FINDING OF NO SIGNIFICANT IMPACT

FOR

KINGS MOUNTAIN LITHIUM MINE PROJECT

ALBEMARLE CORPORATION

KINGS MOUNTAIN, NORTH CAROLINA

DOE/EA-2265

RESPONSIBLE AGENCY: U.S. Department of Energy (DOE)

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY

The DOE National Energy Technology Laboratory (NETL) completed the Environmental Assessment (EA) for Albemarle Corporation (Albemarle) – Kings Mountain Lithium Mine (KMM) Project (DOE/EA-2265). Based on analyses documented in the Project EA, the DOE determined that its Proposed Action – continuing to move forward on the grant awarded to Albemarle to partially fund the mineral processing facility – would result in no significant adverse impacts.

Through a grant awarded to Albemarle, DOE proposes to partially fund the design, construction, and start of operations for the Kings Mountain Mine and a mineral processing plant that would produce spodumene concentrate. DOE proposes to provide $149,658,312, and Albemarle's private cost share would be $244,407,734, for a total of $394,066,046. The grant funding from the DOE is intended to support a portion of the anticipated cost to construct a new, commercial-scale, U.S.-based lithium materials/spodumene mineral processing plant that uses sustainably extracted spodumene minerals from the reopened and expanded mine at Kings Mountain in North Carolina. The proposed Project would support DOE's Energy Strategic Goal of "protecting our national and economic security by promoting a diverse supply and delivery of reliable, affordable energy." The DOE further determined that there would be beneficial impacts to socioeconomics and domestic lithium supply chain security from implementation of Albemarle's proposed Project.

The proposed Project is described in more detail in the documented studies and findings in the associated EA. The summary and conclusions reached in this FONSI are derived from the studies and analyses documented in the EA and there is no difference between the two documents in terms of scope or level of analysis. The determination provided in this FONSI is for the DOE's Proposed Action as previously described.

BACKGROUND

As part of the Infrastructure Investment and Jobs Act (IIJA), DOE's NETL, on behalf of the Office of Manufacturing and Energy Supply Chains and the Office of Energy Efficiency and

Renewable Energy, jointly issued the Funding Opportunity Announcement (FOA) DE-FOA-0002678 Infrastructure Investment and Jobs Act of 2021 (IIJA) Lithium Materials Processing and Lithium Manufacturing in 2021. The Infrastructure Investment and Jobs Act of 2021 (IIJA) appropriates more than $7 billion in the battery supply chain over the five-year period encompassing fiscal years 2022 through 2026.

The grant for this Project was awarded in 2022 with a current end date of 2028, reflecting the multi-year timeline necessary for planning, permitting, construction, and commissioning of a commercial-scale mineral processing facility. Albemarle's new facility would support the construction of a commercial-scale mineral processing plant (concentrator facility) to produce up to approximately 420,000 metric tons of spodumene concentrate annually to meet the growing domestic lithium demand. Based on the scope of the proposed Project (the concentrator facility and other mine reopening activities [further described in a subsequent section]), the DOE prepared an EA to evaluate potential environmental and socioeconomic consequences of providing financial assistance for the proposed Project in accordance with the requirements of the National Environmental Policy Act (NEPA), as amended (42 U.S.C. 4321 et seq.), the President's Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR Parts 1500 to 1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021).

PURPOSE AND NEED

The overall purpose and need for DOE action pursuant to the Office of Manufacturing and Energy Supply Chains, in collaboration with the Office of Energy Efficiency and Renewable Energy and the funding opportunity under the IIJA, is to accelerate the development of a domestic lithium supply chain by increasing investments in lithium materials processing projects. This and other selected projects are needed to reduce dependence on foreign lithium sources.

Why This Project Location: The KMM site was selected due to several critical factors: (1) the presence of an existing historically productive lithium mine with proven ore reserves containing lithium-bearing spodumene; (2) proximity to existing mining infrastructure and previously disturbed lands, minimizing impacts to undeveloped areas; (3) location within an established industrial corridor in North Carolina with existing workforce capabilities in mineral extraction and processing; (4) access to necessary utilities and transportation infrastructure including rail and highway networks; and (5) regional economic development opportunities in a community historically dependent on mining and manufacturing sectors.

