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October 2, 2023

Transmitted Via: Email (Jamie.Lancaster1@dnr.ga.gov)

Ms. Jamie Lancaster
Surface Mining Unit
Georgia Department of Natural Resources
Environmental Protection Division
4244 International Parkway, Suite 104
Atlanta, Georgia 30354

*Subject: Updated Documents
Twin Pines Minerals, LLC
Saunders Demonstration Mine
Charlton County, Georgia
EPD Mine ID No. 2073*

Dear Ms. Lancaster:

We are pleased to provide an updated Mining Land Use Plan (MLUP) for Twin Pines Minerals' Saunders Demonstration Mine in Carlton County, Georgia. The MLUP has been revised to provide responses to the Georgia Environmental Protection Division's (EPD's) letter dated August 14, 2023 and additional information requested during our August 3, 2023 meeting.

Responses to each EPD comment, along with supporting technical reports, are attached to this transmittal letter. These include technical analyses addressing effects on groundwater hydrology and inflows to the Okefenokee Swamp; light and noise impacts; and modifications to the evaporator system. Revisions to the MLUP are shown in the tables below, along with a detailed listing of any changes.

In this regard, we wish to highlight certain key analytical findings and MLUP revisions, which are intended to address specific concerns raised during the public comment process. As explained below and in the attached reports, these modifications and analyses put to rest the unsupported claims that the project will harm the Okefenokee Swamp, result in reduced flows in the St. Marys River, or adversely affect visitors' experience in the Okefenokee National Wildlife Refuge. Specifically:

1. Detailed modeling analysis by Dr. Panday, one of the nation's leading groundwater hydrologists, establishes that the project will have a negligible effect on inflows to the Okefenokee Swamp and no effect on water levels in either the Okefenokee Swamp as a whole or the southeastern quadrant of the Okefenokee Swamp in particular. By the same token, the project will have no effect on river flows in the Upper St. Marys River downstream of the swamp.
2. Twin Pines has agreed to adopt Dark Sky International standards to minimize any risk of light effects. A light analysis by Jacobs Engineering (MLUP App. Y) demonstrates that, with these measures in place, light from the project will have no effect on wildlife or the experience of visitors to the Okefenokee National Wildlife Refuge.
3. Similarly, an acoustical analysis prepared by Jacobos Engineering is attached as Appendix Z. "Using conservative assumptions and model inputs," Jacob's analysis shows that noise from the Saunders Demonstration Mine at the boundary of the Wildlife Refuge and Wilderness Area will be comparable

to that from a quiet library or office, and the impact at more distant locations within the refuge (including the closest canoe trail, which is eight miles further away) will be even less. Accordingly, noise from mining operations will have no effect on the Okefenokee National Wildlife Refuge or on visitors' experience of the park.

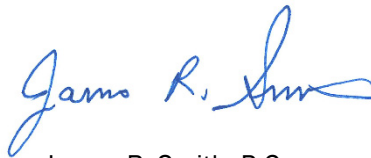
4. Finally, Twin Pines has revised the technology and design of its evaporator system to utilize an advanced evaporative matrix technology. This alternative technology is very expensive, but TPM has decided to invest in it because it eliminates any potential concern about salt drift and deposition. Additionally, a performance analysis prepared by GSI Environmental demonstrates that this technology will provide sufficient evaporative capacity across the full range of weather conditions.

We have uploaded updated documents to the EPD's One Drive storage link. Per your request, only documents that have been revised have been uploaded. We would also be happy to provide as many copies of the complete set as would be convenient. Please let me know about that, and also if you have any questions.

Sincerely,
TTL, Inc.



Sheryle G. Reeves, P.E.
Principal Engineer



James R. Smith, P.G.
Principal Geologist

EPD comment

1. Show water pipes that will move water from water management ponds to plant. Add a legend. (Sheet 5)

Response – Sheet 5 has been updated as requested.

