conduct pre-grading, rough grading or pre-final grading necessary to complete final design work but must also implement interim best management



practices to control offsite sediment transport in conformance with surface water regulations until the detailed design is approved by MMD, and the final design and final best management practices are constructed. The Permittee may be required by MMD to change pre-graded; rough-graded or pre-final-graded slopes in order to meet MMD requirements for final slope design. The Permittee shall design, construct, and maintain best management practices for erosion control identified by the U.S. Natural Resource Conservation Service or alternative equivalent standards acceptable to MMD.

2. **Cover Placement Plan**

- a) The textural characteristics of the cover material shall be supportive of a self-sustaining ecosystem.
- b) Approved cover material shall be obtained and excavated from the Overburden Waste Dumps, or taken from salvaged topsoil stockpile(s), if available. Alternate closeout actions, as determined by MMD, to allow for the establishment of a self-sustaining ecosystem, and/or-meet the requirements of reclamation defined under 19.10.1.7.R (1) NMAC, may require that the Permittee modify or revise the Permit in accordance with 19.10.5.504.B and 19.10.5.505.B NMAC pending the results of the Cover Design Evaluation.

3. **Revegetation Plan**

Covered surfaces of the Perlite Fines Waste Dump shall be revegetated in accordance with revegetation standards set forth in Appendix A.

4. **Post-Mining Land Use**

The PMLU for the Perlite Fines Waste Dump shall be livestock grazing and wildlife habitat. Compliance with 19.10.5.507.A NMAC shall be achieved by the following:

- a) vegetation in the reclaimed areas shall meet approved MMD revegetation standards and shall be monitored in accordance with Appendix A;

The following conditions apply to the **Overburden Waste Dumps**:

1. **Surface Shaping and Stormwater Management**

- a) The Permittee shall regrade the Overburden Waste Dumps in a manner that ensures positive drainage and eliminates, to the extent practicable, ponding on the top surfaces and final graded surfaces.

- b) The Overburden Waste Dumps shall be graded for stormwater control and all slopes shall have a slope angle no steeper than 3H:1V, unless alternative regrading, cover, and revegetation designs are demonstrated and approved by MMD through studies and field-testing, to allow for re-establishment of a self-sustaining ecosystem that meets the standards addressed in Appendix A.
- c) The Permittee shall provide MMD with detailed plans for stormwater management and best management practices for erosion control, for MMD approval, at least 180 days before proposed implementation and shall implement the plans after MMD approval. The Permittee shall design, construct, and maintain best management practices for erosion control identified by the U.S. Natural Resource Conservation Service or alternative equivalent standards acceptable to MMD.

## 2. Revegetation Plan

The Overburden Waste Dumps shall be revegetated in accordance with revegetation standards set forth in Appendix A.

## 3. Post-Mining Land Use

The PMLU for the Overburden Waste Dumps shall be livestock grazing and wildlife habitat. Compliance with 19.10.5.507.A NMAC shall be achieved by the following:

- a) vegetation in the reclaimed areas shall meet approved MMD revegetation standards and shall be monitored in accordance with Appendix A; and
- b) the Permittee shall construct or maintain existing approved fencing around the perimeter of the seeded areas that exclude livestock and is protective of wildlife until the financial assurance for the reclaimed areas is released under 19.10.12 NMAC.

## H. **EXPLORATION DISTURBANCE**

Disturbance within the No Agua Mine Permit Area due to exploration activities shall be identified and reclaimed. The Permittee shall provide the locations of the existing exploration disturbance(s) to MMD within 180 days of the approval of this Modification and a plan for reclaiming the existing exploration disturbances, unless the Permittee has previously provided this information to MMD. The Permittee shall plug and abandon all exploration holes, if applicable, within the Permit Area in accordance with 19.10.3.302.L NMAC. If the Permittee conducts exploration within the Permit area that creates a new disturbance, the Permittee must identify the general areas or locations within the Permit area where exploration activities have taken place and provide a general plan regarding

measures that will be taken to minimize disturbance, enhance stability and control erosion. The Permittee shall also identify any areas of new disturbance due to exploration activities in each annual report submitted to MMD. In addition, the Permittee shall describe how these areas will be reclaimed and provide a schedule indicating when the reclamation work will take place. All new disturbed areas from exploration shall be revegetated in accordance with Appendix A.

