Final Scoping Report for Kings Mountain Mine Project

Environmental and Social Impact Assessment

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Albemarle

Disclaimer

This Scoping Report, an initial step to elicit stakeholder feedback prior to preparation of an Environmental and Social Impact Assessment (ESIA), is being prepared voluntarily by Albemarle U.S., Inc. (Albemarle) to align with the Initiative for Responsible Mining Assurance (IRMA) Standard. It is not required by United States federal, state, or local government laws or regulations.

Key Points of Contact

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Acronyms and Abbreviations

Acronym	Definition
Albemarle	Albemarle U.S., Inc.
amsl	above mean sea level
AoI	Area of Influence
CAP	Community Advisory Panel
CAT	Community Affairs Team
CBG	census block group
CT	census tract
CO	carbon monoxide
dBA	A-weighted decibel
DOE	U.S. Department of Energy
EAoI	Environmental Area of Influence
EJ	environmental justice
ERM	ERM NC, Inc.
ESA	Endangered Species Act
ESHS	Environmental, Social, Health, and Safety
ESIA	Environmental and Social Impact Assessment
ETJ	extraterritorial jurisdiction
FEMA	Federal Emergency Management Agency
Gateway Trail	Kings Mountain Gateway Trail
GHG	greenhouse gas
gpm	gallons per minute
gpm/acre	gallons per minute per acre
I-85	Interstate 85
IIoT	Industrial Internet of Things
IRMA	Initiative for Responsible Mining Assurance
KMM	Kings Mountain Mine
KMSZ	Kings Mountain Shear Zone
MSF	material storage facility
NAAQS	National Ambient Air Quality Standards

Acronym	Definition
non-PAG	non-potentially acid generating
NC	North Carolina
NCDEQ	North Carolina Department of Environmental Quality
NCDOT	North Carolina Department of Transportation
NCWRC	North Carolina Wildlife Resources Commission
NGO	nongovernment organization
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NPI	non-process infrastructure
NTS	non-technical summary
O_3	ozone
PAG	potentially acid generating
PCB	polychlorinated biphenyl
PFAS	per- and polyfluorinated substances
PM	particulate matter
$PM_{2.5}$	particulate matter with an aerodynamic diameter of 2.5 microns or less
PM_{10}	particulate matter with an aerodynamic diameter of 10 microns or less
Project	Kings Mountain Mine Project
PSS	palustrine scrub-shrub
PUB	palustrine unconsolidated bottom
ROM	run-of-mine
RSF	rock storage facility
SAoI	Social Area of Influence
SNAP	Supplemental Nutrition Assistance Program
SO_2	sulfur dioxide
SRK	SRK Consulting U.S., Inc.
SVOC	semivolatile organic compound
SWCA	SWCA Environmental Consultants
TSF	tailings storage facility
U.S.	United States

Acronym	Definition
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VEC	valued environmental component
VOC	volatile organic compound
WSB	water storage basin
WTP	water treatment plant

Glossary of Terms

Term	Definition
Area of Influence	The area within which a project may potentially directly or indirectly cause impacts.
affected community	A community that is subject to risks or potential impacts from a project.
baseline	Environmental and social conditions prior to Project activities.
Direct Area of Influence	The physical mine site footprint; areas adjacent to the mine site that are affected by emissions and effluents, power transmission corridors, pipelines, borrow and disposal areas, etc.; and the area affected by associated facilities that, although not part of the project that is being assessed, would not have been constructed in the absence of the Project.
Indirect Area of Influence	The physical footprint of non-Project activities in the surrounding area that are caused or stimulated by the Project and the area affected by their emissions and effluents.
mitigation measure	An action taken to reduce the likelihood and/or consequence of a certain adverse impact occurring.
mitigation hierarchy	A set of prioritized steps to alleviate environmental or social harm as far as possible through avoidance, minimization, and/or restoration/compensation.
receptor(s)	Features of the physical, biotic, or social environment that are affected by a project action. For example, a body of water that receives stormwater discharges from a project site is a receptor.
residual impacts	Project-related impacts that remain after mitigation measures (avoidance, minimization, and/or restoration/compensation) have been applied.
stakeholders	Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.
TSF site	The tailings storage facility location.

Source: IRMA 2018

1. INTRODUCTION

Albemarle U.S., Inc. (Albemarle), headquartered in Charlotte, North Carolina, is a leading global producer of lithium-based chemicals. Albemarle currently operates a lithium compound and metal production facility at the legacy Kings Mountain Mine (KMM) (legacy mine) located in the city of Kings Mountain in Cleveland County, North Carolina. To meet current and expected demand for lithium products, Albemarle intends to reopen the legacy mine to produce spodumene concentrate from the spodumene resource at the site. The spodumene will be extracted by deepening and expanding the legacy mine footprint from an existing, inactive open pit. Non-ore-bearing rock, ore sorting rejects, and dense media separation coarse tails generated during mining operations may 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 (hereafter "the TSF"). Together, the KMM site and TSF constitute the Kings Mountain Mine Project (Project).

This Scoping Report is an initial step to elicit stakeholder feedback prior to preparation of an Environmental and Social Impact Assessment (ESIA). Albemarle has voluntarily committed to aligning with Initiative for Responsible Mining Assurance (IRMA) Standard, Version 1.0 (IRMA Standard). This Scoping Report and the ESIA document that will be produced later in the process are being prepared to align with the IRMA Standard and are not required by United States (U.S.) federal, state, or local government laws and regulations.

1.1. PROJECT LOCATION

The KMM site is in Cleveland County, North Carolina, approximately 30 miles west of Charlotte, North Carolina, and 2.6 miles north of the North Carolina / South Carolina state line (Figure 1-1). The KMM site is comprised of approximately 1,115.5 acres of disturbed, undisturbed, and developed land that is bisected by Interstate 85 (I-85), with a larger land area located on the northern side of the interstate and a smaller land area south of the interstate.

The northern portion is bordered by South Battleground Avenue (Highway 216) to the north, Tin Mine Road to the west, Quarry Road to the east, and I-85 to the south. Martin Marietta operates an active aggregate mine that borders the KMM site to the east. The southern portion is bordered by I-85 to the north and York Road to the east. Land use surrounding the KMM site consists of mixed industrial/commercial/residential/utility rights-of-way with discontinuous areas of pine and mixed hardwoods. Past land use includes the former lithium mine open pit and supporting infrastructure, and a retired recreational vehicle park and retired textile mill, both located in the northwestern portion of the KMM site.

The TSF is located 3 miles southwest of the KMM site and 1.2 miles north of the North Carolina / South Carolina state line. The TSF site, approximately 131.2 acres,[1] is situated

[1] TSF site West: 50.9 acres; TSF site East: 80.3 acres

between I-85 to the south-southeast and North Carolina Highway 29 to the northwest and is currently used for industrial operations.

Figures 1-2 and 1-3 present an aerial view of the KMM site and TSF site, respectively.

Figure 1-1: Project Location Map

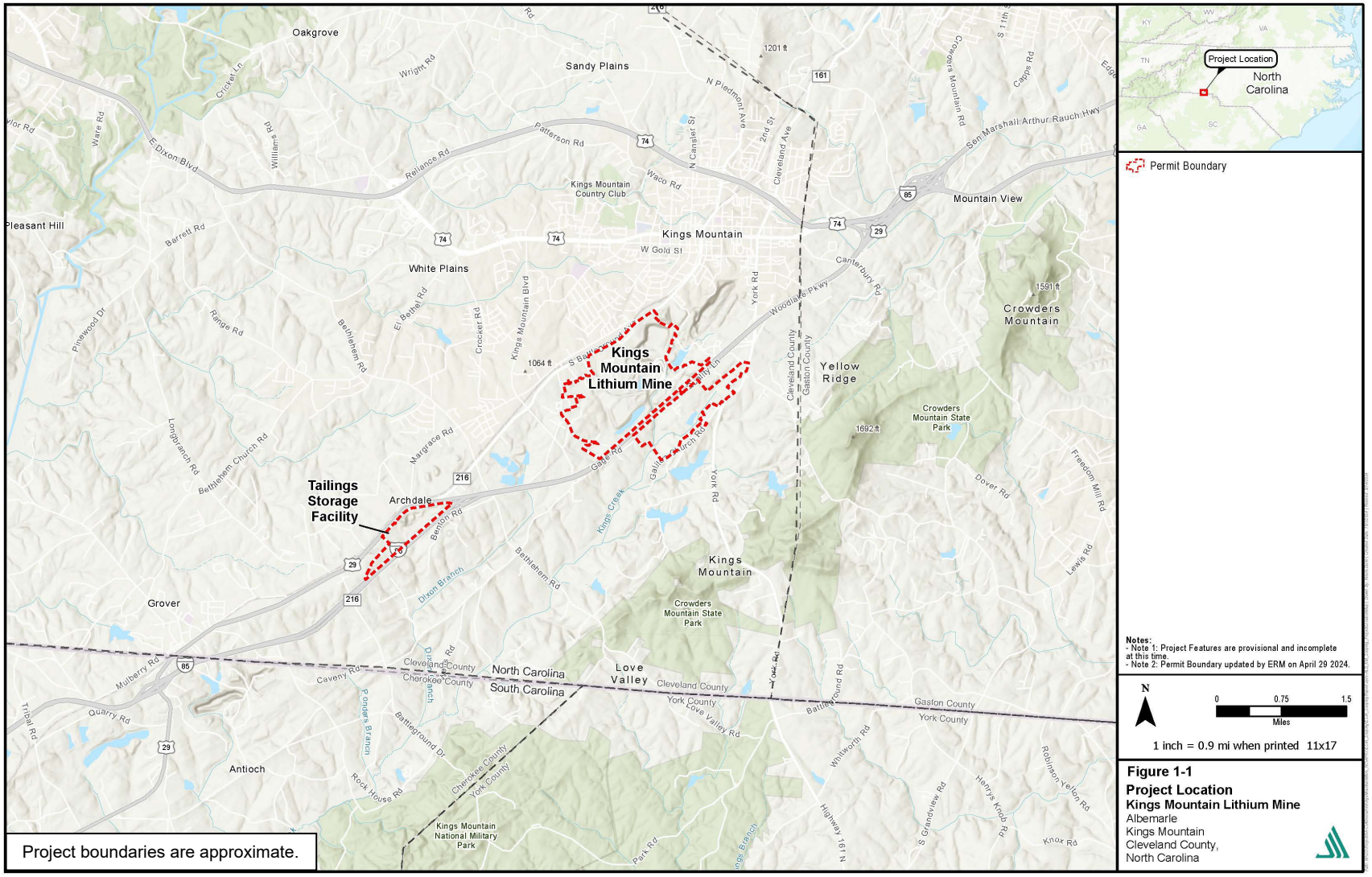
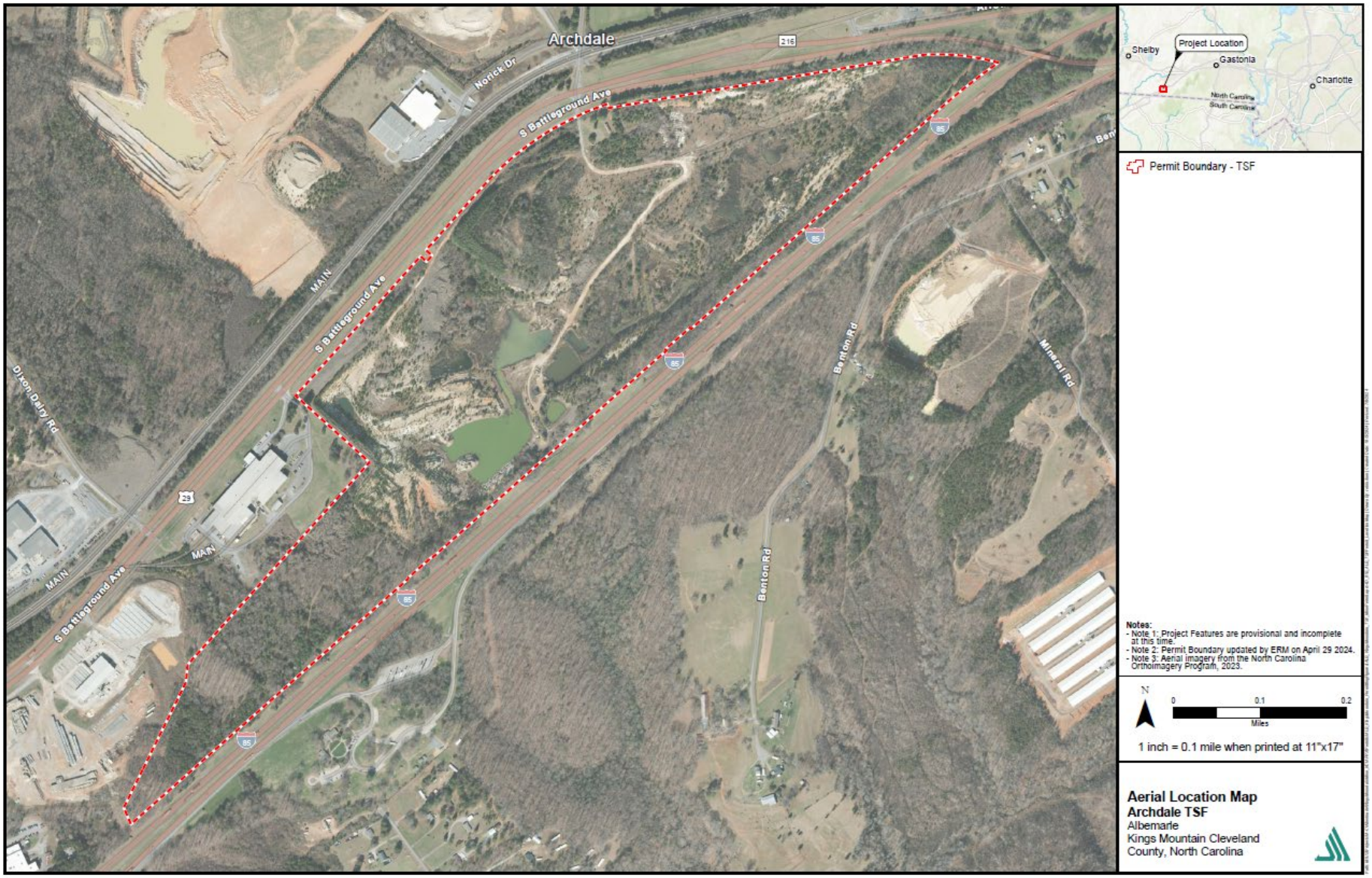


Figure 1-2: Aerial Location Map of KMM Site

Figure 1-3: Aerial Location Map of TSF Site



1.2. PROJECT BACKGROUND

The Project is located along the Carolina Tin-Spodumene Belt, which contains a hardrock lithium-bearing pegmatite intrusion. The pegmatite field at the KMM site is approximately 1,500 feet wide at the widest point and 400 to 500 feet wide at the narrowest point. The relatively narrow Carolina Tin-Spodumene Belt extends for approximately 30 miles between Lincolnton and Grover, North Carolina (Figure 1-4).

Mining at the legacy mine started in 1883 with the discovery of cassiterite, a tin-bearing mineral within the outcropping pegmatites. Subsequently, open-pit mining for tin occurred sporadically between 1903 and 1937. Between 1943 and 1945, under sponsorship from the U.S. government, Solvay established a processing plant and mined spodumene from the outcroppings of pegmatites at the legacy mine. In the early 1950s, Foote Mineral Corporation, a subsidiary of Newmont Mining Corporation, purchased the property and began open-pit mining to extract lithium from the spodumene for a short period of time in the 1970s and 1980s.

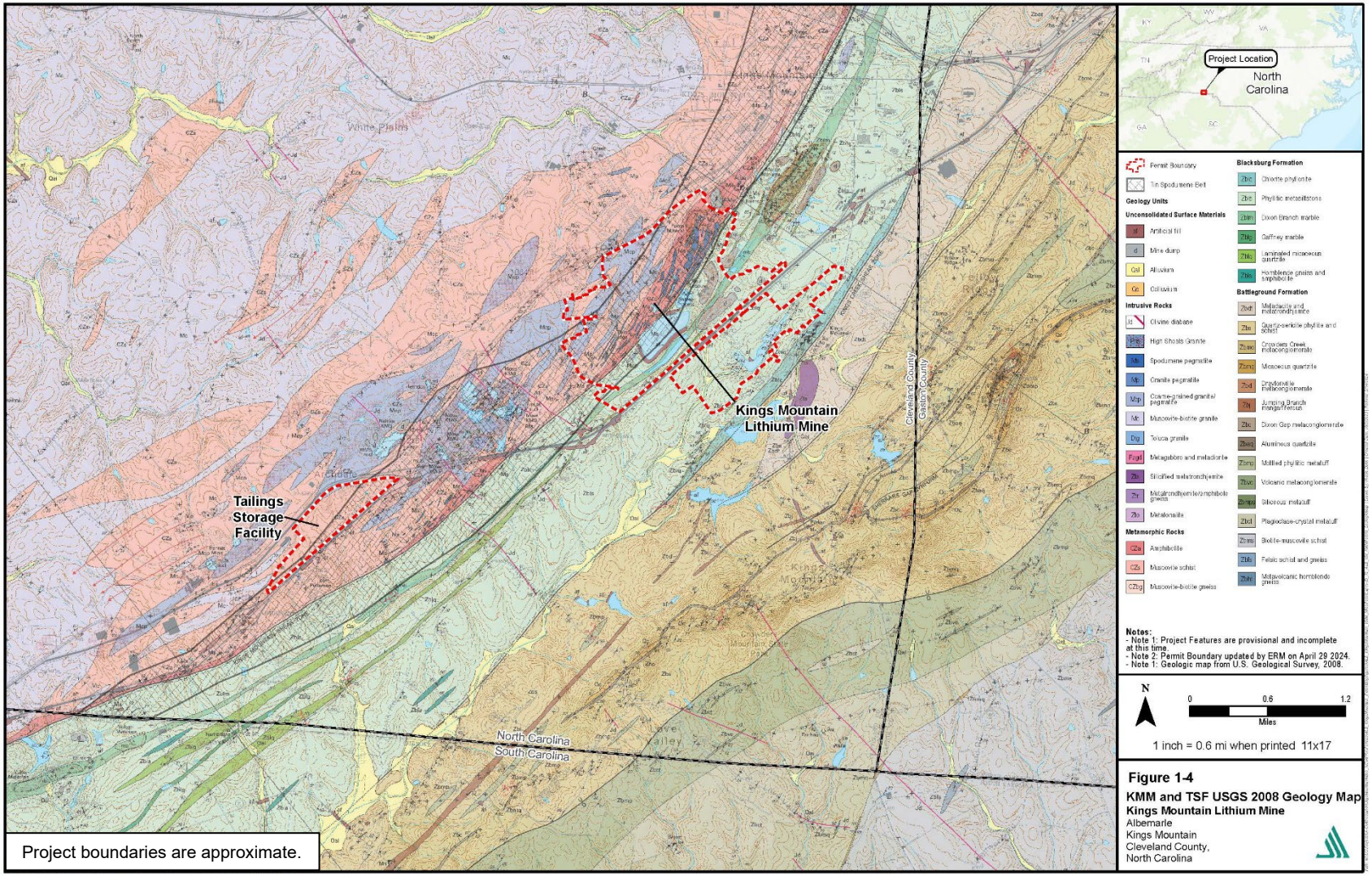
During these operations, ore from the pit was processed onsite and tailings were transported by slurry to an onsite tailings pond. Non-ore-bearing rock was stored at a rock storage facility (RSF) currently known as Cardio Hill or the butterfly garden area, as well as in several other unnamed locations throughout the KMM site. Runoff from the site was managed through the South Creek Reservoir and the tailings pond.

In 1993, exploration and mining operations ceased when the open pit bottom reached approximately 600 feet above mean sea level (amsl). In early 1994, an open-pit lake started to form due to rebounding groundwater, and the surface of the pit lake ultimately reached an elevation of 817 feet amsl. During the groundwater rebounding period (from approximately 1994 to April 2024), water was pumped sporadically from the pit lake to an adjacent aggregate quarry to support operations.

The KMM currently operates under Mining Permit Numbers 23-01 and 23-34, in accordance with the provisions of the North Carolina Mining Act of 1971. Prior to the development of this Project, approximately 509 acres were heavily disturbed by historical mining activities. The activities associated with the Project's resumption of open-pit mining operations at the KMM site will disturb an additional 636.6 acres, creating a total area (disturbed and undisturbed) of 1,145.6 acres.

The TSF site was formerly a mica mine believed to have commenced operations in the mid-1990s and ceased between 2012 and 2014. Previous mining activities at this site created multiple deeply incised pits, water impoundments, ponds, large areas of waste rock, and access roads. Like the open pit at the KMM site, the legacy pits at the TSF site have since filled with water, and much of the land surrounding the water features has naturally revegetated since cessation of mica mining operations.

Figure 1-4: Geology Map



1.3. PROJECT PURPOSE AND NEED

The overall purpose of this Project is to provide a domestic source of lithium to meet the growing demand for this critical mineral that is required to help the United States achieve its sustainable clean energy goals. Lithium-ion batteries are an essential part of the nation's alternative energy strategy to reduce its reliance on fossil fuels. Lithium is used in batteries for electric vehicles, solar panels, renewable energy storage, and other emerging green energy technologies. The proposed Project will help meet several national priorities presented in recent presidential Executive Orders. The 2021 Executive Order 14008 on Tackling the Climate Crisis at Home and Abroad addresses the climate crisis and the government's agenda to build a clean and equitable energy economy that achieves carbon-pollution-free electricity by 2035 and puts the United States on a path to achieve net-zero emissions, economy-wide, by no later than 2050.

The strategic vulnerabilities to critical minerals, including lithium, were recognized in the 2017 Executive Order 13817 on Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals to reduce the nation's vulnerability to disruptions in the supply of critical minerals, and again in the 2020 Executive Order 13953 on Addressing the Threat to the Domestic Supply Chain from Reliance on Critical Minerals from Foreign Adversaries and Supporting the Domestic Mining and Processing Industries. In 2021, the U.S. Department of Energy (DOE) Office of Energy Efficiency & Renewable Energy released the National Blueprint for Lithium Batteries, 2021–2030, which included goals for securing access to raw and refined materials, discovering alternatives for critical minerals for commercial and defense applications, and supporting the growth of a U.S. materials processing base able to meet domestic battery manufacturing demand.

As such, the U.S. government is seeking to strengthen U.S. lithium-ion battery production by providing funding and resources for domestic lithium mining to reduce the country's reliance on foreign lithium supply and increase the nation's energy self-sufficiency. To this end, Albemarle. applied for and received a $394 million grant from the DOE as part of the Bipartisan Infrastructure Law: Battery Materials Processing and Battery Manufacturing (DE-FOA-0002678) to expand domestic manufacturing of batteries for electric vehicles and the electrical grid and for materials and components currently imported from other countries. The grant funding is intended to support a portion of the anticipated cost to construct a new, commercial-scale U.S.-based lithium materials processing plant that uses sustainably extracted spodumene minerals from the reopened mine at Kings Mountain. This 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, and environmentally sound energy."

The United States produces less than 2 percent of the world's supply of lithium, which comes from a single brine operation, Albemarle's Silver Peak site, located in Nevada. Thus, additional domestic lithium sources are needed to meet domestic demands for lithium in the United States. The KMM site was a major supplier of lithium from the mid-20th century into the 1980s but shut

down when cheaper lithium sources became available in other countries. The present demand for domestically produced lithium has made reopening the KMM financially feasible.

Therefore, Albemarle proposes to reopen the spodumene mine at Kings Mountain, which contains hardrock lithium deposits, and construct a modern-day commercial-scale processing facility to extract and refine mineralized spodumene to a high-quality lithium-bearing spodumene concentrate that, upon conversion to battery-grade lithium hydroxide offsite, will provide a domestic source of lithium to meet growing demands in the United States.

1.4. COMMITMENT TO RESPONSIBLE MINING

Albemarle is committed to responsible mining and acting as a good neighbor. As part of this commitment, Albemarle became a member of IRMA[2] in 2022. IRMA was founded in 2006 by a coalition of nongovernment organizations (NGOs), businesses that purchase minerals and metals for the products they make and sell, trade unions, affected communities, and mining companies. IRMA leaders believe that many of the negative social and environmental impacts associated with mining can be avoided if mines operate according to established best practices (IRMA 2020). The IRMA vision is:

> *"A world where the mining industry: is respectful of the human rights and aspirations of affected communities; provides safe, healthful and respectful workplaces; avoids or minimizes harm to the environment; and leaves positive legacies."* (IRMA 2018)

The IRMA Standard for Responsible Mining Version 1.0 (IRMA 2018) is considered the most comprehensive and rigorous certification standard for responsible mining assurance, specifically for environmentally and socially responsible mining practices. The IRMA Standard draws on several other highly credible and widely used standards and guidelines such as the International Finance Corporation Performance Standards on Environmental and Social Sustainability (2012), the United Nations Voluntary Principles on Security and Human Rights, the Global Industry Standard on Tailings Management, and the United Nations Guiding Principles on Business and Human Rights.

As an IRMA member, Albemarle is committed to developing and operating the Project according to national, state, and local regulations and the IRMA Standard. Once operational, the KMM may request a full third-party verification assessment, conducted by an IRMA-approved certification body. During the assessment, auditors measure Albemarle's performance against the IRMA Standard and invite members of the community to participate and provide commentary on whether they believe Albemarle is acting as a responsible mining company. Stakeholder input is considered in the assessment findings. After an initial IRMA assessment, the KMM can anticipate receiving an achievement level that reflects the mine's performance against the standard and the assessment outcomes. IRMA then shares the assessment publicly. The IRMA Standard makes provision for a three-year assessment cycle designed to encourage continuous improvement. The KMM can expect to go through a re-assessment every

[2] For more information, see: https://responsiblemining.net/.

3 years, with an interim assessment to be required within 18 months of each verification assessment.

Chapter 2.1, Environmental and Social Impact Assessment and Management, of the IRMA Standard requires that the project developer prepare an integrated ESIA prior to the development of a mine. The ESIA process is not required by federal, state, or local government laws or regulations.

The ESIA includes conducting a scoping process that identifies the potential key environmental and social risks and impacts to be assessed in the ESIA and that is shared with stakeholders (in line with requirements in Chapter 1.2, Community and Stakeholder Engagement, of the IRMA Standard). This Scoping Report summarizes the findings of the scoping process and follows the requirements in Section 2.1.3 of the IRMA Standard for scoping (Table 1-1).

Table 1-1: Scoping Requirements per the IRMA Standard

IRMA Chapter	Requirement	Cross Reference to Scoping Report Chapter
2.1.3.1	The operating company shall carry out a scoping process to identify all potentially significant social and environmental impacts of the mining project to be assessed in the ESIA.[3]	This Scoping Report
2.1.3.2	During scoping, the operating company shall identify stakeholders and rights holders (hereafter collectively referred to as "stakeholders") who may be interested in and/or affected by the proposed project.	Section 6, Stakeholder Engagement
2.1.3.3	Scoping shall include consideration of: • Social impacts (including potential impacts on communities and workers) and environmental impacts (including potential impacts on wildlife, air, water, vegetation, and soils) during all states of the project life cycle, from pre-construction through post-closure; • Direct, indirect, and cumulative impacts; and • Potential impacts of extreme events.	Section 7, Scoping Results
2.1.3.4	Scoping shall result in the identification of: • Potentially significant environmental and social impacts of the proposed project; • Alternative project designs to avoid significant adverse impacts; • Other actions to mitigate identified adverse impacts; and • Additional information and data needed to understand and assess the potential impacts.	Section 2, Project Description, and Section 2.4, Alternatives Analysis Section 7, Scoping Results

ESIA = Environmental and Social Impact Assessment; IRMA = Initiative for Responsible Mining Assurance

Prior to restarting mining operations, Albemarle will obtain all local, state, and federal permits needed to construct, operate, and close the Project. Further details on responsible mining commitments are outlined in Section 1.4. Commitment to Responsible Mining, while the ESIA process is described in Section 3, Environmental and Social Impact Assessment Process.

[3] Scoping refers to the early, open and interactive process of determining the major issues and impacts that will be important in decision-making on the proposal and need to be addressed in an ESIA.

2. PROJECT DESCRIPTION

Albemarle will deepen and widen the existing open pit at KMM to extract material and produce spodumene concentrate. Filtered tailings produced from the mining operations will be transported to the TSF site to be permanently dry stacked. As mining activities have historically occurred at both sites, remnant infrastructure and open pits are present at each.

The Project consists of five major phases including:

1. Site preparation and access
2. Construction
3. Operations
4. Closure and final reclamation

2.1. PROJECT PHASES

2.1.1. Site Preparation

Before mining operations commence, the existing open pit at the KMM site will be dewatered to allow for material extraction. Pit dewatering and associated discharge conditions were permitted under National Pollutant Discharge Elimination System (NPDES) Permit No. NC0090212.

Site preparation activities at the KMM and TSF sites include the following activities:

- Clearing and grubbing.
- Relocation of utilities, including relocation of sewer lines, a gas distribution line, and overhead transmission lines.

2.1.2. Construction

At the KMM site, construction of the concentrator and associated Project infrastructure including the crushing circuit, RSFs, Water Storage Basin 1 (WSB-1), water treatment plant (WTP), haul roads, access roads, I-85 bridge, non-process infrastructure (NPI) areas, concentrate and tailings loadouts, railway, stormwater management system, and supporting utilities will be completed in an anticipated 2-to-3-year period.

The sequence of construction activities is as follows:

- Demolish existing structures that cannot be retrofitted or repurposed for mine activity.
- Install six communications towers at the KMM site. The towers will be used to provide wireless, cellular, and LoraWan communications to the KMM personnel, applications, mining vehicles, and Industrial Internet of Things (IIoT) sensors during the pre-/post construction phases of the mine.
- Road and right-of-way abandonment and road rerouting. The following roads are pending either full or partial removals to accommodate the Project:
  - Castle Rock (North Carolina Department of Transportation [NCDOT]);

  - Park Grace (NCDOT);
  - Beta Place (NCDOT);
  - Beta Circle (private)—to be confirmed;
  - Goodall Drive (NCDOT and partial private);
  - Miracle Drive (private)—to be confirmed;
  - Holiday Inn Drive (partial NCDOT); and
  - Quality Lane / Industrial Drive (partial NCDOT).
- Implement sediment and erosion control measures.
- Execute clearing and grubbing activities. Stockpile vegetation and soil separately in designated areas.
- Develop access roads, temporary site service roads, and laydown areas.
- The mining fleet will begin moving bulk waste rock filling areas on the north side of the interstate between Kings Creek and the interstate for facility locations.
- Commence grading to bulk cut and fill requirements.
- Place fill and install permanent drainage systems and erosion control structures (run-of-mine [ROM] pad wall).
- Develop utilities infrastructure.
- Develop permanent haul site service roads.
- Excavate for foundations and conduct piling as required.
- Construct permanent infrastructure including:
  - Processing plant;
  - NPI;
  - WSB-1 dam; and
  - Perimeter berms and buffers.

At the TSF site, construction will consist of dewatering, clearing, and grubbing of existing vegetation, implementation of stormwater best management practices, construction of access and haul roads and an embankment and perimeter berm around the former mine pit to allow storage of filtered tailings above the base topography in the area.

2.1.3. Operations

During general mine operation, the KMM open pit footprint will be expanded by first removing the suitable growth media to be transported to the growth media storage area. After the ore is drilled, blasted, and loaded, it will be hauled to the ROM pad by haul trucks. Ore on the ROM pad will be fed through a three-stage (primary, secondary, tertiary) crushing system prior to

being conveyed to the plant ore stockpile located south of I-85 next to the concentrator. The concentrator will process an average of 2.9 million short tons per annum (8,200 short tons per day) of ROM ore to produce approximately 420,000 short tons per annum of a spodumene concentrate. The spodumene concentrate will be transported offsite by rail. Tailings from the spodumene concentrate process will be filtered to approximately 15 percent moisture content by weight and transported via truck to the TSF site. Non-ore bearing rock and other materials separated from ore in the crushing and concentrating processes will be stored onsite in either RSF-A or RSF-X, depending on the acid generating nature of the rock. The non-ore bearing rock with economic value as aggregate will be transported by haul truck to the adjacent Martin Marietta quarry.

2.1.4. Mine Closure and Reclamation

After mine activities cease, Albemarle will implement best management approaches to develop post-mining land uses that are agreeable to stakeholders. Financial assurance mechanisms for closure will be in place throughout the entirety of the mine closure phase.

Key elements of closure and reclamation include:

- Vegetation: The mine reclamation plan includes year-round seeding, the amount and type of seed, type of fertilizer, lime, and mulch per acre.
- Stormwater management: As closure covers are placed over the RSFs, contact water diversion channels will be removed to allow runoff from the reclaimed surfaces to flow into the non-contact water diversion channels. This flow will be routed through sediment ponds or in-line sediment controls, such as rock check dams to control sediment as the vegetation is established.
- Open pit: The open pit will be partially backfilled with material from RSF-X. The open pit will recharge from groundwater inflows and precipitation, which will eventually discharge through shallow groundwater and surface water outflow into Kings Creek.
- RSFs: Potentially acid generating (PAG) materials at RSF-X will be backfilled into the open pit, which will eventually be submerged as the pit lake begins to form. A cover will be placed on RSF-A. RSF-A will be graded and covered with at least 2 feet of growth media.

2.2. PROPOSED PROJECT FEATURES

Key features that will either remain in place with modifications from the legacy mine, or that will be newly added for the Project are described below. Key Project features include the following:

- Mineral processing facility—a facility designed to physically separate spodumene from pegmatite ore.
- Conveyors—a conveyor system that will be used to transport material including over I-85.
- Crushing and screening circuit—a three-stage crushing circuit where the ore will be reduced in size to facilitate separation of the spodumene from non-lithium-bearing materials.

- Growth media storage—an area where growth media will be stockpiled for future use as soil coverage.
- Haul roads/service roads—internal roads that will either be modified or newly constructed to transport material across the KMM site. Haul roads may be relocated during mining operations, as the pit expands. Haul road will primarily be used by onsite haul trucks. Service roads will be used by dump trucks to take material to the TSF site.
- Kings Creek—a natural creek that has been historically altered by legacy mine operations at the KMM site and by ongoing operations at the adjacent Martin Marietta mine. The creek enters the KMM site from the adjacent Martin Marietta facility. It will receive discharge from Project stormwater outfalls, South Creek Reservoir, and WSB-1 before ultimately discharging offsite.
- Mobile equipment—equipment that will be used to perform operations.
- Material storage facility (MSF)—an area used for storage of non-lithium rock and residual soils excavated from the RSF. The removal of this material from the RSF will help meet stability requirements for the stockpile facilities.
- NPI—support infrastructure including, but not limited to, non-haul roads, offices, fueling facilities, hazardous material storage, and vehicle maintenance and wash areas. Two NPI areas will be located at the KMM site (north and south of I-85), to support mining and processing operations.
- Open pit—the existing open pit that was originally excavated during previous mining operations. The pit footprint will be expanded during Project operations.
- Plant feed stockpile—an area used to stockpile ore produced from the crushing circuit, and to serve as feed to the mineral processing facility plant.
- Ponds—temporary ponds for retention of runoff and sedimentation control specific to the water source (contact water, non-contact stormwater, PAG runoff, non-potentially acid generating [non-PAG] runoff).
- RSF—an area used for storage of non-ore-bearing rock excavated from the open pit.
- RSF-A—an area used for storage of non-PAG rock, legacy tailings, and coarse embankment material to be removed from the legacy TSF at the KMM site.
- RSF-X—an area used for storage of PAG rock, sorted ore rejects, and dense media separation rejects.
- ROM pad—an area used to stockpile ore mined from the open pit before further processing.
- South Creek—a natural creek that was historically impounded to support legacy mine operations. It enters the KMM site from an adjacent property and flows generally south through the KMM site before discharging into South Creek Reservoir. The South Creek Reservoir dam contains a spillway that conveys water to Kings Creek.

- TSF—the TSF that will be used to store filtered and compacted tailings generated in the mineral processing facility plant.
- Transportation route—the route by which tailings will be transferred from the KMM site to the offsite TSF via trucks: enter directly on to Highway 216 and head west via U.S. 29 / Highway 216. Saprolite from Archdale will be hauled on the same route to Kings Mountain.
- WSB-1—the legacy TSF that will be modified to serve as water storage for discharges from the WTP and all contact water (treated and untreated). It will also act as a sedimentation pond and supply of makeup water (water that is lost during operations) to the mineral processing facility and other mining operations.
- WTP—a WTP that will be used to treat PAG contact water runoff from RSF-X, and excess water used in the mineral processing facility.

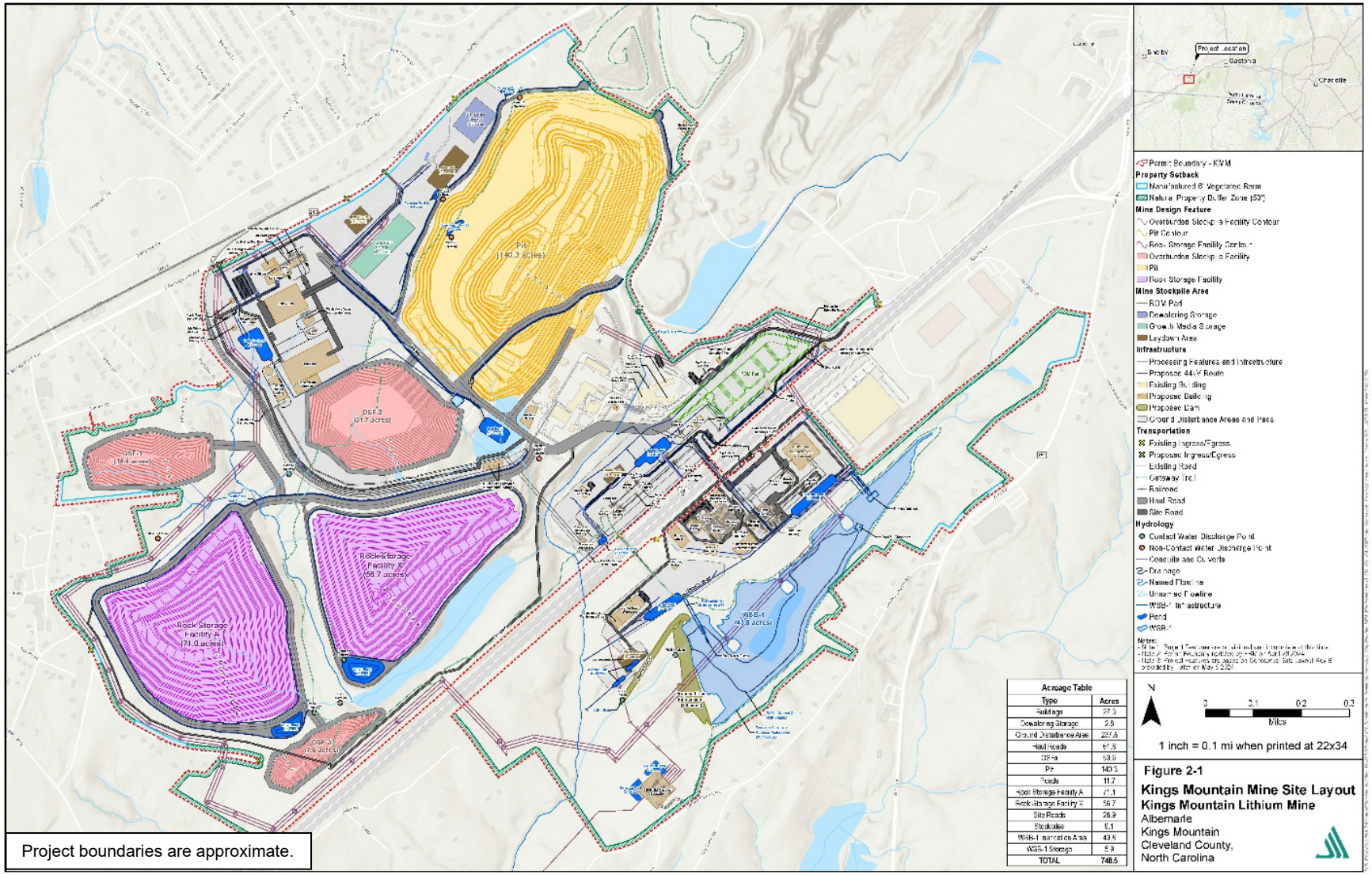
2.2.1. Open-Pit Mine

The proposed Project layout at the KMM site illustrates the locations of the main Project facilities and associated infrastructure (Figure 2-1). The crushing circuit, RSFs, MSFs, growth media storage, and ROM pad will be constructed north of I-85 to support operations on the south side of I-85. Internal haul roads will connect the open pit to the ROM pad, the Martin Marietta property, mineral processing facility, and RSFs during operations for the processing and storage of mined materials. A tailings loadout area will be located within the NPI area, and a concentrate loadout area will be located south of the open pit. A new bridge, or conveyor, will be constructed over I-85 to connect the ROM pad / crushing circuit to the mineral processing facility and south NPI area located immediately south of I-85.

WSB-1 will be located south of the mineral processing facility and will collect all contact water, non-contact stormwater water, and treated effluent from the WTP before being discharged from the site. WSB-1 is designed to provide surface water control, act as a sedimentation pond, and supply water to the mineral processing facility.

Filtered tailings will be transported across the I-85 bridge via a new conveyor to the filtered tailings loadout area located on the north area of the KMM site.

Figure 2-1: Kings Mountain Mine Site Layout



2.2.2. Tailings Storage Facility

The filtered tailings from the KMM site will be transported to the TSF site and placed and compacted in a legacy open pit in a dry stack configuration. Over the life of the Project, the TSF embankment will be raised in six phases, and the filtered tailings will continue to be stored to a maximum embankment crest elevation of 960 feet amsl. Contact water from the interior of the TSF will be collected in an underdrain system and seepage collection drain and directed to a contact water management pond. Water in this pond will be monitored for water quality prior to discharge into an unnamed tributary that flows under I-85 to the south, where it joins Dixon Branch south of the TSF site.

2.3. MINE SEQUENCING

Activities that will occur during the construction, operation, closure, and post-closure/reclamation phases and their approximate timing are described in Table 2-1, below.

Table 2-1: Project Phase Time Periods and General Activities

Project Phase (Approximate Duration/Timing)	Key Activities [a,b,c]
Construction (2.5 years duration)	Infrastructure construction: ROM pad, crushing circuit, I-85 mineral processing facility bridge or conveyor, Kings Creek haul road culvert, RSF-A, RSF-X (initial phase), WSB-1, NPI, concentrate loadout, growth media storage, WTP.
Operations (Year 0)	Infrastructure in place (RSF-X still in initial phase configuration). Haul roads constructed including the in-pit haul road. Pit mining and mineral processing facility commences.
Operations (10 years duration)	Pit shell expanded to include consumption of the in-pit haul road. Rock continues to be stockpiled, concentrate produced, tailings generated and stored. Construction of new haul road along the pit rim to transport material.
Closure (Years 10-11)	Mining complete.
Post-Closure/Final Reclamation	Removal or reclamation of surface mine facilities, relocation of PAG rock from RSF-X to the pit as backfill. Other reclamation activities as identified in the mine closure plan.

Notes:
[a] Stormwater management is required during all Project phases.
[b] Table includes only key activities for each phase.
[c] Blasting activities and aggregate mining from the open pit and hauling offsite is associated with the 9.4-year open pit life of mine (development and production mining).
I-85 = Interstate 85; NPI = non-process infrastructure; PAG = potentially acid generating; ROM = run-of-mine; RSF = rock storage facility; WSB = water storage basin; WTP = water treatment plant

2.4. ALTERNATIVES ANALYSIS

An alternatives analysis in an ESIA typically evaluates three main types of alternatives:

- Project versus no project.

- Alternative locations and site configurations.
- Process, technology, and design alternatives.

2.4.1. Project versus No Project

Section 1.3, Project Purpose and Need, highlights the importance of the proposed Project in securing a reliable source of lithium to help achieve national sustainable clean energy goals.

With the no Project alternative, the United States would miss the opportunity to exploit readily available lithium from a site that has already been under mining uses.

2.4.2. Location Alternatives

Albemarle's intent to reopen the KMM site for lithium limits the location alternatives. Albemarle is considering the following alternatives:

- Alternative 1—perform all activities within the KMM site.
- Alternative 2—include some activities at nearby sites that have been under mining uses (Albemarle has not considered undisturbed sites):
  - Alternative 2a—include some activities at the Archdale site.
  - Alternative 2b—include some activities at the Martin Marrietta site.
  - Alternative 2c—include some activities at both the Archdale and Martin Marrietta sites.

Albemarle also included the acquisition of additional parcels around the KMM to buffer nearby communities from Project impacts.

Alternatives Analysis and the Mitigation Hierarchy

The IRMA Standard promotes the application of the mitigation hierarchy, which is a set of prioritized steps to alleviate environmental and social harm as far as possible through avoidance, minimization, and restoration of adverse impacts. The application of the mitigation hierarchy in the analysis of alternatives for a project can be summarized as follows:

Avoidance: Measures taken to avoid creating impacts from the outset. For example, re-routing an access road to avoid the removal of natural habitat.

Minimization: Measures taken to reduce the duration, intensity and/or extent of impacts that cannot be completely avoided, as far as is practically feasible. For example, re-routing an access road to minimize the removal of natural vegetation (when avoidance is impossible).

Restoration: Measures taken to assist the recovery of ecosystems that have been degraded, damaged, or destroyed. For example, restoring the area of a temporary access road once the road is not in use any longer.

Offset: Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse impacts. For example, restoring an adjacent area to compensate for the loss of natural habitat caused by the project.

2.4.3. Process, Technology, and Design Alternatives

As the mine design progresses, Albemarle will continue to evaluate design refinements to avoid, minimize, and mitigate environmental and social impacts in line with the mitigation hierarchy and the IRMA Standard (see insert). For example, selecting appropriate equipment can help reduce emissions during construction and operations.

2.4.4. Approach to the Alternatives Analysis

The ESIA document will provide the complete analysis of both location and design/technology alternatives and the rationale for selecting the preferred alternative. Alternatives will be compared across multiple environmental and social parameters including, for example, acres of natural vegetation to be removed, visual impacts, equipment emissions, noise levels in the vicinity, and traffic generated, among others.

The following subsections summarize the steps of the alternatives analysis.

2.4.4.1. Screening of Alternatives

The initial stage involves screening a broad range of potential alternatives. This screening process will consider two primary criteria:

- Financial Feasibility: Can the alternative be realistically funded and generate sufficient revenue to be sustainable? This includes factors like capital costs, operational expenses, and projected market prices for lithium.
- Technical Feasibility: Does the alternative have the technological capability to achieve the Project's objectives? This considers factors like available extraction methods, processing technologies, and infrastructure requirements.

These criteria will provide the basis for selecting a shortlist of the most viable alternatives for further analysis.

2.4.4.2. Comparative Analysis of Impacts

The potential social and environmental impacts of the shortlisted alternatives will be compared. The comparison will consider the following aspects:

- Social Impacts: This will assess potential effects on local communities, such as employment opportunities, social infrastructure demands, cultural heritage considerations, and potential for community displacement.
- Environmental Impacts: This will evaluate potential impacts on various environmental factors including:
  - Air Quality: Dust generation, emissions from processing facilities.
  - Water Quality: Water usage, potential for contamination of surface and groundwater.
  - Land Use: Land disturbance, habitat fragmentation, visual impacts.
  - Biodiversity: Impacts on flora and fauna, potential for threatened or endangered species.
  - Waste Management: Generation and disposal of solid and liquid waste products.

For each impact category, a standardized method will be employed to assess the significance of the impacts. This may involve using quantitative data where available and qualitative assessments where necessary.