EPD comment

2. Update the Erosion and Sedimentation Plan to ensure best management practices, in accordance Manual for Soil and Sedimentation in Georgia, are being planned. Please include statement as to what standards are being met. For example, E&S BMPs meet minimum standards pursuant to Manual for Soil and Sedimentation in Georgia. (Sheet 6 and 7)

Response – Sheets 6 & 7 have been updated to reflect the requested changes

EPD comment

3. Update bentonite language. Provide examples on where bentonite has been successfully used. (Sheet 9)

Response – The soil amendment plan has been updated to reflect changes requested in our August 3, 2023 meeting. While bentonite is widely used as a soil amendment to reduce hydraulic conductivity, TPM is not aware of any other site where bentonite has been used for the specific purposes set forth in the soil amendment plan, which is an approach the State geologist requested that TPM implement.

EPD comment

4. Delete language stating any discharge from the water management ponds would flow away from the swamp. (Sheet 15)

Response – Done

EPD comment

5. Provide statement on how diesel above-ground storage tanks will have second containment. Also include language on how the site will adhere to regulations with any diesel spills that may occur.

Response – Sheet 15, Section 9 has been revised to address comment #5.

EPD comment

6. EPD understands that the type of evaporator will be changed to a different system. Please update all MLUP pages and provide language describing how evaporators will operate.

Response – All pertinent pages of the MLUP have been updated to reflect the new evaporator system. Detailed information about the new EcoVap system is included in Appendix U-1 (information provided by the manufacturer) and in a performance analysis by GSI Environmental attached as Appendix U-2.

EPD comment

7. Add the additional acreage on all applicable plan sheets for the property south of Hwy 94 that has the mineral separation plant.

Response – The additional acreage has been updated on all applicable plan sheets of the MLUP.

EPD comment

8. Provide calculation of wastewater amount. (Document name and page numbers)

Response – Process water from the mineral separation plant will be trucked back to the processing ponds and reused in the HMS process. Sheet 5 depicts the maximum estimated amount of process water generated from the mineral separation plant of 120 gpm.

EPD comment

9. Provide language regarding light pollution. During the meeting, it was mentioned that operations will adhere to the certified dark sky guidelines; please include these guidelines in the MLUP.

Response – Light effects are discussed in an insert to the narrative on Sheet 15 of the MLUP, which now states that TPM will adhere to specific recommendations to ensure light from the mining operation will not affect wildlife or visitors to the Okefenokee National Wildlife Refuge or cause any change to the park's Dark Sky rating. The measures to be implemented are detailed in Section 3 of the analysis attached as Appendix Y.

EPD comment

10. Provide an explanation on why they are not monitoring for mercury in groundwater. (Include Jacobs' study)

Response – Mercury data collected from piezometers at the project site did not meet the second step of the two-step evaluation of Groundwater Constituents of Potential Concern used by Jacobs to establish the final analyte list for groundwater monitoring (see Section 2.1 of the Jacobs Water Monitoring Plan Recommendation memorandum included in Appendix X).

EPD comment

11. Provide sound study. (Jacobs)

Response – *Jacobs’ acoustical analysis is being provided as Appendix Z. As discussed above, it shows there will be no impact to wildlife or visitors’ experience of the Okefenokee Wildlife Refuge.*

EPD comment

12. Provide additional language as to whether purchased land was owned by tribes. Provide additional language with the archeological study to the steps to be taken if any Native American ancestral sites are discovered during the mining operations.

Response – *TPM has no information about historic claims to mine site, but the lands purchased by TPM were not purchased from any tribe or any member of a tribe.*

The steps to be taken if previously unknown cultural artifacts are discovered are discussed in a new insert to the narrative on Sheet 15, which states:

“A Cultural Resources Survey of the proposed mine site was conducted by TerraXplorations, Inc. In a report dated April 20, 2020, the investigators concluded that “no significant cultural resources will be adversely affected by the proposed mining project.” If any previously unknown historic or archaeological remains are discovered during the course of the activity, TPM will immediately stop work and notify the Georgia State Historic Preservation Officer to determine the appropriate course of action before proceeding.”

EPD comment

13. Update plan sheets to state the monitoring wells will be replaced and monitored after mining. If this language is already in the MLUP documentation, please identify page numbers.

Response – *The language was already in the MLUP at Sheet 11, Section 1.1.2 (C).*

EPD comment

14. Provide details on how liner will be inspected and repaired during operation on the applicable plan sheets.

Response – *Details of how the liner will be inspected and repaired during operation are included on Sheet C-701*

EPD comment

15. Please update Soil Amendment Plan to include regular (quarterly) reports to EPD that at a minimum describes where, when, and how bentonite will be placed. Ensure to be clear that mapping will occur continuously during operation.

