Final Environmental Impact Statement Thacker Pass Lithium Mine Project

Appendix F

Acronyms and Abbreviations, Glossary, List of Preparers, Index This page intentionally left blank.

TABLE OF CONTENTS

F.1	ACRONYMS AND ABBREVIATIONS	F-1
F.2	GLOSSARY	F-6
F.3	LIST OF PREPARERS	F-9
F.4	INDEX	F-11

LIST OF TABLES

Table F.1. BLM Interdisciplinary Team Members	F-9
Table F.2. Cooperating Agencies	
Table F.3. ICF EIS Team	

This page intentionally left blank.

APPENDIX F. ACRONYMS AND ABBREVIATIONS, GLOSSARY, LIST OF PREPARERS, INDEX

F.1 ACRONYMS AND ABBREVIATIONS

L. • T	ACKON I WIS AND ADDREVIATIONS
°F	degrees Fahrenheit
$\mu g/m^3$	micrograms per cubic meter
ACDF	Applicant Committed Design Features
ACEPM	Applicant-committed Environmental Protection Measure
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AFA	acre-feet per annum
afy	acre feet per year
amsl	above mean sea level
APE	area of potential effect
APLIC	Avian Power Line Interaction Committee
AQRV	air quality-related value
ARMPA	Approved Resource Management Plan Amendment
ATF	Bureau of Alcohol, Tobacco, Firearms and Explosives
AUM	animal unit month
BAPC	Bureau of Air Pollution Control
BBCS	Bird and Bat Conservation Strategy
BCC	birds of conservation concern
BG	block group
BLM	Bureau of Land Management
BMP	Best Management Practice
BMRR	Bureau of Mining Regulation and Reclamation
BRD	Bovine Respiratory Disease
BSU	biologically significant unit
CCC	Civilian Conservation Corps
CDP	census-designated place
CDR	Census Designated Place
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	cumulative effects study area
CFR	Code of Federal Regulations
CGS	Coarse Gangue Stockpile
CGSF	Coarse Gangue Storage Facility

CH ₄	methane
СО	carbon monoxide
CO_2	carbon dioxide
CO ₂ e	carbon dioxide equivalent
COPEC	constituents of potential ecological concern
CTFS	Clay Tailings Filter Stack
CY	cubic yards
dBA	A-weighted decibel
DHS	Department of Homeland Security
DHWOPI	Double H/Whitehorse Obsidian Procurement District
DOI	Department of the Interior
DRG	Disturbance response group
EA	Environmental Assessment
ECP	Eagle Conservation Plan
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ERP	Emergency Response Plan
ESA	Endangered Species Act
ESD	Ecological site descriptions
FLPMA	Federal Land Policy and Management Act
FR	Federal Register
FY	Fiscal Year
GHG	greenhouse gas
GHMA	General Habitat Management Area
GMS	growth media stockpile
GMU	Game Management Unit
gpm	gallons per minute
GRSG	greater sage grouse
GWP	global warming potential
H:V	Horizontal:Vertical
H_2S	hydrogen sulfide
H_2SO_4	sulfuric acid
HA	Hydrographic Area
HAP	hazardous air pollutant
HCRMP	Humboldt County Regional Master Plan
HCSO	Humboldt County Sheriff's Office

HCWRP	Humboldt County Water Resources Plan
HPTP	Historic Properties Treatment Plan
HQ	Hazard Quotients
HQT	Habitat Quantification Tool
HRFO	Humboldt River Field Office
HSCO	Humboldt County Sheriff's Office
HUC	hydrologic unit code
IMPLAN	
kg	kilogram
KOP	Key Observation Point
kV	kilovolt
KV KVCM	Kings Valley Clay Mine
LAC	
lb	Lithium Americas Corp.
	pound
LCE	lithium carbonate equivalent
LCT	Lahonton Cutthroat Trout
L _{dn}	day-night average sound level
LNC	Lithium Nevada Corp.
LOAEL	Lowest-Observed-Adverse-Effects-Level
LRP	low reclamation potential
LRR	Land Resource Regions
MBTA	Migratory Bird Treaty Act
MLRA	Major Land Resource Area
MOU	Memorandum of Understanding
MSHA	Mine Safety and Health Administration
MW	megawatts
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NDA	Nevada Department of Agriculture
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NDWR	Nevada Division of Water Resources
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NNHP	Nevada Natural Heritage Program