2.4.4.3. No Action Alternative

The comparative analysis will consider the no action alternative. This alternative represents the scenario where the proposed lithium mine is not developed. The analysis of the no action alternative will describe the existing social and environmental conditions at the Project site and forecast any potential future changes without the Project.

2.4.4.4. Selection of Preferred Alternative

Following the comparative analysis, a transparent and well-documented process will be used to identify the preferred alternative. This process will consider the trade-offs between the Project's potential benefits, both economic and social, and the potential environmental and social impacts associated with each alternative. Stakeholder input will also be incorporated during the selection process.

3. ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT PROCESS

Albemarle appointed ERM NC, Inc. (ERM) to undertake an ESIA process aligned with the IRMA Standard, which will produce an ESIA document aligned with the IRMA Standard. For clarity, this Scoping Report refers to the ESIA process and the ESIA Report as appropriate based on context.

An ESIA is a multi-phase process. Stakeholders interested in the Project will have the opportunity to learn about the progress of the ESIA process and outcomes and provide feedback during the ESIA process. For the initial phase, scoping, potentially affected and interested stakeholders in potentially affected communities are invited to provide feedback through the following channels:

- Email: kmcommunity@albemarle.com
- Website: https://albemarlekingsmountain.com/
- Phone: 1-704-734-2775
- In person at the Albemarle Project Center: 129 West Mountain Street, Kings Mountain, North Carolina 28086

Stakeholder feedback during the scoping process will be used to refine identified risks and potential impacts to be evaluated as part of the ESIA.

3.1.1. Scoping Report

Scoping is the first step in the ESIA process. The IRMA Standard defines scoping as "*…the early, open, and interactive process of determining the major issues and impacts that will be important in decision-making on the proposal and need to be addressed in an ESIA*" (IRMA 2020). During scoping, the Project proponent identifies potential interactions between the Project and environmental and social resources and receptors and prioritizes the key risks and potential impacts (see insert).

The Scoping Report is shared with stakeholders, including the Kings Mountain community, to gather feedback on the potential effects of the development and operation of the Project that are of most concern to stakeholders. The ESIA will consider the results of the scoping process and stakeholder input in prioritizing the key risks and potential impacts to be analyzed.

Risks and Impacts in ESIA

In an ESIA, risks and impacts have specific connotations and use:

Risks refer to negative or challenging situations that may arise because of the project. For example, the risk of workers accidents during the execution of project work, which is addressed by implementing effective H&S protocols.

Impacts refer to effects of the project on the environment. For example, removing natural vegetation, which is mitigated by restoring other areas of natural vegetation; or discharging effluents into a water body, which is avoided or minimized by treating the effluent to reach a water quality equal or better than the receiving body.

3.1.2. Completed Baseline Studies to Date

The description of existing baseline conditions provides information on resources and receptors identified during scoping that have the potential to be affected by the Project. Albemarle has been gathering environmental and social baseline information since 2022 and will continue to gather additional information as needed. An overview of the Project's environmental and social setting is presented in Section 5, Overview of Environmental and Social Setting. The ESIA Report will include a detailed description of the environmental and social baseline.

3.1.3. Environmental and Social Impact Assessment

The purpose of an ESIA is to identify and assess the potential environmental and social impacts that could occur due to the various phases of the Project. Risks and potential impacts will be evaluated based on their level of significance. The ESIA will assess risks and potential impacts from the site preparation, construction, operation, closure, and post-closure phases of the Project. The impact assessment methodology and proposed table of contents for the ESIA can be found in Appendices A and B, respectively.

3.1.4. Impact Mitigation

The ESIA process informs the Project planning and design through the development of recommended management measures to avoid, minimize, and/or mitigate potential adverse risks and impacts and enhance potential beneficial impacts.

4. AREA OF INFLUENCE

The Area of Influence (AoI) in an ESIA establishes the geographic boundaries in which potential impacts caused by a project are assessed. This Scoping Report applies the IRMA Standard definition for AoI:

> *"The area within which a project may potentially directly and indirectly cause impacts. The area of direct impacts caused by mining-related activities includes the physical mine site footprint, areas adjacent to the project site that are affected by emissions and effluents, power transmission corridors, pipelines, borrow and disposal areas, etc., and the area affected by associated facilities that, although not part of the project that is being assessed, would not have been constructed in the absence of the project. Areas indirectly affected by mining-related activities include the physical footprint of non-project activities in the surrounding area that are caused or stimulated by the project plus the area affected by their emissions and effluents."* (IRMA 2018)

In accordance with the IRMA Standard definition above, a preliminary Environmental AoI (EAoI) and a preliminary Social AoI (SAoI) have been established for the Project to assess potential environmental and social direct, indirect, and cumulative impacts.[4] The EAoI is defined using the potential extent of the Project's impacts on physical and biological resources such as air quality, noise and vibration, and biodiversity (Section 4.1, Preliminary Environmental Area of Influence below). The EAoI will be refined as needed as the ESIA process progresses. The SAoI is defined using the potential extent of the Project's impacts on resources such as the local economy, land use, social infrastructure and services, community health, and cultural heritage (Section 4.2, Preliminary Social Area of Influence below). The EAoI and SAoI together comprise a combined AoI for the Project (Section 4.3, Preliminary Combined Area of Influence below).

Further, the EAoI and SAoI are each divided into a Direct AoI (associated with potential primary impacts)[5] and an Indirect AoI (associated with potential secondary impacts).[6] Note that at this stage, the SAoI has been subdivided into preliminary Direct and Indirect SAoIs, while the EAoI has not yet been subdivided. The EAoI subdivision into Direct and Indirect EAoIs will be completed at a later stage of the ESIA, as needed.

4.1. PRELIMINARY ENVIRONMENTAL AREA OF INFLUENCE

The preliminary EAoI is a 1-mile buffer surrounding the boundaries of the KMM site and TSF site. The EAoI will include the access roads as well as the modeled extent of impacts related to

[4] A cumulative impact assessment is one that considers combined impacts from the Project and other projects with the same resources/receptors. How the potential impacts are assessed is strongly influenced by the status of the other activities (i.e., already in existence, approved, or unapproved but reasonably foreseeable) and how much data are available to characterize the contribution of the other projects to potential cumulative impacts. The approach to assessing cumulative impacts is to screen potential overlaps between the Project and other projects based on projects that are already in existence and are operating, projects that are approved but not yet built or operating, and projects that are not yet approved whose approval and implementation are reasonably foreseeable.

[5] Primary or direct impacts are those impacts that occur at the same time and place as a Project activity.

[6] Secondary or indirect impacts are those impacts that occur at a different time and/or place as the result of a Project activity.

emissions or discharges from the Project (e.g., air emissions, noise and vibration, surface water discharges). Figure 4-1 presents the preliminary EAoI.

The EAoI will be refined in the ESIA based on the outcomes of this Scoping Report, as more information on the Project becomes available.

4.2. PRELIMINARY SOCIAL AREA OF INFLUENCE

The SAoI guides the assessment of potential Project impacts to the social environment, including impacts to the economy, local communities, social infrastructure and services, recreational activities, cultural heritage, and community health, among other social resources. The preliminary SAoI is shown on Figure 4-2 (below). For this Project, the preliminary Direct SAoI has been defined as the city of Kings Mountain, the areas to be used by the Project within the extraterritorial jurisdiction (ETJ) of Kings Mountain[7] (see purple polygon on Figure 4-2), and associated residential areas.[8] The preliminary Indirect SAoI includes Cleveland County, where the Project is located, and Gaston County, the adjacent county to the east (see orange area on Figure 4-2).

The definition of the SAoI is based on ERM's current understanding of the Project and the social context of the area. The SAoI may be refined or updated during the ESIA process as more information on potential Project impacts is developed. The Direct SAoI and Indirect SAoI together encompass the combined SAoI.

4.3. PRELIMINARY COMBINED AREA OF INFLUENCE

The preliminary combined AoI includes the overlaid preliminary EAoI and SAoI (see Figure 4-3, below). The combined AoI will be refined and presented in the ESIA Report following additional assessment and stakeholder input on the material presented in this Scoping Report.

[7] The area in the ETJ of Kings Mountain, called Archdale, is in the proximity of the area to be used for the TSF.
[8] A small number of residential areas in the eastern portion of Kings Mountain fall within Gaston County, rather than Cleveland County. While these residential areas have a Kings Mountain address, they are technically not part of the city of Kings Mountain, nor Cleveland County. However, for the purposes of the ESIA, they will be considered part of the Direct SAoI, as they may still experience direct impacts because of the Project.

Figure 4-1: Preliminary Environmental Area of Influence

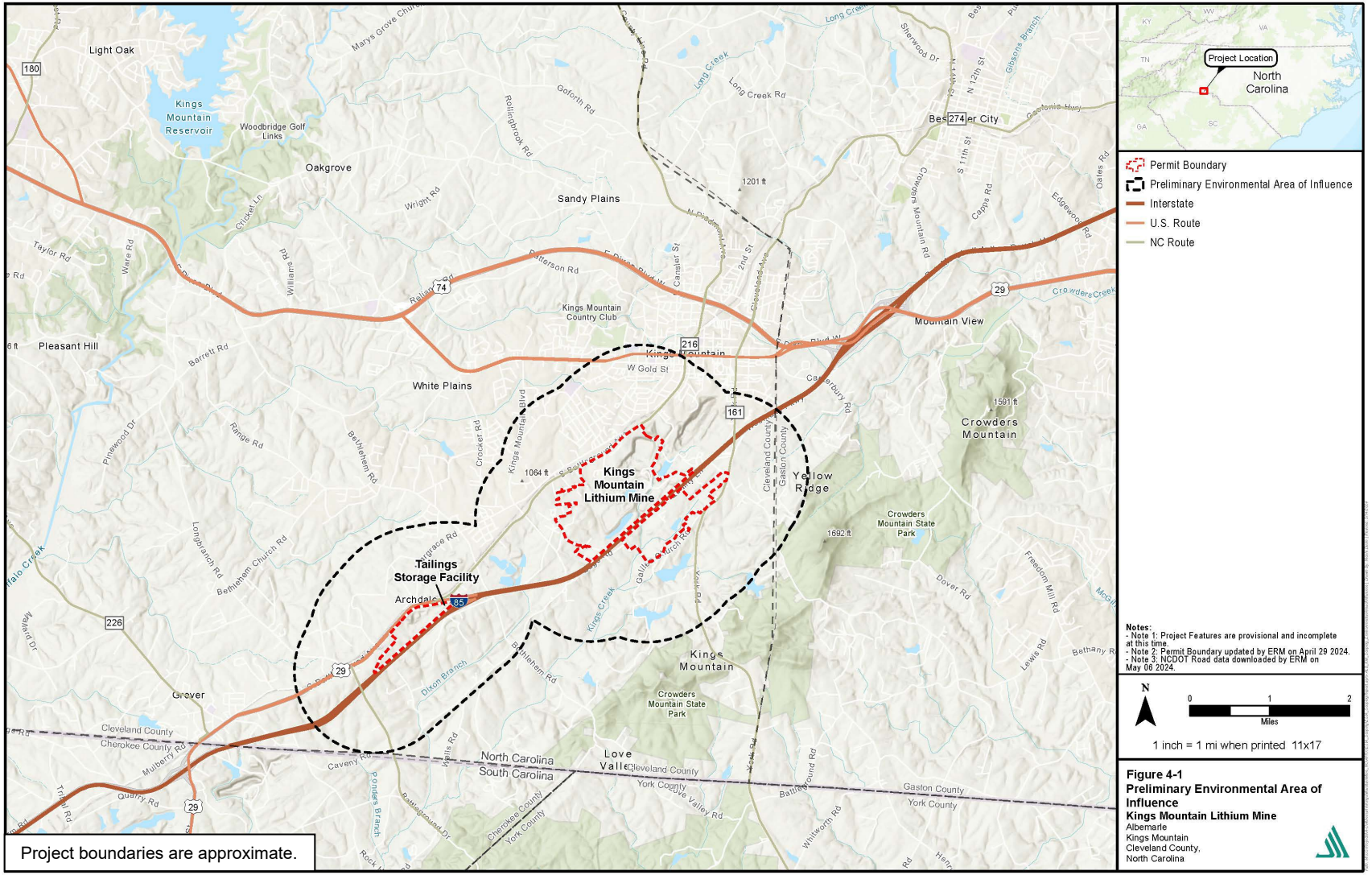


Figure 4-2: Preliminary Social Area of Influence

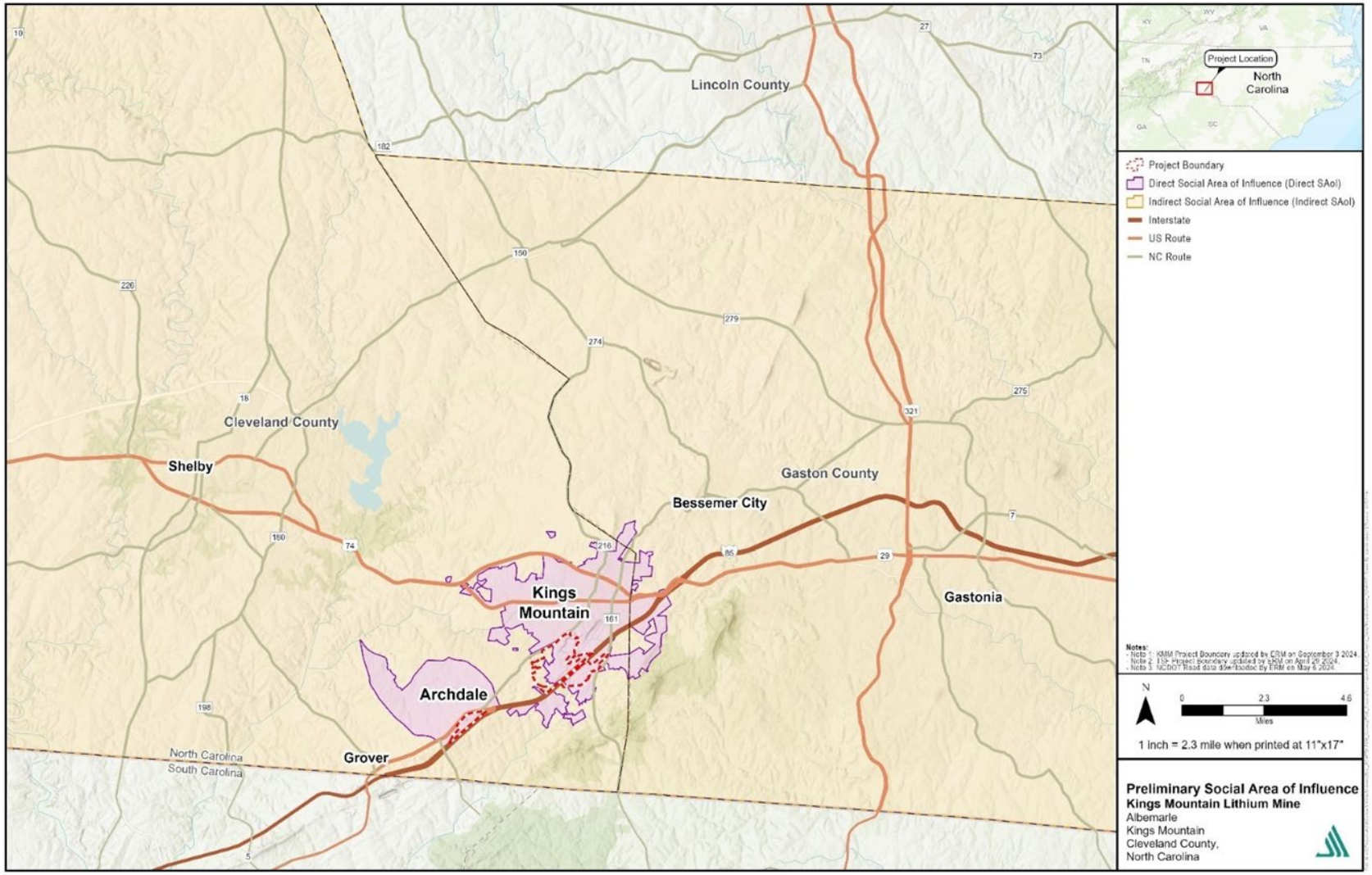
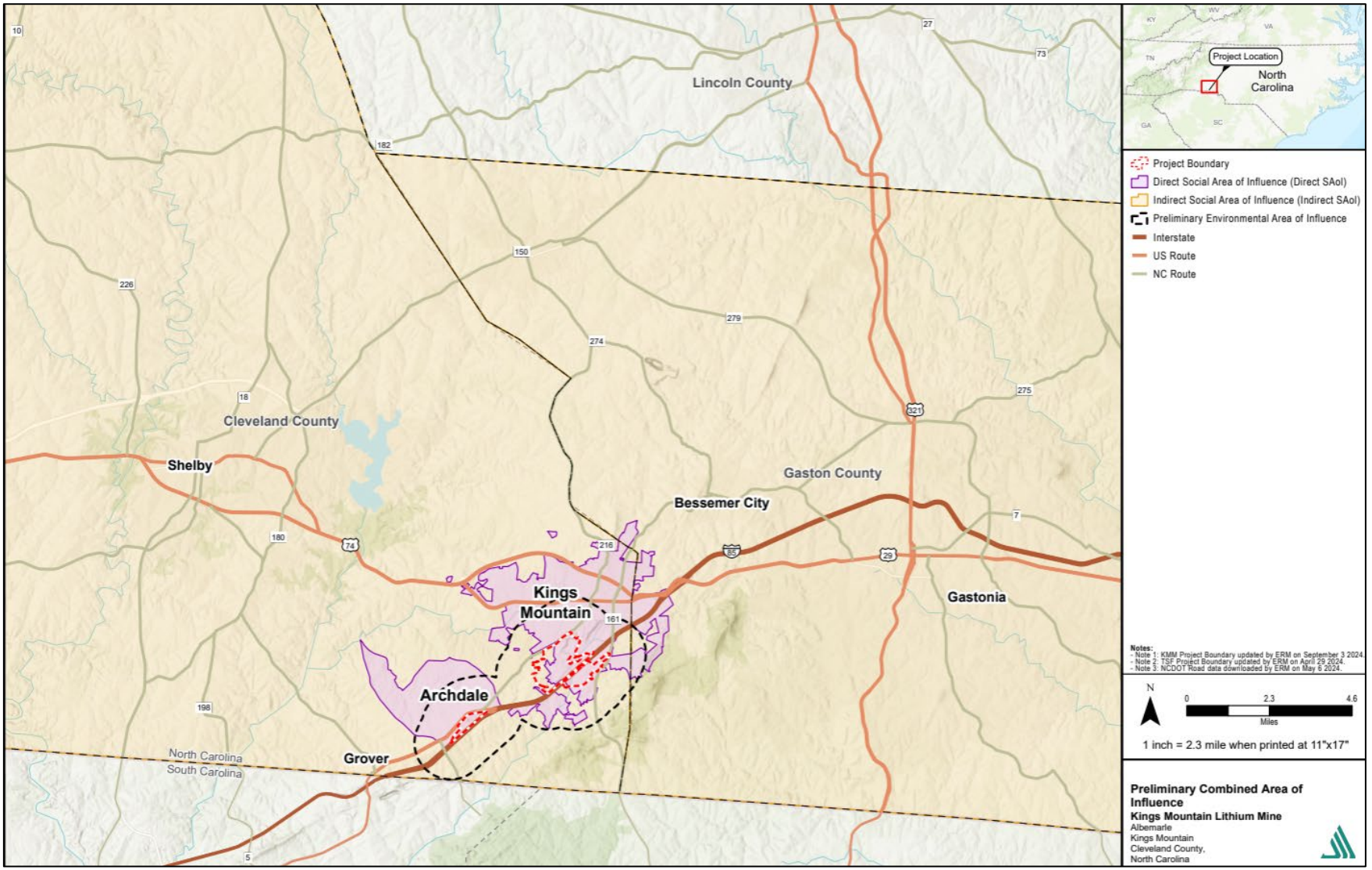


Figure 4-3: Preliminary Combined Area of Influence



5. OVERVIEW OF ENVIRONMENTAL AND SOCIAL SETTING

This section summarizes the preliminary characterization of existing conditions for the physical, biological, and social resources in the AoI. This characterization informs the identification of potential impacts described in the Scoping Report and will be further developed during subsequent stages of the ESIA.

5.1. PHYSICAL SETTING

5.1.1. Existing Data Sets Informing Preliminary Baseline Characterization

As discussed further below, primary data from the following data collection activities were used to develop a preliminary characterization of existing conditions for physical resources:

- Air quality monitoring for particulate matter (PM) (SWCA 2022a, 2023g).
- Meteorological data monitoring from an installed tower at the KMM site (SWCA 2022g).
- Quarterly noise monitoring at 21 locations around the KMM site (SWCA 2022b).
- Soil unit mapping at the KMM site (SWCA 2023c, 2024).
- Surface water identification (including wetlands and waterbodies) and monitoring (SWCA 2023d).
- Groundwater quality memo (SRK 2024c).[9]
- Geochemical characterization to understand potential for acid generation (SRK 2022).

5.1.2. Climate and Meteorology

The Project is in the North Carolina Piedmont province, east of the Appalachian Mountains, with prevailing westerly winds. The region receives moisture from its proximity to the Atlantic Ocean, as well as from being in the path of frequent jet streams, allowing fronts and areas of low pressure into the region. The area receives light to moderate rainfall in short and long durations throughout the year, with the greatest rainfall typically occurring from spring through fall. Extreme precipitation events are produced by thunderstorms, synoptic events, and tropical systems.

To collect baseline data at the KMM site and for use in future air quality dispersion modeling for ESIA completion, Albemarle contracted SWCA Environmental Consultants (SWCA) to install and operate a 10-meter-tall meteorological station at the KMM site. The meteorological station was installed in July 2022 and meteorological data were collected between July 19 and

[9] Water quality monitoring included water quality sampling, Kings Creek sediment samples, pit lake samples, bathymetric surveys, wetland and waterbody delineation surveys, water balance studies, brownfield investigation sampling, seeps and springs surveys, and hydrogeologic characterization.

December 31, 2022, per U.S. Environmental Protection Agency (USEPA) guidelines. Data collected during the period are summarized in Table 5-1.

Table 5-1: Meteorological Conditions

Parameter	Result (Monthly Average)					
	Jul	Aug	Sep	Oct	Nov	Dec
Wind speed (meters per second)	1.6	1.3	1.7	1.4	1.7	1.4
Air temperature, 2 meters (degrees Celsius)	26.5	24.8	21.1	13.9	11.4	4.9
Air temperature, 10 meters (degrees Celsius)	27.1	25.1	21.5	14.5	11.8	5.3
Relative humidity (millibar)	80.1	79.3	72.1	73.2	71.9	75.2
Barometric pressure (millibar)	992.2	994.6	993.6	998.3	1002.4	1002.7
Rainfall (inches)	1.4	5.9	3.8	0.9	3.9	3.3
Solar intensity (watts per square meter)	1,023	1,039	952	845	701	620
Delta temperature (degrees Celsius)	0.6	0.3	0.4	0.6	0.5	0.5

Source: SWCA 2023a

5.1.3. Air Quality and Greenhouse Gases

North Carolina's net greenhouse gas (GHG) emissions decreased by 23 percent between 2005 and 2018. By the year 2025, net GHG emissions are projected to decrease by 30 percent compared to 2005 values (NCDEQ 2022a). However, the Executive Orders passed by North Carolina Governor Roy Cooper establish more ambitious targets, including reaching a statewide reduction of 40 percent below 2005 GHG values by 2025 (Cooper 2018).

In accordance with the Clean Air Act, the USEPA set National Ambient Air Quality Standards (NAAQS) for a set of principal criteria pollutants with the potential to harm public health and the environment. The criteria pollutants are ground-level ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), PM with an aerodynamic diameter of 10 microns or less (PM_{10}), PM with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$), and lead. The quantity of the pollutant reasonably permitted in the air is defined based on primary and secondary standards. Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. Since 2015, all areas of North Carolina have been characterized by the USEPA as meeting the NAAQS (NCDEQ 2022b).[10] Albemarle has an Ambient Air Quality Monitoring Protocol (dated October 2023) that specifies conducting air quality analysis in line with NAAQS and European Union Air Quality Standards (European Commission 2013).

Two air quality monitoring campaigns to characterize ambient PM_{10} concentrations were carried out at the KMM site. The first campaign was conducted by SWCA during Fourth Quarter 2022 with measurements taken between October 1, 2022, and December 31, 2022, at two monitoring

[10] According to data last updated in August 2022.

stations. All results obtained were well below the NAAQS standard for PM_{10}. Maximum 24-hour average concentrations of PM_{10} were also below the international standard established by the World Health Organization Air Quality Guidelines (IFC 2007a) (the international standard is more stringent than the NAAQS).

The second campaign was conducted by Field Data Solutions in August 2023 (with samples collected daily from August 1, 2023, to August 31, 2023). Measurements were taken at three monitoring stations around the KMM site. All measurements obtained were well below the NAAQS standard for PM_{10} and the international standard for PM_{10}.

The ESIA will include an expanded set of air quality monitoring data as well as baseline air quality monitoring data and analysis for the TSF.

5.1.4. Noise and Vibration

Noise in the context described herein can be understood as unwanted sound. Whether a sound is considered a disturbance is dependent on the frequency and duration of the sound, the sound in relation to the ambient sound environment, and the situation in which the sound is experienced (i.e., sudden loud noises may interrupt activities occurring in a quiet setting, but the same loud noise may not interrupt activities occurring in a busy noise environment). Average indoor and outdoor noise levels experienced on a day-to-day basis are provided in Table 5-2 (below).

Table 5-2: Indoor and Outdoor Noise Levels

Outdoor Noise	Indoor Noise	Noise Level (dBA)
Jet flyover (1,000 feet)	Inside a New York subway train	100
Diesel truck (50 feet)	Food blender (3 feet)	90
Noisy urban area (daytime)	Garbage disposal (3 feet)	80
Gas lawn mower (100 feet)	Vacuum cleaner (10 feet)	70
Commercial area	Normal speech (3 feet)	65
Quiet urban area (daytime)	Dishwasher (next room)	50
Quiet urban area (nighttime)	Large conference room background noise	45
Quiet suburban area (nighttime)	Library	40
Quiet rural area (nighttime)	Bedroom at night	35

Source: AASHTO 1993
dBA = A-weighted decibel

The area surrounding the KMM and TSF sites can be described as a “very noisy urban residential” sound environment, which experiences estimated ambient noise levels of 67 A-weighted decibels (dBA) (ANSI 2013). Land use is made up of industrial and commercial businesses with the loudest noise-emitting source being the Senator Marshall Arthur Rauch Highway (I-85) with the potential for noise levels to reach 89.9 dBA.[11] A smaller public road,

[11] dBA measurements are based on simplified noise modeling and represent potential noise exposure to understand sound level trends.

Battleground Avenue, runs from the northwest to the southwest of the KMM site and may experience traffic-related noise levels of up to 59.9 dBA. Likewise, York Road, which runs from the northeast to the southeast of the KMM, may generate noise levels up to 59.9 dBA.

SWCA conducted a preliminary noise measurement program to quantify the ambient sound environment of the KMM site. Monitoring began in Second Quarter 2022 and was conducted quarterly through First Quarter 2023. Results obtained during First Quarter 2023 (from March 21 to 28, 2023) are provided in Table 5-3. Additional noise measurement programs will be conducted.

Table 5-3: Ambient Noise Monitoring Data from KMM Site Vicinity

Monitoring Station	Averaging Period [a]	Dominant Background Noise Source	Result (dBA)
LT1	161 hours, 53 minutes	Road traffic, onsite traffic	52.0
LT2	156 hours, 27 minutes	Road traffic, onsite traffic	53.5
LT4	168 hours	I-85, onsite traffic	63.3
ST-1	15 minutes	Road traffic	65.0
ST-2	15 minutes	Road traffic	57.4
ST-3	15 minutes	Road traffic	44.9
ST-4	15 minutes	Road traffic	57.0
ST-5	20 minutes	Road traffic	48.7
ST-6	15 minutes	Road traffic	52.5
ST-7	15 minutes	Road traffic	54.1
ST-8	15 minutes	Road traffic	50.9
ST-9	15 minutes	Road traffic, drilling	69.9
ST-10	15 minutes	Road traffic	56.1
ST-11	15 minutes	Road traffic	51.3
ST-12	15 minutes	Road traffic	57.2
ST-13	15 minutes	Road traffic	57.8
ST-14	5 minutes	Road traffic	54.2
ST-15	5 minutes	Road traffic	50.1
ST-16	15 minutes	Road traffic	52.9
ST-17	14 minutes	Road traffic	53.9
ST-18	15 minutes	Road traffic	65.1

Source: SWCA 2023b

Note: Measurements recorded above levels typical of this environment are highlighted in orange.
[a] The averaging periods utilized by SWCA in the preliminary measurement programs are not aligned with the averaging period (1 hour) specified in the International Finance Corporation Environmental, Health, and Safety General Guidelines for Noise Management, the standard required under IRMA, for determining alignment with maximum permissible limits.
dBA = A-weighted decibel; I-85 = Interstate 85

As stated, the area can be categorized as a “very noisy urban residential” sound environment, which experiences an average noise level of 67 dBA, according to ANSI S12.9-2013/Part 3 (SWCA 2023b). Based on results reported in First Quarter 2023, ambient noise levels experienced at the KMM site are below this average at most monitoring locations. Measurements in exceedance of this typical sound environment are highlighted in orange in Table 5-3 (above). The additional noise measurement programs started in April 2024 and include areas around the TSF site.

Perceptible ground borne vibration associated with typical mining construction equipment is normally limited to small distances from where the equipment operates (i.e., 50 feet). Existing vibration levels were therefore not measured. The ESIA will identify potential sources of vibration and any potential impacts.

5.1.5. Geology

The Kings Mountain deposit lies within North Carolina’s Tin-Spodumene Belt and is located within a larger-scale shear zone (the Kings Mountain Shear Zone [KMSZ]). The KMSZ is a northeast-striking, steeply to moderately dipping zone of ductile and semi-brittle deformation. The zone is at least 37 miles long and a few hundred feet wide.

The King’s Mountain deposit is a lithium-bearing rare-metal pegmatite intrusion that has penetrated along the KMSZ. The intrusion is approximately 1,500 feet wide at its widest point in the legacy pit area and narrows to 400 to 500 feet south of the legacy pit. The deposit geology for the footprint of the open pit is metamorphic units with beds that strike northeast, with spodumene pegmatite intrusions cutting schist units. SRK Consulting U.S., Inc. (SRK) carried out a baseline geochemical characterization using static testing[12] methods to inform decision-making regarding storage options and management options for potential acid rock drainage (i.e., the drainage produced when rocks with sulfide or other acid-producing mineral are exposed to water and oxygen and generate an acidic water stream) and metal leaching of future non-ore-bearing rock and ore, future tailings material, legacy mining waste, cover material, and Kings Creek stream sediment.

Results of static testing for future non-ore-bearing rock and ore are provided in Table 5-4 (below). Geochemical characterization determined non-ore-bearing rock acid generation is variable and ore is net neutralizing. Amphibole gneiss-schist is the main non-ore-bearing type and demonstrates a low potential for acid generation and metal leaching.

[12] Static tests indicate the amount of acid-generating and acid-neutralizing components that are present in the material and provide information on the bulk geochemical properties (e.g., metal composition, mineralogical composition, and leaching potential). Static testing methods do not account for temporal changes that may occur in the material as chemical weathering proceeds.

Table 5-4: Material Types and Geochemical Characteristics

Category	Main Material Type	General Characterization of Acid Generating Potential
Non-ore-bearing	Overburden	Low Potential
	Amphibolite Gneiss-Schist	Variable, Generally Low Potential [c]
	Biotite Gneiss	Variable, Generally Low Potential [c]
	Mica Schist	Variable, Generally Low Potential [c]
	Pyrrhotite Mica Schist	Variable Potential
	Upper Mica Schist	Variable Potential
	Shear Schist	Variable, Generally Low Potential [c]
	Silica Mica Schist	Low Potential
	Diabase	Low Potential
	Granite	Low Potential
Ore	Pegmatite	Variable, Generally Low Potential [c]
	Spodumene Pegmatite	Variable, Generally Low Potential [c]

Source: Summarized from SRK 2023c based on values presented by SRK for neutralization potential ratio [a] and average net acid generation (pH). [b]

[a] Neutralization Potential Ratio values < 1 indicate a higher potential for acid generation and > 3 indicate significant acid neutralization.
[b] Non-potentially acid generating (non-PAG) materials have a pH greater than or equal to 5. A pH of less than or equal to 2.5 can be classified as moderate to strong potential acid generation. A pH greater than 2.5 but less than 5 represent a low risk for potential acid generation.
[c] This indicates generally low potential for acid generation but there were some tested samples that had higher potential.

Static testing for future tailings material and process waste streams indicates that sulfide sulfur content is low or below the detection limit for the flotation tailings and dense media separation rejects. Neutralization potential is also relatively low. In comparison, ore sorting reject and magnetic separation reject samples had a higher sulfide sulfur content than other waste streams, and therefore, a higher potential for acid generation. This indicates that the ore sorting and magnetic separation processes are likely to result in the effective removal of sulfide sulfur concentrations that can generate acid conditions.

Static tests for non-ore-bearing rock determined samples can be characterized by low sulfur contents, and no samples are PAG materials. Total sulfur and sulfide sulfur content of the legacy non-ore bearing rock samples is also low. Sulfide sulfur concentrations in legacy tailings were also below detection limits and are classified as non-PAG.

Static tests for cover material (consisting of alluvium/overburden and saprolite) determined most samples have low sulfur contents and are non-PAG. Seventy-three percent of alluvium and saprolite samples can be characterized as non-PAG, and 6 percent as PAG, with the remainder showing uncertain acid generation characteristics. Further, soil baseline studies determined there are no significant geochemical differences between the alluvium and saprolite material and they can be used interchangeably for reclamation purposes.

Stream sediments from Kings Creek are characterized by variable sulfide contents and are either non-PAG or show low potential for acid generation. Synthetic precipitation leaching procedure[13] testing indicated that arsenic, antimony, fluoride, iron, lithium, manganese, and sulfate are leachable at low, but detectable dissolved concentrations from the stream sediments.

The TSF site geology at the regional scale lies within the central part of the Piedmont Plateau, which includes rocks that are igneous and sedimentary in nature and is also characterized by metamorphic activity that has modified bedrock types. The metamorphism produces varieties of crystalline rocks that are in a transitional state and not in a purely igneous or sedimentary state. Regional geologic maps sourced for available U.S. Geological Survey 2006 data based on a 2024 study by SRK (2024b) indicate geology consists predominately of muscovite schist and granite. The 2024 hydrogeologic study by SRK (SRK 2024b) was undertaken, which included 344 geotechnical and hydrogeological samples. The field study for explorations was limited to depths of 30 feet.

Specific characterizations for the TSF site geology are based on the 2024 hydrogeologic study by SRK, as no other historical data are available at the time of this report for the TSF site. The site is generally characterized by overburden soils, underlain by saprolite, underlain by weathered bedrock, underlain by competent bedrock—reported as mica shist. The local geology has been altered by past mining activities, which has included removal of overburden and saprolite, and disturbance of the underlying weathered bedrock and competent bedrock. The specific competent bedrock reported by the SRK study was muscovite pegmatite and/or Cherryville granite, and this was based on one core sample. Uncertainties still exist with respect to vertical extents of the saprolite and weathered bedrock units due to limitations in locations and number of drilling locations.

5.1.6. Physiography, Topography, and Soils

The North Carolina Piedmont province is characterized by rolling to hilly uplands with well-defined drainage networks consisting of well-established streams, creeks, and erosional channels that have incised the Piedmont Plateau. Physiography of the Kings Mountain region is characteristic of the eastern U.S. Piedmont, a dissected plateau with an average elevation of 1,007 feet characterized by relatively low relief with rolling hills and narrow river and stream valleys. The KMM site elevation ranges from 755 to 1,074 feet amsl and the TSF site elevation ranges from 850 to 1,050 feet amsl.

The Project lies within the USEPA Level III Ecoregion (Griffith et al. 2002). Once largely cultivated, much of this region is planted pine or has reverted to successional pine and hardwood woodlands. Field observations, Google Earth imagery, and National Land Cover Database mapping show this landscape has been significantly altered due to historical mining, including a formal brownfield mine site that produced lithium up until the 1980s and the former Kings Mountain Quarry owned and operated by Martin Marietta.

[13] The synthetic precipitation leaching procedure is a method used to determine the mobility of organic and inorganic materials present in liquids, soils, and wastes.

SWCA reviewed information obtained from the Gridded Soil Survey Geographic Database to evaluate soil resources across the Project area. All soil types observed in the Project area are classified as well drained, except for one soil type (Chewacla loam [ChA]), which is classified as hydric and represents a minor component of the soil map unit for the KMM site (hydric soils are more likely to support wetland conditions). Nine of the mapped soil units at the KMM site are special status soils including prime farmland (n=4), farmland of statewide importance (n=4), and prime farmland if drained (n=1). None of the undeveloped soil types at the TSF site (Hulett gravelly sandy loam [HtC], Madison-Bethlehem complex [MbB2], Madison-Bethlehem complex [McC2], and Udorthents loam [UdC]) are prime farmland; however, three developed (disturbed) soil types at the TSF site (Appling sandy loam [ApB], Hulett gravelly sandy loam [HhB], and Madison gravelly sandy clay loam [MaB2]) are prime farmland. According to definitions from the U.S. Department of Agriculture, prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses (USDA 2015). Farmland of statewide importance can be understood as areas of soil that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods (USDA Undated). Mapped soil units and their characterization are summarized in Table 5-5.

Of the soil forming processes, chemical weathering due to the long-term mild climate appears to have the greatest influence, leaching nutrients and base cations (i.e., calcium, magnesium, potassium, sodium) out of the A horizon and accumulating in the B and C horizons. Field surveys indicate that A horizons are generally poorly developed and thin (1 to 2 inches thick) and have organic matter accumulation with loss of iron, aluminum, and clay. B horizons are generally thin and have an accumulation of iron, aluminum, clay, and organic matter (humus). C horizons are characterized by the accumulation and clay and iron oxides, overlying weathered bedrock.

Table 5-5: Mapped Soil Units

Soil Name	Hydric Status	Drainage Class	Farmland Classification
KMM Site			
Cecil sandy clay loam, 2 to 8 percent slopes, moderately eroded (CaB2)	No	Well drained	Prime farmland
Chewacla loam, 0 to 2 percent slopes, frequently flooded (ChA)	Yes [a]	Somewhat poorly drained	Prime farmland if drained
Dam (DAM)	N/A	N/A	N/A
Grover gravelly sandy loam, 15 to 30 percent slopes, rocky (GrD)	No	Well drained	Not prime farmland
Hulett gravelly sandy loam, 2 to 8 percent slopes (Hhb)	No	Well drained	Prime farmland
Hulett gravelly sandy loam, 8 to 15 percent slopes, stony (HtC)	No	Well drained	Not prime farmland
Madison-Bethlehem complex, 2 to 8 percent slopes, stony, moderately eroded (MbB2)	No	Well drained	Not prime farmland
Madison-Bethlehem complex, 8 to 15 percent slopes, very stony, moderately eroded (McC2)	No	Well drained	Not prime farmland
Madison-Bethlehem-Urban land complex, 2 to 8 percent slopes (MnB)	No	Well drained	Not prime farmland
Pit (Pw)	N/A	N/A	N/A
Tatum-Montonia complex, 2 to 8 percent slopes (TaB)	No	Well drained	Farmland of statewide importance
Tatum-Montonia complex, 8 to 15 percent slopes (TaC)	No	Well drained	Farmland of statewide importance
Tatum-Montonia complex, 15 to 30 percent slopes (TaD)	No	Well drained	Not prime farmland
Udorthents, loamy, 0 to 15 percent slopes (UdC)	No	Well drained	Not prime farmland
Uwharrie silt loam, 2 to 8 percent slopes (UtB)	No	Well drained	Prime farmland
Uwharrie silty clay loam, 2 to 8 percent slopes, moderately eroded (UuB2)	No	Well drained	Prime farmland
Uwharrie-Tatum complex, 8 to 15 percent slopes (UvC)	No well drained	Well drained	Farmland of statewide importance
Uwharrie-Tatum complex, 8 to 15 percent slopes, moderately eroded (UwC2)	No	Well drained	Farmland of statewide importance
Water (W)	N/A	N/A	N/A
TSF Site			
Appling sandy loam, 1 to 6 percent slopes (ApB)	No	Well drained	Prime farmland [b]
Hulett gravelly sandy loam, 2 to 8 percent slopes (HhB)	No	Well drained	Prime farmland [b]
Hulett gravelly sandy loam, 8 to 15 percent slopes, stony (Htc)	No	Well drained	Not prime farmland

Soil Name	Hydric Status	Drainage Class	Farmland Classification
Madison gravelly sandy clay loam, 2 to 8 percent slopes, stony, moderately eroded (MaB2)	No	Well drained	Prime farmland [b]
Madison-Bethlehem complex, 2 to 8 percent slopes, stony, moderately eroded (MbB2)	No	Well drained	Not prime farmland
Madison-Bethlehem complex, 8 to 15 percent slopes, very stony, moderately eroded (McC2)	No	Well drained	Not prime farmland
Udorthents, loamy, 0 to 15 percent slopes (UdC)	No	Well drained	Not prime farmland

Source: SWCA 2023c, 2023d

Notes:
[a] Minor soil components of the map units are classified as hydric.
[b] Occur on developed (disturbed) land.
KMM = Kings Mountain Mine; N/A = not applicable; TSF = tailings storage facility

5.1.7. Surface Water

Albemarle's surface water quality monitoring program provides data on baseline conditions for all major surface water features within the KMM site, considered a brownfield due to legacy mining activity. These include flowing streams (Kings Creek and South Creek), as well as human-made impoundments (No. 1 Mill Pond, South Reservoir, WSB-1, and several stormwater impoundments). Streams and wetlands originating outside of the KMM site are not included in this section but will be discussed in the ESIA where relevant.

Quarterly surface water quality monitoring began in 2018. Surface water quality monitoring locations have included the following:

- **Kings Creek**. Kings Creek flows uninterrupted through the KMM site from north to south, before crossing under I-85 and continuing to the southwest. Kings Creek receives flow from groundwater and springs along its length, but much of the flow comes from the Martin Marietta quarry dewatering discharges north of the KMM site. Monitoring is intended to establish a baseline along the entire length of Kings Creek.
- **South Creek.** South Creek flows south toward the existing Foote Mineral Tailings Impoundment before entering the South Creek Reservoir.
- **No. 1 Mill Pond.** This is an impoundment used as part of stormwater management.
- **South Creek Reservoir.** Much of the southwestern portion of the KMM site is drained by South Creek, which flows into South Creek Reservoir, which in turn discharges to Kings Creek upstream of Weir #3.[14] South Creek Reservoir is used as part of the stormwater management on the KMM site.
- **Mud Pond #1** and **Mud Pond #2.** These are stormwater impoundments or collection points located at the KMM site north of I-85.

[14] A weir is a low-head dam that serves as a barrier across the width of a river that alters the flow characteristics of water. Weir 3 is located on Kings Creek below the confluence with South Creek and upstream of the culvert crossing under I-85.

5.1.7.1. Summary of Onsite Aquatic Resources

In spring 2022 and summer 2023, SWCA delineated aquatic resources on the KMM site (approximately 1,394 acres of wetlands and waterbodies) using the U.S. Army Corps of Engineers' (USACE) Wetlands Delineation Manual (USACE 1987) and the 2012 Eastern Mountains and Piedmont Regional Supplement (USACE 2012). Streams were also evaluated using the North Carolina Stream Assessment Method (NCDEQ 2010).

Wetlands and other jurisdictional waters were identified and approximated through the combined use of existing publicly available baseline data (desktop analysis) and field investigations. Jurisdictional status was preliminarily assigned to each resource. Based on field investigations, SWCA biologists identified 60 wetlands (total of 58.07 acres), 71 streams, 12 other surface water bodies (ponds, lakes, mining pits) (total of 77.53 acres), and 13 non-jurisdictional upland features (i.e., erosional gullies, roadside ditches) at the KMM site. An additional 7.63 acres of palustrine scrub-shrub (PSS) wetlands and six distinct palustrine unconsolidated bottom (PUB) aquatic features totaling 9.42 acres were delineated by SWCA at the TSF site. The referenced features at the TSF site would not be considered jurisdictional by the USACE or North Carolina Department of Environmental Quality (NCDEQ) (SWCA 2023d). No streams were identified at the TSF site. A summary of onsite aquatic features at each parcel is provided in Table 5-6 (below).

Table 5-6: Summary of Onsite Aquatic Features

KMM Site	TSF Site
• Wetlands (USACE jurisdictional): approx. 54.12 acres. • Wetlands (USACE non-jurisdictional): approx. 3.95 acres. • Waterbodies (USACE jurisdictional): approx. 20.27 acres. • Waterbodies (USACE non-jurisdictional): approx. 57.26 acres. • Waterways (streams) (USACE jurisdictional): approx. 56,583.9 linear feet. • Waterways (streams) (non-jurisdictional): approx. 5,108.1 linear feet.	• Wetlands (USACE non-jurisdictional): approx. 7.63 acres. • PUB aquatic features (USACE non-jurisdictional): approx. 9.42 acres.

Source: SWCA 2023d, jurisdictional determinations

KMM = Kings Mountain Mine; PUB = palustrine unconsolidated bottom; TSF = tailings storage facility; USACE = U.S. Army Corps of Engineers

SWCA conducted a field investigation of the TSF site in September 2023. SWCA biologists identified one PSS wetland complex and six PUB waterbodies. These delineated aquatic features were all located within portions of the TSF site that had previously been excavated for surface mining operations. The six PUBs were associated with historical mine and sediment ponds and surface runoff channels. The PSS wetlands occurred within the basin that has collected water and naturally revegetated. No portion of the Project area is connected to relatively permanent waters or continuous surface water connections that drain to traditional

navigable water. As such, it is SWCA's opinion that the vegetated wetland feature and six waterbodies would be considered non-jurisdictional by both the USACE and the NCDEQ.

5.1.7.2. Seeps and Springs

There are 16 identified seeps[15] and 23 identified springs[16] at the KMM site. Most springs form into intermittent streams that are tributaries to larger streams within the KMM site. The amount of flow or saturation of seeps and springs remained generally consistent across surveys.

5.1.7.3. Stream Flow

Surface water flows at the KMM site are monitored at two locations. The first site is located at Kings Creek below the confluence with South Creek and upstream of the culvert crossing under I-85 (Weir #3). The second site is located at the outlet of South Creek Reservoir just upstream of the confluence with Kings Creek at the South Reservoir. Based on the monitoring data, baseline flows range from 0.067 gallons per minute per acre (gpm/acre) to 0.46 gpm/acre. The baseflow estimates for Kings Creek are shown in Table 5-7.

Table 5-7: Baseflow Estimates for Kings Creek (KMM) and Dixon Branch (TSF)

Location	Measured Flow (gpm)	Baseline Estimate (gpm/acre)
Kings Creek below Weir #3	117	0.067
South Creek Reservoir Inlet	70	0.320
South Creek northern end of existing TSF	125–148	0.390–0.460
South Creek above Weir #3	178	0.320
Unnamed Tributary to Dixon Branch	2213	8.02

Source: SRK 2023d

gpm = gallons per minute; gpm/acre = gallons per minute per acre; TSF = tailings storage facility

5.1.7.4. Pit Lakes

KMM Pit Lake

The existing pit lake of the legacy KMM site open pit requires dewatering for future expansion of the KMM site. Albemarle commissioned studies to determine if pit lake dewatering could cause groundwater level decline and affect neighboring water supply wells, including 23 confirmed and 226 suspected wells within a 2-mile radius of the KMM site. Between 2018 and mid-2023, hydrogeological data were collected from 104 boreholes. A total of 124 hydraulic tests were completed at various boreholes, including 26 packer tests (which measure permeability of the ground in sections of boreholes), 51 slug tests (which determine how easily water can pass through soil or rock), 15 short-term pumping tests and 7 long-term pumping test (which estimate

[15] Seeps can be understood as areas where groundwater emerges in a dispersed manner, often forming a wetland.
[16] Springs can be understood as the emergence of groundwater at a particular point, often eventually forming a stream.

the hydraulic properties of aquifers), and installation of spinner logs in 25 wells (which measure flow velocity in a specific well).