Response – *The Soil Amendment Plan has been updated to address comment #15*

EPD comment

16. Provide summary to any changes made to groundwater model.

Response – Subsequent to the presentation of preliminary findings to the Georgia Legislature in March 2023, an error related to recharge rates was discovered. Specifically, the original model grid was refined in the immediate area of the proposed demonstration mine using Groundwater Vistas to take advantage of the unstructured grid capabilities in MODFLOW-USG. Groundwater Vistas is an industry standard pre- and post- processing software package used to assist in the development of groundwater models.

The refined grid was instituted to provide improved groundwater flow estimates associated with dewatering of the moving mine pit. However, when the unstructured grid was developed in Groundwater Vistas, the recharge rates in this portion of the model were incorrectly reassigned to zero by the software, resulting in modeled impacts that were significantly overstated. The software issue and zero recharge rates have been corrected (and brought to the software developers' attention), and updated results are presented in the memorandum from Dr. Sorab Panday dated October 2, 2023.

Application Form	
Document	Changes
Surface mining application	Adjusted anticipated mining dates.

SURFACE MINING LAND USE PLAN (Rev'd 2023-10-2)	
Plan Sheet	Changes
1. Cover sheet and Drawing index	Updated location map Updated Sheet Index
Site layout	
2. Boundary Sheet	Updated permit boundary to include the Mineral Separation Plant and added a note to the table stating that “the lands purchased by Trail Ridge, LLC for this mining permit application were not purchased from Native American Tribes”
3. Mining Plan Sheet – Site Layout	<ol style="list-style-type: none"> 1. Updated permit boundary to include the Mineral Separation Plant 2. Added additional easting and northing coordinates 3. Removed piping of process water from pumping well FPW-01 to the Mineral Separation Plant. 4. Added footnote: <ul style="list-style-type: none"> • that water will be hauled by truck to the Mineral Separation Plant. • Added footnote that process water from the Mineral Separation Plant will be hauled by truck to the Process Water Ponds 5. Added truck route for hauling heavy mineral sands and water to the Minerals Separation Plant
Mining Plan Sheets	
4. Mining Plan Sheet – Estimated Progression of Mining	Updated permit boundary to include the Mineral Separation Plant
5. Mining Plan Sheet – Process Flow Diagram	Updated Mining Process Flow Diagram notes related to hauling water to and from the Minerals Separation Plant and added a legend that explains acronyms.

Erosion and sediment control	
6. Erosion and Sediment Control Plan	<ol style="list-style-type: none"> 1. Updated permit boundary to include the Mineral Separation Plant 2. Added two outfalls at the Mineral Separation Plant. Also, added LAT/LONG coordinates for these two outfalls to the table. 3. Added additional BMPs to outfall locations 4. Added 1 foot contour interval 5. Added statement - "Erosion and sediment control best management practices shall meet the minimum standard pursuant to the manual for soil and sedimentation in Georgia"
7. Erosion and Sediment Control Plan Notes & Details	<ol style="list-style-type: none"> 1. Changed Sd1-S Typical (top center) to Silt Fence – Type A and specified the height of the silt fence to be 30" minimum 2. Removed Sediment Brush Barrier typical 3. Added Sd4 Overflow outlet typical 4. Added Fr Filter Ring Replacement typical 5. E&S Control Notes: <ul style="list-style-type: none"> • Change E&S Control Measures to note 2.c to state "Any areas outside the active mine footprint left exposed for a period of greater than 14 days will be stabilized with mulch or temporary seeding" • Change Temporary and Permanent Vegetation note 1 to state "Any areas outside the active mine footprint left exposed for a period of greater than 14 days will be stabilized with mulch or temporary seeding" • Addition to NPDES Note 3 – "Erosion and sediment control best management practices shall meet the minimum standard pursuant to the manual for soil and sedimentation in Georgia"
8. Temporary Vegetation Schedule Table	No changes
Reclamation plan	
9. Post-Mining Reclamation Plan (1)	<p>Updated Reclamation Object to state, "the reclamation objective is to restore the land surface and groundwater <u>to at least</u> pre-mining levels, and to revegetate the site with plant communities associated with pine flatwoods or depressional wetlands."</p> <p>Updated Performance Criteria for Reclamation § H to state "no lakes are proposed as part of the</p>

