Environmental and Community Assessment Summary for the Pumpkin Hollow Project

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1 INTRODUCTION

1.1 Project Owner

Nevada Copper, Inc. (NCI or the Company), a wholly-owned subsidiary of Nevada Copper Corp. (NCU or the Corporation) is exploring, developing and planning to operate the Pumpkin Hollow Project (Pumpkin Hollow or "Project").

1.2 Project Description

The Project is a large advanced stage development copper property located approximately eight miles southeast of Yerington, Nevada Figure 1). It has substantial mineral reserves and resources including copper (Cu), gold (Au), silver (Ag), as well as a large iron (Fe) resource. Nevada Copper, Inc, (NCI) owns and controls 100% of the Project.

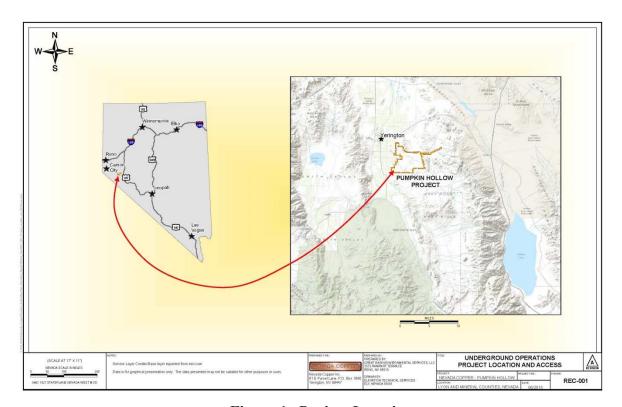


Figure 1. Project Location

Pumpkin Hollow will be developed initially as an Underground Mine with a single standalone process facility and later an open pit mine with a separate process facility serving the Open Pit operation. The two defined ore deposits at Pumpkin Hollow, the western open pit deposits and eastern underground deposits, are located approximately two (2) miles apart.

Since 2008, NCI has prepared, obtained, revised and updated individual environmental permits to address relevant environmental aspects of project development and to develop the strategic objectives and implementation plans to address them.

The proposed Underground Mine and Open Pit Mine and associated facilities are located entirely on private land owned or leased by NCI. This provides maximum flexibility for construction of

the project with any of the development strategies noted above. All mining and ore processing facilities from either the surface (the North and South open pit deposits) and Underground Mine (East and E2 deposits) mine rock storage facilities (MRSF), and a dry stack tailings storage facility (DSTF) are located entirely on private land. There are no environmental elements that would trigger Federal permits or NEPA analysis, such as wetlands, a 404 Clean Water Act permit, Endangered Species Act, critical habitats, wilderness or cultural resources (BLM, FONSI, July 2018). Regulation of water discharge from mine dewatering is delegated by the U.S. EPA to the Nevada Division of Environmental Protection (NDEP), Bureau of Mining Regulation and Reclamation (BMRR), so no Federal National Pollutant Discharge Elimination System (NPDES) permit is required.

Pumpkin Hollow has been explored since the 1960's and there are numerous exploration disturbances on the property. Since NCI acquired the property, it has also conducted significant exploration activity, all of which have been reclaimed pursuant to Nevada state regulations or bonded for reclamation. Historic drill holes that predate abandonment and reclamation requirements, and therefore not subject to reclamation requirements, are also being abandoned and reclaimed according to Nevada state regulations as new exploration and project development occur in specific areas where mine development would affect historic drill holes.

NCI initiated 'Advanced Exploration' in 2008-2012, that included continuation of surface drilling, sinking a 2,140-foot deep, 24-foot inside diameter, concreted lined, production-sized, shaft into the East deposit; a production-sized headframe; a production-sized hoist and hoist house; dewatering and monitoring wells, water pipelines, sediment structures to remove sediments generated during underground development; water management basins, also referred to as Rapid Infiltration Basins (WMBs or RIBs); an upgraded electric powerline; a Mine Rock Storage Facility (MRSF) for waste rock generated by underground development and shops; a warehouse, office building, and mine dry.

This phase of the project required a Water Pollution Control Permit (WPCP2008103) for mining and mine rock management; WPCP2008109 for dewatering of underground workings and management of that water in RIBs; a Reclamation Permit (#0288 or REC0288), including a reclamation cost estimate using the Nevada Standard Reclamation Cost Estimator (SRCE), posting financial assurance or bond to assure sufficient funds are available to reclaim and close those facilities in the event the Company was not financially capable of doing so; a surface area disturbance (SAD) air pollution permit. Other aspects of this phase included a Spill Prevention, Control and Countermeasures Plan (SPCC), a Stormwater Pollution Prevention Plan (SWPPP), management and reporting quantities of hazardous materials to the Nevada State Fire Marshall; and a Special Use Permit (SUP) from Lyon County.

The Underground Mine includes the shaft and underground mine workings, shaft work area and associated processing facilities, an MRSF and water management facilities, including pipelines, sediment control basins, Rapid Infiltration Basins (RIBs or WMBs).

From 2010-2014, NCI also began permitting an underground mine, referred to at the time as the Private Land Underground Mine (PLUM). The Company obtained a revised WPCP2008103 for mining and processing; a revised WPCP109 for dewatering and water management; a revised REC0288; a revised air permit AP1021-3369, and a Class II permit for potential emissions from mining and processing.

In 2018, NCI revised the configuration and terminology for the PLUM. PLUM was renamed to "Underground Mine" and the location, size, and throughput of specific facilities was revised from the 2013 designs. New permit applications conforming to revised designs were submitted for WPCP2008103 for mining and processing; WPCP2008109 for dewatering and water management; REC0288 for reclamation; and air permit AP1021-3369

1.3 Environmental and Social Impacts

This document describes environmental and social impacts and risks (an Environmental and Social Impact Assessment (ESIA)) and the measures taken to minimize, mitigate, and off-set adverse environmental or social impacts created by the Project. Detailed information on the studies performed and Project development alternatives are described in detail in other documents, feasibility studies, and engineering studies as referenced herein.

Mining projects in Nevada typically require preparation of an environmental document in compliance with the federal National Environmental Policy Act (NEPA) when located on federal lands administered by a federal agency – most often the U.S. Bureau of Land Management (BLM) or the U.S. Forest Service (USFS). Additionally, any major federal action and approval is required to comply with NEPA. For example, if there are wetlands or jurisdictional waters subject to the Clean Water Act, a federal right-of-way required for an access road or powerline, endangered species or other environmental elements that require a major Federal action, compliance with NEPA is required.

Because of the federal land conveyance (Section 1.4) and the lack of any other federal approvals needed, a NEPA document was not required for the Project. A NEPA document was required for the land conveyance (BLM, 2015). The Project has also had all relevant environmental and social elements and aspects addressed under State of Nevada laws and regulations and local Lyon County and City of Yerington reviews and approvals.

1.4 Yerington Land Conveyance

On December 19, 2014 the National Defense Authorization Act for Fiscal Year 2015 was signed into law. The Act directed the conveyance of about 10,058 acres of public lands to the City of Yerington, Nevada. That conveyance was finalized in August 2015. In October 2015, the City re-conveyed about 9,045 of the 10,058 acres to NCI and annexed those lands within Lyon County into the City.

The Yerington Land Conveyance (or Land Conveyance) required compliance with NEPA. In 2015, the BLM prepared an Environmental Assessment and issued a Finding of No Significance (FONSI) for the conveyance of Federal lands to the City of Yerington.

The subsequent conveyance of land to the City removed the requirement for the Pumpkin Hollow mine project to submit a Plan of Operations as required by the Federal Land Policy and Management Act of 1976 and BLM Surface Management regulations (43 CFR 3809).

However, this change in land ownership status did not eliminate Nevada mine permitting processes. Mining projects on private lands in Nevada are not subject to a formal, comprehensive, project-wide assessment of environmental or social impacts. Each State and local permit for mining undergoes a public notice and comment period after the completion of agency administrative and technical reviews of mining related facilities before approvals to construct,

operate, and close those facilities are granted. See Section 4, Permits and Regulatory Requirements.

1.4.1 Supporting Documents

Bureau of Land Management. July 2015. Final Environmental Assessment - Yerington Land Conveyance. DOI-BLM-NV-C000-2015-0001-EA.

Bureau of Land Management. July 16, 2015. Finding of No Significant Impact (FONSI) - Yerington Land Conveyance.

1.5 Environmental and Social Impact Assessment Documentation Process

While the Project did not require preparation of and Environmental Impact Statement (EIS) pursuant to NEPA, this assessment will follow the general format of NEPA in determining resources affected by the Project and the risks, impacts, and prevention or minimization of adverse environmental and social impacts.

The requirements of the June 2013 Equator Principles Exhibit II "Illustrative List of Potential Environmental and Social Issues" have been considered in this assessment and included where applicable and appropriate. A summary of the Exhibit II Potential Environmental and Social Issues and where each of the Issues is referenced in this assessment is included in **Error! Reference source not found.**

The terms "impacts" and "effects" as used in NEPA assessments are synonymous. Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.

Implementing regulations found at 40 C.F.R. § 1508.8 state: "Effects" include: (a) Direct effects, which are caused by the action and occur at the same time and place. (b) Indirect effects, which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

The general requirements of for the formal NEPA process are:

- The environmental report should include a description of the proposed action, a Statement of the project purpose, a description of the environment affected by the Project, and must discuss the following considerations:
 - o The impact of the proposed action on the environment. Impacts shall be discussed in proportion to their significance;
 - Any adverse environmental effects which cannot be avoided should the Project be implemented; and
 - O Alternatives to the proposed action. The discussion of alternatives must be sufficiently complete to aid the Agency(s) in developing and exploring, pursuant to section 102(2)(E) of NEPA, "appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative

uses of available resources." To the extent practicable, the environmental impacts of the proposal and the alternatives should be presented in comparative form;

- The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity;
- Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented; and
- An analysis that considers and balances the environmental effects of the proposed action, the environmental impacts of alternatives to the proposed action, and alternatives available for reducing or avoiding adverse environmental effects.

Table 1. Summary of Equator Principles Exhibit II Illustrative List of Potential Environmental and Social Issues and Location or Reference in the ESIA Narrative.

Ex. II Item	ESIA TOC	Equator Principles Exhibit II Issue Overview		
a	4	Assessment of the baseline environmental and social conditions.		
b	3.4	Consideration of feasible environmentally and socially preferable alternatives.		
С	2	Requirements under host country laws and regulations, applicable international treaties and agreements.		
d	4.2.4	Protection and conservation of biodiversity (including endangered species and sensitive ecosystems in modified, natural and Critical Habitats) and identification of legally protected areas.		
e	3.4	Sustainable management and use of renewable natural resources (including ustainable resource management through appropriate independent ertification systems).		
f	4.2.15	Jse and management of dangerous substances.		
g	4.1.15, 4.2.15	Major hazards assessment and management.		
h	4.1.9	Efficient production, delivery and use of energy.		
i	4.1.16, 4.1.17	Pollution prevention and waste minimization, pollution controls (liquid effluents and air emissions), and solid and chemical waste management.		
j	4.1.3	Viability of Project operations in view of reasonably foreseeable changing weather patterns/climatic conditions, together with adaptation opportunities.		
k	4.2	Cumulative impacts of existing Projects, the proposed Project, and anticipated future Projects.		
1	4.1.7	Respect of human rights by acting with due diligence to prevent, mitigate and manage adverse human rights impacts.		
m	4.1.7	Labor issues (including the four core labor standards), and occupational health and safety.		

n	3.1 <u>Table</u> <u>3.1</u>	Consultation and participation of affected parties in the design, review and implementation of the Project.		
О	4.1.12	Socio-economic impacts.		
p	4.1.7	Impacts on Affected Communities and disadvantaged or vulnerable groups.		
q	4.1.6	Gender and disproportionate gender impacts.		
r	1.4, 4.2	Land acquisition and involuntary resettlement.		
S	4.1.5	Impacts on indigenous peoples, and their unique cultural systems and values.		
t	4.1.5	Protection of cultural property and heritage.		
u	4.1.7	Protection of community health, safety and security (including risks, impacts and management of Project's use of security personnel).		
V	4.1.7	Fire prevention and life safety.		

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2 PERMITS AND REGULATORY REQUIREMENTS

The Nevada Division of Environmental Protection (NDEP) - Bureau of Mining Regulation and Reclamation (BMRR) is the primary State agency regulating mining. There are three (3) branches within BMRR; Regulation, Reclamation, and Closure.

The Bureau of Air Pollution Control (BAPC) works closely with BMRR on mining projects and issues permits to construct facilities that emit gases or particulate matter to the atmosphere. The Nevada Division of Water Resources (NDWR) issues appropriations to use groundwater for mining and milling purposes and issues a Dam Permit for any impoundment (dam or process pond) that impounds (contains) more than 20-acre feet of process solution.

Key Project permits are summarized in Error! Reference source not found. These permits are generally required for underground and open pit mining, ore processing, and material transportation operations in Nevada. Each permit is further discussed in Sections 2.1 through 2.9. Comprehensive detail of all permits required to operate a mine in the State of Nevada are included in Nevada Bureau of Mines and Geology Special Publication L-6 (NBMG, 2015).

Table 2. State of Nevada Permits regulating operation of the Pumpkin Hollow Mine

Regulatory Agency	Permit Name	Permit Number	Environmental Aspect Regulated	Regulatory Basis
City of Yerington	Zoning and Special Use	None	Land Use	City of Yerington Ordinance Title 10 Chapter 7

Regulatory Agency	tory Agency Permit Name		Environmental Aspect Regulated	Regulatory Basis
NDEP Bureau of Mining Regulation and Reclamation	Water Pollution Control	NEV2008103	Mining	NAC445A
NDEP Bureau of Mining Regulation and Reclamation	Water Pollution Control	NEV2008109	Infiltration	NAC445A
NDEP Bureau of Mining Regulation and Reclamation	Reclamation	0288	Reclamation	NAC519A
NDEP Bureau of Air Pollution Control Class II Air Pollution Control		AP1021-3369	Dust and Other Gaseous Emissions	NAC445B
NDEP Bureau of Water Pollution Control	Onsite Sewage Disposal System	GNEVOSDS09	Sewage Disposal	NAC445A
NDEP Bureau of Water Pollution Control	Mine Stormwater	MSW-364	Stormwater Management	NAC445A
NDEP Bureau of Safe Drinking Water			Drinking Water	NAC445A
State Fire Marshal Hazardous Materials		58249	Hazardous Material Handling	NAC459
NDWR Notification of Dam Construction		Various	Water Impoundments	NAC535
NDWR Water Rights		Various	Water Consumption	NAC533

NAC = Nevada Administrative Code

NDEP = Nevada Division of Environmental Protection

NDWR = Nevada Division of Water Resources

2.1 Water Pollution Control Permit (WPCP) - Nevada Division of Environmental Protection (BMRR)

The Regulation Branch of Nevada Division of Environmental Protection (NDEP), Bureau of Mining Regulation and Reclamation (BMRR) regulates mining in Nevada under the authority of the Nevada Revised Statutes (NRS) 445A.300-NRS 445A.730 and the Nevada Administrative Code (NAC) 445A.350-NAC 445A.447. BMRR issues a WPCP to an operator prior to the

construction of any mining, milling or other beneficiation process activity that has the potential to degrade waters of the state, whether water from any source or quality is biologically, chemically, or physically altered because of this use. The need for a WPCP is not dependent upon whether a discharge is intended.

2.2 Reclamation Permit - Nevada Division of Environmental Protection (BMRR)

The Reclamation Branch of Nevada Division of Environmental Protection (NDEP), Bureau of Mining Regulation and Reclamation (BMRR) regulates mine reclamation and closure performance bonding in Nevada under the authority of the Nevada Revised Statutes (NRS) 519A.010 - NRS 519A.290 and the Nevada Administrative Code (NAC) 519A.010 - NAC 519A.415. The branch issues a Reclamation Permit to an operator prior to construction of any exploration, mining, milling or other beneficiation process activity that proposes to create disturbance over five (5) acres or remove in excess of 36,500 tons of material from the earth.

A valid reclamation permit requires that an acceptable surety be filed with the Division or a federal land management agency prior to engaging in the activities authorized by the permit. The approval time frame includes the public notice and 30-day public review and comment period. A reclamation permit is valid until all reclamation activities have been completed, provided the operator remains in compliance with the regulations.

2.3 Air Pollution Control Permit - Bureau of Air Pollution Control (BAPC)

There are essentially three permit types regulating Air Pollution/Air Quality, which are, in decreasing order of complexity: Class I, Class II, and Class III Air Quality Control Permits. Operations will qualify for one of these three permits based on the quantity and type of emissions/regulated air pollutants (as defined in NAC445B.058 and 445B.153) generated from operations. For each of the Air Quality Control Permit Applications, every stationary transfer point or other source of regulated emissions must be cataloged in separate industrial emissions inventory sheets. These include conveyors, stacks, silos, and combustion equipment such as generators. Throughput at each transfer point or emission source must be calculated and emissions factors (as defined by the EPA AP 42: Compilation of Air Pollutant Emission Factors) applied to determine quantity and type of emissions. The emissions thresholds for each permit type are summarized below:

Class III	Typically for facilities that emit 5 tons per year or less in total of regulated air pollutants and emit less than one-half ton of lead per year, and must not have any emission units subject to Federal Emission Standards (i.e.: NSPS, NESHAPS, MACT, etc.)
Class II	Typically for facilities that emit less than 100 tons per year for any one regulated pollutant and emit less than 25 tons per year total HAP and emit less than 10 tons per year of any one HAP.
Class I	Typically for facilities that emit more than 100 tons per year for any one regulated pollutant or emit more than 25 tons per year total HAP or emit more than 10 tons per year of any one HAP or is a PSD source or major MACT source.