SRK used the data collected to develop a groundwater model for the Project during mining operation. The model predicted the following under a calibrated base case (SRK 2023):

- Groundwater inflow rates to the proposed pit will range from 100 to 270 gpm.
- During the mining phase, future dewatering of the existing pit lake, excavation of the proposed pit, and in-pit dewatering will cause the water table to lower, and drawdown to propagate laterally away from the pit; however, due to the geology, the influence of drawdown away from the existing pit lake was predicted to be limited.
- The shallower regolith units are expected to be the most impacted by the dewatering and drawdown propagation, while changes in the underlying low-permeability bedrock are expected to be limited in comparison to those in the regolith.
- From the center of the existing pit lake, a maximum of 5 feet of groundwater drawdown was predicted to extend 0.29 miles to the southeast, 0.52 to 0.53 miles to the northwest and northeast, and 1.22 miles to the southwest. The maximum drawdown extent in various directions will occur at different times, from approximately 11 to 30 years after end of mining.
- Overall, the predicted outer boundary of the cone of drawdown is close to the pit boundary due to the relatively low hydraulic conductivity of the rock material around the pit and is mostly confined to the area associated with historical mining.
- While drawdown is expected to propagate to confirmed and suspected wells identified in the well survey (see below), these are unlikely to be significantly affected due to the small amount of drawdown expected.
- The maximum predicted reduction in baseflow in Kings Creek within the model domain is 88 gpm (or 1.4 percent). Maximum reduction will occur 18 years after end of mining. The model did not predict any changes to baseflow in Long Creek.

Post-mining, the SRK study (SRK 2023) concluded:

- Saturation of partial backfill placed in the proposed pit, with backfill top elevation of 570 feet amsl, will occur approximately 3 years post-mining.
- The elevation of the pit lake surface will rise until it will reach a spillover elevation of approximately 850 feet amsl approximately 56 years post-mining.
- Groundwater inflow to the pit lake is anticipated to gradually decrease over time. The initial groundwater inflow rate of 270 gpm at the end of mining operations, is expected to decline and stabilize at approximately 63 gpm after 68 years of recovery.
- The pit lake will begin to outflow to the groundwater system after approximately 46 years of lake infilling, predominantly in the southeast direction of the pit lake. The outflow rate was projected to gradually increase over time and ultimately reach approximately 27 gpm.

- The pit lake spillover rate to downstream surface water drainages was estimated at 198 gpm.

Tailings Storage Facility Pit Lakes

Legacy open-pit mica mining activities occurred at the TSF site by previous mine operators. Reclamation activities occurred after 2013 and included slope regrading, disturbed ground revegetation, and allowing several of the open pits to fill with fresh water through natural hydrologic processes.

Archdale Pit Lakes

The pit lakes at the Archdale TSF, where the filtered tailings will be deposited, will be dewatered by Imerys, the mine operator who currently holds the water discharge permit related to pit dewatering, before Albemarle begins depositing tailings from the Project.

5.1.8. Groundwater

5.1.8.1. Groundwater Well Inventory

In 2022, AECOM conducted a survey of private residential water wells within a 2-mile radius of the KMM Project site. Approximately 260 confirmed or suspected wells were identified within the search area, 56 of which were positively identified (listed in Table 5-8, below).

Table 5-8: Existing Groundwater Well Summary

Parcel Street Name (Cleveland County)	Number of Suspected Wells	Number of Confirmed Wells	Parcel Street Name (Cleveland County)	Number of Suspected Wells	Number of Confirmed Wells
Adele Lane	3	0	Margrace Road	3	1
Afton Drive	2	0	Marys Grove Church	0	1
Alex D Owens Drive	15	6	Montcliff Drive	4	2
Alexander Street	2	0	Mountain Crest Drive	4	0
Ark Street	2	0	Mountain Crest Drive (Gaston County)	3	0
Bain Road	3	0	Mount Olive Church	2	0
Bennett Street	2	0	North Cansler Street	2	0
Beta Court	2	0	North Roxford Road	1	0
Beta Place	3	0	Old Home Place	1	0
Bethlehem Road	0	3	Parkdale Circle	12	0
Cane Drive	1	0	Parkgrace Road	6	0

Parcel Street Name (Cleveland County)	Number of Suspected Wells	Number of Confirmed Wells	Parcel Street Name (Cleveland County)	Number of Suspected Wells	Number of Confirmed Wells
Carpet Lane	9	0	Patterson Road	1	1
Castle Court	0	3	Pearce Court	0	1
Castlerock Road	5	0	Pearce Drive	0	2
Chestnut Ridge	0	1	Pennant Drive	3	0
Churchill Drive	1	0	Persimmon Creek	0	1
Compact School	4	1	Philfer Road	1	0
Countryside Road	0	1	Plum Tree Drive	0	1
Crescent Circle	1	0	Princeton Drive	1	0
Curry Road	2	0	Quarry Road	0	1
Dixon School Road	13	0 (5 abandoned wells identified)	Range Road	0	3
Dove Cove Lane	0	1	South Battleground	14	1
Drew Court	1	0	South Roxford Road	1	0
Ferguson Drive	0	1	Watterson Street	1	0
Fulton Street	4	0	School Street	5	0
Fulton Drive	2	0	Shelby Road	16	0
Gage Road	1	0	Southridge Drive	2	0
Galilee Church road	10	0	Timms Street	5	1
Gantt Street	1	0	Timms Circle	1	0
Gene Court	0	1	Tin Mine Road	4	0
George Lewis Road	1	0	Urban Drive	10	0
Gold Mine School	2	0	Vandyke Road	0	1
Goodall Road	2	0	West Gold Ext	1	0
Holiday Inn Drive	0	1	West Gold Street	3	0
Hunters Field Way	0	2	Waco Road	7	0
Joann Drive	0	1	Walker Street	4	0
Kristie Lane	0	1	Washington Street	3	0
Lake Montonia Road	12	0	Westover Church	1	0
Landing Street	1	0	Wilson Street	2	0
Latham Drive	1	0	Wren Lane	1	0
Maner Road	1	0	York Road	4	1

Source: AECOM 2022

5.1.8.2. Brownfield Screening

Albemarle commissioned SWCA to conduct a comprehensive brownfield screening to identify constituents in surface and/or groundwater that would indicate water quality issues caused by historical use of the Albemarle property (at KMM) or adjacent land use. Sampling was conducted between March 21 and March 30, 2023, at three locations in the legacy pit lake and from 19 groundwater monitoring wells. The samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and per- and polyfluorinated alkylated substances (PFAS).

Sample analysis detected nine VOCs and two SVOCs, all at values below federal regulatory standards (see Table 5-9, below). No PCBs were detected in any of the samples.

Table 5-9: Summary of Brownfield Screening Analyses

Parameter	Detections
VOC	
Acetone	2 pit lake samples 3 groundwater samples
Methyl ethyl ketone	2 pit lake samples 7 groundwater samples
Benzene	1 groundwater sample
Carbon disulfide	1 groundwater sample
Chloroform	2 groundwater samples
Cis-1,2-dichloroethene	6 groundwater samples
1,1-dichloroethene	1 groundwater sample
2-hexanone	2 groundwater samples
Toluene	1 groundwater sample
SVOC	
Chrysene	1 groundwater sample
Indeno(1,2,3-cd)pyrene	1 groundwater sample (detected concentration exceeded the regulatory standard by 0.000033 milligrams per liter)

Source: SWCA 2023e

SVOC = semivolatile organic compound; VOC = volatile organic compound

5.1.9. Natural Hazards

5.1.9.1. Flooding

A review of the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer showed that approximately 21 acres of the KMM site are located within Zone AE (areas subject to inundation by the 1 percent annual chance flood; the 100-year floodplain) (FEMA 2021). There are no FEMA defined floodplains in the TSF site.

5.1.9.2. Seismology

Earthquakes in the region are rare but can be significant. The most significant earthquake near the KMM site occurred in 1886 in Charleston, South Carolina; this was a 7.1 magnitude earthquake. More recently, a 5.1 magnitude event occurred in 2020 near Sparta, North Carolina (NCDENR 2023). Charleston, South Carolina and Sparta, North Carolina are located approximately 200 and 125 miles from the KMM site, respectively.

5.2. BIOLOGICAL SETTING

5.2.1. Existing Data Sets Informing Preliminary Baseline Characterization

As discussed further below, primary data from the following data collection activities were used to develop a preliminary characterization of existing conditions for biological resources at the KMM and TSF site:

- General field reconnaissance (SWCA 2022b);
- Comprehensive wetland delineation (SWCA 2022b);
- Migratory bird nest surveys (SWCA 2022b);
- Aquatic habitat assessment (SWCA 2022b);
- Bat acoustic surveys (SWCA 2022d);
- Monarch butterfly (*Danaus plexippus*) habitat assessment (SWCA 2022a);
- Presence and/or absence surveys for the federally listed dwarf-flowered heartleaf (*Hexastylis naniflora*) (USFWS 2017); and
- Federal and state-listed species reports (SWCA 2022c).

The data will be used to understand the potential impacts to the biological systems that might occur during Project construction and operations, including discharge of water to Kings Creek during pit dewatering.

5.2.2. Terrestrial Flora and Fauna

Biological surveys identified common mammals including white-tail deer (*Odocoileus virginianus*), eastern gray squirrel (*Sciurus carolinensis*), eastern cottontail (*Sylvilagus floridanus*), and raccoon (*Procyon lotor*). Additionally, black bears (*Ursus americanus*) have been observed occasionally within the KMM site. Common reptiles observed include eastern rat snake (*Pantherophis alleghaniensis*), northern water snake (*Nerodia sipedon*), Carolina anole (*Anolis carolinensis*), five-lined skink (*Plestiodon fasciatus*), eastern fence lizard (*Sceloporus undulatus*), eastern box turtle (*Terrapene uratus*), eastern mud turtle (*Kinosternon subrubrum*), and common musk turtle (*Sternotherus odoratus*). Common amphibians observed included American toad (*Anaxyrus americanus*), green frog (*Lithobates clamitans*), bullfrog (*Lithobates catesbeianus*), northern cricket frog (*Acris crepitans*), spring peeper (*Pseudacris crucifer*),

northern dusky salamander (*Desmognathus fuscus*), and spotted salamander (*Ambystoma maculatum*; egg masses only). The bird species observed are all species observed regularly in the region and include Northern cardinal (*Cardinalis cardinalis)*, American crow (*Corvus brachyrhynchos*), and blue jay (*Cyanocitta cristata*).

5.2.2.1. Federally Listed Species

Federally listed species are those designated by the U.S. Fish and Wildlife Service (USFWS) as threatened, endangered, proposed, candidate, or under review under the Endangered Species Act (ESA) (USFWS 1973). Table 5-10 details federally listed species with the potential to occur in the KMM site and TSF site, including one federally listed endangered species, one proposed endangered species, one species currently under review, one candidate species, and one threatened species. All the species with the potential to occur in the KMM site also have the potential to occur at the TSF site, aside from northern long-eared bat (*Myotis septentrionalis).*

Table 5-10: USFWS Federally Listed Species with Potential to Occur within the KMM and TSF Sites

Common Name (Scientific Name)	Listed Status	Habitat	Potential to Occur within KMM Site (Very Low, [a] Low, [b] Moderate, [c] High [d])
Northern long-eared bat (*Myotis septentrionalis*)	Endangered [e]	Summer roosting in trees with loose bark over 3 inches in diameter, winters in caves, forages in forest understory.	**KMM Site** Low; on edge of range and not detected during 2022 bat acoustic surveys (SWCA 2022d). **TSF Site** (Not reported).
Tricolored bat (*Perimyotis subflavus*)	Proposed endangered	During the spring, summer, and fall (i.e., non-hibernating seasons), it primarily roosts among live and dead leaf clusters of live or recently dead deciduous hardwood trees. During winter, it hibernates in caves, culverts, and abandoned water wells. Forages both in treetops and closer to ground.	**KMM Site** High; detected throughout the KMM site during 2022 bat acoustic surveys (SWCA 2022d). **TSF Site** Moderate; forested habitat present; detected during SWCA's 2022 bat acoustic surveys at the KMM site approximately 2 miles east of the TSF site.
Little brown bat (*Myotis lucifugus*)	Under review	Roosts include trees, buildings, wood piles, and under rocks. Forages around water sources, forest edge.	**KMM Site** Low; not detected during 2022 bat acoustic surveys (SWCA 2022d).

Common Name (Scientific Name)	Listed Status	Habitat	Potential to Occur within KMM Site (Very Low, [a] Low, [b] Moderate, [c] High [d])
			TSF Site Moderate; forested habitat present; however, was not detected during 2022 bat acoustic surveys at the KMM site approximately 2 miles east of the TSF site.
Monarch butterfly (*Danaus plexippus*)	Candidate	Prairies, meadows, grasslands, and roadsides with milkweed (*Asclepias spp.*) and flowering plants.	**KMM Site** Low; very limited suitable habitat along utility rights-of-way; individuals not identified during 2022 habitat surveys (SWCA 2022a). **TSF Site** Low; limited suitable habitat.
Dwarf-flowered heartleaf (*Hexastylis naniflora*)	Threatened	Acidic soils along bluffs and adjacent slopes, boggy areas next to streams and creek heads, and along slopes of nearby hillsides and ravines. Endemic to upper Piedmont of North Carolina and South Carolina.	**KMM Site** Low; suitable habitat observed; however, this species was not identified during presence/absence surveys in 2022. **TSF Site** Low; limited suitable habitat.

Source: USFWS Undated-a, Undated-b

Note: In September 2022, the USFWS proposed to list the tricolored bat as an endangered species in response to observed population declines resulting primarily from white-nose syndrome (Federal Register 87:56381). A final decision regarding the species status is still pending.
[a] Very low: The KMM site is outside the known range of the species or is within the range, but there is no suitable habitat, or the species is historical.
[b] The KMM site is located within the known range of the species, but there is limited suitable habitat, or the species has not been observed in the vicinity.
[c] Moderate: Known species' range includes the KMM site, and suitable habitat is present.
[d] High: There are known species occurrences within the KMM site.
[e] Reclassification from threatened to endangered became effective January 30, 2023.
KMM = Kings Mountain Mine; SWCA = SWCA Environmental Consultants; TSF = tailings storage facility

5.2.2.2. State-Listed Special Concern Species

Regulatory Background

In North Carolina, endangered, threatened, and special concern animals (referred to as “state-listed” for this report) are protected by the North Carolina Wildlife Resources Commission (NCWRC) via the North Carolina Endangered Species Act of 1987 (General Assembly of North

Carolina 1987); and plants are legally protected by the North Carolina Plant Conservation Program via the North Carolina Plant Protection and Conservation Act of 1979 (General Assembly of North Carolina 1979). State endangered species are those determined by the NCWRC to be in jeopardy. State threatened species are likely to become an endangered species within the near future throughout all or a significant portion of their range. State special concern species are determined by the NCWRC to require monitoring but may be taken under adopted regulations.

Species List

According to occurrence records provided by the North Carolina Natural Heritage Program (NCNHP 2022a, 2022b), no state-listed threatened, endangered, or special concern plant/animal species have been identified within the KMM site. Five state-listed species have been observed within 1 mile of the KMM site. Four of these species observations occurred within Crowders Mountain State Park (timber rattlesnake [*Crotalus horridus*], Carolina pygmy rattlesnake [*Sistrurus miliarius miliarius*], dwarf juniper [*Juniperus communis* var. *depressa*], and bear oak [*Quercus ilicifolia*]). The other species observed within 1 mile of the KMM site, oldfield deer mouse (*Peromyscus polionotus*), has not been recorded since 1977.

Regarding state-listed species for the TSF site, concurrence letters provided by North Carolina Natural Heritage Program state no state-listed threatened, endangered, or special concern plant or animal species occurring within the TSF site. One state-listed species, the yellowfin shiner (*Notropis lutipinnis*), has been observed within 1 mile of the TSF site; however, no streams are present within the TSF site to support this species (NCNHP 2023a, 2023b).

The closest known occurrences of Bald eagle individuals are approximately 6.5 miles northwest of the KMM site at Moss Lake (eBird Undated; NCWRC Undated). There are no large bodies of water to support Bald eagles within the KMM site or TSF site; therefore, the potential for this species to occur is low.

5.2.2.3. Migratory Birds

The bird species observed in the KMM site are all species observed regularly in the region (LeGrand et al. Undated) and are regularly recorded during the annual Breeding Bird Survey, a volunteer-based program designed to monitor the status and trends of North American breeding bird populations (USGS 2023). Species include: Tufted titmouse (*Baeolophus bicolor*), Northern cardinal (*Cardinalis cardinalis*), American crow (*Corvus brachyrhynchos*), Blue jay (*Cyanocitta cristata*), Downy woodpecker (*Dryobates pubescens*), House finch (*Haemorhous mexicanus*), Northern mockingbird (*Mimus polyglottos*), Indigo bunting (*Passerina cyanea*), Eastern towhee (*Pipilo erythrophthalmus*), Summer tanager (*Piranga rubra*), Carolina chickadee (*Poecile carolinensis*), Northern parula (*Setophaga americana*), Prairie warbler (*Setophaga discolor*), Pine warbler (*Setophaga pinus*), Eastern bluebird (*Sialia sialis*), American goldfinch (*Spinus tristis*), Field sparrow (*Spizella pusilla*), Carolina wren (*Thryothorus ludovicianus*), White-eyed vireo (*Vireo griseus*), and mourning dove (*Zenaida macroura*). None of the bird species observed at the KMM site are USFWS Birds of Conservation Concern (USFWS 2021).

5.2.2.4. Vegetation Communities

The KMM site consists primarily of deciduous forest, mixed forest, and evergreen forest with smaller portions of pasture/herbaceous, medium to high intensity development, open water (e.g., ponds, lakes, mining pits), and wetland habitats.

Wetlands are regulated in the United States and the Project will submit a permit application for impacts to about 9 acres of wetlands. Wetland vegetative communities included:

- Palustrine Emergent Wetland: Communities with a prevalence of hydrophytic non-woody vegetation less than 3 feet in height, generally located in open areas without a tree canopy layer.
- Palustrine Forested Wetland: Communities consist of a prevalence of hydrophytic woody species 20 feet or greater in height and 3 inches or greater in diameter at breast height.

5.2.2.5. Aquatic Biota

No threatened or endangered species were trapped during the 2022 survey period. In total, 957 fish were trapped at the KMM site using minnow traps and hoop nets. In pond habitats, bluegill (*Lepomis macrochirus*) was the most common fish species, accounting for 98.4 percent of observations. Other fish species recorded included redbreast sunfish (*Lepomis auritus*), spotted bass (*Micropterus punctulatus*), largemouth bass (*Micropterus salmoides*), and pumpkinseed (*Lepomis gibbosus*). Other fauna in pond habitats included mud turtles (*Kinosternon subrubrum*), musk turtles (*Sternotherus odoratus*), painted turtles (*Chrysemys picta*), a yellow-bellied slider (*Trachemys scripta scripta*), a northern water snake (*Nerodia sipedon*), and bullfrog tadpoles and adults (*Lithobates catesbeianus*).

In stream habitats, a total of 895 fish from 11 species were observed in Kings Creek, South Creek, and two unnamed streams. The most abundant species observed in the stream habitats was creek chub (*Semotilus atromaculatus*), which accounted for 51 percent of observed individuals. Other fish species in creek habitats included bluehead chub (*Nocomis leptocephalus*) and rosyside dace (*Clinostomus funduloides*).

All fish, crustacean, and bivalve species observed have an International Union for Conservation of Nature status of Least Concern, indicating they are not endangered, vulnerable, threatened, near threatened, or conservation-dependent (IUCN Undated).

No native bivalves were observed in the four streams surveyed. The only freshwater bivalve observed was Asian clam (*Corbicula* sp.), which is an introduced species of mollusk that is considered invasive. No aquatic snail species were observed. One unidentified crayfish was observed, but not caught, in Kings Creek. No species within the KMM site are considered rare.

State-Listed Special Concern

Seven state-listed aquatic species were identified as having the potential to occur in Cleveland County, although none were listed as state threatened or endangered. These species include “Carolina” quillback (*Carpiodes* sp. *Cf. Cyprinus*), seagreen darter (*Etheostoma*), yellowfin shiner (*Notropis lutipinnis*), Carolina foothills crayfish (*Cambarus johni*), Broad River stream

crayfish (*Cambarus lenati*), French Broad River crayfish (*Cambarus reburrus*), and Broad River spiny crayfish (*Cambarus spicatus*).

5.2.3. Critical Habitat Assessment

The USFWS is the lead agency for complying with Section 7 of the ESA. At present, there are no USFWS-designated Critical Habitats for federally listed species within the KMM site or TSF site (USFWS Undated-b) and no federally listed species have been identified within the KMM site. USFWS is the lead agency for complying with the essential fish habitat provisions of the Magnuson-Stevens Act. There is no essential fish habitat in this district's area of responsibility.

5.2.4. Ecosystem Services

The World Resources Institute provides a process for identifying priority ecosystem services.[17] Ecosystem services are broken up into four categories: provisioning, the goods or products obtained from ecosystems; regulating, the benefits obtained from an ecosystem's control of natural processes; cultural, the nonmaterial benefits people obtain from ecosystem services; and supporting, the underlying processes such as the formation of soil, photosynthesis, and nutrient cycling (WRI 2008). Identified ecosystem services in the EAoI and greater North Carolina ecosystem will be identified and assessed in the ESIA in accordance with the approach adopted by the World Resources Institute, which complies with the requirements of IRMA.

5.3. SOCIAL SETTING

This section describes the current social conditions within the SAoI. The information presented in this section comes from publicly available, up-to-date official sources, such as the U.S. Census (secondary data), and fieldwork that was carried out by ERM in October 2022 (primary data). Findings from desktop-based research and fieldwork were presented to the Albemarle Kings Mountain Community Advisory Panel (CAP)[18] on April 20, 2023, for verification. Feedback received from the CAP was incorporated into the baseline data collection to present a comprehensive and accurate description of the SAoI. Some topics raised by the CAP as important issues in the community, such as food insecurity, are not presented in this Scoping Report, but will be presented in the full social baseline of the ESIA.[19]

5.3.1. Data Gathering Approach

A dual-pronged approach for data collection was used and includes the following:

- A desktop study to gather secondary data from up-to-date official sources; and

[17] The World Resources Institute defines ecosystem services as "the benefits of nature such as food, fuel, natural hazard protection, pollination, and spiritual sustenance" (WRI 2008).
[18] The Albemarle Kings Mountain CAP is an organization of Kings Mountain residents that serves as a forum for two-way dialogue between company representatives and members of the community. CAP discussions are typically focused on company health, safety, and environment performance, and the CAP offers Albemarle and members of the community an opportunity to partner and engage on matters that involve and impact residents, local businesses, and organizations.
[19] The full socioeconomic baseline will include a description of communities surrounding the Mine and TSF to include the full extent of the Project site, as shown in the SAoI presented in Section 4.2, Preliminary Social Area of Influence.

- Fieldwork and stakeholder engagement to gather primary data, including stakeholder perceptions and concerns regarding the Project.

ERM carried out fieldwork for baseline data collection from October 25 to October 29, 2022. Analysts conducted a "windshield tour"[20] of Kings Mountain, in addition to 23 semi-structured interviews with key informants (also referred to as stakeholders) in the community and surrounding areas. ERM also conducted virtual interviews with some community members prior to fieldwork (to gain insight into the community) and after fieldwork (to address follow-up themes that arose). The results of these interviews have been integrated with the desktop-based research to generate a comprehensive baseline. A complete description of all ERM fieldwork and interviews will be included in the ESIA.

5.3.2. Demographics

5.3.2.1. Population

The city of Kings Mountain spans two counties. The western portion of Kings Mountain sits in Cleveland County, and the eastern-most portion is in Gaston County. Gaston County is located immediately west of Mecklenburg County, which is the state's second largest county and home to Charlotte, the state's largest city (Tippett 2022).

The population of Kings Mountain was 11,409 in 2021, with a population density of approximately 830 people per square mile (U.S. Census Bureau 2021a). The population in Kings Mountain increased from 10,296 in 2010 to 11,409 in 2021, a 10.8 percent increase. In 2021, the total population in Cleveland County was 100,359, with a population density of 214.7 people per square mile. Both Cleveland and Gaston counties are located west of the Charlotte metropolitan area and, according to the North Carolina Rural Center, Cleveland County is considered a rural county and Gaston County is considered a regional city and suburban county (NC Rural Center Undated). Population growth in the SAoI is shown in Table 5-11 (below).

Table 5-11: Population Growth in the Social Area of Influence

Area	2010 Population	2021 Population	Percent Growth since 2010	Population Density (people per square mile)	Males (%)	Females (%)
Kings Mountain	10,296	11,409	10.8	830.4	46.1	53.9
Shelby	20,323	21,947	8.0	982.3	43.9	56.1
Gastonia	71,741	81,161	13.1	1,555.9	47.8	52.2
Bessemer City	5,340	5,507	3.1	1,038.9	47.0	53.0
Charlotte	731,424	879,709	20.3	2,836.9	48.0	52.0

[20] A windshield tour provides an in-depth look at community characteristics through driving and walking through the community. The goal is to observe housing, health care facilities, schools, public transportation, recreational facilities, grocery stores, pharmacies, and the road network. Information and photographs from the ERM windshield tour of Kings Mountain are provided in the socioeconomic baseline.

Area	2010 Population	2021 Population	Percent Growth since 2010	Population Density (people per square mile)	Males (%)	Females (%)
Cleveland County	98,078	100,359	2.3	214.4	48.9	51.1
Gaston County	206,089	230,856	12.0	640.7	48.4	51.6
North Carolina	9,535,483	10,551,162	10.7	214.7	49.9	51.1

Source: U.S. Census Bureau 2021b

Note: Some data on Shelby, Gastonia, and Bessemer City are included in this social baseline, as they are the main cities within the Indirect SAoI and have direct transportation routes to Kings Mountain. Shelby is in Cleveland County, while Bessemer City and Gastonia are in Gaston County.

In Kings Mountain, approximately 56.8 percent of the population is of working age or between ages 16 and 64 (U.S. Census Bureau 2021a). Almost 30 percent of the population in Kings Mountain is over 60 years of age. Of the cities in the SAoI, Bessemer City has the youngest median age of 35.3 years and a mode age between ages 25 and 29 (10.6 percent of the population).

5.3.2.2. Race and Ethnicity

Most residents in Kings Mountain identify as either White (65.2 percent) or Black/African American (27.3 percent). Approximately 3.7 percent of Kings Mountain residents identify as two or more races, 1.6 percent identify as Asian and 2 percent as Hispanic/Latino. Within the SAoI, most residents identify as White, followed by Black/African American and Hispanic. Gastonia has the highest proportion of individuals who identify as Hispanic/Latino at 10 percent. The full racial breakdown is shown in Table 5-12 (below).

Table 5-12: Racial Breakdown in the Social Area of Influence

Race	Kings Mountain	Shelby	Gastonia	Bessemer City	Cleveland County	Gaston County
White alone	65.2%	57.8%	55.6%	75.9%	71.8%	70.4%
Black or African American alone	27.3%	31.7%	29.4%	12.4%	20.2%	16.9%
American Indian and Alaska Native alone	0.0%	0.0%	0.1%	0.0%	0.1%	0.2%
Asian alone	1.6%	0.9%	1.3%	0.0%	0.9%	1.7%
Native Hawaiian and Other Pacific Islander alone	0.0%	0.3%	0.0%	0.0%	0.1%	0.1%
Some other race alone	0.1%	0.0%	0.2%	0.2%	0.2%	0.2%
Two or more races	3.7%	5.2%	3.3%	1.9%	2.8%	2.9%
Hispanic or Latino	2.0%	4.2%	10.0%	9.6%	3.9%	7.7%

Source: U.S. Census Bureau 2021c

Note: Percent totals are greater or less than 100 percent due to rounding.

In Kings Mountain, English is the most widely spoken language among residents ages 5 years and older (U.S. Census Bureau 2021d). Ninety-seven percent of the population in Kings

Mountain speaks English, while 1.6 percent speaks Spanish, and 1.7 percent speaks Asian and Pacific languages. Within the SAoI, English is also the most widely spoken language; however, both Bessemer City and Gastonia have sizable Spanish speaking populations at 8.8 percent and 8.3 percent, respectively.

5.3.2.3. Archdale

Archdale is an unincorporated area within Cleveland County located between the city limits of Kings Mountain, North Carolina, and Grover, North Carolina, a small portion of which falls within the ETJ of Kings Mountain.[21] The Archdale areas north of the TSF site are in census tract (CT) 9506.03 and census block group (CBG) 2,[22] and have a total population of 1,614 and approximately 545 households (USEPA 2022a). This CBG is primarily industrial and agricultural, with some residences. Approximately 17 percent of the CBG population is low-income,[23] which is lower than that of Kings Mountain, at 47 percent (USEPA 2022a). Twelve percent of the population are considered people of color,[24] compared to 32 percent in Kings Mountain.

5.3.3. Education

Within Kings Mountain, there are four elementary schools, one intermediate school (fifth and sixth grade), one middle school, and one high school. During the 2020 to 2021 school year, Kings Mountain High School was ranked first in Cleveland County high schools and 145/686 for all North Carolina high schools (U.S. News Undated). Approximately 42 percent of the students enrolled in Kings Mountain High School are below the poverty line (ERM 2022).

There are two community colleges within the SAoI: Cleveland Community College and Gaston College. Cleveland Community College has positioned itself to be tightly aligned with workforce development and is investing in vocational programs including manufacturing trades, industrial systems, mechanical drafting, plumbing, information technology, and electric systems (ERM 2022). Cleveland Community College recently opened a new Advanced Technology Center, which includes 45,000 square feet of space, high-bay training spaces, and a crane for industry training (George 2021; ERM 2022). Gardner-Webb is the closest 4-year college to Kings Mountain, less than 20 miles west of the city (City of Kings Mountain Undated-a).

[21] The area in the ETJ of Kings Mountain, called Archdale, is in proximity of the TSF site. See Section 4.2, Preliminary Social Area of Influence, for details.
[22] Data for Archdale is presented at the CT and CBG level due to this area being an unincorporated location within the ETJ of Kings Mountain. CTs are small permanent statistical subdivisions of a county, while CBGs are the smallest geographic area for which the U.S. Census Bureau collects data. (U.S. Census Bureau 1997, 2014)
[23] These data are taken from the EJScreen Tool, which defines "low-income" as “The percent of a block group's population in households where the household income is less than or equal to twice the federal poverty level.” It is important to note that this definition is distinct from the definition of “in poverty” from the U.S. Census Bureau, which is defined as “if a family’s total income is less than the family’s threshold or measure of need.” (USEPA 2023; U.S. Census Bureau 2023)
[24] EJScreen defines “people of color” as “the percent of individuals in a block group who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino” (USEPA 2023).

5.3.4. Economy and Industry

According to stakeholders, the economy in Kings Mountain stalled after the loss of the textile manufacturing industry during the implementation of the North American Free Trade Agreement in 1994, as manufacturers began to relocate their factories to Mexico in the mid-1990s (ERM 2022). This resulted in the loss of an entire sector of jobs within Kings Mountain, and stakeholders reported that family members who lost factory jobs had difficulty being re-skilled for other lines of work. However, businesses and other industries are starting to come back to the area, including Utz, Coca-Cola, and Walmart (ERM 2022). In Kings Mountain, 59.2 percent of the population ages 16 years and older are in the labor force, compared to 62.4 statewide in North Carolina (U.S. Census Bureau 2020a). Within the SAoI, labor force participation is lower in Shelby (55.9 percent) and Cleveland County (56.7 percent), but higher in Gastonia (64.3 percent), Bessemer City (60.5 percent), and Gaston County (62.4 percent).

Over 31 percent of Kings Mountain residents are employed in production, transportation, and material moving occupations (U.S. Census Bureau 2021e). In both Cleveland and Gaston counties, most residents are employed in management, business, science, and arts occupations. The largest industries in Kings Mountain are manufacturing (24 percent); educational services, health care, and social assistance (18 percent); and retail trade (11 percent).

Currently, Albemarle's operations in Kings Mountain employ roughly 250 people, many of which are involved in highly technical engineering positions. There are a total of 79 positions at the conversion plant (Albemarle 2023).

5.3.4.1. Employment and Household Income

The median household income in Kings Mountain is $42,336 (U.S. Census Bureau 2021e). The median household income in Gastonia is the highest out of all the towns in the Project's SAoI at $52,990, though this is still lower when compared to the Gaston County median income ($56,819) and the state median income ($60,516).

The unemployment rate in Cleveland County (7.1 percent) is higher than that of North Carolina (5.3 percent) and the national average (5.3 percent). The percentage of families and people whose income from 2020 to 2021 was below the poverty level in Cleveland County is 14.6 percent, higher than the state average of 12.9 percent. Cleveland County's average per capita income of $24,505 is lower than the North Carolina income per capita average of $34,209; however, Gaston County's average per capita income of $30,607 is more closely aligned with the state average. The Cleveland County median household income at $45,646 is also lower than the North Carolina ($60,516) and U.S. averages ($64,994).

There are stark differences in per capita income by race in the SAoI. On average, individuals who live in Kings Mountain and identify as White have a per capita income of $25,074, which is higher than individuals who identify as Black or African American, with a per capita income of $14,010 (U.S. Census Bureau 2020b). In Shelby, individuals who identify as White have a per capita income of $31,677, 1.5 times more than individuals who identify as Black or African American, with a per capita income of $12,963. Individuals who live in Kings Mountain and

identify as “some other race” have the lowest per capita income at $11,743, followed by individuals in Shelby who identify as Asian at $11,896.

5.3.4.2. Economic Vulnerability

Kings Mountain and Shelby have the highest poverty[25] rates in the SAoI, at 20.7 percent and 19 percent, respectively (U.S. Census Bureau 2021a). Kings Mountain also has the highest unemployment rate in the SAoI at 8.1 percent, followed by Bessemer City at 6.4 percent. The poverty rate and unemployment rate for Cleveland County are 14.6 percent and 7.1 percent, respectively. In Cleveland County, the poverty rate of all people is 18 percent, and 17.2 percent of households are receiving food stamps or Supplemental Nutrition Assistance Program (SNAP) benefits. Within the SAoI, the percentage of individuals receiving Food Stamps or SNAP benefits ranges from 19.5 percent in Bessemer City to 22.9 percent in Kings Mountain (U.S. Census Bureau 2021e).

Over 47 percent of children in Kings Mountain are in single-parent families, and 18.1 percent of the population aged 19 to 64 are uninsured. According to stakeholders, two of the most common barriers to employment are transportation and childcare (ERM 2022). There are no public transit options in Kings Mountain, and many individuals lack reliable transportation to get to work, particularly if they do not own cars. Community members told ERM that childcare is insufficient both at the regional level and within the city of Kings Mountain. These barriers with transportation and childcare force many parents to stay home and take care of children rather than joining the workforce (ERM 2022).

5.3.5. Vulnerable Groups

Vulnerable groups are those who could experience negative impacts from a project more severely than others, or who would have more difficulty coping or adapting to project-related changes brought due to having a lower resilience to changes or impacts. Vulnerable groups may not be able to take advantage of a project benefit or opportunity to the same extent as other groups in a community. This disadvantage may stem from an individual or group’s race, gender, ethnicity, religion, political or other affiliation, physical or mental disability, poverty, economic disadvantage (see Section 5.3.4.2, Economic Vulnerability, for details), health status, or dependence on unique natural resources. This includes potential environmental justice (EJ) communities as well as other groups who are underserved in the SAoI.

5.3.5.1. Environmental Justice

According to the USEPA, EJ is the “fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies” (USEPA 2013). Albemarle understands that potential EJ communities may face a disproportionate burden from Project-related activities. To minimize this disproportionate burden, Albemarle has

[25] “Poverty” as defined by the U.S. Census Bureau is “a set of money income thresholds [measure of a family’s need] that vary by family size and composition…if a family’s total income is less than the family’s threshold, then that family is considered in poverty” (U.S. Census Bureau 2023).

committed to conducting robust EJ community research to facilitate effective engagement with any potentially disadvantaged community or neighborhood.

Albemarle used best practice guidance from the USEPA, the Council for Environmental Quality, and the NCDEQ to identify potential EJ communities within a 3-mile radius of the KMM site. The CBG[26] level was assessed as the appropriate unit of geographic analysis for identification of potential EJ communities for the Project and these constitute the EJ Study Area used in this Scoping Report.[27] Albemarle also used available data (2020 and 2021 U.S. Census Bureau) to better understand Kings Mountain's composition of race, ethnicity, and poverty at the CBG level (i.e., the U.S. Census American Community Survey Files #B17017, #B03002, and #DP03).

According to the NCDEQ, a community may be considered a potential EJ community if they meet the following criteria:

- Racial composition:
  - Share of nonwhites is over 50 percent.
  - Share of nonwhites is at least 10 percent higher than county or state share.
- Poverty rate:
  - Share of population experiencing poverty is over 20 percent.
  - Share of in-poverty households is at least 5 percent higher than the county or state share.

A total of 14 CBGs were identified in a 3-mile radius of the KMM site. Out of the 14 CBGs identified, seven were considered to have a meaningfully greater minority population, eight were considered to have a meaningfully greater percent below poverty population, and three were considered to have linguistically isolated populations.

In 2021, approximately 13.3 percent of households in North Carolina were in poverty (U.S. Census Bureau 2021f). In Kings Mountain, 21.1 percent of households were below the poverty level[28] in 2021, a higher proportion than those below the poverty level statewide in North Carolina (U.S. Census Bureau 2021f). Most individuals in Kings Mountain identify as White alone (65.2 percent), followed by those who identify as Black or African American (27.3 percent) and two or more races (3.7 percent). The unemployment rate in Kings Mountain in 2020 was 8.1 percent, higher than the Cleveland County rate of 7.1 percent (U.S. Census Bureau 2021e).

5.3.5.2. Indigenous Peoples

There are state-recognized Tribes in North Carolina (NCDOA 2023):

- Coharie Tribe

[26] A CBG is the smallest geographical unit for which the U.S. Census Bureau publishes data. CBGs are generally defined to contain between 600 and 3,000 people. (U.S. Census Bureau 2022a).
[27] Note that the EJ Study Area is distinct from the SAoI used in this Scoping Report, though these areas overlap significantly.
[28] Poverty level as defined by the NCDEQ and American Community Survey (NCDEQ 2022c).

- Eastern Band of Cherokee Indians
- Haliwa-Saponi Indian Tribe
- Lumbee Tribe of North Carolina
- Meherrin Indian Tribe
- Occaneechi Band of the Saponi Nation
- Sappony
- Waccamaw Siouan Tribe

Traditionally, the land in the Direct AoI was occupied by the Eastern Band of the Cherokee Nation (Tsalaguwetiyi), the Sugaree, and the Catawba Nation Tribes (Native Land 2023). The Eastern Band of Cherokee Indians is the only federally recognized Tribe in North Carolina. Today, the Eastern Band of Cherokee Indians is primarily located in the western part of North Carolina, in the Smoky Mountains; and the present-day Catawba Reservation is a 600-acre plot of land located in Rock Hill, York County, South Carolina, bordering the Catawba River to the northeast (Catawba 2022). The Sugaree survivors of the Yemassee War of 1715 likely joined neighboring Tribes, such as the Catawba (SCIWAY 2023). The Catawba are currently operating a temporary casino located southwest of the KMM site.

5.3.6. Community Health and Safety

5.3.6.1. Community Health Indicators

Health data in North Carolina are available at the state and county level. This section relies on health data from the following public health sources:

- Centers for Disease Control and Prevention
- North Carolina Department of Health and Human Services
- Cleveland County Public Health Department
- County Health Rankings and Roadmaps

Where baseline data were not available at the community level, data at the county level were used to determine health indicators within the SAoI. The data are used to understand health status in the SAoI at the most local level possible. To understand the health rankings of each county, health outcomes[29] are calculated using data on quality of life and length of life. Health factors[30] are calculated considering data on health behaviors and physical environment.

Cleveland County falls in the 0 to 25th percentile for health outcomes and ranks in the lower-middle range of counties in North Carolina for health factors, scoring in the 25th to

[29] Health outcomes are calculated based on data about the length of life and quality of life (County Health Rankings & Roadmaps 2022b).
[30] Health factors are calculated taking using weighted averages of health behaviors (30 percent), clinical care (20 percent), social and economic factors (40 percent) and physical environment (10 percent) (County Health Rankings & Roadmaps 2022b).

50th percentile (County Health Rankings & Roadmaps 2022a). Conversely, Gaston County ranks in the higher-middle range of counties in North Carolina for health outcomes, falling between the 50th and 75th percentile. For health factors, Gaston County is ranked in the lower-middle range of counties, falling between the 25th and 50th percentile (County Health Rankings & Roadmaps 2022a).

Cleveland County and Gaston County both have a higher percentage of the population who experience poor or fair health (23 percent and 21 percent, respectively) than the state average (18 percent for North Carolina). Cleveland County and Gaston County both rank higher than North Carolina for adult smoking, at 23 percent and 21 percent respectively, while the state average is 19 percent. ERM validated this statistic while conducting fieldwork, as multiple health care professionals discussed the high levels of adult cigarette use in Cleveland County and the public health initiatives aimed at reducing the quantity of smokers (ERM 2022).

Cleveland County and Gaston County have fewer healthcare professionals and hospital beds per person than the state of North Carolina. Regarding physical environment, Cleveland and Gaston counties rank similarly to the state of North Carolina on severe housing problems, at 15 percent for all areas. When compared to state-level data, Cleveland County has a higher rate of diseases of the heart (260.2 versus 181.9 per 100,000), cancer of all types (252 versus 191.6 per 100,000), and chronic lower respiratory diseases (84.6 versus 52.1 per 100,000). The leading causes of death in Cleveland County include diseases of the heart, cancer (all types), chronic lower respiratory diseases, and cerebrovascular disease (County Health Rankings & Roadmaps 2022a).

5.3.6.2. Emergency Services

The Kings Mountain Fire Department has two stations to serve the Kings Mountain community; one located in downtown Kings Mountain and the other located in western Kings Mountain. Fire and emergency response calls have generally increased over the past 3 years, from 643 calls in 2020 to 1,567 calls in 2022 (City of Kings Mountain Undated-b). Currently, the Kings Mountain Fire Department responds to approximately four to five calls per day, with calls ranging from minor to serious events (ERM 2022). According to stakeholders, the Kings Mountain Fire Department has a good relationship with the Shelby and Gastonia Fire Departments, both of which will respond to Kings Mountain if needed.

5.3.7. Land Use

Table 5-13 summarizes land use/land cover as of 2018.

Developed land in Kings Mountain is made up of industry, residential and rural. The Kings Mountain Comprehensive Plan’s aim to guide future land use planning and the “development and redevelopment while preserving community character.” This is an approach to keep a variety of the land use between open space, rural and semi-rural, and urbanized environment (Kings Mountain North Carolina 2022).

Table 5-13: Land Use Type by County

Land Cover Type	Cleveland County (square miles)	Percentage (%)	Gaston County (square miles)	Percentage (%)
Open water	3.6	0.77	6.5	1.79
Developed	80.5	17.19	118.9	32.7
Barren	0.5	0.11	0.3	32.7
Forest (Deciduous, evergreen, mixed)	205	43.77	162.4	44.66
Shrub/Scrubs	13.1	2.8	6.4	1.76
Herbaceous	8.7	1.86	6.4	1.76
Hay/Pasture	126.9	27.09	53.5	14.71
Cultivated	26.1	5.57	6.3	1.73
Wetlands	4.0	0.85	3.5	0.96

Source: USGS 2018

5.3.8. Recreational Areas

Kings Mountain is in the foothills of the Blue Ridge Mountains in an area with a variety of recreational areas and parks. Kings Mountain has a variety of parks and playgrounds for residents to recreate in, including the Deal Park Walking Track, Patriots Park, and the Rick Murphey Children's Park (City of Kings Mountain Undated-c). The Moss Lake Campground, also known as the John H. Moss Lake Recreation Park, is located on the Kings Mountain Reservoir (City of Kings Mountain Undated-c).

The City of Kings Mountain has a Tourism Development Authority Board, which helps to promote tourism and travel in Kings Mountain. The Tourism Development Authority Board has eight members, three of which are representatives of local hoteliers, and meets monthly.

5.3.8.1. The Kings Mountain Gateway Trail

The Kings Mountain Gateway Trail (Gateway Trail), established in 2009, has become a social and cultural landmark for Kings Mountain. The trail was built in coordination with the National Park Service, Cleveland County, the City of Kings Mountain, and the State of North Carolina, and was created as a public-private partnership between Cleveland County and the Kings Mountain Gateway Trails non-profit. The Gateway Trail has received grants from a variety of organizations including North Carolina Adopt-A-Trail, the North Carolina Parks and Recreation Trust Fund, the Carolina Thread Trail, and more (ERM 2022).

Multiple stakeholders in the SAoI expressed the importance of having the Gateway Trail in the community (ERM 2022). Some stakeholders expressed concerns and complaints that portions of the trail, which cross into KMM site, are closed without warning. Albemarle is working with Gateway Trail representatives to relocate the portions of the trail that overlap with KMM site to maintain public access (ERM 2022; NPS 2012).

5.3.9. Social Infrastructure

5.3.9.1. Housing Market

During fieldwork, stakeholders noted that Kings Mountain has experienced significant growth in population as the Charlotte metro area continues to expand farther west toward Cleveland County. This has, in turn, increased the demand for housing in Kings Mountain (ERM 2022). The City Council set up a Housing Committee to evaluate housing inventory and proposed plans for new subdivisions that are currently undergoing an approval process. One development goal identified by the city is to continue to diversify housing options. Currently, all apartments in Kings Mountain are either Section 8 or tax credit housing. For this reason, the Housing Committee will also consider Fair Housing Act concerns, minimum housing standards, and code enforcement to meet the city's housing goals (City of Kings Mountain Undated-d). Like the housing market at the national level, housing prices in Kings Mountain increased dramatically in 2021 and 2022. A detailed breakdown of housing at the local level is provided in Table 5-14 (below).

Table 5-14: Housing Availability

Area	Total Housing Units	Occupied (%)	Owner Occupied	Renter Occupied	Vacant (%)	Single-Unit (%)	Mobile Home (%)
Kings Mountain	4,867	90	63	37	10	77	7
Shelby	10,370	83	58	42	17	74	3
Gastonia	35,696	93	54	46	7	73	2
Bessemer City	-	-	47	-	-	-	-
Cleveland County	43,872	92	75	25	8	68	22
Gaston County	100,055	94	67	33	6	76	9

Source: U.S. Census Bureau 2022b

Note: Dashes in the table indicate data are not available.

5.3.9.2. Transportation

Airports

Commercial air service to North Carolina is provided by four international airports (Charlotte/Douglas International Airport, Raleigh-Durham International Airport, Piedmont Triad International Airport, and Wilmington International Airport) and six regional or local airports with scheduled flights. Charlotte/Douglas International is the closest commercial airport to the Project.

Road Networks and Traffic

Figure 5-1 (below) presents a map of the road network in the SAoI.[31] During fieldwork, ERM found that the exit off I-85 into Kings Mountain (toward town) presented a complex intersection, with a high volume of traffic and multiple types of vehicles, including heavy construction vehicles (ERM 2022) (see Figure 5-2, below). In addition, the exit off U.S. 74 into town presented some complexities, such as left turns into fast-moving traffic (ERM 2022) (see Figure 5-3, below).