	<p>reclamation plan”. Ponding may occur as a result the soil amendment application.</p> <p>Updated Performance Criteria for Reclamation § I.6 to reference the correct Appendix for the Water Use Management Plan.</p> <p>Changed § 1.1 to 1.3 of Soil Amendment Plan to discuss mapping and field identification of the consolidated black sands first. Changed section number accordingly.</p> <p>Revised Soil Amendment Plan to provide procedures for mapping of the consolidated black sand first</p> <p>Revised to remove contradictory statements from the plan</p>
<p>10. Post Mining Reclamation Plan (2)</p>	<p>Updated permit boundary to include the Mineral Separation Plant.</p>
<p>Groundwater Surface Water Monitoring</p>	
<p>11. Groundwater and Surface Water Monitoring Plan (1)</p>	<p>§ 1.1.2 (B) revised entire section to add additional piezometers that will be installed for monitoring.”</p> <p>§ 2.1 (1) revised text and table to include additional piezometers that will be installed for monitoring;”</p> <p>§ 2.4 (1) revised to state “post-mining groundwater levels do not drop below 2.7 feet of the normal elevations established in the historical hydrograph data shown on sheet 13;”</p> <p>§ 2.4 (2) revised to state “supporting documentation describing the rational for restoration of pre-mining groundwater levels and the 2.7 feet groundwater elevation deviation below normal elevations is included in Appendix R.”</p> <p>§ 3.2 updated Table 3.2.1 to include additional piezometers that will be installed for water quality monitoring. Added a section to the table for monthly Pre-Mining sampling. Updated footnotes to the table. Updated Table 3.2.3 to add monthly Pre-Mining sampling and updated footnotes. Add measurement of Flow Rate to Table 3.2.4</p>

	<p>§ 3.3 updated to reference the latest editions of the USEPA LSASD groundwater and surface water sampling SOPs.</p> <p>§ 3.3.2 updated last sentence to state “A summary water quality report will be submitted to the Georgia EPD on a quarterly basis for the first year, and <u>semi-annually</u> thereafter” (as opposed to annually).</p> <p>§ 3.3.3 updated first sentence to state “No further action will be required if the reported changes in water quality can be attributed to factors unrelated to the mining activity <u>and the Georgia EPD is in agreement with the finding.</u>”</p> <p>Added § 4 Piezometer and Upper Floridan Water Well Abandonments.....to state that prior to shutdown of the Saunders Demonstration Mine site the piezometers and water wells will be properly abandoned in accordance with the State of Georgia Water Well Standards Act.</p>
<p>12. Groundwater and Surface Water Monitoring Plan (2)</p>	<p>Updated permit boundary to include the Mineral Separation Plant</p> <p>Added additional piezometers that will be used for monitoring</p>
<p>13. Groundwater and Surface Water Monitoring Plan (3)</p>	<p>Updated Groundwater monitoring table revised to reflect additional piezometers that will be used for monitoring</p> <p>Updated typical piezometer diagrams</p> <p>Updated generalized geologic cross section for additional piezometers identifiers</p>
<p>Hazard maps</p>	
<p>14. Supplemental Information – Vicinity Map, FEMA Flood Hazard map, etc.</p>	<p>Updated permit boundary to include the Mineral Separation Plant</p>
<p>Supplemental Narrative</p>	
<p>15. Supplemental Narrative</p>	<ol style="list-style-type: none"> 1. Page 2 § 4.1 - Updated to reflect revised permitted boundary acreage of 820-acres. 2. Page 6 § 5 ¶ 2 - Updated last sentence to remove “brush barrier” and add “overflow outlet control features”