Why This Project Now: The timing of the proposed Project responds to urgent national priorities and market conditions. Following the 2021 DOE Request for Qualifications and subsequent 2022 grant award, this Project addresses the immediate and growing demand for domestically sourced lithium. The United States currently imports over 50% of its lithium requirements, creating supply chain vulnerabilities. The multi-year timeline from grant award through project completion reflects the complex permitting, engineering, construction, and commissioning requirements for a facility of this scale and technical sophistication. Delays in developing domestic lithium processing capacity would perpetuate foreign supply dependencies. These projects would incorporate recruiting, training, and retaining a skilled workforce in communities that have been affected by changes in traditional energy sectors. The proposed

Project will also meaningfully assist in the nation's economic recovery by creating mining and processing jobs in the United States in accordance with the objectives of the IIJA.

DESCRIPTION OF THE PROPOSED ACTION

The DOE's Proposed Action is to continue providing grant funding of approximately $149 million (federal cost-share) to enable Albemarle to construct and operate a commercial-scale mineral processing facility (concentrator plant) to produce spodumene concentrate from lithium ore extracted from the KMM site. The Department of the Air Force (DAF) served as a cooperating agency and the proposed actions using DAF funds were assessed within the EA. No significant impacts were found.

Mine Reopening: The KMM, which ceased operations in 1993, will be reopened to produce spodumene concentrate from the resource at the site. The spodumene will be extracted by deepening and expanding the legacy mine footprint from the existing open pit. Non-ore bearing rock, ore sorting rejects, and dense media separation (DMS) of coarse tails generated during mining operations will be managed onsite, while tailings will be transported to an offsite tailings storage facility (TSF), approximately 3 miles southwest of the KMM called the Archdale TSF. Mine reopening activities will also include the construction and operation of water treatment systems, administrative and maintenance buildings, utilities and infrastructure, and transportation and logistics facilities.

Mineral Processing Facility: The concentrator facility would process lithium-bearing ore through crushing, grinding, flotation, and concentration processes to produce a lithium concentrate suitable for further processing into battery-grade lithium compounds. The facility will consist of a DMS circuit, grinding circuit, desliming and magnetic separation, mica and spodumene flotation circuits, and concentrate and tails thickening and filtering circuits.

The final product produced at the concentrator facility would be spodumene concentrate containing approximately 6% lithium oxide. This material would be shipped to lithium processing facilities that ultimately develop lithium compounds for battery manufacturers in the United States and worldwide. The integrated mine and processing operations will employ modern technologies and environmental controls to minimize impacts while maximizing resource recovery and operational efficiency.

ALTERNATIVES CONSIDERED

In addition to the Proposed Action and NEPA-required No-Action Alternative, the DOE evaluated four other offsite alternatives as well as various onsite alternatives. An offsite alternative site screening process was developed to evaluate the various alternatives feasibility based on ability to achieve the overall project purpose, and to also be feasible when considering cost, logistics, and existing technology.

Under the No Action Alternative, DOE would not provide funds for the proposed Project. Without DOE funding for the Project to be completed as proposed, the applicant would need to identify, obtain, and use an alternative source of funds equal to the approximately $149 million in federal funding that the applicant would have received from DOE under the above-listed funding opportunity. DOE recognizes that the proposed Project might continue if DOE decides not to provide financial assistance. If Albemarle's Project proceeds without DOE's financial

assistance, the potential environmental impacts would be essentially identical to those under DOE's action alternative. To allow a comparison between the potential impacts of the projects to be implemented and the impacts of not proceeding with the projects, for purposes of this environmental analysis, DOE assumes that the proposed Project may not proceed efficiently without DOE assistance.