The I-85 interchange with NC 161 (particularly northbound movements on NC 161 toward Kings Mountain) is a complex intersection, with high traffic volumes and multiple types of vehicles, including heavy construction vehicles (ERM 2022). In addition, the I-85 interchange with U.S. 74 (particularly westbound movements toward Kings Mountain) also present some complexities, such as left turns into fast-moving traffic (ERM 2022).

Locations with a relatively high number of crashes include the I-85 interchange with NC 161; the U.S. 74 interchange with U.S. 74 Business west of the City of Kings Mountain; and the U.S. 74 Business (King Street) intersections with NC 216 and NC 161 in downtown Kings Mountain.

Table 5-15: Number of Recorded Traffic Crashes Grouped by Intersection, 2018–2022

Intersection	Number of Crashes
I-85 and NC 161	40
I-85 and Kings Mountain Blvd	14
I-85 and NC 216	18
U.S. 74 and U.S. 74 Business	36
U.S. 74 and NC 161	18
U.S. 74 Business and Kings Mountain Blvd	12
U.S. 74 Business and NC 216	43
U.S. 74 Business and NC 161	55
U.S. 29 and Long Branch Road (west of I-85 merge)	12
NC 216 and Kings Mountain Blvd	9
NC 161 and Lake Montonia Road	7
NC 161 and Holiday Inn Drive / Broadview Drive	9
Kings Mountain Blvd and Margrace Road	17

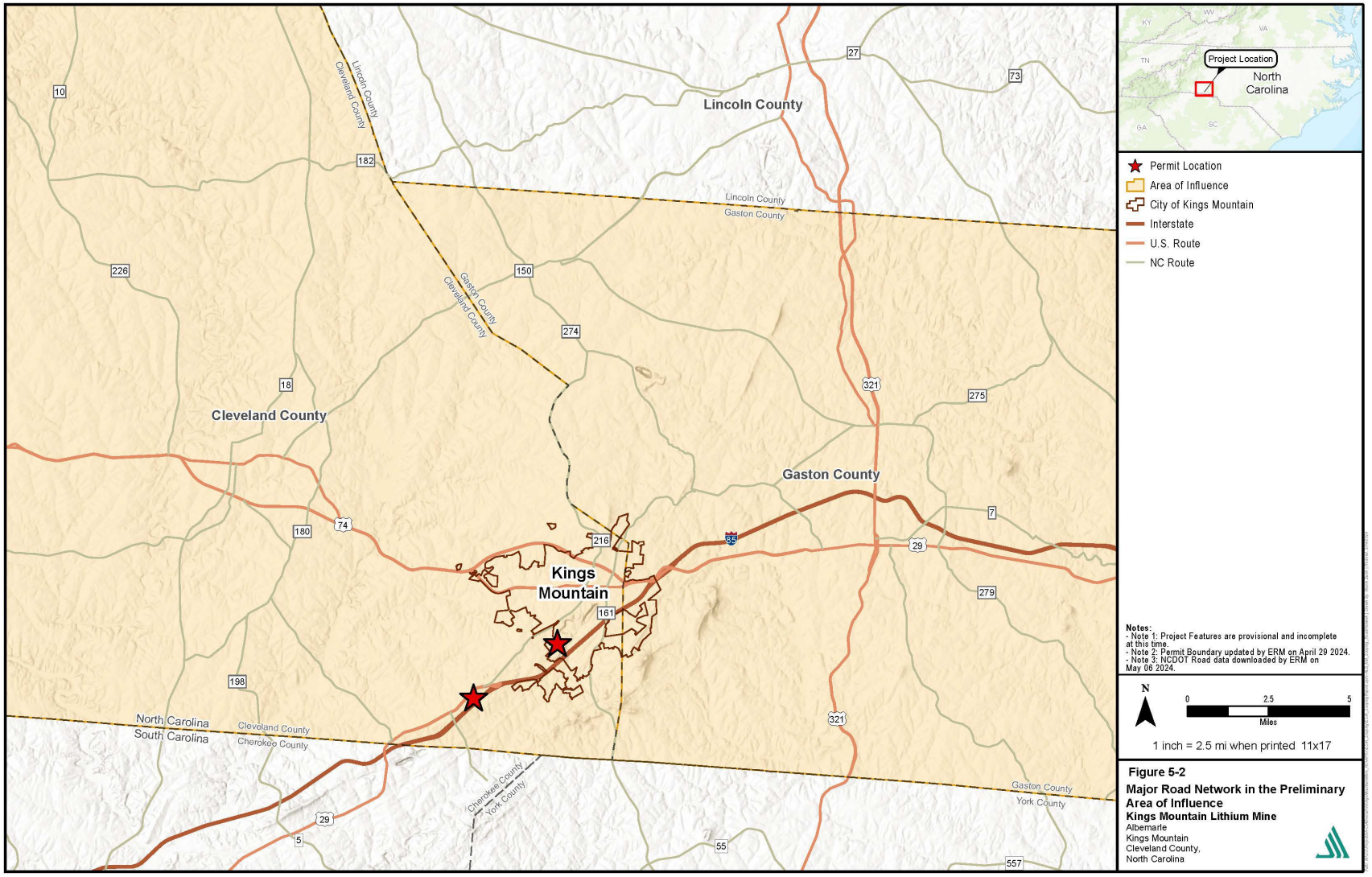
Source: NCDOT 2024

I-85 = Interstate 85; NC = North Carolina; U.S. = United States

The 2018 Kings Mountain Economic Development Plan recommends the development of a City Transportation Plan as an economic development initiative. The City Transportation Plan would address road transportation and would provide guidance for pedestrian and bicycle connectivity with trails and downtown business district (City of Kings Mountain 2018).

[31] Note that baseline conditions of the road network from the TSF to Kings Mountain and roadways around the TSF site will be included in the full baseline as part of the ESIA.

Figure 5-1: Major Roads in the Social Area of Influence



Source: ERM 2023

Figure 5-2: Intersection off I-85 into Kings Mountain

Source: Google Earth Pro 2022

Figure 5-3: Intersection off U.S. 74 into Kings Mountain

Source: Google Earth Pro 2022

5.3.10. Visual Resources

The area around Kings Mountain, North Carolina, is characterized by open valleys, rolling hills, and taller mountains that frame the landscape. Forested areas are common and provide contrast, verticality, and texture while providing a buffer or screen between other common lands uses (e.g., agriculture, residential, commercial). Given the prevalence of trees and other deciduous vegetation, the landscape appearance and colors change throughout the year depending on the season. This creates variation and interest that contributes to the overall scenic value of the regional landscape. The rolling topography, forested areas, and current development (e.g., buildings and other structures) limit wider landscape views in many locations, but elevated areas (e.g., hilltops, peaks, etc.) provide open vistas from which to view the regional landscape.

5.3.11. Cultural Heritage

5.3.11.1. Project-Based Archaeological Survey Information

In consultation with the North Carolina State Historic Preservation Office, Albemarle completed a Phase I archaeological and geoarchaeological survey, compliant with the National Historic Preservation Act, for the KMM site. SWCA conducted a cultural survey between June 6 and August 22, 2022, and July 26 and September 19, 2023 (SWCA 2023f). SWCA recorded 24 archaeological sites, of which two sites (31CL180 and 31CL185) were determined to be potentially eligible for inclusion on the National Register of Historic Places. Site 31CL180 is a historic-era, mid-1800s to mid-1900s, mill and prospecting site containing historic debris scatters and mining features. Site 31CL185 is a historic-era, mid-1800s to mid-1900s, domestic debris scatter and associated stone foundation (SWCA 2023f). SWCA has recommended avoiding subsurface disturbance of these site locations. If they cannot be avoided, the sites will require further study to determine their potential cultural value. In addition, some floodplain areas could possibly have archaeological sites deep underground. If those areas are to be disturbed, additional testing is recommended. The North Carolina State Historic Preservation Office issued full concurrence on SWCA's report on the KMM site; assessments of the TSF site and new stockpile locations are in review.

5.3.11.2. Historic Places and Cemeteries

Cleveland County, North Carolina, has 22 historic landmarks listed on the National Register of Historic Places, some of which are in or near the SAoI. Some landmarks are listed because of architectural and engineering significance, while others are due to an important event at the site that currently can be used for educational purposes (Cleveland County North Carolina Undated).

6. STAKEHOLDER ENGAGEMENT

6.1. INTRODUCTION

Stakeholder engagement is an inclusive two-way dialogue to share information about a project, understand the concerns of stakeholders and impacted communities, and build relationships based on collaboration. This process allows stakeholders[32] to understand the risks, potential impacts, and opportunities of a project to minimize adverse impacts and maximize positive potential outcomes. Meaningful public participation that is proactive, inclusive, accountable, and transparent increases the potential for best outcomes for all parties (IRMA 2020).

6.2. OBJECTIVES

Albemarle's stakeholder engagement process is guided by the IRMA Standard. The key stakeholder engagement objectives for the Project are to:

- **Ensure understanding** by providing an inclusive and transparent process of culturally appropriate engagement and communication to ensure stakeholders are informed about the Project. Communications should be timely and provide effective stakeholder consultation, review, and commentary on the development of environmental and social management measures.
- **Facilitate participation** by providing affected and interested parties with the means to participate in Project decision-making, regardless of their age, disability status, gender, ethnicity, or other socioeconomic factors, to minimize disproportionate adverse impacts. Stakeholders should also be involved, as appropriate, in the collection of data for the ESIA and the development of alternatives to mitigate potential impacts.
- **Engage vulnerable groups** to enable them to have equal access to Project-related information and provide them with a platform to voice their concerns, and have such concerns considered by the Project.
- **Ensure compliance** by aligning with local, state, and federal regulatory requirements and the IRMA Standard.
- **Record communications** with all stakeholders, including comments received in relation to this scoping process and the overall ESIA process.

To facilitate meaningful public participation and stakeholder engagement, a Stakeholder Engagement Plan has been developed for the Project, in accordance with local, state, and federal requirements and the IRMA Standard.

[32] Stakeholders are persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively (IRMA 2018). For this Project, stakeholders are understood to include, at a minimum, all community members in Kings Mountain and those in surrounding communities within the SAoI.

6.3. STAKEHOLDER IDENTIFICATION AND MAPPING

The IRMA Standard defines stakeholders as:

> *"Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively."* (IRMA 2020)

In keeping with this definition, Project stakeholders were identified and then classified based on their anticipated level of interest in the Project, their potential to be affected by the Project (positively or adversely), and their level of influence relative to the Project. To develop an appropriate approach for engagement, ERM categorized each stakeholder based on influence and/or interest (see Table 6-1, below).

Table 6-1: Stakeholder Categorization and Approach for Engagement

Interest/Influence Rating	Approach for Engagement
Low-medium interest, low-medium influence	Keep informed, monitor stakeholder influence, impact, and interest for changes.
Medium-high interest, low-medium influence	Work together to understand concerns and provide feedback on how impacts are managed.
Low-medium interest, medium-high influence	Update information on a regular basis, obtain feedback on issues, and engage in two-way communication.
Medium-high interest, medium-high influence	Engage early, establish partnerships on key issues, incorporate stakeholder advice as much as possible.

A preliminary list of key stakeholder groups identified is provided in Table 6-2 (below). Stakeholder mapping is an ongoing process throughout the life of the Project. New individuals or organizations will be mapped as they are identified, and other stakeholders will be re-evaluated as the Project progresses. Details of stakeholders' level of influence and key concerns associated with the Project will be further consolidated in the ESIA.

Table 6-2: Preliminary List of Stakeholder Groups Identified

Preliminary List of Stakeholders Identified
• Residents of the city of Kings Mountain and surrounding areas. • The (former) property owners whose land and homes have been and may be purchased by Albemarle. • The immediate neighbors of the KMM site or Archdale TSF site who will presumably continue to live in that location throughout the life of the Project. • Potential vulnerable groups, which includes potential EJ communities (disadvantaged and underserved communities, low-income households, and people of color). • Indigenous peoples, including the Eastern Band of Cherokee Indians and the Catawba Nation whose ancestral lands overlap with the region in which the Project will be located. • Key local elected officials and staff, community leaders, and influencers in the city of Kings Mountain, Cleveland County, and Gastonia; elected officials at the state and federal levels.

Preliminary List of Stakeholders Identified
• Potential shared-value partners, such as business, civic, education, and environmental organizations, state trade associations, labor and other groups and individuals who can realize benefits from the Project. • NGOs concerned with mining or employment opportunities. • Permitting agency staff and leadership, including NCDEQ and USACE staff. • Earned media, including media organizations that discuss Project activities.

EJ = environmental justice; KMM = Kings Mountain Mine; NCDEQ = North Carolina Department of Environmental Quality; NGO = nongovernment organizations; TSF = tailings storage facility; USACE = U.S. Army Corps of Engineers

6.4. STAKEHOLDER ENGAGEMENT ACTIVITIES

6.4.1. Methods of Engagement

Albemarle's Community Affairs Team (CAT) began implementing engagement efforts with stakeholders in early 2022, with the goal of informing area residents about the Project and building relationships with stakeholders. Albemarle has initiated the following methods of stakeholder engagement:

- *Kings Mountain CAP Meetings*: CAP members are from various interest groups including education, elected officials, environmental NGOs, faith-based groups, health and safety organizations, impacted communities near the KMM site or Archdale TSF site, public administration, small businesses, tourism, and youth. CAP meetings occur monthly to discuss matters that involve and affect residents, local businesses, and organizations.
- *Town Halls*: Albemarle hosts regular Town Hall meetings to keep the community informed, identify issues of concern, and provide opportunities for feedback on the baseline studies and throughout the ESIA process.
- *Website*: A website has been created for the Project and serves as a reference for interested parties. The website contains information on Project activities, and will serve as a channel for submitting questions, comments, and/or concerns to the Community Feedback Process.
- *Newsletters (print/email)*: Albemarle distributes newsletters in print and via email/e-newsletter to communicate with key stakeholders. The newsletter, called *The Element*, is distributed monthly to interested parties.
- *Downtown Project Center*: To boost the Project's visibility and provide community members with access to information about the Project, Albemarle has opened a Project Center in downtown Kings Mountain. Interested parties can stop by the office and ask questions, voice concerns, and/or provide feedback about Albemarle's operations. The office is located at 129 W Mountain Street, Kings Mountain, North Carolina 28086. The distance between the Project Center and the KMM site is 2.7 miles (approximately an 8-minute drive).
- *Mine Tours*: Albemarle began inviting select stakeholders and community members on tours of the KMM site in 2022. Interested parties are provided with a first-hand look at the KMM

site and learn about the benefits of mining, as well as an overview of the geology, history, and plans for the Project.

- *Vulnerable Group Engagement*: Albemarle is implementing a strategy to promote consultation with vulnerable groups (including potential EJ communities) regarding Project-related activities. This strategy includes proactively collaborating with members of EJ communities and vulnerable groups to identify, address, and mitigate issues that could impact communities.

6.4.2. Early Engagement

Key stakeholders were consulted through several rounds of engagement in 2022 and 2024. To achieve alignment with the IRMA Standard, communication objectives included the following:

- Updating the Kings Mountain community on baseline studies, assessments, and the Project design;
- Helping prevent and/or mitigate potential adverse impacts of activities taking place prior to construction (e.g., baseline studies, scoping, Project design alternatives, environmental and social management measures);
- Informing the community on Project design, potential impacts, and permitting;
- Encouraging community participation during the ESIA and permitting processes; and
- Earning trust and reducing social risk for the Project.

Early engagement focused on conducting outreach with CAP members, NGOs, Tribes, affected communities, vulnerable groups, and relevant state, local, and federal agencies. The Albemarle CAT, in coordination with ERM stakeholder engagement teams, worked closely to determine whether additional outreach or engagement activities were required for other interested parties. A summary of these engagement activities is discussed in the following section.

6.4.2.1. Summary of Early Engagement

Table 6-3 (below) highlights the record of engagement from 2022 through April 2024.

Table 6-3: Record of Engagement Activities (2022 to Current)

Activity	Description and Purpose
2022 Activities	
Socioeconomic Baseline Data Collection	Fieldwork: October 25–29, 2022: • Held 23 in-person semi-structured interviews with key informants and stakeholders in the community.
CAP Meetings	CAP meetings were held on the following dates, with the associated topics: • October 13, 2022: Overview of CAP, Overview of the Kings Mountain Mine; and • November 17, 2022: Kings Mountain Site Overview.

Activity	Description and Purpose
	Albemarle also invited individuals to tour the KMM site on November 19, 2022, and provided a question-and-answer session.
Town Halls	The first Town Hall was held on March 28, 2022. A second was held on September 22, 2022, where Project updates were discussed with the broader community.
Vulnerable Groups Outreach	Interviews were conducted with members of potential EJ communities. EJ-specific outreach was conducted with the NCDEQ to identify the requirements for enhanced participation.
CAP Mine Tour	Albemarle began to offer mine tours to public officials and other groups in March 2022.
2023 Activities	
CAP Meetings	CAP meetings were held on the following dates, with the associated topics: • January 26, 2023: 2023 planning overview, water study overview, mineral processing facility process; • February 23, 2023: mine operations 101 discussion, end land use discussion; • March 16, 2023: geochemistry overview, end land use discussion; • April 20, 2023: ESIA process announcement, socioeconomic baseline study feedback, Cleveland County economic and workforce development overview, community affairs update, community feedback process development and an overview of Albemarle's End Land Use and Closure Community Workshop on March 30, 2023; • May 18, 2023: drilling program, water study update; • June 15, 2023: May and June end land use workshop update, communications update, social investment visioning exercise; • August 17, 2023: presentation of mine pit dewatering, interactive mine blasting map, and ESIA process reminder; • September 21, 2023: overview of the ESIA process, non-ore-bearing rock and tailings, and partnership with Cleveland Community College; • October 26, 2023: expectations for mine plan reveal; • November 16, 2023: closure, community investment, mine layout; and • No CAP meeting occurred in December 2023 (holiday recess).
Town Halls	Town Halls were held on the following dates, with the associated topics: • February 2, 2023: Project updates, water study; • May 22, 2023: ESIA process announcement, drilling, hydrogeology; • June 26, 2023: pit design, Scoping Report;

Activity	Description and Purpose
	• August 31, 2023: Albemarle Project Center open house, “science fair;” • September 28, 2023: ESIA process update, water, geology, operations, mineralogy/ mineral processing facility, lithium in everyday life, safety; and • No Town Halls occurred in November or December 2023 (holiday recess).
Social Media	Albemarle has started a social media strategy for Project communications. Albemarle is using Facebook to inform community members and interested parties of Town Hall meetings.
End Land Use Closure Working Group	A cross-section of stakeholders from Kings Mountain and surrounding communities gathered on March 30, 2023 to provide feedback and ideas on end land use and closure. Additionally, Albemarle held an End Land Use and Closure Brainstorm Workshop on May 17, 2023 with Albemarle Kings Mountain employees and two workshops on May 18, 2023 with students at Kings Mountain High School (morning and afternoon sessions).
Mine Tours	In April 2023, Albemarle opened mine tours to the public. Mine tours consist of a visit to the KMM site, an overview of the benefits of mining, and opportunities to ask questions.
Sponsored Community Events	• May–October 2023: Live Music at Patriots Park Kings Mountain Summer Concert Series in Kings Mountain, NC. • October 20, 2023: Kings Mountain Rotary Club Annual Spaghetti Supper in Kings Mountain, NC, at the Kings Mountain High School Cafeteria. • September 16, 2023: Sound the Alarm campaign. Albemarle partnered with the American Red Cross and the Kings Mountain Fire Department to install smoke alarms in Kings Mountain residences. • September 28–October 8, 2023: Cleveland County Fair 2023 is a county fair that is held at Cleveland County Fairgrounds in Shelby, NC. Members of Albemarle’s CAT engaged with approximately 775 attendees. Albemarle provided attendees with the opportunity to take a virtual tour or the KMM site via drone footage. Albemarle had a presence at the main gate’s heavy equipment display to highlight its partnership with Cleveland Community College. Albemarle representatives and attendees engaged in two-way dialogue about the following topics: environmental impacts, geology, mining, future job opportunities and internships, land acquisition, safety, the Gateway Trail, pit de-watering, the difference between the Albemarle KMM and other local mines, and wildlife relocation. • November 18, 2023: Murphey's Annual Toy Run, a charity event centered around collecting toys and donations for children and their families held in Kings Mountain, NC. • December 8, 2023: Community Building Initiative Stakeholder Breakfast at Friendship Conference Center in Charlotte, NC.

Activity	Description and Purpose
Project Notices	Various flyers announcing town halls and Project notices were placed around Kings Mountain in August and September 2023 in grocery stores, nursing homes, Mauney Memorial Library, community centers, apartment complexes, city government offices, and laundromats.
2024 Activities	
CAP Meetings	CAP meetings were held on the following dates, with the associated topics: • January 18, 2024: safety moment; external affairs update; operations update; community affairs update. • February 25, 2024: safety moment: Chief Capital Projects Officer, Supplier Diversity Coordinator; community meetings; mine rollout plan strategy and feedback; old business—interactive map feedback. • March 21, 2024: safety moment; energy storage business unit update, Kings Mountain project update: pit dewatering; federal grant funding; community events update; old business—mine rollout plan follow up.
Community Meetings	Community Meetings were held on the following dates, discussing Project background and future engagement: • Saturday, January 27, 9–10 am; Mt. Olive Baptist Church, Kings Mountain, NC; • Tuesday, January 30, 11 am–12 pm; Bethlehem Baptist Church, Kings Mountain, NC; • Wednesday, January 31, 6 pm–7 pm; Kings Mountain High School, Kings Mountain, NC; • Thursday, February 1, 11 am–12 pm; Bethlehem Baptist Church, Kings Mountain, NC; • Tuesday, February 6, 5:30 pm–6:30 pm; Kings Mountain YMCA, Kings Mountain, NC; • Wednesday, February 7, 7:30 am–8:30 am; Kings Mountain YMCA, Kings Mountain, NC; • Tuesday, April 2, 10 am–12 pm; Patrick Senior Center, Kings Mountain, NC; and • Saturday, April 27, 10 am–12 pm; Mt. Zion Baptist Church, Kings Mountain, NC.
Town Hall Meetings	There have been no Town Halls in 2024 thus far; the first one is scheduled for May.
Social Media	Albemarle has continued the social media strategy for Project communications. Albemarle is using Facebook to inform community members and interested parties of Community Meetings and upcoming Town Hall meetings.
Mine Tours	Mine tours have continued in 2024. Individuals can join a mine tour by emailing Cynthia.Estridge@albemarle.com at least 48 hours in advance of the scheduled tour date. Tour dates can be found on Albemarle's event calendar on their website: https://albemarlekingsmountain.com/events-calendar.

Activity	Description and Purpose
Project Notices	Various flyers announcing Community Meetings were placed around Kings Mountain in January and February 2024 in City of Kings Mountain City Hall, post offices, grocery stores, gas stations, Mauney Memorial Library, churches, businesses, and coffee shops.

CAP = Community Advisory Panel; CAT = Community Affairs Team; EJ = environmental justice; ESIA = Environmental and Social Impact Assessment; KMM = Kings Mountain Mine; NC = North Carolina; NCDEQ = North Carolina Department of Environmental Quality

Key issues raised by stakeholders during the engagement activities listed above will be considered as part of the ESIA and are summarized in Table 6-4 (below). Comments and questions received throughout the ESIA process will be captured in a Comments and Responses Register, with Albemarle's response, and will be documented in the ESIA.

Table 6-4: Summary of Key Project-Related Concerns Raised by Stakeholders

Topic	Issue
Lack of clarity on Project site and operational impact	Early in the process, stakeholders voiced concerns about receiving insufficient information on mining operations and their impacts on community life. Stakeholders did not understand the connection between presentations on the general mining process and existing social conditions. Stakeholders would like to understand mining operations in more detail, receive more information on Project plans, and evaluate positive and negative impacts on daily life, economic opportunity, and land changes.
Changes to KMM site and potential for land acquisition	Stakeholders did not originally understand existing or planned Project boundaries. Stakeholders were interested in knowing the purpose of the Project and plans for different site parcels. Stakeholders also expressed concern about impacts on homeowners who refused to sell their properties adjacent to the KMM site, and broader impacts on residential and recreational life from changes to the KMM site. Stakeholders expressed concern about property acquisitions, how many homes would be purchased, and how displaced families would afford new homes.
Employment opportunities and effects on local workforce, as well as incoming labor	Stakeholders were concerned about community impacts from temporary labor for the Project. Additionally, stakeholders wondered how the operation of the Project could improve local workforce development and educational resources. Stakeholders were hopeful for positive workforce impacts from Project operations but concerned about the amount of time it would take to build out a local workforce. Stakeholders were curious how many jobs would be created and what the average salary would be for them.
Mine closure and reclamation plans	Stakeholders would like mine closure and reclamation plans to result in outdoor recreation or commercial opportunities and spoke frequently about visions for biodiversity restoration at the time of post-closure. Stakeholders are concerned that Albemarle may leave a large, open pit post-closure.
Changes to the Gateway Trail and impacts on recreation	Stakeholders were concerned about visual, noise, and air quality impacts to this nearby outdoor recreational area. Stakeholders wondered how noise from the Project would be minimized, which parts of the trail may be closed, and how mining operations may affect the air quality of the trail. Additionally, stakeholders wanted to know if there would be adverse ecological effects on the trail. Some stakeholders asked about a closure schedule for the

Topic	Issue
	Gateway Trail, as there is a lack of understanding when certain portions of the trail may be closed due to Project activities.
By-products from the Project and their impacts on land, air, and water quality	Stakeholders expressed concern over Project impacts on land, air, and water quality, noise, and related community health concerns. Stakeholders wanted to understand how mining might increase air and noise pollution, as well as ambient levels of carcinogens, and potential health effects. Additionally, stakeholders expressed concern over traffic impacts, dust management, waste management, and lithium storage, and impacts to local biodiversity. Stakeholders wanted to understand water quality testing methods and water contamination prevention and how water will be supplied to the Project. Stakeholder concerns about impacts on land, air, and water were also related to effects on property value and city-wide economic implications.
Lack of clarity on Project impacts on community life, education, and economic development	Stakeholders communicated confusion about how the Project life cycle[33] would impact the community in the long term. Stakeholders had questions about how the Project would integrate residents into the Project workforce, and the effects of the Project on economic development. Stakeholders had questions about workforce education. Stakeholders also had questions about potential social benefits from mining operations, such as improved health care, and were interested in more communication about the benefits their community would receive.
Permitting, siting, and purpose	Stakeholders wanted more information on why Albemarle chose this site to supply lithium, what their plans were for land purchased south of I-85 in South Carolina. Stakeholders also wanted to know how the lithium would be used, whether it would be used domestically, who was financing the Project, and how the permitting process to open the mine would progress.

I-85 = Interstate 85; KMM = Kings Mountain Mine

6.4.2.2. ESIA Announcement

The following methods of engagement were undertaken to announce the ESIA to the community:

- First Announcement—Initial Community Disclosure: ESIA was first announced during a monthly scheduled CAP meeting on April 20, 2023.
- Second Announcement—Public ESIA Announcement: ESIA was publicly announced during a Town Hall meeting on May 22, 2023.
- Third Announcement—ESIA Reminder: ESIA was discussed during a monthly scheduled CAP meeting on August 17, 2023.
- Fourth Announcement—Public ESIA Announcement: ESIA was publicly discussed during a Town Hall meeting on September 28, 2023.

[33] Project site preparation through closure.

6.4.3. Scoping Phase Engagement

The Draft Scoping Report was released for a 60-day public comment period that commenced on June 11 and ended on August 12, 2024. The key engagement objectives during the Scoping Phase were to:

- Provide stakeholders with a detailed Project overview of the KMM from construction to closure/reclamation.
- Share potential environmental and social benefits and impacts that may occur as a result of the Project and explain how impacts are expected to be managed.
- Provide stakeholders with an opportunity to ask questions about the Project and identify issues that are of importance to them.
- Share information about the Project's permitting processes and the ESIA.
- Encourage stakeholder participation in future engagement opportunities.
- Communicate the availability of the Draft Scoping Report for review and comment.
- Receive and respond to comments on the Draft Scoping Report.

During the 60-day comment period, the Draft Scoping Report and a non-technical summary (NTS) were available electronically on the Albemarle website. Printed copies were available at five public locations in Kings Mountain and one location in the neighboring town of Shelby (refer to Appendix C for locations). Albemarle hosted one open house meeting and five community meetings to share Project information, inform stakeholders of the availability of the Draft Scoping Report, and explain opportunities to participate in the ESIA process. ERM, as the third-party consultant responsible for preparing the ESIA, attended the open house to answer questions related to the Draft Scoping Report and ESIA process and capture comments and questions from stakeholders. An ERM representative also attended the community meetings to capture comments and questions from stakeholders. Figure 6-1 provides a summary of the Scoping Phase engagement. Table 6-5 provides a summary of meeting locations, types, and times. Detailed accounts of stakeholder meetings and the comments received during the meetings are provided in Appendix C.

Figure 6-1: Scoping Phase Engagement Summary

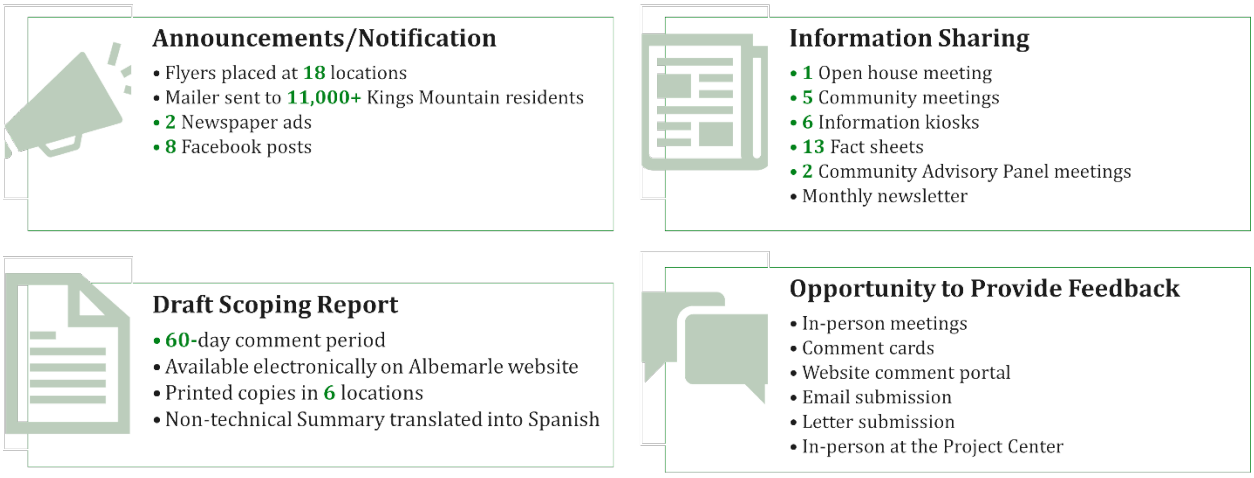


Table 6-5: Scoping Phase Meetings

Venue	Meeting Type	Date	Time	Number of Attendees
H. Lawrence Patrick Senior Life and Conference Center, Kings Mountain, NC	Open house	Tuesday, June 11, 2024	6 p.m.–8 p.m.	67
Mt. Olive Baptist Church, Kings Mountain, NC	Community meeting	Saturday, June 15, 2024	9 a.m.–11 a.m.	14
Mt. Zion Baptist Church, Kings Mountain, NC	Community meeting	Tuesday, June 18, 2024	5:30 p.m.–7 p.m.	23
Bethlehem Baptist Church, Kings Mountain, NC	Community meeting	Tuesday, June 25, 2024	11 a.m.–1 p.m.	13
Mauney Memorial Library, Kings Mountain, NC	Community meeting	Thursday, June 27, 2024	10 a.m.–12 p.m.	13
First Baptist Church, Kings Mountain, NC	Community meeting	Tuesday, July 9, 2024	12 p.m.–1 p.m.	37

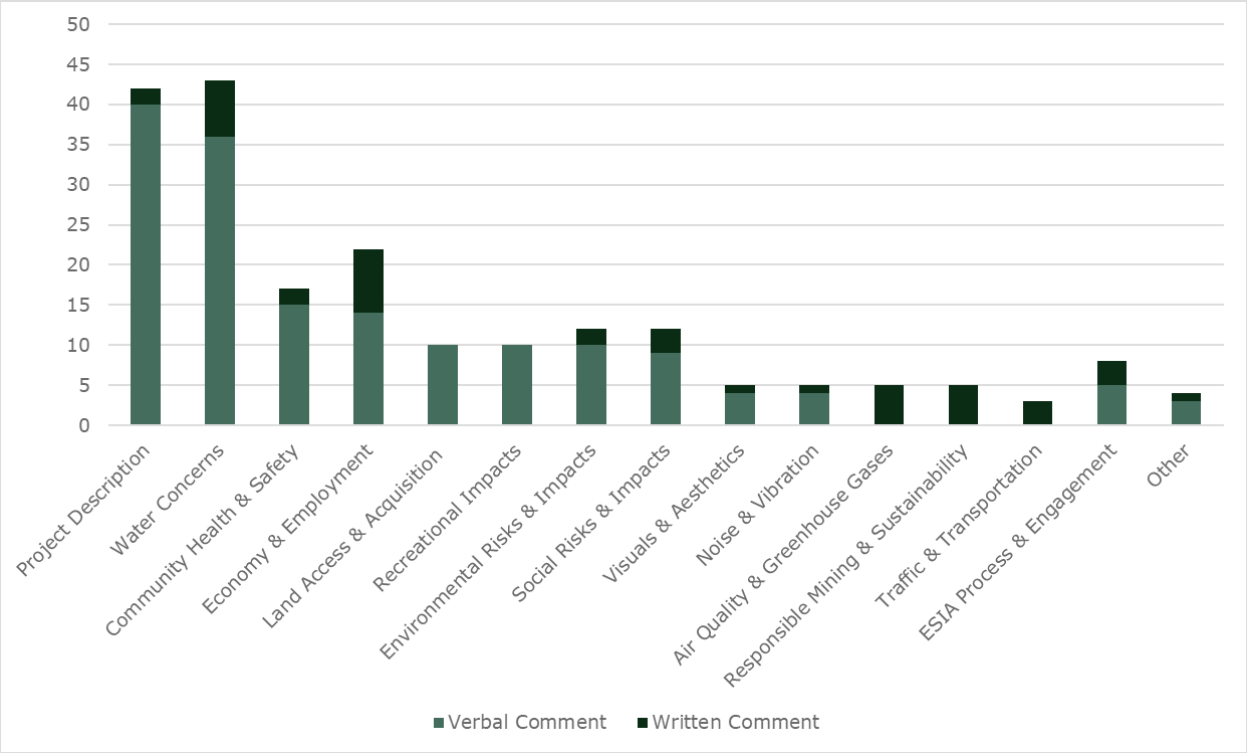
Mt. = Mount; NC = North Carolina

In addition to capturing verbal comments at meetings, several channels were established to receive written comments on the Draft Scoping Report, including comment cards available at all public meetings and the Albemarle Project Center, online submissions through the website, and a dedicated email address.

During the Scoping Phase comment period, 16 written submissions were received, amounting to 43 distinct comments; and approximately 164 verbal comments were recorded during in-person meetings. A summary of verbal comments, as well as written comments, and the responses from the Project team are attached in Appendix C. Stakeholder comments largely focused on deepening the commenter's understanding of the Project and its potential impacts to

water and how these potential impacts would be managed. Figure 6-2 provides a breakdown of comments by topic.

Figure 6-2: Breakdown of Comments by Topic



6.5. FUTURE ENGAGEMENT AND NEXT STEPS

Albemarle intends to continue to host CAP meetings, town halls, and community meetings in Kings Mountain through 2025. Future meeting dates have not yet been confirmed but will be posted on the Albemarle website and advertised through the Albemarle newsletter, flyers, and mailers.

The feedback and comments received during the Scoping Phase engagements will be considered during preparation of the Draft ESIA Report. The identified issues of concern align with those described in this Scoping Report.

The Draft ESIA Report will include detailed summaries of environmental and social baseline conditions, an assessment of potential impacts, and proposed management measures to both mitigate negative impacts and enhance positive impacts. The Draft ESIA will be made available for a 60-day public comment period in 2025, during which time Albemarle anticipates hosting town hall and community meetings to share the outcomes of the ESIA. Stakeholders will be invited to review the Draft ESIA Report, ask questions, and provide feedback.

6.5.1.1. Consideration of Vulnerable Groups

Inclusive stakeholder engagement requires consideration of potential barriers to engagement and how these barriers can be removed to facilitate access for vulnerable groups and/or stakeholder groups seeking rights.

Albemarle used best practice guidance from the USEPA, the Council for Environmental Quality, and the NCDEQ to identify potential EJ communities within the Project AoI. This guidance, combined with available U.S. census data to better understand Kings Mountain's composition of race, ethnicity, and poverty, as well as information gathered through early and ongoing engagement, was used to identify potentially vulnerable stakeholder groups and design an appropriate engagement strategy. Specific measures identified to remove barriers to engagement include:

- Hosting small neighborhood meetings at varying times and locations that are closer and/or more convenient for stakeholder group communities considered to be vulnerable.
- Placing printed materials at central locations.
- Offering a Spanish translation of the Scoping Report NTS and ESIA fact sheet.
- Communicating through traditional and social media.
- Providing opportunities for written comments electronically via the Albemarle Kings Mountain website, or through printed comment cards.
- Adopting an open-door policy at the Albemarle Project Center, where stakeholders can talk to a Project representative and/or provide verbal or written comments during office hours.
- Ongoing identification of Native American Tribes that might have an interest in the Project or a connection to the Project area, with the intention to establish protocols for engagement.

7. SCOPING RESULTS

The key objective of the scoping process is the preliminary identification of how the Project may impact, positively and negatively, the surrounding environmental and social resources or receptors. Resources are physical features such as air, water, and soil that can be affected by Project activities, while receptors are people and wildlife (biota) that can be affected by Project activities.

The impacts that are identified as *potentially* significant during the scoping process provide focus for the detailed ESIA. *Once the scoping process is complete and priority resources and receptors have been identified and validated through the stakeholder engagement process and professional opinion and evaluation, Albemarle will thoroughly assess the potential significant impacts and will document the assessment in the ESIA Report.*

7.1. POTENTIAL ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

This section presents a preliminary identification of potential environmental and social impacts and risks for the Project to guide the detailed assessment in the ESIA phase. The identification of potential impacts and risks are based on national and international experience from other similar mining projects, ERM's experience and professional judgment, stakeholder feedback from engagement activities undertaken to date (refer to Chapter 6, Stakeholder Engagement), and baseline data gathered to date.

Table 7-1 (below) presents a list of resources and receptors that have been identified in the scoping process, together with a description of how the Project might impact them. Resources and receptors considered are based on anticipated risks and impacts typical of a brownfield mining project[34] of this nature within a peri-urban setting and have been adapted from the Social Responsibility Requirements (Chapter 3) and Environmental Responsibility Requirements (Chapter 4) of the IRMA Standard.

Table 7-1 provides a preliminary list of potential Project impacts and risks, which will guide the detailed impact and risk assessment process of the ESIA phase. Potential impacts and risks shown in **green** are considered by ERM to possibly be significant in the absence of mitigation measures implemented in addition to embedded controls[35]; therefore, these potential impacts and risks will be evaluated during the ESIA phase.

Table 7-1: Preliminary Identification of Resources and Receptors and Potential Impacts and Risks to Assess in the ESIA

Resources/Receptors	Potential Impacts and Risks to Assess in the ESIA
Environmental	
Air Quality and GHG	Emissions of NO_2, SO_2, PM, CO, VOCs, GHGs (carbon dioxide, methane, and nitrous oxide) from fuel combustion and mineral processing facility processing facilities could increase ambient concentrations of these constituents. Dust emissions created by Project activities (e.g., earthworks, blasting, demolition, and operation of machinery and vehicles) could change local ambient air quality and introduce aesthetic impacts.
Noise and Vibrations	Vehicle traffic along main transport/access routes during construction and operations may create noise and vibration that could change ambient levels. Blasting during operations will cause noise and vibrations with potential impacts on receptors in the immediate surrounding area. The construction and operation of processing equipment and machinery could create noise and vibrations that could change ambient noise levels.

[34] Impacts typical of a brownfield mining project of this nature have well established mitigation measures that will be implemented throughout the Project life cycle.
[35] Embedded controls are the physical or procedural controls that are planned as part of the Project design (i.e., not added solely based on a mitigation need identified by the impact significance assignment process). These are considered from the very start of the impact assessment process as an intrinsic part of the Project. Embedded controls may be informed by the applicable federal, state, and local regulations.

Resources/Receptors	Potential Impacts and Risks to Assess in the ESIA
Surface Water	KMM Site
	The Project will impact about 0.14 acres of ponds (excluding inundation) and about 4,720 linear feet of stream (2,108 linear feet of intermittent stream and 2,612 linear feet of perennial stream). Nine surface water areas have been identified as potentially impacted: • Impact area #1 is the construction of infrastructure in the North NPI area. The activity will impact 96 linear feet of intermittent streams and 1,272 linear feet of perennial streams. • Impact area #2 consists of the South Creek Road crossing, with temporary impacts of 89 linear feet of perennial stream to allow access to RSF-A. • Impact areas #3 and #4 result from construction of the RSF to provide slope stability, access, and stormwater management systems. Impact area #3 will impact 139 linear feet of intermittent streams. Impact area #4 RSF-A will impact 1,361 linear feet of intermittent stream and 527 linear feet of perennial streams. • Impact area #5 is the Kings Creek Haul with impacts to 162 linear feet of perennial streams for a bridge span. • Impact area #6 is the ROM pad and will impact 561 linear feet of perennial streams. • Impact area #7 is the WSB-1 Dam improvements and will impact 226 linear feet of intermittent streams. • Impact area #8 is the WSB Inundation of Executive Club Lake with impacts to 286 linear feet of intermittent stream. • Impact area #9 pertains to pipe corridor discharges and is not expected to result in impacts to surface water bodies (ponds or streams).
	Pit Lake
	• On Closure, the pit lake will receive stormwater runoff and direct precipitation. Stormwater runoff is anticipated to be of sufficient quality for discharge based on material characterization and the current water quality in the existing pit lake.
Groundwater	KMM Site
	Potential impacts to groundwater include potential contamination of shallow or deep groundwater resources, and changes in groundwater flow direction or levels due to dewatering and mining operations.
	Pit Lake
	The pit lake will receive inflows from groundwater. The groundwater seepage is anticipated to be of sufficient quality for discharge without treatment, based on material characterization and the current water quality in the existing pit lake.

Resources/Receptors	Potential Impacts and Risks to Assess in the ESIA
Geology and Soils	Soil properties at the KMM site and TSF site could be altered due to site preparation. Clearing and grading during construction could cause instability of slopes. Soil quality and properties could be altered through compaction created by Project ground disturbance activities. Accidents/unplanned events: depending on the method of waste disposal, soils could be directly impacted through unintended release of contaminants to the soil surface, resulting in potential impacts on surface or groundwater, flora and fauna and/or local communities.
Biodiversity (Aquatic Resources, Vegetation, Terrestrial Wildlife)	KMM Site
	• There are no state-listed plant or animal species categorized as threatened, endangered, or of special concern within anticipated presence at the KMM site. • No impacts to northern long-eared bat, little brown bat, dwarf-flowered heartleaf, or monarch butterfly are anticipated, as these species have a low likelihood of occurring in the KMM site. • The **tricolored bat** (proposed endangered) is known to occur in the general area in which the Project will be located and may be if project activities affect their habitat during their roosting season.
	Pit Lake
	Mine expansion includes dewatering the existing pit lake and transferring the water into Kings Creek. During dewatering of the existing pit lake, fish, and other aquatic species (e.g., turtles) will be collected and relocated to other waterbodies on the KMM site. Accordingly, there will be some level of impact related to aquatic wildlife disturbance. No federally protected species are expected to occur in the pit lake.
Wetlands	KMM Site
	The Project may result in impacts to 8.39 acres of wetlands (current estimate).
	Pit Lake
	No jurisdictional wetlands will be impacted with the expansion of the existing pit lake.
Ecosystem Services	Changes to ecosystem services (known as natural capital) that provide for human well-being and quality of life. The World Resources Institute defines ecosystem services as “the benefits of nature such as food, fuel, natural hazard protection, pollination, and spiritual sustenance” (WRI 2008). In the context of this Project, ecosystem services that might be affected include regulating services such as visual screening through vegetation and flood prevention along riverbanks, and recreation and athletics services such as the Gateway Trail.
Social	
Local and Regional Economy	The Project will generate potential impacts on local and regional economies through the addition of jobs and skills enhancement opportunities, procurement of local goods and services, workforce spending at local businesses, increased tax base through higher paying salaries, and decrease in the unemployment rate. During operations, there will be continued opportunities for employment,

Resources/Receptors	Potential Impacts and Risks to Assess in the ESIA
	procurement of local goods and services, and increased spending in the community. The Project may have adverse impacts to the local economy through contribution to an increased cost of living or increased price of homes due to increased demand on housing associated with influx of imported labor.
Social Infrastructure and Services	An increase in population related to the Project workforce may place pressure on community infrastructure and services such as fire departments, police stations, public water supply, waste and wastewater treatment, medical and emergency centers, public health services, road networks, public educational institutions, and housing.
Transportation	Changes in local traffic patterns, traffic volumes, and types of vehicles used on local roads due to the vehicle trips generated by the Project could impact users of road networks. Albemarle has commissioned a Traffic Impact Analysis that will evaluate the potential impacts of Project trips (including heavy vehicles) on traffic volumes, road capacity, and transportation safety.
Landowners	The Project's land acquisition may affect former homeowners and/or landowners. Homeowners and/or landowners who live next o or near the KMM site or TSF site may experience a decrease in property value and increase in exposure to dust, noise, vibration, and traffic.
Recreation	Changes in land use may result in temporary and/or permanent changes in access to recreational facilities and activities, such as the use of the Gateway Trail, portions of which currently run through the KMM site.
Community Safety	There is potential for real or perceived changes to community safety including increased crime, loss of security, and increased risk of traffic accidents due to increased traffic volumes associated with the Project. The community could also be affected by an unplanned event that takes place at the Project and results in effects that extend outside the Project boundary.
Land Use	The Project will result in a change of land use, particularly on the KMM site and TSF site. There is potential for conflicting land use objectives between the Project and other proposed developments within Kings Mountain, such as the entertainment district centered around the Two Kings Casino.
Community Health	The Project could change air quality, generate noise and vibration, increase the incidence of communicable diseases through influx of non-local workforce, and generate additional pressure on healthcare resources within the community.
Labor and Working Conditions	The Project entails potential occupational health and safety risks on the Project workforce, as well as potential impacts associated with working conditions, accommodations (in the instance of onsite accommodations), and handling of hazardous materials.
Cultural Heritage Resources	The Project will have the potential to disturb cultural heritage resources in the area such as cultural heritage sites (including historic buildings and churches), archaeological sites or artifacts, or paleontological resources. The Project has the potential to uncover previously undiscovered cultural heritage, particularly during construction.

Resources/Receptors	Potential Impacts and Risks to Assess in the ESIA
Demographics	Construction will require a sizable workforce, some of whom will temporarily relocate to Kings Mountain and surrounding areas. This may create temporary changes in the local population, including changes to age composition, ethnicity or race composition, gender composition, and language distribution. This could in turn generate potential impacts on social cohesion in the community.
Aesthetics and Visual Landscape	Changes in scenic value or visual landscape (for example, lighting from trucks and facilities, shielding, vertical profile of TSF or RSF, and glare) due to Project construction activities and the operation of the Project.
Social Cohesion and Social Fabric	The presence of an outside workforce, the construction and operation of the Project could result in changes to the fabric, feel, or nature of the Kings Mountain community. Changes to community dynamics could include changes to locally established norms and culture, social cohesion, changes in sense of place, or a change to an individual's perception of their surroundings.