	<ol style="list-style-type: none"> 3. Page 6 § 6 ¶ 1 second sentence - Updated to state "the reclamation objective is to restore the land surface and groundwater <u>to at least</u> pre-mining levels." 4. Page 6 § 7 ¶ 4 - "Water required at the Mineral Separation Plant will be hauled, utilizing tanker trucks, from Water Management Pond M-3 or Floridan Aquifer Well FPW-01. Process water from the Mineral Separation Plant will be hauled, by tanked trucks, to the Process Water Ponds for reuse. The maximum inflow/outflow volume of process water to and from the Mineral Separation Plant is estimated to be 120 gallons per minute." 5. Page 6 § 7 ¶ 5 - Added sentence to define a 1,000-year rainfall event 6. Page 7 § 7 ¶ 6 - Deleted sentence referring to water discharged from ponds 7. Page 7 § 9 - Added new section related to chemical storage and renumbered subsequent §'s 8. Page 7 § 10 - Added new section related to lighting and renumbered subsequent §'s 9. Page 7 § 11 - Added new section related to Cultural Resources and renumbered subsequent §'s
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WATER MANAGEMENT POND SHEETS

Plan Sheet	Changes
Existing Conditions	
C-100 Overall Existing Conditions Plan	No Changes
C-102 Existing Conditions Plan Sheet 2	No changes
C-103 Existing Conditions Plan Sheet 3	No changes
C-105 Existing Conditions Plan Sheet 5	No changes
Site Plan	
C-200 Overall Site Plan	No changes
C-202 Site Plan Sheet 2	No changes
C-203 Site Plan Sheet 3	No changes
C-205 Site Plan Sheet 5	No changes

Grading plan	
C-300 Overall Grading and Drainage Plan	No changes
C-302 Grading and Drainage Plan Sheet 2	No changes
C-303 Grading and Drainage Plan Sheet 3	No changes
C-305 Grading and Drainage Plan Sheet 5	No changes
Erosion and sediment control for water management ponds	
C-400 Overall Initial Erosion Sedimentation and Pollution Control Plan for Process Water and Water Management Ponds (1)	No changes
C-402 Initial Erosion Sedimentation and Pollution Control Plan Sheet for Process Water and Water Management Ponds (2)	No changes
C-403 Initial Erosion Sedimentation and Pollution Control Plan for Process Water and Water Management Ponds (3)	No changes
C-405 Initial Erosion Sedimentation and Pollution Control Plan for Process Water and Water Management Ponds (5)	No changes
C-410 Overall Intermediate Erosion Sedimentation and Pollution Control Plan for Water Management Ponds (1)	No changes
C-412 Intermediate Erosion Sedimentation and Pollution Control Plan for Process Water and Water Management Ponds (2)	No changes
C-413 Intermediate Erosion Sedimentation and Pollution Control Plan for Process Water and Water Management Ponds (3)	No changes
C-415 Intermediate Erosion Sedimentation and Pollution Control Plan for Process Water and Water Management Ponds (5)	No changes
C-420 Overall Final Erosion Sedimentation and Pollution Control Plan for Process Water and Water Management Ponds (1)	No changes
C-422 Final Erosion Sedimentation and Pollution Control Plan for Process Water and Water Management Ponds (2)	No changes

C-423 Final Erosion Sedimentation and Pollution Control Plan for Process Water and Water Management Ponds (3)	No changes
C-425 Final Erosion Sedimentation and Pollution Control Plan for Process Water and Water Management Ponds (5)	No changes
C-441 Erosion Sedimentation and Pollution Control Details for Process Water and Water Management Ponds (1)	No changes
C-442 Erosion Sedimentation and Pollution Control Details for Process Water and Water Management Ponds (2)	No changes
Utility Plan	
C-500 Overall Utility Plan	No changes
C-502 Utility Plan Sheet 2	No changes
C-503 Utility Plan Sheet 3	No changes
C-505 Utility Plan Sheet 5	No changes
C-511 Utility Details Sheet 1	No changes
C-512 Utility Details Sheet 2	No changes
C-513 Utility Details Sheet 3	No changes
C-514 Utility Details Sheet 4	No changes
C-515 Utility Details Sheet 5	No changes
C-521 Pump Station Plan and Section	No changes
C-530A Overall Evaporator Layout	Replaces C-530 and provides updates to depict the new evaporator layout and keynotes
C-532A Evaporator Plan Sheet 2	Replaces C-532 and provides updates to depict the new evaporator layout and keynotes
C-533A Evaporator Plan Sheet 3	Replaces C-533 and provides updates to depict the new evaporator layout and keynotes
C-535A Evaporator Plan Sheet 5	Replaces C-535 and provides updates to depict the new evaporator layout and keynotes
Detailed plans	
C-601 Perimeter Road Plan and Profile Sheet 1	No changes