ENVIRONMENTAL CONSEQUENCES

DOE considered the potential effects of the Proposed Action and No-Action Alternative on numerous environmental resource subjects in preparation of the EA; however, not all resource areas were evaluated to the same level of detail. DOE determined that certain resources would either not be affected or would sustain negligible or minor impacts from the proposed Project and thus were dismissed from detailed analysis in the EA. The subjects that DOE evaluated in more detail included surface water and groundwater; wetlands and floodplains; vegetation and wildlife; community services; aesthetics and visual resources; air quality; noise and vibration; regulated wastes (solid and hazardous wastes); utilities and energy use; transportation and traffic; land use; geology, topography, and soils; socioeconomics; cultural resources; and public health and occupational health and safety[1]. For these resource areas, DOE determined there would be negligible or minor potential environmental impacts.

SURFACE WATER AND GROUNDWATER

Although steps have been taken to avoid and minimize impacts to surface waters, construction of the proposed Project would result in impacts through the installation of culverts and filling of some stream segments. In addition, minor, temporary, indirect impacts from stormwater runoff to nearby surface waters may occur. These impacts would be avoided and minimized through the implementation of engineering controls, a site-specific Stormwater Pollution Prevention Plan (SWPPP) and use of best management practices (BMPs), as required under applicable North Carolina Department of Environmental Quality permits.

Construction would have negligible impacts to groundwater through implementation of the following protective measures: (1) all potentially acid generating material derived from mining and processing activities will be temporarily stored in a rock storage facility (RSF) which will be underlain with a high-density polyethylene liner for the protection of groundwater; (2) utilization of a comprehensive groundwater monitoring well network to detect any potential issues; (3) proper handling and storage of fuels, lubricants, and construction materials in designated containment areas with secondary containment; (4) implementation of dewatering controls if temporary dewatering is required during construction; and (5) adherence to approved construction stormwater management plans that minimize erosion and sedimentation.

Operations would have minor impacts on surface water or groundwater as process water and stormwater would be captured, treated, and managed in accordance with applicable permits. All

[1] At the time the Draft EA was advertised, additional resources required evaluation, including greenhouse gases, climate change, and environmental justice, and are therefore included in the EA's environmental consequences evaluation. However, pursuant to Executive Order (EO) 14154, these resources are not included in this FONSI.

wastewater discharges would be subject to, and in compliance with, National Pollutant Discharge Elimination System (NPDES) permits obtained prior to operation.

WETLANDS AND FLOODPLAINS

Jurisdictional wetland delineations, conducted in coordination with the U.S. Army Corps of Engineers (USACE), identified jurisdictional wetlands within the Project site. To protect these resources, the Project has been carefully designed to avoid direct impacts, to the extent practicable, through strategic facility siting and the use of engineering controls.

Nonetheless, minor and unavoidable impacts to wetlands, streams, and open waters will occur. These impacts identified below have been authorized under USACE Nationwide Permit SAW-2018-00616, which has been secured for activities associated with the expansion of the existing lithium mine. Specifically, the Project will result in the permanent discharge of fill material into 8,896 linear feet (1 acre) of stream channels, 5.43 acres of wetlands, and 11.7 acres of open waters. This includes the conversion of 10.93 acres of open waters and 3.69 acres of wetlands. The wetland and stream impacts identified in the EA are slightly different than those identified above due the timing of submissions, and some refinements to engineering design requirements and the mine layout. The wetland and stream impacts presented herein align with those identified in the USACE Section 404 Nationwide Permit previously referenced.

To minimize indirect impacts during construction and operation, appropriate buffer zones and erosion control measures will be implemented. Any compensatory mitigation required under the Nationwide Permit will be completed in accordance with the approved mitigation plan.

As part of the mitigation strategy for the Kings Mountain Lithium Mine Expansion, Albemarle will offset environmental impacts—specifically 7,247 linear feet of stream and 5.43 acres of wetland disturbance—within the Broad River Basin (Hydrologic Unit Code 03050105). To fulfill these requirements, the company will secure 12,207 stream mitigation credits and 7.17 wetland mitigation credits through the North Carolina Division of Mitigation Services (NCDMS) In-Lieu Fee (ILF) program.