NOA	Notice of Availability
NOAEL	No-Observed-Adverse-Effects-Level
NOI	Notice of Intent
NO _x	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
OHMA	Other Habitat Management Areas
OHV	off-highway vehicle
OSHA	Occupational Safety and Health Administration
PHMA	Priority Habitat Management Area
PM_{10}	particulate matter 10 micrometers or less
PM _{2.5}	particulate matter 2.5 micrometers or less
PMU	Population Management Unit
PoO	Plan of Operations
Project	Thacker Pass Lithium Mine Project
PWR	Public Water Reserve
R&PP	Recreation and Public Purpose
RCRA	Resource Conservation and Recovery Act
RFFA	Reasonably Foreseeable Future Action
RMP	Resource Management Plan
ROD	Record of Decision
ROM	Run-of-Mine
ROW	Right-of-way
SESA	socioeconomic study area
SHPO	State Historic Preservation Office
SO	Secretarial Order
SO_2	sulfur dioxide
SO_3	sulfur trioxide
SPCC	Spill Prevention, Control, and Countermeasures
SQG	small-quantity generator
SQRU	Scenic Quality Rating Unit
SR	State Route
STM	state-and-transition model
SWPPP	Stormwater Pollution Prevention Plan
T&E	Threatened and Endangered

tpy	tons per year
U.S.	United States
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compounds
VRI	Visual Resource Inventory
VRM	Visual Resource Management
VSQG	very small quantity generator
WD	Winnemucca District
WLC	Western Lithium Corporation
WRC	Wildlife Resource Consultants
WRSF	Waste Rock Storage Facility

F.2 GLOSSARY

Acid rock drainage. Drainage that occurs as a result of natural oxidation of sulfide minerals contained in rock exposed to air and water. It is not confined to mining but can occur wherever sulfide-bearing rock is exposed to air and water.

Alluvium. Unconsolidated sediments consisting of clay, silt, sand, and gravel that are deposited in valleys by flowing water. When saturated, alluvium can form alluvial aquifers.

Animal unit month (AUM). The amount of forage required by one cow and calf, or their equivalent, for one month.

Aquifer. A zone, stratum, or group of strata acting as a hydraulic unit that stores or transmits water in sufficient quantities for beneficial use.

Bedrock. Solid rock exposed at the surface of the earth or overlain by unconsolidated material, weathered rock, or soil.

Dewatering. The removal or extraction of water from a pit, tunnel, other conduit, or aquifer containing volumes of water.

Drawdown. Vertical distance that a water elevation is lowered or the pressure head is reduced due to the removal of water from the same system.

Evaporation Cell (e-cell). Evaporation cells remove or minimize the volume of source solution through passive evaporation or evapotranspiration from tailings stockpile or waste rock storage sites. Cells are generally constructed in existing double-lined ponds or in another suitable location.

Evapotranspiration. The process by which water is transferred from the land to the atmosphere by evaporation from the soil, open water, and other surfaces and by transpiration from plants.

Forage. All browse and non-woody plants that are available to livestock or game animals for grazing or harvestable for feed.

Forb. An herbaceous flowering plant other than a grass.

Fugitive dust. Dust particles suspended randomly in the air from road travel, excavation, and rock loading operations.

Gangue the worthless rock or vein matter in which valuable metals or minerals occur.

Geochemistry. The study of the distribution and amounts of the chemical elements in minerals, ores, rocks, soils, water, and the atmosphere and their circulation in nature, on the basis of the properties of their atoms and ions. Geochemistry is concerned with the chemical composition of, and chemical reactions taking place within, the earth's crust.

Groundwater. Water found beneath the land surface in the zone of saturation below the water table.

Growth media. All materials, including topsoil, specified soil horizons, vegetation debris, and organic matter, that are classified as suitable for stockpiling or reclamation.

Haul road. A road used by large (less than 50-ton capacity) trucks to haul ore and waste rock from an open pit mine to other locations.

Hydraulic conductivity. A measure of the ability of material to permit the flow of water under a gradient; permeability.

Hydrographic basin. An extent or an area of land where surface water from rain and melting snow or ice converges to a single point, in the basin, where the waters join another water body, such as a river, lake, reservoir, estuary, wetland, sea, or ocean.

Key observation point (KOP). A specific place on a travel route or in an existing or potential use area where the view of a management activity or project would be most revealing; used for purposes of the contrast rating.

Leaching. The process of applying a chemical agent that bonds preferentially and dissolves into solution the target metals in an ore. The metal complexes or binds to the solution, which is then called a pregnant solution. The pregnant solution is collected for processing to recover the metals.

Milling. The general process of treating or separating and concentrating the valuable metals or minerals from the rest of the ore material. Synonymous with mineral and ore processing.

Mine pit. Surface area from which ore and waste rock are removed.

Open pit Mining. A type of mining that involves excavating ore by digging downward from the ground surface, removing the overburden, and extracting the ore beneath. The result of the mining operation is an open pit.