Source: ERM 2023

Potential key impacts are identified in **green.**
CO = carbon monoxide; ESIA = Environmental and Social Impact Assessment; Gateway Trail = Kings Mountain Gateway Trail; GHG = greenhouse gas; KMM = Kings Mountain Mine; NPI = non-process infrastructure; NO_2 = nitrogen dioxide; O_3 = ozone; PM = particulate matter; ROM = run-of-mine; RSF = rock storage facility; TSF = tailings storage facility; SO_2 = sulfur dioxide; VOC = volatile organic compound; WSB = water storage basin

In addition to the assessment of the potential impacts and risks identified above, the ESIA Report will include an assessment of potential cumulative impacts.[36] Other projects that have been preliminarily identified as generating impacts that could overlap with potential impacts of the Project are listed below. Stakeholders are invited to ask questions and provide feedback on this preliminary list prior to the complete assessment of cumulative impacts in the ESIA.

- Catawba Nation Casino (Two Kings Casino)
- Kings Mountain Quarry (Martin Marietta)
- Piedmont Lithium
- The Dixon Ridge Development Project
- Utz Manufacturing

7.2. CONCLUSION

A key outcome of scoping is to guide the remainder of the ESIA process to further evaluate potential impacts and risks to environmental and social resources and receptors, and to inform the development of avoidance, minimization, mitigation, and management measures. Based on ERM's current understanding of the Project description, stakeholder feedback received through early engagement, and Scoping Phase engagement, the key potential impacts and risks of concern that will be further evaluated in the ESIA include the following:

[36] Cumulative impacts are impacts that act together with other impacts (including those from concurrent or planned future third-party activities) to affect the same resources and/or receptors as the Project.

- Increased exposure to **dust (air quality), noise, and vibration** for receptors adjacent to the Project and along transport corridors.
- Changes to the water quality of rivers, lakes, and other **surface water** bodies affected by Project construction and operation.
- Changes to the water quality of shallow or deep groundwater resources and associated impacts to water rights, and changes in **groundwater** flow direction or levels.
- Increased local employment and procurement, which will positively impact the **local and regional economy**.
- Changes in residence for homeowners and/or **landowners** whose property is purchased by Albemarle.
- Potential impacts to the **tricolor bat's habitat**.
- Increased traffic, which could impact **community safety** and strain road networks used as part of **social infrastructure and services**.
- Changes in land use which could result in temporary and/or permanent changes in access to **recreation**, such as the use of the Gateway Trail.
- Potential visual impacts from certain key observation points and properties.

Potential impacts of concern identified in this Scoping Report will be assessed in the next phase of the ESIA process, as outlined below.

8. NEXT STEPS IN THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT PROCESS

Albemarle intends to share the complete ESIA, as well as NTS of key ESIA findings with stakeholders, both electronically and in hard copy at convenient and easily accessible locations. Albemarle plans to host a series of meetings to share the ESIA findings and will invite stakeholders to ask questions and comment on the ESIA findings. Stakeholders will be invited to submit written comments via the Project website, comment sheets, and the various methods listed above, as well as directly during stakeholder meetings.

The next steps of the ESIA process are summarized below:

- The environmental and social baselines will be updated and expanded with input from additional specialist baseline studies and reports.
- The potential environmental and social impacts from the Project will be assessed using a standard methodology (Appendix A). The outcomes will be included in the ESIA Report along with proposed management measures.
- The outcome of the ESIA process and the resulting ESIA Report will be shared with stakeholders, who will have the opportunity to participate in meetings to learn more about the ESIA process and its findings, including proposed management measures. The Draft

ESIA Report will be available electronically, and hard copies will be available in public locations.

- Following a 60-day comment period, the ESIA Report will be updated based on received stakeholder feedback on the Draft ESIA Report. The Project team will address and respond to stakeholder comments on the Draft ESIA Report and will compile responses into a comments and responses report.
- A final version of the ESIA Report, together with the comments and responses report, will be made available to stakeholders.
- The Project team will maintain and update its risk register based on potential impacts identified during the ESIA including direct, indirect, and cumulative impacts.

APPENDIX A ERM ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT METHODOLOGY

A1. ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT METHODOLOGY

The primary objective for the Environmental and Social Impact Assessment (ESIA) for the Kings Mountain Mine Project (Project), is to provide for the identification and management of potential environmental and social impacts and risks associated with the Project, including avoidance and minimization during planning and design phases of the Project. To this end, the ESIA methodology uses a process that identifies the potential Project impacts and risks to environmental or social resources/receptors[37] and characterizes them in terms of their significance (or risk, in the case of unplanned events), to inform decisions on the need for development of recommendations for additional mitigation measures to effectively manage these impacts and risks. There is no statutory or universally agreed-upon international definition of significance. However, ERM has a standard impact assessment methodology that will be employed for this ESIA, with significance ratings representing the general principles outlined in Table A-1:

Table A-1: General Principles for Impact Significance Ratings

Significance Rating	Definition
Negligible	An impact where a resource will essentially not be affected, or the predicted impact is deemed to be imperceptible or is likely to be indistinguishable from natural background variations.
Minor	An impact where a resource will experience a noticeable negative impact, but the impact is relatively small and/or the resource is of relatively low sensitivity. In either case, the magnitude of the impact is expected to be within accepted limits.
Moderate	A negative impact that is within accepted limits but falls somewhere in the range from a threshold below which the impact is minor, up to a level that is short of breaching a critical threshold.
Major	A negative impact where an accepted limit may be exceeded or a critical threshold may be crossed, or the impact affects a highly sensitive resource that may not be able to recover from the impact (at all or without assistance).
Positive	An impact to a resource or receptor that is beneficial or results in an improved condition compared to existing conditions.

The scoping stage of the ESIA identified which resources could potentially be impacted by the Project and how the Project may impact the existing conditions for these resources. Preliminary identification of potential impacts on or risks to resources are presented in Section 7, Scoping Results.

The ESIA will assess the way the Project may impact elements of the physical, biological, or social environment. As described in greater detail below, potential impacts will be characterized based on their type, intensity, frequency, and duration. Risks from unplanned events will be

[37] For ease of review, resources/receptors are hereafter collectively referred to as “resources” in this appendix.

characterized based on these same criteria, as well as considering the likelihood of the unplanned event occurring.

Management of any residual impacts or risks through an ESIA are essential to the execution of an Initiative for Responsible Mining Assurance (IRMA)-driven project. Further, based on the ESIA findings, the Project will develop a management system to address the predicted impacts and risks. The management system will incorporate a continuous improvement concept (plan, do, check, act) such that potential environmental and socioeconomic impacts and risks are proactively managed throughout the Project life cycle.

A1.1. ASSESSMENT OF IMPACTS AND IDENTIFICATION OF MITIGATION AND MANAGEMENT MEASURES

The purpose of the ESIA is to assess the potential impacts resulting from planned activities of the Project and the risks from potential unplanned events that could occur as a result of the Project, as well as to identify measures to avoid, reduce, or remedy these potential impacts and risks. A standardized methodology will be used to identify potential impacts from planned activities and assess their significance, as well as to identify and assess risks from unplanned events.

Potential impacts include impacts on physical, biological, and social resources and can be "direct," "indirect," or "induced," as defined below:

- Direct—impacts that result from a direct interaction between the Project and a resource (e.g., disturbance of a terrestrial habitat, increase in employment by the project proposer).
- Indirect—impacts that follow from indirect interactions between the Project and other resources (e.g., impacts on terrestrial fauna that lives in an affected habitat, increased opportunities for supporting industries).
- Induced—impacts that result from other non-Project activities that occur because of the Project (e.g., impacts from an influx of job seekers, increased regional economic activity).

The ESIA evaluates potential Project impacts by predicting and quantifying, to the extent possible, the magnitude of the potential impacts on resources and the sensitivity/vulnerability/importance[38] of the impacted resources.

A1.1.1. Predicting Magnitude of Impacts

Magnitude describes the degree of change that the potential impact is likely to impart upon the resource. Depending on the impact, magnitude is a function of some or all the following impact characteristics:

- Intensity (including geographic/spatial extent)
- Frequency

[38] For ease of review, sensitivity/vulnerability/importance are collectively referred to as "sensitivity" for the purpose of this appendix.

- Duration

The magnitude of an impact takes into account the various dimensions of a particular impact to determine where the impact falls on the spectrum (in the case of adverse impacts) from **Negligible** to **Large**. Some impacts will result in changes to the resource that may be immeasurable or undetectable, which are characterized as having a **Negligible** magnitude.

Taking into account the impact characteristics identified above, the magnitude of each potential impact is assigned one of the following five ratings:

- Negligible
- Small
- Medium
- Large
- Positive

In the case of positive impacts, the ESIA does not characterize the magnitude of such impacts. Rather, they are simply reported as positive.

The definitions for intensity, duration, and frequency designations that will be used for the ESIA are provided in Tables A.1-1, A.1-2, and A.1-3, respectively.

Methods for predicting and evaluating the intensity of an impact cover a spectrum from those that are quantitative in nature to those that are qualitative. Quantitative methods are those that are measured or expressed numerically, while qualitative methods are those requiring a subjective assessment. Recognizing that impacts could be experienced differently by different resources, the designations for intensity will be defined on a resource-by-resource basis in the resource-specific sections of the ESIA. However, these resource-specific intensity definitions will generally follow the guiding definitions in Table A.1-1.

Table A.1-1: Guiding Definitions for Intensity Designations

Intensity Designation	Guiding Definition (Defined in Detail for each Resource)
Negligible	Immeasurable or undetectable change from baseline conditions and/or minute spatial extent
Low	Minor but measurable change from baseline conditions and/or affects a small area within or near the Project Footprint
Medium	Noticeable and readily measurable change from baseline conditions and/or affects a larger area beyond the Project Footprint
High	Substantial change from baseline conditions and/or extends over a larger regional area and may cross international boundaries

Table A.1-2: Definitions for Duration Designations

Duration Designation	Definition
Short-term	Instantaneous to less than a week in aggregate
Medium-term	More than a week but less than a year in aggregate
Long-term	More than 1 year in aggregate

Table A.1-3: Definitions for Frequency Designations

Frequency Designation	Definition
Episodic	Occurring occasionally and at irregular intervals
Continuous	Occurring more than occasionally or at regular intervals

To establish a consistent basis for assigning magnitude ratings based on the various impact characteristics (i.e., intensity, frequency, and duration), each of the possible combinations of characteristic designations are assigned a magnitude rating. Figure A.1-1 lists the various combinations of impact characteristics and the corresponding magnitude ratings that are assigned for each combination.

Figure A.1-1: Impact Characteristics and Magnitude Ratings

Intensity	Frequency	Duration	Overall Magnitude Rating
Negligible	Episodic	Short-term Medium-term	Negligible
Low	Episodic	Short-term	Negligible
		Medium-term	Small
Medium	Episodic	Short-term	Negligible
		Medium-term	Small
High	Episodic	Short-term	Negligible
		Medium-term	Small
Negligible	Episodic	Long-term	Negligible
Low	Episodic	Long-term	Small
Medium	Episodic	Long-term	Small
High	Episodic	Long-term	Medium
Negligible	Continuous	Short-term Medium-term	Negligible
Low	Continuous	Short-term	Small
		Medium-term	Small
Medium	Continuous	Short-term	Small
		Medium-term	Medium
High	Continuous	Short-term	Medium

Intensity	Frequency	Duration	Overall Magnitude Rating
		Medium-term	Medium
Negligible	Continuous	Long-term	Negligible
Low	Continuous	Long-term	Small
Medium	Continuous	Long-term	Medium
High	Continuous	Long-term	Large

A1.1.2. Determining Sensitivity

Multiple factors are taken into account when defining the sensitivity of a resource. Not all resources can be assessed according to the same criteria, so the sensitivity ratings for specific resources may be determined differently according to the resource (or the type of impact) being assessed. For physical resources (e.g., air quality), the resource's sensitivity to change (sometimes assessed factoring in the sensitivities of other resources that make use of the physical resource) is typically considered. For biological or cultural resources (e.g., a forested area), the importance (e.g., local, regional, national, or international importance) of the resource or the vulnerability of the resource to the specific type of impact is typically considered. For social resources, the vulnerability of the potentially impacted individual, community, or wider societal group to changes in the resource is generally considered. Other factors may also be considered when characterizing sensitivity, such as legal protection, government policy, stakeholder views, and economic value. The specific criteria used to assign sensitivity ratings will therefore be discussed in the resource-specific sections.

While the approach for designating sensitivity ratings varies on a resource-by-resource basis, the following sensitivity designations are consistently used for all resources:

- Low
- Medium
- High

A1.1.3. Resource-Specific Significance Ratings

The process of impact evaluation considers predicted impacts with the potential to occur due to planned activities of the Project, and impacts that could potentially occur due to unplanned events (e.g., hazardous materials spills), but would not otherwise be expected to occur as a result of planned Project activities.

For potential impacts associated with planned activities of the Project, the significance of each potential impact is assigned based on evaluation of the magnitude of the impact and the sensitivity of the resource. The same significance ratings are used across all resources (i.e., **Negligible**, **Minor**, **Moderate**, **Major**) but significance rating definitions specific to each resource are used as the basis for assigning these ratings.

The impact significance component of risks from potential unplanned events that occur as a result of the Project (e.g., hazardous material spills, traffic accidents, or other events with a less-than-certain chance of occurrence) are assessed using the same significance criteria as for potential impacts from planned Project activities. In other words, the significance ratings relate to the potential impact of the unplanned event on the given resource should that unplanned event occur.

The matrix depicted on Figure A.1-2 is used for assigning impact significance ratings. The assignment of a significance rating enables decision-makers and stakeholders to understand and prioritize key potential Project impacts and consider what mitigation measures may be warranted.

The evaluation of impact significance is initially conducted assuming implementation of embedded controls that are factored into the Project design but excluding consideration of any additional mitigation measures. For this reason, the initial impact significance rating is referred to as a “pre-mitigation” significance rating.

For unplanned events, a risk rating (rather than an impact significance rating) is the ultimate outcome of the ESIA process. The risk rating considers the potential impact significance if the unplanned event were to occur and the likelihood of the unplanned event occurring. The “pre-mitigation” impact significance component of this risk rating is developed in a manner consistent with the above approach for assessing the significance of potential impacts from planned activities.

Figure A.1-2: Impact Significance Rating Matrix

		Sensitivity of Resource		
		Low	**Medium**	**High**
Magnitude of Impact	**Negligible**	Negligible	Negligible	Negligible
	Small	Negligible	Minor	Moderate
	Medium	Minor	Moderate	Major
	Large	Moderate	Major	Major
	Positive	Positive		

A1.1.4. Unplanned Event Risk Ratings

The pre-mitigation risk rating is assigned based on consideration of the pre-mitigation impact significance rating (assuming the unplanned event occurs) and the likelihood of the unplanned event occurring. Likelihood reflects the probability of occurrence of the unplanned event and is defined as follows:

- Unlikely—considered a rare event; there is a small likelihood that such an event would occur during the Project life cycle.
- Possible—the event has a reasonable chance to occur at some time during normal operations of the Project.
- Likely—the event is expected to occur at some point during the Project life cycle.

Likelihood is estimated based on experience and/or evidence that such an outcome has previously occurred. Likelihood is a measure of the degree to which the unplanned event is expected to occur, not the degree to which an impact is expected to occur as a result of the unplanned event occurring. The latter concept is referred to as uncertainty, and this is typically dealt with in a contextual discussion in the ESIA, rather than in the risk rating process.

Once impact significance and unplanned event likelihood are determined for a given risk to a resource from an unplanned event, the following risk matrix (Figure A.1-3) is used to rate the risk to resources associated with unplanned events.

Figure A.1-3: Risk Rating Matrix for Unplanned Events

		Impact Significance (if Unplanned Event Were to Occur)			
		Negligible	Minor	Moderate	Major
Unplanned Event Likelihood	Unlikely	Negligible	Minor	Minor	Moderate
	Possible	Negligible	Minor	Moderate	Major
	Likely	Negligible	Moderate	Major	Major

A1.1.5. Recommendation of Mitigation Measures

The next step in the process is the identification of measures that can be taken to mitigate, as far as reasonably practicable, the identified potential impacts of the Project. A mitigation hierarchy is used, where the preference is always to avoid the impact before considering other types of mitigation. The following is the preferred hierarchy of measures followed in the ESIA:

- Avoid—remove the source of the impact by employing alternative designs or operations to avoid potential adverse interactions with resources.
- Reduce—lessen the chance of adverse interaction between the Project and resources and/or lessen the consequence of adverse interactions that cannot be avoided (e.g., reduce the size of the Project footprint).
- Remedy—if adverse interactions between the Project and resources cannot be avoided or their consequences reduced, then repair the consequences of the impact after it has occurred through rehabilitation, reclamation, restoration, compensation, and/or other measures.

Mitigation measures are developed, where appropriate, to address potential impacts and risks identified in the ESIA process. Mitigation measures are generally not developed for potential adverse impacts that are assessed as having a significance or risk rating of **Negligible**.

A1.1.6. Evaluation of Residual Impact Significance and Unplanned Event Risk

The final step in the impact evaluation process for the ESIA is the assessment of significance and risk for what are termed residual impacts/risks. Residual impacts/risks are those impacts/risks predicted to remain after embedded controls and mitigation measures have been implemented. This typically involves repeating the process described above to re-evaluate the potential impact significance or risk rating, considering the implementation of proposed mitigation measures.

In cases where the residual impact significance or risk rating is **Moderate** or **Major**, the emphasis is on reducing the significance/risk to a level that is as low as reasonably practicable.

This does not necessarily mean, for example, that all residual impacts/risks with a significance of **Moderate** or higher have to be reduced to **Minor**, but rather that these impacts/risks are being managed as effectively and efficiently as practicable.

Although a standard goal of an ESIA is to eliminate residual impacts/risks of a **Major** significance, for some resources, there may be residual impacts/risks rated as **Major** even after all practicable mitigation options have been exhausted. In these situations, decision-makers must weigh potential negative factors against positive ones in reaching a decision on the Project.

In the case of unplanned events, the residual risk rating reflects the risks remaining after consideration of embedded controls and mitigation measures. Changes from “pre-mitigation” to residual risk ratings may occur as a result of reduced impact significance if the unplanned event were to occur or as a result of reduced likelihood of the event occurring, or both.

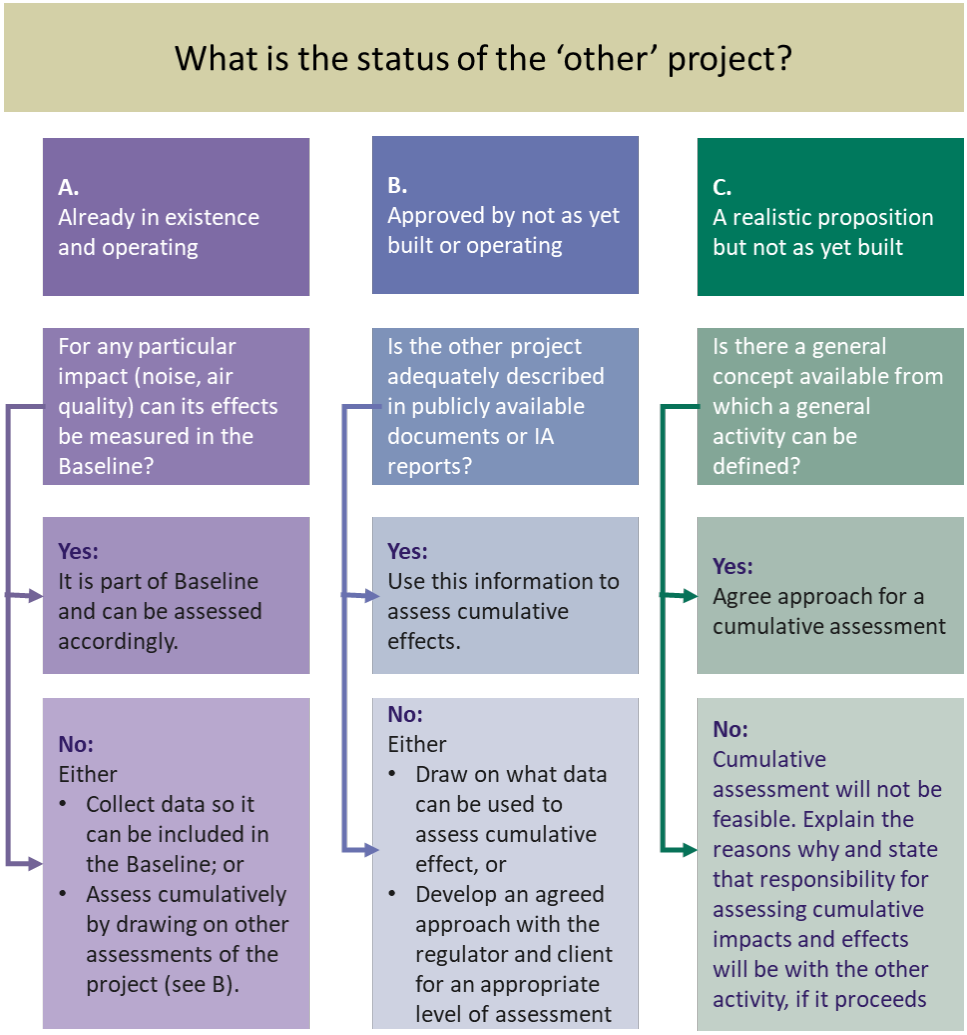
A1.2. EVALUATING CUMULATIVE IMPACTS

IRMA defines cumulative impacts as “*the additive, synergistic, interactive or nonlinear outcomes of multiple development or disturbance events that aggregate over time and space. Examples of cumulative impacts (or effects) may include reduction of water flows in a watershed due to multiple withdrawals; increases in sediment loads to a watershed over time; interference with migratory routes or wildlife movement; or more traffic congestion and accidents due to increases in vehicular traffic on community roadways.*”

Unlike direct impacts, which focus on a Project as a generator of impacts on various environmental and social resources, a Cumulative Impact Assessment focuses on the additive impacts from different projects and activities. The assessment of cumulative impacts in the ESIA considers the interactions between potential impacts from the Project and potential impacts from non-Project activities, as well as external factors, such as natural disasters.

Analysis of cumulative impacts involves estimating impacts that may result from relevant past, existing, and approved / planned activities that are considered reasonably foreseeable. The objective is to estimate the impacts to receptors / resources as it results from the aggregated stresses that affect them. The approach for assessing cumulative impacts and effects resulting from the Project and another activity affecting the same resource/receptor is based on a consideration of the approval/existence status of the ‘other’ activity and the nature of information available to aid in predicting the magnitude of impact from the other activity. This is illustrated on Figure A.1-4.

Figure A.1-4: How Cumulative Impacts are Assessed



Determining management measures for cumulative impacts will depend on impacts from the Project and impacts from other projects. Since cumulative impacts typically result from the actions of multiple stakeholders, the responsibility for their management is collective, requiring individual actions to eliminate or minimize individual development's contributions. If specific project mitigation that will prevent unacceptable cumulative impacts can be identified and implemented, then Albemarle may not need to initiate collaborative engagement of others in impact management.

When prevention of unacceptable cumulative impacts by project mitigation alone is not possible, collaborative engagement in regional management strategies will be necessary. Specific actions to manage cumulative impacts include the following; the first two being in Albemarle's control, the third point depended on other project proponents and the last three will require interaction with other stakeholders, as applicable:

- Project design changes to avoid cumulative impacts (location, timing, technology).

- Project mitigation to minimize cumulative impacts, including adaptive management approaches to project mitigation.
- Mitigation of Project impacts by other projects (not under the control of the Albemarle to further minimize impacts).
- Collaborative protection and enhancement of regional areas to preserve biodiversity.
- Collaborative engagement in other regional cumulative impact management strategies.
- Participation in regional monitoring programs to assess the realized cumulative impacts and efficacy of management efforts.
- Management measures to address cumulative impacts proposed by the Project will have Key Project Indicators and will be monitored in an ongoing basis.

APPENDIX B PRELIMINARY TABLE OF CONTENTS FOR THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

Table B-1: Preliminary Table of Contents for Environmental and Social Impact Assessment Report

Section Number	Contents Heading	Contents
Non-Technical Summary / Executive Summary	-	Summary of entire ESIA Report.
1	Introduction and Overview of the Project	This section will outline the Project background, describe the previous mining history and existing mining rights at the KMM site, introduce the Project proponent (Albemarle), describe the purpose of the ESIA Report, and lay out the structure of the ESIA Report.
2	ESIA and Management Process	This section will describe the ESIA process. It will cover the scoping process, the process for reviewing and consideration of specialist studies, and the approach for assessing potential Project impacts and risks. This section will describe how desktop research and public participation were integrated into the Scoping Report. The section will discuss specialist study phases, including fieldwork analyses conducted and/or evaluated by ERM. The section will then include a description of approaches used to integrate scoping and specialist studies into the ESIA. Finally, this section will detail approaches to public participation following the public release of the Draft ESIA.
3	Legal, Regulatory, and Policy Framework	This section will describe policy, legal, and institutional frameworks within which the ESIA has been conducted. The IRMA Standard and Albemarle's corporate policies will also be discussed.
4	Project Description and Area of Influence	This section will provide a description of the Project components, including the location, need, and benefits of the Project, and a review of the Project phases. This section will also describe the Project schedule and workforce expectations. Additionally, the sections will summarize anticipated Project emissions, discharges, and waste generation, as well as Project water, power, and fuel use demands. This section also describes the geographic areas in which the Project's potential impacts are expected to extend. This section will include final descriptions of the EAoI and SAoI.
5	Key Project Alternatives Considered	This section will detail alternatives considered in the design of the Project, including alternatives for waste and resources management. The section will detail the approach for considering alternatives, as well as the changes to Project design and Project waste generation and resource use. This section will conclude with a description of the process used to select preferred Project alternatives, including analyses of location, layout, and technology alternatives, as well as the "no action" alternative.
6	Stakeholder Consultation and Engagement	This section will detail the objectives, methods, and results of the Project stakeholder engagement process. After introducing the purpose and intended outcomes of stakeholder engagement, this section will include the

Section Number	Contents Heading	Contents
		methods and results of the stakeholder engagement process, including stakeholder mapping, recognizing communities of interest, and identifying key stakeholders and potentially vulnerable groups. This section will also include a discussion of the IRMA Standard for stakeholder engagement, including baseline and impact assessments, a review of key considerations for future engagement activities, and engagement plans during the ESIA disclosure process.
7	Impact Assessment Methodology	This section will present the methodology for impact and risk assessment, including identifying and characterizing potential impacts and risks, determining impact magnitude, determining receptor sensitivity, and unplanned event likelihood, and for assessing the impact significance and unplanned event risk. The section will also describe the approach for assessing cumulative impacts.
8	Physical Baseline	This section will summarize the baseline conditions of the physical environment within the Project's EAoI. Information for the physical baseline will come from fieldwork and desktop review.
9	Biological Baseline	This section will summarize the baseline conditions of the biological environment within the Project's EAoI. Information for the biological baseline will come from fieldwork and desktop review.
10	Social Baseline	This section will summarize the baseline conditions of the social environment within the Project's SAoI. Information for the social baseline will come from fieldwork, interviews, and desktop review including review of U.S. Census, EJScreen, and regional data reports.
11	Assessment of Potential Impacts	This section will provide an assessment of potential impacts from planned Project activities and risks from unplanned events. Based on the results of the assessments, the section will outline recommended mitigation measures and will provide residual impact significance and unplanned event risk ratings, considering the implementation of these mitigation measures.
12	Assessment of Cumulative Impacts	This section will identify and assess the contribution of the Project, in combination with other projects, to cumulative impacts in the AoI. The specific objectives are to: identify VECs, as defined by stakeholders, that could be impacted by the Project; identify other existing and planned projects and external environmental and social drivers that could impact these same VECs; undertake a high-level assessment of these potential cumulative impacts on VECs, considering the Project and the other identified existing and planned projects and external drivers in the area; and recommend a management framework for the integrated management of potential cumulative impacts.
13	Assessment of Unplanned Events	The section will identify and assess the potential impacts associated with unplanned events such as a tailings failure and present recommended management measures.

Section Number	Contents Heading	Contents
		Unplanned events are considered in terms of likelihood determined qualitatively, or when data are available, semi-quantitatively.
14	ESHS Management System Framework	The section focus will be on management and mitigation of risks throughout the Project life cycle. It will discuss the ESHS Management System Framework, which will manage impacts and risks identified in the ESIA. It will describe the purpose and objectives of the ESHS Management System, the relationship between the ESMP and the ESHS Management System Framework and present the Project ESMP, which is based on potential and cumulative impacts. The ESMP is a delivery mechanism for mitigation measures and commitments made in the ESIA. The ESMP will draw together the possible mitigation measures; group them logically into components with common themes; define the specific actions required and timetable for implementation; identify training needs, institutional roles, and responsibilities for implementation; and develop a monitoring program and estimate the costs of the measures. The ESMP will also identify roles and responsibilities for the Project proponent and the engineering, procurement, and construction contractors. The ESMP will also recommend other stand-alone plans that will need to be developed by the Project proponent.
15	Summary and Conclusions	This section will summarize the ESIA and identify conclusions from the analysis.
16	References	This section will list all sources used to conduct the ESIA.
Technical Appendices		The technical appendices will comprise the data summaries and technical reports developed as part of, and/or considered by the ESIA process.

Albemarle = Albemarle U.S., Inc.; EAoI = Environmental Area of Influence; EJ = environmental justice; ERM = ERM NC, Inc.; ESA = Endangered Species Act; ESHS = Environmental, Social, Health, and Safety; ESIA = Environmental and Social Impact Assessment; ESMP = Environmental and Social Management Plan; IRMA = Initiative for Responsible Mining Assurance; Mine = Kings Mountain Mine; NC = North Carolina; Project = Kings Mountain Mine Project; SAoI = Social Area of Influence; VEC = valued environmental component

APPENDIX C SUMMARY OF SCOPING PHASE STAKEHOLDER ENGAGEMENT

ESIA Scoping Stakeholder Engagement Summary Report

Kings Mountain Mine

November 2024

Document No.: KM60-EN-RP-9560

Revision: 1

Albemarle

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Acronyms and Abbreviations

Acronym	Definition
Albemarle	Albemarle U.S., Inc
EJ	environmental justice
ERM	ERM NC, Inc.
ESIA	Environmental and Social Impact Assessment
Gateway Trail	Kings Mountain Gateway Trail
IRMA	Initiative for Responsible Mining Assurance
NCDEQ	North Carolina Department of Environmental Quality
NTS	non-technical summary
Q&A	question-and-answer
ROM	run-of-mine
Draft Scoping Report	(Draft) Environmental and Social Impact Assessment Scoping Report
Project	Kings Mountain Mine Project
U.S.	United States
USEPA	United States Environmental Protection Agency

SUMMARY

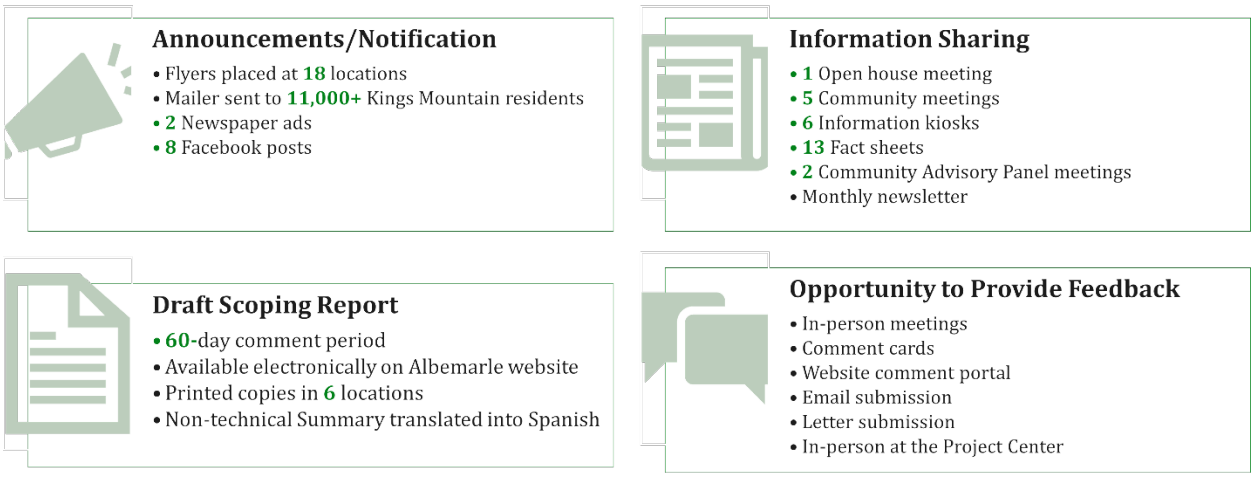
Albemarle U.S., Inc., a wholly owned subsidiary of Albemarle Corporation (Albemarle), plans to reopen the legacy Kings Mountain Mine to produce spodumene concentrate from the spodumene resource at the Kings Mountain site to meet demand for lithium products.

To support this effort, Albemarle developed and implemented a coordinated external stakeholder engagement campaign to share detailed information about their plans to redevelop the Kings Mountain Mine ("Kings Mountain Mine Project" or "Project"), and the associated Environmental and Social Impact Assessment (ESIA), with the community of Kings Mountain and other interested and/or affected stakeholders and rightsholders. Albemarle met this key stakeholder engagement objective during the Scoping Phase by sharing information about the Project, how it might affect surrounding communities and rightsholders, providing stakeholders and rightsholders with an opportunity to ask questions and comment on the Draft ESIA Scoping Report, and sharing information about future opportunities to participate in the ESIA process.

The Draft ESIA Scoping Report, together with a non-technical summary (NTS), was made available for a 60-day public comment period from June 11 through August 12, 2024. During this time, the report was available for review electronically and printed copies were placed at strategic locations in the city of Kings Mountain and the surrounding area. Albemarle hosted six public meetings—one open house and five community meetings to share Project information and give stakeholders opportunities to provide comments and ask questions about the Project. Additional channels were established to receive written comments from stakeholders.

Albemarle used several channels to announce and promote the meetings; Figure 1 provides a summary of the engagement activities.

Figure 1: Mine Rollout and Scoping Phase Engagement Summary



A detailed overview of the public meetings is provided in Section 2 and a summary of meeting attendance is included in Table 1 below.

Table 1: Meeting Summary

Event	Attendees
Open House - H. Lawrence Patrick Senior Life and Conference Center	67
Community Meeting – Mount Olive	14
Community Meeting – Mount Zion	23
Community Meeting – Bethlehem Baptist	13
Community Meeting – Mauney Library	13
Community Meeting – First Baptist Church	37
Total	**167**

During the Scoping Phase, 16 written submissions were received, amounting to 43 distinct comments. Approximately 164 verbal comments were also recorded during in-person meetings. Figure 2 shows the channels stakeholders used to share comments and feedback. Stakeholder comments and questions covered a broad range of topics. The Project description and layout, water, the economy, and employment were the most common themes, as shown on Figure 3. As anticipated during the Scoping Phase, many of the questions focused on gaining a greater understanding of the Project and the potential benefits and impacts it may have on the community. Figure 4 depicts where the engagements took place during the Scoping Phase as well as where promotional materials were placed. The Albemarle Kings Mountain website showed a temporary, 350 percent increase in traffic following the public meetings.

Figure 2: Public Comment Channels Used

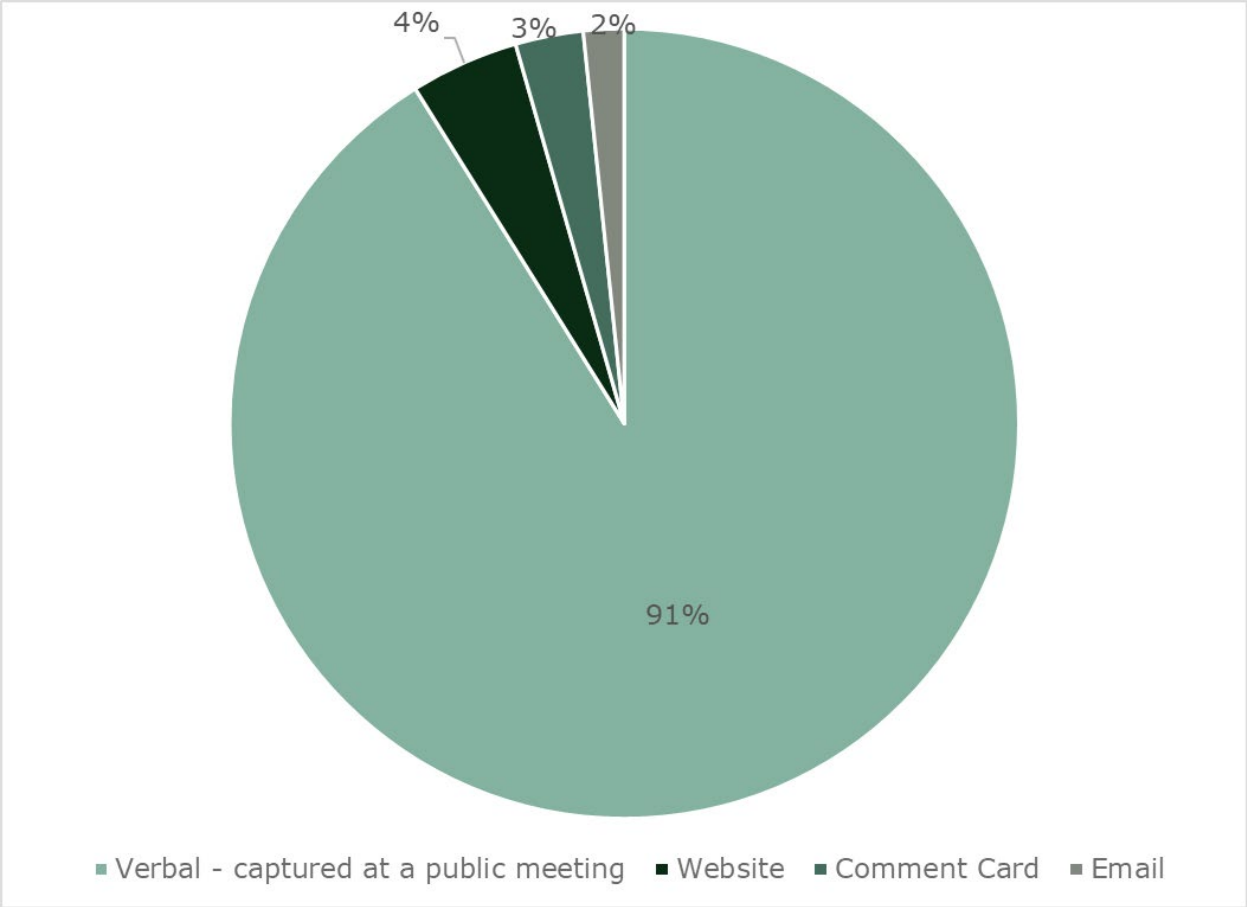


Figure 3: Public Comments by Topic

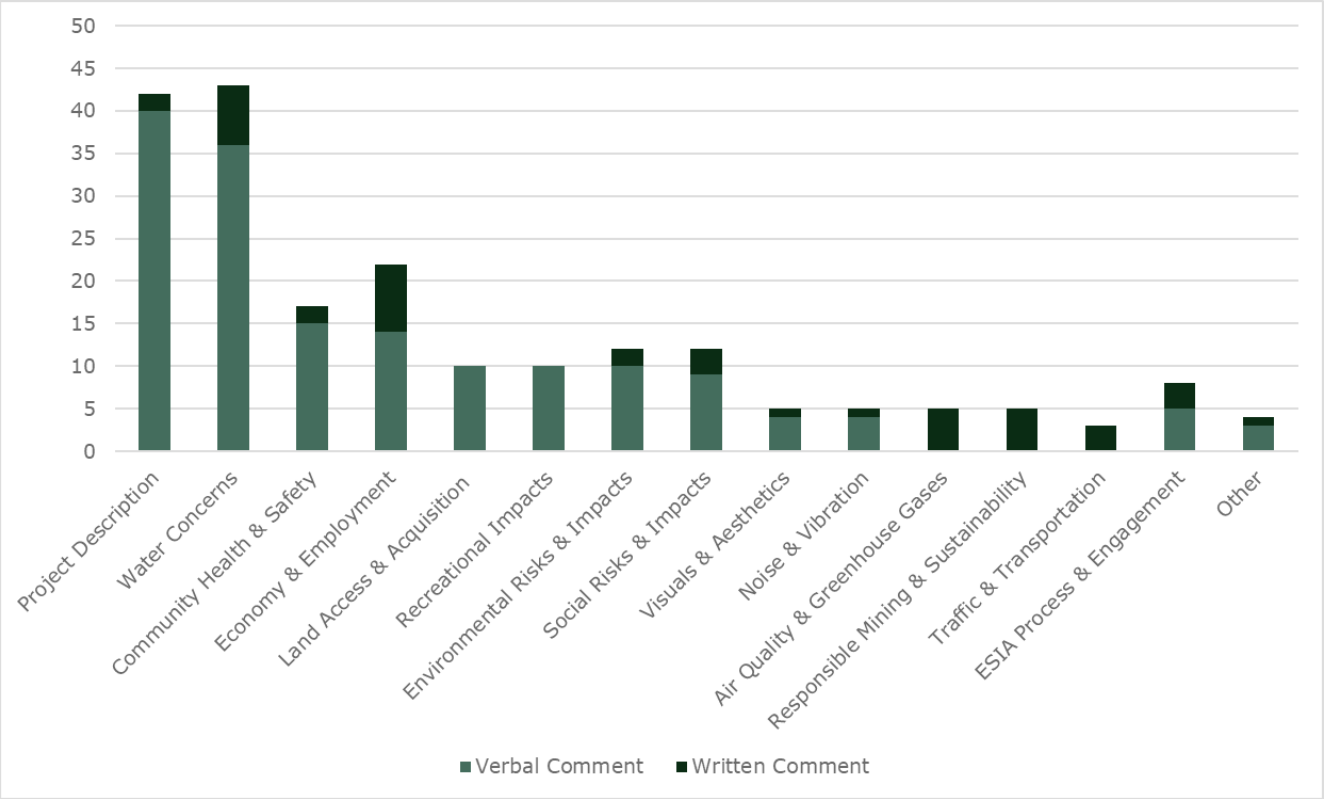
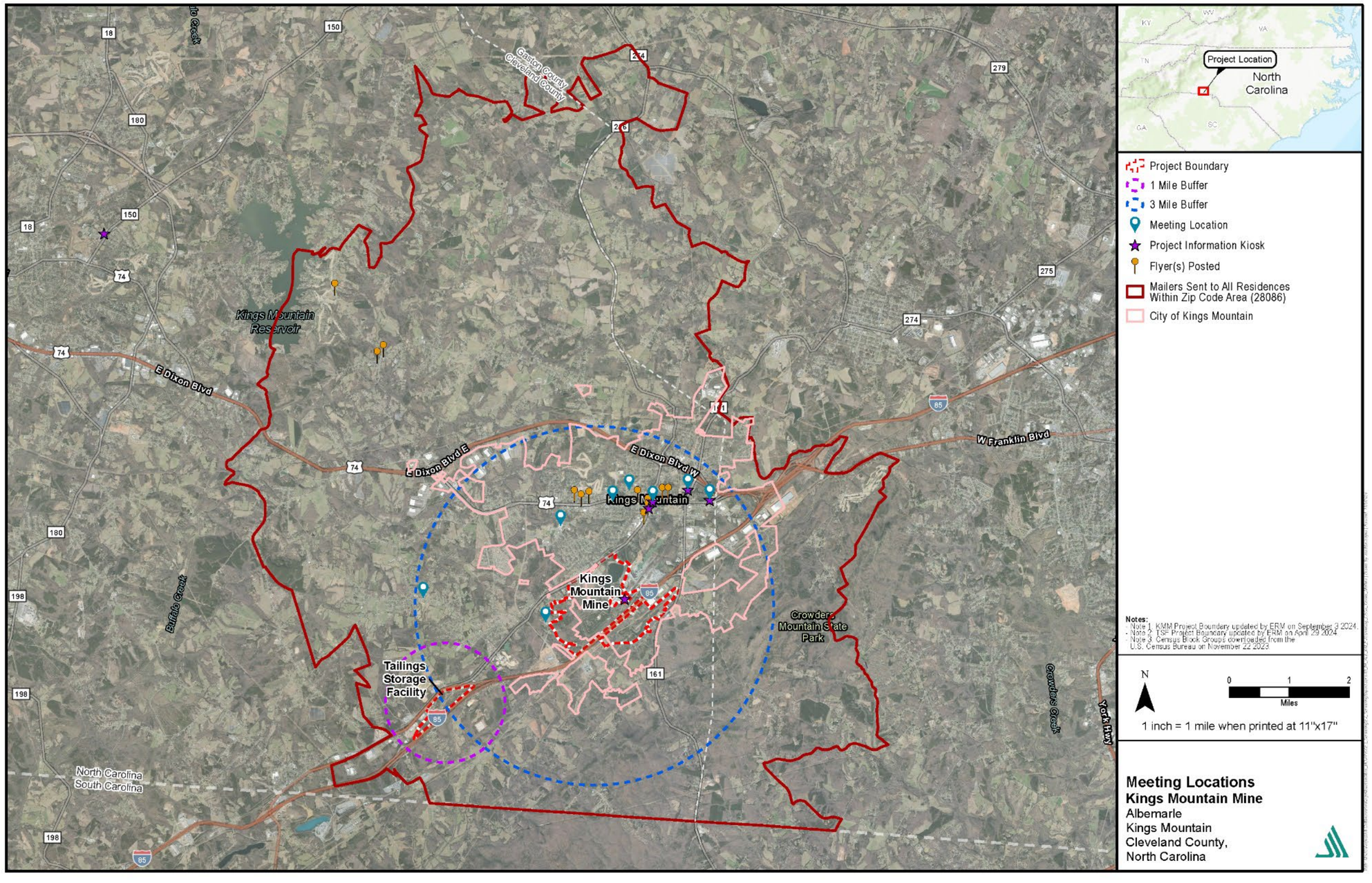


Figure 4: Map of Engagement Activities



1. INTRODUCTION

Albemarle U.S., Inc., a wholly owned subsidiary of Albemarle Corporation (Albemarle), headquartered in Charlotte, North Carolina, is a global leader in transforming essential resources into critical ingredients for mobility, energy, connectivity, and health. Albemarle currently operates a lithium compound and metal production facility at the site of the legacy Kings Mountain Mine located in the city of Kings Mountain in Cleveland County, North Carolina. To meet current and expected demand for lithium products, Albemarle intends to reopen the legacy mine to produce lithium-bearing spodumene concentrate from the resource at the site (the "Kings Mountain Mine Project" or "Project").

As a member of the Initiative for Responsible Mining Assurance (IRMA), Albemarle is committed to developing and operating the Project according to national and local regulations and the IRMA Standard for Responsible Mining Version 1.0 (IRMA 2018). Albemarle is committed to engaging with potentially impacted communities and key stakeholders throughout the Project lifecycle to foster two-way communication and meaningful public input and to earn trust and a social license to operate.

Albemarle's community affairs team began creating opportunities for information sharing and two-way consultation with stakeholders in early 2022 with the goal of informing area residents about the Project and building relationships with stakeholders. In May 2024, Albemarle shared a Project plan for the Kings Mountain Mine with stakeholders, together with a Draft Environmental and Social Impact Assessment (ESIA) Scoping Report (Draft Scoping Report) that identified potential positive and negative environmental and social impacts that may occur as a result of the Project. The Draft Scoping Report was made available to external stakeholders for a 60-day comment period.