#### **I. HAUL ROADS**

The following conditions apply to all haul roads identified in the Permit area. These conditions are required in order to reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem, as required by 19.10.5.507.A and 19.10.5.508 NMAC, and to meet applicable environmental standards, as required by the NMED, pursuant to 19.10.5.506.J.5 NMAC.

1. The surfaces of haul roads shall be ripped to a depth of 18 to 24 inches or covered with overburden and topsoil to a depth of one foot. Culverts shall be removed on all haul roads where practicable. The ripped, and/or covered surfaces shall be graded for stormwater control.
2. Pursuant to 19.10.5.508.B (9) NMAC. Roads shall be constructed and maintained during operation and reclamation to control erosion.
3. Haul roads shall be revegetated and monitored in accordance with Appendix A.
4. Roads required for continued site maintenance and monitoring shall be proposed in the final closeout engineering design for approval by MMD.
5. The Permittee shall implement and maintain best management practices described in the No Agua Mine Surface Water Pollution Prevention Plan.

#### **J. MONITOR WELLS**

The Permittee shall abandon all groundwater monitoring wells, if applicable, in accordance with the requirements of NMED *Monitoring Well Construction and Abandonment Guidelines*; or the NMOSE regulations in 19.27.7 NMAC.

#### **K. ANCILLARY FACILITIES**

The following conditions apply to Ancillary Facilities including the Mill and other support buildings and structures in the Permit area. These conditions are required in order to establish the PMLU on a Permit area approved by the Director, pursuant to 19.10.1.7.P

(5) NMAC, and to mitigate the disturbances within the Permit area, and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources in accordance with 19.10.1.7.R.(1) NMAC.

### 1. Demolition and Burial

Demolition, removal, and/or burial shall be accomplished by meeting requirements of the following conditions. The following conditions may be modified with MMD approval following demolition and burial design.

- a) All equipment and structures shall be dismantled and removed from the Permit area. Where footings, slabs, walls, pavement, manholes, vaults, stormwater controls, and other foundations are not removed and are abandoned in-place, they shall be graded for stormwater control and covered with overburden and topsoil to a depth of 3-feet minimum. All other Ancillary Facility areas shall be 1) graded for stormwater control; 2) either (a) ripped to a depth of 18 inches and covered with one foot of approved cover material, or (b) ripped to a depth of 18 to 24 inches. Demolition and plan specifications shall be submitted for MMD approval not less than 60 days prior to, or an acceptable time agreeable to MMD, before implementation.
- b) Asbestos removal shall be carried out by a licensed, certified asbestos removal contractor.
- c) Ancillary Facilities including the Mill and other support buildings and structures in the Permit area shall be revegetated and monitored in accordance with Appendix A.

### 2. Electrical Distribution System

The Permittee shall remove all electrical systems and infrastructure that are not necessary for the site operation and maintenance, including but not limited to, the power substation (if applicable) and transmission lines. Power poles shall be removed, unless left in place as raptor habitat and approved by MMD. All areas shall be graded for stormwater control, ripped to a depth of 18 to 24 inches or covered with overburden and topsoil to a depth of one-foot, minimum, and revegetated according to the requirements of Appendix A.

### 3. Explosives, Fuel, and Reagent Storage Areas

The Permittee shall remove and properly dispose of explosives, fuel, and reagent chemicals and materials. All storage areas shall be graded for stormwater control, ripped

to a depth of 18 to 24 inches or covered with overburden and topsoil to a depth of one-foot, minimum, and revegetated according to the requirements of Appendix A.

#### 4. Water Supply

The Permittee shall remove all water tanks, if any exist, at the completion of mining if not approved to remain in operation on site as part of the reclamation final design. The water tank areas shall be graded for stormwater control, ripped to a depth of 18 to 24 inches or covered with overburden and topsoil to a depth of one-foot, minimum, and revegetated according to the requirements of Appendix A.