Importantly, the Project site is not located within a 100-year or 500-year floodplain, as designated by the Federal Emergency Management Agency.

VEGETATION AND WILDLIFE

Construction impacts are anticipated to be minor and temporary. The proposed Project would implement appropriate measures to avoid and minimize impacts to vegetation and wildlife habitats. Operations would maintain appropriate environmental controls to prevent impacts to adjacent vegetated areas.

No federally listed threatened or endangered species are expected to be significantly affected by the proposed Project. This determination was based on consultation with the U.S. Fish and Wildlife Service and appropriate biological surveys.

COMMUNITY SERVICES

Construction impacts are anticipated to be negligible to community services. Proposed Project operations would have minor impacts on local community services and Albemarle has committed to continue working with local emergency services to ensure adequate capacity and response capabilities.

AESTHETICS AND VISUAL RESOURCES

Based on the viewshed analysis and accompanying visual impact assessment, the proposed Project will not be visible from most locations in the region. In general, the proposed Project will be visible from locations adjacent to or at an elevation that provides views of the proposed Project over vegetation and other screening elements (e.g., topography and buildings). The most commonly visible proposed Project facilities will be the RSFs.

Proposed Project operations would not significantly affect aesthetics and visual resources as the facility design would be consistent with existing industrial development in the area.

AIR QUALITY

Construction and operation would result in minor, temporary, intermittent air emissions, but would not cause or contribute to an exceedance of ambient air quality standards. The proposed Project emissions would comply with applicable air quality regulations and permit requirements.

NOISE AND VIBRATION

Typical construction and operational noise would be generated but is not anticipated to significantly impact nearby receptors. Noise and sound levels will be typical of new construction activities and will be intermittent and temporary. Construction of the proposed Project is scheduled to take place 6 days per week and 10 hours each day during daytime hours. The anticipated noise during the day is expected to blend in with the current ambient sounds. Considering the commercial and industrial nature of the area, the increase in noise levels should be imperceptible. Noise from equipment, machinery and vehicles will be minimized to the greatest extent possible and comply with all applicable noise regulations.

REGULATED WASTES (SOLID AND HAZARDOUS WASTES)

Construction and operations would generate regulated waste that would be managed under applicable local, state, and federal regulations. Hazardous waste, including used oils, solvents, and process chemicals, will be managed by licensed hazardous waste transporters and disposed of at permitted treatment, storage, and disposal facilities in accordance with Resource Conservation and Recovery Act requirements.

UTILITIES AND ENERGY USE

The proposed Project will require connections to electrical power, water supply, stormwater/wastewater, and natural gas infrastructure. Albemarle has been in contact with services providers and does not foresee any issues with any new service connections for the proposed Project.

Some existing utilities will require relocation, rerouting, or removal to make way for the proposed Project, including: (1) relocation of a sewer force main line; (2) removal of a redundant gas distribution line; and (3) rerouting of an additional gas line. As all utility lines are located in areas previously impacted, removal, relocation, or rerouting is not anticipated to result in adverse impacts.

TRANSPORTATION AND TRAFFIC

A comprehensive traffic impact analysis (TIA) was conducted to evaluate traffic impacts from the proposed Project. Site traffic is expected to be generated from employee shift changes, deliveries, maintenance, and visitors to the mine as well as from truck shipments to the Archdale TSF. Concentrate material produced from the proposed Project will be shipped offsite via rail.

Construction traffic is anticipated to be distributed over time and a portion of the KMM site would be used as a temporary parking location for construction-related vehicles and private vehicles. Given the robust nature of the current road infrastructure, the availability of temporary parking on the KMM site, and shift changes occurring at non-peak hours, impacts to traffic due to construction will be minor. Additionally, impacts to traffic during operations are expected to be minor given the existing road infrastructure and capacities.