This report provides a summary of stakeholder engagement activities undertaken as part of the mine plan rollout and ESIA Scoping Phase.

1.1. SCOPING ENGAGEMENT OBJECTIVES

Albemarle's stakeholder engagement process is guided by a commitment to transparency and building strong stakeholder relationships. The key engagement objectives during the mine plan rollout and Scoping Phase are to:

- Provide stakeholders with a detailed project overview of the Kings Mountain Mine from construction to closure/reclamation.
- Share potential environmental and social benefits and impacts that may occur as a result of the Project and explain how impacts are expected to be managed.
- Provide stakeholders with an opportunity to ask questions about the Project and identify issues that are of importance to them.
- Share information about the Project permitting processes and the ESIA.

- Encourage stakeholder participation in future engagement opportunities.
- Communicate the availability of the Draft Scoping Report for review and comment.
- Receive and respond to comments on the Draft Scoping Report.

1.2. DRAFT SCOPING REPORT COMMENT PERIOD

The Draft Scoping Report was released for a 60-day public comment period that commenced on June 11 and ended on August 12, 2024. Notification of the availability of the Draft Scoping Report and an invitation to participate in upcoming public meetings was shared with stakeholders through:

- A mailer sent to approximately 11,000 residents who reside in the Kings Mountains zip code (28086) area.
- Flyers placed in strategic communal locations (refer to Table 3 for locations).
- Email notification to Albemarle's stakeholder database.
- Newspaper ads in the *Kings Mountain Herald* (May 29 and June 5).
- Social media posts on the Albemarle Kings Mountain Facebook page (May 21; June 6, 11, 13, 14, 18, 26; and July 8).

During the comment period, the Draft Scoping Report, together with a non-technical summary (NTS), was available electronically on the Albemarle website, and printed copies were available at five public locations in Kings Mountain and one location in the neighboring town of Shelby:

- Albemarle Kings Mountain Project Center, 129 West Mountain Street, Kings Mountain, North Carolina
- H. Lawrence Patrick Senior Life Center, 909 East King Street, Kings Mountain, North Carolina
- Kings Mountain Family YMCA, 211 Cleveland Avenue, Kings Mountain, North Carolina
- Kings Mountain Farmers' Market (Saturdays), 125 South Battleground Avenue, Kings Mountain, North Carolina
- Mauney Memorial Library, 100 South Piedmont Avenue, Kings Mountain, North Carolina
- Dover YMCA, 411 Cherryville Road, Shelby, North Carolina

During the comment period, Albemarle hosted one open house meeting and five community meetings to share Project information, inform stakeholders of the availability of the Draft Scoping Report, and explain opportunities to participate in the ESIA process. A detailed account of stakeholder meetings and the comments received during the meetings is provided in Section 2.

In addition to capturing verbal comments at meetings, several channels were established to receive written comments on the Draft Scoping Report including having comment cards available at all public meetings and the Albemarle Project Center, online submissions through

the website, and a dedicated email address. A summary of written comments received through the various channels is provided in Section 3. Responses to written comments from the Project team are attached in Appendix A. A summary of verbal comments recorded during meetings is provided in Appendix B, Table B1.

1.3. CONSIDERATION OF POTENTIAL BARRIERS TO ENGAGEMENT

Inclusive stakeholder engagement requires the consideration of potential barriers to engagement and how these barriers can be removed to facilitate access for vulnerable or rights seeking stakeholder groups. According to the United States (U.S) Environmental Protection Agency (USEPA), environmental justice (EJ) is the "...fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies" (USEPA 2013).

Albemarle used best practice guidance from the USEPA, the Council for Environmental Quality and the North Carolina Department of Environmental Quality (NCDEQ) to identify potential EJ communities within a 3-mile radius of the Project site and 1-mile radius of Archdale, the tailings storage facility site. This was combined with available U.S. Census data, to better understand Kings Mountain's composition of race, ethnicity and poverty, with information gathered through early and ongoing engagement, to identify potentially vulnerable stakeholder groups and design an appropriate engagement strategy. Specific measures to remove barriers to engagement included:

- Hosting small neighborhood meetings at varying times and locations closer to vulnerable stakeholder group communities.
- Placing printed materials at central locations.
- Offering a Spanish translation of the Draft Scoping Report NTS and ESIA fact sheet.
- Communicating through traditional and social media.
- Providing opportunities for written comments electronically via the Albemarle Kings Mountain website, or through printed comment cards.
- Adopting an open-door policy at the Albemarle Project Center, where stakeholders can talk to a Project representative and/or provide verbal or written comments during office hours.
- Ongoing identification of Native American tribes that may have an interest in the Project or a connection to the Project area, with the intention to establish protocols for engagement.

2. IN-PERSON MEETINGS

The community affairs team for the Project hosted six public meetings (one open house and five community meetings) between June 11 and 27, 2024 to share Albemarle's plan to reopen the lithium mine at Kings Mountain, announce the availability of the Draft Scoping Report, and give stakeholders an opportunity to ask questions and provide comment on the Project.

The same presentation was shared at all meetings; however, the varied times and locations allowed Albemarle to reach different stakeholder groups and eliminate barriers that might otherwise prevent residents from attending meetings. The June 11 open house targeted the entire Kings Mountain community, while the community meetings were targeted to specific neighborhoods and stakeholder groups. Table 2 provides is a complete list of the dates, times and locations of open houses, and community meetings that were held:

Table 2: Meeting Schedule

Venue	Meeting Type	Date	Time
H. Lawrence Patrick Senior Life and Conference Center, Kings Mountain, North Carolina	Open house	Tuesday June 11, 2024	6–8 p.m.
Mount Olive Baptist Church, Kings Mountain, North Carolina	Community meeting	Saturday June 15, 2024	9–11 a.m.
Mount. Zion Baptist Church, Kings Mountain, North Carolina	Community meeting	Tuesday June 18, 2024	5:30–7 p.m.
Bethlehem Baptist Church, Kings Mountain, North Carolina	Community meeting	Tuesday June 25, 2024	11 a.m.–1 p.m.
Mauney Memorial Library, Kings Mountain, North Carolina	Community meeting	Thursday June 27, 2024	10 a.m.–12 p.m.
First Baptist Church, Kings Mountain, North Carolina	Community meeting	Tuesday July 9, 2024	12 p.m.–1 p.m.

ERM NC, Inc. (ERM), as the third-party consultant responsible for preparing the ESIA, attended the open house meeting to answer questions related to the Draft Scoping Report and ESIA process and capture comments and questions from stakeholders. An ERM representative attended the community meetings to help capture comments and questions from stakeholders.

The same presentation was shared at all meetings. The outline of the presentation is provided below, and a copy of the presentation is included in Appendix C.

1. Existing Kings Mountain Site:
    a. Responsible Mining is Inherent to the Project.
    b. Liberation and Separation.
2. Proposed Kings Mountain Mine Project Plan.
3. Mine Pit Design and Activities.

4. Rock and Material Storage Facilities.
5. Mineral Processing Facility.
6. Tailings Storage Facility.
7. Mine Reclamation and Closure.
8. Mine Permitting.
9. Environmental and Social Impact Assessment.

2.1. MEETING SUMMARIES

2.1.1. H. Lawrence Patrick Senior Life and Conference Center

Albemarle hosted a community open house on June 11 from 6 to 8 p.m. at the H. Lawrence Patrick Senior Center in Kings Mountain, North Carolina. The format included a science fair-style open house from 6:00 to 6:30 p.m., a formal presentation from 6:30 to 7:10 p.m., and continuation of the open house from 7:10 to 8:00 p.m. The open house kicked off the official 60-day public comment period for the Draft Scoping Report. The comment period ran through August 12, 2024.

There were 67 people in attendance. ERM facilitated the event, and senior leadership from Albemarle gave the presentation, providing information about the proposed mine design and operations, end land use, and permitting timeline.

Attendees provided feedback during the open house portion of the meeting; the most common themes included:

- Potential water contamination and management—destination of water released from dewatering the existing mine pit, dewatering impacts on wildlife, and impacts on the amount of water available to the community.
- Potential health issues related to mining—concerns about lithium being a hazardous material, types of chemicals planned for mine usage, and risks of particles being released into the air.
- Potential impacts on the Kings Mountain Gateway Trail (Gateway Trail)—timing of Gateway Trail closure, trail relocation route, and the future of Cardio Hill.
- Potential visual impacts from the Project—viewshed from homes.
- Potential additional land acquisition for the Project—amount of land Albemarle has and plans to purchase, and future of purchased land.
- Potential noise and vibrations generated during blasting operations—possibility of feeling the vibrations or hearing the noise of the blasts from their homes.

Overall, attendees were curious about the Project, came to learn about Albemarle and the reopening of the mine, and readily provided their input and asked questions about the material

presented. Figure 5 is an image taken during the June 11 open house at H. Lawrence Patrick Senior Life and Conference Center.

General questions and comments were captured at the meeting, and a summary of frequently asked questions can be found in Appendix B, Table B1.

Figure 5: H. Lawrence Patrick Senior Life and Conference Center

2.1.2. Mount Olive Baptist Church

Albemarle hosted a community meeting on Saturday, June 15 from 9 to 11 a.m. at Mount Olive Baptist Church in Kings Mountain, North Carolina. A presentation was provided by a member of the Albemarle Community Affairs management team, followed by a question-and-answer (Q&A) session. There were 14 people in attendance.

The presentation focused on the mine layout and operations; maps were placed on each table and frequently used to identify reference points. At the end of the presentation, visual simulations were shown of what the Kings Mountain Mine would look like from Mount Olive Church at various stages of operation.

Attendees provided feedback and asked questions during the meeting; the most common themes included:

- Potential physical and mental health issues related to mining and relocation—health risks from dust released during mining operations and property owner stress levels due to relocation.
- Water management and potential impacts on water—destination of released water and potential for contaminants in the water making it unsafe for the community to use.
- Employment opportunities and other community benefits—types of available jobs, training and/or education needed for the newly created jobs, and workforce diversity.
- Land acquisition and end land use—potential impact on property values of homes and churches, future of mine pit after operations have stopped, and impacts on Compact Community.

A discussion took place about how Albemarle could involve more people in future meetings. A suggestion was made to have meetings later in the day.

General questions and comments were captured at the meeting, and a summary of frequently asked questions can be found in Appendix B, Table B1. Figure 6 is an image that was taken during the June 15 community meeting held at Mount Olive Baptist Church.

Figure 6: Mount Olive Baptist Church

2.1.3. Mount Zion Baptist Church

Albemarle hosted a community meeting on Tuesday, June 18 from 5:30 to 7 p.m. at Mount Zion Baptist Church in Kings Mountain, North Carolina. A member of the Albemarle Community Affairs management team provided the presentation, and a Q & A session followed the presentation. Twenty-three people attended the meeting.

Attendees asked several questions and provided feedback; the most common themes included:

- Mining operations and proposed facilities—distance between the mine and the tailings storage facility, resource processing, and resource end use.

- Potential community benefits from the Project—neighboring community opportunities, types of available jobs, and potential impacts of the casino on the mine.
- Potential impacts on the Gateway Trail—timing of trail closure and trail relocation route.

General questions and comments were captured at the meeting, and a summary of frequently asked questions can be found in Appendix B, Table B1. Figure 7 is an image from the June 18 community meeting held at Mount Zion Baptist Church.

Figure 7: Mount Zion Baptist Church

2.1.4. Bethlehem Baptist Church

Albemarle hosted a community meeting on Tuesday, June 25 from 11:00 a.m. to 1 p.m. at Bethlehem Baptist Church in Kings Mountain, North Carolina. A member of the Albemarle Community Affairs management team gave the presentation which was followed by a Q & A session. Thirteen people attended the meeting.

Attendees provided feedback and asked questions during the meeting; the most common themes included:

- Potential impacts on the Gateway Trail—timing of trail closure, trail relocation route, and future of Cardio Hill.
- Potential impacts on water and water management—impacts on groundwater and water basin usage.

- Opportunities for community benefits and local partnerships—the benefits of the partnership with Martin Marietta's Kings Mountain Quarry and number of available jobs.
- Potential safety risks—fire risk mitigation measures.

General questions and comments were captured at the meeting, and a summary of frequently asked questions can be found in Appendix B, Table B1. Figure 8 is an image from the June 25 community meeting at Bethlehem Baptist Church.

Figure 8: Bethlehem Baptist Church

2.1.5. Mauney Library

Albemarle hosted a community meeting on Thursday, June 27 from 10:00 a.m. to 12 p.m. at the Mauney Library in Kings Mountain, North Carolina. A member of Albemarle's management team gave the presentation which was followed by a Q & A session. Thirteen people attended the meeting.

Attendees provided feedback and asked questions during the meeting; the most common themes included:

- Potential impacts on water and water management—destination of released water, flooding risks, and potential impacts on the groundwater table (wells).
- Workforce and community benefits—types of available job opportunities, training and/or education needed for the newly created jobs, local hiring policies, other potential benefits to Kings Mountain, and small business opportunities.
- Land management—plans for demolition on acquired property, and land usage.
- Environment—the mining operation's carbon footprint and sustainability.

General questions and comments were captured at the meeting, and a summary of frequently asked questions can be found in Appendix B, Table B1. Figure 9 is an image taken at the June 27 community meeting held at Mauney Library.

Figure 9: Mauney Library

2.1.6. First Baptist Church

As a result of the previously held meetings and prior outreach, a member of First Baptist Church approached Albemarle and requested that someone attend their monthly luncheon to introduce Albemarle and talk about the Project. The Community Affairs Team attended the noon luncheon on July 9, 2024, and gave a presentation to the 37 attendees. A Q&A session followed the presentation.

Attendees were engaged and asked questions during the meeting; the most common themes included:

- Mining operations and techniques;
- Potential impacts on the Gateway Trail;
- Potential for additional land acquisition and land management; and
- Water management.

General questions and comments were captured at the meeting, and a summary of frequently asked questions can be found in Appendix B, Table B1. Figure 10 is an image taken during the July 9 meeting at First Baptist Church.

Figure 10: First Baptist Church

3. WRITTEN COMMENT

In addition to the opportunity to participate in public meetings, Albemarle offered stakeholders multiple communication channels to submit feedback on the Draft Scoping Report: comment card, email, letter, and online comment platform.

3.1. SUBMITTING WRITTEN COMMENTS

Albemarle provided comment cards at all in-person meetings and made them available at the Albemarle Kings Mountain Mine Project Center and information kiosks. Additionally, a QR code was included on materials distributed throughout the community that directed readers to the online comment platform. The online platform was also linked on the Albemarle Kings Mountain website. Albemarle received comments on the Draft Scoping Report between June 11 and August 12, 2024.

The online comment platform also served as a database for submissions across all four communication channels. Comments were entered into the platform either directly by the stakeholder via the website or by an organization representative entering feedback received via comment card or email. Feedback received via a written comment card or email is scanned and attached to the entry in the platform for reference.

3.2. OVERVIEW OF WRITTEN SUBMISSIONS

A total of 43 comments were distilled from 16 online submissions. Of the 16 submissions, the most common themes included:

- **Water use and management**—amount of water to be used and potential contamination.
- **Workforce**—number of jobs created by the Project, worker health and safety, and worker rights.
- **Air quality and greenhouse gas emissions**—dust management practices.
- **Responsible mining and sustainability**—Albemarle's commitment to the Initiative for Responsible Mining Assurance (IRMA) and the Standard for Responsible Mining.

All comments captured via the online platform were responded to by the Project team and can be found in Appendix A.

4. ADDITIONAL ENGAGEMENT

4.1. PROMOTIONAL MATERIALS

To promote the open house and community meetings, flyers were placed in high traffic public venues throughout Kings Mountain. Additionally, a mailer was sent to residents living in the Kings Mountain community, see Table 3 for details.

4.2. FACT SHEETS

To help provide a better understanding of some of the more complex components of reopening the Kings Mountain Mine and to address some of the more frequently asked questions about the Project, Albemarle created 13 fact sheets to cover these subjects in-depth and address concerns. All fact sheets were made available at the June 11 open house as well as at the subsequent community meetings. Select fact sheets were available at the kiosk stations and all fact sheets continue to be available to the public at the Project Center.

Available factsheets include:

- About Kings Mountain [1]
- Air Quality
- Blasting Operations
- Commitment to Responsible Mining
- Environmental and Social Impact Assessment [1]
- Environmental Protection Measures
- Kings Mountain Mine Project Plan
- Mine Closure Reclamation
- Permitting Process
- Pit Dewatering
- Responsible Mining Relationships
- Surface and Groundwater Management
- Tailings Storage Facility

Albemarle intends to update fact sheets as necessary and plans to create new fact sheets as more information becomes available concerning areas of interest.

4.3. INFORMATION KIOSKS

To provide information on the Project, the Draft Scoping Report and ESIA process and to encourage community participation, Albemarle placed kiosks with information on the ESIA and how to provide feedback at the locations listed below. Printed copies of the Draft Scoping Report, together with an NTS were available at the kiosks; the NTS was available in English and Spanish.

- Kings Mountain Project Center, 129 West Mountain Street, Kings Mountain, North Carolina
- H. Lawrence Patrick Senior Life Center, 909 East King Street, Kings Mountain, North Carolina

[1] Fact Sheets available in Spanish

- Mauney Memorial Library, 100 South Piedmont Avenue Kings Mountain, North Carolina
- Kings Mountain YMCA, 211 Cleveland Avenue Kings Mountain, North Carolina
- Dover YMCA, 411 Cherryville Road, Shelby, North Carolina
- Kings Mountain Farmers' Market (Saturdays), 125 South Battleground Avenue, Kings Mountain, North Carolina

4.4. WEBSITE USE

The Albemarle Kings Mountain website saw an approximately 350 percent increase in views of the Project's website vs. prior periods in the days leading up to and after the Project plan rollout. The traffic was mainly driven to the new information or content that was uploaded to the site about the Project plan and impact assessment.

4.5. MEDIA COVERAGE

4.5.1. Traditional Media

To promote the open house and community meetings, advertisements were placed in the Kings Mountain weekly newspaper, see Table 3 for more details.

Two reporters attended the June 11 open house at H. Lawrence Patrick Senior Life and Conference Center; as a result, the following articles were published:

- ***Charlotte Observer***: Albemarle unveils new details for NC lithium mine as residents ask: 'How do we benefit?' (msn.com).
- **WFAE/NPR**: Charlotte-based Albemarle unveils Kings Mountain mine site plan, invites community feedback | WFAE 90.7 - Charlotte's NPR News Source.

Additionally, the news release distributed regarding the Project rollout was picked up in local and trade media, including by the ***Charlotte Business Journal,*** Albemarle reveals site plan for planned Kings Mountain lithium mine - Charlotte Business Journal (bizjournals.com) and ***Chemical Engineering***.

4.5.2. Social Media

Social media posts promoting the open house and community meetings began running on May 21, 2024. Additional posts were made throughout the public comment period encouraging stakeholders to get involved and provide feedback. See Table 3 for more details.

The Project rollout announcement was the top performing social media post for the Albemarle Kings Mountain's Facebook account in June. As of June 2024, the account also reached 400 followers which has doubled since the start of 2024.

Table 3: Promotional Materials

Engagement Material	Date	Details
Flyers	May 30, 2024	Flyers were posted: • Big Reds • Bridges Hardware • Dollar General (Oak Grove Road near Toms) • Ingrands Barber Shop • Italian Garden • Kings Mountain Police Department • Loves Fish Box • Mauney Memorial Library • Mr. Tire • Laundry Mat (beside Italian Garden) • Papa Johns • Parkers • Patriot Jacks • Sub Factory • Toms Family Mart • Weiner Works • Woodbridge Handy Mart • YMCA
Mailer	May 23, 2024	Mailer sent to all residential addresses in the 28086-zip code area
Kiosks	June 17 – August 12, 2024	• Albemarle Project Center • Albemarle Technology Center for Research and Development • H. Lawrence Patrick Senior Life and Conference Center • Kings Mountain YMCA • Mauney Library • Shelby YMCA
Newspaper Ads	May 29 and June 5	Newspaper ads in the *Kings Mountain Herald*
Facebook	May 21 June 6 June 11 June 13 June 14 June 18 June 26 July 8	• May 21, June 6, June 14 and June 18 posts promoting the open house and community meetings. • June 11, June 13, June 26 and July 8 posts promoting ESIA process and encouraging stakeholders to get involved and provide feedback.

5. REFERENCES

IRMA (Initiative for Responsible Mining Assurance). 2018. *IRMA Standard for Responsible Mining. IRMA-STD-001.* June 2018. Accessed: December 2023. Retrieved from: https://responsiblemining.net/wp-content/uploads/2018/07/IRMA_STANDARD_v.1.0_FINAL_2018-1.pdf

USEPA (U.S. Environmental Protection Agency). 2013. *Environmental Justice-Related Terms as Defined Across the PSC Agencies*. May 13, 2013. United States Environmental Protection Agency. Accessed: December 2023. Retrieved from: https://www.epa.gov/sites/default/files/2015-02/documents/team-ej-lexicon.pdf

APPENDIX A COMMENTS AND RESPONSE REPORT

Stakeholder Comment and Response Summary

Comment Code	Topic	Comment	Response
I- 1 -1	Noise & Vibration	I have concerns about mining 3 miles from my home that range from will my foundation shift from the blasting...	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an Environmental and Social Impact Assessment (ESIA) to identify, assess and manage the potential environmental and social impacts associated with the Project. Section 5.1.4 of the ESIA Scoping Report (Scoping Report) describes existing Noise and Vibration conditions in the Project area. Albemarle intends to develop a noise and vibration monitoring and mitigation plan, and the company anticipates that results will be shared on a regular basis. A network of nine monitoring stations was installed throughout the site to assess blasting vibration and noise levels to evaluate against established thresholds, and this system is intended to be reinstalled once blasting resumes. The Scoping Report notes that plans for the ESIA are to identify and assess potential sources of vibration and any potential impacts beyond those typically associated with mining construction equipment. Section 7.1, Table 7-1 of the Scoping Report identifies potential impacts to be evaluated during the impact assessment phase of the ESIA. As potential impacts are further evaluated, mitigation measures are intended to be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are planned to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
I- 1 -1	Traffic and Transportation	Will the operation be using any electric or hybrid or autonomous vehicles?	The use of electric, hybrid, and/or autonomous vehicles is not yet confirmed. In September of 2023, Albemarle signed agreements with Caterpillar Inc. to collaborate on solutions to support the full circular battery value chain and sustainable mining operations. The collaboration aims to support Albemarle's efforts to establish Kings Mountain, North Carolina as the first-ever zero-emissions lithium mine site in North America. These efforts include utilization of next-generation, battery-powered mining equipment. The two companies will also explore opportunities to collaborate on research and development of battery cell technology and recycling techniques.
I- 1 -2	Groundwater	Will my water occur any contamination over the next 15-20 years during and after drilling	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. Section 5.1.8 of the Scoping Report includes a preliminary residential water well inventory and the findings of baseline groundwater sampling. Albemarle currently monitors surface and groundwater with an extensive monitoring network and by performing quarterly water quality sampling and analysis and flow monitoring at select locations. This monitoring is planned to continue throughout the life of the proposed mine. Section 7.1, Table 7-1 of the Scoping Report identifies potential impacts to be evaluated during the impact assessment phase of the ESIA, including potential impacts on surface water and groundwater. As potential impacts are further evaluated, mitigation measures are planned to be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
I- 1 -3	Surface Water	I also understand there will be triple reverse osmosis and a bladder to catch the water; mistakes and missteps do happen	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. This includes the development and implementation of robust health, safety and environmental management plans and procedures to reduce operational risks. Further, emergency response plans are intended to be developed, and regular training is planned to be provided to guide appropriate responses in the unlikely event of a spill or accident. As potential impacts from the operation are further evaluated in the ESIA, mitigation measures are intended to be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are planned to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
I- 1 -4	Social Risks and Impacts	Do I trust the process enough to stay in my community or should we prepare to sell and move	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. Section 7.1, Table 7-1 of the Scoping Report provides a list of potential impacts to be evaluated in the ESIA. As potential impacts are further evaluated, mitigation measures are planned to be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback. This is intended to give stakeholders an opportunity to deepen their understanding of the Project, the potential impacts, and how Albemarle plans to manage impacts throughout the life of the mine.
I- 3 -1	Social Risks and Impacts	What is going to happen to the Compact Community. Will Compact exist after your Company take what they need leave our community like a desert.	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. Section 7.1, Table 7-1 of the Scoping Report provides a list of potential impacts that are intended to be further evaluated in the ESIA, including potential impacts on neighboring communities. As potential impacts are further evaluated, mitigation measures can be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are intended to

Comment Code	Topic	Comment	Response
			be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback. Albemarle has a robust community engagement program, which included attendance at the Compact Community Meeting on April 6, 2024. During the scoping comment period, Albemarle held a community meeting at Mount Olive Baptist Church at which potential impacts on the Compact Community were discussed. Albemarle intends to continue to share information with the Compact Community as the Project advances, to provide a deeper understanding of the Project, the potential impacts, and how Albemarle plans to manage impacts throughout the life of the mine.
I- 3 -2	Demographics	Why don't Albemarle company have any minority representing this company?	Albemarle strives to build a diverse, equitable and inclusive workplace focused on safety, mutual respect, development and wellbeing. As Albemarle's workforce in Kings Mountain grows, we plan to maintain our commitment to diversity, equity, and inclusion throughout our recruitment process. Refer to https://www.albemarle.com/global/en/careers/diversity-equity-inclusion). As we develop the Kings Mountain Mine, we intend to develop diversity, equity, and inclusion targets in line with global commitments, with a focus on local employment.
I- 3 -3	Air Quality & Greenhouse Gases	What will happen to the dust and particles that will be released into the air in our community?	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. As potential impacts on air quality and the surrounding community are further evaluated through the ESIA, additional mitigation measures are planned to be developed to manage potential adverse impacts. The Scoping Report, Project Description (Chapter 2), states the Project's air pollutant emissions are expected to be below major source thresholds without air pollution control equipment. Albemarle anticipates obtaining a minor source permit from the North Carolina Department of Environmental Quality (NCDEQ). Particulate matter (dust) is planned to be controlled by baghouses that exceed state and federal requirements. Fugitive emissions (e.g., emissions from other operations that cannot be captured) are planned to be controlled using water sprays and employing other best management practices. The Project has only one significant combustion source (a natural gas-fired dryer for the spodumene concentrate product), which will not emit significant quantities of federally defined hazardous air pollutants or state defined toxic air pollutants. The findings of the impact assessment and proposed management measures are planned to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
I- 3 -4	Visuals and Aesthetics	Will there be a beautification project for our community once the Albemarle Co. leaves?	Albemarle is committed to developing the Project in an environmentally and socially responsible way and a requirement of the mine permitting process is to prepare a mine closure and reclamation plan. Further, the Initiative for Responsible Mining Assurance (IRMA) Standard requires Albemarle to engage in meaningful communication with affected communities to identify priorities for end-land use. Albemarle is engaging with the Kings Mountain community to gather input to inform closure and reclamation plans and priorities for land use once mining activity ceases. Plans are for the draft Reclamation and Closure Plan to be made available for public review, and Albemarle expects to revisit the plan throughout the life of the mine to confirm it remains aligned to community priorities.
I- 6 -1	Traffic and Transportation	Very concerned with Quarry Road neglect no one cares about our property	Quarry Road is outside of the Project boundary and has not been identified for potential use by the Project. Section 7.1, Table 7-1 of the Scoping Report provides a preliminary list of potential impacts, including transportation (and traffic) to be further assessed in the ESIA. A Traffic Impact Analysis is underway to evaluate the potential impacts of Project-associated traffic. As potential traffic impacts and other potential impacts on the community are further evaluated, mitigation measures can be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
I- 7 -1	Air Quality & Greenhouse Gases	My concern is the health breathing issue of fine silica drying out on the public road surface.	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. An initial inventory of Project emissions found emissions are not anticipated to exceed major source thresholds typically set for hazardous and non-hazardous air pollutants. Fugitive emissions (e.g., emissions from operations which cannot be captured) are anticipated to be controlled using best management practices for dust suppression. Dust control equipment is planned to be installed to meet the federal New Source Performance Standards (NSPS 40 CFR 60 Subpart OOO - Standard of Performance for Nonmetallic Mineral Processing Plants). Albemarle plans to adhere to operating, testing, monitoring, and reporting requirements of this regulation. Baghouses may be installed throughout the rock crushing circuit and mineral processing facility to comply with state and federal emission standards, if determined to be necessary. As potential impacts are further evaluated, mitigation measures can be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback, giving stakeholders an opportunity to deepen their understanding of the Project, the potential impacts from dust or fine silica, and how Albemarle plans to manage impacts throughout the life of the Mine.

Comment Code	Topic	Comment	Response
I- 7 -2	Impact Management & Mitigation	My comment is with a filtered tailings moisture content of 15% how will "tailings water" be contained to prevent leakage onto the public road surface?	Albemarle is committed to developing the Project in an environmentally and socially responsible way and intends to adopt an industry best practice known as "dry stacking" for its tailings storage facility (TSF). Some mines mix tailings with water to form a slurry which is then pumped to the TSF for storage which results in high water usage, water ponding on top of the TSF, and increased seepage of water through the facility which can potentially compromise its stability and impact the environment. Albemarle has chosen to design a dry stack TSF where the tailings are planned to pass through a filtration process to remove most of the water within the material until the consistency resembles something like moist beach sand. After transport to the TSF, the tailings are spread in layers to form a stockpile. The structural embankment is designed to be raised progressively as the tailing's layers are placed to ensure containment. Further information about the TSF and tailings management is planned to be included in the draft ESIA. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
I- 8 -1	Groundwater	Do you plan to purchase a bond to cover a possible well contamination or depletion?	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project, including potential impacts on surrounding water users. As potential impacts are further evaluated, mitigation can be developed to manage potential adverse impacts. Section 5.1.8 of the Scoping Report includes a preliminary residential water well inventory and the findings of baseline groundwater sampling. Albemarle currently monitors surface and groundwater with an extensive monitoring network and by performing quarterly water quality sampling and analysis and flow monitoring at select locations. This monitoring is planned to continue throughout the life of the proposed mine. Per the Project Description (Chapter 2), no city or groundwater is anticipated to be used for the mining process and the Project is expected to have a net positive water balance (total inflows to the water management system will exceed total outflows). If there is an impact on neighboring groundwater wells that is determined to be caused by the Project, Albemarle plans to seek resolution with affected parties, which may include providing alternative water sources or deepening wells. The findings of the impact assessment and proposed management measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
I- 9 -1	Project Description	How high will your rock piles be?	Based on the current design, the tailings storage facility (TSF) and each rock storage facility (RSF) will increase in size as mine operations proceed. RSF-A has the potential to reach a height of 385 feet above the surrounding elevation and is expected to have a final footprint of approximately 70 acres. RSF-X will potentially reach a height of 210 feet above the surrounding elevation, and its expected footprint is approximately 56 acres. Per the Project Description (Chapter 2), upon mine closure, RSF-A will be moved to the bottom of the final pit below the oxidized water level (the lower 280 feet of the pit). Albemarle plans to install ten 6-foot-high earthen berms where necessary to minimize visual impacts on the community. Potential visual impacts are planned to be further assessed in the ESIA and findings of the impact assessment and proposed management measures are expected to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback. This is intended to give stakeholders an opportunity to deepen their understanding of the Project, and the potential visual impacts.
I- 9 -2	Education & Workforce Development	How many employed? For how long? After the mine closes?	Albemarle anticipates the Project to require 965 workers during the peak of the 2 to 5-year construction phase. A total of 340 workers are anticipated to be needed throughout the 9-year mining operations phase. Additional indirect job opportunities in the mine supply chain are anticipated. Workforce needs through closure and reclamation are not yet determined, however, based on experience at other mines, workforce requirements are anticipated to decrease to less than 100 depending on the nature and scale of reclamation activities. Further information around employment and potential economic benefits are planned to be included in the draft ESIA. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
I- 9 -3	Groundwater	Water affected? How much used? Will it affect wells? Do you have bonds to guarantee water? Is there reclamation? A private water plant for those affected by water levels? Free water for those affected?	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project, including potential impacts on surrounding water users. The Project is designed to operate with a positive water balance, meaning the water supply used to support operations is planned to come from collected precipitation pumped and/or piped for storage in an onsite water storage basin. No city or groundwater is anticipated to be used for the mining process. The Project is intended to only require external use of groundwater

Comment Code	Topic	Comment	Response
			or municipal sources of water for drinking, fire protection and sanitary purposes (refer to “Surface and Groundwater Management” factsheet, albemarlekingsmountain.com). The estimated Project water consumption has not yet been determined. Section 5.1.8 of the Scoping Report includes a preliminary residential water well inventory and the findings of baseline groundwater sampling. Albemarle currently monitors surface and groundwater with an extensive monitoring network and by performing quarterly water quality sampling and analysis and flow monitoring at select locations. This monitoring is planned to continue throughout the life of the proposed mine. If there is an impact on neighboring groundwater wells that is determined to be caused by the Project, Albemarle plans to seek resolution with affected parties, which may include providing alternative water sources or deepening wells. As potential impacts on groundwater are further evaluated through the ESIA, mitigation measures can be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures will be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
I- 10 -1	Groundwater	Could the rocks that contain Lithium have dust that could be carried by rainwater or the air? Could this dust affect ponds, lakes, air and streams in the Kings Mountain area?	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. An initial inventory of Project emissions found emissions are not anticipated to exceed major source thresholds typically set for hazardous and non-hazardous air pollutants. Fugitive emissions (e.g., emissions from operations which cannot be captured) are planned to be controlled using best management practices for dust suppression. Dust control equipment is intended to be installed to meet the federal New Source Performance Standards (NSPS 40 CFR 60 Subpart OOO - Standard of Performance for Nonmetallic Mineral Processing Plants). Albemarle plans to adhere to operating, testing, monitoring, and reporting requirements of this regulation. Baghouses may be installed throughout the rock crushing circuit and mineral processing facility to comply with state and federal emission standards, if determined to be necessary. Albemarle currently monitors surface and groundwater with an extensive monitoring network and plans to continue this practice throughout the life of the proposed mine. As potential impacts are further evaluated, mitigation measures can be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are planned to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback, giving stakeholders an opportunity to deepen their understanding of the Project, the potential impacts, and how Albemarle plans to manage impacts throughout the life of the mine.
I- 11 -1	Traffic and Transportation	Questions about truck traveling to the TSF storage facility located in Archdale from the process? a. time of day/night of haulage? b. impact wear on public roads? c. number of truck loads per day?	A number of transportation options are being considered, based on the current design. During operations, a total of 111 daily trips are anticipated for tailings shipments from the Project to the tailings storage facility (TSF), 20 of which are projected to occur during peak weekday traffic periods (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). There are 48 daily trips anticipated for spodumene concentrate shipments, eight of which are projected to occur during peak weekday traffic periods (7 a.m. to 9 a.m. and 4 a.m. to 6 p.m.). Section 5.3.9.2 of the Scoping Report discusses road networks and traffic. Section 7.1, Table 7-1 of the Scoping Report provides a list of potential impacts, including transportation (and traffic), to be further assessed in the ESIA and Traffic Impact Analysis is underway to evaluate the potential impacts of Project-associated traffic. As potential traffic impacts and other potential impacts on the community are further evaluated, mitigation measures can be developed to manage potential adverse impacts including a Traffic Management Plan. The findings of the impact assessment and proposed management measures are planned to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
I- 11 -2	Air Quality & Greenhouse Gases	Environmental concerns for silica dust containment during haul over public roads	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. An initial inventory of Project emissions found emissions are not anticipated to exceed major source thresholds typically set for hazardous and non-hazardous air pollutants. Fugitive emissions (e.g., emissions from operations which cannot be captured) are planned to be controlled using best management practices for dust suppression. Dust control equipment is planned to be installed to meet the federal New Source Performance Standards (NSPS 40 CFR 60 Subpart OOO - Standard of Performance for Nonmetallic Mineral Processing Plants). Albemarle plans to adhere to operating, testing, monitoring, and reporting requirements of this regulation. Baghouses may be installed throughout the rock crushing circuit and mineral processing facility to comply with state and federal emission standards, if determined to be necessary. As potential impacts are further evaluated, mitigation measures can be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the

Comment Code	Topic	Comment	Response
			opportunity to review the report and provide feedback, giving stakeholders an opportunity to deepen their understanding of the Project, the potential impacts from dust or fine silica, and how Albemarle plans to manage impacts throughout the life of the mine.
I- 12 -1	Air Quality & Greenhouse Gases	5.1.3. Air Quality and Greenhouse Gases There is no mention in the Scoping Test Report of any processing dust collection or any dryer operation. I have read in the Air Quality news releases and a video on the Kings Mountain mineral process there are two different proposed treatments for the final spodumene product processing that are; 1. In the processing video, the spodumene concentration from flotation after filtration will be shipped by rail car as a dewatered filter cake. This has no impact on air quality as it stays moist. 2. In the literature highlighting air quality, attached, this states: The project is designed to have one fixed, nonemergency combustion source, a natural gas-fired dryer for the spodumene concentrate product, but the dryer is not anticipated to emit significant quantities of federally defined hazardous air pollutants (HAP) or state defined toxic air pollutants (TAP). A gas fired dryer for treating the spodumene filter cake will not only remove moisture but will impact air quality with the air exhaust from the dryer. The flotation reagent, fatty acid tall oil, coating the surface of the spodumene will likely volatize causing an opacity issue with the dryer stack air discharge and/or a dust collection media plugging issue. My question is I hope the process follows item 1 without any dryer? If a dryer is operated, then what is the mitigation to avoid the dryer stack failure to meet the opacity air quality standard?	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. An initial inventory of Project emissions found emissions are not anticipated to exceed major source thresholds typically set for hazardous and non-hazardous air pollutants. Albemarle is working with trusted safety and environmental partners to review dust controls to minimize community impacts and manage potential risks. Fugitive emissions (e.g., emissions from operations which cannot be captured) are planned to be controlled using water sprays and employing other best management practices for dust suppression. The dryer is part of the production process. Baghouses containing filters may be installed throughout the rock crushing circuit and mineral processing facility to comply with state and federal emission standards, if determined to be necessary. Dust control equipment is planned to be installed to meet the federal New Source Performance Standards (NSPS 40 CFR 60 Subpart OOO - Standard of Performance for Nonmetallic Mineral Processing Plants). Albemarle plans to adhere to the operating, testing, monitoring, and reporting requirements of this regulation.
I- 13 -1	Surface Water	2.1.3. Operations I did not find any information on any quantity for fresh water required for the operations. How much water will the operations consume? Operations such as mine dust control for roads, concentrator water consumption, etc. Will the operation require any water wells for supply? WSB-1;"*sedimentation pond and supply of makeup water (water that is lost during operations) to the mineral processing facility and other mining operations*." I would think the stakeholders would be interested or need to know the effect on the operations on water usage.	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project, including potential impacts on surrounding water users. The Project is designed to operate with a positive water balance, meaning the water supply used to support operations is planned to come from collected precipitation pumped and/or piped for storage in an onsite water storage basin. No city or groundwater is anticipated to be used for the mining process. The Project is anticipated to only require external use of groundwater or municipal sources of water for drinking, fire protection and sanitary purposes (refer to “Surface and Groundwater Management” factsheet, albemarlekingsmountain.com). The estimated Project water consumption has not yet been determined. Section 5.1.8 of the Scoping Report includes a preliminary residential water well inventory and the findings of baseline groundwater sampling. Albemarle currently monitors surface and groundwater with an extensive monitoring network and by performing quarterly water quality sampling and analysis and flow monitoring at select locations. This monitoring is planned to continue throughout the life of the proposed mine. As potential impacts on groundwater or surface water are further evaluated through the ESIA, mitigation measures can be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are planned to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
I- 13 -2	Responsible Mining & Sustainability	2.2.2. Tailings Storage Facility Frankly, I was surprised there was no mention of reducing the amount of tailings to reduce the area impact for the storage facility. I had thought the quartz and feldspar in the tailings would be utilized by other industrial users such as for glass or sanitary ware. Certainly, the ore deposit contains commercial quantities of mica that are easily separated to sell for further processing by others such as Imyers. The amount (tonnage) of tailings in my estimation will be 75% of the pegmatite ore that is processed through the concentrator. 5.1.5. Geology .... Has any mineralogical examination been done especially in areas of igneous intrusive hydrothermal altered areas of the Kings Mountain Mine deposit?	The overall purpose of the Project is to reduce the United States’s reliance on foreign lithium supply and to help the country achieve its sustainable clean energy goals. Any rock not containing lithium-bearing spodumene ore will be separated and stored at onsite rock storage facilities (RSFs) or repurposed for other uses. A portion of rock which can be used for construction aggregate production is anticipated to be transported to the Martin Marietta quarry adjacent to the mine. Once the pre-feasibility study is completed, Albemarle plans to have a better understanding of the life of the resource and how to proceed. Albemarle is committed to developing the Project in an environmentally and socially responsible way and intends to continue to explore feasible options to reduce waste and reuse mine byproducts.
T- 1 -1	Responsible Mining & Sustainability	Following the guidance of United Steel Workers, we support Albemarle’s seeking 100% IRMA rating for this project. As stewards of our environment, we also urge Albemarle to seek responsible mining in the most environmentally responsible	Albemarle is a leader in responsible mining practices and is committed to developing the Project in an environmentally and socially responsible way. Albemarle plans to align with the IRMA Standard for Responsible Mining, the most comprehensive set of globally recognized standards for responsible mining. Albemarle is preparing an ESIA to identify, assess and manage the

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		manner using the best available science and data and stakeholder-informed decision making in environmental impact reduction . . . In conclusion, the North Carolina Climate and Jobs Roundtable strongly supports Albemarle's commitment to achieving a 100% IRMA rating for the Kings Mountain Lithium mining project and urges the company to adhere to the highest standards of environmental and labor practices.	potential environmental and social impacts associated with the Project. Albemarle plans to implement environmental protection measures (EPMs), processes and/or strategies to avoid, minimize, or mitigate environmental impacts during the construction and operation of the Project, to protect resources such as air, water and biodiversity from potential or known environmental impacts. Section 7.1, Table 7-1 of the Scoping Report identifies potential impacts to be evaluated during the impact assessment phase of the ESIA. As potential impacts are further evaluated, mitigation measures can be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
T- 1 -2	Education & Workforce Development	We follow United Steel Workers' guidance in ensuring IRMA standards are met in regard to fair labor and work requirements. We urge Albemarle to include an obligation to "inform workers that they are free to join a workers' organization of their choosing without any negative consequences or retaliation from the company" and any other measures that protect workers' free and unencumbered association to join labor unions . . . Moreover, we also urge Albemarle to enable contractors, internal inspectors, and appropriate regulatory agencies to ensure environmental and workplace law compliance. . . We urge Albemarle to build apprenticeship programs and workforce development partnerships with local communities, colleges, and organizations to ensure local communities benefit from development . . . We advocate for the creation of high-quality union jobs and the inclusion of marginalized groups, including formerly incarcerated individuals, in workforce development. By integrating these principles, Albemarle can contribute to a regenerative economy that supports workers, protects the environment, and fosters a sustainable future for all North Carolinians	Albemarle is a leader in responsible mining practices and is committed to developing the Project in an environmentally and socially responsible way. Through our Human Rights Policy (https://www.albemarle.com/sites/default/files/gc_pdf//Human%20Rights.pdf), Albemarle is committed to respecting the right of its employees to be represented in order to pursue their legitimate interests. This includes the right to form and join, or not join, trade unions of their own choosing and the right to bargain collectively. This also includes the right of internal and/or external employee representatives to be acknowledged as partners in negotiations and consultations subject to local and national laws. As the Project proceeds, Albemarle intends to continue to develop and implement organizational policies and procedures that align with the requirements of the IRMA Standard. Albemarle is collaborating with Cleveland Community College (CCC) to develop workforce training programs to support regional industries and projects, including the proposed redevelopment of the Kings Mountain Mine. The programs are designed to support the growth of businesses and strengthen the pipeline of skilled and diverse workers for the region. These programs include CCC's Heavy Equipment Operator Program, apprenticeship programs being developed by Albemarle for several electrical and process operations roles, and customized training programs for the mine's mineral processing facility.
N- 1 -1	Responsible Mining & Sustainability	We admire Albemarle's commitment to adhering to all standards outlined by the Initiative for Responsible Mining Assurance (IRMA). Our recommendations are made with the structure and needs of IRMA in mind to improve education, working conditions, and accessibility on this project moving forward.	Albemarle is a leader in responsible mining practices and is committed to developing the mine in an environmentally and socially responsible way. We plan to align with the IRMA Standard for Responsible Mining, the most comprehensive set of globally recognized standards for responsible mining and appreciate your feedback.
N- 1 -2	Stakeholder Engagement	**Education and Outreach:** First, we would like to acknowledge the high standard that Albemarle is setting with their proactive and extensive outreach processes to communities and groups throughout the state. This outreach has undoubtedly taken time and effort, and we appreciate the work that has been done and will continue throughout this project.... We would love to see a more accurate summarization of the written documentation to make this report accessible for folks that may not have time to attend community meetings or in person events. Albemarle does have a non-technical summary that is more easily digestible for community members than a 100+ page scoping report, but we noticed key pieces of information found in the scoping report were not reflected in this overview document. For instance, information about the scope of water quality testing was not present in the summary document, and it was found over 50 pages into the full scoping report. This information is critical for folks concerned about their drinking water and should be immediately accessible in written documentation. We highly recommend that a more technical summary of materials is also available in this same format. One aspect of the scoping report we recommend expansion for is housing, specifically engagement of affordable housing groups. In the scoping report, Albemarle notes that most of the housing in the area is near maximum (>90%) capacity. While we know Albemarle is working with community colleges to train local workers on mining operations, some positions within an operating mine are highly technical. This often requires workers from out of state to temporarily relocate to fill those positions, putting strain on existing housing markets and driving up prices for local residents. We would like to see thoughtful planning around local development including affordable housing groups to improve long-term housing needs without excessive development of local lands. **Role of Citizen Science:** With any new industry, there will be community concerns, questions, and ideas on how the project will integrate itself into the local landscape. From the materials we have	Albemarle is continuously seeking ways to facilitate meaningful stakeholder participation. We recognize that the Scoping Report non-technical summary could not contain all the information important to stakeholders. To help provide a better understanding of some of the more complex components of reopening the Kings Mountain Mine and to address some of the frequently asked questions about the Project, Albemarle created 13 fact sheets to cover these subjects in-depth and address concerns. Available factsheets include: • About Kings Mountain • Air Quality • Blasting Operations • Commitment to Responsible Mining • Environmental and Social Impact Assessment • Environmental Protection Measures • Kings Mountain Mine Project Plan • Mine Closure Reclamation • Permitting Process • Pit Dewatering • Responsible Mining Relationships • Surface and Groundwater Management • Tailings Storage Facility Albemarle plans to update fact sheets as necessary and create new fact sheets as more information becomes available concerning areas of interest. During the ESIA phase, Albemarle plans to produce summaries in a similar format to the Scoping Report non-technical summary, but with more detailed information about the ESIA findings. Your comment related to additional information around housing is noted. Plans are to update the social baseline to provide more information on housing and accommodation. The ESIA will assess potential impacts from the Project on the cost and availability of housing in Kings Mountain and surrounding areas. The findings of the impact assessment and proposed management