Hazardous Air Pollutants (HAPs) are those regulated emissions as defined in the federal register 42 U.S.C. § 7412(b).

The required contents of each of these permits is explained in NAC445B.287-NAC445B.3526.

For any operation emitting more than 25 tons per year of any one regulated air pollutant, a dispersion model must be developed for all emission sources and all regulated air pollutants (NAC 445B.310.1(a)).

For any disturbance more than five (5) acres, a Surface Area Disturbance permit (SAD) must also be obtained (NAC445B.22037). The SAD is typically a precursor to the Air Quality Control Permit and is incorporated into the Class I, II, or III permit once it is issued.

2.4 Mining Stormwater Permit - Bureau of Water Pollution Control (BWPC)

Stormwater discharge permits are required for certain activities by U.S. EPA regulations at 40 CFR § 122.26(b)(14). All mining operations occurring in a basin that potentially drain into jurisdictional waters of the US require a Mining Stormwater Permit regulating potential run-on and run-off of non-process related fluids from mine facilities. Those facilities within a basin that do not drain to waters of the US (a terminal basin) do not require a Mining Stormwater Permit. Stormwater permits detail the operational controls utilized to manage stormwater and minimize sedimentation or contamination in any run-off. The Project operates under Mining Stormwater Permit MSW-364.

2.5 Water Rights – Nevada Division of Water Resources (NDWR)

The State Engineer's office (NDWR) is responsible for administering and enforcing Nevada water law. Appropriation of any water in the state of Nevada for "beneficial use" requires a water right (NRS 533). Should a water right be issued, the water right owner must prove his beneficial use of the water or risk losing his right. Review of each new water right application will include a 30-day public notice and comment period. Existing beneficial use rights cannot be impacted by issuance of new beneficial use rights.

2.6 Dam Permit - Nevada Division of Water Resources (NDWR)

The NDWR regulates dam construction and water impoundment. Where any proposed dam is or will be 20 feet or more in height, measured from the downstream toe to the crest of the dam, and/or is less than 20 feet in height and will impound more than 20 acre-feet of water, a Dam Permit Application must be submitted to the State Engineer in triplicate 30 days before construction is to begin (NRS 535.010). Contents of a Dam Permit Application must be developed under the supervision of a Nevada-registered professional engineer and are detailed in NAC535.210 and include but are not limited to: (1) a geotechnical study and report and (2) engineered design of the proposed dam.

2.7 Hazardous Materials Permit – Nevada State Fire Marshal

Nevada Administrative Code 477.323 states "A person shall not store a hazardous material in excess of the amount set forth in the International Fire Code, 2006 Edition as adopted pursuant to NAC 477.281, unless he has been issued an operational permit by the State Fire Marshal to store that material." Also required for reporting are Extremely Hazardous Substances (EHS) (over 360 substances from the United States Environmental Protection Agency EPA List of Lists). EHS chemicals are subject to reporting requirements if they are on site in quantities at or above 500 pounds or the threshold planning quantity, whichever is less. Any chemical considered a physical or health hazard under OSHA's Hazard Communication Standard at or above 10,000 pounds will be included in annual reporting. Gasoline and diesel quantities must also be reported. A hazardous

materials permit must be renewed annually through the Department of Public Safety, State Fire Marshal's Division.

2.8 City of Yerington

The City re-conveyed most of the lands to NCI that were originally conveyed by the Federal government to the City and annexed those Conveyance lands within Lyon County into the City. Approximately 105 acres in Mineral County were also re-conveyed to NCI but not annexed into the City. Subsequently the City zoned all the lands within Lyon County needed for mining operations M-2 Special Industrial District – Mining. Other lands were zoned M-1 General Industrial, R-C Transitional and one parcel near an adjacent residential area a Conservation Easement.

M-2 Zoning allows all uses in M-1 General Industrial in addition to the following uses are allowable on a lot or parcel having a minimum of five hundred (500) acres:

- Mining (including open pit and underground extracting, hauling, conveying ore and mine waste rock). Mined ore and processed ore storage.
- Pumpkin Hollow Projects.
 - o Mixing, use, and storage of explosives.
 - o Metal ore processing (including crushing, grinding, conveying, concentrating, in situ leaching and other processing to recover mineral products).
 - o Mine waste rock removal and storage.
 - o Mine tailings management and storage.
 - o Topsoil salvage and storage.
 - o Aggregate excavation, crushing and processing.
 - o Water storage and treatment.
 - o Commercial solar energy conversion systems.
 - o Energy storage systems.

2.8.1 Supporting Documents

City of Yerington. August 25, 2015. U. S. Government Patent 27-2015-0047. Conveys Federal lands to the City.

City of Yerington. Summit Engineering Corporation. August 25, 2015. Yerington Land Conveyance Map.

City of Yerington. September 15, 2015. City Council Minutes [Approving Master Plan Amendment to include [NCI parcels] in their Master Plan with the designated districts as in accordance with Title 10 of the Yerington City Code. The parcels were approved for annexation by the City Council on September 14, 2015. [Passed unanimously.]

City of Yerington. October 12, 2015. Grant, Bargain and Sale Deed from the City of Yerington to Nevada Copper, Inc.

City of Yerington. Yerington City Code. Chapter 7, Article A. M-1 Industrial District and Article B. M-2 Special Industrial District [Mining]

City of Yerington. Official Zoning Map - Approved at the July 11, 2016 City Council Meeting.

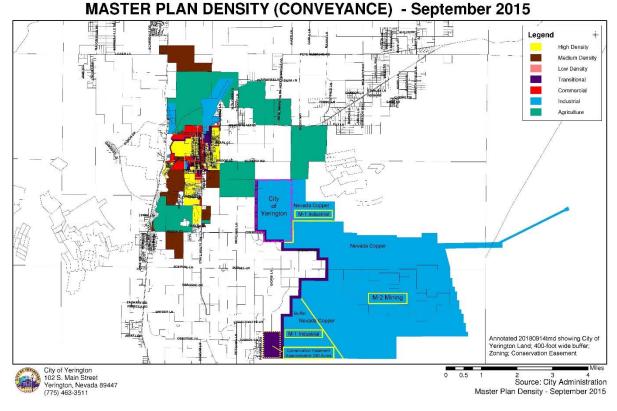


Figure 2. City of Yerington Zoning – Pumpkin Hollow

2.9 Special Use Permit – Lyon County

Upon completion of annexation into the City of Yerington, Pumpkin Hollow was subject to requirements of the City and not the County. Therefore, there was no further need for the County SUP.

2.9.1 Supporting Documents

Lyon County. October 7, 2010. Approval (unanimous) of special use permit to operate an advanced exploration facility and related activities; located off Purse Lane, Yerington (APN's 12-171-04, 05, 06, 07 & 08) PLZ-10-0023.

Lyon County. June 20, 2013. Approval (unanimous) to modify an existing special use permit to expand the use to allow a 7500 ton per day, private land underground mine (PLUM) facility, on an approximately 367.6-acre portion of 1,537.75 total acres; all located off East Purse Lane, Yerington (APN's 12-171-04, 12-171-05, 12-171-06, 12-171-07 & 12-171-08) PLZ-13-0031).

3 ENVIRONMENTAL AND SOCIAL ALTERNATIVES CONSIDERED

Consideration of preferred social and feasible environmental alternatives is limited to existing technically and economically feasible business opportunities of developing a stand-alone underground mine or developing an integrated underground/open pit mining and processing operations as described in the September 2017 Technical Report for Pumpkin Hollow. Mining and processing alternatives were excluded from consideration.

Sustainability¹ is the over-arching objective for Project to fulfill the significant economic benefits while at the same time protecting the environment and providing benefits to social resources.

3.1 Stakeholder and Social Alternatives Analysis

NCI, Lyon County, and the City of Yerington began discussions in 2008 to identify ways to facilitate long term economic benefit and sustainable development to the area around Yerington associated with the Project. These include permanent access, transportation, water utilities, infrastructure development, and co-located and post-mining commercial and industrial development, including development of onsite generation of electrical power and alternative energy facilities.

3.1.1 Stakeholders

NCI seeks to develop a world class mine to produce copper, iron, gold and other minerals that provide benefits to all the stakeholders, including the local community of Yerington and Lyon County, the State of Nevada, the U.S., and the Company shareholders.

The Project development strategy is structured to identify and address the various local, state, federal and international environmental and social requirements and standards applicable to this mining project. These include the statutory requirements, stakeholder interests, and safety, environmental, social, and economic aspects.

The stakeholders involved are:

- State of Nevada, Lyon County, Mason Valley and Yerington government entities and regulatory agencies;
- Local community (Lyon County, Mason Valley, Yerington and other nearby communities that may benefit from or be affected by the project);
- Current and prospective employees;
- Current and prospective contractors and suppliers (local, regional and national);
- Government and regulatory agencies;
- Company shareholders; and
- Financial institutions.

Stakeholder consultation and meetings conducted or participated in by NCI are summarized in Table 3.

¹ Sustainability is an attempt to provide the best outcomes for the human and natural environments both now and into the indefinite future. It relates to the continuity of economic, social, institutional and environmental aspects of human society, as well as the non-human environment. It is intended to be a means of configuring civilization and human activity so that society, its members and its economies are able to meet their needs and express their greatest potential in the present, while preserving biodiversity and natural ecosystems, and planning and acting for the ability to maintain these ideals in a very long term. Sustainability affects every level of organization, from the local neighborhood to the entire planet. Wikipedia: http://en.wikipedia.org/wiki/Sustainability

Table 3. Public and Stakeholder Consultation Summary

Date of Event	Entity	Purpose
09-April-2008	Lyon County Planning Department	Roundtable Presentation to Lyon County on project plans
2010-2018	Bureau of Mining Regulation & Reclamation (BMRR) Bureau of Air Pollution Control (BAPC)	See Section 2. All Nevada permits require public notice and the opportunity to appeal the decisions (approvals). To date no comments or appeals have been filed on the 14 applications or modifications submitted since 2010
18 Feb 2010	Lyon County Board of Commissioners	To apply for a Right of Way Pursel Lane to provide dedicated access to Pumpkin Hollow property. Approved unanimously
07-Oct-2010	Lyon County Board of Commissioners	Public Hearing on application for advanced exploration (shaft sinking). Approved unanimously
18-Aug-2011 Lyon County Board of Commissioners		Resolution 11-008 to support Congressional Action for the adoption of legislation to convey publicly owned land (Bureau of Land Management) to the City of Yerington. Approved unanimously
22-Aug-2011 City of Yerington		Resolution in Support of Congressional Action for the adoption of the legislation to transfer the land. Approved unanimously
18-Feb-12	Yerington and Neighboring Communities	Groundbreaking Ceremony
10-Apr-2012	Yerington City Council	Master Development Agreement.
17-Apr-2012	United States Congress	Yerington Bill and Land Conveyance
Apr-2013 Nevada State Legislature		Nevada Senate Joint Resolution No. 14 "Urging Congress to enact the Lyon County Economic Development & Conservation Act
15-Apr-2013		Passed by Senate 21-0 (Unanimous)
20-May 2013		Passed by Assembly 39-0 (Unanimous)
19-May-2014	University of Nevada Reno	Project status update.

Date of Event	Entity	Purpose
7-Sep-2015	Yerington Public Information Meeting	Information session, notification of project status.
15-Sep-2015	Neighboring Residents from Panavista	Discuss Project property and land status (zoning).
28-Sep-2015	Yerington City Council	Master Development Agreement. No action
11-Apr-2016	Residential Developer Meeting Lloyd Manson, Jerry Boileau	Local housing impacts and planning.
12-Apr-2016	Yerington Planning Commission	Project development update and solar facility planning.
17-May-2018	Site Neighbors Meeting	Meet with immediate neighbors to provide them project update.
2-Jun-2018 Walker River Basin Communities Foundation Annual Auction & Dinner		Local area fundraising event.
26-Jun-2018	Boys & Girls Club of Mason Valley	Monthly Board of Directors Meeting - TMD on Board
27-Jun-2018	David Peri - Peri & Sons	General discussion on relationship of Peri & Sons and NCI
9-Jul-2018	Local Neighbor Water Discussion	Met with neighbor to discuss results of water testing.
23-Jul-2018	Yerington City Council	Introduction of upper management to Council and brief update on project progress
14-Aug-2018	Presentation to Yerington Rotary	Discuss Project Development Plan

3.2 Land Ownership

Pumpkin Hollow is in Mason Valley, eight (8) miles from the center of the City of Yerington, which has had the highest unemployment rate in the state. This proximity to the community provides a unique opportunity to plan for other commercial and industrial development on and adjacent to mine facilities, during mining and upon completion of mining activities in the future. This was a driving force for the plan to privatize lands on and adjacent to Pumpkin Hollow that was achieved by the Yerington Land Conveyance.

Analyses were performed to identify how conversion of BLM-administered lands to private or municipal control would facilitate infrastructure development, post-mining conversion of mine facilities, potential co-location of other economic developments. That would particularly include development that would be synergistic with the mine, such as solar power generation or onsite

natural gas power generation, value-added mineral processing of iron or copper concentrate, and/or mine support services. The following is a summary of factors supporting long term sustainability as a benefit of the land conveyance:

- BLM lands are not conducive to support industrial and commercial development. Upon completion of mining, BLM requires all facilities to be decommissioned and lands reclaimed back to rangeland. Converting these BLM lands to private or municipal ownership was a prerequisite to creating a more viable framework for a large, integrated, multipurpose economic development zone. Such a zone is facilitated by mine development, attendant investment in permanent infrastructure, other associated economic development and continued oversight and collaboration with Lyon County, the City of Yerington and the State of Nevada.
- The proposed lands are close to a local population (workforce) and attendant services (water service, fire, housing, schools, hospital, commercial activities and other infrastructure) more so than any other mine site in Nevada.
- Lyon County experienced over 19% unemployment from 2008-2016 and needs a broader economic base that includes mining and other commercial and industrial development to support a sustainable economy. The copper mine would generate significant revenue and would greatly enhance additional and different economic activities.
- Nevada government officials at the national, state and local level were overwhelmingly supportive of the land conveyance and the potential to grow and enhance economic development in the area. The conveyance and subsequent development will help to stimulate the economy for Lyon County and specifically Yerington, which has had the highest unemployment rate in the country.
- The Walker Basin Restoration Project was established by Congress in October 2009 (http://www.nfwf.org/walkerbasin/Pages/home.aspx). The Program's primary purpose is to restore and maintain Walker Lake, and to protect agricultural, environmental and habitat interests in the Walker River Basin. Walker Lake is a natural desert lake in Nevada at the terminus of the Walker River Basin which includes lands in Nevada and California. The project is also seeking develop other economic activities to offset losses of the economic base associated with transfers of water to restore Walker Lake, which will have a negative impact on the local agricultural economy. The Yerington Land Conveyance supports economic development and community expansion that will help to offset adverse economic impacts that will result from water transfers.
- The opportunity to develop mining, commercial and industrial uses as a result of the Yerington Land Conveyance is significant. Compared to other rural cities in Nevada, these lands are very amenable to economic development due to site characteristics and the proximity of the land to Yerington and to metropolitan areas of Carson City and Reno, as compared to other remote Nevada cities. The opportunity to have enough developable land to create an economic development district can be a viable, if not preferable option.
- At the same time, the conveyed lands are not highly productive for grazing or farming and do not have high natural resource values.
- This area could be utilized for other co-located economic activities that utilize infrastructure developed by the mine both during the mine life and after the mine life.

- Private lands provide a land tenure structure amenable to conversion of mine lands after completion of mining to other economic uses that could provide for sustainable development associated with the mine.
- The lands are in Mason Valley, which has the highest solar irradiation in Northern Nevada that could be used for solar development. The private land is now zoned as an industrial district that can facilitate both solar and alternative energy development.
- There are opportunities to use the pits for water pump back systems for converting intermittent solar power to a 24/7 power source. The largest pit will be over 1000 feet deep and mine rock could be used to build an upper reservoir to pump water from the pit using solar power during the day and then releasing it back into the pit via turbines to generate electricity at night. Though such a proposal is in the distant future, it certainly addresses the criticism of what to do with pits when mining is complete.
- Efficient utilization of generated electricity is compelling for onsite generation, as power losses from transmission can be significant - the closer the use, the more efficient the utilization of generated power. Onsite power generation would provide much more efficient power utilization.
- There is significant potential for geothermal power in the region that would be synergistic to development here. That power could be used in Lyon County at this site, rather than transmitting to distant sites. This is another potential efficient use of power because of the proximity to the potential power generating sources.
- Electricity generated here could be used to supply the commercial and industrial uses in the areas now zoned an industrial district.
- The industrial district will facilitate value-added mineral processing activities in the future, including the iron and potential future processing of copper concentrate pressure oxidation or bioxidation. Approximately 70% of the cost of processing of copper ore to saleable copper is in smelting and refining. That is now projected to be done overseas, since there is little smelting and refining capacity in the U.S. Therefore, these value-added economic activities are being exported overseas. Though they are costs to the Company (and will be incurred in any event) such activities are economic benefits to the community if they could be done locally. The Nevada Division of Minerals is currently conducting a study to investigate value-added mineral processing in Nevada.
- Other factors that enhance opportunities for sustainable economic development include potential for co-located water services. NCI entered into an agreement with the City of Yerington whereby the City would provide water service of up to 3,500 acre-feet of water to serve the project. As part of that agreement, NCI would develop infrastructure, at its own cost, to deliver water to and/or from Pumpkin Hollow.