#### 5. Post-Mining Land Use

The PMLU for the Ancillary Facilities shall be livestock grazing and wildlife habitat. Compliance with 19.10.5.507.A NMAC shall be achieved by the following:

- a) vegetation in the reclaimed areas shall meet approved MMD revegetation standards and shall be monitored in accordance with Appendix A; and
- b) the Permittee shall construct or maintain existing approved fencing around the perimeter of the seeded areas that exclude livestock and is protective of wildlife until the financial assurance for the reclaimed areas is released under 19.10.12 NMAC.

### L. **OTHER NON-SPECIFIED AREAS**

The following condition applies to any other disturbances within the Permit area resulting from the existing mining operation, not identified specifically in the 17-1 PMP, or this Permit Modification. This condition is required in order to reclaim the Permit area to a condition that allows for reestablishment of a self-sustaining ecosystem, as required by 19.10.5.507.A of the Rules.

All areas previously disturbed and not identified specifically as a mine unit or borrow area, and not otherwise addressed specifically in this Modification, shall be: 1) graded for stormwater control; 2) either (a) ripped to a depth of 18 inches and covered with one foot of approved cover material, or (b) ripped to a depth of 18 to 24 inches; and 3) revegetated and monitored in accordance with Appendix A.

### M. **ADDITIONAL STUDIES**

#### 1. Cover Design Evaluation

The condition for test plots is required so that the Permittee can demonstrate that

proposed revegetation and reclamation measures or alternative revegetation and reclamation measures that will reclaim the Permit area to a condition that allows for re-establishment of a self-sustaining ecosystem as required by 19.10.5.507.A NMAC.

To date, the No Agua Mine test plot studies have not yet demonstrated successful revegetation utilizing an overburden cover based on the revegetation standards of Appendix A. The Permittee inter-seeded the test plots in 2016 with a MMD approved seed mix.

- a) Quantitative vegetation monitoring of the test plots shall be performed in the late summer or early fall of 2019 in order to evaluate the inter-seeding success. The Permittee shall submit a vegetation monitoring plan to MMD at least 60-days prior to the vegetation monitoring event for MMD approval. The Permittee shall submit the results of the test plot vegetation monitoring in a report to MMD within 60-days of the vegetation monitoring event.
- b) Based on the results of the quantitative vegetation monitoring of the test plots, modifications to the test plot study may be required by MMD that may include the testing of organic and/or other amendments in the test plot study to achieve the revegetation standards of Appendix A.
- c) If the results of the test plot study indicate, as determined by MMD, that alternative or additional closeout actions are necessary to allow for the establishment of a self-sustaining ecosystem, and/or meet the requirements of reclamation defined under 19.10.1.7.R.(1) NMAC, MMD will require that the Permittee modify or revise the Permit in accordance with 19.10.5.504.B and 19.10.5.505.B NMAC.

## 2. Affected Areas

All affected areas, as defined by 19.10.1.7.A.3 NMAC, shall be reclaimed according to 19.10.5.507.A and 19.10.1.7.R.(1) NMAC. The Permittee shall perform a study to identify areas affected by mining in accordance with a schedule approved by MMD. If results of the study indicate that change(s) should be made, in MMD's judgment, to the updated closeout plan, MMD will require the Permittee to submit a request to modify or revise the Permit. MMD will review the information to determine if a modification or Modification of this Permit should be made under 19.10.5.504.B and 19.10.5.505.B NMAC.

## N. **FINANCIAL ASSURANCE**

The following conditions are required to ensure that adequate financial assurance is provided for the site, pursuant to 19.10.5.506.J.2, 19.10.12.1202.B, 19.10.12.1204.A,

19.10.12.1206.A, and 19.10.12.1210 NMAC.