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		previously seen along with the information provided to us at the Albemarle headquarters, it seems this project has a strong iterative cycle of community feedback and substantive changes to project plans.	measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
N- 1 -3	Community Health & Safety	However, we see an opportunity to further engage interested and affected community members and suggest consideration of citizen science in Albemarle's scoping operations. In the well water testing section of the scoping report, there were multiple notes of unconfirmed wells. It was not clear in the report whether these unconfirmed wells have been discussed with the community, but learning from landowners' lived experiences can be vital to understanding local history and land use. Also, equipping members of the community relying on well water with the knowledge and equipment to test their water as needed can improve monitoring data and can build community trust in Albemarle's intentions and actions. We recommend collaborating with a local environmental group to host a workshop for residents on the importance of water testing and walking interested folks through practical ways to test their water for safety. Relying on the validity and consistency of external information can be challenging, but we believe residents that are empowered to monitor their own water can be just as effective in preventing contamination as the internal tests Albemarle will be running.	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project, including potential impacts on surrounding water users. As potential impacts are further evaluated, mitigation measures can be developed to manage potential adverse impacts, and we welcome the opportunity to involve community members in ongoing water monitoring where feasible. Albemarle currently monitors surface and groundwater with an extensive monitoring network and by performing quarterly water quality sampling and analysis and flow monitoring at select locations. This monitoring is planned to continue throughout the life of the proposed mine. Thank you for your suggestion, Albemarle intends to continue to explore opportunities to collaborate with the local community as we develop our water management plans.
N- 1 -4	Environmental Risks and Impacts	**Scope of Contamination:** Considering the past uses of the site and the tests by which Albemarle plans to document historical and ongoing contamination, we would like to recommend two additional criteria for the scope of impacts. First, we understand how challenging it may be to separate the current and future environmental impacts on the KKM and TSF sites from the legacy impacts of lithium and mica mining. We recommend that to the extent possible, Albemarle document historical contamination alongside current operations to give the community an understanding of how long prior contamination may have been present and to collect data on how current contamination may exacerbate conditions. For environmental groups like mine, knowing the history and extent of a site's damage is critical for estimating cumulative impacts of pollution. Again, we know this is challenging to do considering the environmental information available, and we appreciate Albemarle's extensive scope already embedded into the project.	Section 1.2 of the Scoping Report documents the history of the Project site and its past uses. Section 5 summarizes the environmental and social setting, documenting the preliminary characterization of existing conditions for the physical, biological, and social resources in the Area of Influence (AoI). This includes data sets from the following data collection activities for physical resources: air quality monitoring for particulate matter (PM); meteorological data monitoring from an installed tower at the Kings Mountain Mine site; quarterly noise monitoring at 21 locations around the mine site; soil unit mapping at the mine site; surface water identification (including wetlands and waterbodies) and monitoring data; groundwater quality data; and geochemical characterization. These data sets may be utilized to establish baseline conditions in evaluating potential impacts and cumulative impacts. Once the scoping process is complete and priority resources and receptors have been identified and validated through the stakeholder engagement process and professional opinion and evaluation, Albemarle intends to thoroughly assess the potential significant impacts and plans to document the assessment in the ESIA. Section 7.1, Table 7-1 of the Scoping Report identifies potential impacts to be evaluated during the impact assessment phase of the ESIA. As potential impacts are further evaluated, mitigation measures can be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are planned to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
N- 1 -5	Groundwater	Regarding the scope of water quality testing, we have two clarifying questions from the scoping report. First, we noticed that water was tested for PFAS but there was no mention of what type(s) of PFAS were found, if any. We would also like to know whether PFOA was tested for and found. Other results of water quality indicators were mentioned in the report, so we want to ensure that the severity of PFAS contamination is well documented moving forward. Second, we would like to more clearly understand the physical parameters that Albemarle is using to monitor groundwater. Contamination in groundwater is incredibly difficult to stop and can have far-reaching impacts outside of the site zone. We would like to know how and where within the Area of Influence and the Indirect Area of Influence Albemarle plans to monitor groundwater	Albemarle voluntarily collected samples from the pit lake and identified relatively low concentrations of per- and polyfluoroalkyl substances (PFAS) in some of the results. PFAS are a group of synthetic chemicals that are persistent in the environment and do not break down easily; they are resistant to heat, oil, water, and grease. All data were submitted to NCDEQ. None exceeded any established regulatory standards. Albemarle did this as part of the process of obtaining the National Pollutant Discharge Elimination System (NPDES) permit from NCDEQ to dewater the pit lake. The highest reported value was 8.2 nanograms per liter (ng/L) for perfluorooctanoic acid (PFOA) and 5.2 ng/L for perfluorooctane sulfonate (PFOS). The corresponding health advisory levels are 0.004 and 0.02 ng/L, respectively. The corresponding maximum contaminant levels (MCLs) (as proposed) are each 4.0 ng/L, but please note that MCLs do not apply directly to the pit lake or other surface water or groundwater at the Project (instead, MCLs govern the quality of drinking water delivered to the public from community water systems). The existing open pit is a groundwater sink for the area, and Albemarle anticipates it remaining a groundwater sink for the duration of the Project and after the end of mining, until the pit fills from direct precipitation and minor groundwater inflows. The Kings Mountain site has an extensive groundwater monitoring network of 22 monitoring wells currently in place that are sampled and reviewed quarterly.
N- 1 -6	Education & Workforce Development	**Labor Relations and Supply Chain Considerations:** ...One of the critical requirements in the IRMA standards is related to fair labor and terms of work requirements. This includes an obligation by the mining company to "inform workers that they are free to join a workers' organization of their choosing without any negative consequences or retaliation from the company," as well as other related provisions. In the current draft of your ESIA Scoping report, however, there is no language to inform potential workers of this. We feel that the workers at this mine, or any mine, would likely be the first to encounter any	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. The purpose of an ESIA is to identify and assess the potential environmental and social impacts that could occur due to the various phases of the Project. Risks and potential impacts are planned to be evaluated based on their level of significance. The ESIA intends to assess risks and potential impacts from the site preparation, construction, operation, closure, and post-closure phases of the Project. The ESIA plans to include an assessment of potential impacts on worker health and safety, and worker rights, as well as management measures to protect workers and contractors. As the Project progresses, Albemarle intends to continue to develop

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		potential environmental harm to the broader community. And we feel that with union representation these workers will feel safer in reporting any such instances. We are hopeful you can address this in your future ESIA Report due out in October of this year. We also believe there should be procedures developed and implemented that outline steps to be taken by workers, contractors, internal inspectors, or others, to inform Albemarle and any appropriate regulatory body of unwanted events, unsafe working conditions, or environmental hazards or damage. Workers should have the ability to immediately stop work if conditions pose an imminent and serious danger to the health or safety of themselves or others, or serious risk of harm to the environment. These measures are important, not only for the health and safety of the workers at the mine, but also to protect the community of Kings Mountain and the surrounding area from any potential environmental hazards. In addition, workers and community members should have whistleblower protections in place to ensure that any risks or concerns regarding the unlawful or unethical activity that may come to light at any time during the process are able to be freely reported without fear of repercussions.	and implement a robust health and safety management system as well as additional policies and procedures to align with the IRMA Standard. The findings of the impact assessment and proposed management measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
N- 1 -7	Economy & Industry (incl. employment)	Next, we strongly support long-term economic sustainability for the entirety of North Carolina. We know that all extractive industries have a project lifespan, meaning this mine will not be indefinite and benefits to the region will end upon closure and reclamation of the mine site. The scoping report documents the history of King's Mountain as a textile manufacturing town and notes the economy slowed when these industries left. Mining operations have a tendency to follow this path as well, since this is an inherent quality of boom-bust industries. We would like to understand longer term plans for maintaining economic well-being, including but not limited to connecting workers with future employment and discussions with local government about the long-term implications to tax base changes a boom-bust project may have. There is undoubtedly a fine line between improving the community and causing reliance on a singular industry like King's Mountain has already experienced. Finally, we would like for the scoping report to include research and projections of Albemarle's potential role in a domestic supply chain, specifically in North Carolina. We are confident that Albemarle has entered into contracts with companies looking to procure lithium. Use of lithium nationwide will certainly skyrocket, and we would like to make sure at least a portion of the materials mined in the state will either stay here for consumer use or will ultimately return here. The Southeast is rapidly expanding in its capacity for battery and electric vehicle production, and that begins with the raw materials coming from sites like Albemarle's. We strongly recommend that North Carolina's residents, businesses, and communities are prioritized throughout this supply chain to the extent Albemarle can control. We look forward to observing this work and supporting it with organizational resources when applicable.	Albemarle is committed to the economic growth of Kings Mountain and is preparing an economic analysis as part of the ESIA and broader Project planning activities to manage opportunities and risks. The ESIA is intended to provide an assessment of potential positive and negative impacts on the local economy, as well as proposed management measures to mitigate negative impacts and enhance benefits. Albemarle's potential role in a domestic supply chain is outside the scope of this ESIA; however, plans are to include in the ESIA an estimate of the potential number of indirect and induced jobs that may be created by the Project and its supply chain. The findings of the impact assessment and proposed management measures are planned to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
N- 1 -8	Stakeholder Engagement	Environmental Justice and Indigenous Engagement: An additional point of clarification we would like to see in this scoping report is the responses from environmental justice (EJ) communities and Indigenous stakeholders. Throughout the report, Indigenous lands and tribes were mentioned and reportedly engaged with, but it was not clear to us what that engagement looked like. Engaging with tribes that are both State-recognized and not yet recognized is critical to honor their influence on the historical landscape and to equitably include Indigenous stakeholders. We recommend a more thorough outline of this engagement and would like to learn about challenges Albemarle has encountered with engaging BIPOC communities. On environmental justice communities, we are currently unsure if there is a confirmed environmental justice community in the Areas of Influence Albemarle is operating within. We recommend a clear determination of this and would like to learn more about the process by which Albemarle is engaging these groups. For instance, page 71 of	Albemarle has a robust community engagement program designed to provide opportunities for stakeholders and rightsholders to facilitate ongoing, meaningful stakeholder participation. Table 6-3 in the Scoping Report lists the community engagement events hosted by Albemarle at the publishing of the Draft ESIA report\. Additionally, Albemarle continually conducts one-on-one and small group meetings and mine tours with community members. As part of the ESIA scoping comment period, Albemarle conducted meetings in areas identified as potential environmental justice (EJ) communities to share Project information and answer questions from stakeholders. A summary of meetings and comments received can be found in Appendix C of the Final Scoping Report. Specific measures to remove barriers to engagement include: • Hosting small neighborhood meetings at varying times and at locations closer to vulnerable stakeholder group communities. • Placing printed materials at central locations. • Offering Spanish translations of the Scoping Report non-technical summary and ESIA fact sheet. • Communication through traditional and social media.

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		the scoping report mentions outreach was done with the NC Department of Environmental Quality. While we are thankful the State has partnered with Albemarle on this engagement, we also know that BIPOC, underserved, and/or EJ communities hold distrust towards governmental entities and large corporations. This distrust stems from systemic racism and is difficult to resolve. We recommend partnering with community-based organizations and service providers in the area to connect with EJ groups in addition to governmental outreach.	• Providing opportunities to submit written comments electronically via the Albemarle Kings Mountain website, or through printed comment cards. • Offering an open-door policy at the Albemarle Project Center, where at any time, stakeholders can talk to a Project representative and/or provide verbal or written comment. • Ongoing identification of Native American Tribes that may have an interest in the Project or a connection to the Project area, with the intention to establish protocols for engagement.
N- 1 -9	Project Description	**Accessibility and Terminology:** As a small note on accessibility, some of the text in this document is coded green to note a potential significant impact. Green is a color commonly associated with positive impacts, but we note that many resources will actually be negatively affected. For instance, there is a strong potential for groundwater contamination noted in this section, but folks skimming the document may see the color green and conclude this impact is positive. Green is also not visible by colorblind individuals. While changing the text color is a small change, we believe consistent and honest messaging is critical for a large project like this. Finally, from the perspective of an environmental group like NCLCV, “sustainable” is not a term we would associate with an extractive industry like mining. We view responsible production of minerals required for the clean energy transition as a vital operation, but we urge caution and discretion of the use of “sustainable” in association with mining as an industry. We recommend consistent use of the term “responsible” in alignment with the intentions of IRMA.	This comment is taken under advisement. Albemarle plans to discuss the color coding for accessibility and clarity of meaning with our partners to identify other options. We intend to consider language around sustainability going forward.
N- 2 -1	Stakeholder Engagement	1. While Table 6-2: Preliminary List of Stakeholders Identified includes: - Potential Vulnerable Groups, which includes potential EJ communities (disadvantaged and underserved communities, low-income households, and people of color) and - Potential shared-value partners, such as business, civic, education, and environmental organizations, state trade associations, labor and other groups and individuals who can realize benefits from the Project. There is no evidence of any outreach to unions, environmental organizations or EJ groups with a presence in North Carolina or in the King’s Mountain region. Getting substantive input from these stakeholders is crucial. .... - 1.2.2.1 Meaningful community engagement with a broad spectrum of stakeholders representing a diversity in genders, ages, ethnicities, and members of any potentially vulnerable groups; on an ongoing basis with at least one permanent stakeholder engagement mechanism. - 1.2.2.3 Efforts are made by the entity to confirm whether or not such people represent the views and interests of diverse affected community members and can be relied upon to reliably communicate relevant information back to the community, and from the community to the entity - 1.2.3.1 Where barriers to participation or capacity gaps are identified, collaboration with relevant stakeholders to agree on strategies to facilitate more effective engagement that include appropriate funding, training, or other forms of assistance.	Albemarle has a robust community engagement program designed to provide opportunities for stakeholders and rightsholders to facilitate ongoing, meaningful stakeholder participation. The Scoping Report does not include a comprehensive stakeholder database and does not cover the full extent of Albemarle’s stakeholder engagement activities. Table 6-3 lists the community engagement events hosted by Albemarle at the publishing of this report. Table 6-5 highlights planned engagement for the remainder of 2024. Additionally, Albemarle continually conducts one-on-one, small group meetings and mine tours with community members. Section 6.4.3.2 states that vulnerable groups (including potential EJ communities) are intended to be provided with information about the Project and the opportunity to provide feedback to Albemarle. As part of the ESIA scoping comment period, Albemarle conducted meetings in areas identified as potential EJ communities to share Project information and answer questions from stakeholders. A summary of meetings, and comments received can be found in the Final Scoping Report Appendix C. Specific measures to remove barriers to engagement included: • Hosting small neighborhood meetings at varying times and at locations closer to vulnerable stakeholder group communities. • Placing printed materials at central locations. • Offering Spanish translations of the Scoping Report non-technical summary and ESIA fact sheet. • Communication through traditional and social media. • Providing opportunity to submit written comments electronically via the Albemarle Kings Mountain website, or through printed comment cards. • Offering an open-door policy at the Albemarle Project Center, where at any time, stakeholders can talk to a Project representative and/or provide verbal or written comment. • Ongoing identification of Native American Tribes that may have an interest in the Project or a connection to the Project area, with the intention to establish protocols for engagement.
N- 2 -2	Education & Workforce Development	2. While the report documents the unemployment, low income and “stark differences in per capita income by race” in the area of the mine, the employment opportunities do not yet include a focus on training and employing local residents, especially local residents of color. Working with local community colleges or registered apprenticeship programs to skill up currently un- or underemployed residents of Gaston and Cleveland County can be an antidote to the identified problem of “an influx of imported labor.” 3. The report notes that the project entails potential occupational health and safety risks on the Project workforce, as well as potential impacts associated with working conditions, accommodations (in the instance of onsite accommodations), and handling of	Albemarle is a leader in responsible mining practices and is committed to developing the Project in an environmentally and socially responsible way. Albemarle is collaborating with Cleveland Community College (CCC) to develop workforce training programs to support regional industries and projects, including the proposed redevelopment of the Kings Mountain Mine. The programs are designed to support the growth of businesses and strengthen the pipeline of skilled and diverse workers for the region. These programs include CCC's Heavy Equipment Operator Program, apprenticeship programs being developed by Albemarle for several electrical and process operations roles, and customized training programs for the mine's mineral processing facility. The ESIA is intended to include an assessment of potential impacts on worker health and safety and worker rights, as well as management measures to protect workers and contractors. As the Project progresses, Albemarle plans to continue to develop

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		hazardous materials. We suggest that a unionized workforce is the best way to reduce occupational health and safety risks. .... - 3.1.1. Respect for Freedom of Association and Collective Bargaining including Informing workers of their right to freedom of association under national labor and employment law and that they are free to join (or refrain from joining) a workers' organization of their choosing without any negative consequences or retaliation from the entity. - 3.1.2. Non-Discrimination and Equal Opportunity with equal opportunity, fair treatment, equal pay for equal work, and non-discrimination, and entity targets for the employment of local residents, Indigenous Peoples, or individuals who have been historically disadvantaged. - 3.1.9.1. When workers are members of a workers' organization that has negotiated a collective bargaining agreement (CBA), wages are paid according to the terms of the agreement. If any workers are not covered by a CBA, then: - a. Entities determine and demonstrate what constitutes a living wage using a credible methodology; and - b. Wages paid to workers not part of a CBA meet or exceed the higher of applicable legal minimum wage(s), or the living wage. - 3.1.9.3. Unless otherwise provided for in a CBA, the entity provides all workers the following benefits, at a minimum: - a. An annual paid holiday of at least three working weeks per year, after achieving one year of service; - b. A paid gender-neutral parental leave period of no less than 18 weeks for the primary caregiver, and one week for secondary caregiver, at full pay; and - c. Paid medical leave with a sufficient wage replacement rate to prevent poverty and ensure essential needs can be met during leave-taking. - 3.2.1.1. A health and safety policy (or equivalent) is in place and implemented at the project/operation that: - a. Includes commitments to prioritize the health and safety of workers over production, and to demonstrate continuing improvement in health and safety performance over time, with the objective of achieving zero harm in the workplace; - b. Is approved at the most senior level of the operation; - c. Is communicated to all employees, and relevant contractors; and - d. Is publicly available. - 3.2.1.4. A joint health and safety committee (or its equivalent) that includes workers' health and safety representatives and entity management is implemented to facilitate dialogue and worker participation in matters relating to occupational health and safety.	and implement a robust health and safety management system as well as additional policies and procedures to align with the IRMA Standard. Note that not all of these are planned to be included in the Draft ESIA Report. The findings of the impact assessment and proposed management measures are planned to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
N- 2 -3	Responsible Mining & Sustainability	4. The report's "Potential Impacts and Risks to Assess in the ESIA" can be substantially addressed by strong adherence to the principles in the IRMA Standard for Responsible Mining and Mineral Processing. We respect Albemarle's stated commitment to the IRMA standard and note the 14 IRMA provisions (taken from IRMA v.2.0 draft version 1,0-October 2023) that offer solutions to the potential problems identified in the scoping report:	Albemarle is a leader in responsible mining practices and is committed to developing the Project in an environmentally and socially responsible way. Albemarle plans to align with the IRMA Standard for Responsible Mining, the most comprehensive set of globally recognized standards for responsible mining. Albemarle is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. Albemarle intends to implement environmental protection measures (EPMs), processes and/or strategies to avoid, minimize, or mitigate environmental impacts during the construction and operation of the Project, to protect resources such as air, water, and biodiversity from potential or known environmental impacts. Section 7.1, Table 7-1 of the Scoping Report identifies potential impacts to be evaluated during the impact assessment phase of the ESIA. As potential impacts are further evaluated, mitigation measures are intended to be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures will be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
N- 2 -4	Social Risks and Impacts	- 2.1.7.1. A relevant management plan or plans are developed and implemented to address all significant environmental and social impacts identified during the ESIA process. (The US Department of Energy encourages these plans to be in the form of Community Benefit, Project Labor and Collective Bargaining Agreements).	Albemarle is a leader in responsible mining practices and is committed to developing the Project in an environmentally and socially responsible way. Albemarle plans to align with the IRMA Standard for Responsible Mining, the most comprehensive set of globally recognized standards for responsible mining. Albemarle is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. The findings of the impact assessment and proposed management measures are planned to be included in the Draft ESIA Report. The draft ESIA will also include an Environmental and Social Management Framework, under which more detailed management plans are intended to be developed as the Project progresses. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.

Comment Code	Topic	Comment	Response
N- 2 -5	Economy & Industry (incl. employment)	- 2.3.3.5. The entity develops and implements a procurement policy (or equivalent) that: - a. Sets out minimum environmental, labor, human rights, and social standards for suppliers of goods and services to the project/operation; - b. Includes targets for sourcing from and supporting local suppliers and businesses; and - c. Is communicated to suppliers.	Albemarle is a leader in responsible mining practices and is committed to developing the Project in an environmentally and socially responsible way. Albemarle is focused on providing opportunities to smaller and more diverse companies based within a 100-mile radius of Kings Mountain. In diversifying the supply chain, a broader pool of talent and ideas is accessed, driving innovation, creativity and competitiveness while stimulating local economic growth, creating jobs and supporting entrepreneurship. Albemarle is aligning to the IRMA Standard for Responsible Mining, including establishment of policies and procedures governing environmental, labor, human rights and social standards with which the organization and its business partners are expected to comply.
N- 2 -6	Environmental Risks and Impacts	- 4.1.2.1. For each chemical or material with hazardous properties or characteristics the entity: - a. Investigates and implements measures to eliminate the use of the hazardous material; - b. Investigates and implements measures to substitute with a material that poses lower physical, health and/or environmental risks, if elimination is not possible; and - c. If elimination or substitution are not possible, carries out a risk assessment to determine the level of risk that the material poses to human health or safety, the environment or communities	Albemarle is a leader in responsible mining practices and is committed to developing the Project in an environmentally and socially responsible way. Albemarle is aligning to the IRMA Standard for Responsible Mining and intends to operate in compliance with the Mine Safety & Health Administration's standards. This includes implementing policies and procedures for handling chemicals and/or potentially hazardous materials in a safe, responsible manner and in compliance with local, state, and federal regulations. The ESIA is intended to include an assessment of potential impacts on worker health and safety and worker rights, as well as management measures to protect workers and contractors. As the Project progresses, Albemarle plans to continue to develop and implement a robust health and safety management system as well as additional policies and procedures to align with the IRMA Standard.
N- 2 -7	Air Quality & Greenhouse Gases	- 4.3.4.1. If significant potential impacts on air quality are identified, an air quality management plan is in place and implemented that: - a. Is developed by competent professionals; - b. Outlines the mitigation measures to avoid and, where that is not possible, minimize adverse impacts on human health and the environment (including impacts to land, soil, water, and vegetation). The measures in the plan are specific, measurable, linked to clearly defined outcomes, relevant, and time bound. - 4.1.1.1. There is a policy that includes targets for reducing direct and indirect greenhouse gas emissions, reducing energy consumption, and increasing the proportion of energy consumed from renewable sources.	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. An initial inventory of Project emissions found that emissions are not anticipated to exceed major source thresholds typically set for hazardous and non-hazardous air pollutants. Fugitive emissions (e.g., emissions from operations which cannot be captured) are planned to be controlled using best management practices for dust suppression. Dust control equipment is intended to be installed to meet the federal New Source Performance Standards (NSPS 40 CFR 60 Subpart OOO - Standard of Performance for Nonmetallic Mineral Processing Plants). Albemarle plans to adhere to the operating, testing, monitoring, and reporting requirements of this regulation. Baghouses may be installed throughout the rock crushing circuit and mineral processing facility to comply with state and federal emission standards, if determined to be necessary. As potential impacts are further evaluated, mitigation measures can be developed to manage potential adverse impacts. The findings of the impact assessment and proposed management measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback. This gives stakeholders an opportunity to deepen their understanding of the Project, the potential impacts from dust or fine silica, and how Albemarle plans to manage impacts throughout the life of the mine.
B- 1 -1	Education & Workforce Development	One of the critical requirements in the IRMA standards is related to fair labor and terms of work requirements. This includes an obligation by the mining company to "inform workers that they are free to join a workers' organization of their choosing without any negative consequences or retaliation from the company," as well as other related provisions. The current draft of your ESIA Scoping report, however, does not include any language to inform potential workers of this. We are hopeful you can address this in your future ESIA Report due out in October of this year. We also believe there should be procedures developed and implemented that outline steps to be taken by workers, contractors, internal inspectors, or others, to inform Albemarle and any appropriate regulatory body of unwanted events or unsafe working conditions. Workers should have the ability to immediately stop work if conditions pose an imminent and serious danger to the health or safety of themselves or others, or serious risk of harm to the environment. .... In addition, workers and community members should have whistleblower protections in place to ensure that any risks or concerns regarding the unlawful or unethical activity that may come to light at any time during the process are able to be freely reported without fear of repercussions.	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. The purpose of an ESIA is to identify and assess the potential environmental and social impacts that could occur due to the various phases of the Project. Risks and potential impacts are planned to be evaluated based on their level of significance. The purpose of the ESIA is to assess risks and potential impacts from the site preparation, construction, operation, closure, and post-closure phases of the Project. The ESIA intends to include an assessment of potential impacts on worker health and safety and worker rights, as well as management measures to protect workers and contractors. As the Project progresses, Albemarle plans to continue to develop and implement a robust health and safety management system as well as additional policies and procedures to align with the IRMA Standard. The findings of the impact assessment and proposed management measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.
B- 1 -2	Responsible Mining & Sustainability	We have been impressed by the process Albemarle has taken to inform the community as they reopen the Kings Mountain lithium mine. We are also thankful to see that Albemarle is seeking a 100% IRMA Rating for this mine. As you may know, the United Steelworkers is a board member of IRMA and is proud to have worked with the other members of IRMA to develop these standards. We hope our comments here help polish the ESIA Scoping Report for the better.	Thank you for taking the time to provide comment on the Draft Scoping Report for the Kings Mountain Mine. We have provided responses to your comments and look forward continued engagement throughout the ESIA process.

Comment Code	Topic	Comment	Response
B- 2 -1	Community Health & Safety	One of the critical requirements in the IRMA standards is related to fair labor and terms of work requirements. This includes an obligation by the mining company to "inform workers that they are free to join a workers' organization of their choosing without any negative consequences or retaliation from the company," as well as other related provisions. The current draft of your ESIA Scoping report, however, does not include any language to inform potential workers of this. We are hopeful you can address this in your future ESIA Report due out in October of this year. We also believe there should be procedures developed and implemented that outline steps to be taken by workers, contractors, internal inspectors, or others, to inform Albemarle and any appropriate regulatory body of unwanted events or unsafe working conditions. Workers should have the ability to immediately stop work if conditions pose an imminent and serious danger to the health or safety of themselves or others, or serious risk of harm to the environment. These measures are important, not only for the health and safety of the workers at the mine, but also to protect the community of Kings Mountain and the surrounding area from any potential environmental hazards. In addition, workers and community members should have whistleblower protections in place to ensure that any risks or concerns regarding the unlawful or unethical activity that may come to light at any time during the process are able to be freely reported without fear of repercussions.	Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess and manage the potential environmental and social impacts associated with the Project. The purpose of an ESIA is to identify and assess the potential environmental and social impacts that could occur due to the various phases of the Project. Risks and potential impacts are intended to be evaluated based on their level of significance. The ESIA will assess risks and potential impacts from the site preparation, construction, operation, closure, and post-closure phases of the Project. The ESIA is planned to include an assessment of potential impacts on worker health and safety, and worker rights, as well as management measures to protect workers and contractors. As the Project progresses, Albemarle plans to continue to develop and implement a robust health and safety management system as well as additional policies and procedures to align with the IRMA Standard. The findings of the impact assessment and proposed management measures are intended to be included in the Draft ESIA Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.

Albemarle = Albemarle U.S., Inc.; AoI = Area of Influence; CCC = Cleveland Community College; CFR = Code of Federal Regulations; EJ = environmental justice; EPM = environmental protection measures; ESIA = Environmental and Social Impact Assessment; IRMA = Initiative for Responsible Mining Assurance; MCL = maximum contaminant level; NCDEQ = North Carolina Department of Environmental Quality; ng/L = nanograms per liter; NSPS = New Source Performance Standard; PFAS = per- and polyfluoroalkyl substances; PFOA = perfluorooctanoic acid; PFOS = perfluorooctane sulfonate; PM = particulate matter; Project = Kings Mountain Mine Project; RSF = rock storage facility; Scoping Report = ESIA Scoping Report; TSF = tailings storage facility; U.S. = United States

APPENDIX B FREQUENTLY ASKED QUESTIONS

At each community meeting, Albemarle U.S., Inc., a wholly owned subsidiary of Albemarle Corporation (Albemarle), facilitated a question-and-answer (Q&A) session and responded to questions in real time based on information available at the time of the engagement. Albemarle assumes no obligation to provide any revisions to any forward-looking statements should circumstances change, except as otherwise required by securities and other applicable laws.

Table B1 is a summary of questions that were raised frequently by stakeholders throughout the Scoping Phase engagement, captured at the open house, and during the five community meetings. Many of the comments captured below may be further addressed in the Draft Environmental and Social Impact (ESIA) Report. Albemarle anticipates sharing the Draft ESIA Report in 2025; a 60-day comment period is planned so that stakeholders have the opportunity to review the report and provide feedback.

Table B1*: Summary of Questions Heard During Public Meetings

*Note: Some of the questions and comments recorded have been combined and/or paraphrased to achieve greater clarity and eliminate duplication.

Project Description	Response
Are you currently mining?	No. Albemarle cannot begin mining until all permit approvals have been obtained. Albemarle anticipates that the permit process for the proposed Kings Mountain Mine could take approximately 2 years from permit submittal to final approval of the mine permit application. This process is expected to include extensive agency and public stakeholder review and comment. Albemarle anticipates submitting most permits by the end of 2025.
Are you doing open pit mining or underground?	Albemarle is seeking approval to resume open-pit mining.
What is the footprint of the mine?	The proposed Project includes approximately 1,200 acres of land. Albemarle plans to expand the existing pit on Albemarle property. The existing mine pit is designed to extend 1,300 feet to the southwest and be deepened to 800 feet. The total size of the pit is expected to be 3,300 feet long, 1,800 feet wide and 800 feet deep.
What will the bridge over I-85 be used for? Will it be public?	Once the material is blasted in the mine pit, the ore is loaded into haul trucks for transfer to a stockpile called the run-of-mine (ROM) pad located on the west side of Interstate 85 (I-85). From the pad, loaders feed the material into the primary crusher and then the material is transported via conveyors (bridge) across I-85 to the mineral processing facility. The new bridge is intended to help minimize vehicle traffic. The intent is for the bridge to be a private, however, long- term (post-mine use) it has the potential for becoming a public bridge.
You said that you were taking the resource offsite, where to?	Albemarle expects to ship the spodumene concentrate to an offsite conversion facility via truck or rail. Albemarle anticipates determining the location closer to operations.
What will happen to the waste rock or non-ore bearing rock?	Rock that does not have the desired mineral content can be used onsite as infill, for roads, or be placed in rock storage facilities. As part of an agreement with Martin Marietta Materials, Albemarle plans to deliver some of the non-ore bearing material via truck to Martin

	Marietta's Kings Mountain Quarry, which is adjacent to the mine's property and has been in production for decades. Albemarle intends to dry stack tailings at its Archdale Tailings Storage Facility that is located about 3 miles southwest of the Kings Mountain Mineral Processing Facility. In our effort to manage resources at the mining facility as responsibly as possible, we are actively exploring different options for the tailings in different industries such as ceramics, cement, decorative sand, and options for rock material for other uses (e.g., mica in commercial products, road aggregate, and silica in glass/ ceramics).
How do you separate the lithium from the rock?	Once mined, the ore is transported to the mineral processing facility to separate the valuable lithium minerals (spodumene) from the non-valuable minerals. This includes crushing, sorting, and separating stages to obtain coarse spodumene concentrate and grinding, floatation, and filtration stages to achieve fine spodumene concentrate.
Is Albemarle going to demolish property purchased? What is timeline for demolition?	Albemarle may not demolish all structures on the properties purchased, some structures may be refurbished to suit Project needs; location, building type, condition, and safety of the property are some of the determining factors. Albemarle has, however, heard safety concerns from stakeholders about some of the unoccupied homes and is in the process of prioritizing some properties for demolition. Albemarle has developed a draft Demolition Plan and intends to work with regulatory agencies and contractors to follow all applicable legislation, safety policies, and procedures during demolition. For example, Regulated Building Material Surveys (RBMS) will be performed for each structure scheduled for demolition to identify materials which are regulated and therefore require special removal techniques and/or are required to be disposed of at special waste disposal locations permitted to accept the waste. Demolition work could start in early 2025.
Is this Albemarle's biggest project in the U.S.?	The Kings Mountain site has one of the world's richest lithium deposits, representing an essential part of the global clean energy transformation. Albemarle's Kings Mountain location not only houses a domestic lithium resource, it also includes Albemarle's 5,500-ton conversion facility that produces battery-grade lithium hydroxide for customers around the world. The proposed Kings Mountain Mine has the potential to produce and process nearly 3.1 million metric tons of lithium spodumene ore yearly. Albemarle anticipates transporting 420,000 tons/year of spodumene concentrate by truck and/or rail to an offsite conversion plant thus making the Kings Mountain Mine Albemarle's largest producing lithium resource in the United States at this time.
Land Access & Acquisition	**Response**
Albemarle is buying a lot of land, what are you going to do with all the property/land? Will you be expanding the mine?	Albemarle acquired additional land to support the redevelopment of the Kings Mountain Mine. Albemarle's two mine permits currently represent a combined 771.7 acres within the Kings Mountain Tract. Albemarle acquired an additional 311.78 acres of property for the Project creating a total area of 1,083.43 acres. In addition, Albemarle

	acquired the 143.8-acre Archdale tract, 3 miles southwest of the mine site. Parcels were acquired to provide potential options for the development of the Project plan for the mine including options for surface features and facilities such as rock storage areas, processing plants, site roads, and to provide suitable buffers around the planned mine's footprint. The existing mine pit is designed to extend 1,300 feet to the southwest and be deepened to 800 feet. The total size of the pit is expected to be 3,300 feet long, 1,800 feet wide, and 800 feet deep.
Will Albemarle be purchasing more land/property?	Future parcels may be considered for purchase as Albemarle continues to refine their understanding of the resource and progress through further stages of development.
Does Albemarle own the land for buffers, or did you purchase?	Some of these parcels Albemarle has owned for several years and others are more recent acquisitions. Parcels were acquired to provide potential options for the development of the mine including options for surface features, facilities, and tailings storage, and to provide suitable buffers around the planned mine's footprint to minimize potential noise and light impacts.
Water Concerns	**Response**
How will you be managing the water to make sure it's safe?	Albemarle has conducted detailed water studies and modeling of the area surrounding the site to predict flows within the Project area for all mine phases. These studies inform the ESIA and water management system. The objectives of the water management system include minimizing potential impacts on the downstream environment by managing water quality and quantity within the Project footprint. The management system accounts for severe storm events. The principal philosophy of the Kings Mountain Water Management Plan is to separate non-contact water from water that has come into contact with mining activities. Non-contact water is water that has only encountered vegetated or newly constructed native soil surfaces and can be released to the environment with appropriate sediment controls. Examples of best management practices would include silt fencing and sediment retention ponds for stormwater runoff. As designed, non-contact water will be collected in separate surface water diversion structures, managed with appropriate erosion and sediment controls where required, and released to existing drainages at or near the predevelopment discharge points. Contact water is intended to be collected and conveyed in dedicated surface water diversion structures, which will convey water to Water Storage Basin (WSB)-1. WSB-1 is designed to be the Project's centralized contact water collection point. In addition, the Project requires a Section 401 of the Clean Water Act Water Quality Certification and the discharge of water from the site is required to comply with National Pollutant Discharge Elimination System (NPDES) Permit requirements. There are no community wells within 500 feet of the proposed mine pit excavation. Albemarle currently monitors surface and groundwater with an extensive monitoring network and intends to continue that practice throughout the proposed mine's life.

	If the potential for groundwater contamination is identified through studies, Albemarle intends to develop avoidance, minimization, and mitigation measures to manage potential impacts.
What about water scarcity? Will this affect the amount of water available to the community?	No city or groundwater is expected to be used for mining operations and the Project is expected to have a net positive water balance (total inflows to the water management system are expected to exceed total outflows). It is anticipated that water required for processing will be sourced from non-contact runoff and precipitation, then contact sources such as pit dewatering, seepage/runoff from collection sumps, and unused treated potentially acid generating contact water from the treatment plant. As such, it is anticipated that no active extraction of groundwater is needed in processing. It is anticipated that the Project will only require groundwater or municipal sources of water for drinking, fire protection, and sanitary purposes.
Will the mine water usage impact wildlife?	Based on completed studies, some common aquatic organisms may be impacted by Project activities, including during mine pit dewatering, water management in Kings Creek, and from temporary impacts on water quality from sedimentation during construction. This will be further described in the EISA report. No groundwater is expected to be used for mining operations and the Project is expected to have a net positive water balance (total inflows to the water management system are expected to exceed total outflows). It is anticipated that water required for mineral processing is sourced from non-contact runoff and precipitation, then contact sources such as pit dewatering, seepage/runoff from collection sumps, and unused treated potentially acid generating contact water from the treatment plant. As such, the Project's water use is not expected to affect water sources accessed by wildlife. Any water discharged from the Project site will be required to meet state and federal requirements under the Clean Water Act Water Quality Certification and National Pollutant Discharge Elimination System (NPDES) Permit requirements. As potential impacts are further evaluated through the ESIA, mitigation measures will be developed to manage potential adverse impacts.
Where did the water in the pit come from? How long will pit dewatering take? Has dewatering started?	The Kings Mountain Mine's open pit has accumulated primarily rainwater over the last several decades since prior mining operations ceased in the 1990s. To continue to conduct additional prefeasibility studies and ultimately perform mining operations, the accumulated water must be removed. Pit dewatering began in April 2024, and Albemarle expects the process to take over 18 months to complete. Albemarle is treating and discharging water under the limits of a state issued National Pollutant Discharge Elimination System (NPDES) permit which is required to protect downstream water resources. Albemarle is discharging the water at a rate that is compliant with standards to preserve the integrity of Kings Creek and the river basin.
Where will the water from the pit be discharged? Will dewatering affecting the water quality in the stream? Will it impact the community?	Albemarle is treating and discharging water under the limits of a state issued National Pollutant Discharge Elimination System (NPDES) permit which is required to protect downstream water resources. Treating the pit water requires a multi-step process to ensure the discharged water meets regulatory standards. Water is conveyed by electrical pumps from the pit to a water treatment plant where the

	water is filtered to remove sediments and treated to remove potential contaminants. Lastly, the water is treated by ultrafiltration so that the concentration of water quality parameters is below permitted limits and then transferred to a finished water tank before being pumped to discharge into Kings Creek east of the South Creek Reservoir. Albemarle is discharging the water at a rate that is compliant with standards to preserve the integrity of Kings Creek and the river basin. No impacts on the community are anticipated from this action.
What is in the pit water that makes it necessary to filter?	Specifically, there are no chemical constituents that exceed North Carolina Department of Environmental Quality (NCDEQ) surface water standards. Albemarle has committed to treating the pit water due to the anoxic (low oxygen) conditions in the deep water of the pit. The low oxygen environment contributes to the production of hydrogen sulfide. Hydrogen sulfide is the rotten egg smell in stagnant water and sometimes water wells. To ensure there is no widespread smell coming from the site, we are treating the water for sulfide to reduce the possibility of a nuisance smell that could reduce the quality of life for the community during the duration of pit dewatering.
What will happen with contact and non-contact water?	Non-contact water is water that has only encountered vegetated or newly constructed native soil surfaces and can be released to the environment with appropriate sediment controls. Examples of best management practices would include silt fencing and sediment retention ponds for stormwater runoff. Water that has come into contact with mine elements such as rock storage facilities, filtered tailings, mine pit walls, and haul roads, is categorized as contact water. This contact water is expected to meet discharge water quality but may require de-sedimentation and monitoring before release. Tailings storage facilities are designed to allow surface water to be shed, collected, channeled, and pumped away from the facility to reduce infiltration. Water that infiltrates the stored material is planned to be collected and monitored to confirm the quality. All contact and non-contact water must meet water quality discharge permit limits before discharge.
Are you thinking of bonding water? If you impact my well, I am going to want to be compensated	No groundwater is expected to be used for the mining process and the Project is expected to have a net positive water balance (total inflows to the water management system are anticipated to exceed total outflows). Albemarle currently monitors surface and groundwater with an extensive monitoring network and by performing quarterly water quality sampling and analysis and flow monitoring at select locations. This monitoring is planned to continue throughout the life of the proposed mine. If there is an impact to neighboring groundwater wells that is determined to be caused by the Project, Albemarle plans to seek resolution with affected parties, which may include providing alternative water sources or deepening wells.
Economy & Industry (incl. employment)	**Response**
What jobs will be available and what kind of training will be needed?	The Kings Mountain campus is staffed by approximately 300 employees and contractors. If the Project proceeds, Albemarle expects around 1,000 jobs to be generated during the construction

	phase and 340 full-time, highly skilled jobs during the mine's operation. During both construction and operation, a variety of skilled, semi-skilled and unskilled positions are expected to be available. Depending on the role, an apprenticeship and/or bachelor's degree may be required, along with Mine Safety and Heath Administration (MSHA) Safety and Compliance training. More information on employment opportunities and minimum qualifications are planned to be made available as the Project progresses.
What are you going to do to make sure everyone has an opportunity to access employment opportunities?	In 2022, Albemarle was awarded a $150 million grant with the U.S. Department of Energy as part of President Biden's Bipartisan Infrastructure Law to expand domestic manufacturing of batteries for electric vehicles. Albemarle intends to use a portion of this grant to support a $5 million mineral processing operator training program at Cleveland Community College, a $1.5 million minerals lab research program at Virginia Tech, and a $1.5 million minerals pilot plant and engineering training program at North Carolina State University's Asheville Minerals Research Lab. Albemarle is committed to maximizing local employment and plans to continue to explore opportunities to upskill and build capacity within the local workforce.
Recreational Impacts	**Response**
What's going to happen to the Kings Mountain Gateway trail? What's the timeline?	A section of the Kings Mountain Gateway Trail (Gateway Trail) traverses Albemarle property and is too close to the potential extraction area to be safe enough for use. Albemarle is participating in planning discussions with the Gateway Trail Board of Directors, the City of Kings Mountain, and Cleveland County to develop a plan for a new section of the Gateway Trail that aligns with the city's master plan for parks and recreation facilities. The intent is for the Gateway Trail to remain open to the public until all permits have been approved and construction begins. Based on estimated timelines, we anticipate the current Gateway Trail to remain open through 2025. Albemarle plans to share temporary closures as timelines are refined.
Is Cardio Hill going away?	The Trailhead and Cardio Hill are not expected to be removed by the proposed Project and plans are for it to remain accessible to the public.
Visuals & Aesthetics	**Response**
What will we be able to see from different areas around the community?	It is possible that features and structures within the fully constructed Project may be visible from various locations within and near the city of Kings Mountain. To better understand potential visual effects, a Visual Impact Assessment is being prepared for the Project. As part of the study, baseline photos were taken to capture seasonal variability from 25 key observation points, and renderings were generated to show what Project infrastructure will look like from these points. The visual simulations will be available in the Draft ESIA, and as potential impacts are further evaluated, mitigation measures can be developed to manage potential adverse impacts.

Noise & Vibration	Response
Will I be able to hear the noise, feel the vibrations, or see the dust from blasting?	Albemarle identified noise, vibrations, and dust as potential impacts due to the Project. The ESIA intends to evaluate the geographic extent and intensity of these potential impacts so that Albemarle can manage these effects, and the community can understand if and how they may be affected. As potential impacts are further evaluated through the ESIA, mitigation measures, such as dust suppression and the placement of noise barriers in strategic locations, are planned to be developed to manage potential adverse impacts.
How often will blasting happen?	Typically, two to five blasts are expected to occur each week, with one blast conducted per day. Plans are for blasting to be scheduled to occur during business hours and meteorological conditions will be monitored for unfavorable conditions such as heavy winds.
Social Risks & Impacts	**Response**
Are mining operations going to affect the Compact Community?	Albemarle is aware that the Compact Community is located just west of the proposed Project. The community may experience noise, vibrations, and dust from the daily operations of the mine, and changes to the visual landscape. The ESIA intends to evaluate the geographic extent and intensity of these potential impacts using the outcomes of noise and air quality studies and a visual impact analysis, so that Albemarle can manage potential affects, and the community can understand if and how they may be affected by the Project. As potential impacts are further evaluated, mitigation measures are planned to be developed to manage potential adverse impacts.
How does this fit in with the casino?	Potential impacts on the Two Kings Casino are planned to be considered in the ESIA.
Community Health and Safety	**Response**
What chemicals will Albemarle be using during processing and mining that may affect the community?	No chemicals are used during mining operations to extract or leach spodumene or lithium from mined material. Chemicals are used in different stages within the mineral processing facility to adjust or enhance surface properties of materials being processed, but they do not break down the minerals. For example, during the flotation process, reagents such as pH modifiers, surfactants, and collectors are used to interact with the spodumene material allowing it to float to the surface for collection. Albemarle plans to treat water used during this process through a reverse osmosis plant to meet water quality standards before the water is discharged into a settling pond or into Kings Creek. Any water discharged from the mine site will be required to meet state and federal requirements under the Clean Water Act Water Quality Certification and National Pollutant Discharge Elimination System (NPDES) Permit requirements. Albemarle intends to develop and implement policies and procedures for handling chemicals and/or potentially hazardous materials in a safe, responsible manner and in compliance with local, state, and federal regulations.
Will the mine have any impact to human health?	Albemarle is preparing an ESIA to identify, assess, and manage the potential environmental and social impacts associated with the

	Project. The ESIA will consider the outcomes of noise and air quality studies, together with an understanding of existing conditions and the location of the nearest human receptors, to determine whether any impacts on health are anticipated. As potential impacts are further evaluated, mitigation measures are planned to be developed to manage potential adverse impacts.
Are you concerned about particles in the environment?	An initial inventory of Project emissions found emissions are not anticipated to exceed major source thresholds typically set for hazardous and non-hazardous air pollutants. Albemarle anticipates the following industry best practices for managing potential air pollutants during construction and operation. Mitigation strategies include but are not limited to deploying water trucks to spray haul roads, enclosing conveyor systems to capture dust from material movements, and constructing baghouses containing filters in strategic locations to collect and filter dust during the rock crusher process.
How are you going to mitigate risk of fire?	The Project is developing extensive health and safety plans and procedures for construction and operations, including plans to mitigate fire risks. Plans are for the Project to have an Emergency Preparedness and Response Plan in place in the event of a fire. Albemarle maintains regular contact with local emergency resources from nearby municipalities. Through these relationships, they participate in live drills, tabletop discussions, and site tours/audits of Albemarle's safety programs/protocols.
Are you going to have your own fire department?	No, firefighting equipment is available onsite and plans are to have select personnel trained to use the equipment. We are working with local public safety officials on developing an Emergency Preparedness and Response Plan that relies on the use of Albemarle's own firefighting equipment with support from local fire departments.
Environmental Risks & Impacts	**Response**
There are concerns about impacts to soils on some properties.	Albemarle is reopening an existing mine, and the majority of the planned Project is already on disturbed ground either from the previous mine or other development. Albemarle is committed to developing the Project in an environmentally and socially responsible way and is preparing an ESIA to identify, assess, and manage the potential environmental and social impacts associated with the Project.