3.2.1 Industrial Development

Upon completion of mining operations, the goal is to <u>convert</u> -- rather than decommission and demolish - mine facilities and infrastructure that could eventually be turned over to the City. During mine operations, such infrastructure could be used to support new, co-located industrial

and commercial developments. Again, a larger area of developable land and established infrastructure could potentially facilitate much more sustainable, future economic development.

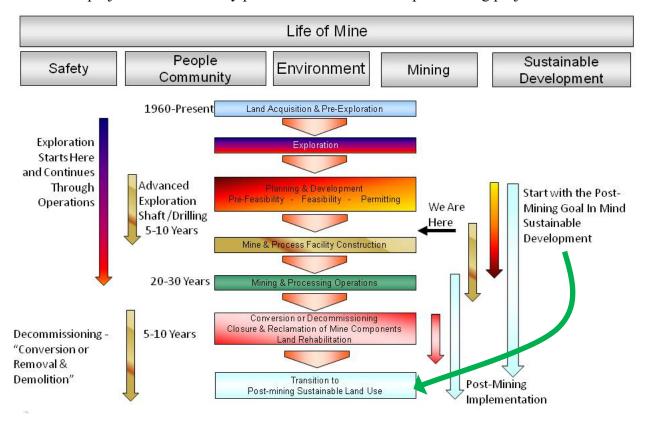
With such a significant commitment by both parties, development of water infrastructure would benefit both mine development and other water service needs in Pumpkin Hollow during mining and upon completion of mining.

In conjunction with the water service agreement, the City sought to enhance the value of those services, including access to and from lands within the City and expansion of City boundaries to include all or part of Pumpkin Hollow. That resulted in annexation of all the conveyed lands and existing private lands leased by NCI Pumpkin Hollow into the City, allowing the city to share in property and Net Proceeds of Mines taxes and building permit fees.

NCI is also evaluating options for alternative road, rail and infrastructure (electrical, water, natural gas) access to the property from U.S. Highway 95 to the north to support the full development of the project.

Considering the above developments, it became clear the many benefits that will be achieved when the lands in and around Pumpkin Hollow are developed from the converted public ownership to private lands under local control.

The following "Mine Life Cycle" diagram provides an overview of the strategy for development of the mine project and the five key pillars of life-of-mine and post-mining project execution.



3.2.2 Recreation Opportunities

Additionally, the City retained ownership of about 913 acres of the conveyed lands and is proposing to develop a multipurpose recreational complex that could host the largest country music festival in Nevada: Night in the Country. Night in the Country not only generates an economic impact to Lyon County of over \$3 million annually, it can be grown and enhanced by developing a permanent site. That concert has been held in Mason Valley for 16 years and could be greatly expanded with such a large, dedicated site. A permanent site could also provide entertainment facilities, camping and other recreational facilities that could be used for many other major events and concerts for most of the year. This was all made possible by the Yerington Land Conveyance.

In 2017, the City obtained a \$75,000 Community Development Block Grant from the Governor's Office of Economic Development (GOED) to begin planning for the Pumpkin Hollow Multipurpose Recreational Complex.

3.3 Facility Considerations

Facility siting studies have undergone three iterations since the Project began development (Mines Group, 2008; Tetra Tech, 2013; Sedgman, 2018). As described previously and in Section 4 below, most of the Project area exhibits low natural resource values and impacts from the Project vary little across the Project area.

There are no Federally threatened or endangered species in the Project area. The only Federally threatened or endangered species that occur in Lyon and Mineral Counties are fish species, and there are no perennial or fish-bearing streams in the Project area.

Archaeological surveys have been performed over the full Project area. Development of the Underground Mine does not affect any Native American Reservation Lands or sacred sites. The remaining National Register eligible archaeological sites are required to be mitigated under the terms of the Land Conveyance, meaning the Project area will be devoid of any cultural resources.

There have been no formal objections to the Project from environmental groups or other non-governmental organizations.

The locations of the Underground Mine and Open Pit facilities are fixed by the physical location of the ore bodies. Processing and support facilities were then only facilities considered for alternative siting. Due the low resource values present in the Project area, all facilities were sited primarily based on being technically and economically feasible locations that support the business plan and the need to facilitate long term economic benefit and sustainable development to the area around Yerington, which has the highest unemployment rate in the state.

3.4 Facility Alternatives

Alternatives were then focused on the few options available for long-term storage of the mine tailings, the only remaining major facility to be considered. Alternatives long-term tailings management included: 1) conventional slurried tailings deposited behind a dam and 2) filtered, unsaturated tailings placed or "stacked" in a permanent tailings storage facility.

The filtered tailings management alternative (also referred to as "dry stack") was selected for the following reasons:

• Decreased water consumption. Compared to slurried tailings more water is recovered and recycled into the process and results in a 50-65% reduction in water consumption;

- No dam is required for filtered tailings. Reduced costs and risks associated with a dam in a high seismic area;
- Topography that would require 50-100% more land area for a tailings dam and impoundment as compared to a much smaller dray stack tailings storage facility with unsaturated tailings that can be stacked:
- Reduced risks associated geotechnical stability of the tailings mass and a tailings dam;
- Reclamation and closure benefits: ability to perform concurrent reclamation, smaller area to reclaim, no need for an impermeable liner, no need for large seepage ponds, no long-term management of residual draindown (significantly decreased costs and long-term risks) as compared to conventional slurried tails.

The design was developed based on hydrological and geotechnical studies that included review of regional climate data, drilling and testing programs, and laboratory characterization of subsurface and tailings samples.

Geotechnical assessments indicate that the design of the dry stack meets regulatory and tailings guideline requirements. The tailings are expected to be trafficable with trucks soon after placement at the design water content, and the risk of foundation and or tailings instability is low for the proposed operation. Based on the results of infiltration and seepage modeling, the storage of tailings in the facility is not expected to impact the regional groundwater system, located approximately 300 feet below ground. Under warm climate conditions, the water balance of the facility is negative, with evaporation being the largest component of the system.

Annual evaporation water losses were calculated to be greater (60 inches per annum) than annual precipitation (5 inches per annum). Under these conditions seepage is limited to the drainage of moisture that was placed with the tailings material. The flow associated with the drainage of moisture content is anticipated to be minimal throughout operations and into closure.

Filtered tailings will be produced by thickening and pressure filtering the final flotation tailings. The underground paste backfill portion of the tailings will be thickened and combined with cement and other binders before being deposited in the underground mine workings.

Thickening and filtration of tailings allows for better process water management and control. Process water will be recycled from the tailings and concentrate thickener overflows. Fresh water will generally be used only for pump gland service, mill lube cooling, SAG mill ring motor cooling, reagent preparation, and safety showers / eyewash stations.

4 ENVIRONMENTAL ASPECTS AND ELEMENTS

4.1 Environmental Aspects & Elements

Environmental aspects are those activities, facilities and elements of an action that "can interact with the environment."

Environmental elements are the "surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation" (ISO 14001-2004). For example, placement of mine waste rock is an aspect that can affect all the environmental elements listed above.

The following are briefly identified and have been analyzed in detail to support the regulatory permit requirements and to ensure that the project has the lowest practicable impact on the environment.

4.1.1 Environmental Aspects

The following is an overview list of the environmental aspects potentially associated with the project. Each of these have been described in detail for the permit applications and supporting documents. The project description identifies all aspects of the project to support and operate all authorized activities.

- Open Pits
- Underground Mine Workings
- Mineral Process-Beneficiation Facilities
 - o Crushing, Grinding and Flotation
 - o Ore, Concentrate, and Tailings Conveyors
 - o Paste Backfill Facilities
- Chemical Storage Facilities
 - o Reagents
 - o Lime Handling & Storage
- Haul Roads
- Mine Rock Storage Facilities (MRSF)
 - Mine Rock Hauling
- Dry Stack Tailings (Dry Stack)
 - o Tailings Hauling
- Process Water Secondary Containment Basins and Structures
- Mine Stormwater Runoff and/or Dry Stack Seepage Collection Basins
- Stormwater Management Basins & Best Management Practices (BMPs)
- Water Wells (Supply, Monitoring, and Dewatering)
- Mine Dewatering and Management of Those Waters
 - Water Pipelines
 - o Sediment Control Structures
 - Rapid Infiltration Basins
 - o Farm Pasture
- Ore Stockpiles
- Exploration and Other Drilling Activities
- Onsite Access Roads
- Offsite Streets, Roads, and Traffic
- Other Land Disturbance
- Pipelines
- Fuel Storage Facilities (Tanks and Pipelines)
- Electrical Generation Facilities
- Electrical Transmission Facilities
- Noise
- Lighting
- Access

4.1.2 Environmental Elements

The Environmental Elements list is based on the United States National Environmental Policy Act (NEPA), the Council on Environmental Quality's (CEQ) NEPA regulations (40 CFR Parts 1500–1508) and the Department of the Interior NEPA manual. As described by the CEQ regulations, NEPA "is our basic national charter for protection of the environment" (40 CFR 1500.1). According to the regulations, "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment" [40 CFR 1500.1(c)]. Elements from the NEPA listings that were present and potentially affected by the project were selected and included in the following analysis. Appendix 1 of BLM's NEPA Handbook (H-1790-1) identifies supplemental authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents (BLM, 2008). Table 1 lists the Supplemental Authorities (interchangeable with "Environmental Elements") and their status in the Project Area. Additional resources other than the Supplemental Authorities that may be affected by the project are included in

Table 2.

Table 1. Supplemental Authorities or Environmental Elements From H-1790-1.

Resource	Present Yes/No	Affected Yes/No	Rationale
Air Quality	Y	Y	The Project Area is within an air attainment basin. The Nevada Department of Environmental Protection is responsible for the permitting of activities that may produce emissions or particulates. The Project has the potential to generate gaseous or dust particulate emissions.
Areas of Critical Environmental Concern	N	NA	Resource not present.
Cultural Resources	Y	Y	The cultural resources inventory identified 105 sites within the APE. Of these, 79 are historic in age, 24 are prehistoric in age, and two have both historic and prehistoric components. See Section 4.1.5.
Environmental Justice	Y	No	Present, not affected.
Farm Lands (prime or unique)	N	NA	Resource not present.
Floodplains	N	NA	Resource not present.

Resource	Present Yes/No	Affected Yes/No	Rationale
Invasive, Non-native Species and Noxious Weeds	Y	N	Only invasive species are present in the Project Area. No noxious weeds are present based on the Biological Technical Report, See Section 4.1.4.
Migratory Birds	Y	Y	See Section 4.1.4.
Native American Religious Concerns	N	NA	Consultation with the Walker River Paiute Tribe and Yerington Paiute Tribe were initiated in January 2015. Consultation is ongoing. To date, no religious concerns have been identified for the Project Area.
Threatened or Endangered Species	N	NA	Resource not present.
Wastes, Hazardous or Solid	Y	Y	Potential impacts could be from the result of spills, equipment malfunction or human error and could include, but are not limited to, petroleum and chemical spills resulting in contaminated soil or water. See Section 4.1.15.
Water Quality (Surface/Ground)	Y	N	Mine activities may alter groundwater and/or surface water chemistry, quantity, or behavior. See Section 4.1.16 and 4.1.17.
Wetlands/Riparian Zones	N	NA	Resource not present.
Wild and Scenic Rivers	N	NA	Resource not present.
Wilderness/WSA	N	NA	Resource not present.

Table 2. Additional Resources and Issues Considered but Not Included in Supplemental Authorities.

Resource or Issue	Present Yes/No	Affected Yes/No	Rationale
BLM Sensitive	Y	Y	See Section 4.1.4.
Species (animals)			
BLM Sensitive	Y	Y	See Section 4.1.4.
Species (plants)			
Fire Management	N	NA	Resource not present.
General Wildlife	Y	Y	See Section 4.1.4.
Global Climate	Y	Y	See Section 4.1.3.
Change			

Greenhouse Gas Emissions	Y	Y	See Section 4.1.3.
Land Use Authorization	Y	Y	See Section 3.2.
Lands with Wilderness Characteristics	N	NA	There are no delineated Lands with Wilderness Characteristics in the Project Area. No lands within the Project Area were considered suitable for wilderness designation when the BLM completed a review in 1989.
Livestock Grazing	Y	Y	See Section 4.1.8.1.
Minerals	Y	Y	See Section 4.1.8.1.
Paleontological	N	NA	Resource not present.
Power Supply	Y	Y	See Section 4.1.9.
Recreation	Y	Y	See Section 4.1.10.
Socioeconomics	Y	Y	See Section 4.1.6, 4.1.7, 4.1.12.
Soils	Y	N	See Section 4.1.13.
Travel Management	Y	Y	See Section 4.1.4, 4.1.11.
Vegetation	Y	Y	See Section 4.1.4.
Visual Resources	N	NA	The public lands within the Conveyance Area
			were unclassified for Visual Resource Classifications. See Section 4.1.14.
Wild Horses and	N	NA	There is not a herd management area within the
Burros			Conveyance Area.

Supplemental Authorities or Additional Resources determined to be Not Present or Present/Not Affected are not carried forward or discussed further in the document. Only those Supplemental Authorities or Additional Resources determined to be Present and May Be Affected are discussed further in the following.

The following resources are or may be present in the Project area and may be affected by the mining activity. The following sections provide a summary (by each affected Authority or Additional Resource) of the existing environment, baseline studies performed, impacts, and mitigation measures taken to reduce potential impacts. The detailed reports related to each affected resource topic is referenced in each section.

4.1.3 Air Quality

The combined Open Pit Mine and Underground Mine at Pumpkin Hollow were granted a revised Class II Air Pollution Control Permit (AP1021-3369) on July 30, 2015 by the Nevada Division of Environmental Protection Bureau of Air Pollution Control (BAPC). The permit was renewed on June 26, 2018 and Pumpkin Hollow received a "Notification of Initial Completeness" from the BAPC, allowing Pumpkin Hollow to continue activities while the permit renewal process moves forward. Previously, the project was granted a Surface Area Disturbance Permit during Advanced Exploration phase (shaft sinking) and an operating permit for the stand-alone underground mine.

Facilities that emit less than 100 tons per year for any one regulated pollutant and emit less than 25 tons per year total of Hazardous Air Pollutants (HAP) and emit less than 10 tons per year of any one HAP are classified as Class II or minor permits.

The Underground Mine includes one production shaft located at the East ore body and more than one vent shaft in support of operations with a copper mining and ore processing capacity of up to approximately 7,500 tons per day (tpd) and 2,737,500 tons per year (tpy).

The open pit mining operations includes mining of two ore bodies with two interconnected pits located on the western portion of the Project site. Initial production will commence in the North pit and subsequently the South pit. Production will mostly be from one pit or the other, but mining may be conducted at the same time during a transitional period. Ore produced from the open pit mine will be processed on-site at a rate of up to 80,000 tpd or 29,383,000 tpy.

Both the Underground and Open Pit Mines will process mined ore in on-site flotation facilities. Concentrate product will be trucked off-site and tailings material will be routed to a tailings filtration plant to be thickened, filtered, and conveyed for placement on a Dry Stack Tailings (DST) facility. Overburden and mine rock will be placed into Mine Rock Storage Facilities (MRSFs) on-site.

4.1.3.1 Potential Air Quality Impacts

The potential to generate fugitive dust does exist. Fugitive dust could be generated from roads or construction areas due to vehicle or other mine-related activity. Transfer of tailings or other rock material by conveyor or hoist could also generate dust. NCI maintains a road and construction watering program to control fugitive dust. NCI also includes water sprayers on conveyor or other transfer points with potential to generate dust. To control fugitive dust, NCI will abide by their Fugitive Dust Plan.

Other gaseous emissions such as NO_x, SO_x or CO₂, such as from combustion engines, could be produced by mining operations. NCI minimizes emissions by adoption of efficient technology and monitoring of hours of operation of emitting equipment. Management of other emissions is administered by the Class II Air Quality Control Operating Permit AP 1021-3369. Annual emissions are inventoried annually and reported to BAPC. The Pumpkin Hollow project will not produce mercury emissions.

4.1.3.2 Measures Taken to Reduce Potential Air Quality Impacts

Permitting included preparation of an emissions inventory and an air dispersion model. These resulted in particulate emissions of less than 100 tpy. No other emissions exceeded quantities that would trigger a Class I permit. As result, the project was qualified for a Class II Air Permit.

The current 5,000 tpd Underground Mine will relocate and modify the emission points. An application to modify this permit is being prepared that changes only the location of emission points. The 7,500 tpd throughput will be retained in the modification to accommodate future increases in throughput.

Gaseous and dust emissions will be managed to achieve quantities specified by the Class II Air Quality Control Operating permit AP1021-3369. Annual reporting to NDEP-BAPC is part of compliance with the Class II permit. NCI will provide annual air emissions inventory reports to BAPC quantifying totals and rates of emissions for designated particulates and gases. Emissions totals are typically calculated based on a fraction of throughputs to each of the transfer or other monitoring points. Totals are calculated on forms provided by BAPC. All monitoring data provided to BAPC becomes accessible as public record.

The monitoring schedule for each of the transfer and other monitoring points is maintained by site staff in accordance with BAPC requirements. Opacity testing will be conducted certified testers at designated intervals indicated in the permit. Opacity testing will be conducted on all transfer points designated in the permit. Results of opacity testing will be submitted to BAPC. Corrective action may be necessary to reduce visible emissions.