The TIA identified recommended improvements to area roadways in order to mitigate traffic impacts by the proposed Project, including constructing additional driveways at the KMM and Archdale TSF sites and adding ingress/egress lanes to existing roadways. With implementation of these roadway improvements and utilization of rail transport for concentrate shipment, traffic impacts will be adequately managed and will not result in unacceptable levels of service on area roadways.

LAND USE

The majority of the KMM site and the entire Archdale TSF site are zoned as heavy industrial by the City of Kings Mountain and Cleveland County, respectively. Several small parcels surrounding the KMM site will require rezoning with the City of Kings Mountain. Additionally, both the KMM and Archdale TSF sites have historically been utilized for mining activities.

Adjacent land uses include industrial mining operations, undeveloped forested land, and low-density residential areas. Construction and operation activities from the proposed Project will not impact surrounding land uses and the proposed Project is consistent with the City of Kings Mountain’s economic development objectives. Construction and operations of the proposed Project would result in negligible impacts on land use as the Project conforms to local economic goals and the established industrial character of the area.

GEOLOGY, TOPOGRAPHY, AND SOILS

Impacts on geology, soils, and topography are anticipated to be minor and appropriately managed through implementation of BMPs and regulatory compliance. The proposed Project will require land disturbance and grading; however, the existing land is relatively flat, and the proposed Project is designed to minimize land disturbance to the greatest extent possible. Minor disturbance impacts to geologic features will result from the grading, excavation, and construction/operation activities required for the Project.

The proposed Project will implement spill prevention and emergency response procedures, as well as facility monitoring in accordance with regulatory requirements and standards.

Throughout the construction phase and during mining operations, all erosion control measures mandated by local, state, and federal guidelines will be diligently implemented and followed to reduce and mitigate potential impacts.

The scale of earthwork, while substantial, represents minor impacts when considering the site's industrial zoning, previous mining disturbances, and implementation of required erosion control measures. No unique geological features or prime farmland soils will be affected.

SOCIOECONOMICS

The proposed Project will result in beneficial impacts on socioeconomics during construction and operations. The proposed Project is anticipated to create approximately 1,000 new jobs during construction and 400 jobs during operations. The Project will create additional economic opportunity through the procurement of goods and services during construction and operations. Further, Albemarle is committed to supporting community development through workforce upskilling and supporting community programs in the City of Kings Mountain.

CULTURAL RESOURCES

Pursuant to Section 106 of the National Historic Preservation Act, the DOE has completed consultation with the North Carolina State Historic Preservation Office (NCSHPO) regarding potential effects to historic properties within the Area of Potential Effects (APE). Based on that consultation, the DOE executed a Memorandum of Agreement (MOA), signed on 1 October 2025 by the DOE, between Albemarle and the North Carolina State Historic Preservation Office, with concurrence from the Cleveland County Historic Preservation Commission, to resolve adverse effects to three historical properties in accordance with 36 CFR 800.6.

The MOA stipulates specific mitigation strategies including: (1) comprehensive recordation/documentation of the historic sites to ensure there is a permanent record as they now exist; and (2) community outreach and public interpretation in order to disseminate important information regarding the historic sites to the interested public. This will include digitizing any relevant historic documents from the record keepers of the historic properties and generating an ArcGIS Story Map detailing the significance of the affected historic properties and other significant resources within the context of mining and industry in the Kings Mountain area.

All stipulations and mitigation measures identified in the MOA will be implemented as conditions of DOE's project approval. The Section 106 consultation process has been completed, and all parties have concurred that the mitigation measures adequately resolve adverse effects to the historic properties.

PUBLIC AND OCCUPATIONAL HEALTH AND SAFETY

Risks to public and occupational health and safety during construction and operations are expected to be minor and manageable through implementation of appropriate safety and emergency plans. The facility would be designed and operated in accordance with applicable health and safety standards.