Ore. An earth material containing target metals or minerals in sufficient concentration and quantity that can be mined and processed at an economic profit.

pH. Symbol for the negative common logarithm of the hydrogen ion concentration (acidity) of a solution. The pH value of 7 is considered neutral. A pH value below 7 indicates acidity, and a pH value above 7 indicates alkalinity or a base.

Reclamation. Returning disturbed land to a form and productivity in conformity with a predetermined land management plan or a government-approved plan or permit.

Riparian. Pertaining to or situated on the bank of a body of water, especially of a watercourse, such as a river.

Stockpile. An accumulation of ore, stone, or other mined or quarried material.

Surface water. Water found in ponds, lakes, inland seas, streams, and rivers or above the ground surface.

Tailings. Crushed ore that has been washed or treated and is regarded as too poor to be treated further.

Waste rock. A non-ore rock that is removed to access the ore zone. It contains target metals or minerals below the economic cutoff level and must be removed to gain access to the ore zone.

Waste Rock Storage Facility (WRSF). An accumulation of blasted rock that is waste rock, often dumped at the angle of repose but occasionally graded to designed slopes to enhance stability.

Watershed. The entire land area that contributes water to a particular drainage system or stream.

F.3 LIST OF PREPARERS

Name	Title	EIS Area of Responsibility
Ken Loda	Project Manager, Lead Geologist	EIS Management, Geology and Minerals
Robin Michel	NEPA Coordinator	NEPA Compliance
Lynn Ricci	NEPA Coordinator	NEPA Compliance
Jeanette Black	Hydrologist	Water Resources
Dan Erbes	Hydrologist	Water Resources and Geochemistry
Tanner Whetstone	Archeologist	Cultural Resources, Native American Religious Concerns, Paleontological Resources
Gabrielle Lukins	Outdoor Recreation Planner	Recreation, Visual Resources, Wilderness
Kruze Kinder	Natural Resource Specialist	Range Resources
Melissa Hovey	Natural Resource Specialist	Air Quality
Clay Edmondson	Wildlife Biologist	Wildlife, Migratory Birds, Special Status Species
Greg Lynch	Biologist	Fisheries, Special Status Species
Andy Laca	Ecologist	Soils, Vegetation Resources
Julie Sur-Pierce	Great Basin Socioeconomic Specialist	Social and Economic Conditions, Environmental Justice
Julie McKinnon	Realty Specialist	Lands and Realty
Michael McCampbell	Natural Resource Specialist	Vegetation Resources
Zwaantje Rorex	GIS Specialist	GIS

Table F.1. BLM Interdisciplinary Team Members

Table F.2. Cooperating Agencies

Name	Title	EIS Area of Responsibility
U.S. Environment Protec	tion Agency	
Sarah Samples	Environmental Protection Specialist	Air and Water Quality
U.S. Fish and Wildlife Se	rvice	
Tara Vogel	Biologist	Wildlife and Special Status Species
Thomas Leeman	Deputy Chief, Migratory Bird Program	Bald and Golden Eagles, Migratory Birds
Steven Fettig	Biologist	Bald and Golden Eagles, Migratory Birds
Nevada Department of Wildlife		
Matt Maples	Wildlife Biologist	Wildlife and Special Status Species
Nevada Sagebrush Ecosystem Technical Team		
Kelly McGowan	Program Lead	Greater Sage-grouse Conservation
Katie Andrle	Biologist	Greater Sage-grouse Conservation

Name	Title	EIS Area of Responsibility
Humboldt County		
Jim French	County Commissioner	-
Dave Mendiola	County Manager	-

Table F.3. ICF EIS Team

Name	Title	EIS Area of Responsibility
John Priecko	Project Director	NEPA Compliance and Oversight
Scott Duncan	Project Manager	EIS Management
Andrew Newman	Deputy Project Manager	EIS Management/Biological Resources
Sara Stribley	Project Coordinator	EIS Management/Coordination
Chris Dunne	NEPA Specialist	Range Resources, Realty, Recreation
Patrick Plumley	Hydrologist/Geochemist	Water Resources, Geology and Minerals
Diana Roberts	Ecologist	Soils, Reclamation
Albert Garner	Senior Archeologist	Cultural Resources, Native American Religious Concerns, Paleontological Resources
Jeff Gutierrez	Environmental Planner	Visual Resources
David Ernst	Senior Environmental Planner	Air Quality
Sara Stribley	Wildlife Biologist	Wildlife, Migratory Birds, Special Status Species, Fisheries
Katie Wilson	Ecologist	Vegetation Resources
Jason Volk	Environmental Planner	Noise
April Smith	Biologist	Fisheries
Claire Munaretto	Senior Economist	Social and Economic Conditions, Environmental Justice
Robert Lanza	Chemical Engineer	Wastes, Hazardous and Solid
Brent Read	Senior GIS Specialist	GIS
Lissa Johnson	GIS Specialist	GIS
Jennifer Piggott	Senior Public Affairs Lead	Public Outreach