C-602 Perimeter Road Plan and Profile Sheet 2	No changes
C-603 Perimeter Road Plan and Profile Sheet 3	No changes
C-604 Perimeter Road Plan and Profile Sheet 4	No changes
C-605 Perimeter Road Plan and Profile Sheet 5	No changes
C-606 Perimeter Road Plan and Profile Sheet 6	No changes
C-611 Pump House Road Plan and Profile Sheet 1	No changes
C-612 Pump House Road Plan and Profile Sheet 2	No changes
C-621 Storm Drain Plan and Profile	No changes
C-631 Site Cross Sections Sheet 1	No changes
C-632 Site Cross Sections Sheet 2	No changes
C-633 Site Cross Sections Sheet 3	No changes
C-701 Liner Details	Added note regarding liner inspection and repairs if needed
C-711 Site Details 1	No changes
C-712 Site Details 2	No changes
C-713 Site Details 3	No changes
C-714 Site Details 4	No changes
Pond Closure Plan	
C-801 Pond Closure Plan	No changes
FIG 1 Overall Grading and Wetlands Exhibit	Sheet removed

Appendices	
Appendix	Changes
Jurisdictional Determinations and Resource Surveys	
A. Approved Jurisdictional Determinations USACE JD (15 Oct. 2020; 14 Mar. 2021)	No changes
B. Cultural Resources Reports (Apr. 2020)	No changes
C. Species Surveys and Habitat Assessments (2018-2020)	No changes
Investigations	
D. Holt, R.M., Tanner, J.M., Smith, J.R., Patton, A.C., and Lepchitz, Z.B. (Dec. 11, 2019). <i>Subsurface Lithology of the Surficial Aquifer at Twin Pines Mine.</i>	No changes
E. Holt, R.M., Tanner, J.M., Smith, J.R., Patton, A.C., and Lepchitz, Z.B. (Oct. 31, 2019). <i>Geologic Characterization at Twin Pines Mine.</i>	No changes
F. Holt, R.M., Tanner, J.M., Smith, J.R., Patton, A.C., and Lepchitz, Z.B. (Oct. 31, 2019). <i>Hydrogeologic Field Characterization at Twin Pines Mine.</i>	No changes
G. Holt, R.M. (Jan. 25, 2021). <i>Subsurface Continuity of Humate-Bearing Sands in Surficial Aquifer, Trail Ridge, Georgia.</i>	No changes
H. Holt, R.M., Tanner, J.M., Smith, J.R., Patton, A.C., and Lepchitz, Z.B. (Oct. 31, 2019). <i>Water Quality at Twin Pines Mine.</i>	No changes
I. Holt, R.M., Tanner, J.M., Smith, J.R., Patton, A.C., and Lepchitz, Z.B. (Nov. 22, 2019). <i>Local Groundwater/Surface Water Hydrology at Twin Pines Mine.</i>	No changes
J. Holt, R.M., Tanner, J.M., Smith, J.R., Patton, A.C., and Lepchitz, Z.B. (Nov. 15, 2019). <i>Climate Data at Twin Pines Mine,</i>	No changes
Modelling Reports and Impact Analysis	
K. Holt, R.M., Tanner, J.M., Smith, J.R., Patton, A.C., and Lepchitz, Z.B. (Nov. 26, 2019). <i>Laboratory Testing Data at Twin Pines Mine.</i>	No changes