1. The Permittee may apply for release of financial assurance in accordance with 19.10.12.1210 NMAC.
2. The approved cost estimate amount for the updated closeout plan is \$1,863,272.00.
3. The Permittee currently maintains financial assurance for the No Agua Mine in the amount of \$1,863,272.00, using Surety Bond No. 82042607, as amended, issued by the Federal Insurance Company, with MMD as beneficiary.
4. The Permittee shall be responsible at all times to maintain financial assurance in a form, or forms, and in an amount that is acceptable to MMD, pursuant to the Rules.
5. The Permittee may replace the Surety Bond with other forms of financial assurance acceptable to the Director, pursuant to 19.10.12.1209 NMAC. The Director may require adjustment of the financial assurance as provided in 19.10.12.1206 NMAC.
6. The Permittee shall evaluate the adequacy of the financial assurance approved, every five (5) years, as part of the updated closeout plan, beginning June 30, 2023.

**O. POST-CLOSEOUT MONITORING AND MAINTENANCE**

**1. Erosion**

The following conditions apply to all of the reclaimed areas. The conditions for the monitoring and maintenance of the reclaimed areas are required, during and after mining operations, to mitigate the disturbances within the Permit area and provide for stabilization of the Permit area that will minimize future impact to the environment and protect air and water resources, in accordance with 19.10.1.7.R.(1) NMAC. The conditions, also, are required to reclaim the Permit area to a condition that allows for reestablishment of a self-sustaining ecosystem, as required by 19.10.5.507.A and to meet the requirements of 19.10.5.508.D NMAC (for New Units), and to meet applicable environmental standards as required by 69-36-11.B(4) of the Act and 19.10.5.506.J.5 NMAC. The Permittee shall implement and maintain best management practices described in the No Agua Mine Surface Water Pollution Prevention Plan.

- a) The Permittee shall visibly inspect reclaimed lands for signs of significant erosion and shall mitigate significant erosion features to prevent further degradation of the site. Drainage channels, diversion structures, retention ponds, and auxiliary erosion control measures will be inspected, in accordance with nationally recognized standards of the U.S. Natural Resource Conservation Service, or alternative

equivalent best management practices acceptable to MMD. Inspections of specific units shall continue until those specific units are released under the Rules. Inspections shall be conducted quarterly for the first year following completion of reclamation construction activities for each unit, and annually, thereafter. The Permittee also shall inspect for evidence of erosion after storm events of one inch, or greater, in any 24-hour period. Inspections shall continue until the specific units are released under the Rules. Release by MMD shall not affect the right of other State or federal agencies to require continued inspections after release by MMD.

- b) The Permittee shall report evidence of significant rill, gully, or sheet erosion on any reclaimed area within 24 hours of discovery. The Permittee shall then provide the MMD, a written report that describes the nature and extent of erosion and a corrective action plan, for approval by MMD, according to the following schedule: The Permittee shall provide the report within 30 days of discovery. The corrective action plan shall describe the efforts necessary to stabilize the affected area. The plan shall be implemented as soon as practicable following regulatory approval.
- c) Erosion control measures that are damaged, or ineffective, shall be repaired, or re-designed as necessary. The Permittee shall use a variety of erosion control measures, as needed, if erosion control problems develop. Long-term erosion control measures will include, but not be limited to, the installation of berms, designed channels, and sediment containment structures, as necessary, and shall be designed for a 100-year, 24-hour, storm event. Short-term erosion control measures may include, but not be limited to: silt fences, hay bales, water bars, and mulching.

## 2. Slope Stability

The Permittee shall conduct a slope stability analysis of the perlite fines waste dump and the overburden waste dumps within 180-days of the reclamation of these mine units. A slope stability analysis workplan shall be submitted for MMD approval at least 90-days prior to performing the slope stability analysis.

## 3. Notification

The Permittee shall notify MMD at least two weeks prior to any monitoring conducted pursuant to this Modification. Monitoring shall be scheduled and arranged so that MMD may accompany personnel of the Permittee, if MMD chooses to do so.

## P. **WATER QUALITY**

The Permittee shall submit to MMD a copy of any water quality monitoring results performed after mine reclamation. If any of these submittals indicate that additional, or



alternative, closeout actions should be made, including implementation of measures to protect wildlife, in MMD's judgment, to meet the requirements of the Act or Rules, MMD will require the Permittee to modify or revise the Permit. MMD will review the request to determine if a modification or Modification of this Permit should be made under 19.10.5.504.B and 19.10.5.505.B NMAC.