Did you study the bad impacts of tailings from old site? How about the water? Tailings are a big concern.	Albemarle included analysis of the site's existing tailings as part of the characterization of future water quality. Albemarle has conducted detailed water studies and modeling of the area surrounding the site to predict flows within the Project area for all mine phases. These studies inform the ESIA and the water management system. The objectives of the water management system include minimizing potential impacts on the downstream environment by managing water within the Project footprint such that water quality and water quantity objectives are achieved, and the loss of production due to damage from storm events is limited. The principal philosophy of the Kings Mountain Water Management Plan is to separate clean, non-contact water from water that has come into contact with mining activities. Non-contact water will be collected in separate surface water diversion structures, managed with appropriate erosion and sediment controls where required, and released to existing drainages at or near the predevelopment discharge points. Contact water will be collected and conveyed in dedicated surface water diversion structures, which will convey water to Water Storage Basin (WSB)-1. WSB-1 will be the Project's centralized contact water collection point. Albemarle currently monitors surface and groundwater with an extensive monitoring network and intends to continue that practice throughout the proposed mine's life.
Does the mica mine have water?	Yes, the initial tailings storage facility (TSF) construction is expected to consist of pit dewatering operations which are expected to continue into construction of the TSF. The discharge is designed to flow through the existing outfall currently permitted by Imerys, the mica mine's previous owner. This outfall is intended to eventually be permitted as Outfall 004 by Albemarle.
Post Mine Land Use/Closure	**Response**
What plans are in place for reclamation and closure?	Albemarle has created a conceptual Reclamation and Closure Plan to comply with state regulatory requirements. This plan is intended to be reviewed and modified as necessary to meet state standards. This vision is intended to be consistent with City plans. In parallel, Albemarle has engaged stakeholders in identifying a vision for post-mining land use. Plans are for the Draft Reclamation and Closure Plan to be made available for public review, and Albemarle expects to revisit the plan throughout the life of the mine to confirm the plan is still agreeable to the community.
You said that you are setting aside money for after you close in 10 years, will that money be distributed equally? What is it going to look like when you are finished?	As part of the mine permitting process, Albemarle is required by law to secure and file a bond with the North Carolina Department of Environmental Quality (NCDEQ). This bond would be used by the state to reclaim the mine site if necessary. Albemarle is engaging with the Kings Mountain community to gather input to inform closure and reclamation plans. Plans are for the Draft Reclamation and Closure Plan to be made available for public review, and Albemarle expects to revisit the plan throughout the life of the mine to confirm it remains aligned to community priorities.
In 10 years, will property be safe to be a park?	Precise plans for post-closure land use have not been finalized at this time. The feasibility of future land use is planned to be assessed

	throughout the life cycle of the mine, but there are examples of mines around the world that have been successfully rehabilitated and used as parks—Cardio Hill is one such example.
What will you do with the pit after you are done?	Precise plans for post-closure land use have not been finalized at this time. The feasibility of future land use, including the pit, is planned to be assessed throughout the life cycle of the mine. To understand desires for end land use, Albemarle is engaging with the Kings Mountain community to gather input to inform closure and reclamation plans. Albemarle expects to revisit those plans throughout the life of the mine to confirm the plans are still agreeable to the community. Albemarle has already started having conversations with members of the community to gather ideas about uses for the site once mining is complete. This includes meeting with local high school students—a group of people with vested interest in the future of their hometown.
What is the approximate cost to close the mine? What is the amount of money in the bond? And is there a cap?	Precise plans for post-closure land use have not been finalized at this time; however, Albemarle intends to continue to develop its Reclamation and Closure Plan and plans to eventually include an approximate cost to close and rehabilitate the mine. A Draft Closure and Reclamation Plan is intended to be made available to the public once sufficiently developed.
ESIA Process and Engagement	**Response**
What is the ESIA process?	The ESIA process is an integrated and holistic approach to identify and assess the potential environmental, social, health, and safety impacts that could occur because of the Project. This process results in an ESIA report used to inform the mine design and develop appropriate management measures to minimize potential adverse impacts and enhance positive benefits associated with the mine. Throughout the ESIA process, Albemarle intends to engage with potentially affected communities and other stakeholders to get their input on the identification and management of potential impacts.
What are the potential “social” impacts associated with the mine?	Albemarle is committed to redeveloping the Project in an environmentally and socially responsible way, this includes seeking to understand and minimize potential impacts on the community, or “social impacts.” Positive social impacts include the creation of employment and procurement opportunities, while adverse impacts may include pressures on social infrastructure and services from an outside workforce, impacts on community health, safety, and wellbeing from noise, dust, and traffic generated during construction and operation. Additional social impacts that will be considered are potential changes to the landscape, as well as the loss of sections of the Kings Mountain Gateway Trail. The ESIA intends to evaluate the geographic extent and intensity of these potential impacts so that Albemarle can develop measures intended to manage these effects, and the community can understand if and how they may be affected. As potential impacts are further evaluated through the ESIA, mitigation measures will be developed to manage potential adverse impacts, such as dust suppression and noise barriers in strategic locations.
How do we give comments and feedback?	Albemarle intends to share the Draft ESIA Report publicly in 2025 and subsequently conduct a 60-day comment period, giving stakeholders the opportunity to review the report and provide feedback. Albemarle’s team may be contacted through the following channels:

	Email: kmcommunity@albemarle.com Website: www.albemarlekingsmountain.com/ Phone: 1-704-734-2775 In person at the Albemarle Project Center: 129 West Mountain Street, Kings Mountain, NC 28086
You mentioned that there would be public hearings, how do we find out about them?	How the public can participate in the draft permitting process varies by governmental agency. Often the public can provide comments on specific permits through agency notifications and agency-held public hearings (as planned). For example, state regulatory agencies typically offer a 30-day comment period on a draft application. These opportunities are typically advertised in newspapers with instructions for how the public can participate.
How will communications come out?	Albemarle uses a variety of methods to share information including on their website, Facebook page, monthly newsletters, ads in local newspapers, and mailings. Stakeholders can sign-up to receive the monthly newsletter on Albemarle's website, www.albemarlekingsmountain.com.
Responsible Mining & Sustainability	**Response**
What is IRMA?	The Kings Mountain Mine is being designed to align with the Initiative for Responsible Mining Assurance's (IRMA) standards, the most comprehensive set of standards for responsible mining. Once operational, the Kings Mountain Mine may request a full third-party verification assessment, conducted by an IRMA-approved certification body. During the assessment, auditors measure Albemarle's performance against the IRMA standard and invite members of the community to participate and provide commentary on whether they believe Albemarle is acting as a responsible mining company. Stakeholder input is intended to be considered in the assessment findings. After an initial IRMA assessment, the Kings Mountain Mine may receive an achievement level that reflects the mine's performance against the standard and the assessment outcomes are planned to be shared publicly by IRMA. The IRMA standard makes provision for a 3-year cycle designed to encourage continuous improvement. The Kings Mountain Mine can go through a re-assessment every 3 years, with an interim assessment required within 18 months of each verification assessment. More information is available on the IRMA website: https://responsiblemining.net/

Albemarle = Albemarle U.S., Inc.; ESIA = Environmental and Social Impact Assessment; Gateway Trail = Kings Mountain Gateway Trail; I-85 = Interstate 85; IRMA = Initiative for Responsible Mining Assurance; MSHA = Mine Safety and Health Administration; NPDES = National Pollutant Discharge Elimination System; Project = Kings Mountain Mine Project; RBMS = Regulated Building Material Surveys; ROM = run-of-mine; WSB-1 = Water Storage Basin 1

APPENDIX C MEETING PRESENTATION

Kings Mountain Mine: Project Plan and Community Open House

June 2024

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Forward-Looking Statements

This presentation and discussions that follow contain statements concerning our expectations, anticipations, and beliefs regarding the future, which constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements, which are based on assumptions that we have made as of the date hereof and are subject to known and unknown risks and uncertainties, often contain words such as “anticipate,” “believe,” “estimate,” “expect,” “guidance,” “intend,” “may,” “outlook,” “scenario,” “design,” “should,” “would,” and “will.” Forward-looking statements may include statements regarding: plans and expectations regarding the Kings Mountain Mine project and activities, including mine and storage facility designs, collection and treatment of water and use of proceeds from the agreement with Martin Marietta, and all other information relating to matters that are not historical facts. Factors that could cause Albemarle’s actual results to differ materially from the outlook expressed or implied in any forward-looking statement include: changes in economic and business conditions; financial and operating performance of customers; timing and magnitude of customer orders; fluctuations in lithium market prices; production volume shortfalls; increased competition; changes in product demand; availability and cost of raw materials and energy; technological change and development; fluctuations in foreign currencies; changes in laws and government regulation; regulatory actions, proceedings, claims or litigation; cyber-security breaches, terrorist attacks, industrial accidents or natural disasters; political unrest; changes in inflation or interest rates; volatility in the debt and equity markets; acquisition and divestiture transactions; timing and success of projects; performance of Albemarle’s partners in joint ventures and other projects; changes in credit ratings; and the other factors detailed from time to time in the reports Albemarle files with the SEC, including those described under “Risk Factors” in Albemarle’s most recent Annual Report on Form 10-K and any subsequently filed Quarterly Reports on Form 10-Q, which are filed with the SEC and available on the investor section of Albemarle’s website (investors.albemarle.com) and on the SEC’s website at www.sec.gov. These forward-looking statements speak only as of the date of this presentation. Albemarle assumes no obligation to provide any revisions to any forward-looking statements should circumstances change, except as otherwise required by securities and other applicable laws.

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Agenda

- Meet the team
- Albemarle overview
- Importance of the Kings Mountain Mine
- Project plan
- Permitting
- Environmental and Social Impact Assessment
- Resume Open House

Kristi Moore

Facilitator

Eric Norris

President – Energy Storage

Erik Carlson

Mining and Permitting Manager

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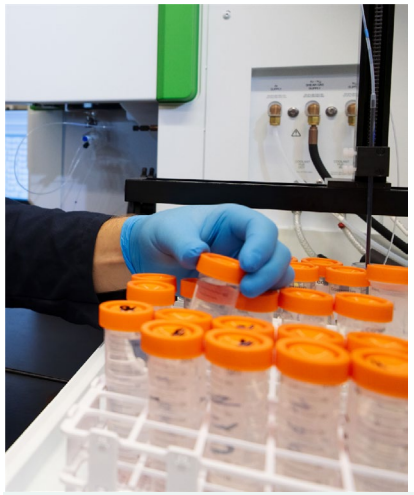
A Leading Provider of Lithium, Bromine and Other *Essential Elements*

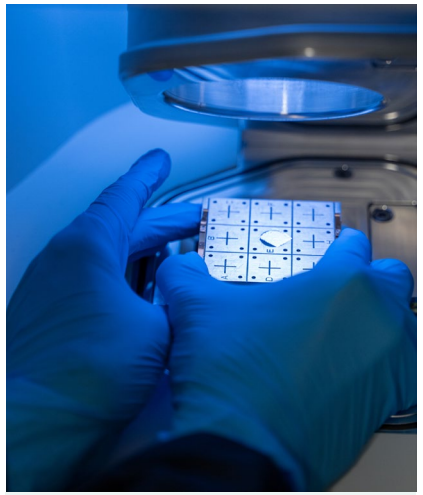
World-Class Resources

Reliable and consistent supply of high-quality solutions to our customers



Leading Process Chemistry

Deep technical and operational know-how to transform essential resources



High-Impact Innovation

Advanced solutions tailored to customer and market needs

Customer Centricity

Trusted partner with global expertise and local experience

People and Planet Steward

Responsible partner focused on sustainability, community engagement, and industry-leading best practices

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Responsible Mining Is *Inherent* to the Project

Environmentally protective and socially responsible practices are designed into the fabric of the project plan

Land Use

- Intend to use previously disturbed land for primary mine facilities, tailings storage facility and use of adjacent quarry
- Plan includes expected reuse of nearby mica mine

Beneficial Use of Material

Potential beneficial use of non-ore bearing material and mine tailings

Standards and Accountability

Intend to align the mine to the most rigorous standards for responsible mining

Community Feedback

Undertaking a voluntary Environmental and Social Impact Assessment to understand potential impacts and prescribe further mitigation measures

Industry Best Practices

- Onsite water treatment facility
- Water quality/quantity monitoring
- Dry stack tailings
- Use of berms and barriers to mitigate noise and visual impacts

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Existing Kings Mountain Site

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Proposed Kings Mountain Mine

Project Plan

Albemarle Kings Mountain

Proposed Project Plan - June 2024

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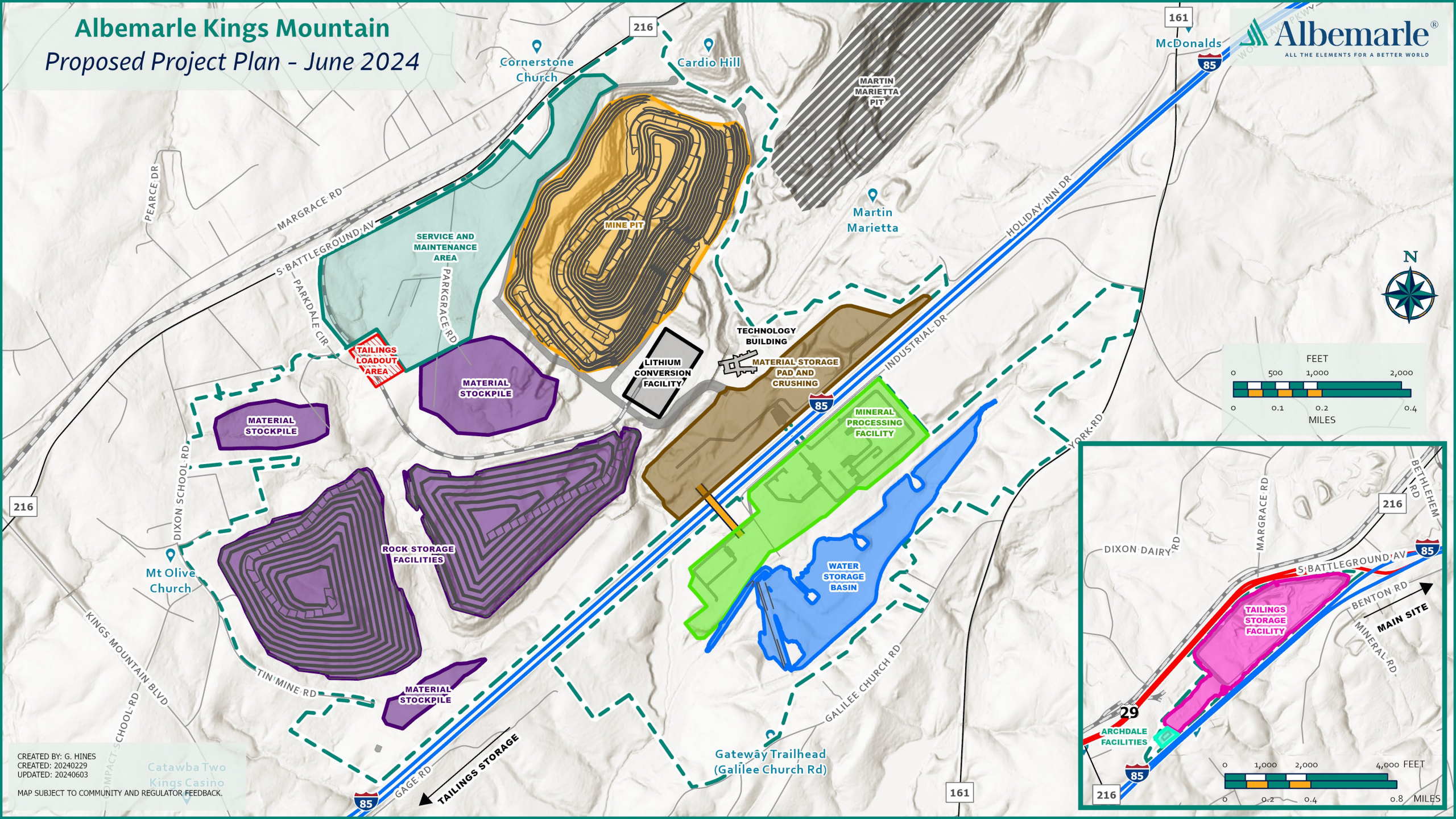
ALL THE ELEMENTS FOR A BETTER WORLD



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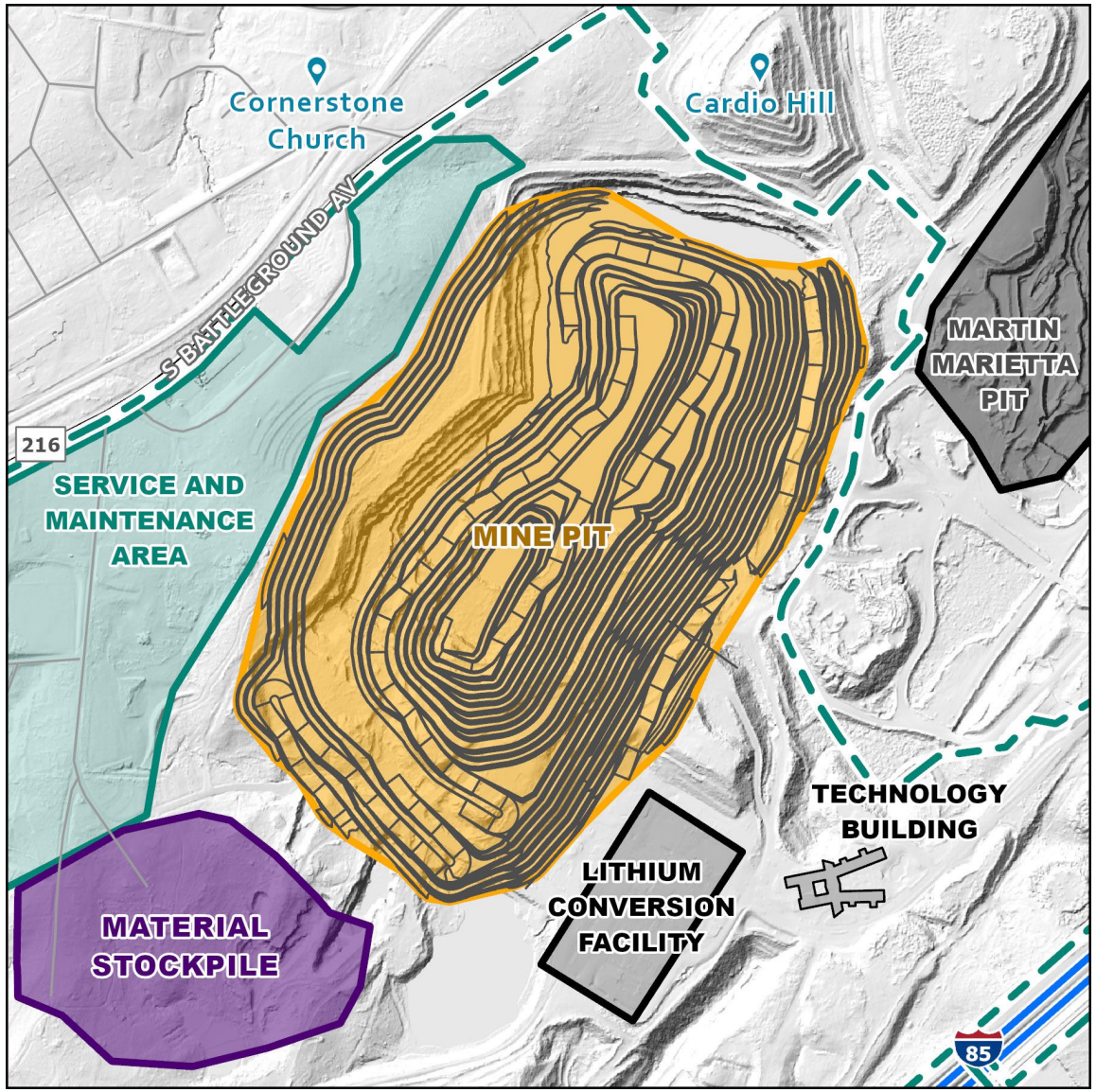
MAP SUBJECT TO COMMUNITY AND REGULATOR FEEDBACK.

Mine Pit

Design and Activities



Mine Pit

- The mine pit is designed as a large excavation, engineered with safety and mining production best practices
  - Excavated at uniform vertical slices known as lifts, typically 30' tall
  - The sides of the excavation are designed to step inward to create a safe, intact slope
  - A ramp is built into the wall for equipment to access the working bench
- Pit details:
  - Plan is to extend existing mine pit 900 feet to the Southwest and deepen by 465 feet.
  - Total anticipated size: 3,300 feet long, 1,800 feet wide and 800 feet deep

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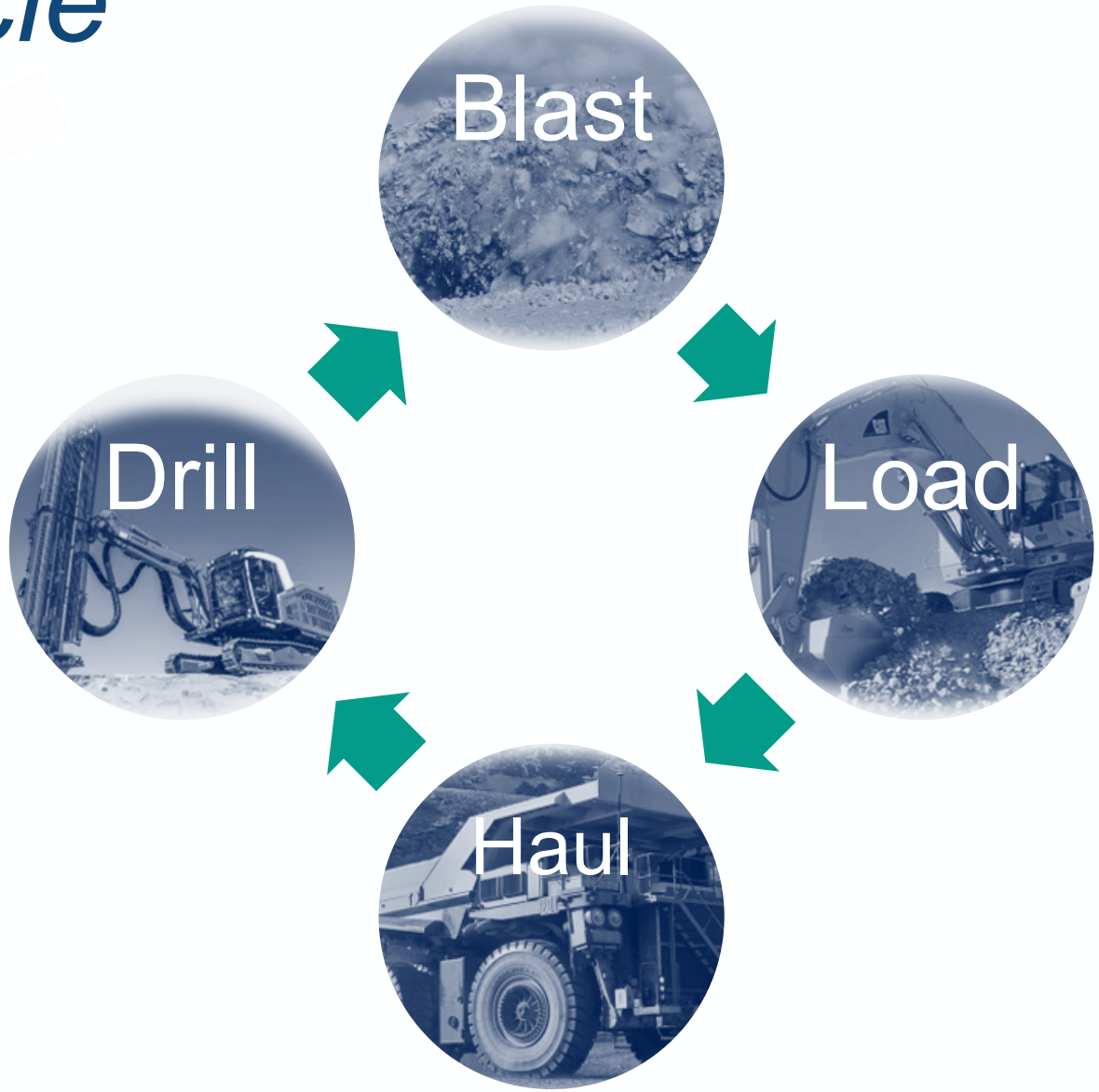
Open Pit Mining *Cycle*

- Drill
  - Holes drilled to conduct:
    - Rock sampling for investigation
    - Rock blasting
- Blast
  - Design
  - Timing/frequency
  - Noise and vibration mitigation
- Load
  - Hydraulic excavators and front-end loaders used to load haul trucks
- Haul
  - Mining haul trucks (~100-ton capacity) used to transport ore and rock from the pit



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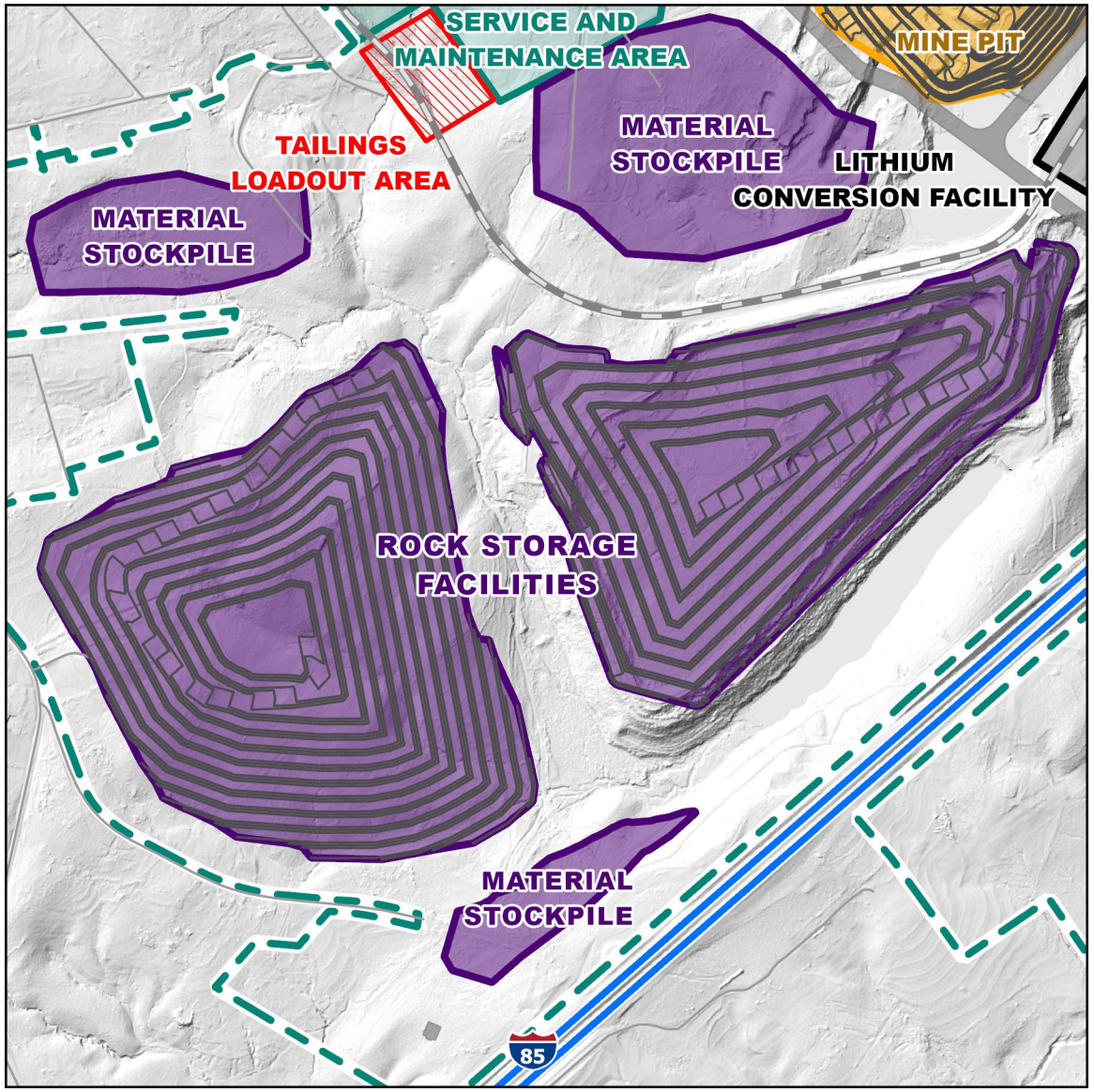
Rock and Material Storage *Facilities*

Rock and Material Storage Facilities

- Design includes two rock storage facilities (RSF) on the Southwest corner of the property for non-ore-bearing material
  - Offset from property boundary and includes tree fence
- Designed for surface water to be collected and treated before leaving site boundaries
- One storage facility is designed with a double liner that is expected to provide best-in-class environmental protection
  - Facility designed to enable the capture, testing and treatment of run-off water as required
- Plan includes three smaller stockpiles for soil/weathered rock removed from rock storage facilities and tailings storage facility foundations



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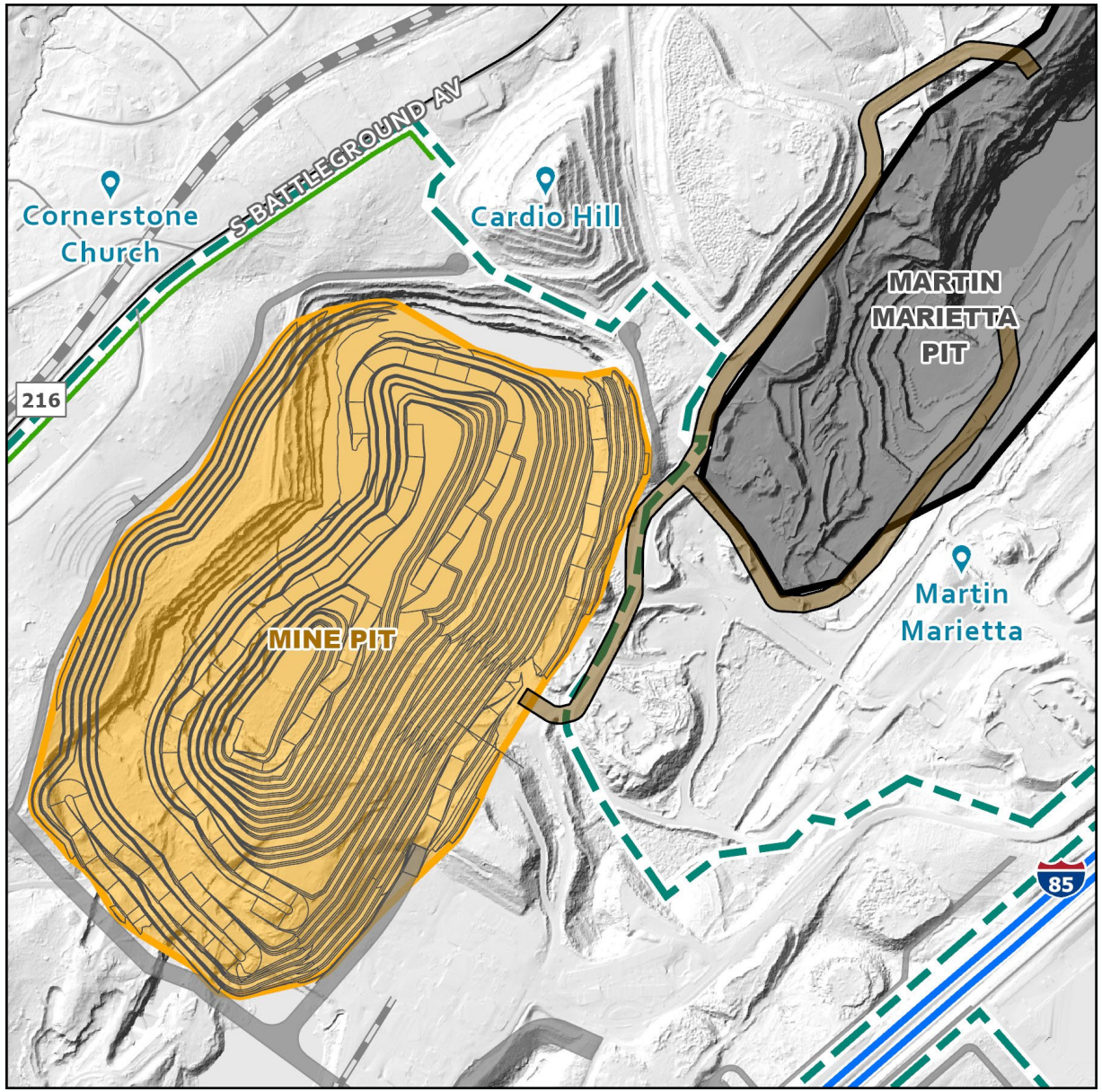

Martin Marietta *Relationship*

- Under an agreement, Albemarle intends to supply a portion of mined rock to Martin Marietta's adjacent quarry for use as construction aggregate
- The agreement provides for a royalty fee for each ton sold by Martin Marietta that is paid to Albemarle, and then transferred to a non-profit entity for the community's benefit
- This beneficial use of the aggregate is expected to reduce the size of Albemarle and Martin Marietta's operational footprints
    - Material would otherwise need to be stored until mine reclamation and closure

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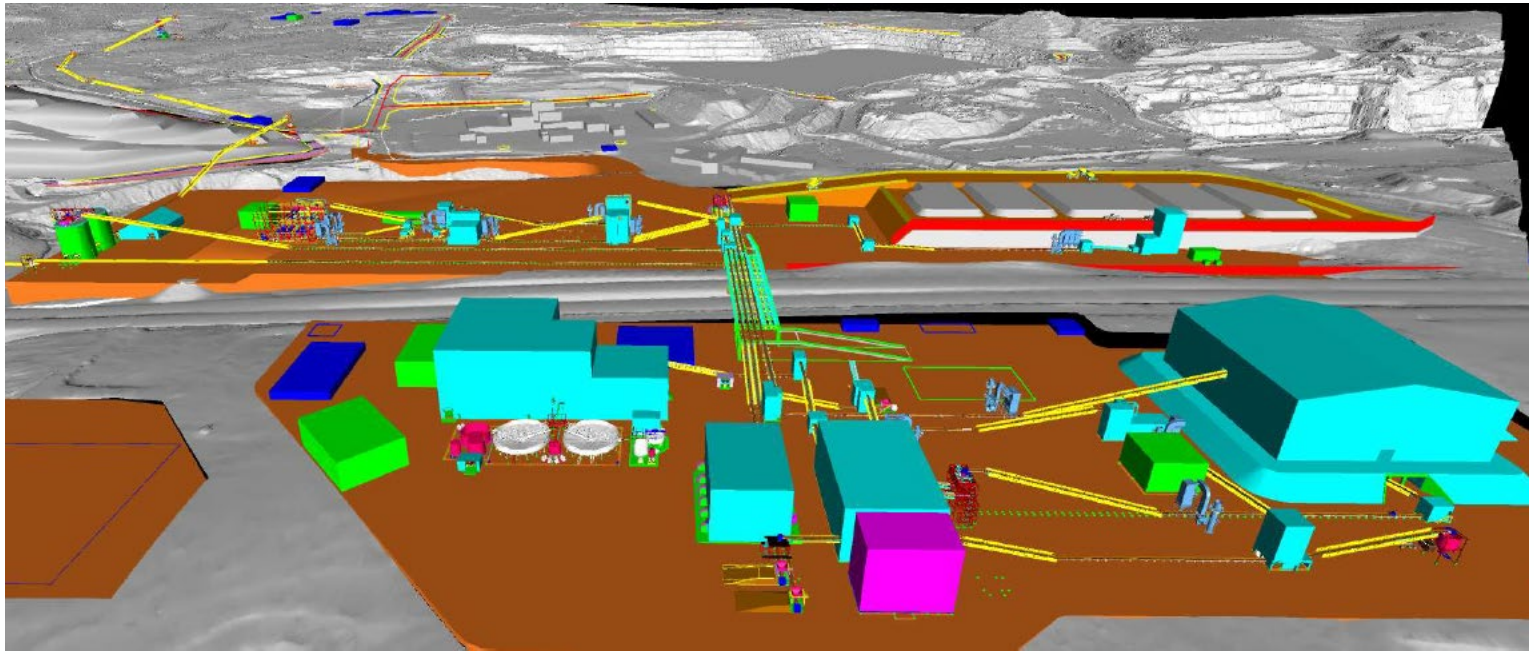
Mineral *Processing Facility*

Mineral Processing *Facility*

- Ore is planned to be transferred to the processing facility via conveyor bridge over I-85
- Everything out of the processing facility classed as either product or tailings/ rejects
- Tailings are all the other material fed that is left behind when we make the product
- The process is primarily a physical separation process, not chemical
- Facility designed to be primarily enclosed to enable noise and dust mitigation



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Tailings Storage *Facility*

What Are Mine Tailings?

- Mine tailings are the material left over from the separation of the sought after minerals from the rock or soil
- These materials include processed rock and minerals that are typically sand to clay-like in particle size
- Dry stacking tailings
  - Dry-stack deposition is an industry best practice
  - Water is drawn out of the tailings material to leave a sand material which can then be stockpiled
  - Practice intended to be safer and significantly less water intensive
  - Very different to conventional wet tailings which are pumped and settle over time
- Commercial uses of tailings

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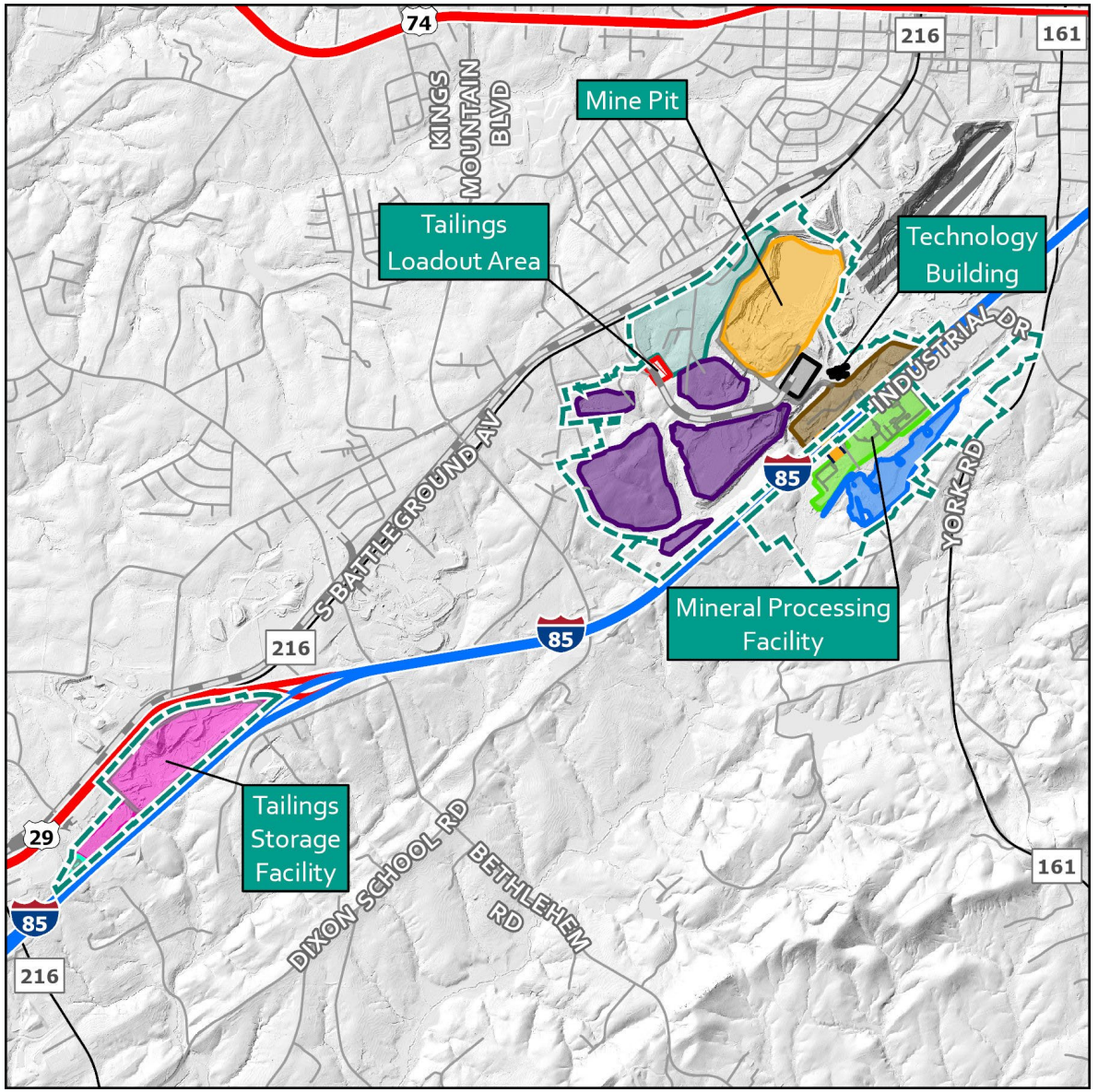
Tailings Storage Facility *Location*

- Albemarle acquired the Archdale property in 2023 solely for tailings storage
- A former mica mine, the existing mine pit is expected to be filled with filtered and compacted tailings
- The alternative plan would have been to construct a tailings storage facility on the Kings Mountain site with a very large footprint
- Anticipate transporting tailings via truck from the tailings load out area to the storage facility at the Archdale property for deposition



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Mine *Closure & Reclamation*

Mine *Closure & Reclamation*

Planning

Begins prior to permitting and continues throughout the mine life cycle

Addresses regulations, community expectations, technical needs, and capital and operation costs

Mine Closure/Reclamation

Use of best industry practices

Minimize adverse environmental effects

Beneficial end use

Community Engagement

Input gathered before and during plan development

Anticipate revisiting plans on an ongoing basis with the community

Financial Guarantee

Albemarle is required by law to secure and file a bond with the NC Dept. of Environmental Quality (NCDEQ)

Closure capital and operating expenses are calculated to further successful closure outcomes

Mine *Permitting*

Key **Permits**

Federal: U.S. Army Corps of Engineers; Department of Energy; Department of Defense

- **Wetlands Permitting**
- **Environmental Assessment**

North Carolina: Department of Environmental Quality

State Mining Permit
Includes:
- Mine Plan
- Reclamation Plan
- Stormwater Management Plan
- Geochemical Characterization

Air Permit
Includes:
- Emission Source Details
- Pollutant Emission Estimates

Dam Safety Permit

Stormwater and Discharge Permit
Includes:
- Water Quality and Flow Standards
- Storm Water Pollution Prevention Plan, Erosion and Sediment Control

City of Kings Mountain

- Development Agreement
- Rezoning
- Road Abandonment
- Demolition
- Annexation
- Building Permit
- Sanitary Sewer Extension
- Land Disturbance

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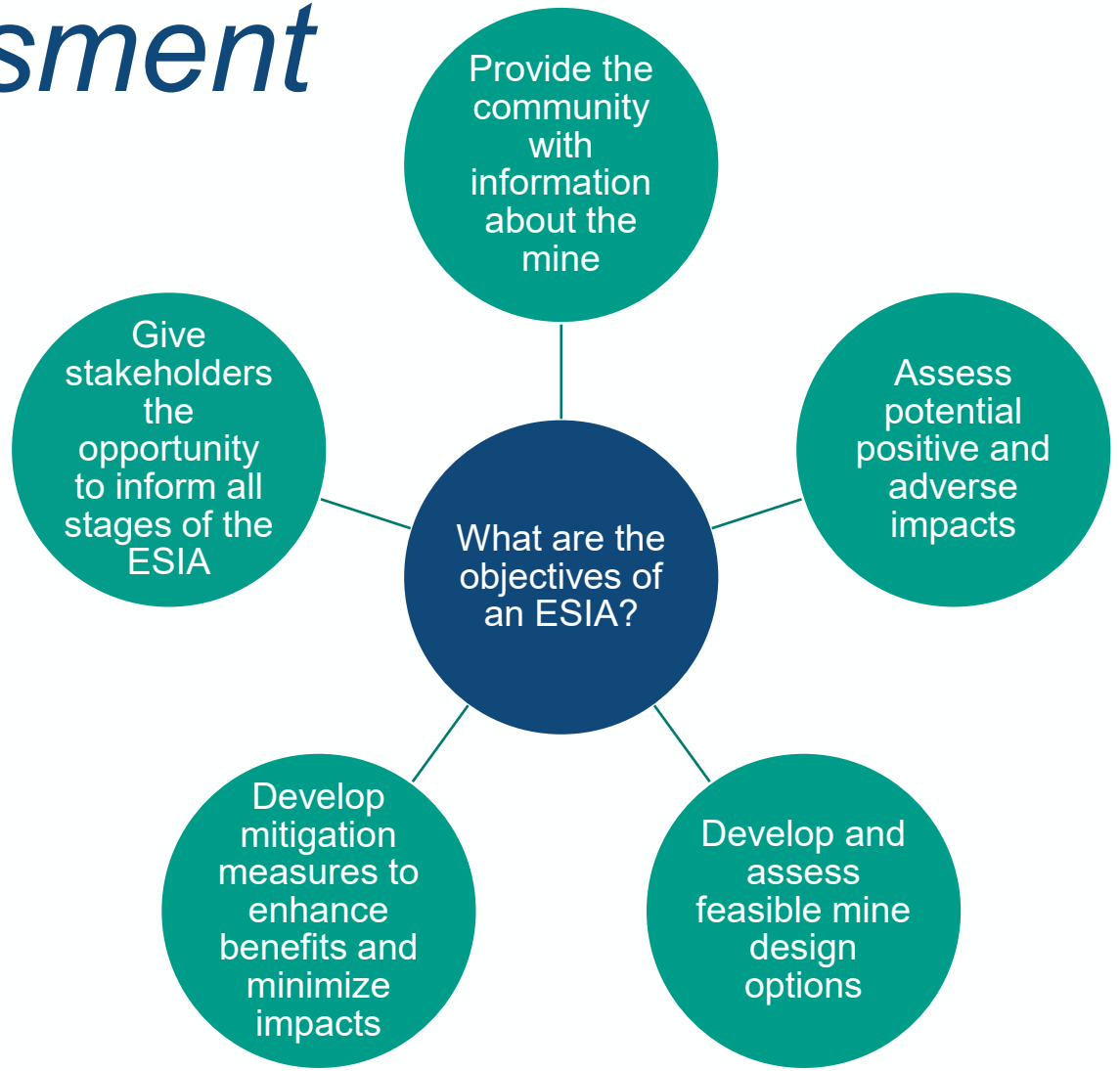
Environmental and Social Impact *Assessment*

Environmental and Social Impact *Assessment*

- To understand and manage potential impacts from the mine, we are conducting an Environmental and Social Impact Assessment (ESIA)
- An ESIA provides an integrated approach to identify and assess the potential environmental, social, health, and safety impacts that could occur because of the project
- Used to inform the mine design and develop appropriate management measures to:
  - Minimize potential adverse impacts
  - Enhance positive benefits
- Stakeholder participation is a key part of the ESIA process. We plan to share the outcomes of the ESIA process and welcome your input.



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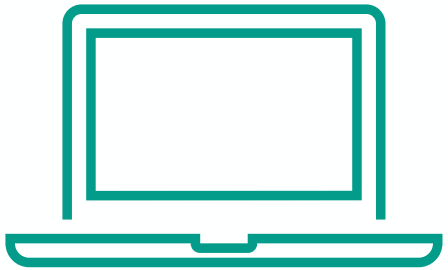
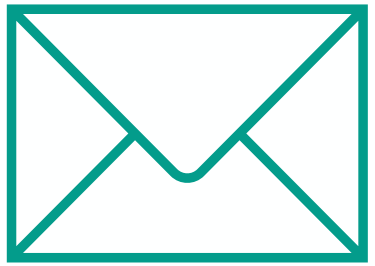
How to *Participate* in the ESIA Process

Resources available: Scoping report | Non-technical summary | Factsheets | Albemarle representatives

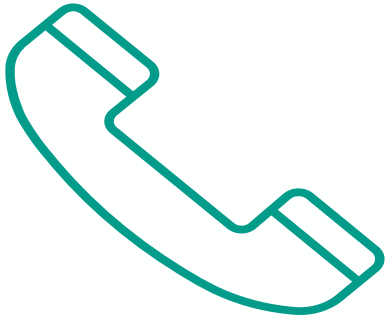


Visit our website

Visit our Project Center



Email us



Call us

The scoping report is available for review and comment from June 11 - August 12, 2024

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Open House

Information and Instructions

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