PUBLIC AVAILABILITY

The Draft EA was released for public review and comment on January 17, 2025 with appropriate public notification including publication in local newspapers, posting on the DOE NEPA website, and direct notification to stakeholders. A public comment period of 30 days was provided. The public was invited to provide oral, written, or e-mail comments on the Draft EA to DOE during the comment period. Copies of the Draft EA were distributed to relevant federal and state agencies and tribal nations.

PUBLIC COMMENTS

DOE received one comment during the public comment period from a local resident. The comment expressed concerns about the safety of lithium processing operations, odors from existing mine dewatering activities, stormwater management at the mine site, and the overall presence of Albemarle's operations in Kings Mountain. The commenter opposed the processing facility and requested that DOE not approve the Project.

The DOE carefully considered this comment and addressed the concerns raised as follows:

- Safety of Processing Operations: The EA comprehensively evaluated potential health and safety risks associated with the proposed mineral processing facility. The concentrator facility will process lithium-bearing ore through mechanical crushing, grinding, and flotation processes to produce spodumene concentrate—a solid mineral product, not refined lithium chemicals. This is fundamentally different from chemical conversion facilities that process spodumene into lithium hydroxide or lithium carbonate. The proposed facility will operate under strict environmental and safety regulations, including air quality permits, water discharge permits, and occupational safety standards enforced by federal and state agencies.

- Odor Concerns: Odor issues referenced in the comment relate to existing mine dewatering operations, which are separate from the DOE-funded mineral processing facility. The concentrator facility will employ closed-loop water systems and modern emission controls. Air quality impacts were evaluated in the EA, and the facility will comply with all applicable air quality regulations and permit requirements established by the North Carolina Department of Environmental Quality.

- Stormwater and Water Management: The EA evaluated potential impacts to surface water and groundwater. The proposed project will implement comprehensive stormwater management systems including a Stormwater Pollution Prevention Plan (SWPPP), best management practices, engineered containment systems, and water recycling infrastructure. All discharges will be regulated under NPDES permits with strict monitoring and compliance requirements.

Finally, the proposed Project is subject to extensive federal, state, and local regulatory oversight including permits from the USACE, North Carolina Department of Environmental Quality, and local authorities. Ongoing monitoring and compliance verification will be required throughout construction and operation. Based on the comprehensive environmental analysis, coordination with resource agencies, required permits and mitigation measures, and regulatory oversight

framework, DOE determined that the Proposed Action would not result in significant adverse environmental impacts.

MITIGATION REQUIREMENTS

Mitigation measures required for the proposed Project are contained in permits obtained from the appropriate permitting authorities and the MOA.

Wetlands and Aquatic Resources Mitigation: Under USACE Nationwide Permit SAW-2018-00616 (issued May 29, 2025), Albemarle is required to provide compensatory mitigation for impacts to 7,247 linear feet of stream and 5.43 acres of wetlands within the Broad River Basin (Hydrologic Unit Code 03050105). This mitigation will be fulfilled through the purchase of 12,207 stream mitigation credits and 7.17 wetland mitigation credits from the NCDMS ILF program. All compensatory mitigation will be completed in accordance with the approved mitigation plan prior to impacts occurring.

Cultural Resources Mitigation: All stipulations and mitigation measures identified in the MOA are required.

DETERMINATION

Based on information presented in the EA (DOE/EA-2265), DOE finds that the Proposed Action to provide a grant of approximately $149 million to Albemarle as part of a total contract value of $394 million would not significantly affect the quality of the physical, biological, or human environment. This determination is supported by the comprehensive environmental analysis conducted, coordination with federal and state resource agencies, completion of required regulatory consultations including execution of the MOA, and the absence of significant public or agency opposition during the public comment period. Therefore, preparation of an Environmental Impact Statement is not required, and DOE is issuing this FONSI.

A copy of the EA is available at DOE's NETL EA website at: https://netl.doe.gov/node/6939. The EA is also available at DOE's NEPA – EA website at https://www.energy.gov/nepa/doe-environmental-assessments.

Copies of the EA and FONSI can also be obtained by sending a request to:

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