**Q. RECLAMATION SCHEDULE**

The reclamation schedule is required pursuant to 19.10.5.506.B.1 NMAC. The reclamation schedule for the No Agua Mine shall begin in accordance with the schedule identified below.

Reclamation of the No Agua Mine shall begin no later than 180 days after cessation of mining, unless the Permittee has applied for standby status for the No Agua Mine.

During reclamation, measures shall be taken to provide for the stabilization of the disturbances that will minimize future impact to the environment and protect air and water resources.

Reclamation shall be completed in accordance with the Reclamation Schedule shown in Table 1:

**Table 1: Reclamation Schedule for the No Agua Mine**

<b>Unit</b>	<b>Reclamation to Begin</b>	<b>Anticipated Duration</b>
Quarries	180 days following Cessation of Operation	6 months
Haul Roads and Access Roads	180 days following Cessation of Operation	4 months
Perlite Fines and Overburden Waste Dumps	180 days following Cessation of Operation	6 months
Removal of Facilities and Structures	180 days following Cessation of Operation	1 year

The Permittee may submit for MMD approval, a request to modify or revise the Reclamation Schedule.

**R. TEMPORARY CESSATION**

If, due to a temporary cessation of Mining Operation exceeding 180 days, and the Permittee wishes to suspend reclamation pursuant to the Reclamation Schedule provided

above, the Permittee shall submit an application for a Permit Modification for standby status pursuant to 19.10.5.505 and 19.10.7 NMAC.

**S. COMPLIANCE WITH ENVIRONMENTAL PERMITS**

Pursuant to 19.10.5.509.C NMAC, during the term of the Permit, as revised and/or modified, issued pursuant to 19.10 NMAC, the Permittee must maintain environmental permits required for the Permit area. Revocation, or termination of such a permit, or the forfeiture of financial assurance that is related to the Permit area, and required by another governmental agency, is adequate grounds for the Director to issue a cessation order pursuant to 19.10.11 NMAC.

**T. CLOSEOUT PLAN UPDATE**

The Permittee shall submit an updated closeout plan to MMD by June 30, 2023, and every five (5) years thereafter. If MMD determines that alternative or additional closeout actions are necessary, prior to submission of the updated closeout plan, to allow for the establishment of a self-sustaining ecosystem, and/or—meet the requirements of reclamation defined under 19.10.1.7.R.(1) NMAC, MMD will require that the Permittee modify or revise the Permit in accordance with 19.10.5.504.B and 19.10.5.505.B NMAC.

U. The Permittee shall comply with all other state and federal requirements and standards including without limitation the Cultural Properties Act, NMSA 1978, Section 18-6-1 to 27 and regulations promulgated pursuant thereto.

**Section 10 (17-1). CONCLUSIONS OF LAW**

- B. The Director has jurisdiction over the Permittee and the subject matter of this proceeding.
- C. The 17-1 PMP is complete, accurate, and complies with the requirements of the Act and Sections 19.10.5.502 NMAC and 19.10.5.503 NMAC and with conditions described in this Permit Modification document.
- D. The 17-1 PMP is complete, accurate, and complies with the requirements of Section 19.10.5.505 NMAC. The Permittee, Imerys Perlite USA Inc., is permitted pursuant to the New Mexico Mining Act to conduct mining and reclamation operations at the No Agua Mine, Taos County, New Mexico, upon the condition that the Permittee complies with the requirements of this Order, the Act, the Rules, Permit No. TA005RE, and all modifications thereof and Modifications thereto.

All other provisions, modifications, and Modifications for mining and reclamation contained in the No Agua Mine Permit No. TA005RE, remain unchanged.

**CERTIFICATION**

I certify that I have read, understand and will comply with the requirements of this Permit, this Permit Modification, the Act, the Rules, including without limitation that I will allow the Director to enter the Permit Area as required by the Permit and/or the Rules and/or as otherwise required by law.