4.1.3.3 Supporting Documents

Nevada Copper, Inc. Application for Class II Operating Permit. May 6, 2015.

Nevada Division of Environmental Protection, Bureau of Air Pollution Control. July 30, 2015. Class II Air Pollution Control Permit (AP1021-3369, Facility ID A0944), renewed June 26, 2018.

4.1.4 Biological Resources

The terms "Conveyance" Area and "Project" Area as used below are nearly synonymous in size and meaning except for the Mineral county lands and the area retained by the City, which are excluded from the Project Area. Therefore, the Project Area described below lies fully within the larger Conveyance Area.

4.1.4.1 Wildlife (Fauna)

The project area has no surface water streams or other special habitat features. A description of the wildlife in the area was provided in the 2015 BLM Environmental Assessment for the Yerington Land Conveyance.

A variety of reptile species occur in the Conveyance Area including Great Basin whiptail (Aspidoscelis tigris tigris), zebra-tailed lizard (Callisaurus draconoides), Great Basin rattlesnake (Crotalus oreganus lutosus), Great Basin collared lizard (Crotaphytus bicinctores), desert horned lizard (Phrynosoma platyrhinos platyrhinos), western fenced lizard (Sceloporus occidentalis), and others (RCI 2015). Mammals known to occur include Meriam's kangaroo rat (Dipodomys merriamii), North American deer mouse (Peromyscus maniculatus), golden-mantled ground squirrel (Spermophilus canus), coyote (Canis latrans), mountain lion (Felis concolor), and others.

Various species of raptors, which use diverse habitat types, are known to reside within the vicinity and may use the Conveyance Area for hunting. NDOW species of interest that have been documented with a four-mile buffer area around the Conveyance Area include bald eagle, burrowing owl, ferruginous hawk, golden eagle, northern goshawk, peregrine falcon, prairie falcon, and short-eared owl. Other raptors that may use the Conveyance Area are listed in Attachment B. Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c).

The BLM provided sensitive species lists for the BLM Carson City District and BLM Nevada that included 21 mammal, 12 bird, one reptile, three amphibian, five fish, three insect, and two mollusk species. These were evaluated for potential to occur in the Conveyance Area based upon habitat descriptions and habitat availability (RCI, 2015). Table 5 lists ten species that were found to have habitat and the potential for occurrence in the Conveyance Area. Unidentified bats were observed in the Conveyance Area as well as a burrowing owl and Brewer's sparrows. No raptor nests were detected within the Conveyance Area, and no other BLM sensitive animal species were observed.

Table 4. Sensitive species with potential to exist in the Conveyance Area.

Common Name Scientific Name	Habitat
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Townsend's big-	Corynorhinus townsendii	Salt desert scrub habitat with caves and
eared bat		abandoned mines.
Western small-footed	Myotis ciliolabrum	Sagebrush steppe and pinyon-juniper
myotis		
Fringed myotis	Myotis thysanodes	Desert scrub. Roosts in mines and caves.
Long-legged myotis	Myotis volans	Occasionally in salt desert shrub and sagebrush. Night roosts in caves, mines.
Western pipistrelle	Pipistrellus hesperus	Salt desert shrub; rock crevices, caves and mines for nesting.
Dark kangaroo mouse	Microdipodops	Shrubs associated with gravel soils and
	megacephalus	sand dunes.
Pale kangaroo mouse	Microdipodops pallidus	Fine sand supporting <i>Atriplex</i> , <i>Artemisia</i> , and <i>Sarcobatus</i> .
Golden eagle	Aquila chrysaetos	Eagles may hunt within the Conveyance
	1	Area and may nest on tall powerline
		structures.
Burrowing owl	Athene cunicularia	Salt desert scrub.
	һуридаеа	
Loggerhead shrike	Lanius ludovicianus	Open habitats with thorny shrubs.
Brewer's sparrow	Spizella breweri	Sagebrush and desert scrub.

Migratory birds are protected by Executive Order 13186 issued by President Clinton on January 11, 2001 and the Migratory Bird Treaty Act of 1918. Management for these species on BLM land is based on Information Bulletin (IB) No. 2010-110 which transmits the 2010 Memorandum of Understanding (MOU) between the BLM and the FWS for the conservation of migratory birds, and Instruction Memorandum IM 2008-050.

A list of 20 migratory bird species for Lyon and Mineral counties was compiled from the US Fish and Wildlife Service Information, Planning, and Conservation System database. Four of these have habitat and potential for occurrence in the Conveyance Area: golden eagle, burrowing owl, loggerhead shrike (*Lanius ludovicianus*) and Brewer's sparrow.

4.1.4.2 *Vegetation (Flora)*

JBR Environmental Consultants, Inc. (JBR) performed a threatened, endangered, candidate and sensitive plant survey on May 17, 2007, within an area surrounding the proposed Pumpkin Hollow Project

The survey area is dominated by salt desert shrub communities, with a predominant Bailey's greasewood (*Sarcobatus baileyi*) community and some wash floodplain areas consisting primarily of burrobrush (*Hymenoclea salsola*). One area, located at the high elevation point of the survey area, consisted predominantly of shadscale (*Atriplex confertifolia*).

In 2011, Great Basin Ecology conducted a Golden Eagle Survey and Regional Screening Level Biological Resources Assessment Report. No impacts to sensitive species were indicated by these studies.

In 2015, the BLM prepared A Biological Technical Report and an Environmental Assessment that evaluated vegetation resources.

The Conveyance Area is dominated by Intermountain Basins Mixed Salt Desert Scrub communities with small inclusions of Great Basin Xeric Mixed Sagebrush Shrubland, Intermountain Basins Big Sagebrush Shrubland, and Intermountain Basins Semi-Desert Shrub Steppe (RCI 2015). Shrub compositions varies from 20-75 percent between different ecological sites. The dominate shrubs are Bailey's greasewood (Sarcobatus baileyi), shadscale (Atriplex confertifolia), bud sagebrush (Picrothamnus desertorum). The herbaceous component of the vegetation is variable and includes grasses ranging from 25 to 75 percent of the composition that include bottlebrush squirreltail (Elymus elymoides), Sandberg bluegrass (Poa sandbergii), desert needlegrass (Achnatherum speciosum), Indian ricegrass (Achnatherum hymenoides), and James' galleta (Hilaria jamesii). Forb composition is variable and dependent primarily upon spring precipitation. Common forbs include pincushion (Chaenactis douglasii), desert dandelion (Malacothrix glabrata), winged four o'clock (Mirabilis alipes), globemallow (Sphaeralcea parviflora), Bailey buckwheat (Eriogonum baileyi) and Panamint prince's plume (Stanleya elata). Invasive species include halogeton (Halogeton glomeratus), cheatgrass (Bromus tectorum), red brome (Bromus rubens), Russian thistle (Salsola tragus), and tansy mustard (Descurainia sophia). No noxious weeds were detected within the Conveyance Area.

The BLM provided sensitive species lists that included 33 sensitive plant species. These were evaluated in the Biological Technical Report for potential to occur in the Conveyance Area based upon habitat descriptions and habitat availability (RCI, 2015). Seven species that were found to have habitat and the potential for occurrence in the Conveyance Area.

Botanical surveys conducted in the Conveyance Area in 2007 by JBR Environmental Consultants, Inc. and in 2014 by Resource Concepts, Inc. are summarized in Attachment B (RCI, 2015). One BLM sensitive plant species was detected in the Conveyance Area: sand cholla. Mojave prickly pear (*Opuntia erinacea*) was also detected in the Conveyance Area. While Mojave prickly pear is not classified as a BLM sensitive species, both cacti are protected and regulated by Nevada Revised Statutes 527.060.120 and Nevada Administrative Code chapter 527.

4.1.4.3 Potential Impacts to Biological Resources

Mining and exploration will disturb about 3,900 acres of land and potential habitat to construct surface facilities. Disturbance typically consists of removal vegetation and stockpiling of the upper 0.5 to one (1) foot of soil and vegetation and grading of the area to facilitate construction. Future disturbance associated with the Underground Mine is estimated at 400 acres. Future disturbance associated with the Open Pit Mine is estimated at 3,500 acres. Disturbance will be limited to private lands controlled by NCI.

The Pumpkin Hollow operation will construct several lined basins designed to impound process or other fluids related to the project. Mortality of wildlife could occur in the basins. Other minerelated activities, such as truck traffic, could result in wildlife mortality.

4.1.4.4 Measures Taken to Reduce Potential Impacts to Biological Resources

NCI maintains a reclamation permit wherein reclamation to a productive post-mining land use is required. NCI's goal is to convert much of the disturbed land to industrial and commercial use. Lands that are not converted will be reclaimed to native vegetation in support of wildlife habitat and grazing land..

A comprehensive inventory of all project disturbances is kept by NCI and reviewed at least once every three years by NDEP-BMRR. The disturbance inventory is updated regularly including the

size of each disturbance as well as its status of reclamation such as graded, ripped, seeded, revegetated, or released.

Disturbed areas that will be reclaimed, are graded to a stable slope, stockpiled soil replaced over the disturbed area. The area is then graded to promote drainage and revegetation. Plant species are selected for revegetation that are endemic to the project area, typically after vegetation baseline studies, described in Section 4.1.4.2, and approved by NDEP-BMRR. Seeding of reclaimed sites will typically occur during the winter when moisture is most available to maximize revegetation success.

Any lined basin where mortality of wildlife could occur will be fenced pursuant to the Nevada Department of Wildlife (NDOW) requirements (NAC 504.478). NCI is presently investigating if additional permitting and reporting requirements will become necessary with NDOW due to processing chemicals used in the project. If NDOW determines sufficient risk is posed to wildlife due to chemicals used, an Industrial Artificial Pond Permit (IAPP) necessitating a minimum of annual inspection and review of the project by NDOW staff.

To minimize risk of wildlife mortality resulting from vehicle traffic and maximize site safety, project area speed limits are posted at 25 miles per hour. Effort is also made to reduce or eliminate low visibility turns or roadways. Fencing is also used to exclude wildlife, particularly cattle and other large ungulates, from high traffic areas.

No threatened or endangered wildlife or vegetation will be impacted by the project. The habitat disturbed temporarily by the mine is not unique. Total disturbance associated with the Open Pit mine, 3,500 acres, represents less than one (1) percent of total similar, undisturbed habitat within Mason Valley. Except those acres potentially occupied by the open pits in the future (about 700 acres), essentially all disturbance will be reclaimed to wildlife habitat like that existing prior to the mine's construction.

4.1.4.5 Supporting Documents

JBR Environmental Consultants, Inc. July 2007. Threatened, Endangered, Candidate & Sensitive Plant Survey, Pumpkin Hollow Project JBR Project No. 07.000148.01

Great Basin Ecology, Inc. April 2011. Pumpkin Hollow Project Golden Eagle Survey, Great Basin Ecology Project Number 15501 Great Basin Ecology Report Number: 11-014.

Great Basin Ecology, Inc. September 2011. Pumpkin Hollow Project, Regional Screening Level Biological Resources Assessment Report.

Bureau of Land Management. July 2015. Final Environmental Assessment - Yerington Land Conveyance. DOI-BLM-NV-C000-2015-0001-EA.

Resource Concepts, Inc. April 9, 2015. Biological Technical Report, Yerington Lands Conveyance, Lyon and Mineral County, Nevada. Prepared For: BLM Carson City District and the City of Yerington.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. December 24, 2015. Reclamation Permit 0288.

4.1.5 Cultural and Historical Resources

Cultural resources on the Pumpkin Hollow project area were summarized in the Yerington Land Conveyance Environmental Assessment (BLM, 2015) as follows:

The Area of Potential Effect (APE) for the Conveyance includes approximately 10,150 acres of public land to be conveyed to the City. Under Section 106 of the NHPA, an APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist." The term "cultural resources" generally refers to material evidence of past human activities, usually more than 45 or 50 years old. The term "site" generally refers to a non-architectural cultural resource, such as a prehistoric lithic scatter or a historic debris scatter. The term "historic property" has a specific regulatory meaning under the NHPA. A historic property is any prehistoric or historic-age district, site, building, structure, or object listed on, or eligible for listing on, the National Register of Historic Places (NRHP).

The National Park Service has established three main standards that a cultural resource must meet to qualify for listing on the NRHP: age, integrity, and significance. To meet these criteria, a cultural resource generally must be at least 50 years old, possess integrity (of location, design, setting, materials, workmanship, feeling, and association, depending on the significance criteria), and must demonstrate significance under one or more of the following criteria:

- Criterion A Be associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B Be associated with the lives of persons significant in our past; or
- Criterion C Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D Has yielded, or is likely to yield, information important in prehistory or history.

In fulfilling the requirements of Section 106 of the NHPA, the BLM must make a good-faith effort to identify historic properties in the APE. The common approach to identification is to perform archival research, followed by pedestrian inventory of the APE. For that purpose, Western Cultural Resource Management, Inc. (WCRM) conducted a Class III cultural resources inventory of approximately 14,273 acres in Lyon and Mineral counties, Nevada (Figure 4) (Stoner et al. 2015). Of this acreage, approximately 1,347 acres were privately owned. The remaining acreage (approximately 12,927 acres) was public land managed by the BLM. The inventory was completed prior to passage of the Act, when the exact conveyance area was not yet known. The inventory provided complete coverage of the APE, and also covered lands outside the APE. The privately-owned land located inside the larger Conveyance Area is not considered part of the APE.

The cultural resources inventory identified 105 sites within the APE. Of these, 79 are historic in age, 24 are prehistoric in age, and two have both historic and prehistoric components (Table 3). Most of the historic sites are related to community development and include road segments, refuse deposits, a ditch, and a historic geoglyph (the large letter "Y" that can be seen on Luhr Hill). The other historic sites are related to 20th century mining efforts associated with the Yerington Mining

District and the Mountain View Mining District. The prehistoric sites in the inventory area reflect the reduction of locally available chert toolstone, beginning in the Early Archaic and persisting into the Late Prehistoric period. Most of the prehistoric sites are simple flaked stone assemblages. The two multicomponent sites are a prehistoric simple flaked stone assemblage and historic mining/prospecting site, and a prehistoric simple flaked stone assemblage and historic refuse deposit.

Of the 105 sites within the APE, one prehistoric site and two historic sites have been determined eligible for the NRHP, and two prehistoric sites remain unevaluated pending further research (Stoner et al. 2015).

4.1.5.1 Potential Cultural and Historical Resources Impacts

The Project is estimated to disturb 3,500 acres over the life of the mine. There is potential for cultural or historical resources to be disturbed, buried, or displaced by Project activity.

4.1.5.2 Measures Taken to Reduce Potential Cultural and Historical Resources Impacts

Impacts to historic properties have been mitigated by negotiating and executing a Memorandum of Agreement (MOA) for resolving adverse effects to historic properties, and by developing and implementing a Historic Properties Treatment Plan (HPTP). Cultural resources would need to be mitigated per the HPTP before being disturbed.

4.1.5.3 Supporting Documents

Western Cultural Resource Management, Inc. August 3, 2012. A Class III Cultural Resources Inventory for the Yerington Land Transfer Project in Lyon County, Nevada. Prepared for Nevada Copper, Inc. and Bureau of Land Management, CRR-3-2610.

Bureau of Land Management. July 2015. Final Environmental Assessment - Yerington Land Conveyance. DOI-BLM-NV-C000-2015-0001-EA.

Stoner, E. J., M. C. Ringhoff, R. C. Kolvet, and J. Raley. 2015. A Class III Cultural Resources Inventory for the Yerington Lands Conveyance, Lyon and Mineral Counties, Nevada CRR-3-2610. Western Cultural Resource Management, Inc., Sparks, Nevada. Prepared for the City of Yerington, Nevada, under contract with Nevada Copper, Inc. and on file at the BLM Carson City District Office, Carson City, Nevada.

Western Cultural Resource Management, Inc., January 15, 2016, May 17, 2016. A Historic Properties Treatment Plan and an Unevaluated Sites Testing Plan for Sites in the Yerington Lands Conveyance APE, Lyon County, Nevada.

BLM, SHPO, Yerington. July 16, 2015. Memorandum of Agreement Among the Bureau of Land Management, Carson City District Office, the Nevada State Historic Preservation Officer and the City of Yerington Regarding the Yerington Lands Conveyance.

4.1.6 Gender

About 1,100 direct new jobs and 2,500 total new jobs are expected over the Project life. Mine workers are more commonly male and constitute about 87 percent of the mining workforce in the United States (BLS, 2018). Males are disproportionately affected by fatal mine accidents, constituting nearly all victims (USDL, 2018).

4.1.6.1 Potential Gender Impacts

All extractive and heavy industry projects have potential for accidental injury or loss of life as a result of project activity. Costs of bearing accidental loss of life and associated family and social disruption would fall disproportionately to females.

4.1.6.2 Measures Taken to Reduce Gender Impacts

NCI is an equal opportunity employer. (Nevada Copper Employee Handbook, 2018). All hiring will be conducted on basis of merit irrespective of candidate gender, race, or creed. All community consultation will be conducted without regard to gender, race, or creed. Equal pay will be furnished for equal work.

Every effort is made to reduce and eliminate potential for safety hazards for all Project workers. NCI maintains a robust safety program compliant with Mine Safety and Health Administration (MSHA) requirements. Project mine facilities are inspected randomly a minimum of once per quarter by MSHA inspectors.