Twin Pines Minerals, LLC Proposed Saunders Demonstration Mine

L. Holt, R.M., Tanner, J.M., Smith, J.R., Patton, A.C., and Lepchitz, Z.B. (Jan. 14, 2020). <i>Impact of the Proposed Twin Pines Mine on the Trail Ridge Hydrologic System.</i>	No changes
M. Holt, R.M., Tanner, J.M., Smith, J.R., Patton, A.C., and Lepchitz, Z.B. (Nov. 13, 2020). <i>Assessing the Impact of Soil Amendments During the Reclamation of the Proposed Twin Pines Minerals, LLC Saunders Demonstration Mine Using Groundwater Flow Models.</i>	No changes
N. Panday, S., Wycoff, R., and Martell, G. (Sep. 14, 2021). GSI Environmental, <i>Modeling the Groundwater Flow System at the Proposed Twin Pines Mine on Trail Ridge.</i>	No changes
O. Panday, S., (Nov. 9, 2022). Addendum to <i>Modeling the Groundwater Flow System at the Proposed Twin Pines Mine on Trail Ridge.</i>	No changes
Water Use Management	
P. Water Use Management Plan	<p>Page 3 § 2.1 ¶ 5 Updated to Average detention time in the process water pond to be approximately 20 hours.</p> <p>Page 5 § 3 ¶ 3 Updated to discuss whether or not dewatering would continue during stoppages in mining.</p> <p>Page 10 § 4.2 Updated for new EcoVap evaporator system.</p> <p>Page 10 § 4.3 Updated to discuss evaporator system operational time during the year and prior to major storms.</p> <p>Page 12 § 4.6 Last sentence added to state that “all ponds will be dredged on an as needed basis, as discussed in section 4.3 Pond Operation”</p>
Q. Water Management Pond Hydrology and Hydraulic Analysis (May 2022)	No changes
1. Water Management Pond Plan	No changes
2. 2 Pond Analysis Output Report for the 25-yr / 24-hr Event	No changes
3. Output Graph for the 25-yr / 24-hr Event	No changes

4. Pond Analysis Output Report for the 100-yr/24-hr Event	No changes
5. Output Graph for the 100-yr / 24-hr Event	No changes
6. Precipitation Frequency Data from NOAA	No changes
R. Rationale for Groundwater Level Monitoring Plan	<p>Page 1 ¶ 1, Added sentence to state “Groundwater modelling of the mine site has concluded that the mining activities will have no significant impact to water levels in or near the Okefenokee National Wildlife Refuge. Additionally, there are no jurisdictional wetlands within the mine footprint to restore.”</p> <p>Page 1 ¶ 3, 4th sentence revised to state “Therefore, it is proposed that a minus three standard deviation value (-2.7 feet) be used to establish acceptable post-mining groundwater levels (Figure 3).”</p> <p>Page 3 § 1.4 Item 1 revised to state “post-mining groundwater-levels do not drop below 2.7 feet of the normal elevations established in Figure 3.”</p>
S. Technical Specifications	No changes
T. K. Eli Bundrick, Donald Smith Company, Inc., Well Proposal 16 Dec. 2019)	No changes
New Materials Submitted in Response to Comments	
U1. EcoVap Evaporation Systems Brochure	U1. EcoVap Evaporation Systems Brochure
U2. GSI Water Management Pond Evaporation Analysis	U2. GSI Water Management Pond Evaporation Analysis
V. Safe Dams Inspection List & Pond Monitoring/Maintenance Schedule	Safe Dams Inspection List & Pond Monitoring/Maintenance Schedule
W. GSI Response to Public Comments Regarding the Proposed Twin Pines Mining Project, Charlton County, Georgia	GSI Response to Public Comments Regarding the Proposed Twin Pines Mining Project, Charlton County, Georgia
X. Jacobs Twin Pines Minerals, LLC Saunders Demonstration Mine Monitoring Plan Recommendations	Jacobs Twin Pines Minerals, LLC Saunders Demonstration Mine Monitoring Plan Recommendations
Y. Jacobs Twin Pines Saunders Demonstration Mine Analysis of Night Lighting	Jacobs Twin Pines Saunders Demonstration Mine Analysis of Night Lighting

Z. Jacobs Twin Pines Saunders Demonstration Mine Noise Analysis	Newly added
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OTHER SUBMISSIONS	
Document	Changes
Groundwater withdrawal permit	<p>§ 4.2 ¶ 4: Revised to state process water for the MSP will be hauled, utilizing tanker trucks, from Water Management Pond M-3 or Floridan Aquifer Well FPW-01. Clarified that process water from the MSP may be recycled for use or transported to process water ponds for re-use</p> <p>Figures 1-4 - Updated permit boundary to include the Mineral Separation Plant</p> <p>Attachment A - Updated flow diagrams to include a legend and note changes.</p>
Environmental Provisions Checklist	No changes