F.4 INDEX

Access. 1-3, 1-8, 2-5, 2-6, 2-7, 2-9, 2-10, 2-11, 2-13, 2-14, 2-22, 2- 32, 4-33, 4-34, 4-35, 4-36, 4-37, 4-51, 4-52, 4-53, 4-56, 4-62, 4- 73, 4-81, 4-82, 4-85, 4-88, 4-90, 4-91, 4-92, 4-93, 4-96, 4-103, 5-20	4-63, 4-65, 4-66, 4-69, 4-71, 4-
Affected Environment	vi, 3-1, 3-3, 4-72, 5-15
Air Qualityvi, 2-20, 3-1, 4-72, 4-75, 4-76	5, 4-77, 5-1, 5-12, 5-13, 5-14, 6-2
Alternatives Considered But Eliminated From Detailed Analysis	
Ancillary Facilities1-3, 2-10, 2-15, 4-1, 4	4-2, 4-15, 4-31, 4-36, 4-99, 4-101
Authorizing Actions	
Blasting	48, 4-50, 4-56, 4-73, 4-93, 4-105
BLM Preferred Alternative	
Comparative Analysis of Alternatives	
Cultural Resources	8, 4-79, 4-80, 4-81, 5-1, 5-15, 6-2
Cumulative4-6, 4-21, 4-30, 4-80, 5-1, 5-2, 5-3, 5-4, 5-5, 5-6, 5-7 5-14, 5-15, 5-16, 5-17, 5-18, 5-19, 5-20	, 5-8, 5-9, 5-10, 5-11, 5-12, 5-13,
Dewatering 1-2, 2-3, 2-17, 2-19, 2-25, 4-6, 4-24, 4	4-28, 4-29, 4-43, 4-45, 4-46, 4-51
Drilling1-7, 2-14, 4-3, 4-15, 4	1-32, 4-39, 4-54, 4-66, 4-73, 4-97
Electric Power	
Emergency Response	
Environmental Consequences	
Environmental Justice	7, 4-88, 4-89, 4-90, 5-1, 5-17, 6-2
Exploration .vi, 1-1, 1-2, 1-3, 1-4, 1-5, 1-7, 1-8, 2-1, 2-2, 2-14, 2-1	
4-18, 4-21, 4-25, 4-26, 4-30, 4-31, 4-32, 4-38, 4-42, 4-44, 4-45 66, 4-68, 4-70, 4-72, 4-73, 4-78, 4-79, 4-80, 4-87, 4-88, 4-90, 4 5-2, 5-3, 5-6, 5-8, 5-10, 5-11, 5-14, 5-15, 5-16, 5-17, 5-18, 5-19	4-91, 4-92, 4-97, 4-113, 4-118,
Fencing 1-3, 2-2, 2-10, 4-1, 4-32, 4	4-36, 4-41, 4-56, 4-65, 4-71, 5-12
Fire Protection	
Geochemistry	
Geology and Minerals	
Groundwater 2-3, 2-13, 2-17, 2-20, 2-21, 4-2, 4-4, 4-6, 4-7, 4-8, 4-16, 4-17, 4-18, 4-19, 4-20, 4-21, 4-22, 4-23, 4-24, 4-25, 4-29, 4-112, 4-114, 4-115, 4-117, 5-1, 5-4, 5-5, 5-6	
Hazardous Materials2-12, 4-1, 4-2, 4-64, 4	-104, 4-106, 4-108, 4-112, 4-113
Hazardous Wastes	
Invasive Plants	
Invasive Species	
Irreversible and Irretrievable	
Lands and Realty	
Mining Operations	