4.1.6.3 Supporting Documents

Bureau of Labor Statistics. 2018. Household Data Annual Averages Employed persons by detailed industry, sex, race, and Hispanic or Latino ethnicity. Available: https://www.bls.gov/cps/cpsaat18.htm

United States Department of Labor Mine Safety and Health Administration (MSHA). Notification of Commencement of Operation.

United States Department of Labor Mine Safety and Health Administration (MSHA). 2018. Fatality Reports. Available: https://www.msha.gov/data-reports/fatality-reports/search

4.1.7 Human and Labor Rights, Safety, and Security

Nevada Copper has outlined all of its labor, safety and security practices and procedures in its Employee Handbook (Nevada Copper, 2018). The Handbook has been developed with management and legal input and is pending Board approval.

Miner safety and rights in the U.S. are extensively regulated with more than a century of development and precedent. Safety regulation is federally codified in Federal Mine Safety and Health Act of 1977 (Mine Act) as amended by numerous other statutes through April 2016. The U.S. Department of Labor's Mine Safety and Health Administration (MSHA), created in 1977 with the passage of the Mine Act, works to prevent death, illness, and injury from mining and promote safe and healthful workplaces for U.S. miners.

Identified by the International Labor Organization in the Declaration of the Fundamental Principles and Rights at Work and the International Covenant on Civil and Political Rights are five core labor standards:

- Freedom of association: workers are able to join trade unions that are independent of government and employer influence;
- The right to collective bargaining: workers may negotiate with employers collectively, as opposed to individually;
- The prohibition of all forms of forced labor: includes security from prison labor and slavery, and prevents workers from being forced to work under duress;

- Elimination of the worst forms of child labor: implementing a minimum working age and certain working condition requirements for children; and
- Non-discrimination in employment: equal pay for equal work.

4.1.7.1 Potential Human and Labor Rights, Safety, and Security Impacts

All extractive and heavy industry projects have potential for accidental injury or loss of life as a result of project activity.

4.1.7.2 Measures Taken to Reduce Human and Labor Rights, Safety, and Security Impacts

Every effort is made to reduce and eliminate potential for safety hazards for all Project workers. NCI maintains a robust safety program compliant with Mine Safety and Health Association (MSHA) requirements. Mine facilities are inspected randomly a minimum of once per quarter by MSHA inspectors. The MSHA regulations are publicly available and made available to all employees.

All employees of NCI are required to complete MSHA Training and retain corresponding certificates pursuant to 30 Code of Federal Regulations Part 48. NCI conducts regular additional safety and miner's rights training typically weekly. NCI includes fire safety and prevention training with regular safety training. Fire suppression equipment is kept in all vehicles and certified monthly. Employees are trained regularly on use of fire suppression equipment.

No employees will be hired under the age of 18. No employees or other services will be unpaid. Prison labor will not be used at any time. NCI is an equal opportunity employer. All hiring will be conducted on basis of merit irrespective of candidate gender, race, or creed. All community consultation will be conducted without regard to gender, race, or creed. Equal pay will be furnished for equal work.

NCI maintains 24-hour security presence including locked fencing and closed circuit television.

4.1.7.3 Supporting Documents

Nevada Copper Inc. 2018. Employee Handbook.

United States Department of Labor Mine Safety and Health Administration. 2016. Mine Safety & Health Deskbook. https://www.msha.gov/regulations/laws/mine-safety-health-deskbook

United States Department of Labor Mine Safety and Health Administration (MSHA). Notification of Commencement of Operation.

4.1.8 Land Use (Onsite and Adjacent)

The following table lists all existing land use authorizations within the Project Area.

 Table 5.
 Existing Land Use Authorizations within the Project Area

Regulating Agency	Authorization	Use Type
Nevada Department of Transportation	Right-of-Way	Material Site
Nevada Department of Transportation	Right-of-Way	Material Site
Los Angeles Department of Water and Power	Right-of-Way	Power
Los Angeles Department of Water and Power	Right-of-Way	Access
Verizon California, Inc.	Right-of-Way	Telephone
Sierra Pacific Power	Right-of-Way	Power

Nevada Copper, Inc. January 2019

Regulating Agency	Authorization	Use Type
Private Individual	Right-of-Way	Water
Private Individual	Right-of-Way	Access
Lyon County	Right-of-Way	Access / Utility
Nevada Hospital Association	Right-of-Way	Cable
Gridflex	Land Withdrawal	Not Applicable
Bureau of Land Management	Right-of-Way	Access

4.1.8.1 Livestock Grazing and Exploration

The Pumpkin Hollow Project is on undeveloped lands that were used primarily for grazing and mineral exploration and development. It is entirely within the City of Yerington Land Conveyance Area that overlaps with a portion of the Perry Springs Deadman (grazing) Allotment (hereafter referred to as the allotment). The allotment consists of 57,885 acres and prior to the conveyance was administered by the BLM Stillwater Field Office. Approximately 55 percent of the allotment is in Lyon County, with the remaining 45 percent located in Mineral County. An Allotment Management Plan has been implemented since 1970. The allotment is divided into three pastures, and the Conveyance Area is primarily located in the Pumpkin Hollow Pasture, with the power line corridor extending into the Hendricks Pasture to the east. The permitted class of livestock is cattle and the permitted use is 2,400 animal unit months (AUMs), all of which were active. The authorized period of use is December 1 to February 28 for 1,784 AUMs and March 1 to 31 for 615 AUMs. This BLM grazing permit was held by William Barron Hilton Family Trust part of the Flying M Ranch.

Two existing BLM range improvements are located within the Land Conveyance. A cattle guard is located along East Pursel Lane on the western boundary of the Conveyance Area, and the Pumpkin Hollow Well is in Section 34, T. 13 N., R. 26 E. The Pumpkin Hollow well was certified by the state in 1990 to the William Barron Hilton Family Trust for stock water use at a rate of 0.016 cubic feet per second (cfs) or enough water for 500 head of cattle. State records indicate this well was drilled to a depth of 285 feet and installed with an eight inch well casing.

The permittee (William Barron Hilton Family Trust) was notified of the conveyance and pending land ownership change on January 12, 2015. The Act did not exempt regulation 43 CFR 4110.4-2(b) from compliance. This regulation provides the grazing permittee receive a two-year notification before grazing preference may be canceled in whole or in part, unless the permittee chooses to waive the two-year notification.

After completion of the land conveyance, grazing will no longer be managed by BLM per the Grazing Administration Manual M-4100 or under authority of the Taylor Grazing Act and Federal Land Policy and Management Act. The existing BLM Allotment boundary would be revised, a new grazing permit would be issued with reduced AUMs, and the existing allotment management plan would be updated and conveyance lands will be excluded when the BLM prepares a new term livestock grazing permit in the future.

4.1.8.2 Potential Livestock Grazing and Exploration Impacts

Potential impacts to Livestock Grazing will be the same as described in Section 4.1.4.3.

The Project may impact future exploration due to construction of its facilities. The Open Pit Mine Rock Storage Facility will be large (>500 feet tall) and may cover and hinder future access to

potential exploration targets. Conversely, excavation of the open pits and underground workings may facilitate access to mineralized zones.

4.1.8.3 Measures Taken to Reduce Potential Livestock Grazing and Exploration Impacts

All the Conveyance Lands have been converted from grazing to industrial. No measures are necessary to reduce impacts to grazing.

Exploration drilling conducted by NCI and previous operators to date indicates few or no economic resources are located under areas that will be buried by Mine Rock Storage Facilities. Areas to be covered by the Dry Stack Tailings Facility do contain potentially economic minerals, but these areas will be accessible via underground workings. Future access to the open pit faces and underground workings will remain available as these facilities will not be significantly backfilled. Access may be more challenging in the distant future, however, as the underground workings and open pits may flood.

4.1.8.4 Supporting Documents

Resource Concepts, Inc. June 19, 2015. Updated Evaluation Report for the Perry Spring Deadman Allotment.

Bureau of Land Management. July 2015. Final Environmental Assessment - Yerington Land Conveyance. DOI-BLM-NV-C000-2015-0001-EA.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. December 24, 2015. Reclamation Permit 0288.

4.1.9 Power Supply

Process facilities, including the mills, underground hoists, pumps, will be predominately electrically powered. Diesel generators may be used to supply facilities with electric power but typically only in specific or emergency situations. Electrical service will be delivered via a 120 kilovolt (kV) overhead lines that will tie into existing infrastructure to the northeast of the Project area. The 120-kV line will cross NCI land and supply the project from the metering point switchyard near the East Shaft. Smaller distribution lines will split from the 120-kV line and supply Project facilities, including the open pits, etc.

4.1.9.1 Potential Power Supply Impacts

Supplying power to the Project will require the construction of a 120-kV overhead power line. The new power line will be about four (4) miles long and cross predominately undisturbed land. The power line will be constructed on private lands owned and controlled by NCI.

The Project will increase the availability of electric power in the Project area during mining and potentially afterward. Formerly, no electric power infrastructure existed in nearly all of the western half of the Project area.

4.1.9.2 Measures Taken to Reduce Power Supply Impacts

A desktop study was executed assessing capacity of the local electrical grid to supply the Project power. No additional power generating infrastructure, apart from the 120-kV overhead power line, will be necessary to power the Project. Proposed infrastructure for the Project will be appropriately sized for Project needs. The existing infrastructure northeast of the Project area does

not supply the nearby City of Yerington. The City will not be affected by operation of the electrical components of the Project.

Disturbance associated with the power line construction will be limited to an access road and enough area to erect each of the power line poles. If the power line is removed at mine closure, the disturbance will be reclaimed pursuant to the Reclamation Permit 0288.

4.1.9.3 Supporting Documents

Tetra Tech. April 15, 2015. NI 43-101 Technical Report Integrated Feasibility Study Pumpkin Hollow Project Yerington, Nevada. Document: 910265-REP-R001-00.

4.1.10 Recreation

The Yerington Land Conveyance Area was open to casual recreational uses and were available for permitted events per the BLM Recreation Permit Administration Handbook H-2930-1. Recreational uses included, but were not limited to, hiking, biking, and off-highway vehicle riding. Special recreational events have been permitted in the past within portions of the Conveyance Area. The Mason Valley Dirt Squirts event is one example of an annual off-highway vehicle event that has been previously permitted within portions of the Conveyance Area. An event was planned in September 2015 but were to occur outside the Conveyance Area. There were no recreational permits issued within the Conveyance Area at the time of the Land Conveyance (BLM, 2015).

4.1.10.1 Potential Recreation Impacts

All the Yerington Land Conveyance lands have been converted to industrial use. Dispersed recreation may still be allowed outside active mine areas. As the lands are developed further access for dispersed recreation will be further reduced. The Project is estimated to disturb 3,500 acres over the life of the mine. Mine facilities such as the Mine Rock Storage or Dry Stack Tailings will cover existing roads and potentially reduce access to specific areas or public lands. NCI will also erect fences around its Project area that will preclude access during active mining operations for safety reasons.

The City retained 913 acres of land acquired by the Yerington Land Conveyance. It intends to develop a multipurpose recreation site there that will add recreational activities and area there.

4.1.10.2 Measures Taken to Reduce Potential Recreation Impacts

Mining represents a temporary land use. Upon completion of mining facilities and infrastructure will be converted to some other commercial or industrial use if possible. If not, land will be contoured and revegetated with adapted plant species and support wildlife. As described in Sections 2.2 and 2.2, NCI operates under Reclamation Permit #0288 that requires conversion or reclamation of disturbances to an approved productive post-mining land use. NCI's approved post-mining land uses includes future commercial and industrial economic use, and where not otherwise converted, reclaimed to wildlife habitat, recreation, and rangeland where lands. Non-commercial/industrial land disturbed by the mining operation will be graded, covered, and revegetated with native or adopted species. Successful revegetation will restore quality habitat and improve local game populations.

NCI also maintains a surety with NDEP-BMRR sufficient to cover all costs associated with mine reclamation, including building removal, grading, cover material placement, and revegetation for existing disturbance. The surety will increase commensurately as new disturbance is planned and permitted, pursuant to NAC 519A.360.

The area outside the Project boundary contains many unpaved access roads including maintained roads and primitive trails. Access to public lands surrounding the Project area will remain possible via existing roads outside the Project boundary even during active mining.

When mining ceases, many of the safety fences will be removed, restoring access through the Project area. Roads that existed within the Project area prior to 1981 are delineated from satellite imagery and site surveys and will not be reclaimed. Pre-1981 roads will restore some access through the project area as well.

Prior to the Land Conveyance the project area had no formal recreational facilities. Recreation was informal, dispersed recreation including horseback riding, rockhounding, general shooting, minimal hunting, and off-road vehicle use.

The City of Yerington retained 913 acres as part of the land conveyance and is proposing to develop a multipurpose recreation complex to host major festivals and concerts. The total economic impact from non-locals whose primary reason for visiting Lyon County was Night in the Country was estimated at \$3,252,273 in 2016. The goal of the City is to sustain and increase the economic benefit of Night in the Country and other festivals, events, and concerts.

4.1.10.3 Supporting Documents

Bureau of Land Management. July 2015. Final Environmental Assessment - Yerington Land Conveyance. DOI-BLM-NV-C000-2015-0001-EA.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. December 24, 2015. Reclamation Permit 0288.

4.1.11 Socioeconomics - Access and Roads

Pumpkin Hollow is currently accessible via Nevada highways and County Roads. These roads are paved to within 0.25 miles of the Pumpkin Hollow property boundary. From there a maintained gravel road provides access to administrative offices and the current shaft site.

NCI proposes to develop a new access road to connect to U.S. 95A approximately four (4) miles long. This road would be developed in the future in conjunction with project expansion. It be located entirely on private land.

Current access is adequate to support the Underground Mine.

A traffic study was prepared for Advanced Exploration on existing public access roads and is being updated for the Underground Mine.

4.1.11.1 Potential Access and Roads Impacts

The Pumpkin Hollow Project is estimated to disturb 3,500 acres over the life of the mine. Mine facilities such as the Mine Rock Storage Facility or Dry Stack Tailings Facility will cover existing roads and potentially impede access to specific areas or public lands. NCI will also erect fences around its project area that will preclude access during active mining operations for safety reasons.

Presently, it is anticipated pit lakes will form in the North and South open pits. Total size of the combined open pits is estimated at 730 acres. The pit lakes are not designated for public access in the approved post-mining land use. The pits will have earthen barriers constructed on their perimeters to permanently preclude access.

4.1.11.2 Measures Taken to Reduce Potential Access and Roads Impacts

Mining at the Pumpkin Hollow Project represents a temporary land use. As described in Sections 2.2 NCI operates under Reclamation Permit #0288 that requires conversion or reclamation of disturbances to an approved productive post-mining land use. NCI's approved post-mining land uses include industrial and commercial development, wildlife habitat, recreation, and rangeland. Areas disturbed by the mining operation will be graded, covered, and revegetated with native species.

The area outside the Project boundary contains many unpaved access roads including maintained roads and primitive trails. Access to public lands surrounding the Project area will remain possible via existing roads outside the Project boundary even during active mining.

When mining ceases, many of the safety fences will be removed, restoring access through the Project area. Roads that existed within the Project area prior to 1981 are delineated from satellite imagery and site surveys and will not be reclaimed. Pre-1981 roads will restore some access through the project area as well.

4.1.11.3 *Supporting Documents*

Fehr and Peers. 2010. Pumpkin Hollow Copper Project (Exploration Phase) Traffic Impact Study.

Fehr and Peers. 2013. PLUM Traffic Impact Study.

City of Yerington. March 17, 2015. Access Road Alignments. Conceptual Access Roads Reduced20150317.pdf

RCI Project Location Map. January 19, 2015. NCI-projectLocationMapMV&Mine20150119tmd-RCI.pdf

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. December 24, 2015. Reclamation Permit 0288.

4.1.12 Socioeconomics - Land Uses

Lyon County encompasses approximately 1.3 million acres consisting of approximately 75-percent public lands and 25-percent private land (Lyon County, NV 2015). The Conveyance Area represents less than one percent of the total County land area. There are approximately 869,718 acres of BLM-managed public lands within the County, and the Conveyance Area represents approximately 1.2-percent of those lands.

The Lyon County Master Plan describes Mason Valley as "a picturesque agricultural, mining and regional commercial center surrounded by mountain ranges of colorful canyons, and high desert vegetation. The City of Yerington, the Lyon County seat, lies on the valley's western side just north of where the West and East Forks of the Walker River come together and flow through the valley. Irrigation ditches branch out to carry water to the green fields and ranches where onions, alfalfa, grass hay, pasture grass, grains, and other crops grow. Cottonwood trees add seasonal color and mix with the native vegetation of sagebrush and rabbit brush. In addition to onion and hay fields, livestock, feedlots and dairies, other agricultural businesses add to the general rural character of the region. A full range of commercial and industrial businesses are in Yerington, as well as government offices. Residents enjoy the rural character, convenience of local services,

variety of housing opportunities, with low density residential development outside of the City of Yerington, surrounding open lands and an abundance of recreation opportunities.'