Authorized Representative of the Permittee

SENIOR MANAGER MINE TRAINING  
Title

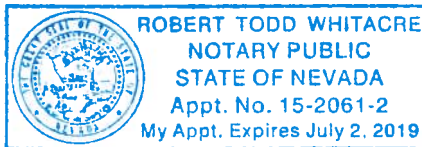
Imcoys  
Company

Subscribed and sworn to before me this 20 day of SEPTEMBER, 2018

  
Notary Public

My Commission Expires


JULY 2, 2019



**ORDER**

NOW THEREFORE, IT IS HEREBY ORDERED that the Director approves Permit Modification 17-1 to the No Agua Mine – Imerys Perlite USA Inc., Permit No. TA005RE, located in Taos County, New Mexico. The approval is for the updated financial assurance and closeout plan for the No Agua Mine.

By Order of the Director, Mining and Minerals Division, Energy, Minerals and Natural Resources Department, of the State of New Mexico.

By:  \_\_\_\_\_  
Fernando Martinez, Director  
Mining and Minerals Division  
Energy, Minerals and Natural Resources Department

Date: 9/28/2018

## **Appendix A**

### **A. Seeding Methods and Revegetation Standards**

#### **1. Seeding Methods**

The seedbed will be prepared by ripping the topdressing to a depth of at least 12 inches. Compacted road surfaces will be ripped to a depth of at least 18 to 24 inches. The ripped furrows will be oriented across slope and the surface will be left in a roughened condition to reduce overland flow and promote the infiltration of water. Seed placement will be accomplished by either drill seeding or by broadcast seeding, followed by covering the broadcast seed using a chain or tire drag, or by a combination of these seeding methods. Straw or native grass mulch will be applied at a rate of at least two tons/acre and stabilized by crimping. Long-stem mulch is preferred over shorter materials. The mulch will be weed free and contain a minimum of viable seeds associated with the mulch source (e.g., barley or wheat seeds).

#### **2. Vegetation Success Standards and Success Monitoring**

##### **a. Canopy Cover**

The numerical standard for canopy cover shall be 70% of the numerical combined average of Reference Area 3 and 4 for all reclamation of the Existing Unit disturbed areas. Reference Areas 3 and 4 are delineated on Figure 4 of the 17-1 PMP, dated March 22, 2017. The numerical standard for canopy cover shall be 90% of the numerical combined average of Reference Area 3 and 4 for all reclamation of New Unit disturbed areas located outside the 1999 Design Limit (Section 6.2, Cover of the 17-1 PMP, dated March 22, 2017).

- 1) The Permittee shall provide an update to Figure 4 of the 17-1 PMP, dated March 22, 2017, showing the area outside of the 1999 Design Limit that the be 90% canopy cover of the Reference Area 3 and 4 reclamation standards shall apply within 90 days after approval of this Permit Modification.

##### **b. Shrub Density**

The standard for shrub density will be 60% of the shrub density in the reference area for all reclamation of Existing Unit disturbed areas as delineated on Figure 7-2 of the 17-1 PRP, dated May 8, 2014. The standard for shrub density will be 90% of the shrub density in the reference area for all reclamation of New Unit disturbed areas as delineated on updated Figure 4 of the 17-1 PMP.

c. Plant Diversity\_

The plant diversity standard (shown in Table 1. below) shall be utilized for the No Agua Mine.

**Table 1 . Plant Diversity Standard**

Class	Seasonally	Number	Minimum occurrence (% cover)
Perennial grass <sup>a</sup>	Warm	2	1
Perennial grass <sup>a</sup>	Cool	2	0.5
Perennial shrub <sup>a</sup>	NA	2	1
Perennial forbs <sup>a</sup>	NA	2	0.1

<sup>a</sup>Native species

d. Revegetation Success Monitoring

Vegetation establishment monitoring of reseeded areas will be conducted during the third year after seeding, with the objective of determining the adequacy of reseeding efforts. The vegetation establishment monitoring shall be quantitative and the results shall be provided to MMD. Areas where vegetation has not been successfully established will be reseeded or interseeded. Alternate closeout actions, as determined by MMD, to allow for the establishment of a self-sustaining ecosystem, and/or-meet the requirements of reclamation defined under 19.10.1.7.R.(1) NMAC, may require that the Permittee submit a request to modify or revise the Permit in accordance with 19.10.5.504.B and 19.10.5.505.B NMAC.