Monitoring and Mitigation	
Native American Religious Concerns	2-20, 3-1, 4-116, 4-117, 5-2, 6-2
No Action Alternative 2-1, 2-19, 4-3, 4-6, 4-23, 4-29, 4-30, 4 77, 4-81, 4-86, 4-89, 4-92, 4-94, 4-96, 4-103, 4-113, 4-114, 10, 5-11, 5-12, 5-14, 5-15, 5-17, 5-18, 5-19, 5-20	
Noise 3-2, 4-1, 4-3, 4-32, 4-34, 4-36, 4-38, 4-39, 4-41, 4-42, 4 62, 4-87, 4-88, 4-89, 4-91, 4-92, 4-93, 4-94, 4-113, 5-1, 5-18	
Non-native	
Noxious Weeds2-23, 3-1, 4-38, 4-40, 4-68, 4	-69, 4-70, 5-3, 5-7, 5-10, 5-11, 5-12
Past and Present Actions 5-2, 5-10, 5-11	1, 5-13, 5-15, 5-17, 5-18, 5-19, 5-20
Permits and Approvals	
Processing Facilities	, 4-48, 4-63, 4-68, 4-92, 4-99, 4-103
Proposed Action .1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-17, 2-1	8, 2-19, 2-25, 2-26, 3-1, 3-2, 3-3, 4-
1, 4-2, 4-3, 4-4, 4-5, 4-7, 4-8, 4-9, 4-11, 4-12, 4-15, 4-16, 4-	
23, 4-24, 4-25, 4-28, 4-29, 4-30, 4-31, 4-32, 4-33, 4-34, 4-35	
42, 4-44, 4-45, 4-46, 4-48, 4-51, 4-52, 4-53, 4-54, 4-55, 4-57	
70, 4-72, 4-77, 4-79, 4-80, 4-81, 4-82, 4-84, 4-85, 4-86, 4-87	
96, 4-97, 4-102, 4-103, 4-113, 4-114, 4-115, 4-116, 4-117, 4 5-7, 5-8, 5-9, 5-10, 5-11, 5-12, 5-14, 5-15, 5-16, 5-17, 5-18,	
Public Participation	, ,
Range Resources	
Reasonably Foreseeable Future Actions	
Recreation 2-15, 3-2, 4-30, 4-87, 4-90, 4-91, 4-95, 4-96, 4-110,	
5-11, 5-12, 5-15, 5-16, 5-20	1113, 1111, 1113, 51, 52, 510,
Residual Effects4-6, 4-25, 4-30, 4-62, 4-68, 4-69, 4-72, 4-78, 4-113, 4-115, 4-117	4-81, 4-87, 4-90, 4-92, 4-94, 4-103,
Schedule and Workforce	
Scoping	
Security	
Social and Economic Values	
Soils .vi, 2-15, 2-23, 3-2, 4-4, 4-14, 4-23, 4-27, 4-28, 4-29, 4-62 4-117, 4-118, 5-1, 5-7, 5-10	2, 4-63, 4-66, 4-67, 4-68, 4-69, 4-97,
Solid Waste	4-108, 4-109, 4-112, 4-113, 5-19
Special Status Species 3-2, 4-22, 4-31, 4-33, 4-35, 4-37, 4-38, 4 56, 4-59, 4-60, 4-61, 4-92, 5-1, 5-8	-39, 4-42, 4-43, 4-44, 4-45, 4-49, 4-
Surface Water2-4, 2-9, 2-13, 2-21, 4-2, 4-6, 4-7, 4-8, 4-10, 4-12 4-21, 4-22, 4-23, 4-24, 4-27, 4-28, 4-29, 4-46, 4-51, 4-62, 5-	
Vegetation 2-21, 2-23, 3-3, 4-25, 4-26, 4-27, 4-28, 4-29, 4-30, 4 37, 4-42, 4-44, 4-45, 4-46, 4-47, 4-49, 4-52, 4-55, 4-63, 4-64 72, 4-97, 4-103, 4-117, 4-118, 5-1, 5-3, 5-6, 5-7, 5-8, 5-10, 5	4, 4-66, 4-68, 4-69, 4-70, 4-71, 4-

5-20

Visual Resources 2-26, 4-94, 4-95, 4-96, 4-96, 4-96-2	97, 4-99, 4-100, 4-101, 4-102, 4-103, 4-117, 5-18, 5-19,
Water Management	
Water Quality and Quantity	4-2, 4-6, 4-29, 4-51, 4-52, 4-53, 4-88, 4-114, 4-117
Water Rights	
Water Supply	
Wilderness	
Wildlifevi, 1-2, 1-4, 2-10, 2-15, 2-16, 2-2	4, 2-25, 3-3, 4-22, 4-25, 4-30, 4-31, 4-32, 4-33, 4-35, 4-
36, 4-37, 4-41, 4-46, 4-47, 4-48, 4-49, 4	-51, 4-52, 4-53, 4-56, 4-59, 4-60, 4-62, 4-65, 4-68, 4-
87, 4-92, 4-93, 4-94, 4-113, 4-117, 4-11	8, 5-1, 5-2, 5-6, 5-7, 5-8, 5-9, 5-11, 6-2, 6-3

This page intentionally left blank.