The City of Yerington is located adjacent to the northwest corner of the project area and is centrally located in a larger geographic area known as the Mason Valley. Mason Valley was settled as an agricultural hub beginning in the mid-1850s, prior to the City (City of Yerington, Nevada 2015). Yerington was incorporated as a City in 1907 and is the county seat for Lyon County (City of Yerington, Nevada 2015). Agriculture remains a major economic driver for Mason Valley and the City, along with mining and recreation. The Anaconda Copper Corporation operated west of the City from 1950 to 1978, becoming the world's third largest copper mine for a time (City of Yerington, Nevada 2015). Recreation, including but not limited to, fishing, camping, hunting, recreational shooting, hiking and off-highway vehicle riding are popular for City and County residents as well as visitors. Popular attractions in and around the Mason Valley include the Mason Valley Wildlife Management Area and Fish Hatchery, Wilson Canyon, the Mason Valley Trap, Rifle and Pistol Range as well as the Walker River including both the East and West Forks (City of Yerington, Nevada 2015). Yerington remains one of only two incorporated cities in Lyon County with an estimated population of 3,138 (Lyon County, Nevada 2015).

Lyon County is the third most populous county in Nevada with a population of around 50,000, but maintains a rural character (Lyon County, Nevada 2015). Historically, growth was slow yet consistent, but for three years in the early 2000s Lyon County was one of the ten fastest growing counties in the country on a percentage basis with a 52.6-percent population increase from 2000 to 2009 (Lyon County, Nevada 2015). Since 2009 the County has undergone a population decline of 3.57-percent, become the third most economically stressed county in the country for counties with a minimum 25,000 population, and experienced Nevada's highest foreclosure rate and unemployment rate at 18.7-percent as of December 2010 (Lyon County, Nevada 2015).

4.1.12.1 Potential Land Use Impacts

Impacts to lands uses are associated with the Project are mainly beneficial with the implementation of the sustainable development plan achieved by the Yerington Land Conveyance to the City and NCI.

Adverse impacts are limited, as existing land uses are continuing, and impacts from mining are required to be reclaimed.

4.1.12.2 Measures Taken to Reduce Potential Land Use Impacts

Mining at the Pumpkin Hollow Project represents a temporary land use. As described in Sections 2.2, NCI operates under Reclamation Permit #0288 that requires reclamation of disturbances to an approved productive post-mining land use. NCI's approved post-mining land uses include commercial and industrial development, wildlife habitat, recreation, and rangeland. Areas that are disturbed by the mining operation and not converted to other commercial and industrial uses will be graded, covered, and revegetated with native species.

NCI also maintains a surety with NDEP-BMRR sufficient to cover all costs associated with mine reclamation, including building removal, grading, cover material placement, and revegetation for existing disturbance. The surety will increase commensurately as new disturbance is planned and permitted, pursuant to NAC 519A.360.

4.1.12.3 *Supporting Documents*

Bureau of Land Management. July 2015. Final Environmental Assessment - Yerington Land Conveyance. DOI-BLM-NV-C000-2015-0001-EA.

Lyon County Master Plan. 2010:

https://www.lyon-county.org/DocumentCenter/View/1515/Ch-3-Land-Use-12-23-2010

City of Yerington, Nevada. 2015. Internet website: http://www.yerington.net/ . Accessed on April 7, 2015.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. December 24, 2015. Reclamation Permit 0288.

4.1.13 Soils

Great Basin Ecology, Inc. conducted a review of soil types in the project area in 2011. A summary of results is listed below.

There are portions of 85 soil map units within the project area, but only 26 different soil associations. Most of the soils are sandy or gravelly loams which are well-drained and have low to moderate water holding capacity. The soils are readily eroded by wind or water, especially in the absence of vegetation. Productivity of these soils is low due to the lack of soil moisture.

The five (5) dominant soil/soil associations by acreage are:

- Theon very gravelly sandy loam, 8 to 30 percent slopes 3,276 acres;
- Tocan sandy loam, 2 to 4 percent slopes 1,358 acres;
- Patna sand, 0 to 4 percent slopes 952 acres;
- Yerington loamy fine sand, 0 to 2 percent slopes 939 acres; and
- Rawe gravelly sandy loam, 4 to 15 percent slopes 848 acres.

The soils of the project area are typical of the soils in the adjacent lands. All 26 soil map units/associations found within the project area are also found in the adjacent area within four miles of the project boundary. There are also 42 additional soil map units in the adjacent four-mile area that are not found within the project area, which is a result of the size of the areas being compared; the project area is 13,461 acres and the area within four miles of the north, east, and south boundaries.

The ten dominant soils/soil associations by acreage are: of the adjacent area is 53,103 acres.

- Theon very gravelly sandy loam, 8 to 30 percent slopes 9,689 acres;
- Deefan-Rawe-Bluewing association 5,993 acres;
- Patna sand, 0 to 4 percent slopes 2,977 acres;
- Singatsee-Theon association 2,637 acres;
- Silverbow-Rubble land-Smedley association 2,405 acres;
- Rawe gravelly sandy loam, 4 to 15 percent slopes 2,363 acres;
- Cleaver association, sloping 2,355 acres;
- Deefan-Cleaver-Bluewing association 1,886 acres;
- Yerington loamy fine sand, 2 to 4 percent slopes 1,821 acres; and
- Perazzo-Bluewing association 1,372 acres.

The entries above that are underscored indicate these soils or soil associations were also dominant soils or soil associations in the project area. The overlap of the dominant soils in the project area with the dominant soils of the adjacent four-mile area indicates that the soil patterns are similar and there is nothing unique about the soils in the project area.

4.1.13.1 Potential Soils Impacts

The Pumpkin Hollow Project is estimated to disturb 3,500 acres over the life of the mine. Typically, prior to construction, the upper 0.5 to one (1) foot of soil (also referred to as growth medium) is removed from a construction site and stockpiled for later use. Soils may be covered or displaced, or soil properties may be degraded by mining activity. Displacement of soil may also occur due to erosion caused by run-on or run-off from mine facilities.

4.1.13.2 Measures Taken to Reduce Potential Soils Impacts

As described in Section 4.1.13, the soils within the Pumpkin Hollow Project area are not unique and are typically found in the broader area of Mason Valley.

As described in Section 2.2, NCI operates under Reclamation Permit #0288 that requires reclamation of disturbances to an approved productive post-mining land use. Soil will be removed and stockpiled prior to disturbance. NCI's approved post-mining land uses include commercial and industrial development, wildlife habitat, recreation, and rangeland. Areas that are disturbed by the mining operation and not converted to other commercial and industrial uses will be revegetated with native species. NCI also maintains a surety with NDEP-BMRR sufficient to cover all costs associated with mine reclamation, including building removal, grading, cover material placement, and revegetation for existing disturbance. The surety will increase commensurately as new disturbance is planned and permitted, pursuant to NAC 519A.360.

Success of revegetation required for reclamation is dependent on appropriate stockpiling and placement of cover soils. NCI will stockpile soil typically in piles adjacent to each disturbance. Stockpiles of soil are often seeded to minimize weed infestation and maintain soil organic matter. During reclamation, NCI will replace stockpiled soil over the disturbance. Replaced soil will be contoured to provide appropriate drainage and ripped to retain moisture, maximize surface roughness, and minimize erosion.

NCI also operates under Mine Stormwater Permit MSW-364 that requires use of Best Management Practices to minimize soil erosion Project-wide. Specific Best Management Practices to minimize erosion are detailed in the NCI Stormwater Pollution Prevention Plan. Practices will include earthworks such as diversion channels and stormwater basins to direct surface flow away from mine facilities and capture runoff, slowing it and settling suspended solids. Grading will also be conducted to reduce surface flow velocities and provide breaks on long or steep slopes. Coarse and durable rock will also be placed where needed to stabilize soils, particularly in high flow areas like diversion channels or basin outlets. Silt fences, culverts, and other manufactured devices may also be used to control surface flow and minimize erosion where needed.

4.1.13.3 Supporting Documents

Great Basin Ecology, Inc. September 2011. Pumpkin Hollow Project, Regional Screening Level Biological Resources Assessment Report.

Tetra Tech. February 2013. Appendix G: Pumpkin Hollow Surface Water Hydrology, Evaluation, Stormwater Management and Design. File: Appendix G Surface Water Hydrology.pdf.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. December 24, 2015. Reclamation Permit 0288.

4.1.14 Visual Characteristics

The Carson City District Resource Management Plan did not classify visual resources for any of the federal lands around the Pumpkin Hollow project area. There are no other state, County or City requirements related to visual resources.

The Project area landscape is visible from a few points along the primary highway through Mason Valley, United States Highway 95 Alternate, particularly from the higher elevations at the northern extreme end of the Valley. The Project area is most prominently visible from nearby local city roads, such as Pursel and Cremetti Lanes, within about two miles of the Project boundary. These nearby areas are predominately agricultural. The Project area is not visible from the City of Yerington's most populated areas.

The Project area appears as a relatively flat foreground of the basin floor dominated by vegetation consisting predominantly of grays with some yellows, tans, greens and browns. The vegetation is predominately a pale gray to dark green scrub brush community, which is smooth and continuous throughout the project area. The dominant feature of the landscape is the mountainous background of the north-south trending Wassuk Range to the east. The slopes of the mountain range have shallow diagonal features. Dark green pine trees increase in frequency with increasing elevation and cover the rounded peaks of the tallest mountains.

4.1.14.1 Potential Visual Characteristics Impacts

The Project is estimated to disturb 3,500 acres over the life of the mine. Apart from existing unpaved access roads, trails, and limited historic exploration disturbance, the Project area would otherwise be undisturbed. Disturbance will typically remove vegetation and will be visible in contrast to undisturbed lands. New, large, permanent features will also be constructed including the open pits and Mine Rock Storage and Dry Stack Tailings Facilities. The open pits will be about 730 acres and 1,200 feet deep. Total area occupied by the Mine Rock Storage and Dry Stack Tailings will be about 2,100 acres with final heights of about 500 feet each. These facilities will be larger than any hills currently within the Project boundary and will partially obscure the viewshed to viewers within about one mile.

4.1.14.2 Measures Taken to Reduce Visual Characteristics Impacts

As described in Sections 2.2, NCI operates under Reclamation Permit #0288 that requires reclamation of disturbances to an approved productive post-mining land use. NCI's approved post-mining land uses include commercial and industrial development, wildlife habitat, recreation, and rangeland. Acres disturbed by the mining operation and not converted to other uses will be graded, covered, and revegetated with native species. Buildings will be removed except for specific circumstances where they will be retained for post-mining land use. While the Mine Rock Storage and Dry Stack Tailings Facilities will remain in place permanently, appearing as hills, cover placement, seeding, and revegetation of these disturbances by NCI will return coloration and vegetation of the affected landscape to baseline.

NCI also maintains a surety with NDEP-BMRR sufficient to cover all costs associated with mine reclamation, including building removal, grading, cover material placement, and revegetation for

existing disturbance. The surety will increase commensurately as new disturbance is planned and permitted, pursuant to NAC 519A.360.

4.1.14.3 Supporting Documents

Bureau of Land Management. July 2015. Final Environmental Assessment - Yerington Land Conveyance. DOI-BLM-NV-C000-2015-0001-EA.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. December 24, 2015. Reclamation Permit 0288.

4.1.15 Waste

NCI is strongly committed to the proper and safe management, as well as the reduction of solid and hazardous waste generated at the Pumpkin Hollow Project. NCI complies with the applicable rules and regulations enforced by the NDEP Bureau of Sustainable Materials Management (formerly Bureau of Waste Management). NCI is currently a Conditionally Exempt Small Quantity Generator under USEPA Hazardous Waste Regulations and the Pumpkin Hollow Sites current EPA ID Generator Number is NVR000089656. Additionally, NCI has been granted a Class III Landfill Waiver (Permit Number: SWW1783) for the onsite disposal of inert, non-hazardous solid wastes; currently this landfill is not being utilized. To date, NCI has a very low spill occurrence and no compliance violations from either State or Federal agencies.

Also, due to the location of the Pumpkin Hollow site, NCI maintains on-site disposal systems (OSDS) to properly handle all septic related wastes from the offices. These systems have regulatory oversight provided by the NDEP-BWPC. NCI operates under General Permit No.: GNEVOSDS09.

4.1.15.1 Potential Waste Impacts

Due to the nature of the mining process and equipment used to extract minerals from the land, the possibility does exist for on and offsite impacts from the mining process. Potential impacts could be from the result of spills, equipment malfunction or human error and could include, but not limited to, petroleum and chemical spills resulting in contaminated soil or water.

Any wastewater generated at the site will be properly profiled and managed accordingly. Wastewater could be shipped offsite for disposal or if found to be non-hazardous with no environmental impacts, it would be managed accordingly under our water management permits.

4.1.15.2 Measures Taken to Reduce Waste Impacts

Waste reduction, reuse, and recycling are encouraged and promoted amongst the site staff, as well as contractors performing duties at Pumpkin Hollow. Additionally, NCI and site contractors are trained on the importance and proper vehicle and equipment maintenance, proper housekeeping techniques, proper recognition of waste streams and proper spill cleanup techniques.

Currently, all solid waste is managed by approved outside vendors, which includes the disposal of solid wastes at an approved landfill, the recycling of: used oil, parts washer solvent, scrap steel and office paper. Additional recycling activities will occur at the site as the services become available in the area.

The OSDS are also serviced by an outside approved vendor with disposal at the City of Yerington approved wastewater treatment plant.

Additionally, NCI participates in the Local Emergency Planning Commission (LEPC) quarterly meetings to keep the local community abreast of any changes at the Pumpkin Hollow Site.

4.1.15.3 Supporting Documents

Nevada Copper Spill Prevention, Countermeasures and Control Plan (SPCC)

Nevada Bureau of Waste Management. 2016. Class III Mine Site Landfill SWW1783.

United States Environmental Protection Agency. 2018. Resource Conservation and Recovery Act Subtitle C Site Identification Form. North American Industry Classification System Code 21223.

Nevada Copper. 2018. Appendix E-10 Water Pollution Control Permit Emergency Response Plan

Nevada Division of Environmental Protection Bureau of Water Pollution Control. 2009. Onsite Sewage Disposal System General Permit No.: GNEVOSDS09.

State Fire Marshal. 2018. Hazardous Materials Handling Permit 58249.

4.1.16 Water - Groundwater

NCI entered into an agreement with the City of Yerington whereby the City would provide water service of up to 3,500 acre-feet of water annually to serve the project. As part of that agreement, NCI would develop infrastructure, at its own cost, to deliver raw water to and/or from Pumpkin Hollow. The remaining water supply for the Project is from pumping groundwater to dewater underground workings and the open pits. Most of the groundwater pumped will be reinfiltrated to the aquifer by means of Rapid Infiltration Basins (RIBs) located away from dewatering areas.

Geologically, the Pumpkin Hollow Project is in the Yerington District, which straddles the Singatsee Range on the west and extends across Mason Valley to the Wassuk Range on the east. The Singatsee Range is a west-tilted, fault-bounded, horst block containing up to 10,000 feet of Mesozoic volcanic and sedimentary strata which are intruded by granitic rocks. The Mesozoic rocks are overlain by up to several thousand feet of Tertiary rhyolite and andesite tuffs, associated sediments, and basalts. The Wassuk Range is similar in geometry to the Singatsee Range, as it displays a steep eastern slope into the lower Walker River valley and a gradual western slope into Mason Valley.

The Mason Valley is a graben filled with up to about 1,800 feet of variably consolidated Quaternary alluvium above steeply-dipping bedrock. A similar trough borders the east side of the Wassuk Range, forming the Walker Valley and extending northwesterly to intersect the northern end of the Mason Valley. The sediments in Mason Valley extend eastward to become a thin, veneer-like cover of mixed colluvial and alluvial sands and gravels on the western flank of the Wassuk Range.

At the Project site, a thin veneer (0 to locally 150 feet) of Quaternary unconsolidated sand and gravel (Qal) covers much of the surface. Bedrock is exposed in the western and southwestern portion of the Project area primarily as Tertiary volcanics (tuffs) and underlying Mesozoic intrusives, meta-volcanics, and sediments. The Mesozoic section hosts the ore deposits and comprises metamorphosed siltstones and tuffs overlain by carbonaceous, calcareous argillites, tuffs, and limestones which are intruded by granitic dikes, sills and plugs. These rocks transition locally into skarns, marbles, and hornfels associated with copper and iron mineralization. Mineralization occurs in five separate, but associated deposits termed the North, South, Southeast, East, and E2 deposits.

There is a "Flat Fault" separates the Tertiary from Mesozoic rocks and is a zone of 50 to 200 feet of enhanced fracturing, local breccia development, and variable clay gouge. A pair of generally north-south trending normal faults bound a graben that down-drops the Mesozoic and Tertiary section through the middle of the Project site. In addition, numerous small faults with varying amounts of displacement are present.

Regional and Site Hydrogeology

Groundwater occurs within the bedrock and alluvium throughout the region. Groundwater within the Wassuk and Singatsee Ranges is encountered at depths typically between 100 to more than 500 feet with the deepest groundwater found at the eastern edge of the Project growing shallower to the west. Regional groundwater flow within the bedrock is generally from higher to lower elevations in response to precipitation derived recharge at higher elevations. The bedrock is of generally low hydraulic conductivity except where fractures create secondary permeability and transmit groundwater. Estimates of bulk hydraulic conductivity at the Project site vary from mean values of 0.033 ft/d for the Tertiary rocks, and 0.33 ft/d to 0.66 ft/d for the Mesozoic rocks.