Revegetation monitoring will be performed at the sixth year after planting, and for at least two consecutive years of the last four years, starting after the eighth year of the twelve- year-monitoring period. Revegetation monitoring will include, at a minimum, canopy cover, plant diversity, and shrub density. The revegetation monitoring shall be conducted to meet statistical adequacy for the monitoring conducted during the two of last four years prior to financial assurance release. The canopy cover survey and shrub density survey shall be conducted using survey techniques approved by MMD. The Permittee shall follow the vegetation monitoring plan approved by MMD for the No Agua Mine. The vegetation monitoring plan shall be quantitative, using the same techniques for the reclamation area and the reference areas for each monitoring event and from year to year during the monitoring period. Results of the vegetation monitoring shall be reported to MMD as a separate attachment to the annual report required in Section 8.C.4 above. Any changes proposed to the approved vegetation monitoring plan shall be submitted to MMD for approval at least 90 days prior to a monitoring event. Proposed changes to the vegetation monitoring plan shall state the reasons for the proposed changes, how the proposed changes compare to the approved plan, and how the proposed changes will affect the statistical analysis for meeting the vegetation success criteria for financial assurance release.

**B. Seed Mix and Tree List**

The primary reclamation seed mix and tree seedling list proposed for the No Agua Mine includes cool and warm season grasses, perennial shrubs, forbs, and trees (Table 2). The seed mix is designed for application prior to the summer rains and the seeding should be completed in early- to mid-July. The ratio of cool season to warm season, grasses should be adjusted if the seeding is conducted after the summer rains. Mixtures planned for application in a specific seeding season will be reviewed with MMD prior to seed purchase. Random islands of bare root tree species will be planted in the reclaimed areas except for the reclaimed perlite fines and overburden waste dump slopes. The species list will be included in the vegetation monitoring work plan and may be amended with MMD approval.

**Table 2 . Seed and Tree List and Rates for No Agua Mine Reclamation**

Species <sup>a</sup>	Life-form	Duration	Seasonality	Rate <sup>ab</sup>
Blue grama ( <i>Bouteloua gracilis</i> )	Grass	Perennial	Warm	0.8
Mountain muhly ( <i>Muhlenbergia montana</i> )	Grass	Perennial	Warm	0.38
Needle and thread ( <i>Hesperostipa comata</i> )	Grass	Perennial	Cool	2.25
Bottlebrush Squirreltail ( <i>Elymus elymoides</i> )	Grass	Perennial	Cool	3.0
Indian Ricegrass ( <i>Achnatherum hymenoides</i> )	Grass	Perennial	Cool	3.75
Slender wheatgrass ( <i>Elymus trachycaulus</i> )	Grass	Perennial	Cool	3.0
Fringed sagebrush ( <i>Artemisia frigida</i> )	Shrub	Perennial	NA	0.08
Utah serviceberry ( <i>Amelanchier utahensis</i> )	Shrub	Perennial	NA	1.5
Rubber rabbitbrush ( <i>Ericameria nauseosa</i> )	Shrub	Perennial	NA	0.38
American vetch ( <i>Vicia Americana</i> )	Legume	Perennial	NA	1.5
Scarlet globemallow ( <i>Sphaeralcea coccinea</i> )	Forb	Perennial	NA	0.30
Silverleaf lupine ( <i>Lupinus argenteus</i> )	Forb	Perennial	NA	3.0
Rocky Mountain penstemon ( <i>Penstemon strictus</i> )	Forb	Perennial	NA	0.3
<del>amblyops</del> Total PLS (lbs./ac)				<b>20.24</b>
Ponderosa pine ( <i>Pinus ponderosa</i> )			Stems per acre	4
Rocky Mountain Juniper ( <i>Juniperus scopolorum</i> )			Stems per acre	10

<sup>a</sup>Seed mix and rates are subject to change based on future investigations and availability.

<sup>b</sup>Rate is in pounds of pure live seed (PLS) per acre, except for tree species which are stems per acre; substitutions may change seeding rates.

NA = not applicable.