Most of the groundwater in the region occurs within alluvial aquifers along the Walker River and the adjacent valley floors, alluvial slopes, and local playas away from the river. Within the alluvial aquifer, depths to groundwater are generally less than 20 feet adjacent to the Walker River and less than 50 feet in the rest of the valley floor areas. Hydraulic conductivities of the alluvial aquifer are estimated to average 70 feet per day (ft/d) near the Walker River and 7 ft/d away from the river. Groundwater flow in the alluvium is generally down-valley, with local changes related to losses from the Walker River or groundwater discharges to the river. Potentiometric surface elevations range from approximately 4,470 feet Above Mean Sea Level (AMSL) at the south end of the Mason Valley to approximately 4,280 feet AMSL near Walker Lake.

Groundwater in the alluvium connects with that within bedrock near the margins of the valleys. However, because permeabilities and groundwater flux through the alluvial aquifer are much greater (at least two orders of magnitude) than through the bedrock, the hydraulic connection between the alluvial and bedrock groundwater systems is relatively poor. Water balance data from the Mason and Walker Valleys indicate that more than 98% of the groundwater flux in the area occurs through the alluvium and less than 2% through the bedrock.

Sources of recharge to the groundwater system include precipitation infiltration and irrigation water either applied to fields or lost as seepage from canals or return-flow ditches. Calculations using the Maxey-Eakin method to estimate precipitation-derived recharge, based on precipitation estimates made by the USGS Precipitation Zone Method, indicate that up to 0.91 inch per year (in/yr.) of recharge occurs at the highest elevations. Precipitation-derived recharge decreases with elevation in the area and is zero in/yr. in the Mason and Walker Valleys. Desert Research Institute studies show that irrigation-related recharge to the alluvial aquifer in the Mason Valley is the equivalent of about 19 to 31 in/yr.; similar data were not available for the Walker Valley.

Discharge from the groundwater system occurs primarily through pumping from irrigation wells (72%) and evapotranspiration (27%) in the Mason Valley, with 1% of the discharge being interbasin flow downstream to the Walker Valley. In the Walker Valley, where irrigation is much less extensive, the relative proportions of irrigation well pumping and evapotranspiration are reversed from those in the Mason Valley.

Regionally, groundwater flow system boundaries include the faults that separate the mountain range blocks from the alluvium-filled valleys, Walker River and Walker Lake, and the divides that separate the hydrographic basins and sub-basins. Walker Lake and certain reaches of the Walker River act as groundwater flow system boundaries in that they are regional or local discharge points across which little or no flow occurs.

On a more local scale, most faults are hydrologic boundaries interpreted to impede groundwater flow across the fault plane and thereby act to compartmentalize the flow system. Within the Pumpkin Hollow Project area, altered clay-rich zones at the margins of some lithologic units also impede lateral groundwater flow. Drawdown during aquifer testing in both the eastern and western portions of the Project site indicated negative (flow-limiting or barrier) boundaries, and, combined with geologic data and poor recovery rates in wells in the eastern area, suggest compartmentalization of the groundwater system at the site. Higher permeability occurs locally in the area of the proposed open pits and is thought to be related to localized fracturing and/or faulting. Potentiometric data in the immediate Project site indicate that groundwater is present mainly in the bedrock; alluvium is saturated only near the west boundary of the site. Groundwater flow is generally toward the north and west in the project site. Data from one well with pressure transducers set at several depths suggest a vertically downward component of hydraulic gradient exists in at least some areas.

Age-dating of groundwater samples from Project-area wells completed in the Quaternary alluvium and Tertiary conglomerates at the west side of the site, and in the Flat Fault Zone near the east demonstrates a significant difference between the apparent recharge dates of the two aquifers. The alluvial/Tertiary groundwater has an apparent age of 11,400 years, whereas the bedrock water has an apparent age of more than 30,000 years. This suggests that movement of groundwater through the bedrock occurs at a much slower rate than through the alluvium and that the two groundwater systems act relatively separately.

NCI has been dewatering underground development since 2012. It has a Water Pollution Control Permit to discharge that water into Rapid Infiltration Basins. As part of that activity it has performed additional groundwater evaluations.

Numerical groundwater flow models (RIBs Model) of the Pumpkin Hollow Project have been developed to specifically focus on the Ranch, East, and North Area Rapid Infiltration Basins (RIBs). The RIBs models developed to evaluate them are localized to an area larger than the project area and simulate the mounding of infiltrated water into the unsaturated zone ("mound water") and groundwater (naturally-occurring, underground water in the zone of saturation, or 'water table') below the RIBs.

The evaluation and models provided potential capacities of each RIB group to infiltrate water dewatered from the underground development.

4.1.16.1 Potential Groundwater Impacts

The Project will pump groundwater both to dewater underground workings and the open pits and to supply the processing circuit. Most of the groundwater pumped will be re-infiltrated to the aquifer by means of Rapid Infiltration Basins (RIBs) located away from dewatering areas. Where water is pumped, local groundwater elevations will decrease. Where water is re-infiltrated, local groundwater elevations will increase. A portion of pumped water will be consumed by the process with some process water becoming entrained in the tailings and stacked in the Dry Stack Tailings

Facility. During operations, a small amount, less than one (1) percent of all groundwater pumped, is expected to be lost to evaporation.

Mine activities may alter groundwater chemistry. Potential incidental losses and accidental releases of petroleum products and other substances used for equipment operation and maintenance or mineral beneficiation could potentially infiltrate into the ground and eventually reach the groundwater zone. Exposure of underground environments to oxygen via underground workings may also alter groundwater chemistry. Re-infiltration of water through the vadose zone may alter local aquifer and re-infiltrated water chemistry.

After mine closure, the open pits will likely flood with groundwater. The open pits will become terminal sink pit lakes with no outlet. Groundwater elevations will lower in the vicinity as water is evaporated from the pit lake. As the pit lakes are terminal sinks, they are not anticipated to affect chemistry of the surrounding groundwater. Long term pit lake water quality is not expected to be significantly different than surrounding groundwater and will not pose risk to wildlife or result in the bioaccumulation of constituents of concern in the food web. Additional detail on the geochemical characteristics of the pit lake are detailed in Appendix T, Geochemical Pit Lake Predictive Model Report (Tetra Tech, 2013).

Mine rock may be reactive. Specific rock types, often categorized by sulfide content, could generate acid or leach constituents of concern when exposed to air and water. A minority, less than 40 percent, of the Project mine rock has been classified as potentially reactive based on rock sulfide content or potential to leach constituents of concern.

Risk of tailings placed on the DST being reactive is very low. Characterization work of tailings to be placed in the DST to date has not indicated a potential to generate acid or leach constituents of concern.

4.1.16.2 Measures Taken to Reduce Potential Groundwater Impacts

All chemical processing and mineral beneficiation process components have been designed in accordance with NDEP requirements (NAC 445A.424-447) to achieve 110 percent containment of process fluids and incident precipitation from a 25-year 24-hour storm event. Containment facilities are also designed to withstand a 100-year 24-hour storm event. All process facilities are operated as zero discharge and will not degrade groundwater or surface water. Containment is provided primarily by concrete bunded areas or basins lined with 60-mil or greater high-density polyethylene. Performance standards for discharge water quality, notably for arsenic concentrations (an element naturally present at the site and broader geologic region), have been developed in collaboration with NDEP-BMRR. Care will be taken by NCI to ensure performance standards are met at all relevant discharge locations, primarily RIBs.

NCI maintains a robust sampling plan of mined materials approved by NDEP and has characterized rock types scheduled for excavation. Pursuant to Water Pollution Control Permit NEV2008103 Section I.D.5 ore, waste rock, concentrate, and tailings are sampled quarterly to test for Profile I constituents and potential to generate acid. Potentially reactive rock types, the minority of all rocks excavated, will be routed to designated areas within Mine Rock Storage Facilities or blended with net-neutralizing mine rock for permanent sequestration in accordance with the Mine Rock Management Plan. Costs for placement of adequate cover on the Mine Rock Storage Facility is included in the Reclamation Permit surety bond. Risk of mine rock degrading groundwater is low.

Groundwater flow models have been developed to characterize the groundwater flow system and determine the potential impact of pumping from the underground workings as well as supply wells, long-term (1,000 years) evaporation from the pit lakes, and re-infiltration of pumped groundwater into the RIBs. Model inputs were supported with review of USGS geological quadrangle maps, aerial photos, site review, step drawdown tests, reviewing core data, testing of 34 boreholes to determine geothermal gradients, installation of monitoring wells and vibrating wire transducers, packer testing in 3 boreholes, 5 injection tests, 3 slug tests and 2 air-lift drawdown and recovery tests and aquifer pumping tests on 2 wells. Additional studies and testing are also ongoing to further characterize groundwater properties and behavior in the Project area. Results of each of the models and methodologies used to date are discussed in the documents listed in Section 4.1.16.3.

In summary, dewatering operations and evaporation of groundwater via pit lakes is not predicted to affect water users in the City of Yerington or the flow of the Walker River within 1,000 years, the limit of modeling conducted to date. Modeling also indicates mounding of groundwater caused by re-infiltration can be managed and rotated throughout the project area to preclude impacts to neighboring wells.

Prior to reclamation of the settling tank, accumulated sediments will be removed, sampled and analyzed for Profile I constituents and potential to generate acid as well has petroleum hydrocarbons. Based on these analyses, sediments that are of acceptable quality, as approved by NDEP, will be placed in the Mine Rock Storage Facility for permanent storage. Any sediments that exceed acceptable quality will be disposed of off-site at a licensed facility as needed.

The Project includes environmental protection measures to manage and control hydrocarbons and process chemicals, and to respond to any spills. All petroleum products and other chemicals would be stored, transported and transferred pursuant to the Spill Prevention, Control and Countermeasures (SPCC) Plan, which also has provisions for immediate clean-up and offsite disposal of any spills. Contaminated soils would be removed immediately and placed in a lined, secure, temporary holding area until they could be properly transported and disposed offsite as needed.

4.1.16.3 Supporting Documents

Tetra Tech. July 2012. Appendix H – 4, Pumpkin Hollow Hydrogeologic Evaluation. Nevada Copper, Inc. File: IO-App-H-Hydrogeologic-Evaluation-kst-120629.

Tetra Tech. February 2013. Appendix N Dry Stack Tailings Facility Integrated Operations (IO) Alternative Engineering Design Report Pumpkin Hollow Project, Nevada USA. File: Appendix N Open Pit Dry Stack Tailings Engineering Report.pdf.

Tetra Tech. February 2013. Appendix T Geochemical Pit Lake Predictive Model Report. File: Appendix T Pit Lake Model.pdf.

Langdontek. April 28, 2014. All Area Wells and Kriged Groundwater Contours. File: HG-106B-HYDRO-PERMIT-OVERVIEW-20140428-GPH.pdf

HydroLogic. May 5, 2014. Numerical Modeling of Infiltration into the North Rapid Infiltration Basins. File: Appendix 13 North Area Basins Modeling.pdf.

The MINES Group. December 3, 2014. AQUIFER TESTING OF MW-24, MW-25, AND MW-26. File: WPCP109-2015Application-Renewal-Major-Mod-20151204mpd.pdf.

Applied Soil Water Technologies. December 16, 2014. Summary of Subsurface Investigation (Far East, South Ranch, and Saddle Areas). File: WPCP109-2015Application-Renewal-Major-Mod-20151204mpd.pdf.

Nevada Copper, Inc. April 2015. Appendix E-14 Mine Rock Management Plan Nevada Water Pollution Control Permit Application NEV2008103 Pumpkin Hollow Project Plan For Advanced Exploration Facilities

Ausenco. September 12, 2015. Ranch Numerical Modeling of Infiltration into the New East Rapid Infiltration Basins. File: WPCP109-2015Application-Renewal-Major-Mod-20151204mpd.pdf.

Ausenco. September 28, 2015. Ranch Area Rapid Infiltration Basins Modeling Report. File: September 2015Appendix 14 Summary of Ranch RIB modeling results_Sept_28_2015.pdfState of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. December 24, 2015. Reclamation Permit 0288.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. July 11, 2018. Water Pollution Control Permit 2008109.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. 2018. Water Pollution Control Permit 2008103.

4.1.17 Water - Surface Water

There are no naturally-occurring, perennial surface water bodies within the Project area. There are three types of surface water identified in the management of the Project site: surface water runon, non-contact water, and potential contact water. Surface water run-on includes runoff generated from the undisturbed, upstream, off-site watershed typically from a storm event and routed onto and through the site being conveyed in natural drainages or man-made diversion channels.

Non-contact water is defined as runoff that is generated from areas of the mine site that do not come into contact with processing facilities, or processed material.

Potential contact water is runoff that may come into contact with processing facilities, or processed material. This water will be contained in concrete containment pads or in lined runoff basins so as not to degrade water quality. The goal of the surface water management plan for the Project is to provide secondary containment of all potential contact water from the 25-year 24-hour storm event. Secondary containment facilities will also be designed to withstand a 100-year 24-hour storm event.

4.1.17.1 Potential Surface Water Impacts

While there are no surface water bodies within the project area, runoff from mine facilities could affect surface water quality. Potential incidental losses and accidental releases of petroleum products and other substances used for equipment operation and maintenance or mineral beneficiation could potentially affect surface soils or ephemeral drainages resulting in changes to surface water quality. Construction of facilities in ephemeral drainages could result in impounding or diversion of surface flow. Disturbed areas may be eroded and increase sediment loads in surface water flow or ephemeral drainages.

4.1.17.2 Measures Taken to Reduce Potential Surface Water Impacts

NCI operates under Mine Stormwater Permit MSW-364 that requires use of Best Management Practices to minimize soil erosion Project-wide. Specific Best Management Practices to minimize erosion and protect water quality are detailed in the NCI Stormwater Pollution Prevention Plan. Practices will include earthworks such as diversion channels and stormwater basins to direct surface flow away from mine facilities and manage runoff, slowing it and settling suspended solids. Grading will also be conducted to reduce surface flow velocities and provide breaks on long or steep slopes. Coarse and durable rock will also be placed where needed to stabilize soils, particularly in high flow areas like diversion channels or basin outlets. Silt fences, culverts, and other manufactured devices may also be used to control surface flow and minimize erosion where needed.

All chemical processing and mineral beneficiation process components have been designed in accordance with NDEP requirements (NAC 445A.424-447) to achieve 110 percent containment of process fluids and incident precipitation from a 25-year 24-hour storm event. Containment facilities are also designed to withstand a 100-year 24-hour storm event. All process facilities are operated as zero discharge and will not degrade groundwater or surface water. Containment of process fluids is provided primarily by concrete bunded areas or basins lined with 60-mil or greater high-density polyethylene.

Run-on will be diverted primarily by a network of diversion channels and prevented from contacting process facilities. Non-contact water will be stored in unlined mine stormwater (MSW) runoff basins where necessary, allowing for settling and infiltration to occur. Potential contact water will typically be stored in lined basins as described above.

During the Underground Feasibility Study (2012) detailed analyses of surface water were performed. The results of these studies are provided in Volume 8 of the Technical Report and Appendix G of the Water Pollution Control Permit application as listed in Section 4.1.17.3.

4.1.17.3 Supporting Documents

Tetra Tech. December 12, 2012. Technical Report – Underground Only Alternative for the Pumpkin Hollow Copper Project, Volume 8: Surface Water Tetra Tech Project No. 114-311274.

Tetra Tech. February 2013. Appendix G: Pumpkin Hollow Surface Water Hydrology, Evaluation, Stormwater Management and Design. File: Appendix G Surface Water Hydrology.pdf.

Nevada Copper, Inc. August 2013. Appendix M Nevada Stormwater Pollution Prevention Plan SWPPP Pumpkin Hollow Project Plan for Private Land Underground Mine (PLUM) Facilities.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Water Pollution Control. December 24, 2013. Stormwater General Permit NVR300000. Project ID Number: MSW-364.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. December 24, 2015. Reclamation Permit 0288.

4.1.18 Wilderness

The Environmental Assessment for the Yerington Land Conveyance determined that wilderness was not present in or near the lands to be conveyed (that includes the entire Project area). There

are no delineated "Lands with Wilderness Characteristics" in the Conveyance Area. No lands within the Conveyance Area were considered suitable for wilderness designation when the BLM completed a review in 1989.

4.1.18.1 *Supporting Documents*

Bureau of Land Management. July 2015. Final Environmental Assessment - Yerington Land Conveyance. DOI-BLM-NV-C000-2015-0001-EA.

4.2 Cumulative Effects

A cumulative effect is defined under NEPA as "the change in the environment which results from the incremental impact of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other action". "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR Part 1508.7). Past, present, and reasonably foreseeable future actions are analyzed to the extent that they are relevant and useful in analyzing whether the reasonably foreseeable effects of the Proposed Action may have an additive relationship to those effects.

4.2.1 Geographic Scope

The analysis below examines potential cumulative effects from past, present, and reasonably foreseeable future actions combined with the Project within the cumulative effects study area (CESA) specific to the resource for which cumulative impacts may occur. **Error! Reference source not found.** shows the specific CESA name, size in acres, and description as well as a reference to the appropriate figure showing the geographic extent of the CESA.

Table 6. Cumulative Effects Study Areas

CESA Size (Acres) CESA

CESA Name	CESA Size (Acres)	CESA Description		
Cultural	10,910	The CESA for cultural resources includes the Conveyance Area and the private parcel located between US 95A and the northwest portion of the Conveyance Area where a new access road is anticipated to be developed.		
Hazardous or Solid Wastes; and Land Use Authorization	10,150	The CESA for hazardous or solid wastes, and land use authorizations is the Conveyance Area.		
Biological Resources	19,130	The CESA for biological resources includes the Biological Study Area as described in the Biological Technical Report (Attachment B), plus the private parcel located between US 95A and the northwest portion of the Conveyance Area where a new access road is anticipated to be developed.		
Livestock Grazing	57,885	The CESA for livestock grazing includes the Perry Springs-Deadman Allotment.		

Recreation and Travel	84,360	The	CESA	for	recreation	and	travel
Management		management includes the Conveyance Area and				rea and	
		surroundings as bound by: US 95A to the north;				e north;	
		Tribal Lands to the east; East Walker Road to				Road to	
		the south and the Conveyance Boundary to the				y to the	
		west.					
Minerals and	1,300,000	The	CESA fo	r min	erals and se	ocioeco	nomics
Socioeconomics		inclu	des Lyon	Coun	ty.		

4.2.2 Time Frame of Effects

For the Project, the timeframe for effects would be indefinite as the development of the mine and achievement of the sustainable development goals constitute a permanent change in land use.

4.2.3 Past and Present Actions

Past and present actions in the Project area include, but are not limited to, operation and closure of the Lyon County solid waste dump, land use authorization as listed in **Error! Reference source not found.**, development of roads, development of power transmission lines, permitted livestock grazing in the Perry Springs-Deadman Allotment, development of range improvements, permitted recreational events, dispersed recreational activities, travel on established roads and trails as well as cross-country travel, and mineral exploration. Activities include present active exploration and development of an underground mining operation on private lands within the Project Area as well as operation and development of the Nevada Copper office complex and farm.

Specific to the Cultural and Biological CESAs, the private parcel located between the northwest corner of the Conveyance Area and US 95A had previously been partially developed for agricultural use. The parcel has been recently cleared of remaining natural vegetation for further expansion of agricultural development.

Specific to the Biological CESA, several past and present actions have occurred outside of the Conveyance Area. The Regan Mine, located to the east of the Project Area, was developed and subsequently closed.

Specific to the Livestock Grazing CESA, several past and present actions have occurred outside of the Conveyance Area. The Regan Mine, located to the east of the Project Area, was developed and subsequently closed. Range improvements have been developed and maintained.

Specific to the Recreation and Travel Management CESA, Travel Management within the CESA is the same as the Project Area and is currently managed the same as open areas with unrestricted vehicle use.

Specific to the Mineral and Socioeconomic CESA, several past and present actions have occurred outside of the Project Area. Regarding minerals:

- Evidence of past mineral exploration activities are prevalent within the Project Area and adjoining public lands;
- The Regan Mine, located to the east of the Project Area, was developed and subsequently closed;

• The Anaconda Mine, located to the west of the Project Area, was developed and subsequently closed;

The Nevada Department of Environmental Protection's mine reclamation database shows the following mineral-related activities within Lyon County:

(https://ndep.nv.gov/uploads/documents/201808LK_ActiveRecSites.pdf)

State of Nevada Division of Environmental Protection -- Bureau of Mining Regulation and Reclamation Friday, August 10, 2018 Reclamation Branch Program All Projects with Active Reclamation Permits Project Name Permit No. Organization Federal Case No. County Project Type 327 Apex 0206 Lake Mountain Mining LLC Washoe Mine Ann Mason Exploration NVN-84570 0291 Mason Resources (US) Inc. Exploration Lyon Big Canyon Project 0318 Western Mine & Mineral, LLC NVN-085589 Lyon Mine Dayton Consolidated 0315 Comstock Mining Inc Exploration Lyon Exploration Fernley Limestone Quarry 0152 Nevada Cement Company NVN-069932 Lyon Mine Hazen Project 0084 EP Minerals, LLC NVN-70004 Lyon Mine Hercules Exploration 0354 Bonaventure Nevada, Inc NVN-092869 Lyon Exploration Ludwig Mine 0381 Art Wilson Company Lyon Mine MacArthur Exploration 0294 Singatse Peak Services LLC NVN-85212 Lyon Exploration Mustache Pozzolan Quarry 0295 NVN-086260 Mine Nevada Cement Company Lvon Pumpkin Hollow 0288 Nevada Copper, Inc. Lvon Mine GEO-Nevada/J. Craig Demetras NVN-083297 Spring Valley Mine 0187 Lyon Talapoosa Exploration 0070 NVN-70006 American Gold Capital US Inc. c/o Thomas Lvon Exploration Yerington Mine Exploration Singatse Peak Services LLC Lyon Exploration

Table 7. Lyon County - Active Reclamation Permits

Pumpkin Hollow is the only near-term mining operation located in the general area of the Project (Mason Valley).

4.2.4 Reasonably Foreseeable Future Actions

This Reasonably Foreseeable Future Actions (RFFA) section represents a disclosure of the possible actions that are likely to occur. These actions are based on preliminary planning documents that have been made available publicly as related to the Project. All future activities would still be required to comply with local, City and County, and State of Nevada codes, ordinances, regulations and laws as well as any associated public processes. Post-Project activities which require federal permitting or approval could require new NEPA analysis.

 Approximately 20 percent of the Project Area, or about 2,000 acres, would be utilized for new infrastructure and economic development activities (City of Yerington, Nevada 2014);
 and

 Approximately 43 percent of the Project Area, or about 4,450 acres, would be available for recreation and open space including an 800-acre recreational and concert events center (City of Yerington, Nevada 2014).

Preliminary planning documents also suggest that the following infrastructure could be developed:

- A new power transmission line extending from present private inholdings to the eastern extent of the Project Area;
- A new mine access road from US 95A to the Project Area; and
- A re-routing of East Pursel Lane within the Project Area.

The above broad-scale activities are based on preliminary conceptual planning documents. However, the certainty and scale of these actions are subject to future funding, timing, mineral market fluctuations, and other factors which make the predictability of these activities uncertain.

4.2.5 Effects Analysis

Resource topics considered under the Effects Analysis include all resources identified in Table 1 and

Table 2 which "may be affected" by direct or indirect effects of the Proposed Action. Effects analysis considered all identified past, present and reasonably foreseeable actions within the CESA.

4.2.5.1 Cultural Resources

Effects to historic properties within the Project Area would be mitigated. Therefore, cumulative effects to historic properties within the Project Area could not occur. It is possible that implementation of other future projects on the private parcel north of the Project area could result in impacts to historic properties, if present. Potential cumulative impacts could include destruction or alteration of prehistoric or historic resources or the introduction of elements out of character with their NRHP values.

4.2.5.2 Biological Resources

Per the RFFA, long-term adverse cumulative effects could occur as a result of future development. Effects could include:

- The loss or disturbance of approximately 6,600 acres of vegetation;
- The loss or disturbance of cacti within the 6,600 acres of proposed development;
- The loss or disturbance of Nevada beardtongue located outside of the Project Area, but within the Biological Study Area, pending final alignment of the new mine haul and access road;
- The loss or disturbance of approximately 6,600 acres of habitat suitable for BLM sensitive animal species with the potential to occur within the Project Area;
- The loss or disturbance of approximately 6,600 acres of habitat suitable for general wildlife species with the potential to occur within the Project Area; and,
- The loss or disturbance of approximately 6,600 acres of habitat suitable for migratory birds with the potential to occur within the Project Area.

Future activities will be required to comply with applicable local, State and federal laws and regulations pertinent to the above-listed biological resources.

4.2.5.3 Wastes, Hazardous or Solid

Per the RFFA, long-term adverse cumulative effects could occur as a result of future development. Future activities will be required to comply with applicable local, State and federal laws and regulations pertinent to hazardous or solid wastes.

4.2.5.4 Land Use Authorization

Any future land use authorizations would have to be authorized by the City or subsequent owner, and future authorizations would be subject to pertinent local and State law and regulations.

4.2.5.5 Livestock Grazing

Livestock grazing within the Project Area can be restored post-mining. If the lands are converted to other post-mining land uses or City does not allow future livestock grazing, up to 10,150 acres could be eliminated from this use.

4.2.5.6 Recreation and Travel Management

Public access will be controlled or prohibited in the Project Area. While multiple alternative access points are available for remaining public lands adjacent to the Project Area, restricted access could result in decreased access to lands immediately adjoining the Project Area. Also, per the RFFA, access and recreational opportunities could be improved in the long-term. Access to lands immediately adjoining the Project Area could be enhanced if public access is allowed along the re-routed East Pursel Lane and/or along the new mine access road from US 95A. Recreational opportunities could be enhanced through the development of planned recreational facilities as well as maintenance of open space so long as public access is permitted.

Future recreation and travel management activities will be required to comply with pertinent local and State laws and regulations and associated public processes.

4.2.5.7 *Minerals*

Per the RFFA, approximately 3,500 acres of the Project Area would be utilized for development of the Pumpkin Hollow Mine. Development of the Pumpkin Hollow Mine per the RFFA would greatly increase active mining within the CESA as it is nearly four-times larger in area than all other active mines operating in Lyon County combined.

Any future mining and mineral extraction activities would be required to comply with pertinent local and State laws and regulations.

4.2.5.8 Socioeconomics

The end of livestock grazing in the Project Area for the duration mining creates an adverse effect from grazing activities contributions to the local economy. Future development of up to 6,600 acres could require development of new infrastructure, and expansion of the City's emergency services area.

It is anticipated that infrastructure developed to support the mine project could be used for additional economic development activity within the Project Area (City of Yerington, NV 2014). The anticipated future mine development is estimated to generate 500 to 600 construction jobs and up to 1,100 direct jobs and 2,500 total jobs at full operation (City of Yerington, NV 2014). Mine operation jobs are estimated to last for at least 22 years with an average annual wage of \$85,907 (City of Yerington, NV 2014). New jobs for both construction and operation of the mine would require additional community infrastructure such as emergency services and schools. It is

estimated that the mine project could contribute \$15-25 million annually in property and net proceeds taxes that would go to the City, State of Nevada, and Lyon County including the Lyon County School District, South Lyon Hospital District, and Mason Valley Fire Protection District (City of Yerington, NV 2014).

Additional jobs could be created by future economic development or through future industrial and commercial businesses, and recreational events. An Economic Impact Study performed by the Northern Nevada Development Authority (NNDA, 2017) estimated annual economic impact of \$5.9 million for commercial and industrial business and \$4.0 million for development of a recreational complex.

5 REFERENCES

Applied Soil Water Technologies. December 16, 2014. Summary of Subsurface Investigation (Far East, South Ranch, and Saddle Areas). File: WPCP109-2015Application-Renewal-Major-Mod-20151204mpd.pdf.

Ausenco. September 12, 2015. Ranch Numerical Modeling of Infiltration into the New East Rapid Infiltration Basins. File: WPCP109-2015Application-Renewal-Major-Mod-20151204mpd.pdf.

Ausenco. September 28, 2015. Ranch Area Rapid Infiltration Basins Modeling Report. File: September 2015Appendix 14 Summary of Ranch RIB modeling results_Sept_28_ 2015.pdfState of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. December 24, 2015. Reclamation Permit 0288.

BLM, SHPO, Yerington. July 16, 2015. Memorandum of Agreement Among the Bureau of Land Management, Carson City District Office, the Nevada State Historic Preservation Officer and the City of Yerington Regarding the Yerington Lands Conveyance.

Bureau of Labor Statistics. 2018. Household Data Annual Averages Employed persons by detailed industry, sex, race, and Hispanic or Latino ethnicity. Available: https://www.bls.gov/cps/cpsaat18.htm

Bureau of Land Management. July 2015. Final Environmental Assessment - Yerington Land Conveyance. DOI-BLM-NV-C000-2015-0001-EA.

City of Yerington, Nevada. 2015. Internet website: http://www.yerington.net/ . Accessed on April 7, 2015.

City of Yerington. March 17, 2015. Access Road Alignments. Conceptual Access Roads Reduced20150317.pdf

Fehr and Peers. 2010. Pumpkin Hollow Copper Project (Exploration Phase) Traffic Impact Study. Fehr and Peers. 2013. PLUM Traffic Impact Study.

Great Basin Ecology, Inc. April 2011. Pumpkin Hollow Project Golden Eagle Survey, Great Basin Ecology Project Number 15501 Great Basin Ecology Report Number: 11-014.

Great Basin Ecology, Inc. September 2011. Pumpkin Hollow Project, Regional Screening Level Biological Resources Assessment Report.

HydroLogic. May 5, 2014. Numerical Modeling of Infiltration into the North Rapid Infiltration Basins. File: Appendix 13 North Area Basins Modeling.pdf.

JBR Environmental Consultants, Inc. July 2007. Threatened, Endangered, Candidate & Sensitive Plant Survey, Pumpkin Hollow Project JBR Project No. 07.000148.01

Langdontek. April 28, 2014. All Area Wells and Kriged Groundwater Contours. File: HG-106B-HYDRO-PERMIT-OVERVIEW-20140428-GPH.pdf

Lyon County Master Plan. 2010: https://www.lyon-county.org/DocumentCenter/View/1515/Ch-3-Land-Use-12-23-2010

Mines Group. 2008. Appendix E Nevada Water Pollution Control Permit Application Pumpkin Hollow Project Plan For Advanced Exploration Facilities.

Nevada Copper, Inc. April 2015. Appendix E-14 Mine Rock Management Plan Nevada Water Pollution Control Permit Application NEV2008103 Pumpkin Hollow Project Plan For Advanced Exploration Facilities

Nevada Copper, Inc. August 2013. Appendix M Nevada Stormwater Pollution Prevention Plan SWPPP Pumpkin Hollow Project Plan for Private Land Underground Mine (PLUM) Facilities.

Nevada Copper, Inc. Application for Class II Operating Permit. May 6, 2015.

Nevada Division of Environmental Protection, Bureau of Air Pollution Control. July 30, 2015. Class II Air Pollution Control Permit (AP1021-3369, Facility ID A0944), renewed June 26, 2018.

Northern Nevada Development Authority. 2017. Regional Project Assessment Report.

RCI. Project Location Map. January 19, 2015. NCI-ProjectLocationMapMV&Mine20150119tmd-RCI.pdf

Resource Concepts, Inc. April 9, 2015. Biological Technical Report, Yerington Lands Conveyance, Lyon and Mineral County, Nevada. Prepared For: BLM Carson City District and the City of Yerington.

Resource Concepts, Inc. June 19, 2015. Updated Evaluation Report for the Perry Spring Deadman Allotment.

Sedgman. 2018. Pumpkin Hollow Project Process Plan General Arrangement. Engineered design drawing. Appendix E Nevada Water Pollution Control Permit Application Pumpkin Hollow Project Project Plan For Underground Mine Project.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. 2018. Water Pollution Control Permit 2008103.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. December 24, 2015. Reclamation Permit 0288.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Mining Regulation and Reclamation. July 11, 2018. Water Pollution Control Permit 2008109.

State of Nevada Department of Conservation and Natural Resources Division of Environmental Protection Bureau of Water Pollution Control. December 24, 2013. Stormwater General Permit NVR300000. Project ID Number: MSW-364.

Stoner, E. J., M. C. Ringhoff, R. C. Kolvet, and J. Raley. 2015. A Class III Cultural Resources Inventory for the Yerington Lands Conveyance, Lyon and Mineral Counties, Nevada CRR-3-2610. Western Cultural Resource Management, Inc., Sparks, Nevada. Prepared for the City of Yerington, Nevada, under contract with Nevada Copper, Inc. and on file at the BLM Carson City District Office, Carson City, Nevada.

Tetra Tech. 2013. Appendix E Nevada Water Pollution Control Permit Application Pumpkin Hollow Project Plan For PLUM and Integrated Mine Projects.

Tetra Tech. February 2013. Appendix G: Pumpkin Hollow Surface Water Hydrology, Evaluation, Stormwater Management and Design. File: Appendix G Surface Water Hydrology.pdf.

Tetra Tech. February 2013. Appendix N Dry Stack Tailings Facility Integrated Operations (IO) Alternative Engineering Design Report Pumpkin Hollow Project, Nevada USA. File: Appendix N Open Pit Dry Stack Tailings Engineering Report.pdf.

Tetra Tech. February 2013. Appendix T Geochemical Pit Lake Predictive Model Report. File: Appendix T Pit Lake Model.pdf.

Tetra Tech. July 2012. Appendix H - 4, Pumpkin Hollow Hydrogeologic Evaluation. Nevada Copper, Inc. File: IO-App-H-Hydrogeologic-Evaluation-kst-120629.

Tetra Tech. December 12, 2012. Technical Report - Underground Only Alternative for the Pumpkin Hollow Copper Project, Volume 8: Surface Water Tetra Tech Project No. 114-311274.

Tetra Tech. April 15, 2015. NI 43-101 Technical Report Integrated Feasibility Study Pumpkin Hollow Project Yerington, Nevada. Document: 910265-REP-R001-00.

The MINES Group. December 3, 2014. AQUIFER TESTING OF MW-24, MW-25, AND MW-26. File: WPCP109-2015Application-Renewal-Major-Mod-20151204mpd.pdf.

United States Department of Labor Mine Safety and Health Administration (MSHA). 2018. Fatality Reports. Available: https://www.msha.gov/data-reports/fatality-reports/search

United States Department of Labor Mine Safety and Health Administration (MSHA). Notification of Commencement of Operation .

Western Cultural Resource Management, Inc. August 3, 2012. A Class III Cultural Resources Inventory for the Yerington Land Transfer Project in Lyon County, Nevada. Prepared for Nevada Copper, Inc. and Bureau of Land Management, CRR-3-2610.

Western Cultural Resource Management, Inc., January 15, 2016, May 17, 2016. A Historic Properties Treatment Plan and an Unevaluated Sites Testing Plan for Sites in the Yerington Lands Conveyance APE, Lyon County, Nevada.